GW - 47

GENERAL CORRESPONDENCE

YEAR(S):

2006 - 1993

RECEIVED
2007 NOV 13 AM 11 55

Environmental Department
188 County Road 4900
Bloomfield, NM 87413
505/632-4625
505/632-4781 Fax

November 7, 2007

Mr. Leonard Lowe
Oil Conservation Division, EMNRD
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Update to Williams Four Corners, LLC OCD Discharge Plans

Dear Mr. Lowe,

Williams Four Corners, LLC (Williams) would like to update the "Description of Final Disposition" for wastes generated at its facilities, and to include clarification of sources of waste streams not previously specified in its existing OCD Discharge Plans. These items are discussed in Table 1, "Storage and Disposal of Process Fluids, Effluent and Waste Solids", and Table 2, "Source, Quantity, and Quality of Effluent and Waste Solids", in each of Williams' current facility-specific OCD Discharge Plans. (Note that in older plans, these table numbers are reversed).

More specifically, the updates to Table 1 include replacing language that stated waste would be disposed at a "NMOCD-approved" or simply "approved" disposal facility with text that states waste will be disposed at "any state, federal, or tribal agency to receive industrial solid waste. Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such hazardous waste." Recently, Williams has had some difficulty using NMED-approved disposal sites due to the current language.

Updates to Table 2 include expanding the "Source" of "Used Process Filters" to include amine filters, charcoal, activated carbon, and molecular sieve in addition to the air, inlet, fuel, fuel gas and glycol filters typically included in the Discharge Plans. Additionally, the "Source" of "Condensate and/or Produced Water" has been expanded to include the inlet scrubber, gas inlet separator, and dehydrators. These changes are included for clarification purposes only and provide a more descriptive list of waste that may be generated at the facilities. All of the items listed are related to existing processes at the facilities.

Please see the attached Table 1 and Table 2, from the recent OCD Discharge Plan renewal application for Williams' Rosa Compressor Station, for an example of how the updates apply at a typical Williams' facility. The updated information is indicated by bold text. We will update this information in each OCD Discharge Plan as it comes up for renewal. In the meantime, we request that the updates described herein are effective immediately for the sites listed below upon your receipt of this letter.

Five Points (GW-078)
29-6#2 (GW-121)
29-6#3 (GW-198)
29-6#4 (GS-122)
30-5 (GW-108)
31-6 (GW-118)
32-7 (GW-117)
32-8#2 (GW-111)
32-8#3 (GW-116)
32-9 (GW-091)
Aztec (GW-155)
Blanco (GW-327)
Cabresto (GW-352)
Carracas (GW-112)
Cedar Hill (GW-087)
Chaco (GW-331)
Coyote (GW-250)
Crouch Mesa (GW-129)
Culpepper (GW-353)
Decker Junction (GW-134)
Dogie (GW-330)
El Cedro (GW-149)
Glade (GW-321)
Hare (GW-343)
Honolulu (GW-315)
Horse Canyon (GW-061)
Horton (GW-323)
Kernaghan (GW-271)
La Cosa (GW-187)
Laguna Seca (GW-307)
La Jara (GW-223)
Lateral N-30 (GW-256)
Lawson Straddle (GW-322)
Lybrook (GW-047)
Manzanares (GW-062)
Martinez (GW-308)
Middle Mesa (GW-064)
Milagro (GW-060)
Navajo (GW-182)
North Crandell (GW-310)
Pipkin (GW-120)
Pritchard (GW-274)
Pump Mesa (GW-063)
Quintana Mesa (GW-309)
Richardson (GW-320)
Sims Mesa (GW-068)
Snowshoe (GW-287)
Thompson (GW-328)
Trunk A (GW-248)
Trunk B (GW-249)
Trunk C (GW-257)
Trunk L (GW-180)
Trunk M (GW-181)
Trunk N (GW-306)
Wildhorse (GW-079)

These updates are not significant and do not pose a hazard to public health or undue risk to property. These facilities do not discharge wastewater to surface or subsurface waters. All wastes generated at these facilities are temporarily stored in tanks or containers.

Respectfully submitted,

David Bays
Senior Environmental Specialist

Attachment

Table 1
Transfer, Storage and Disposal of Process Fluids, Effluent and Waste Solids

PROCESS FLUID/WASTE	STORAGE	STORAGE CAPACITY *(approximate)*	CONTAINMENT/ SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Used Oil	Above Ground Storage Tank	500 gal*	Berm or concrete pad and wastewater system	Non-exempt	May be hauled to a Williams or contractor consolidation point before transport to EPA-registered used oil marketer for recycling.
Produced Water/Natural Gas Condensate	Above Ground Storage Tank	300 bbl 120 bbl 40 bbl	Berms	Exempt	Saleable liquids may be sold to refinery. The remaining liquids may be transported to a Williams' evaporation facility or may be disposed at **any facility permitted by any state, federal, or tribal agency to receive industrial solid waste. Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such hazardous waste.**
Wash-down Water	Below Grade Sump, vaulted	70 bbl 45 bbl	Dual-walled tanks	Non-exempt	Contractor may pump wash water back into truck after washing; water may be transported to **any facility permitted by any state, federal, or tribal agency to receive industrial solid waste;** or evaporation at Williams' facility may be considered. **Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such waste.**
Used Oil Filters	Drum or other container	Varies	Transported in drum or other container	Non-exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at any facility permitted by **any state, federal, or tribal agency to receive industrial solid waste. Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such hazardous waste.** A Waste Acceptance Profile will be filed with the disposal facility as necessary. Recycling options may be considered when available.
Used Process Filters	Drum or other container	Varies	Transported in drum or other container	Exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at **any facility permitted by any state, federal, or tribal agency to receive industrial solid waste. Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such hazardous waste.** A Waste Acceptance Profile will be filed with the disposal facility as necessary. Recycling options may be considered when available.
Spill Residue (e.g., soil, gravel, etc.)	N/A	N/A	In situ treatment, land-farm, or alternate method	Incident dependent	Per Section VI, Remediation, in 8/13/93 NMOCD Guidelines for Remediation of Leaks, Spills, and Releases.
Used Absorbents	Drum or other container	Varies	Transported in drum or other container	Non-exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at **any facility permitted by any state, federal, or tribal agency to receive industrial solid waste. Any waste that is determined to be hazardous as defined by 40 CFR 260-265 will be disposed only at a facility permitted to accept such hazardous waste.** A Waste Acceptance Profile will be filed with the disposal facility as necessary. Recycling options may be considered when available.
Empty Drums / Containers	N/A	N/A	Berm	Non - exempt	Barrels are returned to supplier or transported to a Williams or contractor consolidation point and ultimately recycled/disposed consistent with applicable regulations.
Antifreeze	Above Ground Storage Tank		Berm or concrete pad and wastewater system	N/A	Off-spec material recycled or disposed consistent with applicable regulations.
Glycol	Above Ground Storage Tank	500 gal* 125 gal* 100 gal*	Berm or concrete pad and wastewater system	N/A	Off-spec material recycled or disposed consistent with applicable regulations.
Lube Oil	Above Ground Storage Tank	500 gal*	Berm or concrete pad and wastewater system	N/A	Off-spec material recycled or disposed consistent with applicable regulations.

*Number of tanks installed dependent on number of engines and dehydrators installed on site. Engines and dehydrators are installed or removed to meet demand.

Table 2
Source, Quantity, and Quality of Effluent and Waste Solids

PROCESS FLUID / WASTE	SOURCE	QUANTITY (Ranges)	QUALITY
Produced Water/Natural Gas Condensate	**Inlet Scrubber, Gas Inlet Separator, Dehydrators**	2000-8000 bbl/year	No Additives
Waste Water /Wash Down Water	Compressor and Dehy Skids	100-5000 gal/year/unit	Biodegradable soap and tap water with traces of used oil
Used Oil	Compressors	500-2000 gal/year/engine	Used Motor Oil w/ No Additives
Used Oil Filters	Compressors	50-500/year/engine	No Additives
Used Process Filters	**Charcoal, Activated Carbon, Molecular Sieve**	**50-500 cubic yd/yr**	**No Additives**
Used Process Filters	**Air, Inlet, Fuel, Fuel Gas, Glycol, Amine, Ambitrol**	75-500/year	No Additives
Empty Drums/Containers	Liquid Containers	0-80/year	No Additives
Spill Residue (i.e. soil, gravel, etc)	Incidental Spill	Incident Dependent	Incident Dependent
Used Adsorbents	Incidental Spill/Leak Equipment Wipe-down	Incident Dependent	No Additives

2006 AUG 23 AM 11 44

Environmental Department
188 County Road 4900
Bloomfield, NM 87413
505/632-4606
505/632-4781 Fax

August 22, 2006

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

Re: Change of Company Name

Dear Mr. Price;

In accordance with Conditions of Discharge Plan Approval attached to each discharge plan approved by the New Mexico Oil Conservation Division, we hereby provide notice of a change of ownership for the Williams facilities identified in the attached table to Williams Four Corners, LLC.

As a corporate strategy, Williams has created regional limited liability corporations for our assets. So, although a new corporation has been created, Williams Four Corners LLC is still a wholly-owned unit of Williams, and there is no change of corporate ownership for these facilities. Williams will continue to comply with the terms and conditions of all approved discharge plans. All other administrative items (responsible official, environmental contacts, mailing addresses, etc.) remain unchanged.

If you have any questions, please call David Bays, Senior Environmental Specialist, at (505) 632-4951 or Ingrid Deklau of Cirrus Consulting at (801) 583-3107.

Sincerely,

David Bays

David Bays
Senior Environmental Specialist

Attachments

xc: Clara Cardoza
Monica Sandoval
WFS FCA file 210

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

April 5, 2005

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

Ms. Clara Garcia
Williams Field Services Company
188 CR 4900
Bloomfield, New Mexico 87413

RE: Field Inspections

Dear Ms. Garcia:

Attached are copies of the field inspections performed on various William Field Services Company's facilities. These inspections were performed on March 21, 22, and 23, 2005 by New Mexico Oil Conservation Division personnel, Mr. Jack Ford, Mr. Darrel Davis, and Mr. Ed Martin. No photographs were taken during the inspections.

Please review each of the facilities on the attached report and address the comments of items observed during the inspections. No Notice of Violation will be issued as a result of these inspections, however, a number of corrections at the facilities need immediate attention. Kindly inform me as these corrections are made. An e-mail note will be sufficient at this time. My e-mail address is: jwford@state.nm.us

If you have any questions please contact me at (505) 476-3489.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

Attachment

Cc: OCD Aztec District Office

3/21/2005 eWJF0509040199 WFS LYBROOK GP Gas Plant Field Inspection Normal Routine Activity Jack Ford

Samples ☐ Photos / Etc. ☑ Docs Reviewed ☐

Operator: WILLIAMS FIELD SERVICES CO. *Permit(s) Authorizing Facility* GW-47

Violation Detail (If applicable) Contamination observed on ground surface

Violation Description

Comments / Action Required Oil staining along the base of the compressor building that requires remediation.

Addition Concerns as Checked:

Unauth. Release	Drums	Process Area	Pad / Berm / Liner	BG Tanks/Sumps	Labeling	WD Practice	UG Lines	Housekeeping	Class V	Remediations	Storm Water
☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☑	☐

3/22/2005 eWJF0509038965 WFS PUMP MESA CS Compressor Station Field Inspection Normal Routine Activity Jack Ford

Samples ☐ Photos / Etc. ☐ Docs Reviewed ☐

Operator: WILLIAMS FIELD SERVICES CO. *Permit(s) Authorizing Facility* GW-63

Violation Detail (If applicable) Contamination observed on ground surface

Other (Describe below)

Violation Description

Comments / Action Required Two saddle tanks need to be clearly labeled. Oil stained gravel and soil along base of compressor pads require remediation. Buckets along west boundry of building are not labeled nor in containment. Remove or label and put into containment. Old loose batteries need to be disposed of properly or stored properly. Green colored above ground tank requires label. Bermed soil pile requires further remediation or if soil remediation is completed soil should be removed or utilized. If soil remediation is completed and soil is to be used at sometime in the future place placard to indicate completion of remediation/clean soil.

Addition Concerns as Checked:

Unauth. Release	Drums	Process Area	Pad / Berm / Liner	BG Tanks/Sumps	Labeling	WD Practice	UG Lines	Housekeeping	Class V	Remediations	Storm Water
☐	☐	☑	☑	☐	☑	☐	☐	☑	☐	☑	☐

3/22/2005 eWJF0509038267 WFS SJ 32-8 #2 CDP CS Compressor Station Field Inspection Normal Routine Activity Jack Ford

Samples ☐ Photos / Etc. ☐ Docs Reviewed ☐

Operator: WILLIAMS FIELD SERVICES CO. *Permit(s) Authorizing Facility* GW-111

Violation Detail (If applicable) Contamination observed on ground surface

Violation Description

Comments / Action Required Below grade tank pit appears not to be lined. Oil staining on gravel and soil along base of compressor and dehy pads. Requires remediation of gravels & soils. Above ground tank needs to be clearly labeled. Saddle tank requires label. A full drum not labeled for contents. Empty drum not stored properly. Bermed stained soil pile does not appear to be actively remediated with open top bucket of oil stained soil not properly being disposed of or treated. Used oil saddle tank not clearly labeled.

Addition Concerns as Checked:

Unauth. Release	Drums	Process Area	Pad / Berm / Liner	BG Tanks/Sumps	Labeling	WD Practice	UG Lines	Housekeeping	Class V	Remediations	Storm Water
☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	☑	☐

Environmental Affairs
188 CR 4900
Bloomfield, NM 87413
505/632-4606
505/632-4781 Fax

December 14, 2004

Mr. Jack Ford
New Mexico Oil Conservation Division
Water Quality Management Fund
2040 South Pacheco
Santa Fe NM 87505

Re: Discharge Plan GW-047 and GW-182

Dear Mr. Ford:

Enclosed please find the signed copy of the discharge plan conditions for the Williams Field Services (WFS) Lybrook Gas Plant and Navajo Compressor Station. Also included are checks 3500047948 for $4000.00 and 3500048056 for $1,700 to cover the flat fee required by the approval conditions.

Williams Field Services appreciates your assistance in handling these approvals and processing the fees. If you have any questions or require additional information, please contact me at 505/632/4606.

Thank you.

Clara M. Garcia
Environmental Compliance

enclosures

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 12/2/04,

or cash received on _____ in the amount of $ 4,000.00

from Williams Field Services

for Lybrook G.P. GW-047
(Facility Name) (OCD No.)

Submitted by: _____ Date: 12-16-04

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee ___ New Facility ___ Renewal ✓

Modification ___ Other _____
(specify)

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment ✓ or Annual Increment ___

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM. IT ALSO HAS A REFLECTIVE WATERMARK ON THE BACK.

Williams

WILLIAMS FIELD SERVICES COMPANY
P.O. Box 21218 • Tulsa, OK 74121-1218

70-2332/719
A/C 9401167

[redacted]

DATE 12/02/2004

PAY TO THE ORDER OF

PAY ******$4,000.00

WATER MANAGEMENT QUALITY MANAGEMENT FUND
C/O OIL CONSERVATION DIV
1220 S ST FRANCIS DR

SANTA FE NM 87505

Bank One, NA
Illinois

Authorized Signer

[redacted]

INVOICE NUMBER	INVOICE DATE	BATCH NAME	INVOICE DESCRIPTION	NET AMOUNT
400000NOV04	20040922	IMAGING-JXREED-01-DEC-	PERMIT	4,000.00

CHECK NUMBER	PAY DATE	SUPPLIER NUMBER	SUPPLIER NAME	TOTAL AMOUNT
[redacted]	12/02/2004	94141	WATER MANAGEMENT QUALITY MANAGEMENT FUND	$4,000.00

MA1353(CORPAP001) (AP)

AFFIDAVIT OF PUBLICATION

Ad No. 50560

STATE OF NEW MEXICO
County of San Juan:

CONNIE PRUITT, being duly sworn says: That she is the CLASSIFIED MANAGER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Wednesday, October 6, 2004.

And the cost of the publication is $143.61.

Connie Pruitt

ON 10-7-04 CONNIE PRUITT appeared before me, whom I know personally to be the person who signed the above document.

Penny Beck

My Commission Expires April 2, 2008.

COPY OF PUBLICATION

E10 NOTICE OF PUBLICATION

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

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

(GW-049) - El Paso Natural Gas Co., Mr. Richard Duarte, 3801 Atrisco Blvd. NW, Albuquerque, NM 87120, has submitted a renewal application for their "A" Blanco Plant facility located in the NE/4 NE/4 of Section 23, Township 27 West, Range 13 North, NMPM, San Juan County, New Mexico. A small amount of engine wash-down water and storm water runoff is discharged to the City of Bloomfield publicly owned treatment works. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 14 to 39 feet. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

(GW-317) - El Paso Field Services, David Bays, 614 Reilly Ave., Farmington, NM 87401, has submitted a renewal application for the Rattlesnake Canyon Gas Plant, located in the NE/4 of Section 16, Township 32 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 375 barrels per month of produced water with a dissolved solids concentration ranging from 10,000 to 15,000 mg/L is collected in closed steel tanks prior to transport to an OCD-approved disposal facility. Approximately10 barrels per year of wastewater from equipment washdown are collected in a double-walled underground sump prior to transport to an OCD-approved disposal facility. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 75 feet with a total dissolved solids concentration ranging from 48 mg/L to 52 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-049-2) - El Paso Field Services, David Bays, 614 Reilly Ave., Farmington, NM 87401, has submitted a discharge permit application for the Blanco C and D Compressor Station, located in the N/2 N/2 of Section 14, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 9,500 barrels per month of crude oil and natural gas condensate are collected in closed-top steel tanks until sale to the Giant Refinery near Bloomfield, NM. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 15 to 40 feet. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-182) - Williams Field Services, Michael K. Lane, (505) 632-4625, 188 CR 4900, Bloomfield, New Mexico 87413, has submitted a discharge plan renewal application for the Navajo CDP Compressor Station located in the NE/4 NW/4 of Section 2, Township 30 North, Range 8 West, NMPM, San Juan County, New Mexico. After oil/water separation, approximately 42 gallons per day of process waste water with a total dissolved solids concentration in excess of 2000 mg/l is stored in an above ground, closed-top steel tank prior to transport to an OCD approved off-site disposal facility. Ground water most likely to be affected in the event of an accidental discharge is at a depth of 20 feet with a total dissolved solids concentration of approximately 2000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-047) - Williams Field Services, Mark K. Lane, (505) 632-4625, 188 CR 4900, Bloomfield, New Mexico 87413, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximately 3000 gallons per day of process wastewater with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-161) - Williams Production Company, LLC (formerly J. M. Huber Corporation), 999 Goddard Avenue, Ignacio, Colorado 81137 has submitted a renewal application for their ROSA COMPRESSOR STATION located in the SW/4 SE/4 of Section 26, Township 31 North, Range 4 West, Rio Arriba County, New Mexico. Approximately 9 gallons per day of wastewater with a dissolved solids concentration of 1,500 mg/l is collected in a 400 barrel closed fiberglass tank prior to transport off-site to an OCD approved disposal facility. Ground water most likely to be affected in the event of an accidental discharge at the surface is at a depth greater than 20 feet with a total dissolved solids concentration ranging from 2000 mg/l to 10000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

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

A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 30th day of September 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

JOANNA PRUKOP, Acting Director

Legal No. 50560 published in The Daily Times, Farmington, New Mexico, Wednesday, October 6, 2004.

THE SANTA FE
NEW MEXICAN
Founded 1849

RECEIVED

OCT 12 2004

OIL CONSERVATION DIVISION

NM OIL CONSERVATION DIV.
1220 ST. FRANCIS DR
Attn: Ed Martin
SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689
AD NUMBER: 00089513 ACCOUNT: 00002212
LEGAL NO: 75034 P.O. #: 05-199-050185
461 LINES 1 TIME(S) 315.04
AFFIDAVIT: 5.50
TAX: 21.44
TOTAL: 341.98

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, B. Perner, 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 # 75034 a copy of which is hereto attached was published in said newspaper 1 day(s) between 10/06/2004 and 10/06/2004 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 6th day of October, 2004 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

B Perner

/S/_____
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 6th day of October, 2004

Notary Laura E Harding

Commission Expires: 11/23/07

dental discharge is at a depth of approximately 75 feet with a total dissolved solids concentration ranging from 48 mg/L to 52 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-049-2) - El Paso Field Services, David Bays, 614 Reilly Ave., Farmington, NM 87401, has submitted a discharge permit application for the Blanco C and D Compressor Station, located in the N/2 N/2 of Section 14, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 9,500 barrels per month of crude oil and natural gas condensate are collected in closed-top steel tanks until sale to the Giant Refinery near Bloomfield, NM. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 15 to 40 feet. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-182) - Williams Field Services, Michael K. Lane, (505) 632-4625, 188 CR 4900, Bloomfield, New Mexico 87413, has submitted a discharge plan renewal application for the Navajo CDP Compressor Station located in the NE/4 NW/4 of Section 2, Township 30 North, Range 8 West, NMPM, San Juan County, New Mexico. After oil/water separation, approximately 42 gallons per day of process waste water with a total dissolved solids concentration in excess of 2000 mg/l is stored in an above ground, closed-top steel tank prior to transport to an OCD approved off-site disposal facility. Ground water most likely to be affected in the event of an accidental discharge is at a depth of 20 feet with a total dissolved solids concentration of approximately 2000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-047) - Williams Field Services, Mark K. Lane, (505) 632-4625, 188 CR 4900, Bloomfield, New Mexico 87413, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximately 3000 gallons per day of process wastewater with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-161) - Williams Production Company, LLC (formerly J. M. Huber Corporation), 999 Goddard Avenue, Ignacio, Colorado 81137 has submitted a renewal application for their ROSA COMPRESSOR STATION located in the SW/4 SE/4 of Section 26, Township 31 North, Range 4 West, Rio Arriba County, New Mexico. Approximately 9 gallons per day of wastewater with a dissolved solids concentration of 1,500 mg/l is collected in a 400 barrel closed fiberglass tank prior to transport off-site to an OCD approved disposal facility. Ground water most likely to be affected in the event of an accidental discharge at the surface is at a depth greater than 20 feet with a total dissolved solids concentration ranging from 2000 mg/l to 10000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-008) - El Paso Natural Gas, Robert H. St. John, 3300 North "A" Building Two, Suite 200, Midland, TX 79705, has submitted a discharge permit renewal application for the Monument Compressor Station, located in the NW/4 of Section 1, Township 20 South, Range 36 East, NMPM, Lea County, New Mexico. Approximately 9,600 gallons per day of processed wastewater with total dissolved solids concentration of 3,500 mg/L is stored in steel tanks prior to transport for disposal in an OCD-approved Class II injection well. Groundwater most likely to be affected in the event of an accidental discharge at the surface is at a depth of approximately 35 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-144) - Duke Energy Field Services, LP, Mr. Greg Kardos, (505) 628-0282, 3300 N. A Street, Building 7, Midland, Texas 79705, has submitted a discharge renewal application for the West (a.k.a. Westall) Compressor Station located in the SW/4 NW/4 of Section 35, Township 22 South, Range 28 East, NMPM, Eddy County, New Mexico. Duke Energy Field Services, LP certifies that no liquid or solid wastes generated on site are discharged so that they may move directly or indirectly into fresh waters. Any liquid wastes are collected and stored in containers prior to transport offsite to an OCD approved disposal facility. Ground water most likely to be affected in the event of an accidental discharge is at a depth of approximately 16 feet with a total dissolved solids concentration of approximately 7,843 mg/l. The discharge permit addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-048) - Davis Gas Processing Company, Donald K. Judd, Agent, (432) 682-6311, 211 North Colorado Street, Midland, Texas 79701-4696, has submitted a discharge renewal application for the Denton Gas Plant located in the SE/4 of Section 2, Township 15 South, Range 37 East, NMPM, Lea County, New Mexico. Approximately 750 gallons per day of process waste water with a total dissolved solids concentration of approximately 2000 mg/l will be collected and stored on site in closed storage tanks prior to disposal in an OCD approved contract injection Class II well. Ground water 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 ranging from 610 to 1600 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

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

If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 30th day of September 2004.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

SEAL

JOANNA PRUKOP,
Acting Director

Legal #75034
Pub. October 6, 2004

NOTICE OF PUBLICATION

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

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

(GW-049) - El Paso Natural Gas Co., Mr. Richard Duarte, 3801 Atrisco Blvd. NW, Albuquerque, NM 87120, has submitted a renewal application for their "A" Blanco Plant facility located in the NE/4 NE/4 of Section 23, Township 27 West, Range 13 North, NMPM, San Juan County, New Mexico. A small amount of engine wash-down water and storm water runoff is discharged to the City of Bloomfield publicly owned treatment works. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 14 to 39 feet. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

(GW-317) - El Paso Field Services, David Bays, 614 Reilly Ave., Farmington, NM 87401, has submitted a renewal application for the Rattlesnake Canyon Gas Plant, located in the NE/4 of Section 16, Township 32 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 375 barrels per month of produced water with a dissolved solids concentration ranging from 10,000 to 15,000 mg/L is collected in closed steel tanks prior to transport to an OCD-approved disposal facility. Approximately10 barrels per year of wastewater from equipment washdown are collected in a double-walled underground sump prior to transport to an OCD-approved disposal facility. Groundwater most likely to be affected in the event of an acci-

Ford, Jack

From: Ford, Jack
Sent: Wednesday, September 22, 2004 3:16 PM
To: Martin, Ed
Subject: GW-047 for Public Notice - Rio Arriba Co.

Tracking: **Recipient Read**
Martin, Ed Read: 9/22/2004 3:17 PM

W. Jack Ford, C.P.G.
Oil Conservation Division

Telephone: (505) 476-3489

Williams Energy Services-Enve
188 CR 4900
Bloomfield, NM 87413
505/632-4606
505/632-4781 Fax

September 2, 2004

Mr. Jack Ford
Oil Conservation Division
1220 South St Francis Dr
Santa Fe NM 87505

Re: Drain Line Testing Results at Various Williams Field Services Facilities

Dear Mr. Ford:

Williams Field Services conducted a facility review and drain line testing in accordance to the Oil Conservation Division Discharge Plan requirements. Subsurface, non-pressurized process and wastewater lines were tested. The facility drain line testing reports are enclosed with this letter. A review and testing summary is provided in the table below.

Facility	Permit #	Completion Date	Results	Comments
Sims Mesa CDP	GW-068	05/19/2004	Passed	
Lybrook Plant	GW-047	06/04/2004	Passed	Tested plant in two sections

If you have any questions or require additional information, please contact me at (505) 632-4606.

Respectfully Submitted,

Clara M. Garcia
Environmental Compliance

Attachments: Drain Line Testing Reports

xc: FCA Environmental 220 File
Denny Foust, OCD Aztec

COPY

Environmental Waste Water Line Test Report

Williams

LOCATION:	Lybrook Plant
DATE:	6-2-04
Sec, Range and Township	T23N R7W Sec. 4

START OF WATER FILL:	DATE:	6-2-04	TIME:	8:20 AM
START OF TEST PERIOD:	DATE:	6-2-04	TIME:	2:00 PM
END OF TEST PERIOD:	DATE:	6-2-04	TIME:	3:00 PM

TEST DATA:

1. Water height by manual measurement at the datum.
2. Test to commence when maximum fill is reached and first manual measurement is recorded.
3. Test time 1 hour at 3lbs

No.	Time	Water Height	Remarks:
1	2:00 PM	7'0"	Holding
2	2:05	7'0"	
3	2:10	7'0"	
4	2:20	7'0"	
5	2:25	7'0"	
6	2:35	7'0"	
7	2:45	7'0"	
8	2:50	7'0"	
9	2:55	7'0"	
10	3:00	7'0"	Test Held

Additional Remarks:
This Plant will Need to be tested in Two Sections This test is on the upper Section on the East end of plant

TEST IS: ☐ ACCEPTED ☐ REJECTED

RECORDED BY: Gary Cole GARY COLE SCALAND (TEST Contractor)

VERIFIED BY: Eddie Little (LOCATION SUPERVISOR)

APPROVED BY: Bryant Kennedy (Test Inspector)

Environmental Waste Water Line Test Report

Williams

LOCATION:	Lybrook Plant
DATE:	6-4-04
Sec, Range and Township	T23N R7W Sec 4

START OF WATER FILL:	DATE: 6-4-04	TIME: 11:00 AM
START OF TEST PERIOD:	DATE: 6-4-04	TIME: 11:45 AM
END OF TEST PERIOD:	DATE: 6-4-04	TIME: 12:45 PM

TEST DATA:
1. Water height by manual measurement at the datum.
2. Test to commence when maximum fill is reached and first manual measurement is recorded.
3. Test time 1 hour at 3lbs

No.	Time	Water Height	Remarks:
1	11:45 AM	7'	Halaling
2	11:50 AM	7'	
3	12:00	7'	
4	12:10 PM	7'	
5	12:20 PM	7'	
6	12:25 PM	7'	
7	12:30 PM	7'	
8	12:35 PM	7'	
9	12:40 PM	7'	
10	12:45 PM	7'	test Held

Additional Remarks:
Note
This test section is on the North West Corner of plant (Drain for Propain tanks)

TEST IS: ☑ ACCEPTED ☐ REJECTED

RECORDED BY: Gary Cole GARY COLE SUNLAND (TEST Contractor)

VERIFIED BY: John Rascon (LOCATION SUPERVISOR)

APPROVED BY: Bryant Bowdy (Test Inspector)

Williams

Environmental Affairs
188 CR 4900
Bloomfield, NM 87413
505/632-4606
505/632-4781 Fax

July 26, 2004

Mr. Jack Ford
New Mexico Oil Conservation Division
Water Quality Management Fund
1220 S St. Francis Dr.
Santa Fe NM 87505

Re: Discharge Plan GW-047 and GW-182 Application Renewal and Filing Fee

Dear Mr. Ford:

Enclosed please find copies of Discharge Plan application renewal and check number 3500041340 for $200.00 to cover the filling fee for the following Williams Field Services (WFS) Compressor Stations:

- Lybrook Gas Plant (GW-047)
- Navajo CS (GW-182)

Williams Field Services appreciates your assistance in handling these applications and fees. If you have any questions or require additional information, please contact me at 505/632/4606.

Thank you,

Clara M Garcia
Environmental Compliance

Xc: Denny Foust, Aztec, OCD Dist III
FCA Environmental File 220

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 7/23/04,

or cash received on ____________ in the amount of $ 200-

from Williams Field Services

for Lybrook GP Navajo CS (Facility Name) GW-47 GW-182 (DP No.)

Submitted by: ____________ Date: ____________

Submitted to ASD by: [signature] Date: 7-28-04

Received in ASD by: ____________ Date: ____________

Filing Fee ✓ New Facility ___ Renewal ✓

Modification ___ Other ____________ (specify)

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment ✓ or Annual Increment ___

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM. IT ALSO HAS A REFLECTIVE WATERMARK ON THE BACK.

Williams

WILLIAMS FIELD SERVICES COMPANY
P. O. Box 21218 * Tulsa OK 74121-1218

70-2322/719
A/C 9401167

[redacted]

DATE 07/23/2004

PAY TO THE ORDER OF:

PAY ********$200.00

NEW MEXICO OIL CONSERVATION DIV
WATER QUALITY MANAGEMENT FUND
2040 S PACHECO

SANTA FE NM 87505

Bank One, NA
Illinois

[signature]
Authorized Signer

MA1353 (10/99)

[redacted]

INVOICE NUMBER	INVOICE DATE	BATCH NAME	INVOICE DESCRIPTION	NET AMOUNT
072204	20040722	IMAGING-PATH-22-JUL-04	DISCHARGE PLAN GW-047 & GW-182 APPL RENEWA	200.00

CHECK NUMBER	PAY DATE	SUPPLIER NUMBER	SUPPLIER NAME	TOTAL AMOUNT
[redacted]	07/23/2004	40665	NEW MEXICO OIL CONSERVATION DIV	$200.00

MA1353(CORPAP001) (AP)

RECEIVED
JUL 2 8 2004
OIL CONSERVATION DIVISION

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

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

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

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

☐ New ☑ Renewal ☐ Modification

1. Type: Natural Gas Processing Plant (Lybrook Plant GW-047)
2. Operator: Williams Field Services Company

   Address: 188 CR 4900, Bloomfield, New Mexico 87413

   Contact Person: Michael K. Lane Phone: (505) 632-4625
3. Location: NE /4 NW /4 Section 14 Township 23N Range 7W
   Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

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

Name: Michael K. Lane Title: Environmental Specialist

Signature: for Date: July 26, 2004

E-mail Address: Michael.K.Lane@Williams.com

Lybrook Gas Processing Plant

NMOCD Discharge Plan

Williams Field Services
188 CR 4900
Bloomfield, NM 87413

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 TYPE OF OPERATION

The Lybrook Plant is a natural gas conditioning plant for Williams Field Services Torre Alta natural gas gathering system. The facility was originally constructed as a lean oil natural gas processing facility in 1959. It was upgraded to its current status as a cryogenic plant in 1976. WFS purchased the plant from Public Service of New Mexico (PNM) in 1995. The plant is designed to extract ethane and higher hydrocarbon gases from natural gas.

2.0 LEGALLY RESPONSIBLE PARTY

Williams Field Services
188 CR 4900
Bloomfield, NM 87413
(505) 632-4625

Contact Person:
Michael K. Lane, Senior Environmental Specialist
Phone and Address, Same as Above

3.0 LOCATION OF FACILITY

The Lybrook Plant is located about fifty (50) miles southeast of Bloomfield, New Mexico near the mile marker 103 on Highway 550 in Lybrook, New Mexico. The facility is located in Section 14, Township 23 North, Range 7 West, in Rio Arriba County, New Mexico. The facility latitude and longitude are North 36° 13.842, 60' and West 107° 32.766, 25'. A site location map is attached (USGS 7.5 Min. Quadrangle: Lybrook, New Mexico) as Figure 1. The facility layout is illustrated in Figure 2.

4.0 LANDOWNER

Williams Field Services owns the subject property.

5.0 FACILITY DESCRIPTION

The processes used to separate hydrocarbons from field gas includes compressors, turbo expanders, heat exchangers, chillers, separators, dehydrators, power generating equipment, aboveground storage tanks and other supporting equipment. The site has been permitted to allow operation of six (6) 1,200 hp Solar Saturn turbines and three (3) 1,600 Solar Saturn turbines and two (2) 830 Clark HRA-8 engines. The facility layout is illustrated in Figure 2.

6.0 SOURCE, QUANTITY AND QUALITY OF EFFLUENTS AND WASTE SOLIDS

The source, quantity, and quality of effluent and waste solids generated at the compressor station are summarized in Table 1.

7.0 TRANSFER, STORAGE AND DISPOSAL OF PROCESS FLUIDS, EFFLUENTS AND WASTE SOLIDS

Wastes generated at this facility fall into two categories: exempt and non-exempt. Exempt wastes include, but may not be limited to, used process filters, condensate spill cleanups (spill residue), certain absorbents, and produced water with or without de minimus quantities of non-hazardous liquids. Non-exempt wastes include, but may not be limited to, used oil, used oil filters, and engine coolant. Table 2 describes the transfer, storage and disposal of exempt and non-exempt process fluids, effluents, and waste solids expected to be generated at the site.

Non-exempt waste management will be conducted in accordance with NMOCD requirements including the preparation of a Certificate of Waste Status for each non-exempt waste stream. Non-exempt wastes will be analyzed at a minimum for BTEX, TPH, RCRA D-List metals, ignitability, corrosivity, and reactivity to initially determine if such waste are hazardous as defined in 40 CFR Part 261. All wastes at the facility will be periodically surveyed for naturally occurring radioactive material (NORM) to determine if the concentrations of radium 226 exceed 30 picocuries per gram or if radiation exposure exceeds 50 microroentgens per hour. If affirmed, such materials will be handled and disposed in accordance with NMOCD NORM Regulations.

Barring facility modification and/or process changes, the classification of non-exempt wastes by laboratory analyses will be made once during the approval period of this plan. Subsequent laboratory analyses will be performed at the generator's discretion (minimum of once every five years), or more frequently to comply with waste acceptance procedures of the disposal facility.

8.0 STORM WATER PLAN

A Storm Water Pollution Prevention Plan has been prepared for this facility in accordance with federal requirements. A copy was provided to the NMOCD.

8.1 Site Assessment and Facility Controls

An evaluation of the material used and stored on this site that may be exposed to storm water indicates that no materials would routinely be exposed to precipitation. Contact and non-contact (cooling) wastewaters from the process area are not commingled with storm water discharges. Wastewater from the plant process area is directed to the facility's wastewater evaporation ponds. Floor drains in the maintenance shop, Clark, and Solar buildings are directed to an oil/water separator prior to discharge of the water fraction to the evaporation ponds. The oil fraction removed by the oil/water separator is pumped to the used oil storage tank for recycling.

Any leakage or spill from the identified potential pollutant sources, if uncontained by existing berms, curbs, or emergency response actions, could flow to open off-site drainage ditches (arroyos) and thus impact storm water. In such an event, containment would occur by blocking the ditch or culvert downstream of the pollutant. Cleanup of the substance and implementation of mitigation measures could be conducted while protecting downstream storm watercourses.

8.2 Best Management Practices

Following are Best Management Practices (BMPs) to be implemented to prevent or mitigate pollution to storm water from facility operations:

- All waste materials and debris will be properly disposed of on an on-going basis in appropriate containers and locations for collection and removal from the site.
- Temporary storage of potential pollutant sources will be located in areas with appropriate controls for storm water protection. This would include ensuring all containers are sealed/covered and otherwise protected from contact with precipitation.
- Periodic inspection of channels and culverts shall be performed at least twice annually and after any major precipitation event.
- Sediment deposits and debris will be removed from the channels and culverts as necessary and any erosion damage at the outfall (if any) will be repaired or controlled.
- Conduct inspections of the facility on a regular basis as part of the preventive maintenance site check. Such inspections will include the visual assessment of corroded or damaged drums and tanks, broken or breached containment structures, collapsed or clogged drainages or drain lines.

Implementation of the BMPs will prevent or mitigate impact to storm water runoff from this facility.

9.0 INSPECTION, MAINTENANCE AND REPORTING

Williams personnel will operate and maintain the compression unit at the facility. The facility will be remotely monitored for equipment malfunctions through Gas Dispatch. The facility will be visited several times per week at a minimum, and an operator will be on call 24 hours per day, 7 days per week, 52 weeks per year. The above ground and below-grade tanks will be gauged regularly, and monitored for leak detection.

In the event of a release of a reportable quantity, the operator reports the release to a contracted spill notification service. The service immediately notifies the Williams Environmental Department and all appropriate agencies.

10.0 SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)

Spill containment berms around above ground storage tanks will be designed to contain 133% of the tank capacity. Williams corporate policy and procedure for the controlling and reporting of Discharges or Spills of Oil or Hazardous Substances is provided in Appendix A. Significant spills and leaks are reported to the NMOCD pursuant to NMOCD Rule 116 and WQCC 1-203 using the NMOCD form (see Appendix B).

11.0 SITE CHARACTERISTICS

The Lybrook Gas Processing Plant is located in Lybrook, NM. The site elevation is approximately 7,100 feet above mean sea level. The natural ground surface topography slopes downward toward the east. The maximum relief over the site is approximately 50 feet.

The plant process, loading dock, office, and water well areas discharge to engineered storm water management structures (berms, ditches, and culverts) that direct surface runoff to the plant's storm water detention ponds located at the southeast corner of the facility.

The storm water detention ponds consist of two unlined ponds, connected in series, with an overflow to tributary drainage of Escrito Wash. The storm water detention ponds are designed to accommodate storm water without discharging during typical precipitation events. The overflow pipe is designed to discharge from below the water surface to prevent the discharge of light non-aqueous phase liquids, such as oil, in the event that maximum capacity is reached.

Storm water from the tank farm and bone yard discharge off site to surface drainage tributaries of Escrito Wash. Storm water captured in the wastewater evaporation pond and flare area is not discharged.

Intermittent flow from the site will follow natural drainage to the east to an unnamed drainage. The unnamed drainage drains northeast into the Escrito Canyon Wash. Escrito Canyon Wash drains approximately 9 miles east-northeast into Largo Canyon Wash. The Largo Wash drains northwest into the San Juan River. The San Juan River, approximately 35 miles to the northwest of the site, is nearest down-gradient perennial source of surface water at an elevation of approximately 5,530 feet.

A review of the available hydrologic data[1,2] for this area revealed that there is a water well located within the Lybrook Gas Processing Plant. The water well supplies the Plant. The water-bearing unit in this area is the Nacimiento Formation. The Nacimiento Formation consists of a sequence of interbedded sandstone and mudstone. The estimated ground water depth at the site is 100 to 400 feet. The total dissolved solids concentration of area ground water is expected to range from 200 to 2,000 parts per million.

The 100-year 24-hour precipitation event at a regional weather station is 2.8 inches. This small amount of rainfall for the area should pose no flood hazards. Vegetation in the area consists predominantly of sagebrush and native grasses

Flood Protection: Surface water runoff from the area surrounding the site will be diverted around the facility into the natural drainage path.

References

[1]Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., Padgett, E.T., 1983, Hydrology and Water Resources of San Juan Basin, New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6.

[2]Online Well Reports and Downloads, New Mexico Office of the State Engineer, 2000.

12.0 FACILITY CLOSURE PLAN

All reasonable and necessary measures will be taken to prevent the exceedence of WCQQ Section 3103 water quality standards should Williams choose to permanently close the facility. Williams will submit a detailed closure plan to the NMOCD prior to closure.

Generally, closure measures will include removal or closure in place of underground piping and other 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. When all fluids, contaminants, and equipment have been removed from the site, the site will be graded as close to the original contour as possible.

Should contaminated soil be discovered, any necessary reporting under NMOCD Rule 116 and WQCC Section 1203 will be made and clean-up activities will commence. Post-closure maintenance and monitoring plans would not be necessary unless contamination is encountered.

Tables

TABLE 1
SOURCE, QUANTITY AND QUALITY OF EFFLUENT AND WASTE SOLIDS
LYBROOK PLANT COMPRESSOR

PROCESS FLUID / WASTE	SOURCE	QUANTITY (Ranges)	QUALITY
Used Oil	Engines, Compressors and Oil/Water Separator	1,000-5,000 gallons/year	Used Motor Oil w/ No Additives
Used Oil/Condensate	Flare Separator	250-500 gallons/year	Liquid Hydrocarbons with trace of amine
Waste Water	Open Drain System/ Washdown Water, Cooling Tower, Filter Separator, Chiller Regen Water, Oil/Water Separator and other maintenance effluent	1/2 to 1 million gallons/year	Biodegradable soap and water w/ traces of oil, glycol and amine.
Used Oil Filters	Turbines, Engines and Compressors	100-300 filters/year	No Additives
Used Process Filters	Air, Inlet, Fuel Gas, Amine System and Separator	400 to 800 filters/year	No Additives
Used Carbon	Amine System	1,000-5,000 lbs/year	No Additives
Used Mole Sieve	Used in the Removal of Water from Natural Gas	5,000 to 20,000 lbs/year	No Additives
Empty Drums/Containers	Liquid Containers	50-200 containers/year	No Additives
Spill Residue (i.e. soil, gravel, etc)	Incident Spill	Incident Dependent	Incident Dependent
Used Adsorbents	Incident Spill/Leak Equipment Wipe-down	Incident Dependent	No Additives

TABLE 2
TRANSFER, STORAGE AND DISPOSAL OF PROCESS FLUIDS, EFFLUENT AND WASTE SOLIDS
LYBROOK PLANT COMPRESSOR

PROCESS FLUID / WASTE	STORAGE	STORAGE CAPACITY	CONTAINMENT / SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Used Oil	Above-Ground Storage Tanks	2,000 gallons 718 gallons 600 gallons	Concrete blockwalls with earthen or concrete floor	Non-Exempt	Transported to a Williams or contractor consolidation point before transport to an EPA-registered used oil marketer for recycling.
Used Oil/Condensate	Above-Ground Storage Tank	4,200 gallons	Concrete block walls with earthen floor	Non-Exempt	Saleable liquids may be sold to a refinery. Used oil may be transported to a Williams or contractor consolidation point before transport to an EPA-registered used oil marketer for recycling. The remaining liquids may be transported to a Williams evaporation facility or a NMOCD-approved disposal facility
Waste Water	Pond	N/A	Double-Lined	Non-Exempt	Liquids are directed to the pond for evaporation. Liquids may be transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility.
Used Oil Filters	Drum or Other Container	Varies	Transported to a Williams or Contractor Facility in Drum or Other Container	Non-Exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. Recycling options may be considered when available.
Used Process Filters	Drum or Other Container	Varies	Transported to a Williams or Contractor Facility in Drum or Other Container	Exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. Recycling options may be considered when available.
Used Carbon	Roll-off bin or other container	Varies	Transported to a Williams or Contractor Facility in Drum or Other Container	Exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. Recycling options may be considered when available.
Used Mole Sieve	Roll-off bin or other container	Varies	Transported to a Williams or Contractor Facility in Drum or Other Container	Exempt	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. Recycling options may be considered when available.

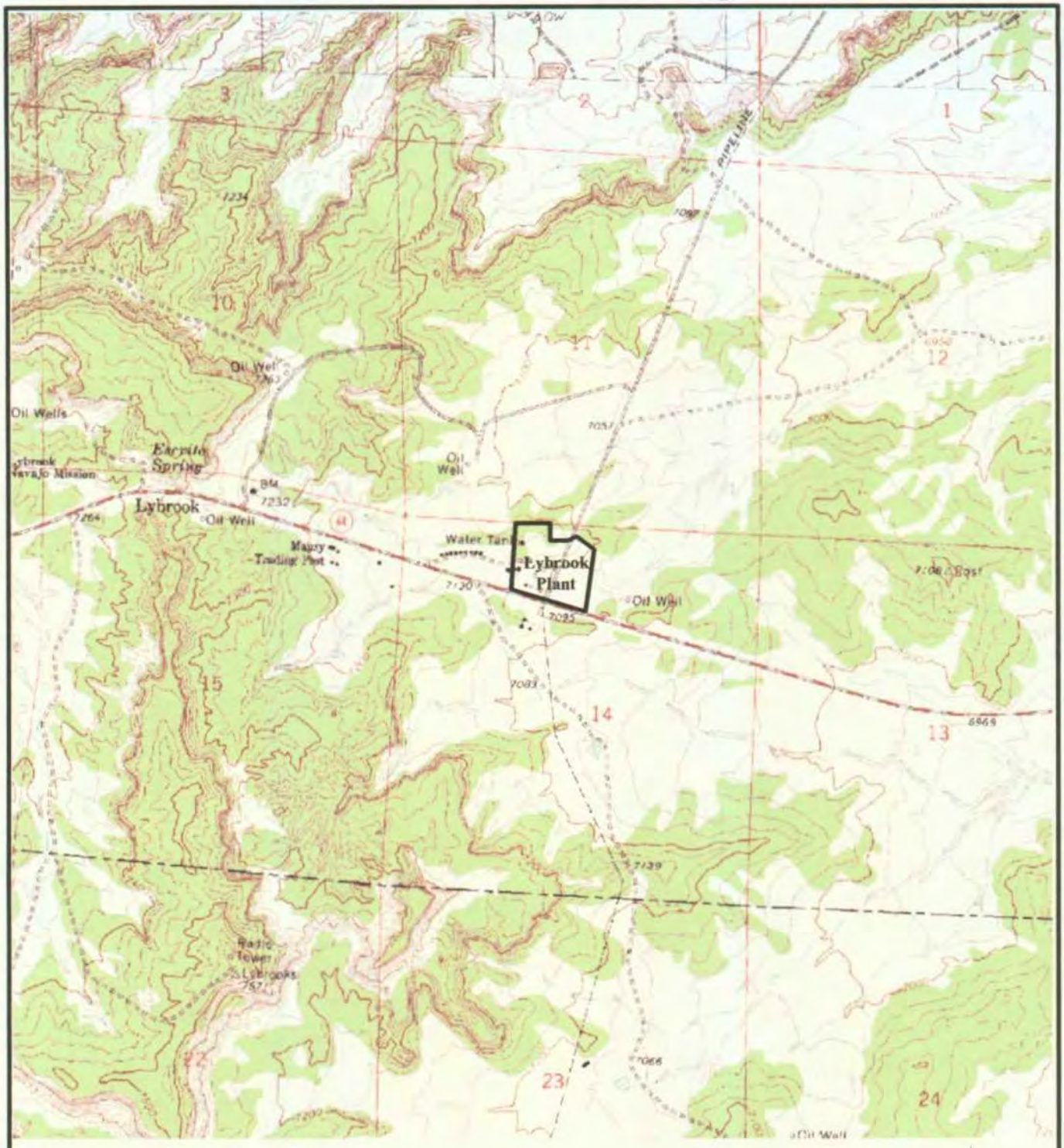
TABLE 2
TRANSFER, STORAGE AND DISPOSAL OF PROCESS FLUIDS, EFFLUENT AND WASTE SOLIDS
LYBROOK PLANT COMPRESSOR

PROCESS FLUID / WASTE	STORAGE	STORAGE CAPACITY	CONTAINMENT / SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Empty Drums/Containers	N/A	N/A	Transported to a Williams or Contractor Facility	Non-Exempt	Barrels are returned to supplier or transported to a Williams or Contractor consolidation point and ultimately recycled/disposed consistent with applicable regulations.
Spill Residue (i.e. soil, gravel, etc)	N/A	N/A	In Situ Treatment, Land Farm, or Alternate Method	Incident Dependent	Per Section VI, Remediation, in the 8/13/93 NMOCD Guidelines for Remediation of Leaks, Spills, and Releases.
Used Adsorbents	Drum or Other Container	Varies	Transported to a Williams or Contractor Facility in Drum or Other Container	Incident Dependent	Transported to a Williams or contractor consolidation point, drained, and ultimately transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. Recycling options may be considered when available.
Y-Grade	Above-Ground Storage Tanks	(2) 50,000 gallons	N/A	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Propane	Above-Ground Storage Tanks	(2) 50,000 and (4) 90,000 gallons	N/A	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Butane	Above-Ground Storage Tanks	(2) 40,000 gallons	N/A	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Natural Gasoline	Above-Ground Storage Tanks	(2) 43,000 gallons	Metal Walls and Earthen Floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Thermaline Oil	Above-Ground Storage Tank	13,350 gallons	Metal Walls and Earthen Floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Odorant	Above-Ground Storage Tanks	760 gallons (2) 300 gallons 100 gallons	Metal Tank or Metal Walls and Earthen Floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Water-Based Solvent	Above-Ground Storage Tank	300 gallons	Concrete block walls with earthen floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Petroleum-Based Solvent	Above-Ground Storage Tank	300 gallons	Concrete block walls with earthen floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Diesel	Above-Ground Storage Tanks	500 gallons 180 gallons	Metal Tank or Metal Walls and Earthen Floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.

TABLE 2
TRANSFER, STORAGE AND DISPOSAL OF PROCESS FLUIDS, EFFLUENT AND WASTE SOLIDS
LYBROOK PLANT COMPRESSOR

PROCESS FLUID / WASTE	STORAGE	STORAGE CAPACITY	CONTAINMENT / SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Gasoline	Above-Ground Storage Tank	1,000 gallons	Concrete block walls with concrete floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Lube Oil	Above-Ground Storage Tanks	3,760 gallons 2,015 gallons 500 gallons (2) 55 gallons	Metal Tank, Concrete Pad or Concrete Walls and Earthen Floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Methanol	Above-Ground Storage Tank	4,516 gallons	Concrete block walls with earthen floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Amine	Above-Ground Storage Tanks	12,451 gallons 4,516 gallons	Concrete block walls with earthen floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.
Ambitrol	Above-Ground Storage Tanks	2,000 gallons 1,300 gallons	Concrete block walls with earthen floor	N/A	Off-spec material is recycled or disposed consistent with applicable regulations.

Figures



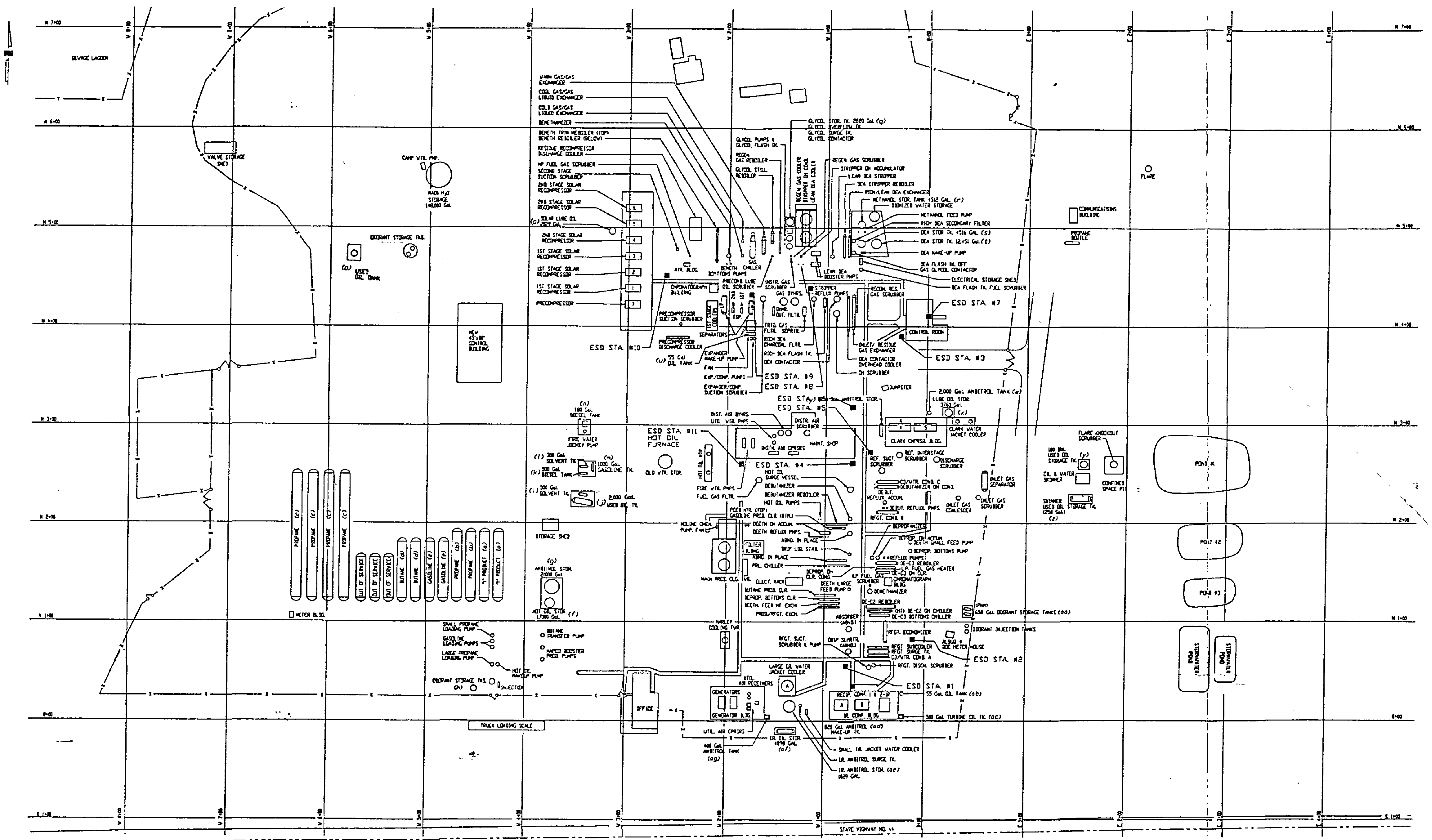
Williams

Figure 1 Site Vicinity / Topographic Map

Lybrook Plant

Section 14, Township 23N Range 7W

Rio Arriba County, New Mexico



LEGEND

■ EMERGENCY SHUTDOWN STATION

DRAFTING	BY	DATE
DRAWN BY	BES	07/23/98
CHECKED BY		
APPROVED BY		
ENGINEER	BY	DATE
DESIGNED BY		
PROJ. APPROVED		

STATE: NEW MEXICO

COUNTY: RIO ARRIBA

WILLIAMS FIELD SERVICES

ONE OF THE WILLIAMS COMPANIES

LYBROOK GAS CONDITIONING PLANT
PLOT PLAN

Figure 2

SCALE: 1" = 50'-0"

W.O. NO.

DWG NO. LYB-1-P217

SHEET of | REV 1

NO.	DATE	BY	DESCRIPTION	W.O.NO.	CHK	APP.
1	07/23/98	BES	CHANGED TO NEW TITLE BLOCK STANDARD			

REVISIONS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REFERENCE DRAWINGS

Appendices

APPENDIX A

SPILL CONTROL PROCEDURES

RELEASE/SPILL REPORTING

MATERIAL SAFETY DATA SHEETS

CHEMICAL EXPOSURES/POISONINGS

Dial

24HRS/DAY ~ 7DAYS/WEEK

1-888-677-2370

Info you should have when calling:

- Time of Release/Spill
- Location of the Release
- Asset where Release Occurred
- Amount Released
- Name of Chemical or Product Released

3E COMPANY

1905 Aston Avenue, Carlsbad, CA 92008
Telephone: 760-602-8700
Fax: 760-602-8888

Current telephonic
http://processbackbone/livelink/livelink
form WES-35

1.0 OBJECTIVE

1.1 To prevent releases and mitigate their effects if they occur.

2.0 DESCRIPTION

2.1 Company operated assets can be the source of releases into the environment, some of which may be harmful to employees, neighboring communities and the environment in which we all live. The Company has established the following standards to prevent and mitigate these environmental impacts and achieve regulatory compliance.

2.2 The major aspects of the standards are:

2.2.1 Preparation and implementation of a plan for pollution prevention and spill response (e.g.; Spill Prevention Control and Countermeasures (SPCC), Oil Spill Response Plan (OSRP), etc.) for each applicable Company asset to prevent and/or contain a spill.

2.2.2 Preparation and implementation of spill response plans to identify risks and minimize the potential to harm the environment from a release.

2.2.3 Procedure for reporting releases

3.0 STANDARDS

3.1 The Environmental Team Leader shall:

3.1.1 Establish and maintain 6.04-ADM-001 - Pollution Prevention and Control procedure, 24 hour Release Reporting and Notification system (3E) and 6.04-ADM-002 - Release Reporting procedure for Company operated assets. These procedures will, at a minimum, ensure the Company's compliance with applicable regulations and will be reviewed and updated Annually.

3.2 The Environmental Specialist shall:

3.2.1 Establish and maintain pollution prevention and spill response plans, which may include but are not limited to FRPs, SPCCs or OSRPs as required by applicable regulations per the 6.04-ADM-001 - Pollution Prevention and Control procedure.

3.2.2 Coordinate the review and distribution of pollution prevention and spill response plans, which may include FRPs, SPCCs and OSRPs every 5 years from the date of certification and/or modify the plan to address new or different operating conditions or deficiencies within 30 days of identification. Offshore plans shall be reviewed every 2 years. Documentation of the review shall be provided to the MMS Regional Supervisor.

3.2.3 When new or additional tasks are required, add the necessary tasks to the EMIS within 30 days of identification.

3.2.4 Distribute the pollution prevention and spill response plans.

3.3 The Manager of Operations shall:

3.3.1 Coordinate the timely execution of the EMIS/EMPAC pollution prevention and spill response plan tasks that are assigned to local Operations management. Submit required documentation to the Environmental Specialist as required by the task.

3.3.2 Prior to initial operation, review pollution prevention and spill response plans, with appropriate personnel as required by EMIS tasks.

3.3.3 Maintain documentation required by the EMIS tasks and distribute copies of documentation as instructed in the task (i.e. secondary containment drainage log, survey data for dikes, etc).

3.3.4 Prior to initiation of operations and on an annual basis thereafter review the facility's pollution prevention and spill response plans. At a minimum, the annual review should include personnel changes, phone number changes and product changes in tanks. Forward any changes to the area Environmental Specialist. Establish and maintain adequate resources are available to execute the pollution prevention and spill response plans.

3.3.5 Report all releases and spills in accordance with the 6.04-ADM-002 - Release Reporting procedure.

3.4 All Employees shall:

3.4.1 Utilize the pollution prevention and spill response plans for responding to spills, as applicable.

4.0 MEASURES

4.1 Number of overdue pollution prevention and spill response plans

4.2 Number of drills conducted versus number of drills required

5.0 LINKS

5.1 6.04-ADM-001 - Pollution Prevention and Control

5.2 6.04-ADM-002 - Release Reporting

5.3 EMIS

5.4 SIP Feedback/Change Request

1.0 PURPOSE

1.1 To outline the conditions under which facilities are subject to the requirements of the EPA Oil Pollution Prevention program, specify the actions required at facilities to comply with pollution prevention and/or response plans, and to ensure facilities are in compliance with all applicable oil pollution prevention regulations.

2.0 PROCEDURE

2.1 For manned facilities perform daily visual facility inspection. For unmanned facilities perform periodic inspections. Document Inspections on the appropriate Facility Log.

2.2 Perform monthly facility inspections and document on the Facility's Monthly Inspection Form or (equivalent).

2.3 Perform maintenance or repairs necessary to prevent or stop leaks or releases and document the work following company maintenance and repair procedures.

2.4 Maintain appropriate spill response equipment at an easily accessible location at the facility and ensure facility personnel are trained on the materials and their use(s).

2.5 When to Initiate

2.5.1 The first person to discover a spill/release at a facility will immediately take appropriate action to protect life, and ensure safety of personnel. An attempt will be made to mitigate the effects of the spill by terminating operations, closing valves, or taking other measures to stop the leak or spill as long as personnel are not in danger.

2.5.2 For onshore releases: If the spill is reportable (refer to 6.04-ADM-002 - Release Reporting procedure), the appropriate person (usually person discovering the release) will immediately notify the 24 hour O&TS release hotline at 1-888-677-2370 and, if necessary, local emergency response personnel/contractors.

NOTE

The current 24 hour O&TS release hotline is managed by a contractor, 3E. 3E provides 24-hour service/support, to include reporting major incidents and providing on-demand MSDSs.

2.5.3 Offshore releases: If the spill creates a sheen (refer to 6.04-ADM-002 - Release Reporting procedure), the appropriate person (usually person discovering the release) will immediately notify O'Brien's Oil Pollution Services (OOPS) at 985-781-0804 and the Environmental Specialist or his/her management team.

2.5.4 Receiving and reviewing the initial release report

2.5.4.1 Onshore releases: Within 24 hours, 3E will distribute an initial release report to the Area. The initial distribution will be made via Area e-mail boxes.

2.5.4.2 Each person that receives an initial report is required to review the report for correctness and clarity. All corrections must be provided to 3E in a return e-mail within 4 working days of receipt.

2.5.4.3 Offshore releases: The ES will complete the WES-35 - Release Report Form and distribute for review. All corrections must be provided to the ES in a return email within 4 working days of receipt.

2.5.5 Receiving a final release report

2.5.5.1 Onshore releases: 3E will gather the corrections from the initial release report and distribute a final report within 5 days of the release. The final report is sent to a distribution list controlled by Williams.

2.5.5.2 Off-shore releases: The ES or Compliance Administrator will gather corrections and distribute the final report to all stakeholders using the appropriate area and final distribution lists.

2.5.6 Providing Follow-up Information on the Release

2.5.6.1 The Operations Manager or his/her designee shall notify the local Environmental Specialist of the specific response measures taken to respond to the release and all follow-up actions that were taken as a result of the spill or release, if this information was not reported to 3E. It is recommended that the update be provided within 2 workdays of the actions being completed.

2.6 Facility Pollution Prevention Plans

2.6.1 The oil pollution prevention regulations include two plans related to non-transportation onshore facilities. The most common is the Spill Prevention Control and Countermeasure (SPCC) Plan. The second is the Facility Response Plan(FRP)

2.6.1.1 An SPCC Plan is a written document that describes the steps a facility takes to prevent oil spills and to minimize the risk of harm to the environment.

2.6.1.2 A Facility Response Plan is a written document that describes the procedures for responding to a spill.

NOTE

If your facility requires a Facility Response Plan (FRP), it will include an Emergency Response Action Plan (ERAP), which is equivalent to a Williams Emergency Response Plan (ERP). Therefore, if a facility has an FRP, Environmental Specialist will be responsible for preparation of the ERAP, and a separate ERP (as required by SIP-ADM-12.01 - Emergency Response and Planning) is not required.

2.6.2 The Environmental Specialist is responsible for preparation of SPCC plans or FRPs.

2.6.3 Operations is responsible for:

2.6.3.1 Reviewing draft plan(s), providing comments to the Environmental Specialist (ES) and meeting published timeframes for reviews and comments

2.6.3.2 Ensuring it is capable of complying with the document upon publication

2.6.3.3 Reviewing the plan(s) Annually and providing revisions or updates to the ES

2.6.3.4 Performing inspections required by the plan(s)

2.6.3.5 Maintaining documentation required by the plan(s) on the appropriate forms

2.6.3.6 Conducting annual drills if an FRP is in-place for the facility

2.6.3.7 Ensuring adequate response contractors are available in the area

2.6.3.8 Providing to the ES a current site survey to allow for dike calculations to be conducted, as required by the EPA for SPCC plans

2.6.4 Requirements to Maintain Records - The facility is required to maintain all inspection logs, secondary containment drainage logs, etc., for a period of 3 years. These records must be maintained in a centralized location at the facility and must be easily accessible to an inspector.

2.6.5 Requirements to Maintain the EMIS - The EMIS will be populated with all requirements of the facility's plans (SPCC/FRP) and any associated best management practices. The Environmental Group (ES, and CA) is responsible for maintaining the database.

2.6.6 Training Requirements – The Federal regulations for oil pollution prevention require annual training on the facility's plans and an overall education on plan requirements/purpose. The facility is responsible for ensuring all personnel receive the required SPCC/FRP training on an annual basis.

3.0 REFERENCES

3.1 Regulatory

3.1.1 Oil Pollution Prevention Act of 1990

3.1.2 40 CFR 112, Oil Pollution Prevention (EPA)

3.1.3 Applicable state, regional and local regulations

3.2 Related Policies/Procedures

3.2.1 Training CD for SPCC Plans

3.3 Forms and Attachments

3.3.1 WES-87 – Record of Secondary Containment Discharge

3.3.2 WES-35 - Release Report Form

3.3.3 6.04-ADM-002 - Release Reporting

3.3.4 SIP-ADM-12.01 - Emergency Response and Planning

4.0 DEFINITIONS

4.1 **Aboveground Storage Tank (AST)** – A tank that has all its surfaces above the existing grade so as to allow visual inspection of all the tank surfaces.

4.2 **DOT** – Department of Transportation

4.3 **EPA** – Environmental Protection Agency

4.4 **Facility** – Any terminal, facility, pipeline, etc. owned or operated by Williams.

4.5 **Facility Response Plan** - Required for any non-transportation related facility that could be expected to cause substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines.

4.6 **Hydrocarbons and Other Fluids** – Hydrocarbons and other fluids include oil, gasoline, diesel, condensate, solvents, other petroleum products, and any mixture of water with any of the above liquids.

4.7 **MMS** – Minerals Management Service

4.8 **Navigable Waters** – The Clean Water Act defines the navigable waters of the United States as the following: all navigable waters, as defined in judicial decisions prior to the passage of the Clean Water Act, and tributaries of such waters; interstate waters; intrastate lakes, rivers, and streams that are used by interstate travelers for recreational or other purposes; and intrastate lakes, rivers, and streams from which fish and shellfish are taken and sold in interstate commerce.

4.9 **Oil** – Oil of any kind or any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. The EPA accepts the definition of oil as the list provided by the USCG at http://www.uscg.mil/vrp/faq/oil.shtml.

4.10 **Oil Pollution Act (OPA) of 1990** – OPA 1990 requires regulated facilities to submit spill response plans that address the facility owner's or operator's ability to respond to a "worst-case discharge." OPA 90 is being implemented by EPA under 40 CFR 112, Oil Pollution Prevention, Section 112.20, Facility Response Plans.

4.11 **Oil Spill Response Plan** – An Oil Spill Response Plan provides information on responding to a spill at a facility and is intended to satisfy the requirements of the Oil Pollution Act of 1990; Facility Response Plan requirements of 40 CFR 112, Oil Pollution Prevention (EPA); Pipeline Response Plan requirements of 49 CFR 194, Response Plans for Onshore Oil Pipelines (RSPA); Facility Response Plan requirements of 33 CFR 154 Subpart F, Response Plans for Oil Facilities (USCG); and 30 CFR 254, Oil-Spill Response Requirements for Facilities Located Seaward of the Coast Line (MMS).

4.12 **OSRO** – Oil Spill Response Organization

4.13 **PREP** – National Preparedness for Response Exercise Program

4.14 **Release** – synonymous with spill in this document. Williams' definition of a release is contained in the Release Reporting Guidelines which is maintained by the Environmental Group.

4.15 **RSPA** – Research and Special Programs Administration

4.16 **Spill Prevention, Countermeasures, and Control (SPCC) Plan** – An SPCC Plan provides information on spill prevention at a facility and is intended to satisfy the requirements of the SPCC Plan requirements in 40 CFR 112, Oil Pollution Prevention.

4.17 **Underground Storage Tank (UST)** – A tank that has all its surfaces below the existing grade.

4.18 **USCG** – United States Coast Guard

>>>End of Procedure<<<

1.0 PURPOSE

1.1 To define the process for reporting releases.

2.0 PROCEDURE

2.1 This Procedure Applies To Liquid And Gas Releases.

2.2 **The Environmental Specialist (ES) will:**

2.2.1 Provide information and guidance to each Area where exceptions to this procedure are required based on State laws, rules and/or permit conditions, including specifics on the required alternate or revised reporting.

2.2.2 Review scheduled blow-down events in order to determine whether or not a permit is required. Allow sufficient time for Operations to obtain a gas analysis if necessary – data may be required in calculations.

2.2.3 Coordinate with appropriate regulatory agencies, obtain required permits and inform Operations of regulatory requirements that must be met prior to performing blow-downs.

2.2.4 Submit release follow-up information to the applicable regulatory agencies.

2.2.5 Contact local Operations to ensure adequate response measures have been taken for each release and track closure of each release with the appropriate regulatory agencies, if necessary.

NOTE

Third parties operating Company' facilities (i.e., Hanover/POI) are responsible for adhering to this guidance document and reporting releases appropriately. Written reports are required to be submitted to Agencies within 5 – 7 days of the notification of a reportable release and Operations will be involved in verifying that the information submitted by the Area Environmental Specialist is accurate.

2.3 **Offshore Releases**

2.3.1 A reportable offshore release is:

2.3.1.1 Any atmospheric releases greater than 50 mscf when in gaseous form prior to release. This threshold may be increased by the ES for specific areas or facilities based on state and local regulations.

2.3.1.2 Any liquid release that causes a sheen.

2.3.2 Gas Only Releases

2.3.2.1 Operations will immediately report all reportable offshore gas releases within one hour of occurrence or discovery to the Environmental Specialist and the DOT Compliance Coordinator.

2.3.2.2 The Environmental Specialist and the DOT Compliance Coordinator will determine whether the incident is reportable to any regulatory agencies, and will complete any required telephonic reporting to the appropriate regulatory agencies.

2.3.2.3 The Environmental Specialist will complete the WES Release Report Form and forward to the Release Report Database Compliance Specialist in Tulsa within 5 working days.

2.3.2.4 The Environmental Specialist and DOT Compliance Coordinator will complete any required follow-up written reports and/or documentation.

2.3.3 Liquid Hydrocarbon or Gas and Liquid Hydrocarbon Releases

2.3.3.1 Operations will immediately report any offshore release that causes a sheen to O'Brien's Oil Pollution Services (OOPS) (985-781-0804). OOPS will make the required notifications and reports to the appropriate regulatory agencies.

2.3.3.2 Operations will also immediately report any offshore releases to the Environmental Specialist and the DOT Compliance Coordinator that meet the reportable criteria of this document.

2.3.3.3 The Environmental Specialist will complete the WES-35 - Release Report Form and forward to the Release Report Database Compliance Specialist in Tulsa within 5 working days, based on the release report provided by OOPS.

2.3.3.4 The DOT Compliance Coordinator will complete any required follow-up reports and/or documentation relating to transportation-related agency requirements (e.g., DOT).

2.4 Onshore Releases

2.4.1 Operations will communicate all reportable onshore releases within one hour of their occurrence or discovery to 3E at 1-888-677-2370. Refer to the Onshore Release/Spill Notification Flowchart. 3E will notify the appropriate regulatory agencies in accordance with the Release Matrices.

2.4.2 A Reportable Release is:

2.4.2.1 A release of liquid (i.e., gasoline, diesel, MDEA, TEG, NGL, etc.) where the release is greater than 1 gallon if a one-time event, or greater than 5 gallons within a 24-hour period if a cumulative event (i.e., drips). See exclusions in 2.4.3.

2.4.2.2 Any release of liquid (greater than 1 gallon) outside the facility boundary

2.4.2.3 Any release, regardless of size, which enters a waterway (i.e., ditch, arroyo, intermittent stream, etc.)

2.4.2.4 All atmospheric releases greater than 50 mscf when in gaseous form prior to release. This threshold may be increased by the ES for specific areas or facilities.

2.4.3 A Non-Reportable Release is:

2.4.3.1 Sheen on rainwater within a facility not resulting from a release event. Sheen on rainwater in dikes and/or valve boxes not resulting from a release event. (Follow proper disposal and housekeeping practices.)

2.4.3.2 Gaseous releases less than 50 mscf. This threshold may be increased by the ES for specific areas or facilities.

2.4.3.3 Routine, permitted gaseous releases to a control device (i.e., a flare)

NOTE - FLARES

A flare may have permit limits and may require tracking of flaring events. Refer to facility specific flare procedures if applicable. Any exceedance of permit limits (including smoking flares) must be immediately reported to your local Environmental Specialist and not to 3E.

2.4.4 The information required to be reported for all onshore releases is listed in WES Release Report Form.

2.5 Whom to Call:

2.5.1 Onshore Releases – Our third party contractor (3E) at the toll free number 1-888-677-2370.

2.5.2 Offshore releases involving a sheen – Our third party contractor (OOPS) at the number 1-985-781-0804, your area ES and the DOT Compliance Coordinator.

2.5.3 Offshore Releases not involving a sheen – Your area ES and the DOT Compliance Coordinator.

2.6 Post Report Follow-up

2.6.1 The following information on all Reportable Releases will be submitted to the Environmental Specialist by Operations within 45-days of the release or its discovery:

2.6.1.1 Quantity of soil removed to capture release

2.6.1.2 Description of soil "disposal" (i.e., land, farm, landfill)

2.6.1.3 Quantity of water/product removed and disposed of to respond to release

2.6.1.4 What was done with the water/product

2.6.1.5 Update of the cost incurred from the release. This includes the cost of lost product, associated repair costs and costs to respond to and clean up the release (payroll, material/supplies and/or outside services), even if only a portion of this information is known

2.6.2 The Environmental Specialist will ensure:

2.6.2.1 The required written reports are completed and sent to the SERC following a release that has been reported to a federal or state agency.

2.6.2.2 The release database is updated with quantities released and remedial action taken.

2.7 The Release Report Database Compliance Specialist in Tulsa will maintain the release database, to include follow-up information. Operations is not required to maintain copies of release reports; however, Operations will be responsible to ensure adequate and accurate information is provided to 3E, the ES, and the DOT Compliance Coordinator.

3.0 REFERENCES

3.1 Regulatory - There are various regulatory requirements at the State and Federal level that require Williams to report releases. The releases that exceed their specific reportable quantity will be reported to the appropriate regulatory agencies.

3.2 Related Policies/Procedures

3.2.1 SIP-ADM-6.04 - Pollution Prevention and Spill Response

3.3 Forms and Attachments

3.3.1 WES-35 - Release Report Form

3.3.2 Offshore Incident Notification Matrix

3.3.3 Onshore Release/Spill Notification Flow Chart

3.3.4 Offshore Incident Notification Matrix

3.3.5 Telephonic and Written Release Reporting Requirements

3.3.6 SIP Feedback/Change Request

4.0 DEFINITIONS

4.1 **Liquid** - For the purposes of these reporting criteria, a substance should be reported as a liquid release if it exists in liquid form at the time of the release. Liquid releases should be reported using the measurement unit used when transporting the product. Under some circumstances both liquids and gases are released, and each should be reported separately.

4.2 **Gas - For the purposes of these reporting criteria, a substance should be** reported as an atmospheric release of gas if it exists in gaseous form at the time of the release. Gas releases should be reported using the measurement unit used when transporting the product (i.e., natural gas: mscf; propane: barrels, etc.). Under some circumstances both liquids and gases are released, and each should be reported separately.

4.3 **Facility Boundary** - The Facility Boundary is the area within the fenced perimeter or the property line. If no fence or clear property line exists, then the facility boundary is that area clearly maintained by local Operations (graveled, mowed, cleared, etc.), excluding pipeline right-of-ways.

4.4 **Offshore Release** - Any release that occurs in a Title E effected zone.

4.5 **Onshore Release** - Any release that does not occur in a Title E effected zone.

>>>End of Procedure<<<

WES Release Report Form

Call 3E at 1-888-677-2370 to report all releases (suspected or confirmed)

Is this a drill: ▼ Type of Drill: ▼

Release Reported by: Report Time:

Please provide the correct spelling

Phone Number: Job Title:

Date Release Occurred:

Month ▼ Day ▼ Year ▼ State ▼

Product Released: ▼

Released to: ▼

Define Other:

Estimated Released	0	(a)
Estimated Free Liquids Recovered	0	(b)
Estimated Amount Recovered Soil	0	(c)
Estimated Total Amount Recovered	0	(b+c)
Estimated Amount Not Recovered	0	(a-b-c)

Note: For a release to be contained inside of a "dike" it must be a permanent dike designed specifically to contain releases.

Release Reportable? ▼ Waterway Affected? ▼ Name

3E should inform the regulatory agencies listed below, that Emergency Response is not required.

Report	Date	Number	Time	Name	Title	City	State
NRC ☐							
SERC ☐							
3E Only	Was a written report requested?			Time Frame ▼ Days			
TNRCC ☐							
3E Only	If a written report is requested, do not provide it. Contact Environmental Specialist.						
LEPC ☐							
Other ☐							

Business Unit ▼ Asset Group ▼

Inside Facility Boundary? ▼ Facility Type: ▼

Facility Asset: ☐ Facility Name:

OR

Pipeline Asset: ☐ Pipeline Name: Pipe Type: ▼

3E can search the data base by: Pipeline, Terminal, Station, Receipt Facility or Delivery Point.

Note: Check "Pipeline Asset" if release occurs on a pipeline outside the facility boundary. Breakout Tank? ▼

Incident Summary:

WES Release Report Form

Call 3E at 1-888-677-2370 to report all releases (suspected or confirmed)

Release Discovered by: | Discover Time

Release Verified: | Verification Time: | Release Stop Time:

District: | Area:

Area Supervisor:

Address of Release | City:

Nearest City: | County: | Zip Code:

DOT Jurisdiction: | Engineering Stationing Number:

Note: Determine if the release is from a DOT Jurisdictional asset whether inside or outside a facility.

Caller's E-mail Address: | Provide spelling of e-mail address.

Pipeline Address:

Section | Township | Range | Milepost | Tract #

Offshore | Latitude | Longitude

Origin of Release:

Owner of well site or Leasehold where release/spill occurred:

Cause (pre-investigation) Check all that apply:

Third Party Damage ☐	Equipment Failure ☐	Material or Weld Failure ☐
Internal Corrosion ☐	Other ☐	Excavation Damage ☐
External Corrosion ☐	Incorrect Operation - Contractor ☐	Intentional Blowdown: ☐
Natural Forces ☐	Incorrect Operation - Operator ☐	*Maintenance* ☐ *Non-Maintenance* ☐

Did water affect the release in any way? | If Yes, Explain:

Temp | Relative Humidity | Precipitation

Cloud Cover | Wind Speed | Wind Direction

Injury | Fire | Fatality | Explosion | Unconsciousness

3 or more Hospitalized | Significant News Coverage

Incident Classification: | Loss/Damage Estimate:

Loss and damage estimate should include all costs associated with clean-up (maintenance, clean-up, product loss).

Environmental Contact for release:

Safety Contact for this release:

Form completed by: | Completion Date:

Latest revision date for form 05/06/03

Replaces previous revision date 01/24/03

APPENDIX B

NMOCD NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS AND BLOWDOWNS

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Report

Name of Company	Contact
Address	Telephone No.
Facility Name	Facility Type

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☐ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Describe Area Affected and Cleanup Action Taken.*

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name:	Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:
E-mail Address:	Conditions of Approval:	Attached ☐
Date: Phone:		

* Attach Additional Sheets If Necessary

APPENDIX C

PUBLIC NOTICE

Williams

Environmental Department
188 CR 4900 Bloomfield NM 87413
Phone: 505/632/4606 Fax: 505/632/4781

MEMORANDUM

Date: June 2, 2004

Subject: Public Notice Postings for Lybrook Natural Gas Processing Plant

Discharge Plan regulations (20.6.2.3108.A.1.a) require that public notice be prominently posted in English and in Spanish, at a conspicuous public location at or near the existing or proposed facility for 30 days.

Posting Location	Date of Posting
Facility Entrance	June 2, 2004

Posted by Randy Specht, Lybrook Coordinator of Maintenance, on June 2, 2004.

PUBLIC NOTICE

Notice of Discharge Plan Application

Lybrook Gas Processing Plant (GW-047)

Pursuant to the requirements of the New Mexico Oil Conservation Division Environmental Protection Water Quality Ground and Surface Water Protection 20.6.2.3108, Williams Field Services Company of 188 County Road 4900, Bloomfield, NM 87413, hereby announces intent to apply to the New Mexico Oil Conservation Division to renew the discharge plan for the Lybrook Gas Processing Plant. Williams expects to submit the discharge plan renewal application to the Oil Conservation Division during the week of June 28, 2004.

The facility is located in Section 14, Township 23 North, Range 7 West, in Rio Arriba County, approximately 50 miles southeast of Bloomfield, New Mexico.

The discharge permit addresses how spills, leaks, and other accidental discharges to the surface will be managed. The facility does not discharge wastewater to surface or subsurface waters. All wastes generated will be temporally stored in tanks or containers with secondary containment. Waste shipped offsite will be disposed or recycled at an OCD approved site. In the event of an accidental discharge, ground water most likely will not be affected because the estimated ground water depth at the site is 100-400 feet. The total dissolved solids concentration of area ground water is expected to range from 200 to 2,000 parts per million.

Comments or inquiries regarding this discharge plan or the permitting process may be directed to:

Director of the Oil Conservation Division
1220 South Saint Francis Dr.
Santa Fe NM 87505
(505) 476-3440

Please refer to the company name and site name, as used in this notice, or send a copy of this notice when making inquiries, since the Department might not have received the discharge plan application at the time of this notice.

La Nota pública

La nota de la Aplicación del Plan de la Descarga

El Gas de Lybrook que Procesa Planta (GW-047)

Según los requisitos de la División de la Conservación del Petróleo de nuevo méxico el Suelo Ambiental de la Calidad de Agua de Protección y Protección 20.6.2.3108 de Agua de Superficie, William Sortean la Compañía de Servicios de 188 Camino de Condado 4900, Bloomfield, NM 87413, por la presente anuncian la intención para aplicar a la División de la Conservación del Petróleo de nuevo méxico para renovar el plan de la descarga para la Planta de Procesamiento de Gas de Lybrook. William esperan someterse la aplicación de la renovación del plan de la descarga a la División de la Conservación del Petróleo durante la semana de el 28 de junio de 2004.

La facilidad se localiza en la Sección 14, Municipio 23 al norte, Recorren 7 al oeste, en el Condado de Rio Arriba, aproximadamente 50 sudeste de millas de Bloomfield, nuevo méxico.

Las direcciones del permiso de la descarga cómo rocian, los escapes, y otras descargas accidentales a la superficie se manejarán. La facilidad no descarga wastewater para surgir ni aguas subterráneas. Todo malgasta engendrado será almacenado temporalmente en tanques o contenedores con la contención secundaria. Malgaste enviado en otros depósitos fuera de la planta principal será dispuesto o será reciclado en un OCD aprobó el sitio. En caso de una descarga accidental, el suelo riega muy probable no será afectado porque la profundidad estimada de agua de suelo en el sitio es 100-400 pies. El suma se disolvió la concentración de sólidos de agua de suelo de área se espera recorrer de 200 a 2,000 partes por millón.

Los comentarios o las indagaciones con respecto a este plan de la descarga o el proceso que permiten puede ser dirigido a:

El director de la División de la Conservación del Petróleo
1220 Santo del sur Francis Dr. Fe de Santa NM 87505
(505) 476-3440

Refiérase por favor al nombre de la compañía y el nombre del sitio, como utilizado en esta nota, o mande una copia de esta nota al hacer las indagaciones, desde que el Departamento no podría haber recibido la aplicación del plan de la descarga en el tiempo de esta nota.

or leave a message at 324-0068.

PUBLIC NOTICE

Notice of Discharge Plan Application
Lybrook Gas Processing Plant (GW-047)

Pursuant to the requirements of the New Mexico Oil Conservation Division Environmental Protection Water Quality Ground and Surface Water Protection 20.6.2.3108, Williams Field Services Company of 188 County Road 4900, Bloomfield, NM 87413, hereby announces intent to apply to the New Mexico Oil Conservation Division to renew the discharge plan for the Lybrook Gas Processing Plant. Williams expects to submit the discharge plan renewal application to the Oil Conservation Division during the week of June 28, 2004.

The facility is located in Section 14, Township 23 North, Range 7 West, in Rio Arriba County, approximately 50 miles southeast of Bloomfield, New Mexico.

The discharge permit addresses how spills, leaks, and other accidental discharges to the surface will be managed. The facility does not discharge wastewater to surface or subsurface waters. All wastes generated will be temporally stored in tanks or containers with secondary containment. Waste shipped offsite will be disposed or recycled at an OCD approved site. In the event of an accidental discharge, ground water most likely will not be affected because the estimated ground water depth at the site is 100-400 feet. The total dissolved solids concentration of area ground water is expected to range from 200 to 2,000 parts per million.

Comments or inquiries regarding this discharge plan or the permitting process may be directed to:

Director of the Oil Conservation Division
1220 South Saint Francis Dr.
Santa Fe NM 87505
(505) 476-3440

Please refer to the company name and site name, as used in this notice, or send a copy of this notice when making inquiries, since the Department might not have received the discharge plan application at the time of this notice.

five home runs to lead the Twins over the error-prone Tampa Bay

AMERICAN LEAGUE

Jason Giambi worked a perfect 12th for his

the 11th and Francisco Cordero

Williams

Environmental Department
188 County Road 4900
Bloomfield, NM 87413
505/632-4625
505/632-4781 Fax

October 31, 2003

Mr. W. Jack Ford
State of New Mexico - Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

RE: Request to Update Discharge Plans and C-134 Permits
Kutz Canyon Gas Processing Plant (GW-045) San Juan Co, NM
Lybrook Gas Plant (GW-047), Rio Arriba Co, NM

This correspondence is to a request to update the Discharge Plans and associated C-134 permits for the referenced Williams plants.

If there are any questions or additional information is requested, please contact me at (505) 632-4625.

Respectfully submitted,

Michael Lane
Williams Energy Services
Four Corners Area Environmental Specialist

Encl:

XC: Pat McCown, Lybrook Plant
Danny Sullivan, Kutz Plant
Environmental File: 220

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-134
Revised June 10, 2003

Submit 4 Copies to
appropriate District Office

Permit No. _____
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952

FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule711(I)

Operator Name: **Williams Field Services** **(NMOCD Discharge Plan: GW-047)**

Operator Address: **188 CR 4900, Bloomfield, NM 87413**

Lease or Facility Name **Lybrook Gas Plant** Location **N/2 NW/4 S14, T23N, R7W, NMPM**
Ut. Ltr. Sec. Twp. Rge

Size of pit or tank: **90 ft X 150 ft X 10 ft (Pond #1)**

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

Pond is used to evaporate waste water from the processing plant. An oil/water skimmer is located upstream of effluent to pond to prevent incidental oil form reaching the pond. Perimeter is fenced and sprayers help to discourage wildlife and birds from using pond. Two clear water ponds used to store feed water not of concern.

1) If any oil or hydrocarbons should reach this facility, give method and time required for removal:

Should oil reach the pond, a boom will be used to isolate oil and the oil will be skimmed from the water surface.

2) If any oil or hydrocarbons reach the above-described facility, the operator is required to notify the appropriate District Office of the OCD with 24 hours.

Operator proposes the following alternate protective measures: _____

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature _____ Title **Environmental Specialist** Date 10/31/03

Printed Name **Michael K. Lane** Telephone No. **(505) 632-4625**

E-mail Address Michael.K.Lane@Williams.com

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected _____ Approved by _____

Inspected by _____ Title _____

Date _____

Ford, Jack

From: Ford, Jack
Sent: Tuesday, July 08, 2003 8:01 AM
To: 'Lane, Michael'
Subject: RE: Request for permission to construct temporary settling pond.

Myke

This is written verification of verbal approval for construction of settling pond at the Lybrook Gas Plant.

Jack Ford
Oil Conservation Division
Environmental Bureau

-----Original Message-----
From: Lane, Michael [mailto:Michael.K.Lane@Williams.com]
Sent: Monday, July 07, 2003 1:46 PM
To: W. Jack Ford (E-mail)
Cc: McCown, Pat; Hammer, Grant
Subject: Request for permission to construct temporary settling pond.

Jack: I apologize for this short notice.

Operations at Lybrook would like to construct and use a settling pond Wednesday. This pond is the modification requested for the Lybrook Discharge Plan in the attached letter sent last week. If possible please call me on my mobile if you can give verbal acceptance or need more info.

Thanks for you help and attention.

Michael K. (Myke) Lane, Environmental Specialist III
Williams Energy Services - Four Corners Area
188 CR 4900, Bloomfield, NM 87413
505/632-4625 (off); -4781 (fax); 505-330-3198 (mobile)

"There's never enough time to do all the nothing you want!" Calvin & Hobbes by B. Watterson

<<Lybrook 90K settling pond req.doc>>

Environmental Department
188 County Road 4900
Bloomfield, NM 87413
505/632-4625
505/632-4781 Fax

July 2, 2003

Mr. W. Jack Ford
State of New Mexico
Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

GW-47

RE: Request to Construct a Temporary Settling Pond
Plant Discharge Plan: GW-047
Lybrook Gas Plant, Rio Arriba County, NM

This correspondence is to request permission to construct a temporary settling pond at the reference facility to accommodate scheduled tank maintenance and cleaning. Refer to the attached Figure (2) from the SPCC Plan for the planned pond location.

The facility is planning to cleanout the solids and sludge in the 90K bullet tank. Wastewater, incidental hydrocarbons and solids will be recovered during the maintenance and cleaning. It is planned to place the recovered waste in a lined settling pond to allow separation of the liquids and solids. Liquids will be decanted and handled with the current wastewater system. Hydrocarbon will be skimmed and the water disposed in the evaporation ponds. The solids will be allowed to dry, and then removed from the pond and placed in the facility landfarm for remediation of hydrocarbon contamination.

The settling pond will be temporary to be used for no longer than two to three months or until the solids have been removed. The pond will have dimensions of 30 feet by 60 feet with a minimum two-foot perimeter berm. The entire pond and perimeter berm will be lined with a shop fabricated 4 mil poly liner. Holding capacity of the pond should be a minimum of 26,900 gallons. The estimated waste is anticipated to be approximately 17,000 gallons. Upon removal of all liquids and solids, the liner will be removed and the pond area regarded.

Williams will not construct the settling pond until permission is granted by NMOCD.

If there are any questions or additional information is requested, please contact me at (505) 632-4625.

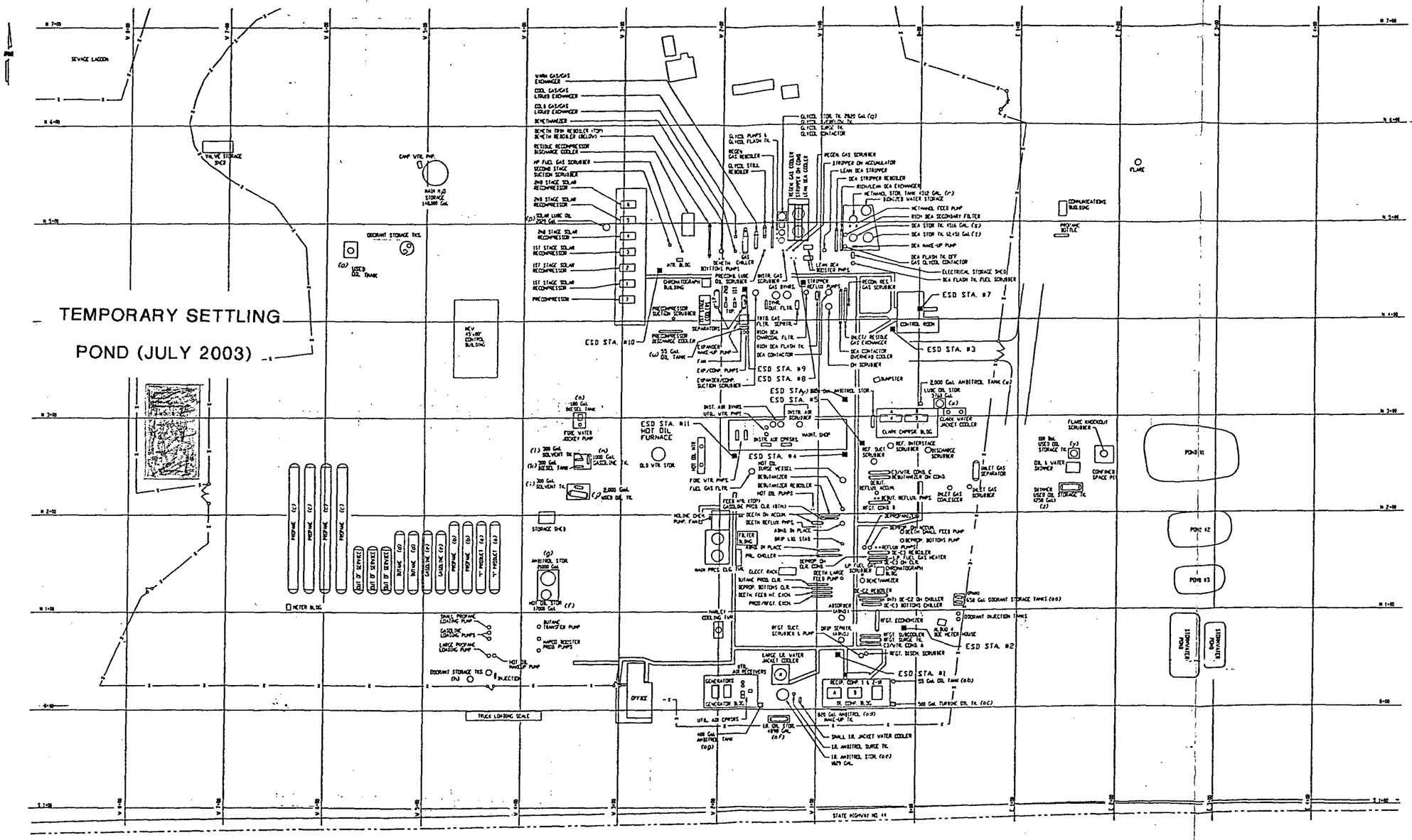
Respectfully submitted,

Michael Lane
Williams Energy Services
Four Corners Area Environmental Specialist

Approval Via e-mail
Wes 7/8/03

Encl:

XC: Pat McCown, Plant Team Lead
Lybrook Environmental File: 220



LEGEND

■ EMERGENCY SHUTDOWN STATION

REFERENCE DRAWINGS				REFERENCE DRAWINGS				REVISIONS																					
DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE	NO	DATE	BY	DESCRIPTION	W.O.NO.	CHK	APP.	NO	DATE	BY	DESCRIPTION	W.O.NO.	CHK	APP.
															1	07/23/98	BCS	CHANGED TO NEW TITLE BLOCK STANDARD			

DRAFTING	BY	DATE
DRAWN BY	BCS	07/23/98
CHECKED BY		
APPROVED BY		
ENGINEER	BY	DATE
DESIGNED BY		
PROJ. APPROVED		

STATE: NEW MEXICO
COUNTY: RIO ARRIBA

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

LYBROOK GAS CONDITIONING PLANT
PLOT PLAN

Figure 2

SCALE: 1" = 50'-0"
W.O. NO.
DWG NO. LYB-1-P217
SHEET OF
REV 1

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

May 5, 2003

Mr. Michael Lane
Williams Field Services
188 CR 4900
Bloomfield, New Mexico 87413

RE: Site Modifications Notification
GW-047, Lybrook Plant
San Juan County, New Mexico

Dear Mr. Lane:

The OCD has received the site modification request letter and site plat, dated April 29, 2003, from Williams Field Services for the Lybrook Plant GW-047 located in N/2 NW/4, Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico. **The request to relocate the landfarm to the former sewer lagoon as a site modification is approved as a minor site modification to the discharge plan.**

Please note that 20 NMAC 3104 of the regualtions requires that **"When a plan has been approved, discharges must be consistent with the terms and conditions of the plan."** Pursuant to 20 NMAC 3107.C Williams Field Services is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the dischaarge of water quality or volume. Further, this approval does not relieve Williams Field Services from liability should operations result in contamination to the environment.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

cc: Mr. Denny Foust - Aztec District Office

Environmental Department
188 County Road 4900
Bloomfield, NM 87413
505/632-4625
505/632-4781 Fax

April 29, 2003

Mr. W. Jack Ford
State of New Mexico
Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

RE: Request to Relocate Landfarm
Plant Discharge Plan: GW-047
Lybrook Gas Plant, Rio Arriba County, NM

This correspondence is to request permission to relocate the landfarm at the reference facility to an abandoned sewer lagoon. Refer to the attached Figure (3) from the NPDES permit for the lagoon location. The residential area, which formerly used the lagoon, has been abandoned and the sewer system has been partially dismantled. The lagoon is no longer in service, no effluent is discharge to the lagoon ponds, and will not be used for the foreseeable future.

The lagoon area should make an ideal landfarm area since fencing is still in place, and it is graded with a perimeter berm to prevent run-on of stormwater. Landfarming will follow the procedures currently approved by NMOCD and the landfarm will only be used to manage contaminated soils generated at the plant site.

Williams will not use the lagoon until permission is granted by NMOCD.

If there are any questions or additional information is requested, please contact me at (505) 632-4625.

Respectfully submitted,

Michael Lane
Williams Energy Services
Four Corners Area Environmental Specialist

Encl:

XC: Pat McCown, Plant Team Lead
Lybrook Environmental File: 220

Figure 3 Drainage Plan
Lybrook Gas Processing Plant
Section 14, Township 23N Range 7W
Rio Arriba County, New Mexico

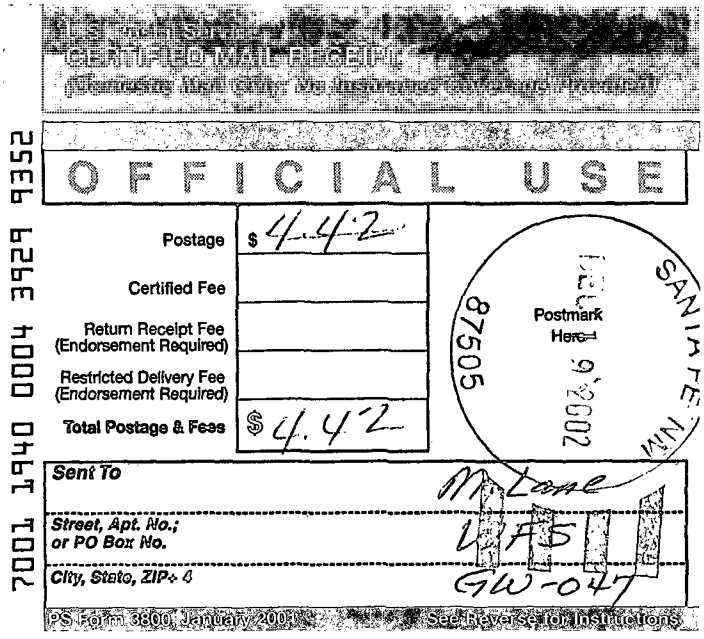
NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

December 19, 2002

Lori Wrotenbery
Director
Oil Conservation Division

CERTIFIED MAIL
RETURN RECEIPT NO. 3929 9352



Mr. Michael K. Lane
Williams Field Services
188 CR 4900
Bloomfield, New Mexico 87413

RE: Site Modification Approval
GW-047, Lybrook Plant
San Juan County, New Mexico

Dear Mr. Lane:

The OCD has received the site modification letter and site plan, dated December 15, 2002, from Williams Field Services for the Lybrook Plant GW-047 located in N/2 NW/4, Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico. The request to establish a landfarm at the facility for remediation of soil material collected from the site is **hereby approved.**

Please note that 20 NMAC 6.2.3104 of the regulations requires that **"When a plan has been approved, discharges must be consistent with the terms and conditions of the plan."** Pursuant to 20 NMAC 6.2.3107.C Williams Field Services is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume. Further, this approval does not relieve Williams Field Services from liability should operations result in contamination to the environment.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

cc: Mr. Denny Foust - Aztec District Office

Four Corners Area
Environmental Department
#188 CR 4900
Bloomfield, N.M. 87413
Phone: (505) 632-4625
Fax: (505) 632-4781

December 15, 2002

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

Re: **Lybrook Gas Processing Plant (GW-047) Discharge Plan Modification**

Dear Mr. Ford:

This letter is in response to your letter dated December 11, 2002. The land farm area is depicted by the arrow on the attached figure.

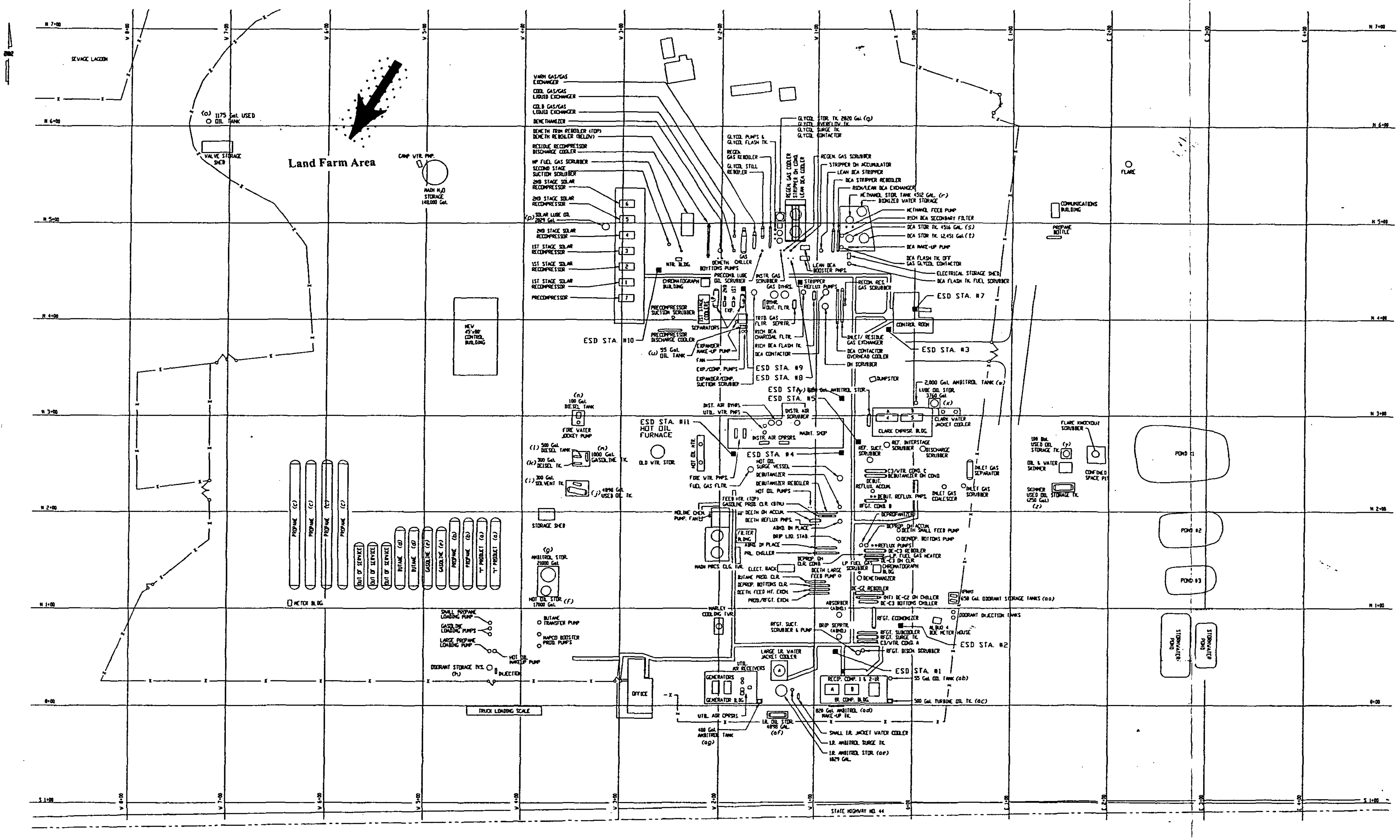
The land farm material source is Lybrook Plant operations. The material is soil and gravel that was impacted by amine, glycol, and/or petroleum hydrocarbons. Currently, the land farm contains amine impacted soil and gravel. After land farm meets clean-up criteria, the material is removed from the land farm and staged for beneficial use at Lybrook Plant.

If you have any questions or require additional information, I can be reached at (505) 632-4625.

Respectfully submitted,

Michael K. Lane
Senior Environmental Specialist

Xc: Denny Foust, Aztec OCD



LEGEND

■ EMERGENCY SHUTDOWN STATION

DRAFTING	BY	DATE
DRAWN BY	BES	07/23/98
CHECKED BY		
APPROVED BY		
ENGINEER	BY	DATE
DESIGNED BY		
PROJ. APPROVED		

STATE: NEW MEXICO
COUNTY: RIO ARRIBA

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

LYBROOK GAS CONDITIONING PLANT
PLOT PLAN

Figure 2

SCALE: 1" = 50'-0"
W.O. NO.
DWG NO. LYB-1-P217
SHEET OF
REV 1

NO.	DATE	BY	DESCRIPTION	W.O.NO.	CHK.	APP.
1	07/23/98	BES	CHANGED TO NEW TITLE BLOCK STANDARD			

REVISIONS

DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE

REFERENCE DRAWINGS

REFERENCE DRAWINGS

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

December 11, 2002

Lori Wrotenbery
Director
Oil Conservation Division

CERTIFIED MAIL
RETURN RECEIPT NO. 3929 9345

Mr. Michael K Lane
Williams Field Services
188 CR 4900
Bloomfield, New Mexico 87413

RE: Site Modification
GW-047, Lybrook Plant
San Juan County, New Mexico

Dear Mr. Lane:

The OCD has received the site modification letter, dated December 9, 2002, from Williams Field Services for the Lybrook Plant GW-047 located in N/2 NW/4, Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico. Prior to approval of the requested modification for landfarming operations additional information is required.

Please furnish the OCD with the following:

1. A site plan indicating the location of the landfarm area.

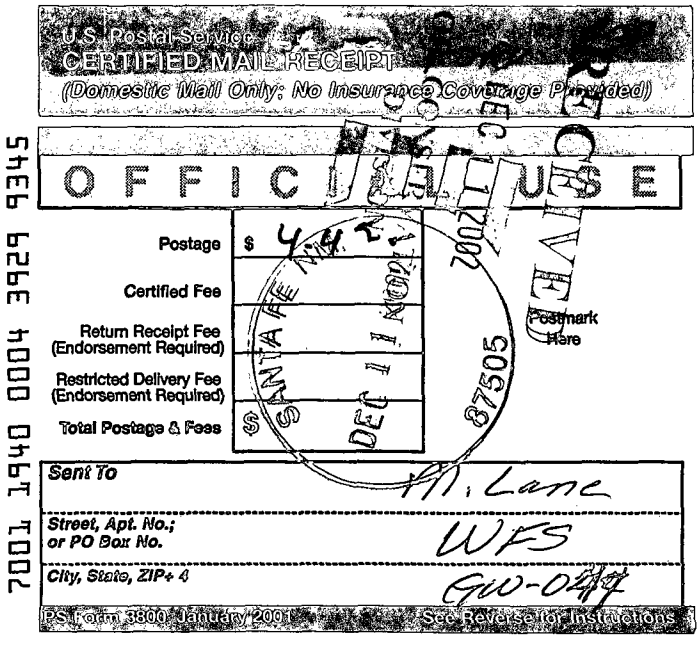
2. Information regarding the type and location of the source material contained in the landfarm operation.

Please be advised that 19 NMAC 15.9.711 regulations do not normally apply to facilities with discharge plans. In the event Williams Field Services wishes to use this landfarm operation as a commercial enterprise or take material from facilities other than those operated by Williams Field Services then an application for approval of such operation must be submitted to the OCD under 19 NMAC 15.9.711.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

cc: Mr. Denny Foust - Aztec District Office


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
OFFICIAL USE
Postage
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees
Postmark Here
SANTA FE NM
DEC 11 2002
87505
Sent To
M. Lane
Street, Apt. No.; or PO Box No.
WFS
City, State, ZIP+ 4
GW-047
PS Form 3800, January 2001
See Reverse for Instructions
7001 1940 0004 3929 9345

Four Corners Area
Environmental Department
#188 CR 4900
Bloomfield, N.M. 87413
Phone: (505) 632-4625
Fax: (505) 632-4781

December 9, 2002

RECEIVED
DEC 0 6 2002
Environmental Bureau
Oil Conservation Division

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

Re: **Lybrook Gas Processing Plant (GW-047) Discharge Plan Modification**

Dear Mr. Ford:

This letter is in response to your letter dated November 22, 2002. Please be advised that Williams has conducted land farming at Lybrook Plant and is submitting this Discharge Plan Modification.

The land farming operations have been conducted in accordance with 19 NMAC 15.9.711. As described in 19 NMAC 15.9.711 A (3), the land farm operations are exempt from permitting requirements. Please make note of this change in the facility's Discharge Plan.

If you have any questions or require additional information, I can be reached at (505) 632-4625.

Respectfully submitted,

Michael K. Lane
Senior Environmental Specialist

Xc: Denny Foust, Aztec OCD

Williams

Four Corners Area
Environmental Department
#186 CR 4900
Bloomfield, N.M. 87413
Phone: (505) 632-4625
Fax: (505) 632-4781

December 9, 2002

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

Re: **Lybrook Gas Processing Plant (GW-047) Discharge Plan Modification**

Dear Mr. Ford:

This letter is in response to your letter dated November 22, 2002. Please be advised that Williams has conducted land farming at Lybrook Plant and is submitting this Discharge Plan Modification.

The land farming operations have been conducted in accordance with 19 NMAC 15.9.711. As described in 19 NMAC 15.9.711 A (3), the land farm operations are exempt from permitting requirements. Please make note of this change in the facility's Discharge Plan.

If you have any questions or require additional information, I can be reached at (505) 632-4625.

Respectfully submitted,

Michael K. Lane
Senior Environmental Specialist

Xc: Denny Foust, Aztec OCD

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

November 22, 2002

Lori Wrotenbery
Director
Oil Conservation Division

CERTIFIED MAIL
RETURN RECEIPT NO. 3929 9314

Mr. Michael K. Lane
Williams Field Services Inc.
188 CR 4900
Bloomfield, New Mexico 87413

RE: Discharge Plan GW-047
Lybrook Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Lane:

It has been brought to the attention of the New Mexico Oil Conservation Division (OCD) that Williams Field Services may be operating a land farm at the Lybrook Gas Processing Plant located in the N/2 NW/4 of Section14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico. This facility is covered by a discharge plan GW-047 which was renewed September 15, 1999.

Under an approved discharge plan, dated August 9, 1989 and subsequent renewals and modifications, our files do not indicate a modification of the discharge plan to include the use of the facility for landfarming operations.

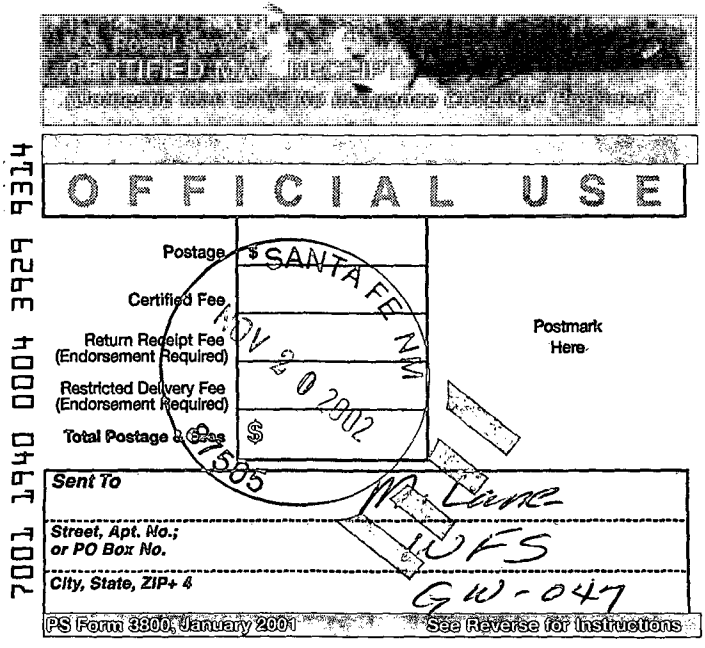
If current land farming operations are being conducted at the Lybrook Gas Processing Plant it would be in violation of the discharge plan. Please advise the OCD if such activities are being conducted. An approval of such activities will require modification of the current discharge plan.

If you have any questions contact me at (505) 476-3489.

Sincerely,

W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

cc: Aztec OCD District Office


OFFICIAL USE
Postage
$
SANTA FE NM
NOV 20 2002
Certified Fee
Return Receipt Fee
(Endorsement Required)
Restricted Delivery Fee
(Endorsement Required)
Total Postage & Fees
$
87505
Postmark
Here
Sent To
M. Dame
Street, Apt. No.;
or PO Box No.
WFS
City, State, ZIP+ 4
GW-047
PS Form 3800, January 2001
See Reverse for Instructions
7001 1940 0004 3929 9314

Williams
Four Corners Area
Environmental Department
#188 CR 4900
Bloomfield, N.M. 87413
Phone: (505) 634-4956
Fax: (505) 632-4781

May 23, 2002

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

Re: **Lybrook Gas Processing Plant (GW-47) Storm Water Plan**

Dear Mr. Ford:

The Storm Water Pollution Prevention Plan (SWP3) for the Lybrook Gas Processing Plant is attached to this letter. The SWP3 was implemented to fulfill the requirements of Section 405 of the Water Quality Act of 1987, which added Section 402(p) to the Clean Water Act. This section dictated that the Environmental Protection Agency (EPA) establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for storm water discharges associated with industrial activity. The SWP3 is designed to fulfill NPDES permit requirements.

If you have any questions or require additional information, I can be reached at (505) 634-4956.

Sincerely,

EHolidaay

Ethel Holiday
Environmental Compliance Specialist

Attachments: Lybrook Plant Storm Water Pollution Prevention Plan

Xc: Denny Foust, Aztec OCD

Roger Anderson
Jack Ford

FNF CONSTRUCTION, INC

Phone: 480 784 2910
Fax: 480 829 8607

April 10, 2000

State of New Mexico Energy and Minerals Division
Oil Conservation Division
1000 Rio Brazos road
Aztec, New Mexico 87410

Attention: Mr. Frank Chavez, District Supervisor

Re: Highway Construction-Mile Post 64.8 to Mile Post 115
AC-NH-044-2(39)64 CN 3766
AC-NH-044-2(42)85 CN 3771
AC-NH-044-2(32)97 CN 3871
FNF Job No. 00-615

SUBJECT: Water usage from Williams, Lybrook Plant

We would like to request the usage of water from the holding pond at the Williams, Lybrook Plant.
The water will be used as dust pallative and used on the embankment construction to aid in the compactive effort.
We would use the water source commencing April 12, 2000 through November 12, 2001 with an option to extend the ending date.
Thank you for your cooperation. If you have any questions, please feel free to contact me at the FNF Cuba office (505) 289-0095

Very Truly Yours,

FNF CONSTRUCTION INC.

Kevin Clah
Project Q.C. Manager

Project File
Q.C. fILE

Rosa Rodriguez

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
http://emnrd.state.nm.us/ocd/District III/3district.htm

GARY E. JOHNSON
Governor

Jennifer A. Salisbury
Cabinet Secretary

April 11, 2000

Kevin Clah
FNF Construction, Inc.
6382 HWY 44
Cuba, NM 87013

Re: Use of Refinery Water

Dear Mr. Clah:

GW047 14-23N-07W

You are hereby authorized to use produced water from the Williams Field Services Lybrook Plant for road construction and maintenance.

You may use this water as proposed with the following conditions:

1. The water will be applied so that no excess water runs off into roadside ditches or into any watercourse.

2. At the end of each day's activity, unused water will be stored in trucks or tanks so the water does not drip or drain onto the ground overnight. Alternatively, the water may be returned to the facility, if no other material has been added to the water intentionally or accidentally mixed with liquids that were previously contained in any truck or tank.

This approval is until November 12, 2000, and may be extended upon written application. This approval does not relieve you of liability should your operation result in actual pollution of surface waters, ground waters, or the environment that may be actionable under other laws and/or regulations. In addition, Oil Conservation Division approval does not relieve San Juan County of responsibility for compliance with any other county, state, federal, or other local laws and/or regulations.

Sincerely,

Frank T. Chavez
District Supervisor

FTC/mk

FNF [redacted]

Phone: 480 784 2910
Fax: 480 829 8807

April 10, 2000

State of New Mexico Energy and Minerals Division
Oil Conservation Division
1000 Rio Brazos road
Aztec, New Mexico 87410

Attention: Mr. Frank Chavez, District Supervisor

Re: Highway Construction-Mile Post 64.8 to Mile Post 115
AC-NH-044-2(39)64 CN 3766
AC-NH-044-2(42)85 CN 3771
AC-NH-044-2(32)97 CN 3871
FNF Job No. 00-615

SUBJECT: Water usage from Williams, Lybrook Plant

We would like to request the usage of water from the holding pond at the Williams, Lybrook Plant.
The water will be used as dust pallative and used on the embankment construction to aid in the compactive effort.
We would use the water source commencing April 12, 2000 through November 12, 2001 with an option to extend the ending date.
Thank you for your cooperation. If you have any questions, please feel free to contact me at the FNF Cuba office (505) 289-0095

Very Truly Yours,

FNF CONSTRUCTION INC

Kevin Clah
Project Q.C. Manager

Project File
Q.C. fILE

CONSTRUCTION, INC.
NEW MEXICO HIGHWAY 44
6382 HWY 44
CUBA, NM 87013
PHONE: (505)289-0095
FAX: (505)289-2206

FACSIMILE TRANSMITTAL SHEET

TO: Frank Chavez
FROM: Kevin Clark
COMPANY: O.C.D.
DATE: 4-10-00
FAX NUMBER: 505-334-6170
TOTAL NO. OF PAGES INCLUDING COVER: 02
PHONE NUMBER: 505-334-6178
SENDER'S REFERENCE NUMBER:
RE: Water pond in Lybrook & Williams oil Co.
YOUR REFERENCE NUMBER:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

See Letter

295 Chipeta Way
P.O. Box 58900
Salt Lake City, UT 84108
801/584-6543
801/584-7760

November 12, 1999

Mr. Jack Ford
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Underground Line Testing Results at WFS Lybrook Plant

Dear Mr. Ford:

Enclosed, please find a copy of the results of the underground drain line testing that was performed at the Williams Field Services (WFS) Lybrook Plant.

If you have any questions concerning this submittal, please call me at 801-584-6543.

Sincerely,

Ingrid Deklau
Environmental Specialist

enclosures

XC: Denny Foust, NM OCD

Discussed w/ Ingrid 11-22-99 - Lower lines will be dug up & repaired in the Spring. JF

C F & M Oil Field Service, Incorporated

November 3, 1999

Williams Field Service
Attn Duane Adair
Lybrook Plant
HCR 17 Box 360 Hwy 44
Mile Post 103
Cuba NM 87013-9400

Reference: Open Drain Tests

Dear Mr. Adair

CF&M Oil Field Service, Inc. has completed several tests on the open drain systems at Lybrook. These tests consisted of separating the plants open drain system into four separate and smaller entities to simplify and help isolate if any leaks are found.

The results show that the upper plant test and the tank farm tested good. The lower plant and the lower area where the drains combine and enter into the oil separator by the evaporation ponds showed to have a slow leak.

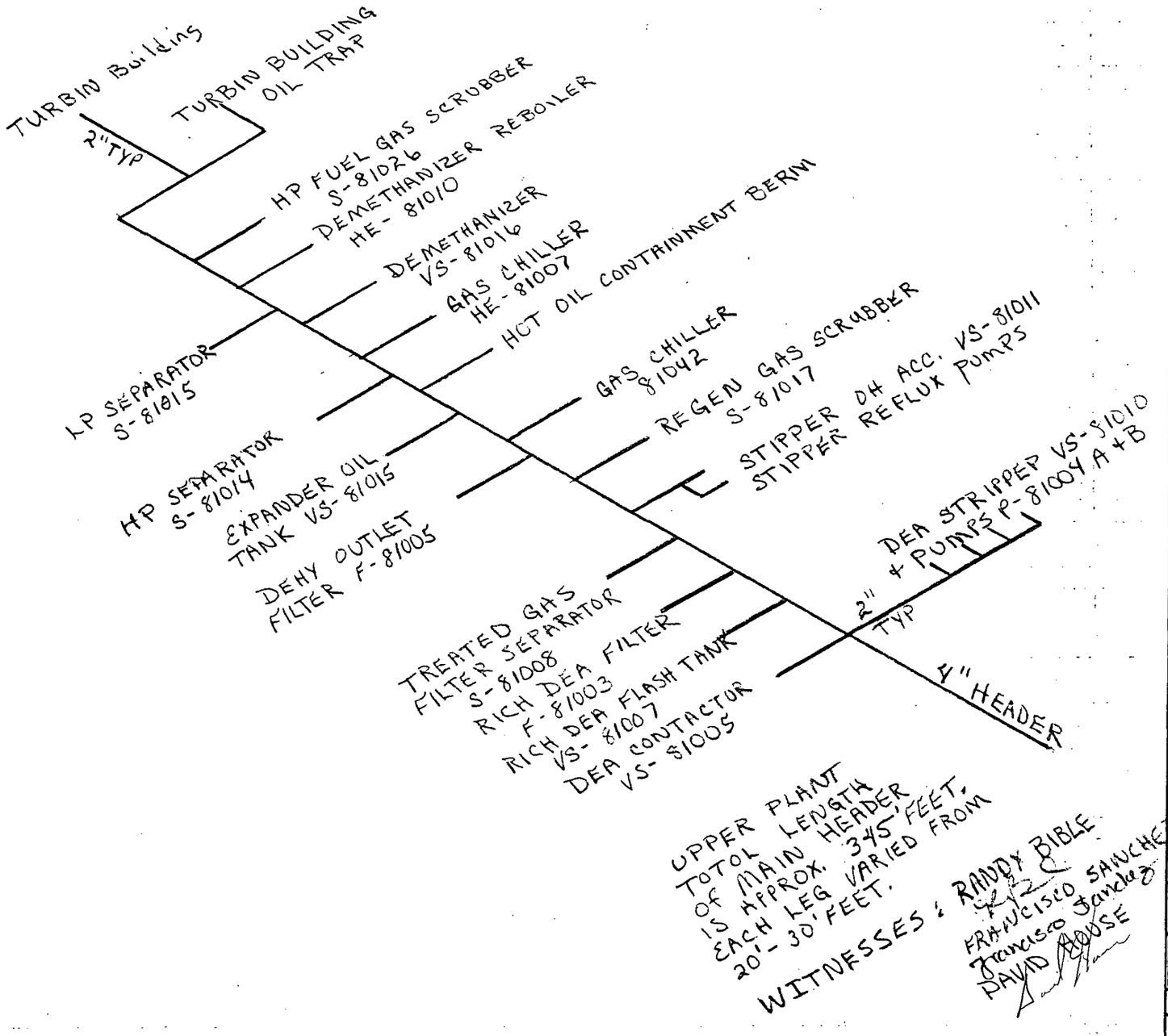
The procedure used to test these areas was to dig under ground to the main line and plug area to be tested. We then inserted rubber plugs into the open drains where they exited the ground at each vessel or pump. We then found the highest point of the system and installed a seven-foot (7') minimum riser. We then filled the system with water to the seven-foot (7') mark and held for one hour. Pictures were then taken showing water levels; I had a Williams Field Service representative witness these tests. A piping schematic is included of area that tested good.

If you have any questions please contact the undersigned at (505) 632-8069.

Sincerely,

Randy Bible
Vice President

#37 Road 5267 ◦ Farmington, New Mexico 87401 ◦ (505) 632-8069



	ITEM	QT'Y	SIZE	TYPE	RATING
PIPE	1				
	2				
	3				
FLANGES	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
FITTINGS	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				
	21				
	22				
BOLT SETS	23				
	24				
	25				
GASKETS	26				
	27				
	28				
SPECIAL ITEMS	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
	38				
	39				
	40				

DESIGN COND.	HYDRO TEST	INSUL.
OPEN PSIG @ 72 °F	@ 7' HEAD PSIG	NONE

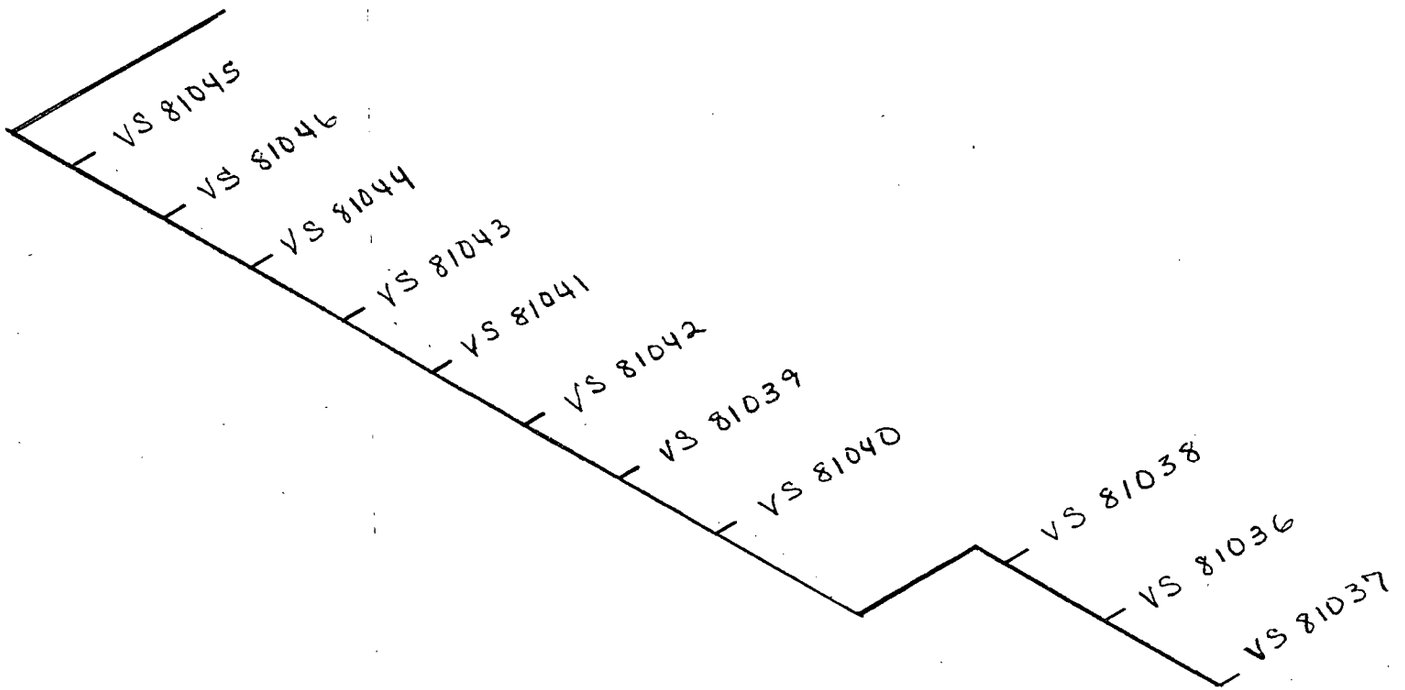
C F & M OILFIELD SERVICE, INC.

SERVICE LUBROOK OPEN DRAINS TEST

DR'N: RLB	DATE: 10-28-99	APP'D:	SHEET 1 OF 1

PLAN DWG. | DRAWING NO.

NO.	DATE	REVISIONS	BY	APP'D	DATE



UPPER TANK FARM
TOLAL LENGHT 270' FEET
ENTIRE LINE IS 2" PIPE

WITNESSES RANDY BIBLE
FRANCISCO SANCHEZ
Francisco Sanchez
RICH WALKER
Rich Walker
12-4-99

	ITEM	QT'Y	SIZE	TYPE	RATING
PIPE	1				
	2				
	3				
FLANGES	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
FITTINGS	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				
	21				
	22				
BOLT SETS	23				
	24				
	25				
GASKETS	26				
	27				
	28				
SPECIAL ITEMS	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
	38				
	39				
	40				

DESIGN COND.	HYDRO TEST	INSUL.
OPEN PSIG @ 72 °F	@ 7' HEAD PSIG	NONE

C F & M OILFIELD SERVICE, INC.

SERVICE TANK FARM OPEN DRAIN TEST

DR'N: RLB	DATE: 10-28-99	APP'D:	SHEET 1 OF 1

PLAN DWG. | DRAWING NO.

NO.	DATE	REVISIONS	BY	APP'D	DATE

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

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

I. TYPE: Lybrook Natural Gas Processing Plant - Renewal (GW04

II. OPERATOR: Williams Field Services

ADDRESS: 295 Chipeta Way SLC UT 84108

CONTACT PERSON: Ingrid Deklau PHONE: 801-584-65

III. LOCATION: N /4 NW/4 Section 14 Township 23 N Range 7W
Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner(s) of the disposal facility site.

V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tank on the facility.

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

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

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

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will nc adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCI rules, regulations and/or orders.

XIII. CERTIFICATION

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

Name: Ingrid Deklau Title: Envt'l Specialist

Signature: Date: 4/8/99

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office

295 Chipeta Way
P.O. Box 58900
Salt Lake City, UT 84108
801/584-6543
801/584-7760

April 5, 1999

Mr. Jack Ford
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: OCD Discharge Plan Renewal: Lybrook Gas Plant (GW-047)

Dear Mr. Ford:

Enclosed, please find Check Number 113358 for $50 to cover the application fee for the Discharge Plan Renewal of Williams Field Services (WFS) Lybrook Gas Plant (GW-047). The information attached serves to summarize and update information submitted by Sunterra Gas Processing Company in the December 1994 renewal application. For your information, documents in the WFS files that are believed to constitute the Lybrook Gas Plant Discharge Plan are listed below.

February 18, 1998	OCD approval of modification
February 10, 1998	WFS modification of plan
September 27, 1996	WFS approval of modification
September 17, 1996	WFS application for modification
July 1, 1996	WFS application for modification
July 3, 1995	OCD approval of schedule conditions
April 28, 1995	PNM schedule request
September 13, 1994	OCD approval of application
May 31, 1994	PNM submittal of application for plan renewal (on behalf of Sunterra)
June 28, 1993	OCD approval of renewal
April 14, 1993	Sunterra Gas Processing Company application for renewal
December, 1988	Sunterra Gas Processing Company Application

If you have any questions, I can be reached at (801) 584-6543. Your assistance in handling these matters is appreciated.

Sincerely,

Ingrid A. Deklau
Senior Environmental Specialist

enclosures

xc: Denny Foust, Aztec OCD Office

Information in the following sections updates information included in the December 1994 renewal application submitted to the OCD by Sunterra Gas Processing Company. The text below is formatted to correspond to the format of the December 1994 application. A plot plan of the facility is included as an attachment following this letter for your convenience.

I. GENERAL INFORMATION

Type of Operation
The Lybrook Gas Processing Plant (GW-047) is a natural gas processing plant for the WFS Torre Alta natural gas gathering system. The facility was originally constructed as a lean oil natural gas processing facility in 1959. It was upgraded to its current status as a cryogenic plant in 1976. The plant is designed to extract ethane and higher hydrocarbon gases from natural gas. The processes used to separate hydrocarbons from field gas includes turbo expanders, heat exchangers, chillers, separators, dehydrators, power generating equipment and other supporting equipment. The Plant was purchased by Williams in 1995 from Sunterra Gas Processing Company.

Legally Responsible Party
Williams Gas Processing Blanco
295 Chipeta Way
Salt Lake City, Utah 84108
(801) 584-6543

Contact Person:
Ingrid A. Deklau, Sr. Environmental Specialist
Phone and Address, Same as Above

Location of Facility
The Lybrook Gas Processing Plant (GW-047) is located in the N/2 of NW/4, Section 14, Township 23 North, Range 7 West, in Rio Arriba County, New Mexico, approximately 50 miles south of Bloomfield, New Mexico. The Plant site covers approximately 41 acres.

Landowner
Williams Gas Processing-Blanco
295 Chipeta Way
Salt Lake City, Utah 84108
801-584-6543

II. FACILITY DESCRIPTION/ PLANT PROCESSES

A detailed description of the plant processes is found in the September 1994 OCD Discharge Plan, Section 2, submitted by Sunterra. Process changes that have been implemented or changed since then include the following:

- Boilers: There are four hot oil reboilers at the facility, not five.
- Waste (used) Oil: Used lubrication and motor oils are generated by compressor equipment, filter draining, and the oil water separator. The attached tank list and diagram identify tank storage capacity and location. Used oil is hauled from the facility for recycling.
- Cleaning Operations Using Solvents/ Degreasers: The 1000-gallon solvent tank referenced in this paragraph has been removed from the facility.
- Truck, Tank, and Drum Washing: Used barrels are either returned to their vendor or sent to a scrap metal recycler. Barrels currently in use are either stored in a building or within a berm.

- Other Liquid/ Solid Wastes: The glycol regeneration system was removed from the plant. The glycol storage tank at the plant is for the use of field locations. A chiller was installed to dehydrate the gas stream.
- Tanks: A berm has been installed around the two 42,000-gallon gasoline tanks located in the tank farm. The other tanks in the tank farm are either not in use or contain products such as propane and butane, which vaporize at atmospheric pressure.

Source, Quantity, and Quality of Effluents and Waste Solids

Table 1 updates the table included in Section 2 of the September 1994 plan and describes the source, quantity, and quality of effluent and waste solids generated at the plant. Table 2 describes transfer, storage and disposal of effluents and waste solids.

TABLE 1
SOURCE, QUANTITY, AND QUALITY OF EFFLUENT AND WASTE SOLIDS
LYBROOK GAS PLANT

PROCESS FLUID/WASTE	SOURCE	QUANTITY	QUALITY
Used Oil	Compressors, engines, oil water separator	700 gal/mo	Used motor oil with no additives
Flare Separator Liquids	Flare Separator	300 gal/mo	Liquid hydrocarbons with very light traces of amine with no additives
Used process filters (i.e., amine, separator filters, etc.)	CO2 removal, hydrocarbon contaminant removal	40/mo	No additives
Oil Filters	Compressors and engines	130/yr	No additives
Used Carbon	From amine system	2000 lb/yr	No additives
Used Mole Sieve	Used in removal of water from natural gas stream	10,000 lb/yr	No additives
Spill Residue	Incidental spills, leaks, or cleanup	Incident dependent	Incident dependent
Used Absorbents	Incidental spills, equipment clean-up	Incident dependent	Incident dependent
Liquid Effluent from Processing Plant (wastewater)	i.e., cooling tower, filter separator, open drain system/ washdown water, produced water, regen water (chiller), oil water separator, and other maintenance-related effluents as necessary	1 million gal/yr	High TDS water, dissolved salts, traces of amine/oil

TABLE 2
TRANSFER, STORAGE, AND DISPOSAL OF EFFLUENTS, AND WASTE SOLIDS
LYBROOK GAS PLANT

PROCESS FLUID/WASTE	SOURCE	STORAGE	CONTAINER CAPACITY** (approximate)	CONTAINMENT/ SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Used Oil	Compressors, engines Filter draining Oil water separator	AST* (j) AST* (o) AST* (y, z)	4898 gal 1175 gal 100 bbl, 250 gal	Berm Containment Berm	Non-exempt	Transported to EPA-registered used oil marketer for recycling.
Flare Separator Liquids	Flare Separator	AST* (y)	100 bbl	Berm	Exempt	Transported to EPA-registered used oil marketer for recycling.
Used process filters (i.e., separator filters, amine, etc.)	CO2 removal, hydrocarbon contaminant removal	Roll off bin for special waste	Dumpster	N/A	Exempt	Drained and transported to approved disposal facility.
Oil Filters	Compressors, engines	Roll off bin for special waste	Dumpster	N/A	Non-exempt	Drained and transported to approved disposal facility.
Process Treatment Waste (i.e., carbon, mole sieve, etc.)	Gas treatment	N/A	N/A	N/A	Exempt	Dried on-site prior to disposal at approved disposal facility.
Spill Residue (i.e., soil, gravel) or other exempt waste	Incidental spills, leaks, or cleanup	N/A	N/A	In-situ treatment, landfarm, or alternate method	Incident dependent	Landfarmed on-site or disposed at OCD-approved facility (free liquid will be removed from residue, i.e., pumping, solidification, evaporation). On-site treatment will be conducted per applicable NMOCD Guidelines.
Used Absorbents	Incidental spills, leaks, or cleanup	Roll off bin for special waste	Dumpster	N/A	Non-exempt	Drained and transported to approved disposal facility.
Liquid Effluent from processing plant (wastewater)	i.e., cooling tower, filter separator, open drain system/ washdown water, produced water, regen water (chiller), oil water separator, and other maintenance-related effluents as necessary	Evap pond	N/A	Double-lined pond with leak detection	Non-exempt	Liquids pass through oil water separator, then directed to evaporation pond
Scrap metal	Facility-wide, incident dependent	Boneyard	N/A	N/A	N/A	Hauled by recycler, reused on site, or disposed at local landfill

*AST = Above Ground Storage Tank

V. INSPECTION, MAINTENANCE AND REPORTING

WFS's Lybrook Plant personnel operate the and maintain the facility and its associated processes. The facility is manned 24 hours per day, 7 days per week, 52 weeks per year and is continuously monitored for equipment malfunctions.

Maintenance on process equipment is performed according to manufacturer's instruction. The below-ground concrete collector boxes are equipped with leak detection and are monitored monthly. Routine inspections and tank gauging are also conducted weekly. All inspections are recorded on the facilities operating record.

In the event of a release of a reportable quantity, the operator reports the release to WFS Gas Control who immediately notifies the WFS Environmental Affairs Department.

VI. SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)

Within the processing units, small spills or leaks will be controlled with the use of curbs or berms around pieces of equipment that are the most susceptible, such as pumps, tanks and separators. Major spills would drain across the Plant and be contained in the stormwater retention pond.

WFS corporate policy and procedures for the controlling and reporting of Discharges or Spills of Oil or Hazardous Substances is provided as an attachment to this letter. The above referenced document is a component of the facility SPCC Plan. WFS Environmental Affairs will report significant spills and leaks to the NMOCD pursuant to NMOCD Rule 116 and WQCC 1-203 using the NMOCD form (also provided as an attachment).

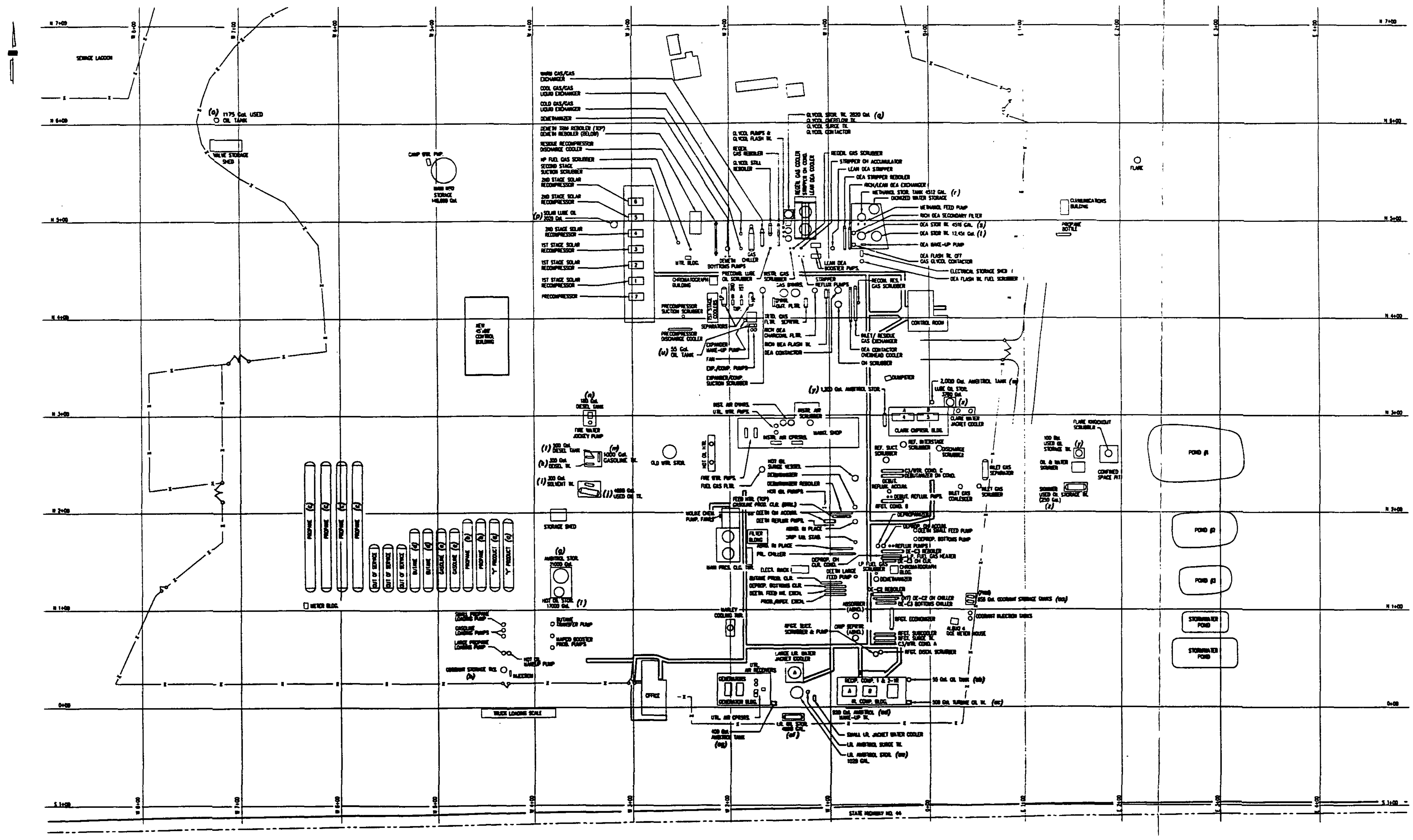
ATTACHMENTS

- Facility Plot Plan and Tank List
- WFS Procedure 'Discharges or Spills of Oil or Hazardous Substances; Preventing, Controlling and Reporting'
- Oil Conservation Division Form C-141 for Release Notification

LL PREVENTION CONTROL AND COUNTERMEASURE PLAN

OPERATIONS			
Manual: LYBROOK GA NDITIOINING PLANT			
Section: SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN		Tab: PLAN	Document No. 42.13.001
Effective Date: 07/27/98		Issue No. 1	Page No. 3 of 5

ATTACHMENT "A" PRODUCT AND WASTE STORAGE LOCATIONS



DRAWING NO.	TITLE	DRAWING NO.	TITLE

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REFERENCE DRAWINGS

NO.	DATE	BY	DESCRIPTION	V.O.NO.	CHK.	APP.
1	07/27/98	BES	CHANGED TO NEW TITLE BLOCK STANDARD			

REVISIONS

DRAFTING	BY	DATE
DRAWN BY	BES	07/23/98
CHECKED BY		
APPROVED BY		
ENGINEER	**BY**	**DATE**
DESIGNED BY		
PROJ. APPROVED		

STATE: NEW MEXICO
COUNTY: RIO ARRIBA

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

LYBROOK GAS CONDITIONING PLANT
PLOT PLAN
SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

SCALE: 1" = 50'
W.O. NO.
DWG NO. LYB-1-P219
SHEET OF
REV 1

S:\WFSDS\PM_EI\LYB\EOD\02190101.dwg Mon Mar 08 08:47:18 1999

WFS LYBROOK PLANT
Tank List (approximate storage capacities)

Letters on this list correspond to letters on plot plan

(a) (2) 50,000-gal Y-grade product tanks (pressurized)
(b) (2) 50,000-gal propane tanks (pressurized)
(c) (4) 90,000-gal propane tanks (pressurized)
(d) (2) 40,000-gal butane tanks (pressurized)
(e) (2) 42,887-gal natural gas liquid tanks
(f) (1) 17,000-gal hot oil tank
(g) (1) 21,000-gal ambitrol tank
(h) (1) 150-gal and (1) 300 gal odorant tanks
(i) (1) 300-gal solvent tank
(j) (1) 4,898-gal used oil tank
(k) (1) 300-gal diesel tank
(l) (1) 300-gal on-road diesel tank
(m) (1) 1,000-gal gasoline tank
(n) (1) 180-gal diesel tank
(o) (1) 1,175-gal used oil tank
(p) (1) 2,029-gal lube oil tank
(q) (1) 2,820-gal triethylene glycol tank
(r) (1) 4,512-gal methanol tank
(s) (1) 4,516-gal diethanolamine tank
(t) (1) 12,451-gal diethanolamine tank
(u) (1) 55-gal Expender lube oil tank
(v) (1) 1,300-gal Clark ambitrol tank
(w) (1) 2,000-gal Clark ambitrol tank
(x) (1) 3,760-gal lube oil tank
(y) (1) 100-bbl used oil tank
(z) (1) 250-gal used oil tank
(aa) (2) 658-gal odorant tanks, with containment
(ab) (1) 55-gal York turbine oil tank
(ac) (1) 500-gal turbine oil tank
(ad) (1) 820-gal IR Ambitrol tank, with containment
(ae) (1) 1,029-gal IR Ambitrol tank, with containment
(af) (1) 4,898-gal IR lube oil tank, with containment
(ag) (1) 400-gal Ambitrol tank , with containment

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

OPERATIONS

Manual	Department		
O & M Procedure			
Section	Tab	Document No.	
Safety/General	10	21.10.020	
Effective Date	Issue No.	Page No.	
JUL 31 1997	2	1 of 8	

Subject of Title
DISCHARGES OR SPILLS OF OIL OR HAZARDOUS SUBSTANCES: Preventing, Controlling and Reporting

A. PURPOSE AND SCOPE

A.1 To establish the policy and procedure for preventing, controlling, and reporting of discharges or spills of oil or hazardous substances to the environment in accordance with Company practices and federal, state, and local requirements, including Title 40 of the Code of Federal Regulations - Part 112 (Oil Pollution Prevention).

A.2 This document pertains to Company personnel and Company and non-company facilities. The spill prevention and control requirements in this Policy and Procedure are Federally mandated guidelines for oil pollution prevention. The Company policy is to also apply these standards, where appropriate, to facilities containing hazardous substances. This is a discretionary application of the standards; however, variations from the standards should be approved by the responsible Director.

B. CONTENTS

C. POLICY

C.1 GENERAL

C.1.1 All Company facilities which could discharge or spill oil or hazardous substances which may affect natural resources or present an imminent and substantial danger to the public health or welfare including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches are subject to the provisions of this document.

C.1.2 **Oil**, for purpose of this document, means oil of any kind or in any form, including but not limited to petroleum hydrocarbon, fuel oil, Y grade, natural gas liquids, condensate, mixed products, sludge, oil refuse, and oil mixed with wastes other than dredged spoil (earth and rock). LPG (propane, butane, ethane) is not considered to be oil.

C.1.3 **Hazardous Substance**, for purposes of this procedure, is defined as any chemical or material that has or should have a Material Safety Data Sheet (MSDS); however, hazardous substances are further defined by the following environmental statutes:

a. Section 101(N) and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

b. Section 307(a) and Section 311(b)(2)(A) of the Clean Water Act

c. Section 3001 of the Solid Waste Act (excluding items suspended by Congress)

d. Section 112 of the Clean Air Act

e. Section 7 of the Toxic Substance Control Act

C.1.4 The term hazardous substance does not include petroleum hydrocarbon, including crude oil or any fraction thereof, and the term does not include natural gas, natural gas liquids (including condensate), liquefied natural gas or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

C.1.5 Facilities which could discharge or spill oil or hazardous substances into a watercourse must comply with the applicable federal, state, or local laws and regulations. A discharge includes but is not limited to any spilling, leaking, pumping, pouring, emitting, emptying, or dumping. A watercourse is any perennial or intermittent river, stream, gully, wash, lake, or standing body of water capable of collecting or transporting an oil or hazardous substance.

C.1.6 Facilities which are subject to the requirements stated in this policy are as follows:

a. <u>Non-Transportation Related Facilities</u>

(1) Storage or drip tanks and other aboveground containers (excluding pressurized or inline process vessels) having a capacity in excess of 660 gallons for each single container or an aggregate capacity of 1,321 gallons or more for multiple containers.

(2) Underground storage facilities having a total capacity in excess of 42,000 gallons.

b. Transportation Related Facilities

(1) All vehicles, pipeline facilities, loading/unloading facilities, and other mobile facilities which transport oil or hazardous substances.

C.1.7 Each Company location which has facilities subject to paragraph C.1.1 shall have a site specific Spill Prevention Control and Countermeasure Plan (SPCC Plan) which identifies all facilities subject to 40 CFR 112. The plan shall identify all hazardous substance storage vessels (as defined in a.(1) above) at the facility and the spill prevention measures in place to control discharges or spills. This plan shall also identify all regulatory agencies that must be notified in case of a spill.

C.1.8 The facility superintendent is responsible for spill prevention. His/her duties include, but are not limited to, the following:

a. Instructing personnel in the operation and maintenance of equipment to prevent the discharge of oil.

b. Conduct annual briefings for operating personnel at intervals frequent enough to assure adequate understanding of the Spill Pl at that facility.

c. Briefings should highlight and describe known discharges or spills, and recently developed precautionary measures.

C.1.9 Each individual facility is checked annually by the superintendent or designee to determine the potential for discharges or spills of oil or hazardous substances in harmful quantities that violate water quality standards or which may cause a film, sheen, or discoloration on the surface of water. All facilities which have the potential for discharging or spilling harmful quantities of oil or hazardous substances into a watercourse are required to have the following preventive measures:

a. Examination of all tanks, valves and fittings, at least annuall to determine any maintenance requirements.

b. All tank batteries should, as far as practicable, have a second means of containment for the entire contents of the largest sin tank plus sufficient freeboard in the containment facility to allow for precipitation.

c. An annual monitoring and inspection program to prevent accident spills or discharges into watercourses. This includes annual inspection for faulty systems and monitoring line valves and liquid pipelines for leaks or blowouts.

C.1.10 Any field drainage ditches, road ditches, traps, sumps, or skimmers should be inspected at regular scheduled intervals for accumulation of oil or other hazardous substances which may have escaped from small leaks. Any such accumulations should be removed.

C.2 BULK STORAGE TANKS

C.2.1 A tank should not be used for storage of oil or hazardous substances unless the material and construction of the tank is compatible with the oil or substance stored and conditions of storage such as pressure and temperature. Buried storage tanks must be protected from corrosion by coatings, cathodic protection, or other methods compatible with local soil conditions. Aboveground tanks should be subject to visual inspection for system integrity.

C.2.2 The facility superintendent should evaluate tank level monitoring requirements to prevent tank overflow.

C.2.3 Leaks which result in loss of oil or hazardous substances from tank seams, gaskets, rivets and bolts sufficiently large to cause accumulation of oil or hazardous substances in diked areas should be promptly corrected.

C.2.4 Mobile or portable oil or hazardous substances storage tanks should be positioned or located to prevent the contents from reaching a watercourse. The mobile facilities should be located so their support structure will not be undermined by periodic flooding or washout.

C.3 FACILITY DRAINAGE

C.3.1 Make provisions for drainage from diked storage areas where necessary in areas with high precipitation levels. Drainage from diked areas should be restrained by valves or other means to prevent a discharge or spill. Diked areas should be emptied by pumps or ejectors which are manually activated. Valves used for the drainage of diked areas should be of manual, open-and-closed design.

C.3.2 Rain water may be drained from diked areas providing drainage water does not contain oil or hazardous substances that may cause a harmful discharge. Drain valves must be closed following drainage of diked areas.

C.3.3 When possible, drainage systems from undiked areas should flow into ponds, lagoons, or catchment basins designed to retain oil or hazardous substances or return the substances to the facility. Any drainage system which is not designed to allow flow into ponds, lagoons, or catchment basins should be equipped with a diversion system that could in the event of a discharge or spill, contain the oil or hazardous substances on the site.

C.3.4 The principal means of containing discharges or spills is the use of dikes which are constructed wherever regulated quantities of oil or hazardous substances have the potential of reaching a watercourse. The construction of dikes must meet the following requirements:

a. Capacity must be at least equivalent to the storage capacity of the largest tank of the battery plus sufficient freeboard to allo for precipitation, or displacement by foreign materials.
b. Small dikes for temporary containment are constructed at valves where potential leaking of oil or hazardous substances may occur.
c. Any dike three feet or higher should have a minimum cross section of two feet at the top.

C.3.5 Other means of containment or spill control include, but are not limited to:

a. Berms or retaining walls;
b. Curbing;
c. Culverting, gutters, or other drainage systems;
d. Weirs, booms, or other barriers;
e. Spill diversion ponds or retention ponds;
f. Sorbent materials

C.4 TRANSFER OPERATIONS, PUMPING, AND IN-PLANT/STATION PROCESS

C.4.1 Aboveground valves and pipelines should be examined regularly by operating personnel to determine whether there are any leaks from flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, valve locks, and metal surfaces.

C.5 FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK

C.5.1 Rack area drainage which does not flow into a catchment basin or treatment facility designed to handle spills should have a quick drainage system for use in tank truck loading and unloading areas. T containment system should have a maximum capacity of any single compartment of a truck loaded or unloaded in the station.

C.5.2 Aboveground piping that has potential for damage by vehicles entering the Site should be protected by logically placed warning signs or by concrete-filled pipe barriers.

C.5.3 Loading and unloading areas should be provided with an interlocked warning light, grounding shutdown, physical barrier system, or warnir signs to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines. All drains and outlets of any truc should be closely examined for leakage prior to filling and departure All drains and outlets which may allow leakage should be tightened, adjusted, or replaced to prevent liquid leakage while in transit.

NOTE: LPG loading facilities and remote field loading of condensate are exempt from the C.5 requirements of this document.

D. PROCEDURE

D.1 Identifying, Containing and Initial Reporting of a Discharge or Spill of Oil or Hazardous Substance

Any Employee

D.1.1 Upon noticing a discharge or spill of an oil or hazardous substance in any quantity initiates immediate containment procedures and notifies facility superintendent.

NOTE: Refer to Attachment A for containment procedures.

Facility Superintendent

D.1.2 Contacts Gas Control and responsible Director immediately by telephone and provides the following information:

a. Name of company facility and/or location of facility and nature of discharge or spill
b. Description and quantity of emission or substance discharged
c. Description of the circumstances causing the discharge or spill
d. Name, title, and telephone number of person initially reporting the discharge or spill and person reporting to Gas Control
e. Action taken or being taken to mitigate and correct discharge or spill
f. Water bodies or streams involved
g. Time and duration of discharge or spill
h. Outside involvement during discharge or spill (public government agencies, etc. See Emergency Operating Procedure Manuals)

Gas Control Personnel

D.1.3 Advises Environmental Affairs departments immediately by telephone concerning the incident including any incidents reported by persons not employed with the Company.

NOTE: If Gas Control is contacted by a person not employed with the Company, the necessary information is obtained as indicated in D.1.2 and the Superintendent and Environmental Affairs are immediately contacted to begin containment and clean-up of the discharge or spill.

D.1.4 If Environmental Affairs cannot be contacted, notifies Director over Environmental Affairs.

Facility Superintendent

D.1.5 Coordinates containment and clean-up of discharge or spill, keeping th responsible Director Informed.

D.1.6 If the discharge or spill is too large for Company personnel to contain, contacts qualified local contractors for assistance. (See Emergency Operating Procedure Manuals tab #11, contractors with available equipment and services).

D.1.7 Advises Environmental Affairs by telephone if emergency containment o clean-up assistance from a state agency or a response team from the U.S. Coast Guard is required.

Environmental Affairs

D.1.8 Assesses reporting requirements to state and federal agencies (contac Legal Department and Right-of-Way Department, if appropriate). (See Emergency Operating Procedure Manuals).

D.1.9 Makes appropriate contacts with National Response Center and state an local agencies, when necessary.

D.1.10 If spill is significant, dispatches Environmental Specialist to scene to oversee cleanup and reporting responsibilities.

D.2 SUBMITTING WRITTEN NOTIFICATION OF A DISCHARGE OR SPILL

Facility Superintendent

D.2.1 Completes a written description of the incident as soon as possible after initial notification is given, which should include the following:

a. Time and date of discharge or spill
b. Facility name and location
c. Type of material spilled
d. Quantity of material spilled
e. Area affected
f. Cause of spill
g. Special circumstances
h. Corrective measures taken
i. Description of repairs made
j. Preventative measures taken to prevent recurrence.

D.2.2 Forwards the completed written description to Environmental Affairs. Retains a copy for future reference.

NOTE: Environmental Affairs, in coordination with the Legal Department, if necessary, submits written reports to government agencies.

ATTACHMENT 1

DISCHARGE OR SPILL CONTAINMENT PROCEDURES AND MATERIALS

TYPE OF FACILITY WHERE THE DISCHARGE OR SPILL OCCURS	CONTAINMENT PROCEDURES	MATERIALS USED FOR CONTAINMENT
A. Oil Pipeline (as defined in C.1.4)	1. Closes appropriate block valves. 2. Contains Discharge or spill by: Ditching covering, applying sorbents, constructing an earthen dam, or burning. 3. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning.	1.Straw 2.Loose Earth 3.Oil Sorbent 3M Brand 4.Plain Wood chips 5.Sorb-Oil Chips Banta Co 6.Sorb-Oil Swabs Banta Co 7.Sorb-Oil Mats Banta Co. 8.Or Equivalent Materials
B. Vehicle	1. Contains discharge or spill by: ditching, covering surface with dirt, constructing earthen dams, apply sorbents, or burning. 2. Notifies immediately the Safety and Environmental Department and if there is any imminent danger to local residents; notifies immediately the highway patrol or local police officials. 3. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning. Note: Any vehicle carrying any hazardous or toxic substance will carry a shovel or other ditching device to contain a spill. If the vehicle has sufficient room, sorbent materials should also be carried.	
C. Bulk Storage Tanks or any other Facilities	1. Contains discharge or spill by: ditching, covering, applying sorbents, constructing an earthen dam, or burning. 2. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning.	

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division

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

Form C- 14
Originated 2/13/

Submit 2 copies
Appropriate Distu
Office in accordar
with Rule 116
back side of fo

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Rep.

Name	Contact
Address	Telephone No.
Facility Name	Facility Type

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☐ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary)

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all opera are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptan a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name:	Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:
Date: Phone:	Conditions of Approval:	Attached ☐

116 RELEASE NOTIFICATION AND CORRECTIVE ACTION [1-1-50...2-1-96; A, 3-15-97]

116.A. NOTIFICATION

(1) The Division shall be notified of any unauthorized release occurring during the drilling, producing, storing, disposing, injecting, transporting, servicing or processing of crude oil, natural gases, produced water, condensate or oil field waste including Regulated NORM, or other oil field related chemicals, contaminants or mixture thereof, in the State of New Mexico in accordance with the requirements of this Rule. [1-1-50...2-1-96; A, 3-15-97]

(2) The Division shall be notified in accordance with this Rule with respect to any release from any facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3-15-97]

116.B. REPORTING REQUIREMENTS: Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements: [5-22-73...2-1-96; A, 3-15-97]

(1) A **Major** Release shall be reported by giving **both** immediate verbal notice and timely written notice pursuant to Paragraphs C(1) and C(2) of this Rule. A Major Release is:

(a) an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels;

(b) an unauthorized release of any volume which:

(i) results in a fire;

(ii) will reach a water course;

(iii) may with reasonable probability endanger public health; or

(iv) results in substantial damage to property or the environment;

(c) an unauthorized release of natural gases in excess of 500 mcf; or

(d) a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3/15/97]

(2) A **Minor Release** shall be reported by giving timely written notice pursuant to Paragraph C(2) of this Rule. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases. [3-15-97]

116.C. CONTENTS OF NOTIFICATION

(1) **Immediate verbal notification** required pursuant to Paragraph B shall be reported within twenty-four (24) hours of discovery to the Division District Office for the area within which the release takes place. In addition, **immediate verbal notification** pursuant to Subparagraph B.(1).(d). shall be reported to the Division's Environmental Bureau Chief. This notification shall provide the information required on Division Form C-141. [5-22-73...2-1-96; A, 3-15-97]

(2) **Timely written notification** is required to be reported pursuant to Paragraph B within fifteen (15) days to the Division District Office for the area within which the release takes place by completing and filing Division Form C-141. In addition, timely written notification required pursuant to Subparagraph B.(1).(d). shall also be reported to the Division's Environmental Bureau Chief within fifteen (15) days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification. [5-22-73...2-1-96; A, 3-15-97]

116.D. CORRECTIVE ACTION: The responsible person must complete Division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the Division or with an abatement plan submitted in accordance with Rule 19 (19 NMAC 15.A.19). [3-15-97]

State of New Mexico
ENVIRONMENT DEPARTMENT
Surface Water Quality Bureau
1190 St. Francis Dr., P.O. Box 26110
Santa Fe, NM 87502
(505) 827-0187

TELECOPIER TRANSMITTAL

DATE: August 23, 1999 **PAGE: 1 OF 3** (Including Cover)

Please deliver the following:

To: Roger Anderson

Location: NMOCD

Telephone Number: 827-7152

Telecopier Number: 827-8177

From: Glenn E. Saums

Location: New Mexico Environment Dept., Surface Water Quality Bureau

Telephone Number: (505) 827-2827

Telecopier Number: (505) 827-0160

COMMENTS

For your information - copy of notice from National Response Center. I am sending you a copy due to the involvment of a refinery, I will also send a copy to the Dept. of Agriculture because the complaint involves pesticide application.

NATIONAL RESPONSE CENTER - STATE*FAX
** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY **

DO NOT RELEASE this information to the public without permission from the National Response Center (G-OPF), U.S. Coast Guard Headquarters, Washington DC 20593-0001 (202)267-2675.

From: National Response Center
USCG HQ Washington, D.C.
1-800-424-8802

To:
NEW MEXICO ENVIRONMENTAL DEPARTMENT
Incident Report # 495536

INCIDENT DESCRIPTION

*Report taken by MST3 GAUTHIER at 19:30 on 18-AUG-99
Incident Type: FIXED
Incident Cause: OTHER
Affected Area: FARM POND
The incident was discovered on 18-AUG-99 at 12:00 local time.
Affected Medium: WATER

SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN
Organization: GIANT REFINING
Address: HWY 44
LYBROOK, NM

Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION

HWY 44
LYBROOK, NM
County: RIO ARRIBA

RELEASED MATERIAL(S)

CHRIS Code: UNK Official Material Name: UNKNOWN MATERIAL
Also Known As:
Qty Released: 0 UNK(S) Qty in Water: 0 UNK(S)

SOURCE/CAUSE OF INCIDENT

CALLER STATES THAT THE REFINERY SPRAYED THERE PROPERTY TO GET RID OF WEEDS AND A P.C. TREES WERE KILLED AND FARM POND WAS EFFECTED/2 MON AGO

DAMAGE

Injuries:	Fatalities:	Evacuations:	Damages:	Air Close:	Road Close:
				N	N

REMEDIAL ACTIONS

NONE / KIDS WHO SWAM IN FARM POND CAME OUT WITH A RASH AND PEELING SKIN AND 2 MONTHS LATER THERE SKIN STILL ITCHES/ TREES ARE STILL DEAD ALSO

NOTIFICATIONS BY CALLER

NOTIFICATIONS BY NRC

ATSDR CO	ATTN: JANET JONES	(303)6923023
U.S. EPA VI		(214)6652222
MAIL EPA R6	ATTN: KENNETH CLARK	(214)6656493
NOAA 1ST CLASS BB RPTS FOR NM		(206)5206344
CO OIL & GAS CONSERVATION COMM		(303)8942100
DOI/OEPC - R6		(505)7663565
NEW MEXICO ENVIRONMENTAL DEPARTMENT		(505)8274308
DOI/OEPC DENVER		(303)4452500

NATIONAL RESPONSE CENTER - STATE*FAX
** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY ** GOVERNMENT USE ONLY **

ADDITIONAL INFORMATION

CALLER IS CALLING FOR A FRIEND

*** END INCIDENT REPORT # 495538 ***

Report any problems or Fax number changes by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Affidavit of Publication

State of New Mexico
County of Río Arriba

I, Robert Trapp, being first duly sworn, declare and say I am the Publisher of the ***Río Grande SUN***, a weekly newspaper published in the English language and having a general circulation in the City of Española,County of Río Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; the publication, a copy of which is hereto attached

was published in said paper once each week for 1 consecutive weeks and on the same day of each week in the regular issue of the paper during the time of publication and the notice was published in the newspaper proper, and not iany supplement, the first

publication being on the 29th day of April, 19 99

and the last publication on the 29th day of April, 19 99; payment for said advertisement has been duly made, or assessed as court costs; the undersigned has personal knowledge of the matters and things set forth in this affidavit.

Robert Trapp
Publisher

Subscribed and sworn to before me this 29th day of

April A.D., 19 99.

Ruth S Trapp
Notary Public

My commission expires 17 May 2001

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 renewal 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-047) - Williams Field Services, Ingrid A. Deklau, (801) 584-6543, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water seperation, approximately 3000 gallons per day of process waste water with a total disolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 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 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 plan(s) based on information available. If a public hearing is

Bill

46.64
500
51.64
319
5483

Grande SUN

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-047) - Williams Field Services, Ingrid A. Deklau, (801) 584-6543, P. O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water seperation, approximately 3000 gallons per day of process waste water with a total disolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 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 20tn day of April 1999.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Roger Anderson
for LORI WROTENBERY, Director

SEAL

Z 559 572 989

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail *(See reverse)*

Sent to Rio Grande Sun	
Street & Number PO Box 790	
Post Office, State, & ZIP Code Espanola, NM 87532	
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	

PS Form 3800, April 1995

The Santa Fe New Mexican

Since 1849. We Read You.

APR 28 1999

NM OCD

ATTN: LUPE SHERMAN
2040 S. PACHECO ST.
SANTA FE, NM 87505

AD NUMBER: 80963 ACCOUNT: 56689
LEGAL NO: 65255 P.O.#: 99199000357
172 LINES 1 time(s) at $ 75.73
AFFIDAVITS: 5.25
TAX: 5.06
TOTAL: 86.04

AFFIDAVIT OF PUBLICATION

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 renewal 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-047) - Williams Field Services, Ingrid A. Deklau, (801) 584-6543, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximately 3000 gallons per day of process waste water with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 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 20th day of April 1999.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY,
Director

Legal #65255
Pub. April 26, 1999

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, B Perner being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTE 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 #65255 a copy of which is hereto attached was published in said newspaper 1 day(s) between 04/26/1999 and 04/26/1999 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 26 day of April, 1999 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 26 day of April A.D., 1999

Notary [signature]

Commission Expires 3-13-2001

OFFICIAL SEAL
B MATHIE
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires:

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-047) - Williams Field Services, Ingrid A. Deklau, (801) 584-6543, P. O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan renewal application for the Lybrook Natural Gas Processing Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water seperation, approximately 3000 gallons per day of process waste water with a total disolved solids concentration of approximately 7500 mg/l is disposed of in clay lined evaporation ponds. Ground water most likely to be affected in the event of an accidental discharge is at a depth ranging from 180 to 200 feet with a total dissolved solids concentration of approximately 700 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 20tn day of April 1999.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

for LORI WROTENBERY, Director

SEAL

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

5/92

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

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

I. TYPE: Lybrook Natural Gas Processing Plant - Renewal (GW047)

II. OPERATOR: Williams Field Services

ADDRESS: 295 Chipeta Way SLC UT 84108

CONTACT PERSON: Ingrid Deklau PHONE: 801-584-6543

III. LOCATION: N /2 NW /4 Section 14 Township 23 N Range 7W
Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner(s) of the disposal facility site.

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

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

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

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

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIII. CERTIFICATION

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

Name: Ingrid Deklau Title: Envt'l Specialist

Signature: Date: 4/8/99

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

295 Chipeta Way
P.O. Box 58900
Salt Lake City, UT 84108
801/584-6543
801/584-7760

April 5, 1999

Mr. Jack Ford
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: OCD Discharge Plan Renewal: Lybrook Gas Plant (GW-047)

Dear Mr. Ford:

Enclosed, please find Check Number 113358 for $50 to cover the application fee for the Discharge Plan Renewal of Williams Field Services (WFS) Lybrook Gas Plant (GW-047). The information attached serves to summarize and update information submitted by Sunterra Gas Processing Company in the December 1994 renewal application. For your information, documents in the WFS files that are believed to constitute the Lybrook Gas Plant Discharge Plan are listed below.

February 18, 1998	OCD approval of modification
February 10, 1998	WFS modification of plan
September 27, 1996	WFS approval of modification
September 17, 1996	WFS application for modification
July 1, 1996	WFS application for modification
July 3, 1995	OCD approval of schedule conditions
April 28, 1995	PNM schedule request
September 13, 1994	OCD approval of application
May 31, 1994	PNM submittal of application for plan renewal (on behalf of Sunterra)
June 28, 1993	OCD approval of renewal
April 14, 1993	Sunterra Gas Processing Company application for renewal
December, 1988	Sunterra Gas Processing Company Application

If you have any questions, I can be reached at (801) 584-6543. Your assistance in handling these matters is appreciated.

Sincerely,

Ingrid A. Deklau
Senior Environmental Specialist

enclosures

xc: Denny Foust, Aztec OCD Office

Information in the following sections updates information included in the December 1994 renewal application submitted to the OCD by Sunterra Gas Processing Company. The text below is formatted to correspond to the format of the December 1994 application. A plot plan of the facility is included as an attachment following this letter for your convenience.

I. GENERAL INFORMATION

Type of Operation
The Lybrook Gas Processing Plant (GW-047) is a natural gas processing plant for the WFS Torre Alta natural gas gathering system. The facility was originally constructed as a lean oil natural gas processing facility in 1959. It was upgraded to its current status as a cryogenic plant in 1976. The plant is designed to extract ethane and higher hydrocarbon gases from natural gas. The processes used to separate hydrocarbons from field gas includes turbo expanders, heat exchangers, chillers, separators, dehydrators, power generating equipment and other supporting equipment. The Plant was purchased by Williams in 1995 from Sunterra Gas Processing Company.

Legally Responsible Party
Williams Gas Processing Blanco
295 Chipeta Way
Salt Lake City, Utah 84108
(801) 584-6543

Contact Person:
Ingrid A. Deklau, Sr. Environmental Specialist
Phone and Address, Same as Above

Location of Facility
The Lybrook Gas Processing Plant (GW-047) is located in the N/2 of NW/4, Section 14, Township 23 North, Range 7 West, in Rio Arriba County, New Mexico, approximately 50 miles south of Bloomfield, New Mexico. The Plant site covers approximately 41 acres.

Landowner
Williams Gas Processing-Blanco
295 Chipeta Way
Salt Lake City, Utah 84108
801-584-6543

II. FACILITY DESCRIPTION/ PLANT PROCESSES

A detailed description of the plant processes is found in the September 1994 OCD Discharge Plan, Section 2, submitted by Sunterra. Process changes that have been implemented or changed since then include the following:

- Boilers: There are four hot oil reboilers at the facility, not five.
- Waste (used) Oil: Used lubrication and motor oils are generated by compressor equipment, filter draining, and the oil water separator. The attached tank list and diagram identify tank storage capacity and location. Used oil is hauled from the facility for recycling.
- Cleaning Operations Using Solvents/ Degreasers: The 1000-gallon solvent tank referenced in this paragraph has been removed from the facility.
- Truck, Tank, and Drum Washing: Used barrels are either returned to their vendor or sent to a scrap metal recycler. Barrels currently in use are either stored in a building or within a berm.

- Other Liquid/ Solid Wastes: The glycol regeneration system was removed from the plant. The glycol storage tank at the plant is for the use of field locations. A chiller was installed to dehydrate the gas stream.
- Tanks: A berm has been installed around the two 42,000-gallon gasoline tanks located in the tank farm. The other tanks in the tank farm are either not in use or contain products such as propane and butane, which vaporize at atmospheric pressure.

Source, Quantity, and Quality of Effluents and Waste Solids

Table 1 updates the table included in Section 2 of the September 1994 plan and describes the source, quantity, and quality of effluent and waste solids generated at the plant. Table 2 describes transfer, storage and disposal of effluents and waste solids.

TABLE 1
SOURCE, QUANTITY, AND QUALITY OF EFFLUENT AND WASTE SOLIDS
LYBROOK GAS PLANT

PROCESS FLUID/WASTE	SOURCE	QUANTITY	QUALITY
Used Oil	Compressors, engines, oil water separator	700 gal/mo	Used motor oil with no additives
Flare Separator Liquids	Flare Separator	300 gal/mo	Liquid hydrocarbons with very light traces of amine with no additives
Used process filters (i.e., amine, separator filters, etc.)	CO2 removal, hydrocarbon contaminant removal	40/mo	No additives
Oil Filters	Compressors and engines	130/yr	No additives
Used Carbon	From amine system	2000 lb/yr	No additives
Used Mole Sieve	Used in removal of water from natural gas stream	10,000 lb/yr	No additives
Spill Residue	Incidental spills, leaks, or cleanup	Incident dependent	Incident dependent
Used Absorbents	Incidental spills, equipment clean-up	Incident dependent	Incident dependent
Liquid Effluent from Processing Plant (wastewater)	i.e., cooling tower, filter separator, open drain system/ washdown water, produced water, regen water (chiller), oil water separator, and other maintenance-related effluents as necessary	1 million gal/yr	High TDS water, dissolved salts, traces of amine/oil

TABLE 2
TRANSFER, STORAGE, AND DISPOSAL OF EFFLUENTS, AND WASTE SOLIDS
LYBROOK GAS PLANT

PROCESS FLUID/WASTE	SOURCE	STORAGE	CONTAINER CAPACITY** (approximate)	CONTAINMENT/ SPILL PREVENTION	RCRA STATUS	DESCRIPTION OF FINAL DISPOSITION
Used Oil	Compressors, engines Filter draining Oil water separator	AST* (j) AST* (o) AST* (y, z)	4898 gal 1175 gal 100 bbl, 250 gal	Berm Containment Berm	Non-exempt	Transported to EPA-registered used oil marketer for recycling.
Flare Separator Liquids	Flare Separator	AST* (y)	100 bbl	Berm	Exempt	Transported to EPA-registered used oil marketer for recycling.
Used process filters (i.e., separator filters, amine, etc.)	CO2 removal, hydrocarbon contaminant removal	Roll off bin for special waste	Dumpster	N/A	Exempt	Drained and transported to approved disposal facility.
Oil Filters	Compressors, engines	Roll off bin for special waste	Dumpster	N/A	Non-exempt	Drained and transported to approved disposal facility.
Process Treatment Waste (i.e., carbon, mole sieve, etc.)	Gas treatment	N/A	N/A	N/A	Exempt	Dried on-site prior to disposal at approved disposal facility.
Spill Residue (i.e., soil, gravel) or other exempt waste	Incidental spills, leaks, or cleanup	N/A	N/A	In-situ treatment, landfarm, or alternate method	Incident dependent	Landfarmed on-site or disposed at OCD-approved facility (free liquid will be removed from residue, i.e., pumping, solidification, evaporation). On-site treatment will be conducted per applicable NMOCD Guidelines.
Used Absorbents	Incidental spills, leaks, or cleanup	Roll off bin for special waste	Dumpster	N/A	Non-exempt	Drained and transported to approved disposal facility.
Liquid Effluent from processing plant (wastewater)	i.e., cooling tower, filter separator, open drain system/ washdown water, produced water, regen water (chiller), oil water separator, and other maintenance-related effluents as necessary	Evap pond	N/A	Double-lined pond with leak detection	Non-exempt	Liquids pass through oil water separator, then directed to evaporation pond
Scrap metal	Facility-wide, incident dependent	Boneyard	N/A	N/A	N/A	Hauled by recycler, reused on site, or disposed at local landfill

*AST = Above Ground Storage Tank

V. INSPECTION, MAINTENANCE AND REPORTING

WFS's Lybrook Plant personnel operate the and maintain the facility and its associated processes. The facility is manned 24 hours per day, 7 days per week, 52 weeks per year and is continuously monitored for equipment malfunctions.

Maintenance on process equipment is performed according to manufacturer's instruction. Thebelow-ground concrete collector boxes are equipped with leak detection and are monitored monthly. Routine inspections and tank gauging are also conducted weekly. All inspections are recorded on the facilities operating record.

In the event of a release of a reportable quantity, the operator reports the release to WFS Gas Control who immediately notifies the WFS Environmental Affairs Department.

VI. SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)

Within the processing units, small spills or leaks will be controlled with the use of curbs orberms around pieces of equipment that are the most susceptible, such as pumps, tanks and separators. Major spills would drain across the Plant and be contained in the stormwater retention pond.

WFS corporate policy and procedures for the controlling and reporting of Discharges or Spills of Oil or Hazardous Substances is provided as an attachment to this letter. The above referenced document is a component of the facility SPCC Plan. WFS Environmental Affairs will report significant spills and leaks to the NMOCD pursuant to NMOCD Rule 116 and WQCC 1-203 using the NMOCD form (also provided as an attachment).

ATTACHMENTS

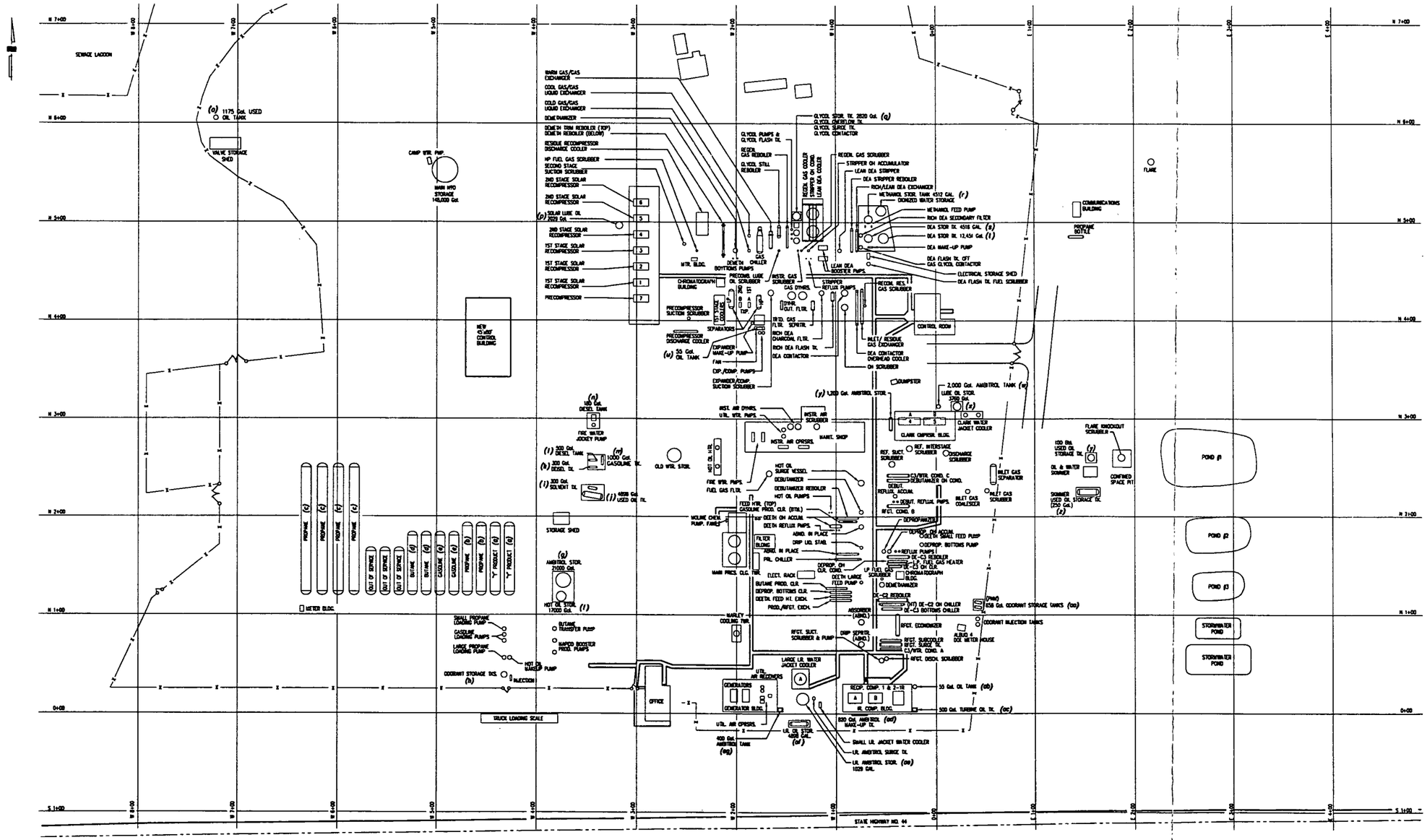
- Facility Plot Plan and Tank List
- WFS Procedure 'Discharges or Spills of Oil or Hazardous Substances; Preventing, Controlling and Reporting'
- Oil Conservation Division Form C-141 for Release Notification

Manual

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

ATTACHMENT "A" PRODUCT AND WASTE STORAGE LOCATIONS

OPERATIONS			
Manual	LYBROOK GAS CONDITIONING PLANT		
Section	SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN	Tab PLA19	Document No. 42.13.001
Effective Date 07/27/98		Issue No. 1	Page No. 3 of 5



REFERENCE DRAWINGS								REFERENCE DRAWINGS								REVISIONS																			
DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE	DRAWING NO.	TITLE	NO.	DATE	BY	DESCRIPTION	W.O.NO.	CHK.	APP.	NO.	DATE	BY	DESCRIPTION	W.O.NO.	CHK.	APP.
															1	07/27/98	BCS	CHANGED TO NEW TITLE BLOCK STANDARD			

DRAFTING	BY	DATE
DRAWN BY	BCS	07/23/98
CHECKED BY		
APPROVED BY		
ENGINEER	**BY**	**DATE**
DESIGNED BY		
PROJ. APPROVED		

STATE: NEW MEXICO
COUNTY: RIO ARRIBA

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

LYBROOK GAS CONDITIONING PLANT
PLOT PLAN
SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

SCALE: 1" = 50'
W.O. NO.

DWG NO. LYB-1-P219

SHEET OF | REV 1

S:\WFSDS\PM_EI\LYB\EOD\02190101.dwg Mon Mar 08 08:47:18 1999

WFS LYBROOK PLANT
Tank List (approximate storage capacities)

Letters on this list correspond to letters on plot plan

(a) (2) 50,000-gal Y-grade product tanks (pressurized)
(b) (2) 50,000-gal propane tanks (pressurized)
(c) (4) 90,000-gal propane tanks (pressurized)
(d) (2) 40,000-gal butane tanks (pressurized)
(e) (2) 42,887-gal natural gas liquid tanks
(f) (1) 17,000-gal hot oil tank
(g) (1) 21,000-gal ambitrol tank
(h) (1) 150-gal and (1) 300 gal odorant tanks
(i) (1) 300-gal solvent tank
(j) (1) 4,898-gal used oil tank
(k) (1) 300-gal diesel tank
(l) (1) 300-gal on-road diesel tank
(m) (1) 1,000-gal gasoline tank
(n) (1) 180-gal diesel tank
(o) (1) 1,175-gal used oil tank
(p) (1) 2,029-gal lube oil tank
(q) (1) 2,820-gal triethylene glycol tank
(r) (1) 4,512-gal methanol tank
(s) (1) 4,516-gal diethanolamine tank
(t) (1) 12,451-gal diethanolamine tank
(u) (1) 55-gal Expender lube oil tank
(v) (1) 1,300-gal Clark ambitrol tank
(w) (1) 2,000-gal Clark ambitrol tank
(x) (1) 3,760-gal lube oil tank
(y) (1) 100-bbl used oil tank
(z) (1) 250-gal used oil tank
(aa) (2) 658-gal odorant tanks, with containment
(ab) (1) 55-gal York turbine oil tank
(ac) (1) 500-gal turbine oil tank
(ad) (1) 820-gal IR Ambitrol tank, with containment
(ae) (1) 1,029-gal IR Ambitrol tank, with containment
(af) (1) 4,898-gal IR lube oil tank, with containment
(ag) (1) 400-gal Ambitrol tank , with containment

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

OPERATIONS

Manual	Department	
O & M Procedure		
Section: Safety/General	Tab: 10	Document No.: 21.10.020
Effective Date: JUL 31 1997	Issue No.: 2	Page No.: 1 of 8

Subject of Title
DISCHARGES OR SPILLS OF OIL OR HAZARDOUS SUBSTANCES; Preventing, Controlling and Reporting

A. PURPOSE AND SCOPE

A.1 To establish the policy and procedure for preventing, controlling, and reporting of discharges or spills of oil or hazardous substances to the environment in accordance with Company practices and federal, state, and local requirements, including Title 40 of the Code of Federal Regulations - Part 112 (Oil Pollution Prevention).

A.2 This document pertains to Company personnel and Company and non-company facilities. The spill prevention and control requirements in this Policy and Procedure are Federally mandated guidelines for oil pollution prevention. The Company policy is to also apply these standards, where appropriate, to facilities containing hazardous substances. This is a discretionary application of the standards; however, variations from the standards should be approved by the responsible Director.

B. CONTENTS

C. POLICY

C.1 GENERAL

C.1.1 All Company facilities which could discharge or spill oil or hazardous substances which may affect natural resources or present an imminent and substantial danger to the public health or welfare including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches are subject to the provisions of this document.

Supersedes Policy and Procedure 21.10.020 dated June 15, 1993

Approval (Page 1 Only)	Approval (Page 1 Only)	Approval (Page 1 Only)
E.C. England	C.K. Myers	

C.1.2 Oil, for purpose of this document, means oil of any kind or in any form, including but not limited to petroleum hydrocarbon, fuel oil, Y grade, natural gas liquids, condensate, mixed products, sludge, oil refuse, and oil mixed with wastes other than dredged spoil (earth and rock). LPG (propane, butane, ethane) is not considered to be oil.

C.1.3 Hazardous Substance, for purposes of this procedure, is defined as any chemical or material that has or should have a Material Safety Data Sheet (MSDS); however, hazardous substances are further defined by the following environmental statutes:

a. Section 101(N) and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

b. Section 307(a) and Section 311(b)(2)(A) of the Clean Water Act

c. Section 3001 of the Solid Waste Act (excluding items suspended by Congress)

d. Section 112 of the Clean Air Act

e. Section 7 of the Toxic Substance Control Act

C.1.4 The term hazardous substance does not include petroleum hydrocarbon, including crude oil or any fraction thereof, and the term does not include natural gas, natural gas liquids (including condensate), liquefied natural gas or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

C.1.5 Facilities which could discharge or spill oil or hazardous substances into a watercourse must comply with the applicable federal, state, or local laws and regulations. A discharge includes but is not limited to any spilling, leaking, pumping, pouring, emitting, emptying, or dumping. A watercourse is any perennial or intermittent river, stream, gully, wash, lake, or standing body of water capable of collecting or transporting an oil or hazardous substance.

C.1.6 Facilities which are subject to the requirements stated in this policy are as follows:

a. <u>Non-Transportation Related Facilities</u>

(1) Storage or drip tanks and other aboveground containers (excluding pressurized or inline process vessels) having a capacity in excess of 660 gallons for each single container or an aggregate capacity of 1,321 gallons or more for multiple containers.

(2) Underground storage facilities having a total capacity in excess of 42,000 gallons.

b. Transportation Related Facilities

(1) All vehicles, pipeline facilities, loading/unloading facilities, and other mobile facilities which transport oil or hazardous substances.

C.1.7 Each Company location which has facilities subject to paragraph C.1.1 shall have a site specific Spill Prevention Control and Countermeasure Plan (SPCC Plan) which identifies all facilities subject to 40 CFR 112. The plan shall identify all hazardous substance storage vessels (as defined in a.(1) above) at the facility and the spill prevention measures in place to control discharges or spills. This plan shall also identify all regulatory agencies that must be notified in case of a spill.

C.1.8 The facility superintendent is responsible for spill prevention. His/her duties include, but are not limited to, the following:

a. Instructing personnel in the operation and maintenance of equipment to prevent the discharge of oil.

b. Conduct annual briefings for operating personnel at intervals frequent enough to assure adequate understanding of the Spill Plan at that facility.

c. Briefings should highlight and describe known discharges or spills, and recently developed precautionary measures.

C.1.9 Each individual facility is checked annually by the superintendent or designee to determine the potential for discharges or spills of oil or hazardous substances in harmful quantities that violate water quality standards or which may cause a film, sheen, or discoloration on the surface of water. All facilities which have the potential for discharging or spilling harmful quantities of oil or hazardous substances into a watercourse are required to have the following preventive measures:

a. Examination of all tanks, valves and fittings, at least annually to determine any maintenance requirements.

b. All tank batteries should, as far as practicable, have a secondary means of containment for the entire contents of the largest single tank plus sufficient freeboard in the containment facility to allow for precipitation.

c. An annual monitoring and inspection program to prevent accidental spills or discharges into watercourses. This includes annual inspection for faulty systems and monitoring line valves and liquid pipelines for leaks or blowouts.

C.1.10 Any field drainage ditches, road ditches, traps, sumps, or skimmers should be inspected at regular scheduled intervals for accumulation of oil or other hazardous substances which may have escaped from small leaks. Any such accumulations should be removed.

C.2 BULK STORAGE TANKS

C.2.1 A tank should not be used for storage of oil or hazardous substances unless the material and construction of the tank is compatible with the oil or substance stored and conditions of storage such as pressure and temperature. Buried storage tanks must be protected from corrosion by coatings, cathodic protection, or other methods compatible with local soil conditions. Aboveground tanks should be subject to visual inspection for system integrity.

C.2.2 The facility superintendent should evaluate tank level monitoring requirements to prevent tank overflow.

C.2.3 Leaks which result in loss of oil or hazardous substances from tank seams, gaskets, rivets and bolts sufficiently large to cause accumulation of oil or hazardous substances in diked areas should be promptly corrected.

C.2.4 Mobile or portable oil or hazardous substances storage tanks should be positioned or located to prevent the contents from reaching a watercourse. The mobile facilities should be located so their support structure will not be undermined by periodic flooding or washout.

C.3 FACILITY DRAINAGE

C.3.1 Make provisions for drainage from diked storage areas where necessary in areas with high precipitation levels. Drainage from diked areas should be restrained by valves or other means to prevent a discharge or spill. Diked areas should be emptied by pumps or ejectors which are manually activated. Valves used for the drainage of diked areas should be of manual, open-and-closed design.

C.3.2 Rain water may be drained from diked areas providing drainage water does not contain oil or hazardous substances that may cause a harmful discharge. Drain valves must be closed following drainage of diked areas.

C.3.3 When possible, drainage systems from undiked areas should flow into ponds, lagoons, or catchment basins designed to retain oil or hazardous substances or return the substances to the facility. Any drainage system which is not designed to allow flow into ponds, lagoons, or catchment basins should be equipped with a diversion system that could, in the event of a discharge or spill, contain the oil or hazardous substances on the site.

C.3.4 The principal means of containing discharges or spills is the use of dikes which are constructed wherever regulated quantities of oil or hazardous substances have the potential of reaching a watercourse. The construction of dikes must meet the following requirements:

a. Capacity must be at least equivalent to the storage capacity of the largest tank of the battery plus sufficient freeboard to allow for precipitation, or displacement by foreign materials.
b. Small dikes for temporary containment are constructed at valves where potential leaking of oil or hazardous substances may occur.
c. Any dike three feet or higher should have a minimum cross section of two feet at the top.

C.3.5 Other means of containment or spill control include, but are not limited to:

a. Berms or retaining walls;
b. Curbing;
c. Culverting, gutters, or other drainage systems;
d. Weirs, booms, or other barriers;
e. Spill diversion ponds or retention ponds;
f. Sorbent materials

C.4 TRANSFER OPERATIONS, PUMPING, AND IN-PLANT/STATION PROCESS

C.4.1 Aboveground valves and pipelines should be examined regularly by operating personnel to determine whether there are any leaks from flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, valve locks, and metal surfaces.

C.5 FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK

C.5.1 Rack area drainage which does not flow into a catchment basin or treatment facility designed to handle spills should have a quick drainage system for use in tank truck loading and unloading areas. The containment system should have a maximum capacity of any single compartment of a truck loaded or unloaded in the station.

C.5.2 Aboveground piping that has potential for damage by vehicles entering the Site should be protected by logically placed warning signs or by concrete-filled pipe barriers.

C.5.3 Loading and unloading areas should be provided with an interlocked warning light, grounding shutdown, physical barrier system, or warning signs to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines. All drains and outlets of any truck should be closely examined for leakage prior to filling and departure. All drains and outlets which may allow leakage should be tightened, adjusted, or replaced to prevent liquid leakage while in transit.

NOTE: LPG loading facilities and remote field loading of condensate are exempt from the C.5 requirements of this document.

D. PROCEDURE

D.1 Identifying, Containing and Initial Reporting of a Discharge or Spill of Oil or Hazardous Substance

Any Employee

D.1.1 Upon noticing a discharge or spill of an oil or hazardous substance in any quantity initiates immediate containment procedures and notifies facility superintendent.

NOTE: Refer to Attachment A for containment procedures.

Facility Superintendent

D.1.2 Contacts Gas Control and responsible Director immediately by telephone and provides the following information:

a. Name of company facility and/or location of facility and nature of discharge or spill
b. Description and quantity of emission or substance discharged
c. Description of the circumstances causing the discharge or spill
d. Name, title, and telephone number of person initially reporting the discharge or spill and person reporting to Gas Control
e. Action taken or being taken to mitigate and correct discharge or spill
f. Water bodies or streams involved
g. Time and duration of discharge or spill
h. Outside involvement during discharge or spill (public government agencies, etc. See Emergency Operating Procedure Manuals)

Gas Control Personnel

D.1.3 Advises Environmental Affairs departments immediately by telephone concerning the incident including any incidents reported by persons not employed with the Company.

NOTE: If Gas Control is contacted by a person not employed with the Company, the necessary information is obtained as indicated in D.1.2 and the Superintendent and Environmental Affairs are immediately contacted to begin containment and clean-up of the discharge or spill.

D.1.4 If Environmental Affairs cannot be contacted, notifies Director over Environmental Affairs.

Facility Superintendent

D.1.5 Coordinates containment and clean-up of discharge or spill, keeping the responsible Director Informed.

D.1.6 If the discharge or spill is too large for Company personnel to contain, contacts qualified local contractors for assistance. (See Emergency Operating Procedure Manuals tab #11, contractors with available equipment and services).

D.1.7 Advises Environmental Affairs by telephone if emergency containment or clean-up assistance from a state agency or a response team from the U.S. Coast Guard is required.

Environmental Affairs

D.1.8 Assesses reporting requirements to state and federal agencies (contact Legal Department and Right-of-Way Department, if appropriate). (See Emergency Operating Procedure Manuals).

D.1.9 Makes appropriate contacts with National Response Center and state and local agencies, when necessary.

D.1.10 If spill is significant, dispatches Environmental Specialist to scene to oversee cleanup and reporting responsibilities.

D.2 SUBMITTING WRITTEN NOTIFICATION OF A DISCHARGE OR SPILL

Facility Superintendent

D.2.1 Completes a written description of the incident as soon as possible after initial notification is given, which should include the following:

a. Time and date of discharge or spill
b. Facility name and location
c. Type of material spilled
d. Quantity of material spilled
e. Area affected
f. Cause of spill
g. Special circumstances
h. Corrective measures taken
i. Description of repairs made
j. Preventative measures taken to prevent recurrence.

D.2.2 Forwards the completed written description to Environmental Affairs. Retains a copy for future reference.

NOTE: Environmental Affairs, in coordination with the Legal Department, if necessary, submits written reports to government agencies.

ATTACHMENT 3

DISCHARGE OR SPILL CONTAINMENT PROCEDURES AND MATERIALS

TYPE OF FACILITY WHERE THE DISCHARGE OR SPILL OCCURS	CONTAINMENT PROCEDURES	MATERIALS USED FOR CONTAINMENT
A. Oil Pipeline (as defined in C.1.4)	1. Closes appropriate block valves. 2. Contains Discharge or spill by: Ditching covering, applying sorbents, constructing an earthen dam, or burning. 3. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning.	1.Straw 2.Loose Earth 3.Oil Sorbent 3M Brand 4.Plain Wood chips 5.Sorb-Oil Chips Banta Co. 6.Sorb-Oil Swabs Banta Co. 7.Sorb-Oil Mats Banta Co. 8.Or Equivalent Materials
B. Vehicle	1. Contains discharge or spill by: ditching, covering surface with dirt, constructing earthen dams, apply sorbents, or burning. 2. Notifies immediately the Safety and Environmental Department and if there is any imminent danger to local residents; notifies immediately the highway patrol or local police officials. 3. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning. Note: Any vehicle carrying any hazardous or toxic substance will carry a shovel or other ditching device to contain a spill. If the vehicle has sufficient room, sorbent materials should also be carried.	
C. Bulk Storage Tanks or any other Facilities	1. Contains discharge or spill by: ditching, covering, applying sorbents, constructing an earthen dam, or burning. 2. If burning is required, obtains approval from the appropriate state air quality control government agencies before burning.	

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

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

Form C- 141
Originated 2/13/9

Submit 2 copies t
Appropriate Distric
Office in accordanc
with Rule 116 o
back side of forr

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Repo

Name	Contact
Address	Telephone No.
Facility Name	Facility Type

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☐ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary)

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operato are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name:	Approved by District Supervisor:	
Title:	Approval Date:	Expiration Date:
Date: Phone:	Conditions of Approval:	Attached ☐

116 RELEASE NOTIFICATION AND CORRECTIVE ACTION [1-1-50...2-1-96; A, 3-15-97]

116.A. NOTIFICATION

(1) The Division shall be notified of any unauthorized release occurring during the drilling, producing, storing, disposing, injecting, transporting, servicing or processing of crude oil, natural gases, produced water, condensate or oil field waste including Regulated NORM, or other oil field related chemicals, contaminants or mixture thereof, in the State of New Mexico in accordance with the requirements of this Rule. [1-1-50...2-1-96; A, 3-15-97]

(2) The Division shall be notified in accordance with this Rule with respect to any release from any facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3-15-97]

116.B. REPORTING REQUIREMENTS: Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements: [5-22-73...2-1-96; A, 3-15-97]

(1) A **Major Release** shall be reported by giving **both** immediate verbal notice and timely written notice pursuant to Paragraphs C(1) and C(2) of this Rule. A Major Release is:

(a) an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels;

(b) an unauthorized release of any volume which:

(i) results in a fire;

(ii) will reach a water course;

(iii) may with reasonable probability endanger public health; or

(iv) results in substantial damage to property or the environment;

(c) an unauthorized release of natural gases in excess of 500 mcf; or

(d) a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in 19 NMAC 15.A.19. B(1), B(2) or B(3). [3/15/97]

(2) A **Minor Release** shall be reported by giving timely written notice pursuant to Paragraph C(2) of this Rule. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases. [3-15-97]

116.C. CONTENTS OF NOTIFICATION

(1) **Immediate verbal notification** required pursuant to Paragraph B shall be reported within twenty-four (24) hours of discovery to the Division District Office for the area within which the release takes place. In addition, **immediate verbal notification** pursuant to Subparagraph B.(1).(d). shall be reported to the Division's Environmental Bureau Chief. This notification shall provide the information required on Division Form C-141. [5-22-73...2-1-96; A, 3-15-97]

(2) **Timely written notification** is required to be reported pursuant to Paragraph B within fifteen (15) days to the Division District Office for the area within which the release takes place by completing and filing Division Form C-141. In addition, timely written notification required pursuant to Subparagraph B.(1).(d). shall also be reported to the Division's Environmental Bureau Chief within fifteen (15) days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification. [5-22-73...2-1-96; A, 3-15-97]

116.D. CORRECTIVE ACTION: The responsible person must complete Division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the Division or with an abatement plan submitted in accordance with Rule 19 (19 NMAC 15.A.19). [3-15-97]

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No [redacted] dated 4-9-99,

or cash received on _____ in the amount of $ 50.00

from Williams Field Services

for Lybrook Gas Plant GW-047
(Facility Name) (DP No.)

Submitted by: [signature] Date: 4-15-99

Submitted to ASD by: [signature] Date: 4-15-99

Received in ASD by: _____ Date: _____

Filing Fee X New Facility ___ Renewal ___

Modification ___ Other _____
(specify)

Organization Code 521.07 Applicable FY 99

To be deposited in the Water Quality Management Fund.

Full Payment X or Annual Increment ___

Williams

Williams Field Services Company
P. O. Box 58900
Salt Lake City, Utah 84158-0900

Chase Manhattan Bank Delaware
1201 Market Street
Wilmington DE 19801

62-26
311

5736-09

DATE	CHECK NO.	NET AMOUNT
04/09/99	[redacted]	50.00

PAY
FIFTY AND 00/100----------

TO THE ORDER OF
NEW MEXICO OIL CONSERVATION DI
NM WATER QUALITY MGMT FUND
2040 SOUTH PACHECO
SANTA FE NM 87504

Mary Jane Battick
TREASURER

[redacted]

Williams Field Services Company

4341 NEW MEXICO OIL CONSERVATION DI [redacted] 04/09/99

INVOICE NUMBER	DESCRIPTION	INVOICE DATE	AMOUNT	DISCOUNT	NET AMOUNT
GW-047	OCD Discharge Plan	04/05/99	50.00	0.00	50.00
			50.00	0.00	50.00

Lybrook Gas Plant

PLEASE DETACH BEFORE DEPOSITING

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

February 25, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z-357-870-069

Ms. Ingrid A. Deklau
Senior Environmental Specialist
Williams Field Services Company
P.O. Box 58900
Salt Lake City, Utah 84108

RE: Discharge Plan GW-047 Renewal
Lybrook Gas Plant
San Juan County, New Mexico

Dear Ms. Deklau:

On August 8, 1994, the groundwater discharge plan renewal, GW-047, for the Williams Field Services Lybrook Gas Plant located in the NW/4 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico, was approved by the Director of the New Mexico Oil Conservation Division (OCD). This discharge plan renewal was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. **The approval will expire on August 8, 1999.**

If the facility continues to have potential or actual effluent or leachate discharges and wishes to continue operation, the discharge plan must be renewed. **Pursuant to Section 3106.F., if an application for renewal is submitted at least 120 days before the discharge plan expires, then the existing approved discharge plan for the same activity shall not expire until the application for renewal has been approved or disapproved.** The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several weeks to months. Please indicate whether Williams Field Services has made or intends to make, any changes in the system, and if so, please include these modifications in the application for renewal.

The discharge plan renewal application for the **Lybrook Gas Plant** is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee of $50.00 plus a flat fee equal to one-half of the original flat fee for gas plants. The $50.00 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable.

Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office. Please submit the original discharge plan renewal application and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. **Note that the completed and signed application form must be submitted with your discharge plan renewal request.** (Copies of the WQCC regulations and discharge plan application form and guidelines are enclosed to aid you in preparing the renewal application. A complete copy of the regulations is also available on OCD's website at **www.emnrd.state.nm.us/ocd/**).

If the Lybrook Gas Plant no longer has any actual or potential discharges and a discharge plan is not needed, please notify this office. If the Williams Field Services Company has any questions, please do not hesitate to contact me at (505) 827-7152.

Sincerely,

Roger C. Anderson
Chief, Environmental Bureau
Oil Conservation Division

RCA/wjf

enclosed: Discharge Plan Application form

cc: OCD Aztec District Office

Z 357 870 069

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

Sent to Ingrid Deklau	
Street & Number WFS	
Post Office, State, & ZIP Code SLC	
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 GW-047	

PS Form 3800, April 1995

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
http://emnrd.state.nm.us/ocd/District III/3district.htm

GARY E. JOHNSON
Governor

Jennifer A. Salisbury
Cabinet Secretary

January 26, 1999

Mr. Herman Martinez
San Juan County Public Works
305 Oliver Drive
Aztec NM 87410

RE: Use of Waste Water from Williams Field Services Lybrook Plant for County Road Construction and Maintenance

Dear Mr. Martinez:

You are hereby authorized to use produced water from the Williams Field Services Lybrook Plant for road construction and maintenance.

You may use this water as proposed with the following conditions:

1. The water will be applied so that no excess water runs off into roadside ditches or into any watercourse.

2. At the end of each day's activity, unused water will be stored in trucks or tanks so the water does not drip or drain onto the ground overnight. Alternatively, the water may be returned to the facility, if no other material has been added to the water intentionally or accidentally mixed with liquids that were previously contained in any truck or tank.

This approval is for one year, starting on this letter date and any further requests beyond that time must be approved by this office. This approval does not relieve you of liability should your operation result in actual pollution of surface waters, ground waters, or the environment that may be actionable under other laws and/or regulations. In addition, Oil Conservation Division approval does not relieve San Juan County of responsibility for compliance with any other county, state, federal, or other local laws and/or regulations.

Sincerely,

Frank T. Chavez
District Supervisor

FTC\mk

cc: Williams Field Services
Roger Anderson

295 Chipeta Way
P.O. Box 58900
Salt Lake City, UT 84108
801/584-6543
801/584-7760

December 7, 1998

Mr. Jack Ford
NM OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: WFS Lybrook Plant (GW-47)

Dear Mr. Ford:

Per our discussion and your verbal authorization today, Williams Field Services (WFS) intends to put Pond 3 at the Lybrook Plant temporarily in service due to an emergency situation. Water levels in Pond 1 and Pond 2 are currently extremely high. As stated in the facility's OCD Discharge Plan, Pond 3, which is normally dry, is an emergency pond in case the levels in ponds 1 and 2 are exceeded.

If you have any questions or require additional information, I can be reached at 801-584-6543. Your assistance in this matter is sincerely appreciated.

Best Regards,

Ingrid Deklau
Environmental Specialist

Xc: Denny Foust, Aztec OCD
Larry Stapley, Lybrook Plant

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

February 18, 1998

Z 357 869 933
US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to Ingrid Deklau	
Street & Number WFS	
Post Office, State, & ZIP Code SLC, UT	
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 GW-047	

PS Form 3800, April 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-357-869-933

Ms. Ingrid A. Deklau
Williams Field Services
P.O. Box 58900
Salt Lake City, Utah 84108

RE: Site Modifications Notification
GW-047, Lybrook Plant
San Juan County, New Mexico

Dear Ms. Deklau:

The OCD has received the site modification letter, dated February 10, 1998, from Williams Field Services for the Lybrook Plant GW-047 located in N/2 NW/4, Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico. **The site modifications are approved without modification to the discharge plan.**

Please note that Section 3104 of the regualtions requires that **"When a plan has been approved, discharges must be consistent with the terms and conditions of the plan."** Pursuant to Section 3107.C Williams Field Services is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the dischaarge of water quality or volume. Further, this approval does not relieve Williams Field Services from liability should operations result in contamination to the environment.

Sincerely,

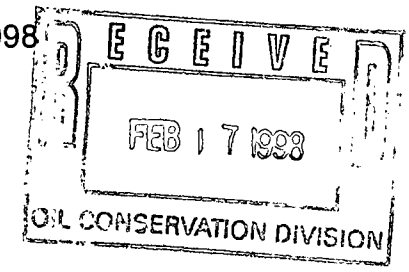
W. Jack Ford, C.P.G.
Environmental Bureau
Oil Conservation Division

cc: Mr. Denny Foust - Aztec District Office

WILLIAMS ENERGY GROUP

FIELD SERVICES

February 10, 1998



Jack Ford
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Re: **Update to Williams Field Services Lybrook Plant Discharge Plan GW-047**

Dear Mr. Ford:

This letter serves as notification of update to the GW-047 Williams Field Services (WFS) Lybrook Plant Discharge Plan.

A new Solar Saturn T-1600 turbine (unit number 11) was placed in service at the Lybrook Plant on January 15, 1998. It replaces two Ingersol Rand SVG-8 engines that are locked out and cannot be operated. Plans are to disconnect the fuel gas line, starting air and the suction/discharge headers on these units.

No new liquid wastes are expected to be generated by this modification. The modification is not expected to result in an increase in the volume of used oil, glycol, and wastewater already generated at the facility. All liquid wastes will continue to be handled in accordance with the approved OCD Discharge Plan (GW-047.

If you have any questions, I can be reached at 801-584-6543. Your assistance in handling these matters is appreciated.

Best regards,

Ingrid A. Deklau
Environmental Specialist

Xc: Denny Foust, Aztec OCD

295 Chipeta Way ● P.O. Box 58900 ● Salt Lake City, Utah 84108
(801) 583-8800

WILLIAMS ENERGY GROUP

FIELD SERVICES

January 2, 1998

Mr. Mark Ashley
NMOCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Change operator at Kutz and Lybrook Plants (GW045 and GW047) to WFS

Dear Mr. Ashley,

In a conversation we had several months ago, you mentioned that the Kutz Plant and the Lybrook Plant were listed in your records under Williams Gas Processing-Blanco as the operator. You were correct in assuming that the operator at these sites should be changed to properly reflect Williams Field Services (WFS) as the operator. Williams assets in the Four Corners area may be owned by any one of several Williams Companies; however, the operator in all cases is WFS. Please change your records accordingly.

If you have any questions, I can be reached at (801) 584-6543.

Best Regards,

Ingrid Deklau
Environmental Specialist

295 Chipeta Way ● P.O. Box 58900 ● Salt Lake City, Utah 84108
(801) 583-8800

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

September 27, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-643

Ms. Leigh E. Gooding
Williams Field Services
P.O. Box 58900, M.S. 2G1
Salt Lake City, Utah 84158-0900

RE: Minor Modification
Williams Gas Processing-Blanco
GW-047, Lybrook Plant
San Juan County, NM

Dear Ms. Gooding:

The New Mexico Oil Conservation Division (OCD) has received the WFS letter dated September 17, 1996 for the **Lybrook Gas Plant located in the N/2 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM , San Juan County, New Mexico.** The WFS request is considered a minor modification to the above referenced discharge plan and public notice will not be issued. The minor modification will consist of the following as outlined by Williams Gas Processing-Blanco letter dated September 17, 1996, and the following approval condition from the OCD:

- Williams Field Services Dogie Compressor station shall be allowed to dispose of no more than 100 barrels per month of RCRA Subtitle C Exempt wastewater at the Lybrook Gas Plant (GW-047) evaporation pond, if either facility is sold by Williams Field Services to separate parties this authorization may be rescinded.

Based on the information outlined above, **the requested minor modification is hereby approved.**

The Application for modification was submitted pursuant to Water Quality Control Commission (WQCC) Regulation 3107.C and is approved pursuant to WQCC Regulation 3109.

Please note that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3107.C WFS is required to notify the Director of any facility expansion, production increase or process modification that would result in a significant modification in the discharge of potential ground water contaminants.

Note, that OCD approval does not relieve WFS of liability should WFS operation's result in contamination of surface waters, ground waters or the environment. Further, this approval does not relieve Williams Field Services form compliance with other Federal, State, and Local rules and regulations that may apply.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/pws

XC: Mr. Denny Foust - Environmental Geologist

P 288 258 643

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

Sent to Ms. Gooding - WFS	
Street & Number Lybrook - GW-47	
Post Office, State, & ZIP Code	
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	

PS Form 3800, April 1995

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES, INC.

P.O. Box 58900 Salt Lake City, Utah 84158-0900

September 17, 1996

Mr. Roger Anderson
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

Dear Mr. Anderson:

Re: Discharge Plan Revision for Lybrook Gas Processing Plant Located in San Juan County, New Mexico (GW-47).

Dear Mr. Anderson:

Attached, please find two copies of the Discharge Plan Revision for Williams Gas Processing-Blanco's Lybrook Plant located in Bloomfield, New Mexico. This revision addresses the use of the plant's evaporation pond for disposal of wastewater from the Dogie Compressor Station.

If you have any questions or require additional information, please do not hesitate to contact me at (801) 584-6543.

Sincerely,

Leigh E. Gooding
Sr. Environmental Specialist

attachment

cc: Mr. Denny Foust, NMOCD District III Office (letter and attachment)

295 Chipeta Way Salt Lake City, Utah 84108
(801) 584-7033

WILLIAMS FIELD SERVICES
LYBROOK PLANT DISCHARGE PLAN REVISION
September 1996

I. BACKGROUND INFORMATION

On May 31, 1994, Sunterra Gas Processing Company submitted an application for the renewal of the Lybrook Plant's discharge plan (GW-47) to the New Mexico Oil Conservation Division (NMOCD). On June 30, 1995, Williams Gas Processing-Blanco purchased the plant and agreed to comply with the terms and conditions of the Discharge Plan. According to the terms of the Discharge Plan, WFS is required to notify the Director of the NMOCD of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume. This revision addresses proposed waste disposal modifications at the Lybrook Plant.

II PROPOSED MODIFICATIONS

Williams Gas Processing-Blanco proposes to dispose of produced water from the Dogie Compressor Station in Lybrook's evaporation pond. The Dogie Compressor Station is owned by Williams Gas Processing-Blanco and is located 34 miles southeast of Bloomfield in Section 4, Township 25 North, and Range 6 West. Approximately 100 barrels of water a month will be taken to Lybrook and will consist of water drained from Dogie's condensate storage tanks and water collected from Dogie's glycol dehydrator. The water will contain small amounts of crude oil and glycol. The water will be hauled from Dogie to Lybrook via tanker truck.

III SUMMARY

Williams Gas Processing-Blanco proposes to dispose of approximately 100 barrels per month of exempt wastewater from the Dogie Compressor Station at the Lybrook evaporation pond. All liquid wastes will be handled in accordance with the approved OCD Discharge Plan and its Renewal (GW-~~60~~ 47).

verbally approved/confirmed 9-27-96 w/ Leigh Godwin.

IV AFFIRMATION

I hereby certify that I am familiar with the information contained in and submitted with this revision and that such information is true, accurate, and complete to the best of my knowledge and belief.

Signature _____ Date 9-17-96

Terry G. Spradlin

Manager, Environment, Health & Safety

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time	Date
	350 pm	Oct 31, 1995

Originating Party	Other Parties
Denny Foust OCD Aztec	CHRIS EUSTICE

Subject

Williams Field Services - Lybrook Gas Plant

Discussion

Denny called to tell me he was at the Lybrook Plant to investigate a reported spill w/in the facility. Mid America PL was ditching to lay pipe on the west side of the facility and they encountered an old pit.

Denny reported this was not gross contamination and thought it wasn't a big concern.

Conclusions or Agreements

We'll check it on the next discharge plan renewal & associated inspection.

Distribution

FILE

Signed C. Eustice

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

'95 NO 1 2 AM 8 58

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE 116 PRINTED ON BACK SIDE OF FORM

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

OPERATOR: Williams Gas Processing - Blanco					ADDRESS: 295 Chipeta Way SLC Ut.		TELEPHONE #: (801) 584 6543
REPORT OF	FIRE	BREAK	SPILL: X	LEAK	BLOWOUT	OTHER*	
TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT: X	OIL RFY	OTHER*

FACILITY NAME: Lybrook Gas Processing - Plant

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY
N/2 NW/4	14	23N	7W	San Juan

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 50 Miles South Of Bloomfield, NM

DATE AND HOUR OF OCCURRENCE: 10/24/95 1:45 P.M.				DATE AND HOUR OF DISCOVERY: SAME	
WAS IMMEDIATE NOTICE GIVEN?	YES	NO	NOT REQUIRED: X	IF YES, TO WHOM	
BY WHOM				DATE AND HOUR	
TYPE OF FLUID LOST: Chemtherm 550 (Hot Oil)				QUANTITY OF LOSS: 200-250 Gal	VOLUME RECOVERED: 0
DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO: X	QUANTITY		

IF YES, DESCRIBE FULLY**
N/A

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**

Please See Attached Sheet.

RECEIVED
OCT 27 1995
OIL CON. DIV.
DIST. 3

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**

Please See Attached Sheet.

DESCRIPTION OF AREA	FARMING	GRAZING: X	URBAN	OTHER*

SURFACE CONDITIONS	SANDY	SANDY LOAM: X	CLAY	ROCKY	WET	DRY	SNOW

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**

Sunny, Cool, Dry, 55°F.

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

SF 10/31/95

SIGNED: Leigh E. Gooding

PRINTED NAME AND TITLE: Leigh E. Gooding Sr. Environmental Specialist

DATE: 10/24/95

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN

During a plant shutdown, approximately 200-250 gallons of ChemTherm 550 (hot oil) was released from a control valve. Contractors were working on the valve at the time of the release. The valve should have been blocked off prior to maintenance, but was not. Plant personnel used absorbent SOCs and dirt to contain the spill. The ground beneath the release was very dry and the spill soaked into the soil relatively quickly.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN

The hot oil release impacted a 70' by 5' area of soil. Plant personnel will excavate the impacted soil and place it on plastic sheeting. The stock-piled soil will be routinely raked to enhance the natural degradation of the hydrocarbons. The soil will be periodically analyzed for total petroleum hydrocarbons to determine the effectiveness of the land-farming technique.

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 6/29/95,

or cash received on 7/7/95 in the amount of $ 1667.50

from Sunterra Gas Processing Co

for Lybrook G.P. GW-47

(Facility Name) (DP No.)

Submitted by: _____ Date: _____

Submitted to ASD by: Roger Anderson Date: 7/10/95

Received in ASD by: @@ Date: 7-11-95

Filing Fee ___ New Facility ___ Renewal ✓

Modification ___ Other _____

(specify)

Organization Code 521.07 Applicable FY 96

To be deposited in the Water Quality Management Fund.

Full Payment ✓ or Annual Increment ___

SUNTERRA GAS PROCESSING CO.
GENERAL FUND ACCOUNT
P.O. BOX 1869
BLOOMFIELD, NM 87413

[redacted]

No [redacted]

93-477
929

CHECK NO.	DATE	AMOUNT
[redacted]	6/29/95	$1,667.50**********

NOT VALID AFTER SIXTY DAY

One thousand six hundred sixty seven dollars and 50/100**********

PAY TO THE ORDER OF
NMED - Water Quality Management
P.O. Box 2088
Santa Fe, NM 87504

J. T. Ackerman

[redacted]

SUNTERRA GAS PROCESSING CO.
GENERAL FUND ACCOUNT
P.O. BOX 1869
BLOOMFIELD, NM 87413

[redacted]

93-477
929

CHECK NO.	DATE	AMOUNT
[redacted]	6/29/95	$1,667.50**********

NOT VALID AFTER SIXTY DA

One thousand six hundred sixty seven dollars and 50/100**********

PAY TO THE ORDER OF
NMED - Water Quality Management
P.O. Box 2088
Santa Fe, NM 87504

J. T. Ackerman

[redacted]

PNM 8

INVOICE NO.	DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT	DED	DEDUCTION	SOURCE REF.	REMARKS
Lybrook Discharge Plan Renewal				41,667.50				
TOTAL								

RECEIVED
JUL 07 1995
Environmental Bureau
Oil Conservation Division

[redacted]

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 3, 1995

CERTIFIED MAIL
RETURN RECEIPT NO.P-176-012-154

Ms. Tony Ristau, Director Environmental Services
Gas Co. of New Mexico/Sunterra Gas Processing Co.
P. O. Box 1869
Bloomfield, New Mexico 87413

RE: Discharge Plan GW-47
Lybrook Gas Plant
San Juan County, New Mexico

Dear Ms. Ristau:

The Oil Conservation Division (OCD) has received Sunterra Gas Processing Company's (Sunterra) request dated April 28, 1995 for authorization to extend the previously approved time schedule for upgrading the existing berms to comply with OCD requirements. Based upon the information provided, the request is hereby approved with the following conditions:

1. The berming upgrade will be completed by July 3, 1996.

2 The berms will be upgraded to contain one and one-third (1-1/3) the capacity of the largest tank or one and one-third the total capacity of all interconnected tanks.

Please be advised this approval does not relieve Sunterra of liability should their operation result in pollution of surface water, ground water or the environment actionable under other laws and/or regulations. In addition, this approval does not relieve Sunterra of responsibility for compliance with other federal, state or local laws and/or regulations.

If you have any questions, please don't hesitate to call me at (505) 827-7153.

Sincerely,

Chris Eustice
Environmental Geologist

xc: OCD Aztec Office, Denny Foust

Public Service Company of New Mexico

April 28, 1995

CERTIFIED--Return Receipt Requested

Mr. William LeMay, Director
Oil Conservation Division
Energy, Minerals, and Natural Resources Department
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. LeMay:

Gas Company of New Mexico/Sunterra Gas Processing Company's approved discharge plan for Lybrook Gas Processing Plant contains a statement indicating that berming (including upgrades of existing berms and containment) within the plant will be completed by May 1995. This date was specified by GCNM/SGPC in our discharge plan renewal submittal for the Lybrook plant, and was not specifically designated by OCD as a condition of the plan.

We have found that other scheduled activities at the plant will interfere with completion of the berming by the stated date. As we understand that an approved discharge plan normally allows five years for accomplishing the items listed in the plan, we are asking for relief from the commitment to accomplish all berming by May 1995. Per our discussions with Mr. Chris Eustice, OCD, we are proposing instead to complete the upgrading of the berms by six (6) months before the expiration of the current discharge plan (i.e., the berming will be completed by February 8, 1999, as the current discharge plan will expire on August 8, 1999).

Please indicate whether this change in scheduled activities is acceptable to the OCD. As this schedule change does not affect the overall requirements of the discharge plan, we understand, per our discussions with Mr. Eustice, that a formal amendment to the discharge plan is not required. If you require additional documentation or information, please contact either Denver Bearden at Kutz (505/632-4131) or me (at 505/241-2015).

Sincerely,

Toni K. Ristau
Director, Environmental Services

cc: C. Eustice, OCD-Santa Fe
D. Foust, OCD-Aztec District
J.D. Barnett, GCNM
D. Bearden, GCNM
D. Sanders, Sunterra

Alvarado Square
Albuquerque, New Mexico 87158

WILLIAMS FIELD SERVICES
ONE OF THE WILLIAMS COMPANIES

P.O. Box 58900
Salt Lake City, UT 84158-0900
(801) 584-7033
FAX: (801) 584-6483

May 31, 1995

Mr. Roger Anderson
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87504

Dear Mr. Anderson:

This letter is to notify you that the ownership of the following Sunterra Gas Processing Co. and Gas Company of New Mexico Facilities will be transferred to Williams Field Services (WFS) on or before July 1, 1995:

1. Avalon Natural Gasoline Plant (GW-24);
2. Five Points Compressor Station (GW-78);
3. Wild Horse Compressor Station (GW-79);
4. Indian Hills Purification Plant GW-42);
5. Crouch Mesa Compressor Station GW-129);
6. Kutz Canyon Processing Plant (GW-45); and
7. Lybrook Processing Plant (GW-47).

WFS has received copies of the discharge plans for the above referenced facilities. WFS has reviewed the plans and agrees to abide by the provisions and requirements of each plan.

The following changes apply to all seven (7) discharge plans.

Legally Responsible Party:
Williams Field Services
P.O. Box 58900, M.S. 2G1
Salt Lake City, Utah 84158-0900
(801) 584-6543

Contact Person:
Ms. Leigh E. Gooding, Environmental Specialist
Phone and Address, Same as Above

If you have any questions or require additional information, please do not hesitate to contact me at (801) 584-6543.

Sincerely,

Rob M. Hawksworth
Director, Shared Services

cc: Denny Foust, OCD District III Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

September 13, 1994

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO.Z-765-963-162

Mr. John Renner, Vice President
Sunterra Gas Processing Company
P. O. Box 1869
Bloomfield, New Mexico 87413

RE: Discharge Plan GW-47
Lybrook Gas Plant
San Juan County, New Mexico

Dear Mr. Renner:

The discharge plan renewal GW-47 for Sunterra Gas Processing Co. Lybrook Gas Plant located in the N/2 of NW/4, Section 14, Township 23 North, Range 7 West, NMPM, San Juan County, New Mexico, **is hereby approved** under the conditions contained in the enclosed attachment. The renewal application consists of the original discharge plan as approved August 8, 1989 and the renewal application dated June 1, 1994.

The discharge plan renewal was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations. It is renewed pursuant to Section 3-109.A. Please note Sections 3-109.E and 3-109.F. which provide for possible future amendments or modifications of the plan. Please be advised the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface water, ground water, or the environment which may be actionable under other laws and/or regulations.

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

Please note that Section 3-104 of the regulations require "When a facility has been approved, discharges must be consistent with the

terms and conditions of the plan". Pursuant to Section 3-107.C. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3-109.G.4., this plan is for a period of five (5) years. This approval will expire on August 8, 1999, and you should submit an application in ample time before this date. It should be noted that all gas processing plants and oil refineries will be required to submit plans for, or the results of, an underground drainage testing program as a requirement for discharge plan renewal.

* August 9, 1999 See original approval - MB 6-16-99

The discharge plan application for the Sunterra Lybrook Gas Plant is subject to WQCC Regulation 3-114 discharge plan fee. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee of fifty (50) dollars plus one-half of the flat fee, or sixteen-hundred sixty-seven dollars and fifty cents (1667.50), for gas plants.

The OCD has received your fifty dollar filing fee. The flat fee for an approved discharge plan may be paid in a single payment at the time of approval, or in equal installments over the duration of the plan, with the first payment due at the time of approval. The flat fee (total payment or the first installment) is due upon receipt of this letter.

Please make all checks payable to: **NMED - Water Quality Management** and send to the OCD Santa Fe Office.

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

Sincerely,

William J. LeMay
Director

WJL/rca
Attachment

cc: OCD Aztec Office

ATTACHMENT TO THE DISCHARGE PLAN GW-47 APPROVAL
SUNTERRA GAS PROCESSING COMPANY
LYBROOK GAS PLANT
DISCHARGE PLAN REQUIREMENTS
(September 13, 1994)

1. Payment of Discharge Plan Fees: The $1667.50 flat fee (either total payment or installment) will be paid upon receipt of this approval.

2. Drum Storage: All drums will be stored on pad and curb type containment.

3. Sump Inspection: All existing sumps that are not equipped with leak detection will be cleaned and visually inspected on an annual basis. All sumps equipped with leak detection will be checked monthly. Any new sumps or below-grade tanks and their associated lines will incorporate leak detection in their designs. All out of service sumps or below grade tanks will have all fluids removed and sealed to prevent the introduction of fluids.

4. Berms: All tanks in contact with the ground surface that contain materials other than freshwater will be bermed to contain one and one-third (1-1/3) the capacity of the largest tank within the berm or one and one-third (1-1/3) the total capacity of all interconnected tanks.

5. Above ground tanks: All above ground saddle tanks will be placed within pad and curb type containment.

6. Pressure testing: All discharge plan facilities are required to pressure test all underground piping at the time of discharge plan renewal. All new underground piping shall be designed and installed to allow for isolation and pressure testing at 3 psi above normal operating pressure.

7. Spills: All spills and/or leaks will be reported to the OCD district office pursuant to WQCC Rule 1-203 and OCD Rule 116. All contamination from spills and leaks will be remediated promptly.

8. Process area: All process units that are identified as having frequent leaks or spills will be contained by pad and curb type containment.

9. Cooling tower: Repairs will be performed on the cooling tower to prevent wind born drift and to the base to prevent leakage.

RMI Enviro 6-22-94

* What needs to be done for expansion
Call Brad Fri or early next week w/ answers.

- Amoco & Consolidated O & G will provide produced water
They have right to refuse additional water

Discharge point & aeration
* Leak detection has been modified
@ the operator formally modify

* Timing - how long? Give Brad idea.

12 noon
Sunterra Lybrook Gas Plant 8-2-94

Denver Beardon, John, Rick

- Amberol Tank containment has no flooring but is on pad for visual detection
- Stains on east side of compressor bldg
- Old drain sump on east side of compr bldg contains fluid though out of service
- OKO leaks out at base; needs containment, has pad
- Cooling tower experiences drift causing mineral deposits & water to migrate off from the foundation, gets on ground and flows toward south side of plant
- NW corner of cooling tower foundation lacks integrity and flows water
- Heat transfer ~~tank cont~~ oil tank containment has no floor
- Waste oil tank containment good
- Diesel & gasoline containment good
- Drum storage not on pad & curb; they're stored on wood floor under tin roof & walls
- Old drain sump off turbine bldg still contains fluids, oily slime. Needs draining

Sunlessa Lybrook GP (8-3-94) Continued

- Drum that catches lube oil out of the chiller needs containment
- Glycol storage tank containment needs floor
- Glycol recycler dehydrator
- DEH Stop-tank contain needs floor
- Oil water seperator betw/ plant & ponds lacks integrity, aparently. The leak detection

* Cooling tower sludge is land spreaded

SUNCO DISPOSAL (8-4-94)

Leakage near pumphouse at injection well.
Looked at new mix bay looks good
Write approval

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 renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-47) - Sunterra Gas Processing Company, John Renner, Vice President of Gas Supply Sourcing, P.O. Box 1839, Bloomfield, New Mexico 87413, has submitted an application for renewal of its previously approved discharge plan for their Lybrook Natural Gas Processing Plant located in S/2, NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximatley 3000 gallons per day of process waste water with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay-lined evaporation ponds. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of 180 to 200 feet with a total dissolved solids concentration of approximately 700 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as as disposal of waste oil and solid wastes.

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

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

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 13th day of June,1994.

STATE OF NEW MEXIVO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director

Journal: June 23, 1994.

STATE OF NEW MEXICO
County of Bernalillo ss

Bill Tafoya being duly sworn declares and says that he is Classified Advertising manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 23rd day of June, 1994, and the subsequent consecutive publications on _____, 1994

Bill Tafoya

OFFICIAL SEAL
Megan Millage
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 5-20-98

Sworn and subscribed to before me, a notary Public in and for the County of Bernalillo and State of New Mexico, this 20th day of July 1994.

PRICE $32.00

Statement to come at end of month.

CLA-22-A (R-1/93) ACCOUNT NUMBER C80932

Affidavit of Publication

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 renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-47) - Sunterra Gas Processing Company, John Renner, Vice President of Gas Supply Sourcing, P. O. Box 1899, Bloomfield, New Mexico, 87413, has submitted an application for renewal of its previously approved discharge plan for their Lybrook Natural Gas Processing Plant located in N/2, NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximately 3000 gallons per day of process waste water with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay-lined evaporation ponds. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 180 to 200 feet with a total dissolved solids concentration of approximately 700 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as disposal of [illegible] wastes.

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

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

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 13th day of June, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director

(SEAL)
(Published June 23, 1994)

L
.11. 4032
Rec 5.60
.... 45.32
2.80
48.12
JN
By

OK to pay
CE

STATE OF NEW MEXICO } ss.
County of Rio [illegible]

I, Robert Trapp, being first duly sworn, declare and say that I am the Publisher of the Rio Grande Sun, a weekly newspaper, published in the English language, and having a general circulation in the City of Espanola and County of Rio Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; that the publication, a copy of which is hereto attached, was published in said paper once each week for ...1... consecutive weeks, and on the same day of each week in the regular issue of the paper during the time of publication, and that the notice was published in the newspaper proper, and not in any supplement, the first publication being on the ...23rd... day of ...June... 1994 and the last publication on the 23rd day of ...June... 1994; that payment for said advertisement has been (duly made), or (assessed as court costs); that the undersigned has personal knowledge of the matters and things set forth in this affidavit.

Robert Trapp
Publisher

Subscribed and sworn to before me this ...23rd... day of ...June... A.D., 19 94

[signature]
Notary Public

My Commission expires
...5-17-97...

"No Original App" 6/10/94

GW-[illegible] [illegible] D? [illegible]

I. ok

II. ok

III. ok

IV. ok

V. ok – gas processing [illegible]?

VI. A. ok.

B. What is source of water [illegible] (See Sect. 2 - Plant [illegible], Quality [illegible])

5. [illegible]

VII. A. - O/W Separator [illegible]
- need schematic for [illegible] (May 95 ok?) p. 8
- need method [illegible]
- Do [illegible]

B. OK - schematic [illegible]

C. Same as VII A.

D. 1. See VII A. - Tank farm [illegible]?
2. Drum Storage [illegible]?
3. [illegible] during inspection
4. OK - [illegible]

E. [illegible]

F. N/A ([illegible])

VIII A. 1. OK

2. c. [illegible] OCD 2/7/39 [illegible] Condition 9 requires semi-annual [illegible]

B. ok

C. tank berms

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 6/1/94,
or cash received on 6/10/94 in the amount of $ 50.00
from Environmental Services for Sunterra Gas Processing Co.
for Lybrook Gas Processing Plant GW-047
(Facility Name) (DP No.)
Submitted by: [signature] Date: _____
Submitted to ASD by: Robert Myers Date: 6/10/94
Received in ASD by: Helen B. Mondy Date: 6/10/94
Filing Fee X New Facility ____ Renewal ____
Modification ____ Other _____
(specify)
Organization Code 521.07 Applicable FY 94

To be deposited in the Water Quality Management Fund.
Full Payment ____ or Annual Increment ____

[redacted]
ENVIRONMENTAL SERVICES 6-90
5971 JEFFERSON NE, STE. 104 345-3900
ALBUQUERQUE, NM 87109
June 1 19 94 95-219/1070
PAY TO THE ORDER OF NMED Water Quality Management Fund $ 50.00
Fifty and 00/100 DOLLARS
UNITED NEW MEXICO BANK
United New Mexico Bank 0510
Post Office Box 1081
Albuquerque, New Mexico 87103-1081
MEMO [signature] MP
[redacted]

Public Service Company of New Mexico

Tue, May 31, 1994

Mr. Roger Anderson
Oil Conservation Division
Energy, Minerals, and Natural Resources Department
State of New Mexico
PO Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Anderson

On behalf of Sunterra Gas Processing Company, we are submitting three copies of the application for renewal of the discharge plan for the Lybrook Natural Gas Processing facility. The plan has been prepared in accordance with the "Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants, Oil Refineries, and Gas Compressor Stations (revised 5-92) and with the Water Quality Control Commission (WQCC) Regulations 3-104 and 3-106.

We are also enclosing a total of $50.00 in filing fees, as specified in WQCC 3-114. If you have any questions, please contact Jean Arya at 848-4954. Please advise us of any required changes or additions to the discharge plan.

Sincerely

John Renner
Vice President
Gas Supply Sourcing

Alvarado Square
Albuquerque, New Mexico 87158
505/848-2700

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 renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-47) - Sunterra Gas Processing Company, John Renner, Vice President of Gas Supply Sourcing, P.O. Box 1899, Bloomfield, New Mexico, 87413, has submitted an application for renewal of its previously approved discharge plan for their Lybrook Natural Gas Processing Plant located in N/2, NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. After oil/water separation, approximately 3000 gallons per day of process waste water with a total dissolved solids concentration of approximately 7500 mg/l is disposed of in clay-lined evaporation ponds. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 180 to 200 feet with a total dissolved solids concentration of approximately 700 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as disposal of waste oil and solid wastes.

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

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

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 13th day of June, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

WILLIAM J. LEMAY, Director

ES01

ENVIRONMENTAL
SERVICES, INC.

Wed, Jun 8, 1994

Mr. Bobby Myers
Oil Conservation Division
Energy, Minerals, and Natural Resources Department
State of New Mexico
PO Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Myers

Here are your copies of the Discharge Plan Application as well as the correct Application for Exception to Division Order R-8952 for the Lybrook Natural Gas Processing Facility. I apologize for not including them with the original submission of the Discharge Plan, and hope that my error has not caused any problems or delays. Please contact me at 345-3900 if you need anything further. Thank you for your assistance.

Sincerely,

Jane Cudney Miller

cc: Jean Arya
Denver Bearden

5971 Jefferson NE
• Suite 104 •
• Albuquerque •
New Mexico 87109
505 • 345 • 3900

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	9:00	6/7/94

Originating Party	Other Parties
Bobby Myers - OCD SF	Jane (?) - Environmental Services Sunterra's Consultant

Subject: Sunterra Lybrook GP DP renewal application

Discussion:
- appl. looks good but needs : OCD application 1st page w/ affidavit of certification
and the migratory bird pit cover exemption submitted was for the Sunterra Kutz plant. submit one for Lybrook

Conclusions or Agreements:

Distribution:

Signed: Robert Myers II

Public Service Company of New Mexico

Tue, May 31, 1994

Mr. Roger Anderson
Oil Conservation Division
Energy, Minerals, and Natural Resources Department
State of New Mexico
PO Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Anderson

On behalf of Sunterra Gas Processing Company, we are submitting three copies of the application for renewal of the discharge plan for the Lybrook Natural Gas Processing facility. The plan has been prepared in accordance with the "Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants, Oil Refineries, and Gas Compressor Stations (revised 5-92) and with the Water Quality Control Commission (WQCC) Regulations 3-104 and 3-106.

We are also enclosing a total of $50.00 in filing fees, as specified in WQCC 3-114. If you have any questions, please contact Jean Arya at 848-4954. Please advise us of any required changes or additions to the discharge plan.

Sincerely

John Renner
Vice President
Gas Supply Sourcing

Alvarado Square
Albuquerque, New Mexico 87158

Application for Renewal of Ground Water Discharge Plan

Sunterra Gas Processing Company
Lybrook Natural Gas Processing Plant

June 1, 1994

prepared for

Public Service Company of New Mexico
Alvarado Square
Albuquerque, NM

ENVIRONMENTAL
•SERVICES, INC•

5971 Jefferson NE
Suite 104
Albuquerque,
New Mexico 87109
505•345•3900

5/92

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

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

I. TYPE: NATURAL GAS PROCESSING FACILITY

II. OPERATOR: SUNTERRA GAS PROCESSING CO.

ADDRESS: NM HWY. 44, MILE POST 103

CONTACT PERSON: JOHN RENNER PHONE: 632-3311

III. LOCATION: N 1/2 NW 1/4 Section 14 Township 23 N Range 7 W
Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner(s) of the disposal facility site.

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

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

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

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

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIII. CERTIFICATION

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

Name: JOHN RENNER Title: VICE PRESIDENT, GAS SUPPLY SOURCIN

Signature: John Renner Date: 6/7/94

DISTRIBUTION: Original and one copy to Santa Fe with one copy to ... District ... DF

List of Contents

List of Appendices

Sunterra Gas Processing Company

Lybrook Natural Gas Processing Plant Discharge Plan

This Discharge Plan has been prepared in accordance with Oil Conservation Division "Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants, Oil Refineries, and Gas Compressor Stations (revised 05-92)" and the New Mexico Water Quality Control Commission regulations 3-104 and 3-106.

1 General Information

Type of Operation

Sunterra Gas Processing Company (Sunterra) operates the Lybrook natural gas processing plant for the removal of various products from gas gathered in Gas Company of New Mexico's (GCNM's) Natural Gas Gathering System. The Lybrook facility was originally constructed as a lean oil plant in 1959, and was upgraded to its current status as a cryogenic natural gas processing facility in 1975. The Lybrook plant is currently in operation under groundwater discharge plan GW-47. The submittal of this document constitutes application for renewal of that plan.

The facility consists of an extraction system that removes ethane and higher hydrocarbons from field natural gas. The Lybrook plant utilizes several processes in order to separate these hydrocarbons from the field gas. The process includes the use of turbo expanders, heat exchangers, chillers, separators, and other supporting auxiliary equipment including dehydrators and power generating equipment. The facility utilizes diethanolamine (DEA), an amine-based solvent, to remove the CO_2 from the gas and molecular sieves and triethylene glycol (TEG) to dehydrate the gas. Occasionally, methanol is used to prevent icing problems in the cryogenic system. Ambitrol is used as a coolant for plant compressors.

All spills, leaks, and discharges from this site will be handled in accordance with OCD regulations, customary practices, and common sense.

Operator/Legally Responsible Party Public Service Company of New Mexico
Alvarado Square
Albuquerque, New Mexico 84158-0900

Attention: John Renner
Vice President, Gas Supply Sourcing
Gas Company of New Mexico
(505) 632-3311

Location of Discharge/Facility N 1/2 of NW 1/4 of Section 14, Township 23 North, Range 7 West
Rio Arriba County, New Mexico
UTM Zone 13; 271.170 kmE, 4012.660 kmN

Landowner
The landowner of the facility site on record is the Sunterra Gas Processing Company.

Facility Description
The Lybrook facility utilizes several process vessels as well as tanks and other storage vessels in the course of operation of the plant. The components of the site are discussed separately in section 2 of this application. All figures are located in appendix 1. The attached aerial photo shows the facility/property boundaries and fences (figure 1). Figure 2 illustrates the locations of ponds at the facility and appendix 2 lists tank and berm locations. A process flow diagram is also included which illustrates a typical gas flow process (appendix 3), as well as a water flow diagram.

2 Plant Processes
Effluent Sources, Quantities, and Quality of Effluent and Waste Solids

Separator The Lybrook facility has constructed a concrete lined, below-grade hydrocarbon/water separator (figure 5). Please see section 3 of this plan for more details regarding the separator.

Boilers Five hot oil reboilers are located at the facility. The reboilers recirculate hot oil and are not expected to produce any process waste materials.

Regenerator Gas Scrubber A mole sieve regenerator gas scrubber is used at the facility to remove water vapor from the regeneration gas. The amount of waste material from the regenerator gas scrubber varies. This waste is expected to contain water and traces of glycol. The water from the scrubber is discharged into the hydrocarbon/water separator and then into pond #2.

Engine Cooling Waters No water is used as engine coolant. Engines at the Lybrook facility are cooled with ambitrol.

Cooling Towers The Lybrook facility utilizes two cooling towers. The cooling towers account for approximately 87% of the total water used at the facility. The Lybrook facility utilizes an average of approximately 44,000 gallons of water per day for makeup water in the cooling tower. 90% of the water from the cooling tower is evaporated into the air. The other 10% of the cooling tower water is used as blow down water, and is diverted to pond #2. As reported in the 1988 discharge plan, the blow down water contains an average of approximately 7,500 ppm of total dissolved solids (TDS).

Sewage The Lybrook plant has a septic system for receiving non-hazardous sewage waste at the facility. Sewage effluent is completely separate from other effluents with no commingling. The sanitary waste water is discharged into septic systems. Three sewage lagoons located north of the plant receive sewage from the plant's residential camp.

Waste Lubrication and Motor Oils Waste lubrication and motor oils are generated by the compressor equipment. The quantity of used lube oil is variable. The waste oil is collected into a waste lube oil tank and removed from the site by an OCD approved used oil marketer/recycler. The waste oil collection tank is located within a concrete block and cement bermed area.

New lube oil is stored in tanks located at the facility. Containment areas with cement block walls and graveled floors are installed in these storage areas.

Waste Oil Waste oils are stored in the waste oil tank. The waste oil storage tank is installed next to the hydrocarbon/water separator, remote from the process and is located in a dirt and gravel berm. The waste oil tank is discussed in greater detail below.

Used Filters The quantity of process filters that are generated by the facility varies. The process filters are drained in a fiberglass tank for 10 days prior to being removed by an OCD-approved waste remover.

Solids and Sludges Sludge periodically collects in the hydrocarbon/water separator. The separator is visually inspected each time hydrocarbons are removed from the separator. At this time, testing is also conducted in the separator for chlorinated solvents. Records for these tests are maintained at the Lybrook facility. Any accumulations of hydrocarbon sludge are removed by an OCD-approved waste remover. See section 3 of this plan for more details regarding the separator.

Cleaning Operations Using Solvents/Degreasers A 1,000 gallon solvent tank is located at the Lybrook facility. The tank is enclosed in a berm with two other tanks. An MSDS for the solvent is included in appendix 5 of this plan. A non-chlorinated solvent is utilized at the plant for minor cleaning operations. The used solvent is stored in the waste oil tank until it is removed by an OCD approved waste remover. Solvents and degreasers are not used in any major cleaning operations at the facility.

Truck, Tank and Drum Washing All used barrels at the facility are returned to their vendors. All barrels currently in use are stored in a metal building with a cement floor. Barrels are not washed down at the facility. Trucks and tanks are not washed at the facility.

Other Liquid and Solid Wastes The Lybrook plant has been engineered such that storm water discharge and other effluents, such as wash down water, are directed toward the evaporation ponds and stormwater catchment basins located on the eastern side of the property. This design has been accomplished with underground pipe drains from certain process equipment as with trenches and slope grade.

All waste water from the Lybrook plant, other than sanitary water and stormwater runoff, drains directly into evaporation pond #2. Overflow from pond #2 enters pond #1 via overflow pipes. DEA and glycols used in processes are not routed into the open drain system. Instead, they are stored in separate vessels and recycled back into plant processes

Compressors at the facility are washed periodically. The amount of wash down water from the compressor buildings averages around 330 gallons per wash. Typically, the water is contaminated with traces of lube oil and grease. The three compressor buildings have concrete floors and below grade sumps which drain to the separator. After separation, the wash down water is discharged to evaporation pond #2, untreated. Waste oil from the separator is pumped into the waste oil tank. The waste oil tank and ponds are discussed later in this plan. As a precautionary measure, oil digesting microbes are occasionally used to treat evaporation pond #2, in order to insure that no oil resides in the evaporation pond.

Paper and other solid waste are removed from the site by a contract trash hauler. Spent, activated charcoal from the rich DEA charcoal filter is steamed out in the vessel every 6 months, and is removed to a regional landfill by an OCD approved waste remover every three years. Molecular sieve material is tested and removed to a regional landfill by an OCD approved waste remover approximately once every 5 years.

Tanks Several storage tanks are installed at the facility for use in holding process chemicals such as oils, ambitrol, methanol and DEA. The Lybrook facility also has a tank farm for storage of products that are for sale from the plant. All of the storage tanks are above-grade. These tanks are basically installed in two areas on the facility (see figure 3). They are discussed in greater detail below:

Tank Farm There are 12 tanks in use in the tank farm, and 3 tanks that are not in use. All of the tanks are steel, horizontal bullet tanks. The tank farm includes the following tanks, products and product capacities:

- 4 propane tanks, each with 90,000 gallons capacity
- 2 propane tanks, each with 49,000 gallons capacity
- 2 product tanks, each with 49,000 gallons capacity
- 2 gasoline tanks, each with 42,000 gallons capacity
- 2 butane tanks, each with 42,000 gallons capacity
- 3 tanks not in use, each with 30,500 gallons capacity

Currently, the tank farm area has no berms or spill containment devices. The total capacity of the tank farm is 815,500 gallons. This large capacity of material, in addition to other factors related to the topography and locations of the tanks, makes it impractical to construct a berm or drainage system for the tank farm. However, four of the propane tanks are equipped with excess flow valves as a spill prevention measure. Daily throughputs on the tanks vary according to inlet processes.

Plant Area Information about on-site collection and storage systems for each source was presented earlier. In summary, fluids and effluents will be stored in several tanks on the facility. The location of these tanks is shown on the enclosed map of the facility. A list of the tanks at the facility, their contents and berm volumes is located in appendix 2 of this plan. The list also includes the direction of potential flow from each tank in the event of a spill.

Quality Characteristics

Appendix 4 contains test results from recently taken water samples, as per OCD requirements. These analyses show the information on quality characteristics listed in the Discharge Plan Guidelines.

The table below lists the expected waste materials, sources of the waste, expected quantities, and the planned disposition of the process waste materials.

Source	Disposition	Quantity	Waste Description
Glycol Regeneration	Evaporation pond #2	variable	Distilled water, trace glycol
Hydrocarbon/water separator (from open drain system)	Waste oil tank storage, water to evaporation pond #2	Variable	High TDS water and traces of lube oil and hydrocarbons
Wash down water	Hydrocarbon/water separator, Evaporation Pond #2	330 gal/washdown, annual	Water, traces motor oil, lube oil, grease
Process filters	Containment area storage for truck removal	Variable	Oil, glycol, fuel, DEA and hydrocarbons
Cooling Tower, process areas, open drain system	Evaporation pond #2, evaporation into air	variable	waste water, TDS

Commingled Waste Streams

There is no commingling of waste streams.

3 Transfer and Storage of Process Fluids and Effluents

Most of the transfer and storage procedures for the various process fluids are described above in section 2. Please refer to that section for more details.

The Lybrook facility has constructed a concrete lined, below-grade hydrocarbon/water separator, that is installed in its own concrete spill containment area. A schematic drawing of the separator is in appendix 1 (figure 5). Open drains in the Clark building, shop, and Solar building drain wash down water directly into the separator. Once separated, hydrocarbons are pumped to the waste oil storage tank until removed by an OCD approved waste remover. Water is then allowed to drain into pond #2, untreated. The ponds and waste oil tank are discussed later in this plan.

An average of approximately 60,000 gallons per day of water is used in plant processes. The amount of water varies, depending on the season, from approximately 50,000 to 70,000 gallons per day. Water not evaporated into the air is diverted into evaporation ponds located on the east side of the plant. At present, all waste water except from sanitary facilities, is diverted into pond #2. An average of approximately 3,000 gallons of waste water per day is diverted to pond #2. Overflow from pond #2 is directed into pond #1. Pond #3 is an emergency pond for use in the event of overflow from ponds 1 and 2, and is dry at all other times. As required by the current provisions of the plant's discharge plan, OCD will be contacted in the event that use of pond #3 is necessary: in advance of all controllable discharges and as soon as possible in the event of all uncontrollable discharges. Other effluents into pond #2 include water vapor from the

regenerator gas scrubber, and separated water from the hydrocarbon/water separator.

To prevent both unintentional and inadvertent discharges from reaching the ground surface and polluting surface or ground water, all storage tanks for fluids other than fresh water are bermed. However, only a portion of those tank berms hold 1.33 times the tank capacity. Sunterra plans to increase all tank berm capacities to their required sizes by May, 1995. Chemical and drum storage is in a 3 sided metal building on a skid. All above-ground tanks are installed on gravel pads so that leaks can be quickly identified. All the tank locations are illustrated in figure 3.

The Lybrook facility has underground pipelines for the drainage system and for the septic system. These underground waste water pipelines were installed at the time of the facility construction. Any leaks detected within the system are immediately investigated. At such time, underground pipelines are exposed and inspected for damage and repaired accordingly. Separators and pipelines at the facility are pressurized with pressures varying between 120 and 600 pounds per square inch.

4 Effluent Disposal

All effluent disposal from the facility is handled in accordance with OCD regulations. Effluent is removed from the facility by a OCD-approved licensed waste remover or recycler.

There are two areas of surface impoundments on the facility. A series of evaporation ponds are located on the east side of the facility, as discussed above. An average of approximately 3,000 gallons of water per day is routed to the evaporation ponds. The second impoundment area is an unlined catchment basin located next to the evaporation ponds. Storm water is collected and allowed to evaporate from the catchment basin. A layout of the ponds, including data on their volumes and areas is located in appendix 1 (figure 4). An overflow pipe directs stormwater overflow from the retention pond into the Escrito Wash.

A septic system is located at the facility which utilizes sewage lagoons located north of the plant. The septic system serves the Lybrook facility and nearby campsite, and does not receive non-sewage or mixed flow from any process units or internal drains. No injection wells, drying beds, or other pits are used the facility. No other on-site disposal, other than the methods already described are utilized at the facility.

As previously mentioned, all storage tanks at the facility are above grade. While all the storage tanks other than fresh water tanks at the facility are bermed, only a portion of

the berms hold 1.33 times the tank capacity. Sunterra plans to increase all tank berm capacities to their required sizes by May, 1995. A list of all tanks at the facility, their volumes and berm capacities is located in appendix 2.

A minimum of two Sunterra personnel occupy the facility 24 hours per day, 365 days per year. The plant operators monitor and control the operation of the facility and make routine visual inspections of the plant equipment. Sunterra personnel will routinely monitor fluid volumes and inspect the berms around the storage tanks for early leak detection.

Off-site disposal of process waste including waste oil, used lube oil, and process filters will be by truck by an OCD-approved licensed shipping agent and removed to an OCD-approved facility, as discussed above.

5 Inspection, Maintenance, and Reporting

The site will be inspected daily by Sunterra personnel. Leaks, spills, and drips will be handled in accordance with OCD rule 116 as follows:

- Small spills will be absorbed with soil and shoveled into drums for off-site disposal by an OCD-approved disposal contractor.
- Large spills will be contained with temporary berms. Free liquids will be pumped into drums. Contaminated soil will be shoveled into drums for off-site disposal by an OCD-approved disposal contractor.
- Verbal and written notification of leaks or spills will be made to OCD in accordance with rule 116. I
- All areas that have been identified during operation as susceptible to leaks or spills will be paved, bermed, or otherwise contained to prevent the discharge of any effluents.

As mentioned above, all storage tanks at the facility are bermed, though only a portion of the berms hold 1.33 times the tank capacity. Sunterra plans to increase all tank berm capacities to their required sizes by May, 1995. A list of all tanks at the facility, their volumes and berm capacities is located in appendix 2.

Storm water from the undisturbed northern portion of the facility is diverted by a berm around the site and enter the existing natural drainage. This storm water is not expected

to enter the process area before it is diverted.

Storm water from the process area will be retained on site in the catchment basin located on the eastern portion of the facility, as described above. All storm water and any potential spill outside of a specific containment area will be retained in an unlined catchment basin. Storm water will be allowed to evaporate from the catchment area. An overflow pipe directs stormwater overflow from the retention pond into the Escrito Wash (figure 4).

6 Spill/Leak Prevention and Reporting (Contingency Plans)

An in-house spill control procedures document or "spill manual" is being developed for the Lybrook facility that is currently in its revision stages. The spill manual establishes policy and procedures for preventing, controlling, and reporting spills or discharges of oil or hazardous substances into the environment. This policy was developed in accordance with federal, state, and local requirements. A Spill Prevention Control and Countermeasures (SPCC) plan for the Lybrook facility is also currently in development. It is expected to be completed by the end of 1994.

Effect of Discharge Plan on Wildlife Species

Sunterra employees will not unnecessarily disturb or destroy wetlands, riparian vegetation, or any identified threatened or endangered species' sensitive habitat on or near the site during operation of the facility. If adverse impacts cannot be avoided, Sunterra will notify the USFW so that the adverse impacts can be discussed in greater detail. Sunterra will inform on-site employees of any threatened or endangered species and habitat on or near the site to increase individual awareness of these issues.

Sunterra has recently submitted a form C-134 Application For Exception To Division Order R-8952, regarding the protection of migratory birds, to OCD (appendix 8). As of this submittal date, an exemption has not yet been received for the Lybrook facility. In their application, Sunterra contends that the evaporation ponds at the facility are not hazardous to migratory waterfowl since no oil collects in the ponds.

7 Site Characteristics

The Lybrook Gas Processing Plant is located in N 1/2 of NW 1/4 of Section 14, Township 23 North, Range 7 West, in Rio Arriba County, New Mexico. The facility is approximately 50 miles south of Bloomfield, New Mexico. The site is rural in nature. It is located in irregular terrain at an elevation of approximately 7100 to 7160 feet above mean sea level (MSL). The facility is indicated on the Lybrook 7.5 minute topographic map in appendix 1 (figure 2).

Hydrologic Features

The facility is located near the southwest end of Crow Mesa, a north-south drainage divide. The plant is situated in a gentle eastward-dipping slope in the Escrito Canyon drainage. The arroyo in the Escrito Canyon drains to the north-northeast and is located approximately two miles east of the plant. Three branches of the Escrito wash are located near the plant; one branch is approximately 1200 feet north of the plant, another branch is approximately 300 feet south of the plant, and the third branch is approximately 100 feet east. The branches are normally dry. Other than the watercourses mentioned above, there are no other perennial streams or permanent bodies of water located within a 1 mile radius of the Lybrook facility, aside from the evaporation ponds located on the plant property.

The USGS 7.5 minute map shows three ephemeral ponds located within a mile of the Lybrook plant (see figure 6). One pond located approximately 2500 feet southwest of the plant is about 0.3 acres in area, a second pond located approximately 3500 feet northeast of the plant is approximately 0.5 acres in area. The third pond is approximately 2200 feet southeast of the plant, and is approximately 0.2 acres in area.

A branch of the Escrito wash which passes the evaporation ponds on the eastern side of the facility, also passes through the ephemeral pond located northeast of the plant. If the berms of the evaporation ponds at the facility were eroded and breached during a storm event, it is possible that impact to the wash, and subsequently to the ephemeral pond, could result. However, since berms around the evaporation ponds rise approximately 6 to 8 feet above the wash, and a third evaporation pond has been constructed for emergency overflow, it is unlikely that the ephemeral pond and wash would be affected.

Ground water discharges from Escrito Spring, located approximately 1 mile west of the plant, on the west side of the drainage divide. Discharge is probably from perched bodies of ground water in the San Jose Formation, which is recharged by precipitation on the mesa top.

As discussed in the facility's 1988 discharge plan, several water wells are present in the vicinity of the plant, in addition to a number of oil wells. The locations of nearby water wells are plotted on figure 6. Water well information was obtained from State Engineer's records, "Hydrogeology and Water Resources of San Juan Basin, New Mexico", by W.J. Stone, et. al. (NMIMT 1983), Lybrook gas plant records, and the Lybrook Water User's Association. This information is summarized below:

Well Record Information

Location	Owner	Date Drilled	Well depth (ft)	Depth to water (ft)	Date measured	Use	Aquifer	Location number (shown on figure 6)
23.7.10.4331	Lybrook Water User's Assn.	1/9/71	1704	900	12/4/81	public supply	Ojo Alamo Ss	1
23.7.13.3221	Berry, Homer	n/a	n/a	n/a	n/a	stk	Ojo Alamo Ss	2
23.7.14.1	Lybrook Inn	n/a	1700	180	1956	abandoned (?)	Ojo Alamo Ss	
23.7.14.1232	Sunterra Gas Plant	n/a	1650	816	10/16/57	abandoned	Ojo Alamo Ss	3
23.7.14.1232	Sunterra Gas Plant	n/a	1700	899	7/24/75	dom/ind	Ojo Alamo Ss	4
23.7.15.	El Paso Station	n/a	n/a	200	8/56	n/a	Nacimiento Fm.	

The only available Total Dissolved Solid information comes from "Hydrogeology and Water Resources of San Juan Basin, New Mexico", by W.J. Stone, et. al., NMIMT 1983. According to this reference, a well located at Township 23 North, Range 7 West in Section 14 was analyzed on October 24, 1974. Total Dissolved Solids for this well measure 695 mg/l. The specific conductance for water at this well is 1130 µmhos/cm. No other sampling of groundwater quality in the area appears to have been conducted since that time.

The Aquifer Sensitivity Map for Rio Arriba County, New Mexico, which was compiled by Lee Wilson and Associates, Inc. for the New Mexico Environment Department in 1989, locates the facility within a moderately sensitive aquifer sensitivity zone. This zone is defined as a location in which the depth to ground water is between 100 and 300 feet and the ground water contains 10,000 mg/l or less Total Dissolved Solids.

No information is currently available regarding the direction of flow of groundwater in the area. However, it is suspected that the general flow direction of the groundwater would be to the north/northeast following the flow of the Escrito wash.

Geologic Description of Discharge Site

According to the "Draft Soil Survey of Rio Arriba County, New Mexico" (currently in its pre-publication stage), by the United States Department of Agriculture, Soil Conservation Service, there are two soil types in the facility area. A copy of the draft soil survey for the Lybrook facility area is included in appendix 6. Soils along U.S. highway 44 along the southern portion of the facility are part of the Pinavetes-Florita complex, and soils along the northern portion of the facility are part of the Vessilla-Menefee-Orlie complex. Pinavetes-Florita soils are deep and well drained to excessively drained, while

Vessilla-Menefee-Orlie soils range from shallow and well drained to deep and well drained. Please refer to the soil survey in appendix 6 for more detail.

As discussed in the 1988 discharge plan, the Lybrook facility rests on, or is in close proximity to the contact between the Regina Member and basal Cuba Mesa Member of the San Jose Formation (figure 7). The youngest of the Tertiary bedrock units in the San Juan Basin, the San Jose Formation is characterized by a sequence of interbedded alluvial sandstones and mudstones. The San Jose Formation is approximately between 200 to 2,700 ft in thickness.

According to "Hydrogeology and Water Resources of San Juan Basin, New Mexico", by W.J. Stone, et. al., NMIMT 1983, the aquifers in the San Jose Formation are largely untested. However, the reference reports that specific conductance values for ground waters in the Nacimiento Formation range from 950 to 1500 µmhos/cm. Although only a few tests have been made, Baltz and West ("Ground water Resources of the Southern Part of the Jicarilla Apache Indian Reservation and Adjacent Areas, New Mexico: U.S. Geological Survey, Water Supply Paper 1576-H, p. 65) conclude that a well open to all sandstone in the formation might yield 1,440 gallons per minute.

8 Additional Information

Stratigraphic Information

As discussed in the 1988 discharge plan for the Lybrook facility, monitor well drilling in the area has revealed three distinct geological strata beneath the evaporation ponds. The surface layer consists of sandy units. A layer consisting of silty clay, claystone, shale, and clayey siltstone is located at a depth of approximately 10 feet below the evaporation ponds. A second lay of interbedded shale, claystone and sandy units begins at a depth of approximately 20 feet below the surface. Figure 8 illustrates the location of these layers in conjunction with the Lybrook facility and monitor well locations. Figure 7 also illustrates the location of the formations below the Lybrook facility.

Monitor Wells

As described in the discharge plan submitted to OCD in 1988, additional monitor wells at the facility have been constructed and are being monitored monthly. Currently, the Lybrook facility has a total of 8 monitor wells (figure 4). Records are maintained at the Lybrook facility. Copies of the facility's preventative maintenace schedules, which include inspections of monitor wells, is in appendix 7 of this report. No contamination has been detected in the wells to date. In the event that contamination is detected, Sunterra will immediately contact OCD.

Affirmation

I hereby certify that I am familiar with the information contained in and submitted with this discharge plan for the Lybrook Natural Gas Processing Plant and that such information is true, accurate, and complete to the best of my knowledge and belief.

John Renner 5/27/94

Signature Date

John Renner

Vice President, Gas Supply Sourcing
Gas Company of New Mexico

Aerial Photo of Lybrook
Aerial Photo tak

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LYBROOK QUADRANGLE
NEW MEXICO
7.5 MINUTE SERIES (TOPOGRAPHIC)

Lybrook Natural Gas Processing Facility
N 1/2 of NW 1/4 of Sec. 14, T23N, R7W
UTM Zone 13, 271.170 kmE, 4012.660 kmN

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1965. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on New Mexico coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 13, shown in blue

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
Medium-duty — Light-duty
Unimproved dirt
State Route

QUADRANGLE LOCATION

LYBROOK, N. MEX.
N3607.5—W10730/7.5

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1970

Figure 2
Lybrook, NM 7.5 Minute Map

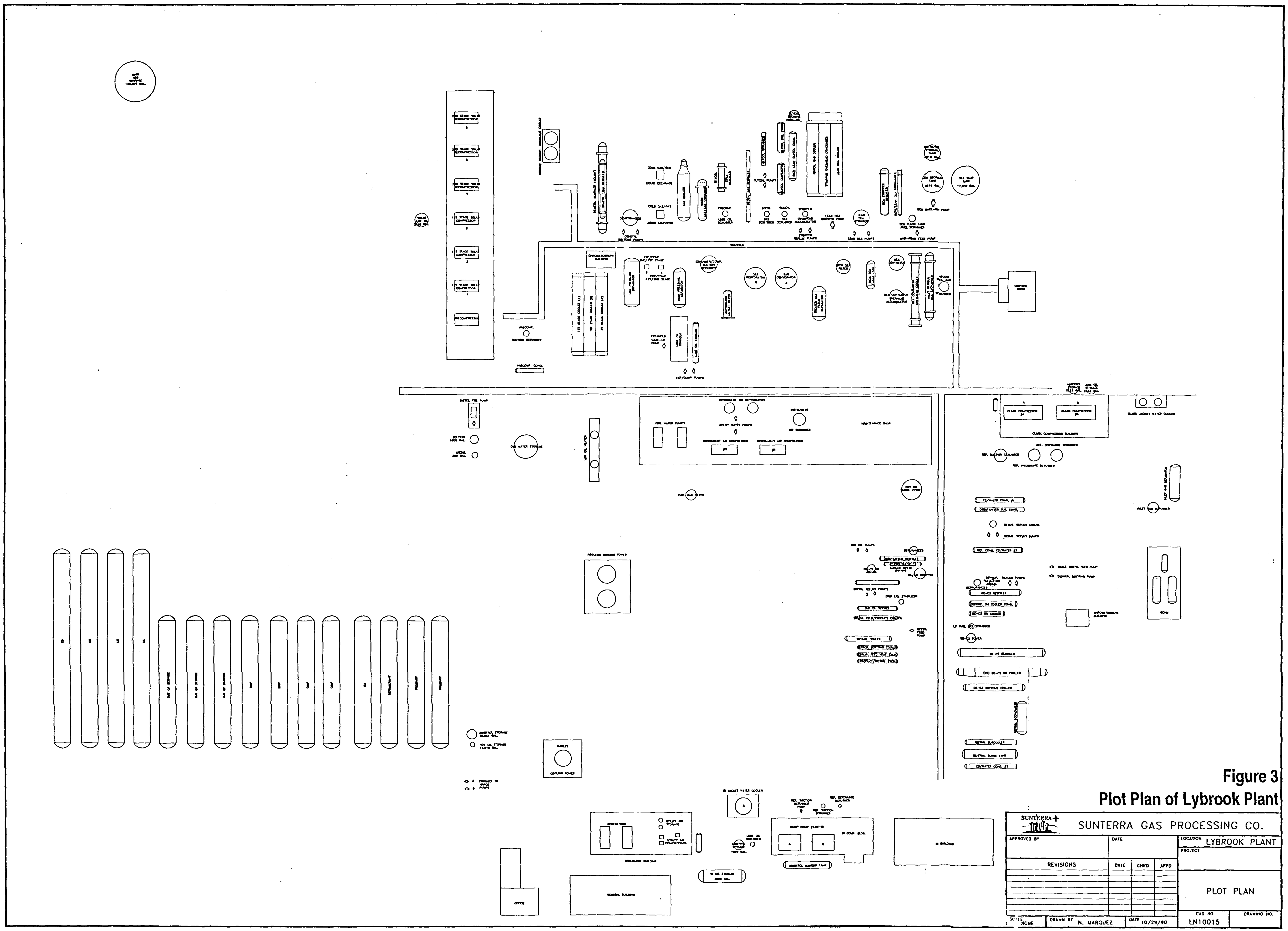


Figure 3
Plot Plan of Lybrook Plant

POND 1
MAX. SURFACE AREA = 28,800 FT²
MAX. VOLUME = 1.013 M GAL.

POND 2
MAX. SURFACE AREA
9800 FT²
MAX. VOLUME
284,300 GAL.

EMERGENCY POND 3
MAX. SURFACE AREA = 7000 FT²
MAX. VOLUME = 309,400 GAL.
EMERGENCY USE ONLY (WITH OCD APPROVAL)

#1 MONITOR WELL
#2 MONITOR WELL
#3 MONITOR WELL
#4 MONITOR WELL
#5 MONITOR WELL
#6 MONITOR WELL
#7 MONITOR WELL
#8 MONITOR WELL

ESCRITO WASH
ROADWAY
AIR PUMP
OVERFLOW
POND AERATOR LINES
PED.
NEW AIR BLOWER
65' CONTAINMENT BOOM (OIL SPILL PROTECTED)
4" FROM DEIONIZER FLOOR DRAIN
OIL TRAP FOR SKIMMER
CULVERT
6"
HIGH PRESSURE SEPARATOR BELOW GRADE
STORAGE TANK AND SKIMMER
SEPARATOR TANK
SEPTIC TANK
WIRE GATE
STORM WATER RUN-OFF AREA
PILED DIRT
NEW DRAIN DITCH LINED WITH RIVERBED ROCK
FLARE STACK
6" FLARE LINE
10" MAPCO LINE
8" MAPCO LINE
4" FLARE LINE
6" OPEN DRAIN
4x3
6x3
CLOSED DRAIN
3" OPEN DRAIN
3" FLARE LINE
DIRECT BURY
1" PVC WATER LINE
1" FIREBALL LINE
1/2" PILOT LINE
DRIVE THRU GATE
2" OPEN DRAIN
4" WASH DRAIN
4" AND 6" OPEN DRAIN
6" PLANT BLOWDOWN LINE TO FLARE (CLOSED DRAIN)
INS. AIR LINE
UTILITY AIR LINE
2" CLOSED DRAIN
TELEPHONE CABLE

North

MONITOR WELLS

Figure 4
Layout of Evaporation Ponds at Lybrook Facility

SUNTERRA GAS PROCESSING

P.O. BOX 1869
BLOOMFIELD , NEW MEXICO 87413
PHONE: (505) 632-8033

APPROVALS		DATE
DRAFTING SUPERVISOR:		
PROJECTS MANAGER:		

NO.	REVISIONS	DATE
1	STEVE VALENCIA	04-12-94
2	E.K. MARTINEZ	05/24/94
3		
4		
5		

PROJECT/TITLE: RECORD DRAWINGS FOR SUNTERRA

LOCATION: LYBROOK PLANT

SCALE:	DRWN. BY:	DATE:	ACAD FILE NAME:
NONE	S. VALENCIA	04-08-94	SY94-001

PAGE 1 OF 1 | DRWG. NO. | REV. 2

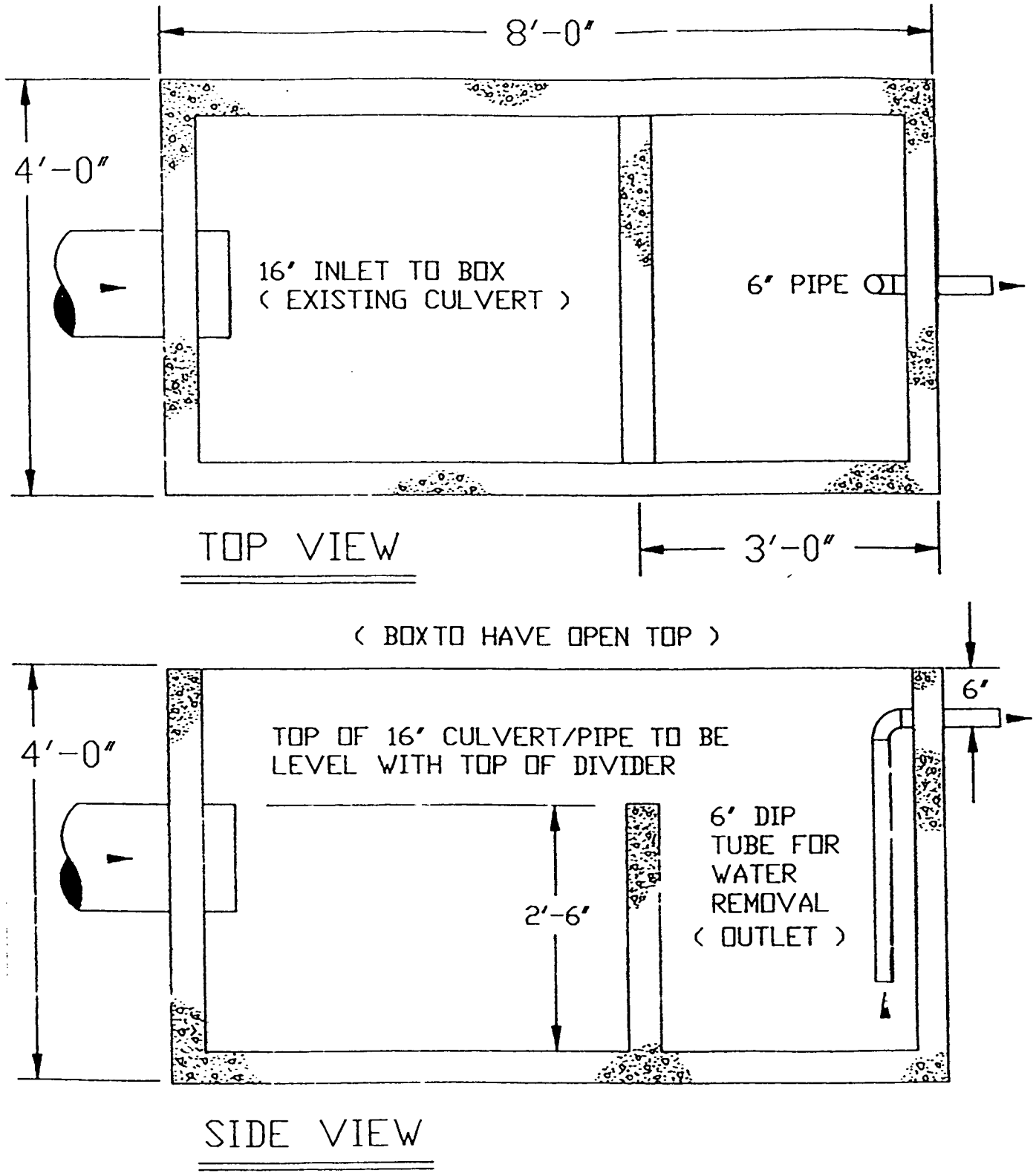
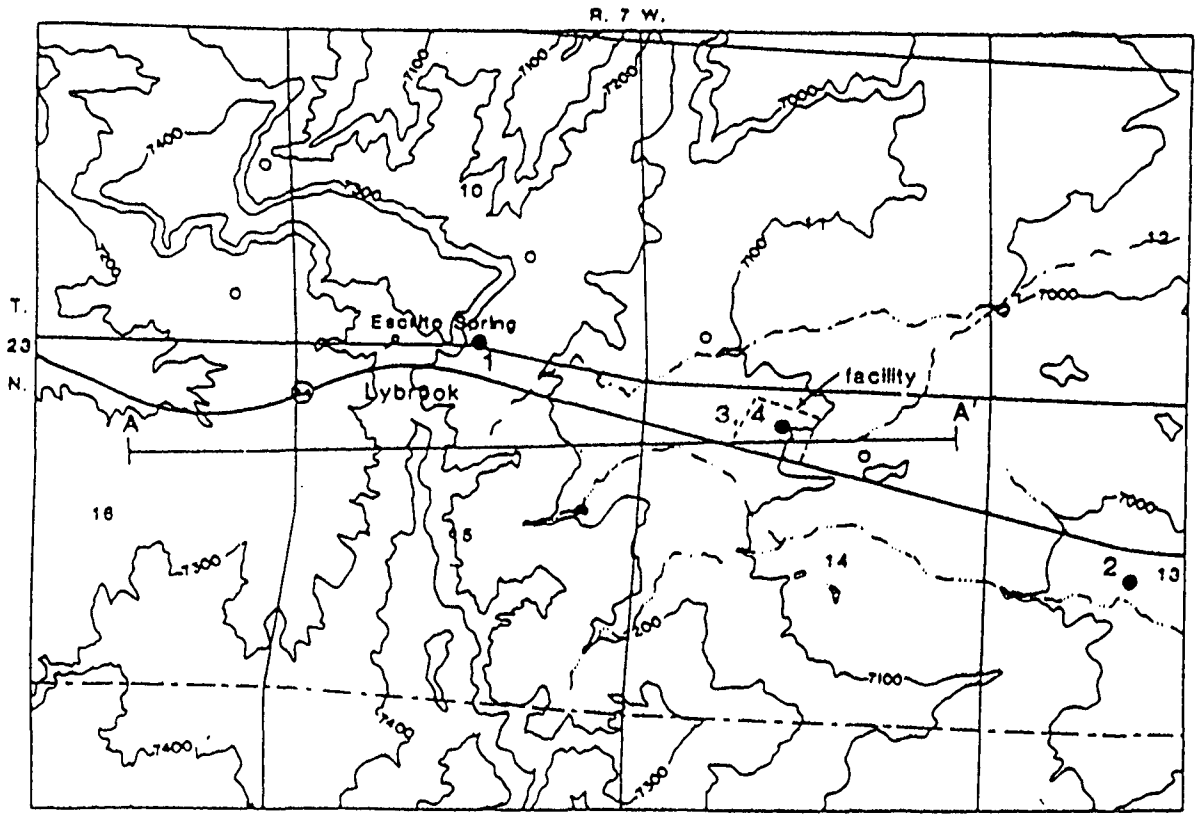


Figure 5
Schematic of Hydrocarbon/Water Separator



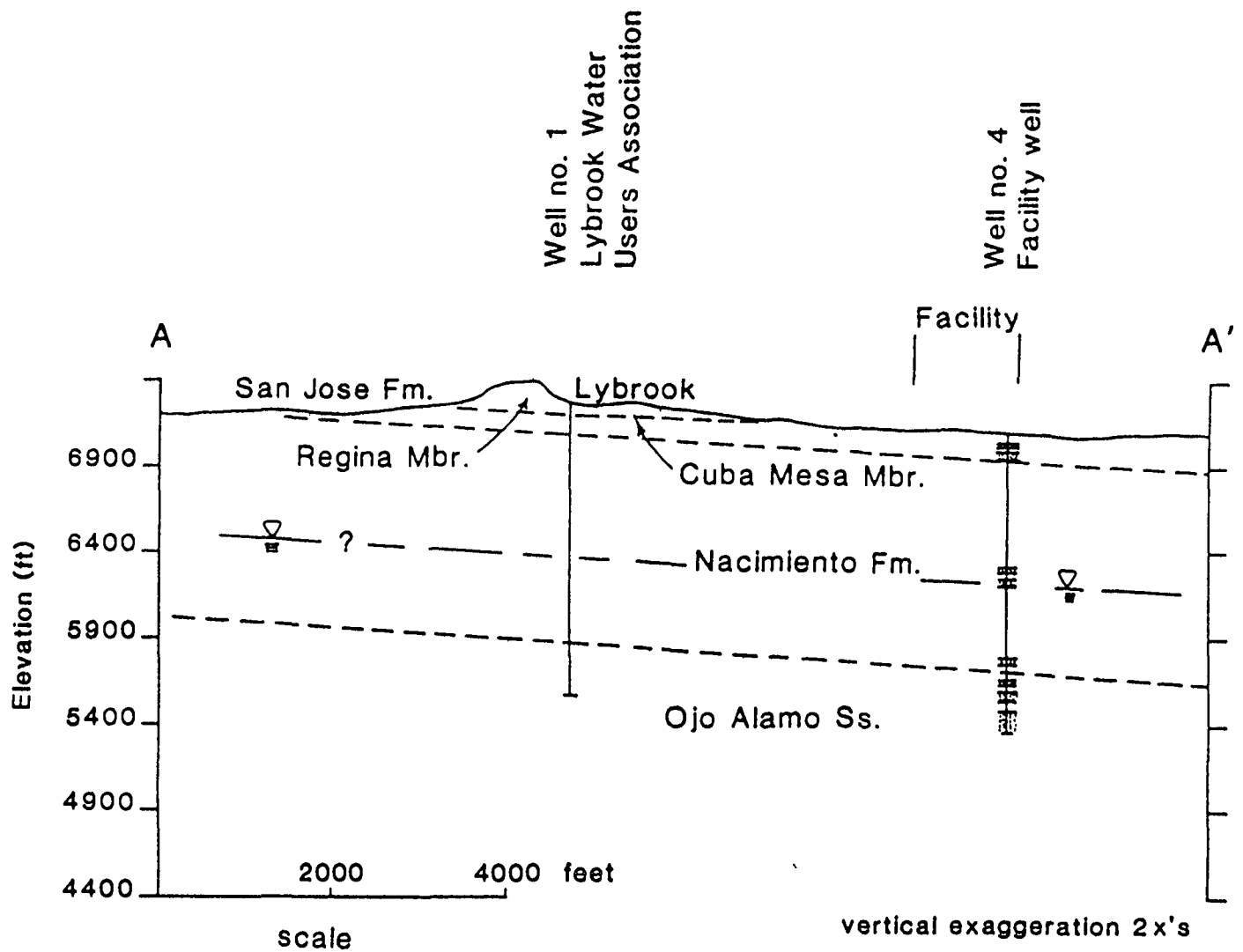
EXPLANATION

- Water well (see table in text, Section 7)
- oil well
- ephemeral pond
- A — A' Line of cross-section shown on Figure 8

0 2000 4000 feet

SCALE

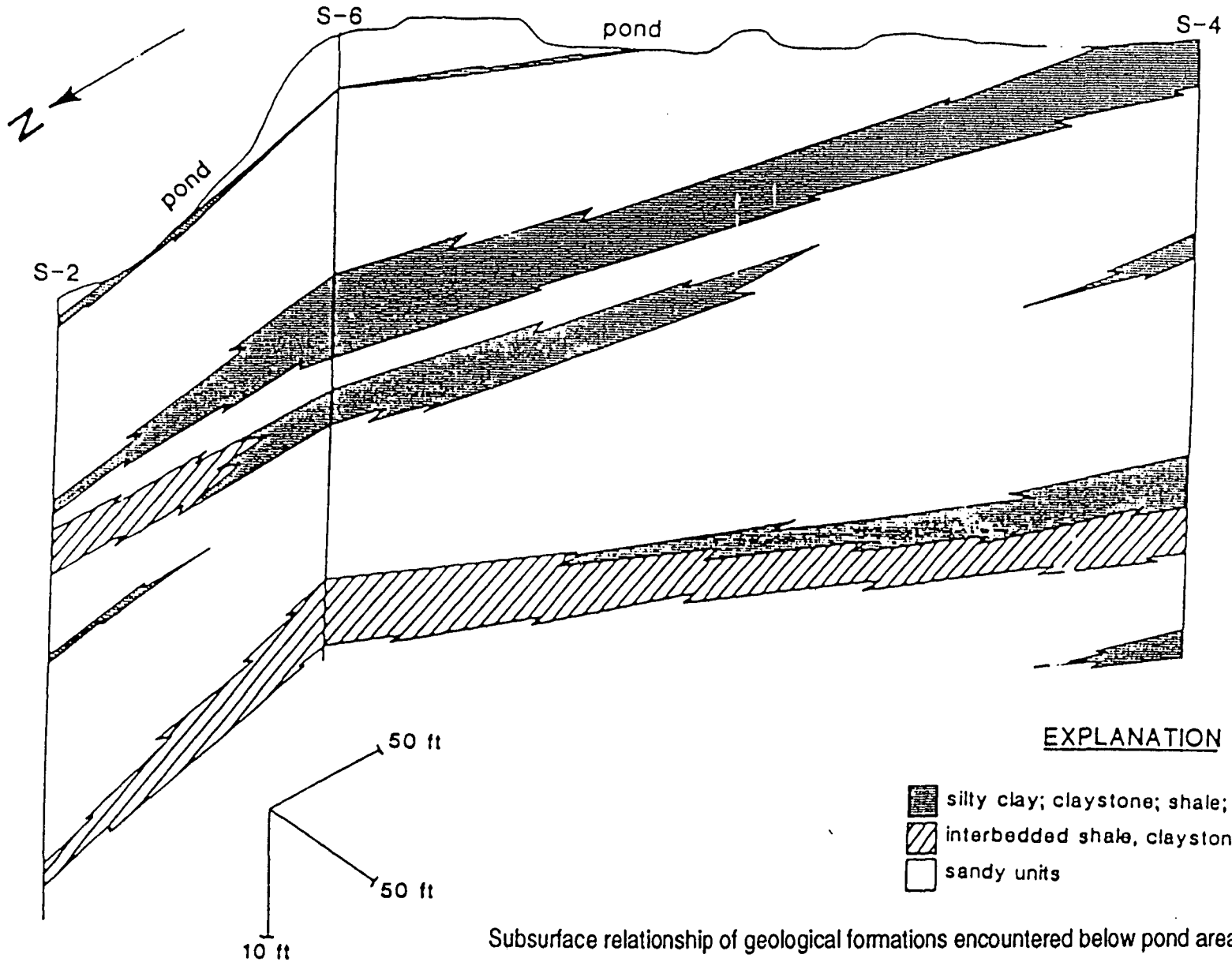
Figure 6
Location of Wells near Lybrook Facility



Cross Section A-A' illustrates stratigraphy and sandstone beds beneath the facility.

Figure 7

Geologic Cross Section Beneath Lybrook Facility

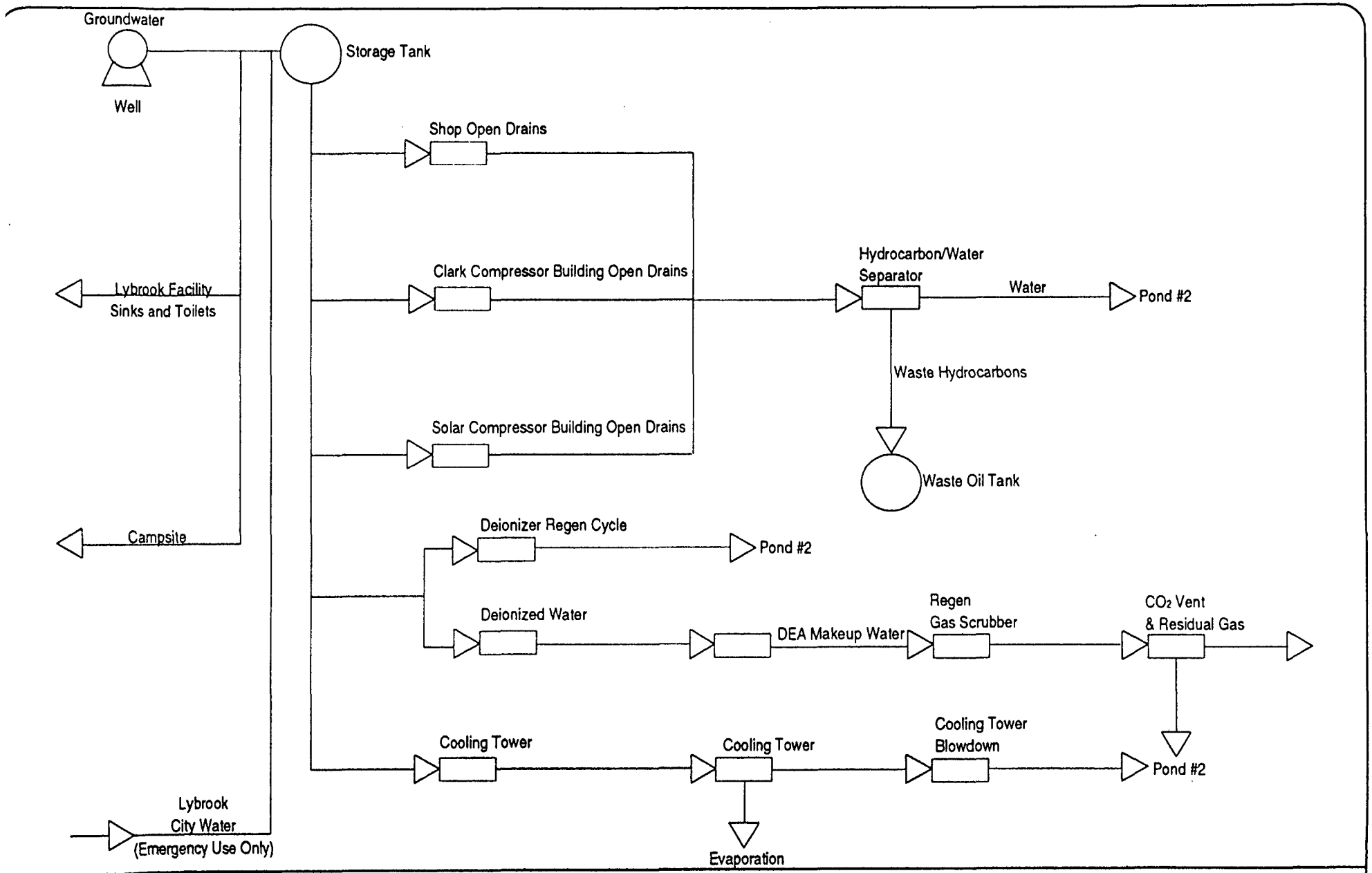


Subsurface relationship of geological formations encountered below pond area.

Figure 8
Fence Diagram

Tank Inventory

TANK					CONTAINMENT				DRAINAGE
		Tank Capacity				Berm Capacity			
No.	Name	Contents	(gal)	Location	Const.	Type	(gal)	Containment Construction	Dir. of Flow
1	Ambitrol	Ambitrol	400	NE of Generator building	Steel	berm	744	Concrete block & dirt	east
2	Ambitrol Storage	Ambitrol	1033	E of Generator building	Steel	berm	1563	Concrete block & dirt	east
3	IR Oil Storage	Lube Oil	4884	SE of Generator building	Steel	berm	6291	Concrete block & gravel	east
4	(2) odorant	Odorant	2 @ 500 ea	SE of Clark building	Steel	berm	1500	Metal walls w/gravel	east
5	Ambitrol	Ambitrol	1360	W of Clark building	Steel	berm	1795	Concrete block & dirt	east
6	Lube Oil Storage	Lube Oil	3760	N. of Clark building	Steel	berm	4325	Concrete block & gravel	east
7	Ambitrol Storage	Ambitrol	2000	N. of Clark Building	Steel	berm	3422	Concrete block & dirt	east
8	DEA Slop Tank	DEA	14,300	N. of control room	Steel	berm (w/ 9 & 11)	22,523	Concrete block & gravel	southeast
9	DEA Storage Tank	DEA	4512	N. of control room	Steel	berm (w/ 8 & 11)	22,523	Concrete block & gravel	southeast
10	Solar Lube Tank	Turbine Oil	2015	W. of solar building	Steel	berm	2215	Concrete block & gravel	southeast
11	Methanol Storage Tank	Methanol	4512	NW of Control Room	Steel	berm (w/8 & 9)	22,523	Concrete block & gravel	southeast
12	Solvent	Solvent	1000	W. of Maint. Shop	Steel	berm (w/13 & 19)	2097	Concrete block & cement	east
13	Diesel	Diesel	300	S. of Solvent Tank	Steel	berm (w/12 & 19)	2097	Concrete block & dirt	east
14	Ambitrol Storage Tank	Ambitrol	21,000	E. of tank farm	Steel	berm (w/15)	23,062	Concrete block, gravel & dirt	east
15	Hot Oil Storage tank	Hot Oil	14,300	NW of main office	Steel	berm (w/14)	23,062	Concrete block, gravel & dirt	east
16	Ethyl Mercaptan tank	Scentinal A	80	S. of tank farm	Steel	berm	34	concrete pad w/ steel	southwest
17	Glycol Tank	Triethylene Glycol	2820	W. Side of cooling tower E. of solar bldg.	Steel	berm	3796	Concrete block & gravel	east
18	Waste oil filter drain tank	Waste Oil	250	NW of Facility, near water tank	Fiberglass	In Shed			east
19	Gasoline	Gasoline	500	W. of Maint. Shop	Steel	berm (w/12 & 13)	2097	Concrete block w/cement	east
20	Waste Lube Oil	Oil (lube)	2150	W. of Maint. Shop	Steel	berm	2370	Concrete block w/cement	east
21	Waste Oil	Oils	4200	N. of Pond #2	Steel	berm	6300	Dirt & gravel	south



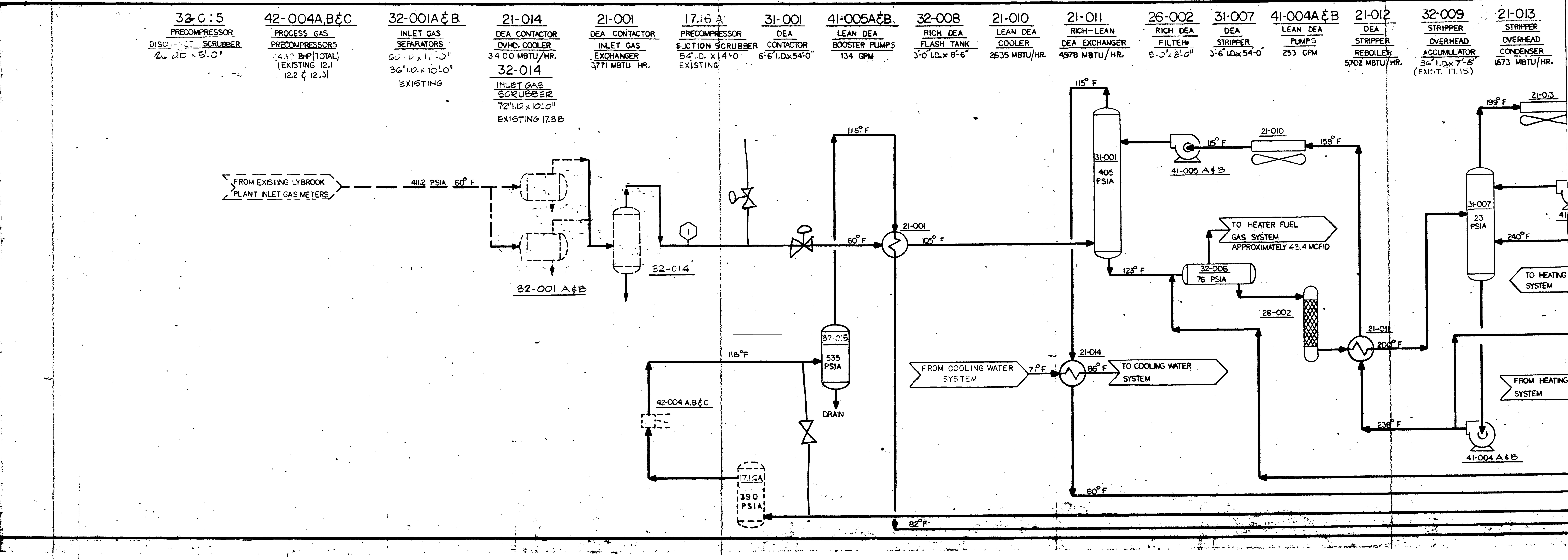
GAS COMPANY OF NEW MEXICO

Lybrook Plant Water Flow Diagram

STREAM NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
STREAM I.D.	INLET GAS	ACID GAS TO VENT	TREATED GAS	HP SEPARATOR VAPOR	HP SEPARATOR LIQUID	1ST STAGE EXP OUTLET VAPOR	1ST STAGE EXP OUTLET LIQUID	LP SEPARATOR VAPOR	LP SEPARATOR LIQUID	DEMETH NO.1 FEED VAPOR	DEMETH NO.1 FEED LIQUID	DEMETH NO.2 FEED VAPOR
COMPONENT												
NITROGEN	42.40	----	42.40	41.24	1.16	41.13	.11	39.91	1.33	39.76	.15	.91
CARBON DIOXIDE	58.90	55.90	3.00	2.30	.70	2.20	.10	1.51	.79	1.34	.17	.05
METHANE	6591.90	----	6591.90	5917.87	674.03	5840.27	77.60	5138.72	779.15	5009.20	129.52	185.76
ETHANE	693.10	----	693.10	351.30	341.80	294.06	57.24	108.58	242.72	60.14	48.43	2.32
PROPANE	290.70	----	290.70	50.84	239.86	21.34	29.50	2.84	48.00	.33	2.51	.05
ISO-BUTANE	49.50	----	49.50	3.06	46.44	.45	2.61	.09	2.97	----	.09	----
N-BUTANE	69.20	----	69.20	2.74	66.46	.24	2.50	.06	2.68	----	.06	----
ISO-PENTANE	25.90	----	25.90	.38	25.52	.01	.37	----	.38	----	----	----
N-PENTANE	18.10	----	18.10	.18	17.92	----	.18	----	.18	----	----	----
HEXANE	12.60	----	12.60	.04	12.56	----	.04	----	.04	----	----	----
HEPTANE PLUS	5.50	----	5.50	----	5.50	----	----	----	----	----	----	----
TOTAL MOLS/HR	7857.80	55.90	7801.90	6369.95	1431.95	6199.70	170.25	5291.71	1078.24	5110.77	180.93	189.09
MSCFD AT 14.70 PSIA	71569	509	71046	58006	NA	56456	NA	48187	NA	46540	NA	1722
LB/HR	154944	2460	152474	109376	43098	104762	4614	87019	22357	83354	3665	3080
MOL WT	19.72	44.01	19.54	17.17	30.10	16.90	27.10	16.44	20.74	16.31	20.26	16.29
DENSITY-LB/CU-FT	1.53	.12	1.45	2.85	29.94	1.73	29.79	1.91	25.59	1.03	26.96	1.01
SP GR AT 60 F	.68	1.52	.67	.59	.45	.58	.42	.57	.37	.56	.36	.56
GAL/MIN AT PT	NA	NA	NA	NA	179.47	NA	19.31	NA	108.93	NA	16.95	NA
GAL/MIN AT 60 F	NA	NA	NA	NA	193.05	NA	21.74	NA	121.80	NA	20.24	NA

STREAM NUMBER	13	14	15	16	17	18	19	20	21	22	23
STREAM I.D.	DEMETH NO.2 FEED LIQUID	DEMETH NO.3 FEED VAPOR	DEMETH NO.3 FEED LIQUID	DEMETHANIZER RESIDUE GAS	DEMETHANIZER BOTTOMS	LOW PRESSURE FUEL GAS	RESIDUE GAS TO EXP/COMP	HIGH PRESSURE FUEL GAS	RESIDUE GAS TO RECOMPR.	DEHYDRATOR REGEN GAS	RESIDUE GAS TO PIPELINE
COMPONENT											
NITROGEN	.42	1.09	.07	42.40	----	.76	41.64	.54	41.10	5.76	41.10
CARBON DIOXIDE	.74	.21	.49	2.26	.75	.04	2.22	.03	2.19	.31	2.19
METHANE	593.39	446.41	227.62	6578.00	13.88	116.89	6461.11	84.04	6377.05	893.38	6377.05
ETHANE	240.40	23.67	318.13	86.77	606.33	1.54	85.23	1.11	84.12	11.78	84.12
PROPANE	47.95	1.71	238.15	.45	290.25	.01	.44	.01	.43	.06	.43
ISO-BUTANE	2.97	.07	46.37	----	49.49	----	----	----	----	----	----
N-BUTANE	2.68	.05	66.41	----	69.20	----	----	----	----	----	----
ISO-PENTANE	.38	.01	25.51	----	25.90	----	----	----	----	----	----
N-PENTANE	.18	----	17.92	----	18.10	----	----	----	----	----	----
HEXANE	.04	----	12.56	----	12.60	----	----	----	----	----	----
HEPTANE PLUS	----	----	5.50	----	5.50	----	----	----	----	----	----
TOTAL MOLS/HR	889.15	473.22	958.73	6709.88	1092.00	119.24	6590.64	85.75	6504.89	911.29	6504.89
MSCFD AT 14.70 PSIA	NA	4309	NA	61102	NA	1086	60016	781	59235	8300	59235
LB/HR	19278	7996	35140	109443	43072	[illegible]	[illegible]	1399	106099	14864	106099
MOL WT	21.68	16.90	36.65	16.31	39.44	16.31	16.31	16.31	16.31	16.31	16.31
DENSITY-LB/CU-FT	28.16	.82	35.56	.98	31.88	.46	.46	.56	.56	1.05	1.05
SP GR AT 60 F	.38	.58	.49	.56	.50	.56	.56	.56	.56	.56	.56
GAL/MIN AT PT	85.34	NA	123.20	NA	168.47	NA	NA	NA	NA	NA	NA
GAL/MIN AT 60 F	102.41	NA	143.87	NA	170.77	NA	NA	NA	NA	NA	NA

VOLUME AT 15.025 PSIA FOR STRM 1 = 70 MMSCFD



JUL 21 1977
F 3-16 ISSUED FOR CONSTRUCTIO
E 12-12 REVISED ISSUED FOR DE
D 10-24 ISSUED FOR DESIGN
C REISSUED FOR APPRO
B ISSUED FOR APPROVAL
A ISSUED FOR REVISED P
NO. DATE REVISION
SOUTHERN UNION PRODUCTION CO.
LYBROOK PLANT Nº 2
RIO ARRIBA COUNTY, NEW MEXICO
DWG. NO.
REFERENCE DRAWINGS
DRAWING RECORD
DRAWN Dave
CH'KD. Von
APPV'D.
APPV'D.
CODE
SCALE
THE ORTLOFF
PROCES
NOTE: lb/HR IN PARENTHESES REPRESENTS FLOW RATE WHEN PRODUCT CHILLER (16.17) NOT IN OPERATION.
TO COOLING WATER SYSTEM (EXISTING)
MAKE UP WATER
CO₂ GAS VENT
RESIDUE GAS TO PIPELINE
TO HEATING OIL SYSTEM
FROM HEATING OIL SYSTEM
TO PRODUCT PIPELINE
FROM 41-002 A&B

Analytical **Technologies,** Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **403379**

April 7, 1994

Gas Company of New Mexico
P.O. Box 1899
Bloomfield, NM 87413

Project Name/Number: None given

Attention: John Hale/Denver Bearden

On **03/17/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** and **non-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.

For the EPA Method 8010/8020 analyses, samples 94-1/2/3/4-SW-INLET, 94-10/11/12-SW INLET and 94-13/14/15/16-NE CORNER were diluted due to foaming.

EPA Method 8010/8020 analyses were performed by Analytical Technologies, Inc., Albuquerque, NM.

Ignitablity, Metals and EPA Method 610 analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

Glycols analyses were performed by West Coast Analytical, 9840 Alburtis Ave., Santa Fe Springs, CA.

All other analyses were performed by Analytical Technologies, Inc., 11 East Olive Road, Pensacola, FL.

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

Letitia Krakowski, Ph.D.
Project Manager

MR:jd
Enclosure

Analytical Technologies, Inc.

CLIENT : GAS COMPANY OF NEW MEXICO
PROJECT # : (NONE)
PROJECT NAME: (NONE)

DATE RECEIVED: 03/17/94
REPORT DATE : 04/07/94

ATI I.D.: 403379

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	94-1/2/3/4-SW-INLET	AQUEOUS	03/17/94
02	94-5/6/7/8-NE CORNER	AQUEOUS	03/17/94
03	94-9/10/11/12-SW INLET	AQUEOUS	03/17/94
04	94-13/14/15/16-NE CORNER	AQUEOUS	03/17/94
05	94-1-WO	NON-AQ	03/17/94
06	TRIP BLANK	AQUEOUS	03/15/94

----TOTALS----

MATRIX	# SAMPLES
AQUEOUS	5
NON-AQ	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : PURGEABLE HALOCARBONS/AROMATICS (EPA 8010/8020)
CLIENT : GAS COMPANY OF NEW MEXICO ATI I.D.: 403379
PROJECT # : (NONE)
PROJECT NAME: (NONE)

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	94-1/2/3/4-SW-INLET	AQUEOUS	03/17/94	NA	03/22/94	5
02	94-5/6/7/8-NE CORNER	AQUEOUS	03/17/94	NA	03/22/94	1
03	94-9/10/11/12-SW INLET	AQUEOUS	03/17/94	NA	03/22/94	5

PARAMETER	UNITS	01	02	03
BENZENE	UG/L	<2.5	<0.5	4.0
BROMODICHLOROMETHANE	UG/L	<1.0	<0.2	<1.0
BROMOFORM	UG/L	<2.5	<0.5	<2.5
BROMOMETHANE	UG/L	<2.5	<0.5	<2.5
CARBON TETRACHLORIDE	UG/L	<1.0	<0.2	<1.0
CHLOROBENZENE	UG/L	<2.5	<0.5	<2.5
CHLOROETHANE	UG/L	<1.0	<0.2	<1.0
CHLOROFORM	UG/L	<1.0	<0.2	<1.0
CHLOROMETHANE	UG/L	<2.5	<0.5	<2.5
BROMOCHLOROMETHANE	UG/L	<1.0	<0.2	<1.0
1,2-DIBROMOETHANE (EDB)	UG/L	<2.5	<0.5	<2.5
1,2-DICHLOROBENZENE	UG/L	<2.5	<0.5	<2.5
1,3-DICHLOROBENZENE	UG/L	<2.5	<0.5	<2.5
1,4-DICHLOROBENZENE	UG/L	<2.5	<0.5	<2.5
1,1-DICHLOROETHANE	UG/L	<1.0	<0.2	<1.0
1,2-DICHLOROETHANE (EDC)	UG/L	<1.0	<0.2	<1.0
1,1-DICHLOROETHENE	UG/L	<1.0	<0.2	<1.0
CIS-1,2-DICHLOROETHENE	UG/L	<1.0	<0.2	<1.0
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	<0.2	<1.0
1,2-DICHLOROPROPANE	UG/L	<1.0	<0.2	<1.0
CIS-1,3-DICHLOROPROPENE	UG/L	<2.5	<0.5	<2.5
TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<0.2	<1.0
ETHYLBENZENE	UG/L	<2.5	<0.5	<2.5
METHYL-t-BUTYL ETHER	UG/L	<12	<2.5	<12
METHYLENE CHLORIDE	UG/L	<10	<2.0	<10
1,1,2,2-TETRACHLOROETHANE	UG/L	<1.0	<0.2	<1.0
TETRACHLOROETHENE	UG/L	<1.0	<0.2	<1.0
TOLUENE	UG/L	<2.5	<0.5	3.2
1,1,1-TRICHLOROETHANE	UG/L	<1.0	<0.2	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<1.0	<0.2	<1.0
TRICHLOROETHENE	UG/L	<1.0	<0.2	<1.0
TRICHLOROFLUOROMETHANE	UG/L	<1.0	<0.2	<1.0
VINYL CHLORIDE	UG/L	<2.5	<0.5	<2.5
TOTAL XYLENES	UG/L	<2.5	<0.5	<2.5
SURROGATES:				
BROMOCHLOROMETHANE (%)		103	104	104
TRIFLUOROTOLUENE (%)		99	99	101

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : PURGEABLE HALOCARBONS/AROMATICS (EPA 8010/8020)
CLIENT : GAS COMPANY OF NEW MEXICO ATI I.D.: 403379
PROJECT # : (NONE)
PROJECT NAME: (NONE)

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	94-13/14/15/16 -NE CORNER	AQUEOUS	03/17/94	NA	03/22/94	5
06	TRIP BLANK	AQUEOUS	03/15/94	NA	03/22/94	1

PARAMETER	UNITS	04	06
BENZENE	UG/L	3.2	<0.5
BROMODICHLOROMETHANE	UG/L	<1.0	<0.2
BROMOFORM	UG/L	<2.5	<0.5
BROMOMETHANE	UG/L	<2.5	<0.5
CARBON TETRACHLORIDE	UG/L	<1.0	<0.2
CHLOROBENZENE	UG/L	<2.5	<0.5
CHLOROETHANE	UG/L	<1.0	<0.2
CHLOROFORM	UG/L	<1.0	<0.2
CHLOROMETHANE	UG/L	<2.5	<0.5
DIBROMOCHLOROMETHANE	UG/L	<1.0	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<2.5	<0.5
1,2-DICHLOROBENZENE	UG/L	<2.5	<0.5
1,3-DICHLOROBENZENE	UG/L	<2.5	<0.5
1,4-DICHLOROBENZENE	UG/L	<2.5	<0.5
1,1-DICHLOROETHANE	UG/L	<1.0	<0.2
1,2-DICHLOROETHANE (EDC)	UG/L	<1.0	<0.2
1,1-DICHLOROETHENE	UG/L	<1.0	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<1.0	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	<0.2
1,2-DICHLOROPROPANE	UG/L	<1.0	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<2.5	<0.5
TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<0.2
ETHYLBENZENE	UG/L	<2.5	<0.5
METHYL-t-BUTYL ETHER	UG/L	<12	<2.5
METHYLENE CHLORIDE	UG/L	<10	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<1.0	<0.2
TETRACHLOROETHENE	UG/L	<1.0	<0.2
TOLUENE	UG/L	3.0	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0	<0.2
1,1,2-TRICHLOROETHANE	UG/L	<1.0	<0.2
TRICHLOROETHENE	UG/L	<1.0	<0.2
TRICHLOROFLUOROMETHANE	UG/L	<1.0	<0.2
VINYL CHLORIDE	UG/L	<2.5	<0.5
TOTAL XYLENES	UG/L	<2.5	<0.5
SURROGATES:			
BROMOCHLOROMETHANE (%)		102	100
TRIFLUOROTOLUENE (%)		103	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK
PURGEABLE HALOCARBONS/AROMATICS

TEST	: EPA 8010/8020	ATI I.D.	: 403379
BLANK I.D.	: 032294	DATE EXTRACTED:	NA
CLIENT	: GAS COMPANY OF NEW MEXICO	DATE ANALYZED	: 03/22/94
PROJECT #	: (NONE)	DIL. FACTOR	: 1
PROJECT NAME:	(NONE)		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<0.5
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.2
CHLOROFORM	UG/L	<0.2
CHLOROMETHANE	UG/L	<0.5
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.2
1,2-DICHLOROETHANE (EDC)	UG/L	<0.2
1,1-DICHLOROETHENE	UG/L	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<0.2
1,2-DICHLOROPROPANE	UG/L	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<0.5
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.2
TETRACHLOROETHENE	UG/L	<0.2
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<0.2
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.2
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATES:		
BROMOCHLOROMETHANE (%)		105
TRIFLUOROTOLUENE (%)		99

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

TEST	: PURGEABLE HALOCARBONS/AROMATICS (8010/8020)		
CLIENT	: GAS COMPANY OF NEW MEXICO	ATI I.D.	: 403379
PROJECT #	: (NONE)	DATE ANALYZED	: 03/22/94
PROJECT NAME	: (NONE)	SAMPLE MATRIX	: AQUEOUS
REF. I.D.	: 032294	UNITS	: UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKE SAMPLE	DUP. % REC.	RPD
BENZENE	<0.5	10	9.9	99	9.9	99	0
CHLOROBENZENE	<0.5	10	10	100	10	100	0
1,1-DICHLOROETHENE	<0.2	10	9.7	97	9.3	93	4
TOLUENE	<0.5	10	10	100	10	100	0
TRICHLOROETHENE	<0.2	10	11	110	10	100	10

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

IGNITABILITY

Method 1010

Analytical Technologies, Inc.

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN--403379

Lab Workorder Number: 94-03-145

Date Collected: 03/17/94

Date Analyzed: 03/29/94

Sample Matrix: Water

Sample ID	Lab Sample ID	Ignitable At (deg C)	Non-ignitable Below (deg C)
403379-5	94-03-145-05		96.5

POLYNUCLEAR AROMATIC HYDROCARBONS
Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies Inc.
Client Name: ATI-NM
Client Project ID: GCN -- 403379
Lab Sample ID: 94-03-145-01

Sample Matrix: Water
Cleanup: N/A

Sample ID

403379-1

Date Collected: 03/17/94
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	3.5	3.0
Acenaphthylene	ND	3.0
Acenaphthene	ND	5.0
Fluorene	16	0.40
Phenanthrene	ND	0.30
Anthracene	ND	0.10
Fluoranthene	ND	0.30
Pyrene	ND	0.40
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.20
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.30
Benzo(g,h,i)perylene	ND	0.40
Indeno(1,2,3,c,d)pyrene	ND	0.30
1-Methylnaphthalene	ND	3.0
2-Methylnaphthalene	ND	3.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	21 *	34 - 120

ND - Not Detected
* - Out of limits due to matrix interference and required dilution.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies Inc.
Client Name: ATI-NM
Client Project ID: GCN -- 403379
Lab Sample ID: 94-03-145-02

Sample Matrix: Water
Cleanup: N/A

Sample ID

403379-2

Date Collected: 03/17/94
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	3.0
Acenaphthylene	ND	3.0
Acenaphthene	ND	5.0
Fluorene	15	0.40
Phenanthrene	ND	0.30
Anthracene	ND	0.10
Fluoranthene	ND	0.30
Pyrene	ND	0.40
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.20
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.30
Benzo(g,h,i)perylene	ND	0.40
Indeno(1,2,3,c,d)pyrene	ND	0.30
1-Methylnaphthalene	ND	3.0
2-Methylnaphthalene	ND	3.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	22 *	34 - 120

ND - Not Detected
* - Out of limits due to matrix interference and required dilution.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies Inc.
Client Name: ATI-NM
Client Project ID: GCN -- 403379
Lab Sample ID: 94-03-145-03

Sample Matrix: Water
Cleanup: N/A

Sample ID

403379-3

Date Collected: 03/17/94
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	3.0
Acenaphthylene	ND	3.0
Acenaphthene	ND	5.0
Fluorene	1.0	0.40
Phenanthrene	0.47	0.30
Anthracene	ND	0.10
Fluoranthene	ND	0.30
Pyrene	ND	0.40
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.20
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.30
Benzo(g,h,i)perylene	ND	0.40
Indeno(1,2,3,c,d)pyrene	ND	0.30
1-Methylnaphthalene	ND	3.0
2-Methylnaphthalene	ND	3.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	62	34 - 120

ND - Not Detected

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies Inc.
Client Name: ATI-NM
Client Project ID: GCN -- 403379
Lab Sample ID: 94-03-145-04

Sample Matrix: Water
Cleanup: N/A

Sample ID

403379-4

Date Collected: 03/17/94
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	3.0
Acenaphthylene	ND	3.0
Acenaphthene	ND	5.0
Fluorene	1.8	0.40
Phenanthrene	ND	0.30
Anthracene	ND	0.10
Fluoranthene	ND	0.30
Pyrene	ND	0.40
Benzo(a)anthracene	ND	0.10
Chrysene	0.28	0.20
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.30
Benzo(g,h,i)perylene	ND	0.40
Indeno(1,2,3,c,d)pyrene	ND	0.30
1-Methylnaphthalene	ND	3.0
2-Methylnaphthalene	ND	3.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	33 *	34 - 120

ND - Not Detected
* - Out of limits due to matrix interference and required dilution.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies Inc.
Client Name: ATI-NM
Client Project ID: GCN -- 403379
Lab Sample ID: WRB1 03/22/94

Sample Matrix: Water
Cleanup: N/A

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Sample Volume: 1000 mL
Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.30
Acenaphthylene	ND	0.30
Acenaphthene	ND	0.50
Fluorene	ND	0.040
Phenanthrene	ND	0.030
Anthracene	ND	0.010
Fluoranthene	ND	0.030
Pyrene	ND	0.040
Benzo(a)anthracene	ND	0.010
Chrysene	ND	0.020
Benzo(b)fluoranthene	ND	0.010
Benzo(k)fluoranthene	ND	0.010
Benzo(a)pyrene	ND	0.010
Dibenzo(a,h)anthracene	ND	0.030
Benzo(g,h,i)perylene	ND	0.040
Indeno(1,2,3,c,d)pyrene	ND	0.030
1-Methylnaphthalene	ND	0.30
2-Methylnaphthalene	ND	0.30

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	78	34 - 120

ND - Not Detected

POLYNUCLEAR AROMATIC HYDROCARBON BLANK SPIKE

Method 610

Analytical Technologies, Inc.

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM
Client Project ID: GCN -- 403379

Sample Matrix: Water

Lab Sample ID: WBS1 03/22/94
Date Extracted: 03/22/94
Date Analyzed: 03/24/94

Instrument ID: HPLC

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10	7.0	70	36-113
Phenanthrene	1.0	0.77	77	30-114
Pyrene	1.0	0.71	71	43-108
Dibenzo(a,h)anthracene	1.0	0.68	68	42-111
Benzo(k)fluoranthene	0.25	0.15	62	45-115

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10	7.9	79	13	20
Phenanthrene	1.0	0.90	90	15	20
Pyrene	1.0	0.79	79	10	20
Dibenzo(a,h)anthracene	1.0	0.79	79	14	20
Benzo(k)fluoranthene	0.25	0.16	65	6	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery (BS)	% Recovery (BSD)	% Rec Limits
2-Chloroanthracene	72	83	15 - 117

TOTAL METALS

Analytical Technologies, Inc.

Sample ID

403379-1

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN -- 403379

Lab Sample ID: 94-03-145-01

Sample Matrix: Water

Date Collected: 03/17/94

Prep Date: 03/22-23/94

Date Analyzed: 03/23-24/94

Analyte	Method	Concentration (mg/L)	Detection Limits (mg/L)
Aluminum	6010	0.6	0.2
Arsenic	6010	ND	0.06
Barium	6010	ND	1
Boron	6010	4.1	0.09
Cadmium	6010	ND	0.005
Chromium	6010	0.04	0.01
Cobalt	6010	ND	0.01
Copper	6010	0.26	0.01
Iron	6010	1.3	0.1
Lead	6010	ND	0.05
Manganese	6010	0.37	0.01
Mercury	7471	ND	0.0002
Molybdenum	6010	4.6	0.01
Nickel	6010	ND	0.02
Selenium	6010	ND	0.1
Silver	6010	ND	0.01
Zinc	6010	0.35	0.02

ND = Not Detected

TOTAL METALS

Analytical Technologies, Inc.

Sample ID

403379-2

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN -- 403379

Lab Sample ID: 94-03-145-02

Sample Matrix: Water

Date Collected: 03/17/94

Prep Date: 03/22-23/94

Date Analyzed: 03/23-24/94

Analyte	Method	Concentration (mg/L)	Detection Limits (mg/L)
Aluminum	6010	0.6	0.2
Arsenic	6010	ND	0.06
Barium	6010	ND	1
Boron	6010	4.0	0.09
Cadmium	6010	ND	0.005
Chromium	6010	0.04	0.01
Cobalt	6010	ND	0.01
Copper	6010	0.25	0.01
Iron	6010	1.3	0.1
Lead	6010	ND	0.05
Manganese	6010	0.36	0.01
Mercury	7471	ND	0.0002
Molybdenum	6010	4.5	0.01
Nickel	6010	ND	0.02
Selenium	6010	ND	0.1
Silver	6010	ND	0.01
Zinc	6010	0.35	0.02

ND = Not Detected

TOTAL METALS

Analytical Technologies, Inc.

Sample ID

403379-3

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN -- 403379

Lab Sample ID: 94-03-145-03

Sample Matrix: Water

Date Collected: 03/17/94

Prep Date: 03/22-23/94

Date Analyzed: 03/23-24/94

Analyte	Method	Concentration (mg/L)	Detection Limits (mg/L)
Aluminum	6010	0.4	0.2
Arsenic	6010	ND	0.06
Barium	6010	ND	1
Boron	6010	2.4	0.09
Cadmium	6010	ND	0.005
Chromium	6010	0.03	0.01
Cobalt	6010	ND	0.01
Copper	6010	0.25	0.01
Iron	6010	1.0	0.1
Lead	6010	ND	0.05
Manganese	6010	0.09	0.01
Mercury	7471	0.0004	0.0002
Molybdenum	6010	4.5	0.01
Nickel	6010	ND	0.02
Selenium	6010	ND	0.1
Silver	6010	ND	0.01
Zinc	6010	1.0	0.02

ND = Not Detected

TOTAL METALS

Analytical Technologies, Inc.

Sample ID

403379-4

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN -- 403379

Lab Sample ID: 94-03-145-04

Sample Matrix: Water

Date Collected: 03/17/94

Prep Date: 03/22-23/94

Date Analyzed: 03/23-24/94

Analyte	Method	Concentration (mg/L)	Detection Limits (mg/L)
Aluminum	6010	0.4	0.2
Arsenic	6010	ND	0.06
Barium	6010	ND	1
Boron	6010	2.4	0.09
Cadmium	6010	ND	0.005
Chromium	6010	0.03	0.01
Cobalt	6010	ND	0.01
Copper	6010	0.25	0.01
Iron	6010	1.0	0.1
Lead	6010	ND	0.05
Manganese	6010	1.0	0.01
Mercury	7471	ND	0.0002
Molybdenum	6010	4.6	0.01
Nickel	6010	ND	0.02
Selenium	6010	ND	0.1
Silver	6010	ND	0.01
Zinc	6010	0.11	0.02

ND = Not Detected

TOTAL METALS

Analytical Technologies, Inc.

Sample ID

Reagent Blank

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project ID: GCN -- 403379

Lab Sample ID: RB 94-03-145

Sample Matrix: Water

Date Collected: N/A

Prep Date: 03/22-23/94

Date Analyzed: 03/23-24/94

Analyte	Method	Concentration (mg/L)	Detection Limits (mg/L)
Aluminum	6010	ND	0.2
Arsenic	6010	ND	0.06
Barium	6010	ND	1
Boron	6010	ND	0.2
Cadmium	6010	ND	0.005
Chromium	6010	ND	0.01
Cobalt	6010	ND	0.01
Copper	6010	ND	0.01
Iron	6010	ND	0.1
Lead	6010	ND	0.05
Manganese	6010	ND	0.01
Mercury	7471	ND	0.0002
Molybdenum	6010	ND	0.01
Nickel	6010	ND	0.02
Selenium	6010	ND	0.1
Silver	6010	ND	0.01
Zinc	6010	ND	0.02

ND = Not Detected

TOTAL METALS
MATRIX SPIKE

Analytical Technologies, Inc.

Sample ID

In House

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Lab Sample ID: 94-03-154-01

Prep Date: 03/22/94

Sample Matrix: Water

Date Analyzed: 03/24/94

Analyte	Spike Added (mg/L)	Sample Concentration (mg/L)	MS Concentration (mg/L)	MS Percent Recovery
Aluminum	2.0	51	+	+
Arsenic	2.0	0.26	1.8	77
Barium*	2.0	< 1.0	2.5	125
Boron*	1.0	0.53	1.6	107
Cadmium	0.050	0.021	0.061	80
Chromium	0.20	0.11	0.26	75
Cobalt	0.50	0.05	0.45	80
Copper	0.25	0.20	0.41	84
Iron	1.0	86	+	+
Lead*	0.50	0.08	0.54	92
Manganese	0.50	4.5	+	+
Molybdenum	0.50	0.10	+	+
Nickel	0.50	0.34	0.74	80
Selenium*	2.0	< 0.1	2.1	105
Silver*	0.20	< 0.01	0.15	75
Zinc*	0.50	0.57	1.0	86

*Analytical (Post Digestion) Spike
+See Matrix Spike Duplicate Page

Analytical Technologies, Inc.

TOTAL METALS
MATRIX SPIKE DUPLICATE

Sample ID

In House

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Lab Sample ID: 94-03-154-01

Prep Date: 03/22/94

Sample Matrix: Water

Date Analyzed: 03/24/94

Analyte	MSD Concentration (mg/kg)	MSD Percent Recovery	RPD %
Arsenic	2.0	87	11
Cadmium	0.061	80	0
Chromium	0.25	70	4
Cobalt	0.46	82	2
Copper	0.43	92	5
Nickel	0.73	78	1

+Note: Due to matrix interference or large concentration of analyte in the sample, it was not possible to accurately quantitate the percent recovery. The Laboratory Control Sample (LCS) recovered within acceptable criteria.

Analyte	LCS Result (mg/L)	LCS True Value (mg/L)	LCS % Recovery
Aluminum	0.97	1.00	97
Iron	1.00	1.00	100
Manganese	0.96	1.00	96
Molybdenum	0.98	1.00	98

TOTAL METALS
MATRIX SPIKE

Analytical Technologies, Inc.

Sample ID

403379-1

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Lab Sample ID: 94-03-145-01

Prep Date: 03/23/94

Sample Matrix: Water

Date Analyzed: 03/23/94

Analyte	Spike Added (mg/L)	Sample Concentration (mg/L)	MS Concentration (mg/L)	MS Percent Recovery
Mercury	0.0020	< 0.0002	0.0017	85

Analyte	MSD Concentration (mg/kg)	MSD Percent Recovery	RPD %
Mercury	0.0020	100	16

WEST COAST ANALYTICAL SERVICE, INC.

ANALYTICAL TECHNOLOGIES
Analytical Technologies, Inc.

Job # 26076
March 24, 1994

LABORATORY REPORT

Table 1

Glycols by GC/FID

Parts Per Million (mg/Kg)

Sample ID	Ethylene glycol	Propylene glycol	Diethylene gylcol
403379-5	220	206	ND
403379-5 (Duplicate)	270	210	ND
Detection Limit	2	2	10

Date Extracted: 3/23/94
Date Analyzed: 3/23/94

Matrix Spike Recovery Summary

Sample: 403379-5 Matrix: OIL
Date Analyzed: 03-23-94 Date Extracted: 03-23-94
Units: PPM(MG/KG)

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS
Ethylene glycol	245	283	435	67
Propylene glycol	208	267.5	391	68
Diethylene glycol	ND	317	224	71

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 403379-1
Sample Date/Time: 17-MAR-94 0943
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	11000	1		AKW013	DBH
PH (150.1)	UNITS	9.2	NA		PHW055	CM
BICARBONATE, CACO3 (2330B)	MG/L	9600	1		NONE	DPH
CARBONATE, CACO3 (2330B)	MG/L	1400	1		NONE	DPH
CARBON DIOXIDE, FREE AS CACO3	MG/L	12	1		NONE	DPH
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1		NONE	DPH

Comments:

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab Id: 002
Client Sample Id: 403379-2

Sample Date/Time: 17-MAR-94 1008
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	11000	1		AKW013	DBH
PH (150.1)	UNITS	9.2	NA		PHW055	CM
BICARBONATE, CACO3 (2330B)	MG/L	9600	1		NONE	DPH
CARBONATE, CACO3 (2330B)	MG/L	1400	1		NONE	DPH
CARBON DIOXIDE, FREE AS CACO3	MG/L	12	1		NONE	DPH
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1		NONE	DPH

Comments:

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab Id: 003
Client Sample Id: 403379-3
Sample Date/Time: 17-MAR-94 1031
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	4400	1		AKW013	DBH
PH (150.1)	UNITS	9.3	NA		PHW055	CM
BICARBONATE, CACO3 (2330B)	MG/L	3700	1		NONE	DPH
CARBONATE, CACO3 (2330B)	MG/L	700	1		NONE	DPH
CARBON DIOXIDE, FREE AS CACO3	MG/L	4	1		NONE	DPH
HYDROXIDE (2330B) AS CACO3	MG/L	1	1		NONE	DPH

Comments:

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab Id: 004 Sample Date/Time: 17-MAR-94 1048
Client Sample Id: 403379-4 Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	4300	1		AKW013	DBH
PH (150.1)	UNITS	9.3	NA		PHW055	CM
BICARBONATE, CACO3 (2330B)	MG/L	3600	1		NONE	DPH
CARBONATE, CACO3 (2330B)	MG/L	700	1		NONE	DPH
CARBON DIOXIDE, FREE AS CACO3	MG/L	4	1		NONE	DPH
HYDROXIDE (2330B) AS CACO3	MG/L	1	1		NONE	DPH

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 403379-1

Sample Date/Time: 17-MAR-94 0943
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	350	4	+	CIW022	JHS
SULFATE (375.4)	MG/L	1800	1000	+	S4W014	JHS
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	18000	5		TDW025	NB

Comments:

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab Id: 002
Client Sample Id: 403379-2

Sample Date/Time: 17-MAR-94 1008
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	270	4	+	CIW022	JHS
SULFATE (375.4)	MG/L	1800	1000	+	S4W014	JHS
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	19000	5		TDW025	NB

Comments:

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab Id: 003 Sample Date/Time: 17-MAR-94 1031
Client Sample Id: 403379-3 Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	270	5	+	CIW022	JHS
SULFATE (375.4)	MG/L	2700	1000	+	S4W014	JHS
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	12000	5		TDW025	NB

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab Id: 004
Client Sample Id: 403379-4
Sample Date/Time: 17-MAR-94 1048
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	310	4	+	CIW022	JHS
SULFATE (375.4)	MG/L	2800	1000	+	S4W014	JHS
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	9700	5		TDW025	NB

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 403379-1
Sample Date/Time: 17-MAR-94 0943
Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	14	1		I0W099	JMP
POTASSIUM (200.7)	MG/L	18	2		X0W099	JMP
MAGNESIUM (200.7)	MG/L	1.8	0.2		J0W099	JMP
SODIUM (200.7)	MG/L	8000	4	+	10W099	JMP

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 002 Sample Date/Time: 17-MAR-94 1008
Client Sample Id: 403379-2 Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	14	1		I0W099	JMP
POTASSIUM (200.7)	MG/L	18	2		X0W099	JMP
MAGNESIUM (200.7)	MG/L	1.8	0.2		J0W099	JMP
SODIUM (200.7)	MG/L	8400	4	+	10W099	JMP

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 003 Sample Date/Time: 17-MAR-94 1031
Client Sample Id: 403379-3 Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	12	1		I0W099	JMP
POTASSIUM (200.7)	MG/L	4	2		X0W099	JMP
MAGNESIUM (200.7)	MG/L	1.6	0.2		J0W099	JMP
SODIUM (200.7)	MG/L	4400	2	+	10W099	JMP

Comments:

Analytical Technologies, Inc.

Accession: 403575
Client: ANALYTICAL TECHNOLOGIES, INC.
Project Number: 94-03-145
Project Name: GCN
Project Location: N/S
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 004 Sample Date/Time: 17-MAR-94 1048
Client Sample Id: 403379-4 Received Date: 22-MAR-94

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	12	1		I0W099	JMP
POTASSIUM (200.7)	MG/L	4	2		X0W099	JMP
MAGNESIUM (200.7)	MG/L	1.6	0.2		J0W099	JMP
SODIUM (200.7)	MG/L	4200	2	+	10W099	JMP

Comments:

Analytical Technologies, Inc.

ła 32514 (904) 474-1001

"WetChem Quality Control Report"

Parameter:	ALKALINITY	PH
Batch Id:	AKW013	PHW055
Blank Result:	<1	N/A
Anal. Method:	2320B	150.1
Prep. Method:	N/A	N/A
Analysis Date:	23-MAR-94	22-MAR-94
Prep. Date:	23-MAR-94	22-MAR-94

Sample Duplication

Sample Dup:	403573-1	403573-1
Rept Limit:	<1	N/A
Sample Result:	248	7.55
Dup Result:	250	7.57
Sample RPD:	1	0.02
Max RPD:	5	0.20
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	403573-2	N/A
Rept Limit:	<1	N/A
Sample Result:	250	
Spiked Result:	272	
Spike Added:	25F	
% Recovery:	88	
% Rec Limits:	83-113	
Dry Weight%	N/A	

ICV

ICV Result:	245	
True Result:	250	
% Recovery:	98	
% Rec Limits:	90-110	

LCS

LCS Result:	6.83
True Result:	6.87
% Recovery:	99
% Rec Limits:	98-102

Analytical Technologies, Inc.

"WetChem Quality Control Report"

Parameter:	CHLORIDE	SULFATE	TDS
Batch Id:	CIW022	S4W014	TDW025
Blank Result:	<1	<10	<5
Anal. Method:	325.3	375.4	160.1
Prep. Method:	N/A	N/A	N/A
Analysis Date:	25-MAR-94	24-MAR-94	23-MAR-94
Prep. Date:	25-MAR-94	24-MAR-94	23-MAR-94

Sample Duplication

Sample Dup:	403595-1	403376-1	403575-1
Rept Limit:	<1	<200+	<5
Sample Result:	183	286	18220
Dup Result:	189	296	17032
Sample RPD:	3	10G	7
Max RPD:	5	200+	17
Dry Weight%	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	403595-1	403376-1	N/A
Rept Limit:	<1	<200+	N/A
Sample Result:	183	286	
Spiked Result:	239	596	
Spike Added:	55	400	
% Recovery:	102	78	
% Rec Limits:	90-110	42-175	
Dry Weight%	N/A	N/A	

ICV

ICV Result:	98	18.8	
True Result:	100	20	
% Recovery:	98	94	
% Rec Limits:	90-110	90-110	

LCS

LCS Result:			283
True Result:			293
% Recovery:			97
% Rec Limits:			59-123

Analytical Technologies, Inc.

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I0W099	X0W099	J0W099	10W099
Blank Result:	<1	<2	<0.2	<0.2
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	EPA 600	EPA 600	EPA 600	EPA 600
Analysis Date:	24-MAR-94	24-MAR-94	24-MAR-94	24-MAR-94
Prep. Date:	24-MAR-94	24-MAR-94	24-MAR-94	24-MAR-94
Sample Duplication				
Sample Dup:	403579-1	403579-1	403579-1	403579-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	40	3	23	32
Dup Result:	40	2	23	32
Sample RPD:	0	1G	0	0
Max RPD:	20	2	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	403579-1	403579-1	403579-1	403579-1
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	40	3	23	32
Spiked Result:	65	24	43	52
Spike Added:	20	20	20	20
% Recovery:	125	105	100	100
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	9.9	51	5.1	10
True Result:	10	50	5.0	10
% Recovery:	99	102	102	100
% Rec Limits:	90-110	90-110	90-110	90-110
LCS				
LCS Result:	19.9	20.8	19.7	20.8
True Result:	20	20	20	20
% Recovery:	100	104	99	104
% Rec Limits:	80-120	80-120	80-120	80-120

----- Common Footnotes Wet Chem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
ND = NOT DETECTED ABOVE REPORTING LIMIT.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO THE MATRIX (PRE-DIGESTION) SPIKE BEING OUTSIDE ACCEPTANCE LIMITS.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE.
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO PREPARATION).
P = ANALYTICAL (POST-DIGESTION) SPIKE
I = DUPLICATE INJECTION
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE IS BELOW 5 X ATI REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE RESULTS EXCEED THE ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL" SAMPLE IS NON-HOMOGENOUS.
(*) = DETECTION LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN.

(CA) = SEE CORRECTIVE ACTIONS FORM.

SW-846, 3RD EDITION, SEPTEMBER 1986 AND REVISION 1, JULY 1992.
EPA 600/4-79-020, REVISED MARCH 1983.
STANDARD METHODS, 17TH ED., 1989
NIOSH MANUAL OF ANALYTICAL METHODS, 3RD EDITION.
ANNUAL BOOK OF ASTM STANDARDS, VOLUME 11.01, 1991.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.

2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND THE DUPLICATE ANALYSIS.

3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS. IF FLASHPOINT IS LESS THAN 25 DEGREES CELSIUS, THE DETECTION LIMIT BECOMES THE INITIAL STARTING TEMPERATURE.

DEFINITIONS:

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

' = DOLLY P. HWANG	RB = REBECCA BROWN
= DONALD B. HAND	BF = BLANCA FACH
BETTY BEAUDRY	NB = NANCY L. BRASCH

Analytical Technologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY

DATE: 3/17/94 PAGE 1 OF 2

ATI LAB I.D. 40337

PROJECT MANAGER: JOHN Hale/DENVER BARRAN

COMPANY: GAS CO OF NEW MEXICO
ADDRESS: P.O. Box 1899
BLOOMFIELD N. MEX 87413
PHONE: 505-632-4131
FAX: 632-4234

BILL TO: GAS CO OF NEW MEXICO
COMPANY: P.O. Box 1899
ADDRESS: BLOOMFIELD N. MEX 8743
ATTN: DENVER BARRAN

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NUMBER OF CONTAINERS
94-1-SW-INLET	3-17-94	9:43AM	W		1
94-2-SW-INLET	3-17-94	9:50AM	W	01	1
94-3-SW-INLET	3-17-94	9:55AM	W		1
94-4-SW-INLET	3-17-94	10:00AM	W		1
94-5-NE CORNER	3-17-94	10:08AM	W		1
94-6-NE CORNER	3-17-94	10:13AM	W	02	1
94-7-NE CORNER	3-17-94	10:18AM	W		1
94-8-NE CORNER	3-17-94	10:22AM	W		1
94-9-SW INLET	3-17-94	10:31AM	W	03	1

Petroleum Hydrocarbons (418.1) — X (94-1, 94-5, 94-9)
(MOD 8015) Gas/Diesel
Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)
BTXE/MTBE (8020)
8010/8020 — X (94-1, 94-5, 94-9)
Chlorinated Hydrocarbons (601/8010)
Aromatic Hydrocarbons (602/8020)
SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.
ALK-SOL-CL-TDS — X (94-4, 94-8)
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
Volatile Organics GC/MS (624/8240) — X (94-2, 94-6)
Polynuclear Aromatics (610/8310) — X (94-2, 94-6)
METALS: As Ba Cd Cr Pb Hg Se Ag Cu Fe Mn Zn Al B Co Mo Ni Ca Mg K Na Sn Vanadium — X (94-3, 94-7)
SDWA Primary Standards - Arizona
SDWA Secondary Standards - Arizona
SDWA Primary Standards - Federal
SDWA Secondary Standards - Federal
The 13 Priority Pollutant Metals
RCRA Metals by Total Digestion — X (94-1, 94-3, 94-7)
RCRA Metals by TCLP (1311) — X (94-3, 94-7)

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME:
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS: 9
CUSTODY SEALS: (Y) / N / NA
RECEIVED INTACT: Y
RECEIVED COLD: Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: John Hale Time: 1:45	Signature: Time:	Signature: Time:
Printed Name: John Hale Date: 3/17/94	Printed Name: Date:	Printed Name: Date:
Company: GCNM Phone: 505-2019	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1025
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: 3/17/94
Company:	Company:	Analytical Technologies, Inc.

TI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

Analytic[illegible]chnologies, Inc., Albuquerque, NM
San Diego • F[illegible]ix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN [illegible] CUSTODY

DATE 3-1, 94 PAGE 1 OF 2

ATI LAB I.D. 40337[illegible]

PROJECT MANAGER: John Hale/Duncan Boarding

COMPANY: Cal City, NM
ADDRESS:

PHONE:
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
94-10-SW Inlet	3-17-94	10:34AM	W												X							1
94-11-SW Inlet	3-17-94	10:38AM	W	03																		1
94-12-SW Inlet	3-17-94	10:42AM	W																			1
94-13-NE Corner	3-17-94	10:48AM	W																			1
94-14-NE Corner	3-17-94	10:49AM	W	A																		1
94-15-NE Corner	3-17-94	10:52AM	W																			1
94-16-NE Corner	3-17-94	10:55AM	W																			1
94-1-WO	3-17-94	11:00AM	OIL	05																		1
94-1-WO	3-17-94	11	OIL																			1

Metals - As Ba Cd Cr Pb Hg Se Ag
Cu Fe Mn Zn Al Be Co Mo Ni Sb V
SDWA Primary Standards - Arizona Ion Balance
ALK - SO4 - Cl - TDS
8010/8020
Flashpoint

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME:
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	9
CUSTODY SEALS	(Y) N / NA
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 3:05	Signature: Time:	Signature: Time:
Printed Name: John Hale Date: 3/17/94	Printed Name: Date:	Printed Name: Date:
Company: CAM Phone: 564-2074	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: [signature] Time: 4:05
Printed Name: Date:	Printed Name: Date:	Printed Name: ULRA TOWSKI Date: 3/17/94
Company:	Company:	Analytical Technologies, Inc.

Analytical Technologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY

DATE: 3/14/14 PAGE 3 OF 3

ATI LAB I.D. 403379

PROJECT MANAGER: John Hale / Denver Bradbox

COMPANY: CRS Corp of New Mexico

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)			Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.			Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)			SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal			The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)		NUMBER OF CONTAINERS
TRIP Blank	3/14/14	—	Aq	06							X	X																					1

PROJECT INFORMATION

PROJ. NO.:

PROJ. NAME:

P.O. NO.:

SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	1
CUSTODY SEALS	(Y) / N / NA
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☑ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: Time: 4:25

Printed Name: John Hale Date: 3/17/14

Company: CRS Corp Phone: 505-220-1914

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 3.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY:(LAB) 3.

Signature: Time: 4:25

Printed Name: CLARA ROSALES Date: 3/17/14

Analytical Technologies, Inc.

Analytic ologies, Inc. Albuquerque, NM

Chain of ustody

DATE 3/18/94 PAGE 1 OF 1

TWORK PROJECT MANAGER: BETH PROFFITT

)MPANY: **Analytical Technologies, Inc.**

)DRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

IENT PROJECT MANAGER:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	Alk, SO4, Cl, TDS *	632/632 MOD	619/619 MOD	610/8310	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu	Fe, Mn, Zn, Al, B, Co, Mo, Ni, Be	8240 /TCLP 1311) ZHE	Mg, K, Na, Ion Balance	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	Chromium VI	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
033379-1	3/17/94	0943	AQ	01						X			X	X	X		X													6
-2		1008		02						X			X	X	X		X													
-3		1031		03						X			X	X	X		X													
-4		1048		04						X			X	X	X		X													
-5		1100	non-aq	05															X											1

PROJECT INFORMATION	
)JECT NUMBER:	033379
)JECT NAME:	GCN
-LEVEL:	(STD) IV
REQUIRED:	MS MSD BLANK
STANDARD	RUSH!

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	13
CHAIN OF CUSTODY SEALS	N
INTACT?	N
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	94-03-145

E DATE: 3/31/94

ISH SURCHARGE:

IENT DISCOUNT: 10 %

W.O.# LK600

* Sent Wet Chem to ATI-Florida - per client Request LT

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	X
RENTON	
PENSACOLA	
PHOENIX	
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.	
Signature:	Time: 1730
Printed Name: Terri Dettre	Date 3/18/94
Analytical Technologies, Inc. Albuquerque	
RECEIVED BY: (LAB) 1.	
Signature:	Time:
Printed Name:	Date:
Company:	

RELINQUISHED BY: 2.	
Signature:	Time:
Printed Name:	Date
Company:	
RECEIVED BY: (LAB) 2.	
Signature:	Time: 1030
Printed Name:	Date: 3/19/94
Company: ATI	

bs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

Analytical Technologies, Inc. Albuquerque, NM

Chain of Custody

DATE 3/21/94 PAGE 1 OF 1

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: **Analytical Technologies, Inc.**

ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	Glycols	632/632 MOD	619/619 MOD	610/8310		8240 (TCLP 1311) ZHE	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
403379-5	3/17/94	1100	AQ							X																	1

PROJECT INFORMATION	
PROJECT NUMBER:	403379
PROJECT NAME:	GCN
QC LEVEL:	(STD) IV
QC REQUIRED:	MS MSD BLANK
TAT:	(STANDARD) RUSH!

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE: 4/4/94

RUSH SURCHARGE: _____

CLIENT DISCOUNT: _____ %

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	
PHOENIX	
BARRINGER	
FIBERQUANT	
WC Analytical	X

RELINQUISHED BY: 1.

Signature: Terri Dotte Time: 1730

Printed Name: Terri Dotte Date: 3/21/94

Analytical Technologies, Inc. Albuquerque

RECEIVED BY: (LAB) 1.

Signature: Jennifer Holmes Time: 1111

Printed Name: Jennifer Holmes Date: 3/22

Company: WCAS #26076

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date

Company:

RECEIVED BY: (LAB) 2.

Signature: Time:

Printed Name: Date:

Company:

Analytical Technologies, Inc. Albuquerque, NM

Chain of Custody

DATE 3/18/94 PAGE 1 OF 1

WORK PROJECT MANAGER: BETH PROFFITT

COMPANY: Analytical Technologies, Inc.

ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	Alk, SO4, Cl, TDS	632/632 MOD	619/619 MOD	(610/8310	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu	Fe, Mn, Zn, Al, B, Co, Mo, Ni, Co	8240 (TCLP 1311) ZHE	Mg, K, Na, Ion Balance	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	Flammability	NACE	ASBESTOS		BOD	TOTAL COLIFORM	FECAL COLIFORM		GROSS ALPHA/BETA	RADIUM 226/228		AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
3379-1	3/17/94	0943	AQ	01						X			X	X	X		X															1
-2		1008		02						X			X	X	X		X															1
-3		1031		03						X			X	X	X		X															1
-4		1048		04						X			X	X	X		X															1
-5		1100	non-aq	05																X												1

Please analyze for tests in green. Report directly to ATI-Flo

PROJECT INFORMATION	
PROJECT NUMBER:	4603379
PROJECT NAME:	GCN
LEVEL:	(STD) IV
REQUIRED:	MS MSD BLANK
	STANDARD RUSHI

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	13
CHAIN OF CUSTODY SEALS	N
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	94-03-145

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	X
RENTON	
PENSACOLA	
PHOENIX	
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.
Signature: Terri Dettre Time: 1730
Printed Name: Terri Dettre Date: 3/18/94
Analytical Technologies, Inc. Albuquerque

RECEIVED BY: (LAB) 1.
Signature: David R Bass Time: 0830
Printed Name: David R Bass Date: 3/21/94
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date
Company:

RECEIVED BY: (LAB) 2.
Signature: Time: 1050
Printed Name: Date: 3/17/94
Company: ATI-FC

DATE: 3/31/94
RUSH SURCHARGE:
CLIENT DISCOUNT: 10 %

W.O.# LK600

* Sent wet chem to ATI-Fl per client request

conoco MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Name: No. 1 Diesel Fuel/No. 1 Fuel Oil
Conoco Product Code: 3501/4195
Chemical Family: Mixed Petroleum Hydrocarbon
Manufacturer: Conoco Inc.
Address: P.O. Box 1267, Ponca City, OK 74603

CAS Reg. No.: Mixture; major components may be some combination of 64742-38-7, 8008-20-6, 64742-81-0
Transportation Emergency No.: (800) 424-9300 (Chemtrec)
Product Information No.: (405) 767-6000

II. OSHA HAZARD DETERMINATION

Hazardous Ingredients:
Hydrocarbons (Aromatic and Paraffinic Hydrocarbons)

Physical Effect Properties:
Product/Mixture: Class II Combustible Liquid per NFPA Code No. 30-1984.

III. PHYSICAL DATA

Appearance and Odor: Clear liquid; paraffinic odor.

Boiling Range (°F)	330-572	Specific Gravity (H_2O=1)	0.81
Vapor Pressure (mmHg), 68° F	2	% Volatile (by volume)	Nil
Solubility in Water	Insoluble		

IV. REACTIVITY DATA

Stable: X Unstable:

Hazardous Decomposition Products: Incomplete combustion may produce carbon monoxide.

Conditions to Avoid: Oxidizing materials, heat, flame.

Hazardous Polymerization: Will not occur.

V. FIRE AND EXPLOSION HAZARD DATA

LFL: 0.5 UFL: 6

Flash Point (Method used): 115° F min. (TCC) Autoignition Temperature NFPA: 410°F

Handle and stored in accordance with NFPA procedures for Class II Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Use water to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop a leak. Water spray may be used to flush spills away from exposures.

V. FIRE AND EXPLOSION HAZARD DATA (continued)

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide, and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

National Fire Protection Agency (NFPA)	HAZARD RATING
Health 0 Fire 2 Reactivity 0	Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE — DOT HAZARD CLASS: Combustible liquid

Precautions To Be Taken In Handling And Storing: Product is Class II Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Diesel fuel, combustible liquid, NA 1993/ Fuel Oil, No. 1, combustible liquid, NA 1993 (as appropriate).

Placard: Combustible* (Not required on packages 110 gallons or less).

D.O.T. Label: None.

OSHA Label: CAUTION: Minimize exposure. Product contains hydrocarbons which may cause irritation to eyes, skin, and lungs after prolonged or repeated exposure. The product may also be toxic to the liver and kidney. The use in poorly ventilated areas may cause dizziness, weakness, confusion, or unconsciousness. Aspiration into the lungs may cause pneumonia.

FIRST AID: If swallowed, do not induce vomiting.

Avoid ignition sources. Combustible.

* Flammable placard may be substituted on a cargo tank, portable tank, or compartmented tank car.

VII. HEALTH HAZARD INFORMATION

PEL 500 ppm (petroleum distillates) TLV Not Established

Ceiling Value Not Established Du Pont AEL Not Established

Primary Route(s) of Exposure/Entry: Inhalation, skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated by Exposure: Studies with mice or rats have shown that some petroleum distillates have caused either damage or tumors of the kidneys or tumors of the liver. However, kidney effects were not seen in similar studies involving guinea pigs, dogs, or monkeys. Also, the significance of the liver tumors in rodents is highly speculative.

VII. HEALTH HAZARD INFORMATION (continued)

Mouse skin painting studies have shown that unrefined petroleum distillates having a distillation range of 120-700° F, and which are similar to ingredients in this product, caused a low-moderate incidence of skin tumors. This animal data should be interpreted cautiously since these studies involved repeated exposure of shaved skin which was never washed free of test material.

The product may cause irritation to eyes, skin, or lungs after prolonged or repeated exposure. Extreme exposure or aspiration into the lungs may cause pneumonia. Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness, and other nervous system effects; greater exposure may cause dizziness, slurred speech, flushed face, unconsciousness, or convulsions.

Is Product Listed as Carcinogen or Potential Carcinogen by: NTP? No IARC? No OSHA? No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes and seek medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation develops, consult a physician.

See Section X for Precautionary Measures.

Inhalation: Remove individual to fresh air. If breathing stops, administer artificial resuscitation. Seek medical attention.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Seek medical attention. Never give anything by mouth to an unconscious person.

Note to Physicians: Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes X No _____

In Case of Spill or Leak: This material is combustible. Appropriate precautions should be taken. Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up of residual fluids by use of absorbent materials. Remove contaminated items including contaminated soil and place in proper containers for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material as a RCRA hazardous waste by such methods as incineration, complying with federal, state and local regulations.

X. PRECAUTIONARY MEASURES

Respiratory Protection: Use air mask or hydrocarbon absorbing respirator when exposed to oil sprays or mists.

Ventilation: General mechanical ventilation should be adequate.

Protective Gloves: Chemically resistant gloves such as vinyl, neoprene or NBR to minimize skin contact.

Eye Protection: Face shield recommended when exposed to oil sprays or mists or if splashing is probable.

Other Protective Equipment: Coveralls or other protective apparel needed when splashing is probable.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

Maintenance Procedures: Avoid all ignition sources until the contaminated storage container is isolated and clear of all flammable and toxic vapor concentrations. Use adequate ventilation to remove vapor from container.

Conoco Inc.

LUBC0410 | Revised 07-Mar-91 | Printed 27-Aug-91

TURBINE OIL

MATERIAL IDENTIFICATION

Manufacturer/Distributor	Conoco Inc. P.O. Box 2197 Houston, TX 77252	
Phone Numbers	General Information Transport Emergency Medical Emergency	1-(713)293-5550 1-(800)424-9300 1-(800)441-3637
Grade	32, 46, 68, 100, 32S	
Chemical Family	Petroleum Hydrocarbons	
Trade Names and Synonyms	7319, 7320, 7321, 7322, 7325 Petroleum Lubricating Oil, Turbine Oils	
CAS Number	Mixture; See Regulatory Information	
NFPA Ratings	Health: 0 Flammability: 1 Reactivity: 0	
NPCA-HMIS Ratings	Health: 1 Flammability: 1 Reactivity: 0 Personal Protection rating to be supplied by user depending on use conditions.	
WHMIS Classification	This is not a WHMIS controlled product.	

OSHA HAZARD DETERMINATION

Hazardous Ingredients

Components of this material are not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

Refer to the Regulatory Information Section of this MSDS for other federal and state regulatory information.

(continued)

PHYSICAL DATA

Boiling Point	650 to 1060°F
Vapor Pressure	Nil
Vapor Density	>1 (Air = 1.0)
% Volatiles	Nil
Evaporation Rate	Nil
Water Solubility	Insoluble
Odor	Pungent sweet
Form	Liquid
Color	Light brown
Specific Gravity	0.86-0.87 (Water = 1)

HAZARDOUS REACTIVITY

Instability	Stable.
Incompatibility	Incompatible with strong oxidizing agents. Avoid sparks and flame.
Decomposition	Normal combustion forms carbon dioxide; incomplete combustion may produce carbon monoxide.
Polymerization	Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point	285-380 deg F
Method	PM
Autoignition	650-680 deg F
Fire and Explosion Hazards	Class IIIB Combustible Liquid (NFPA).
Extinguishing Media	Water Spray. Foam. Dry Chemical. CO2.
Special Fire Fighting Instructions	Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures. Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

(continued)

HEALTH HAZARD INFORMATION

Primary Route of Exposure/Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated by Exposure:
Mouse skin painting studies have shown that highly solvent-refined petroleum lubricating oils, which are similar to ingredients in this product, have not caused skin tumors. The product, as with many petroleum products, may cause minor skin, eye, or lung irritation, especially if poor hygienic practices or inadequate engineering design allow prolonged or repeated exposure.

Carcinogenicity	None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.
Exposure Limits	
TURBINE OIL	
TLV (ACGIH)	None Established
PEL (OSHA)	None Established
Safety Precautions	Wash thoroughly after handling. Wash clothing after use.

FIRST AID

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin Contact	The compound is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable. If irritation develops, consult a physician.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion	If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
Notes to Physician	Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly. Administer 5mL/kg, or 350mL for an average adult.

PROTECTION INFORMATION

Generally Applicable Control Measures and Precautions
Ventilation: Normal shop ventilation.

Personal Protective Equipment	Respiratory Protection: None normally required except under unusual circumstances such as described in the Fire and Explosion Section. Protective Gloves: Should be worn when the potential exists for prolonged or repeated skin contact. NBR or Neoprene recommended. Eye/Face Protection: Safety glasses with side shields if splashing is probable. Other Protective Equipment. Coveralls if splashing is probable. Launder contaminated clothing before reuse.

(continued)

SPILL, LEAK AND DISPOSAL INFORMATION

Spill, Leak, or Release	NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Recover free liquid for reuse or reclamation. Soak up with sawdust, sand, oil dry or other absorbent material.
Waste Disposal	Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Recover nonusable free liquid and dispose of in an approved and permitted incinerator. Do not flush to surface water or sanitary sewer system.

SHIPPING INFORMATION

DOT	
Proper Shipping Name	Not regulated.
IATA/IMO	
Proper Shipping Name	Not restricted.

STORAGE CONDITIONS

Store in accordance with National Fire Protection Assn regulations.

TITLE III HAZARD CLASSIFICATIONS

Acute	No
Chronic	No
Fire	No
Reactivity	No
Pressure	No

REGULATORY INFORMATION

OSHA HAZARD DETERMINATION

The material is not hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

EPA DETERMINATIONS

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, & LIABILITY ACT (CERCLA/SUPERFUND), 40 CFR 302
Not applicable; this material is covered by the CERCLA petroleum exclusion. Releases are not reportable.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, TITLE III (SARA) - SECTIONS 302, 304, 313

(continued)

REGULATORY INFORMATION (continued)

SECTION 302/304 - Extremely Hazardous Substances (40 CFR 355)
The material is not known to contain extremely hazardous substances at greater than 1.0% concentration; however, it is possible that this material may contain extremely hazardous substances at a lower concentration so that a large enough spill could warrant an Emergency Release Report under Section 304.

SECTION 313 - List of Toxic Chemicals (40 CFR 372)
The material is not known to contain chemical(s) at a level of 1.0% or greater (0.1% for carcinogens) on the list of Toxic Chemicals and subject to toxic chemical release reporting requirements.

TOXIC SUBSTANCES CONTROL ACT (TSCA)(40 CFR 710)
The material is a mixture as defined by TSCA. The chemical ingredients in this material are in the Section 8(b) Chemical Substance Inventory (40 CFR 710) and/or are otherwise in compliance with TSCA. In the case of ingredients obtained from other manufacturers, Conoco relies on the assurance of responsible third parties in providing this statement.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261, SUBPART C AND D
The material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable or reactive according to U.S. EPA definitions (40 CFR 261). This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If it is a hazardous waste, regulations 40 CFR 262-266 and 268 may apply.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 116.4A, Section 311
The material contains the following ingredient(s) which is considered hazardous if spilled in navigable waters.

Ingredient	: Petroleum Hydrocarbons
Reportable Quantity	: Film or sheen upon or discoloration of the water surface or adjoining shoreline.

HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS, 49 CFR 171-178.
Not Applicable

FOREIGN REGULATIONS

CANADIAN PRODUCTS ACT(WHMIS)
The material is not a WHMIS Controlled Product.

STATE REGULATIONS

(continued)

REGULATORY INFORMATION (continued)

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 ("PROPOSITION 65")
The material contains ingredient(s) known to the State of California to cause cancer, birth defects or other reproductive harm. Read and follow label directions and use care when handling or using all petroleum products.

Ingredient(s) : Formaldehyde (<0.00025%)
Ethyl Acrylate (<0.00025%) as residue

PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT
This material is not known to contain any ingredient(s) subject to the Act. Nonhazardous ingredient(s) information is withheld as trade secret in accordance with Section 11 of the Pennsylvania Worker and Community Right-to-Know Act.

The above data are based on tests, experience, and other information which Conoco believes reliable and are supplied for informational purposes only. However, some ingredients may have been purchased or obtained from third-party manufactures. In these instances, Conoco, in good faith, relies on information provided by those third parties. Since conditions of use are outside our control, CONOCO DISCLAIMS ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM USE OF THE ABOVE DATA. NOTHING CONTAINED HEREIN SHALL CONSTITUTE A GUARANTEE, WARRANTY (INCLUDING WARRANTY OF MERCHANTABILITY) OR REPRESENTATION (INCLUDING FREEDOM FROM PATENT LIABILITY) BY CONOCO WITH RESPECT TO THE DATA, THE MATERIAL DESCRIBED, OR ITS USE FOR ANY SPECIFIC PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO CONOCO.

Responsibility for MSDS:

Safety, Health, & Env. Affairs
Conoco Inc.
PO Box 2197
Houston, TX 77252
713/293-5550

End of MSDS

LUBRICATION ENGINEERS, INC.
P. O. BOX 7128 FORT WORTH, TX 76111

MATERIAL SAFETY DATA SHEET

********** SECTION I **********

PRODUCT IDENTIFICATION

SUPPLIER:
Lubrication Engineers, Inc.
3851 Airport Freeway
Fort Worth, TX 76111

EMERGENCY TELEPHONE NO.:
(817) 834-6321

CHEMICAL NAME AND SYNONYMS:
Not Applicable

TRADE NAME AND SYNONYMS:
1275 Almaplex Industrial Lubricant

CHEMICAL FAMILY:
Petroleum-Hydrocarbon

FORMULA:
Not Applicable

********** SECTION II **********

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE:
Orange lubricant

VISCOSITY: At 210 F, SUS
Not applicable

At 100 C, CS
Not applicable

ODOR:
Lube oil odor

VISCOSITY: At 100 F, SUS
Not applicable

At 40 C, CS
Not applicable

RELATIVE DENSITY: (Air=1)
>1

SOLUBILITY IN WATER:
Negligible

PH: 6-8

MELTING POINT:
450 F

POUR POINT:
Not applicable

BOILING POINT: F
>500

FLASH POINT: F (Method)
480 (C.O.C.)

VAPOR PRESSURE: (MM HG 60F)
<5

SPECIFIC GRAVITY: (H20=1)
Approx. .95

********** SECTION III **********

INGREDIENTS

	WT PCT (APPROX)	TLV	ORAL LD50	DERMAL LD50
HAZARDOUS INGREDIENTS:				
Barium dinonylnaphthalene sulfonate (Rust inhibitor)	<1.0	Unknown	3.5ml/kg Rat	2ml/kg Rabbit
Antimony dialkyldithiocarbamate (Multi-functional compound)	3.0-7.0	0.5mg/m3 as Sb	>16,400 mg/kg Rat	16000mg/kg Rabbit
Barium compounds	<1.0	Unknown	Unknown	Unknown
Antimony compounds	3.0-7.0	0.5mg/m3 as Sb	Unknown	Unknown
Oil mist (Mineral)	>80.0	5mg/m3 TWA	Unknown	Unknown

NON-HAZARDOUS INGREDIENTS:

ADDITIVES AND/OR OTHER INGREDIENTS. This product is a mixture. The specific chemical identity of hazardous ingredients and non-hazardous ingredients, their C.A.S. numbers and their exact percent of composition are proprietary to Lubrication Engineers, Inc. and are being withheld as Trade Secrets. The above listing of hazardous ingredients discloses the properties, approximate concentration and known toxicological effects of the hazardous ingredients. This material is an automotive/industrial lubricant with a low order of toxicity and irritancy.

Any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, they will be listed in the above HAZARDOUS INGREDIENTS.

********** SECTION IV **********

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: F (Method Used)	FLAMMABLE LIMITS:	LEL	UEL
480 (C.O.C.)	Unknown		

EXTINGUISHING MEDIA:

Foam, dry chemical, water fog, or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not direct a solid stream of water into fire. Treat as a petroleum oil fire. Respiratory protection required for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None

********** SECTION V **********

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: (If Established)
Not established. Oil mist = 5mg/m3

EFFECTS OF OVEREXPOSURE:
Although there are no consistent primary routes of entry, the product may cause mild dermititis upon prolonged contact and is expected to be an eye and lung irritant. Any existing skin, eye, or lung irritation may be aggravated by direct contact. No components are listed on OSHA, I.A.R.C., or N.T.P. lists for carcinogens.

********** SECTION VI **********

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:
Flush immediately with water until irritation subsides.

SKIN CONTACT:
Wash affected skin area with mild soap and water.

INGESTION:
Do not induce vomiting. Contact a physician.

INHALATION:
Remove to fresh air. If not breathing, give artificial respiration. Contact a physician.

********** SECTION VII **********

REACTIVITY DATA

STABILITY: (Thermal, Light, Etc.)
Stable

CONDITIONS TO AVOID:
Contact with nuclear radiation and strong oxidizing materials.

INCOMPATIBILITY: (Materials to avoid)
Strong osidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS:
Dense smoke; oxides of C, N, S, and Sb; Ba compounds; hydrogen sulfide.

HAZARDOUS POLYMERIAZATION:
Will not occur.

********** SECTION VIII **********

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition. Treat as a petroleum oil spill.

WASTE DISPOSAL METHOD:
Incinerate where permitted under federal, state, and local laws. Used petroleum products may be recycled through re-refining processes.

********** SECTION IX **********

SPECIAL PROTECTION INFORMATION

EYE PROTECTION:
Sufficient to avoid direct contact.

SKIN PROTECTION:
Protective neoprene or plastic gloves may be desired.

RESPIRATORY PROTECTION:
Usually not needed.

VENTILATION:
Usually not needed in open, unconfined areas.

OTHER:
Not needed.

********** SECTION X **********

SPECIAL PRECAUTIONS

Close containers when not in use. Keep away from heat, open flames, and strong oxidants. Avoid eye contact and prolonged skin contact. Avoid breathing oil mists. Wash thoroughly after handling.

********** SECTION XI **********

HAZARD RATINGS

There are several recognized and accepted systems that assign hazard ratings to materials. Although this product has not been evaluated specifically against these systems, the ratings for the National Fire Protection Association (NFPA) and the National Paint and Coatings Association's Hazardous Material Identification System (HMIS) are:

	NFPA	HMIS
Health	2	1
Flammability	1	1
Reactivity	1	1

LUBRICATION ENGINEERS, INC.
P. O. BOX 7128 FORT WORTH, TX 76111

MATERIAL SAFETY DATA SHEET

********** SECTION I **********

PRODUCT IDENTIFICATION

SUPPLIER:
Lubrication Engineers, Inc.
3851 Airport Freeway
Fort Worth, TX 76111

EMERGENCY TELEPHONE NO.:
(817) 834-6321

CHEMICAL NAME AND SYNONYMS:
Not Applicable

TRADE NAME AND SYNONYMS:
9901 Almasol Syntemp Lubricant

CHEMICAL FAMILY:
Synthetic-Hydrocarbon

FORMULA:
Not Applicable

********** SECTION II **********

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE:
Green Lubricant

VISCOSITY: At 210 F, SUS: Not Applicable; At 100 C, CS: Not Applicable

ODOR:
Lube Oil Odor

VISCOSITY: At 100 F, SUS: Not Applicable; At 40 C, CS: Not Applicable

RELATIVE DENSITY: (Air=1)
>1

SOLUBILITY IN WATER:
Negligible

PH: 6-8

MELTING POINT:
Non-Melt

POUR POINT:
Not Applicable

BOILING POINT: F
>500

FLASH POINT: F (Method)
400 (C.O.C.)

VAPOR PRESSURE: (MM HG 60F)
<5

SPECIFIC GRAVITY: (H20=1)
Approx. 0.95

********** SECTION III **********

INGREDIENTS

	WT PCT (APPROX)	TLV	ORAL LD50	DERMAL LD50
HAZARDOUS INGREDIENTS:				
Antimony Compound	2.0-5.0	0.5mg/m3 as Sb	>16000mg/ kg Rat	16000mg/ kgRabbit
Ashless Dithiocarbamate	<1.0	Unknown	>16000mg/ kg Rat	>2000mg/ kgRabbit
Barium Compound	<1.0	Unknown	1.75 mg/kg Rat	>2.0ml/ kgRabbit
4-Hydroxy-4-Methyl-2-Pentanone (Diacetone Alcohol)	<1.0	50ppm-TWA	4000mg/kg Rat	13500mg/ kgRabbit
Zinc Compounds	1.0-4.0	Unknown	Unknown	Unknown

NON-HAZARDOUS INGREDIENTS:

ADDITIVES AND/OR OTHER INGREDIENTS. This product is a mixture. The specific chemical identity of hazardous ingredients and non-hazardous ingredients, their C.A.S. numbers and their exact percent of composition are proprietary to Lubrication Engineers, Inc. and are being withheld as Trade Secrets. The above listing of hazardous ingredients discloses the properties, approximate concentration and known toxicological effects of the hazardous ingredients.

REGULATORY REQUIREMENTS:

Any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, they will be listed in the above HAZARDOUS INGREDIENTS.

********** SECTION IV **********

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: F (Method Used)	FLAMMABLE LIMITS:	LEL	UEL
400 (C.O.C.)	Unknown		

EXTINGUISHING MEDIA:

Foam, dry chemical, water fog, or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not direct a solid stream of water into fire. Treat as a petroleum oil fire. Respiratory protection required for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None.

********** SECTION V **********

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: (If Established)
Not established.

EFFECTS OF OVEREXPOSURE:
Although there are no consistent primary routes of entry, the product may cause mild dermititis upon prolonged contact and is expected to be an eye and lung irritant. Any existing skin, eye, or lung irritation may be aggravated by direct contact. No components are listed on OSHA, I.A.R.C., or N.T.P. lists for carcinogens.

********** SECTION VI **********

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:
Flush immediately with water until irritation subsides.

SKIN CONTACT:
Wash affected skin area with mild soap and water.

INGESTION:
Do not induce vomiting. Contact a physician.

INHALATION:
Remove to fresh air. If not breathing, give artificial respiration. Contact a physician.

********** SECTION VII **********

REACTIVITY DATA

STABILITY: (Thermal, Light, Etc.)
Stable

CONDITIONS TO AVOID:
Contact with nuclear radiation and strong oxidizing materials.

INCOMPATIBILITY: (Materials to avoid)
Strong oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS:
Dense smoke and oxides of C, S, Zn, P, and N; hydrogen sulfide.

HAZARDOUS POLYMERIAZATION:
Will not occur.

********** SECTION VIII **********

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition. Treat as a petroleum oil spill.

WASTE DISPOSAL METHOD:
Incinerate where permitted under federal, state, and local laws. Used petroleum products may be recycled through re-refining processes.

********** SECTION IX **********

SPECIAL PROTECTION INFORMATION

EYE PROTECTION:
Sufficient to avoid direct contact.

SKIN PROTECTION:
Protective neoprene or plastic gloves may be desired.

RESPIRATORY PROTECTION:
Usually not needed.

VENTILITATION:
Usually not needed in open, unconfined areas.

OTHER:
Usually not needed.

********** SECTION X **********

SPECIAL PRECAUTIONS

Close containers when not in use. Keep away from heat, open flames, and strong oxidants. Avoid eye contact and prolonged skin contact. Avoid breathing oil mists. Wash thoroughly after handling.

********** SECTION XI **********

HAZARD RATINGS

There are several recognized and accepted systems that assign hazard ratings to materials. Although this product has not been evaluated specifically against these systems, the ratings for the National Fire Protection Association (NFPA) and the National Paint and Coatings Association's Hazardous Material Identification System (HMIS) are:

	NFPA	HMIS
Health	2	1
Flammability	1	1
Reactivity	1	1

MATERIAL SAFETY DATA SHEET
CHEMTHERM 550
KII-Heating Oil

1	HMIS HEALTH
1	HMIS FLAMMABILITY
0	HMIS REACTIVITY
B	HMIS PERSONAL PROTECT

SECTION I - IDENTIFICATION

DISTRIBUTED BY..... COASTAL CHEMICAL COMPANY, INC.
P.O. BOX 820
ABBEVILLE, LA 70511-0820
(318) 893-3862
EMERGENCY PHONE NUMBER... (318) 893-3862 OR CHEMTREC (800) 424-9300
EFFECTIVE DATE..... 1/1/90
MANUFACTURER'S NAME.....
TRADE NAME..... CHEMTHERM 550
CHEMICAL FAMILY..... SYNTHETIC HYDROCARBON, HEAT TRANSFER FLUID
CAS NUMBER..... BLEND
CHEMICAL FORMULA..... PROPRIETARY

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	%	TLV (UNITS)	PROD. CAS #
SYNTHESIZED HYDROCARBON	*	5 MG/M3 ACGIH	N/A

SECTION III - PHYSICAL DATA

FREEZING POINT (F)..... -35 DEG F
VAPOR PRESSURE (MM HG)... < 0.1
VAPOR DENSITY (AIR=1).... > 5.0
SOLUBILITY IN H2O..... < 0.01%
APPEARANCE/ODOR..... CLEAR LIQUID, NO COLOR, NO APPARENT ODOR
SPECIFIC GRAVITY (H2O=1). 0.844 @ 60 DEG F
PH..... N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... 221 DEG C, 430 DEG F
LOWER FLAME LIMIT..... N/D
HIGHER FLAME LIMIT..... N/D
EXTINGUISH MEDIA..... WATER FOG OR SPRAY, FOAM, DRY POWDER, CARBON DIOXI
(CO2).
UNUSUAL FIRE HAZARD..... CONTAINERS MAY EXPLODE FROM INTERNAL PRESSURE IF
CONFINED TO FIRE. COOL WITH WATER. KEEP UNNECESSAR
PEOPLE AWAY.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE.... 5 MG/M3 BASED ON OIL MIST (ACGIH)

ROUTES OF ENTRY INHALATION? SKIN? INGESTION?

IRRITANT NARCOTIC | IRRITANT | IRRITANT

HEALTH HAZARDS..... ACUTE: VAPORS OR LIQUID MAY BE IRRITATING TO SKIN, EYES, OR MUCOUS MEMBRANES. AVOID INHALATION OR SKIN/EYE CONTACT.

CARCINOGENICITY	NTP?	IARC MONOGRAPHS?	OSHA REGULA
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... SIGNS OF INHALATION OVEREXPOSURE: IRRITATION OF RESPIRATORY TRACT, NERVOUS SYSTEM DEPRESSION, HEADACHES, DIZZINESS, STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS, COMA.

FIRST AID PROCEDURES..... IN CASE OF EYE CONTACT, FLUSH IMMEDIATELY WITH PLE OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION; FOR SKIN, WASH THOROUGHLY WITH SOAP AND WATER. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MEDICAL ATTENTION. IF SWALLOWED, CALL PHYSICIAN IMMEDIATELY. ONLY INDUCE VOMITING AT TH INSTRUCTION OF A PHYSICIAN. NEVER GIVE ANYTHING B MOUTH TO AN UNCONCIOUS PERSON.

SECTION VI - REACTIVITY DATA

HEMICAL STABILITY..... STABLE
CONDITIONS TO AVOID..... EXCESS HEAT
INCOMPATIBLE MATERIALS... OXIDIZERS OR OXIDIZING MATERIALS.
DECOMPOSITION PRODUCTS... FROM FIRE; SMOKE, CARBON DIOXIDE, & CARBON MONOXIDE
HAZARDOUS POLYMERIZATION. WILL NOT OCCUR
POLYMERIZATION AVOID..... N/A

SECTION VII - SPILL OR LEAK PROCEDURE

FOR SPILL..... IN CASE OF SPILLAGE, ABSORB WITH INERT MATERIAL AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE REGULATION

WASTE DISPOSAL METHOD.... INDUSTRIAL WASTE. FOLLOW FEDERAL, STATE AND LOCAL LAWS.

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... WHEN VENTILATION IS NOT ADEQUATE, USE OF NIOSH APPROVED ORGANIC VAPOR/ACID GAS CARTRIDGE RESPIRATO IS RECOMMENDED.
VENTILATION..... DESIRED
MECHANICAL EXHAUST..... DESIRED IN CLOSED AREAS.
OCAL EXHAUST..... DESIRED
ROTECTIVE GLOVES..... WEAR IMPERVIOUS GLOVES
EYE PROTECTION..... USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT..... CHEMICAL TYPE APRON RECOMMENDED

SECTION IX - SPECIAL HANDLING

ANDLING AND STORAGE.....	CLEAN UP LEAKS IMMEDIATELY TO PREVENT SOIL OR WATE CONTAMINATION. FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTIED.
PRECAUTIONARY MEASURES...	KEEP AWAY FROM HEAT AND FLAME. DO NOT GET IN EYES, SKIN, OR ON CLOTHING. DO NOT BREATHE VAPORS
HAZARD CLASS.....	NON HAZARDOUS
DOT SHIPPING NAME.....	CHEMICALS, NOS (COASTAL CHEMTHERM 550)
REPORTABLE QUANTITY (RQ).	NONE
UN NUMBER.....	N/A
NA #.....	N/A
PACKAGING SIZE.....	ALL

SECTION X - REGULATORY

EPA ACUTE.....	YES
EPA CHRONIC.....	NO
EPA IGNITABILITY.....	NO
EPA REACTIVITY.....	NO
EPA SUDDEN RELEASE OF PRESSURE.....	NO
CERCLA RQ VALUE.....	NONE
SARA TPQ.....	NONE
SARA RQ.....	NONE
SECTION 313.....	NO, NOT LISTED
EPA HAZARD WASTE #.....	NONE
CLEANAIR.....	NONE
CLEAN WATER.....	NONE

FOOT NOTES N/A - NOT APPLICABLE N/D - NO DATA AVAILABLE
< - MEANS LESS THAN > - MEANS GREATER THAN
APP. - APPROXIMATE EST. - ESTIMATED

PREPARED BY:..... GLEN WHITE, S.I.S., 817-560-4631
REVISED DATE..... 1/1/90

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOM IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. TH INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY T COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIV CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

MATERIAL SAFETY DATA SHEET

Unocal Corporation
1201 West 5th Street
Los Angeles, California 90017

Product Name: UNOCAL GAS ENGINE OIL HD 40
Product Code No: 03796XX40

Issue Date: 07/13/90
Status: FINAL

Responsible Party:	Transportation Emergencies:
UNOCAL REFINING & MARKETING DIVISION UNION OIL COMPANY OF CALIFORNIA 1201 WEST 5TH STREET LOS ANGELES, CALIFORNIA 90017 CONTACT FOR FURTHER INFORMATION: MSDS COORDINATOR 213-977-7589	CHEMTREC (800) 424-9300 Cont. U.S. (202) 483-7616 (Collect) from Alaska & Hawaii Health Emergencies: LOS ANGELES POISON CONTROL CENTER (24 hrs) (800) 356-3129

PRODUCT IDENTIFICATION

PRODUCT NAME: UNOCAL GAS ENGINE OIL HD 40

SYNONYMS: UNION GAS ENGINE OIL HD 40

GENERIC NAME: CRANKCASE OIL

CHEMICAL FAMILY: PETROLEUM HYDROCARBON

DOT PROPER SHIPPING NAME: NOT APPLICABLE

ID NUMBER: NONE

DOT HAZARD CLASSIFICATION: NOT REGULATED

PRECAUTIONARY WARNING

WARNING!
USED MOTOR OIL IS A POSSIBLE SKIN CANCER HAZARD BASED ON ANIMAL DATA. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, GRIND OR DRILL ON OR NEAR CONTAINER OR EXPOSE TO ANY SOURCE OF IGNITION. "EMPTY" CONTAINER RETAINS RESIDUE (LIQUID AND/OR VAPOR) AND MAY EXPLODE IN HEAT OF A FIRE.

SECTION I - COMPONENTS	PERCENT	EXPOSURE LIMIT	UNITS	AGENCY	TYPE
HAZARDOUS COMPONENTS					
SOLVENT DEWAXED DISTILLATE, HEAVY PARAFFIN					
CAS #: 64742-65-0	63	5.000	mg/m3	ACGIH	TWA
		10.000	mg/m3	ACGIH	STEL
		5.000	mg/m3	MSHA	TWA
		5.000	mg/m3	OSHA	TWA
		5.000	mg/m3	CAL OSHA	TWA
SOLVENT DEWAXED RESIDUAL OIL					
CAS #: 64742-62-7	31	5.000	mg/m3	ACGIH	TWA
		10.000	mg/m3	ACGIH	STEL
		5.000	mg/m3	MSHA	TWA
		5.000	mg/m3	OSHA	TWA
		5.000	mg/m3	CAL OSHA	TWA

SECTION I - COMPONENTS	PERCENT	EXPOSURE LIMIT	UNITS	AGENCY	TYPE
OTHER COMPONENTS					
TRADE SECRET CAS #: PROPRIETARY	6	NOT ESTABLISHED			

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA 313 AND 40 CFR 372: CAS NUMBER WEIGHT %

--NONE--

NOTE: SOLVENT DEWAXED DISTILLATE, HEAVY PARAFFIN AND SOLVENT DEWAXED RESIDUAL OIL COMPARABLE TO OIL MIST, IF GENERATED.

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY
Have physician call LOS ANGELES POISON CONTROL CENTER (24 hrs) (800) 356-3129

EYE CONTACT:

IF IRRITATION OR REDNESS DEVELOPS, MOVE VICTIM AWAY FROM EXPOSURE AND INTO FRESH AIR. FLUSH EYES WITH CLEAN WATER. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION.

SKIN CONTACT:

WIPE MATERIAL FROM SKIN AND REMOVE CONTAMINATED SHOES AND CLOTHING. CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH MILD SOAP AND WATER AND, IF NECESSARY, A WATERLESS SKIN CLEANSER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF RESPIRATORY SYMPTOMS DEVELOP, MOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION. IF BREATHING DIFFICULTIES DEVELOP, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

NO FIRST AID IS NORMALLY REQUIRED; HOWEVER, IF SWALLOWED, AND SYMPTOMS DEVELOP, SEEK MEDICAL ATTENTION.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT:

THIS MATERIAL MAY CAUSE MILD EYE IRRITATION. DIRECT CONTACT WITH THE LIQUID OR EXPOSURE TO VAPORS OR MISTS MAY CAUSE STINGING, TEARING AND REDNESS.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE MILD SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS AND BURNING. NO HARMFUL EFFECTS ARE EXPECTED FROM SKIN ABSORPTION OF THIS MATERIAL. PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.

INHALATION (BREATHING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, BREATHING HIGH CONCENTRATIONS OF VAPORS OR MISTS MAY CAUSE IRRITATION OF THE NOSE AND THROAT.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

INGESTION (SWALLOWING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT.

COMMENTS:

USED MOTOR OIL IS A POSSIBLE SKIN CANCER HAZARD BASED ON TESTS IN LABORATORY ANIMALS AND HAS BEEN IDENTIFIED AS A POSSIBLE CARCINOGEN BY IARC.

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED. WHERE EXPLOSIVE MIXTURES MAY BE PRESENT, ELECTRICAL SYSTEMS SAFE FOR SUCH LOCATIONS MUST BE USED.

RESPIRATORY PROTECTION:

THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I). DEPENDING ON THE AIRBORNE CONCENTRATION, USE A RESPIRATOR OR GAS MASK WITH APPROPRIATE CARTRIDGES AND CANNISTERS (NIOSH APPROVED, IF AVAILABLE) OR SUPPLIED AIR EQUIPMENT.

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

EYE PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN THE WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

SECTION V - REACTIVITY DATA

REACTIVITY:

STABLE UNDER NORMAL CONDITIONS OF STORAGE AND HANDLING.

CONDITIONS AFFECTING REACTIVITY:

EXTENDED EXPOSURE TO HIGH TEMPERATURES MAY CAUSE DECOMPOSITION.

INCOMPATIBLE MATERIALS:

AVOID CONTACT WITH STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION MAY YIELD MAJOR AMOUNTS OF OXIDES OF CARBON AND MINOR AMOUNTS OF OXIDES OF SULFUR AND NITROGEN.

SECTION V - REACTIVITY DATA

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

POLYMERIZATION CONDITIONS TO AVOID:

NONE KNOWN

SECTION VI - SPILL AND LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawai

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

MAY IGNITE. KEEP ALL SOURCES OF IGNITION AWAY FROM SPILL/RELEASE. STAY UPWIND AND AWAY FROM SPILL/RELEASE. ISOLATE HAZARD AREA AND LIMIT ENTRY TO AUTHORIZED PERSONNEL. STOP SPILL/RELEASE IF IT CAN BE DONE WITHOUT RISK. WEAR APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING RESPIRATORY PROTECTION AS CONDITIONS WARRANT (SEE SECTION IV). PREVENT SPILLED MATERIAL FROM ENTERING SEWERS, STORM DRAINS, OTHER UNAUTHORIZED TREATMENT DRAINAGE SYSTEMS AND NATURAL WATERWAYS. DIKE FAR AHEAD OF SPILL FOR LATER RECOVERY OR DISPOSAL. SPILLED MATERIAL MAY BE ABSORBED INTO AN APPROPRIATE ABSORBENT MATERIAL. NOTIFY FIRE AUTHORITIES AND APPROPRIATE FEDERAL, STATE AND LOCAL AGENCIES. IMMEDIATE CLEANUP OF ANY SPILL IS RECOMMENDED. IF SPILL OF ANY AMOUNT IS MADE INTO OR UPON U.S. NAVIGABLE WATERS, THE CONTIGUOUS ZONE, OR ADJOINING SHORELINES, NOTIFY THE NATIONAL RESPONSE CENTER (PHONE NUMBER 800-424-8802).

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

USE AND STORE THIS MATERIAL IN COOL, DRY, WELL VENTILATED AREAS AWAY FROM HEAT AND ALL SOURCES OF IGNITION. KEEP CONTAINER(S) CLOSED. STORE ONLY IN APPROVED CONTAINERS. KEEP AWAY FROM ANY INCOMPATIBLE MATERIALS (SEE SECTION V). PROTECT CONTAINER(S) AGAINST PHYSICAL DAMAGE. DO NOT ENTER CONFINED SPACES SUCH AS TANKS OR PITS WITHOUT FOLLOWING PROPER ENTRY PROCEDURES SUCH AS ASTM D-4276. THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED ANY ESTABLISHED EXPOSURE LIMITS (SEE SECTIONS I AND IV). WASH THOROUGHLY AFTER HANDLING. DO NOT WEAR CONTAMINATED CLOTHING OR SHOES. USE GOOD PERSONAL HYGIENE PRACTICE. "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. BEFORE WORKING ON OR IN TANKS WHICH CONTAIN OR HAVE CONTAINED THIS PRODUCT, REFER TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ANSI Z49.1, AND OTHER GOVERNMENTAL AND INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING, OR OTHER CONTEMPLATED OPERATIONS.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

			HAZARD RANKING	
NFPA HAZARD CLASS	HEALTH HAZARD:	0	0 = LEAST	FLASH POINT
	FLAMMABILITY:	1	1 = SLIGHT	
	REACTIVITY:	0	2 = MODERATE	435 F (COC)
	OTHER:		3 = HIGH	224 C
			4 = EXTREME	

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, HALON, FOAM OR WATER SPRAY IS RECOMMENDED.

UNUSUAL FIRE & EXPLOSION HAZARDS:

THIS MATERIAL MAY BURN, BUT WILL NOT IGNITE READILY. IF CONTAINER IS NOT PROPERLY COOLED, IT MAY EXPLODE IN THE HEAT OF A FIRE. VAPORS ARE HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW AREAS.

SPECIAL FIRE FIGHTING PROCEDURES:

WEAR APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING RESPIRATORY PROTECTION AS CONDITIONS WARRANT (SEE SECTION IV). STOP SPILL/RELEASE IF IT CAN BE DONE WITHOUT RISK. MOVE UNDAMAGED CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. WATER SPRAY MAY BE USEFUL IN MINIMIZING OR DISPERSING VAPORS AND COOLING EQUIPMENT EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION IX - PHYSICAL DATA

***UNLESS OTHERWISE NOTED, VALUES ARE AT 20 C/68 F AND 760 mm Hg/1 atm.

APPROX BOILING POINT	(AIR = 1) VAPOR DENSITY	(N-BUTYL ACETATE = 1) EVAPORATION RATE	% VOLATILE
>600 F / 316 C	>1	<1	NEGLIGIBLE

% SOLUBILITY IN WATER

NEGLIGIBLE

SPECIFIC GRAVITY

0.90

APPEARANCE

CLEAR, BROWN LIQUID

ODOR

CHARACTERISTIC PETROLEUM

SECTION X - DOCUMENTARY INFORMATION

ISSUE DATE: 07/13/90 PRODUCT CODE NO. 03796XX40

PREV. DATE: 07/14/89 PREV. PROD. CODE NO. 03796

MSDS NO: NONE PREV. MSDS NO: NONE

Conoco Inc.

HYDC0180 | Revised 30-Apr-90 | Printed 27-Aug-91

SUPER HYDRAULIC OIL 22, 32, 46, 68

MATERIAL IDENTIFICATION

Manufacturer/Distributor	Conoco, Inc. P.O. Box 2197 Houston, TX 77252	
Phone Numbers	General Information Transport Emergency Medical Emergency	1-(713)293-5550 1-(800)424-9300 1-(800)441-3637
Chemical Family	Petroleum Hydrocarbon	
Trade Names and Synonyms	7447/7448/7449/7450 - Conoco Product Codes	
CAS Number	Mixture; See Regulatory Information	
NFPA Ratings	Health: 0 Flammability: 1 Reactivity: 0	
NPCA-HMIS Ratings	Health: 1 Flammability: 1 Reactivity: 1 Personal Protection rating to be supplied by user depending on use conditions.	
WHMIS Classification	Not Determined.	

OSHA HAZARD DETERMINATION

The material is not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Refer to the Regulatory Information Section of this MSDS for other federal and state regulatory information.

PHYSICAL DATA

Boiling Point	650-1060 deg F
Vapor Pressure	Nil
Vapor Density	> 1 (Air = 1.0)

(continued)

PHYSICAL DATA (continued)

% Volatiles	Nil
Evaporation Rate	Nil
Water Solubility	Insoluble
Form	Liquid
Color	Brown
Specific Gravity	(H2O=1) 0.86
Odor	: Mild Petroleum Hydrocarbon

HAZARDOUS REACTIVITY

Instability	Stable.
Decomposition	Hazardous gases/vapors produced are carbon dioxide. Incomplete combustion may produce carbon monoxide. Conditions to avoid: Strong oxidizing materials, heat, flame.
Polymerization	Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point	285°F
Method	PMCC
Autoignition	650°F
Fire and Explosion Hazards	Class IIIB Combustible Liquid (NFPA).
Extinguishing Media	Water Spray. Foam. Dry Chemical. CO2.
Special Fire Fighting Instructions	Special Fire Fighting Procedures: Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures. Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

HEALTH HAZARD INFORMATION

Primary Route of Exposure/Entry: Skin.

Signs and Symptoms of Exposure/Medical Conditions Aggravated by Exposure:
Mouse skin painting studies have shown that highly solvent-refined petroleum distillates, which are similar to ingredients in this product, have not caused skin tumors. The product does not pose a significant health hazard, but as with many petroleum products, poor hygienic practices or

(continued)

HEALTH HAZARD INFORMATION (continued)

inadequate engineering design that allow prolonged or repeated exposure may cause minor skin irritation.

Carcinogenicity	None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

Exposure Limits

SUPER HYDRAULIC OIL 22, 32, 46, 68

TLV (ACGIH)	None Established
PEL (OSHA)	None Established

Safety Precautions	Wash thoroughly after handling. Wash clothing after use.

FIRST AID

Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin Contact	In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. If irritation develops, consult a physician.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion	If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
Notes to Physician	Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly. Administer 5mL/kg, or 350mL for an average adult. Gastric lavage by qualified medical personnel may be considered, depending on quantity of material ingested.

PROTECTION INFORMATION

Generally Applicable Control Measures and Precautions

Ventilation: Normal shop ventilation.

Personal Protective Equipment	Respiratory Protection: None required except under unusual circumstances such as described in the Fire and Explosion Section. Protective Gloves: Should be worn when the potential exists for prolonged or repeated skin exposure. NBR or neoprene recommended. Eye Protection: Safety glasses with side shields; chemical splash goggles if splashing is probable. Other Protective Equipment: Coveralls with long sleeves if splashing is probable. Launder contaminated clothing before reuse.

(continued)

SPILL, LEAK AND DISPOSAL INFORMATION

Spill, Leak, or Release	NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Contain spill immediately in smallest possible area. Recover as much of the product as possible by such methods as vacuuming, followed by recovering residual fluids by using absorbent materials. Nonrecoverable product, contaminated soil, debris and other materials should be placed in proper containers for ultimate disposal. Avoid washing, draining or directing material to storm or sanitary sewers.
Waste Disposal	Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Recycle as much of the recoverable product as possible.

SHIPPING INFORMATION

DOT	
Proper Shipping Name	Not regulated.
IATA/IMO	
Proper Shipping Name	Not restricted.

STORAGE CONDITIONS

Store in accordance with National Fire Protection Assn regulations.

TITLE III HAZARD CLASSIFICATIONS

Acute	No
Chronic	No
Fire	No
Reactivity	No
Pressure	No

REGULATORY INFORMATION

FEDERAL REGULATIONS
CERCLA, 40 CFR 302
Not Applicable

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986,
TITLE III - SECTIONS 302, 304, 311, 312, 313

(continued)

REGULATORY INFORMATION (continued)

SECTION 302/304 - Extremely Hazardous Substances, 40 CFR 355
The material is not known to contain extremely hazardous substances at greater than 1.0% concentration; however, it is possible that this material may contain extremely hazardous substances at a lower concentration so that a large enough spill could warrant an Emergency Release Report under Section 304.

SECTION 311/312 - MSDS and Chemical Inventory Reporting Requirements, 40 CFR 370
The material should be reported under the following EPA hazard categories:

Immediate (Acute Health Hazard)
Delayed (Chronic Health Hazard)
Fire
Sudden Release of Pressure
Reactive
x Not Hazardous

Note: See the Hazard Determination Section for the concentration of any ingredients classified as hazardous by OSHA.

SECTION 313 - List of Toxic Chemicals, 40 CFR 372
The material is not known to contain chemical(s) at a level of 1.0% or greater (0.1% for carcinogens) on the list of Toxic Chemicals and subject to toxic chemical release reporting requirements.

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710
The material is a mixture as defined by TSCA. The chemical ingredients in this material are in the Section 8(b) Chemical Substance Inventory and/or are otherwise in compliance with TSCA. In the case of ingredients obtained from other manufacturers, Conoco relies on the assurance of responsible third parties in providing this statement.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261, SUBPART C AND D
The material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable or reactive according to U.S. EPA definitions (40 CFR 261). Additionally, it could be designated as hazardous according to state regulations. This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If such contact or mixing occurs, check 40 CFR 261 to determine whether it is a hazardous waste. If it is a hazardous waste, regulations 40 CFR 262, 263, 264 and 268 may apply.

(continued)

REGULATORY INFORMATION (continued)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT,
40 CFR 116.4A, Section 311
The material contains the following ingredient(s) which is considered hazardous if spilled in navigable waters.

Ingredient	Reportable Quantity
Petroleum Hydrocarbon	Film or sheen upon or discoloration of the water surface or adjoining shoreline

HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS,
49 CFR 171-178.
Not Applicable

STATE REGULATIONS

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 ("PROPOSITION 65")
The material is not known to contain ingredient(s) subject to the Act.

PENNSYLVANIA WORKER AND COMMUNITY RIGHT TO KNOW ACT
This material is not known to contain any ingredient(s) subject to the Act. Non-hazardous ingredient(s) information is withheld as trade secret in accordance with Section 11 of the Pennsylvania Worker and Community Right to Know Act.

ADDITIONAL INFORMATION AND REFERENCES

Product Use: Petroleum Lubricating and Hydraulic Oil

Sections of MSDS revised: Material Identification, OSHA Hazard Determination, Health Hazard Information, and Regulatory Information.

Responsibility for MSDS:

Env. & Occ. Health Services
Conoco Inc.
PO Box 2197
Houston, TX 77252
713-293-5550

End of MSDS

Mobil

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:08/02/91

********** I. PRODUCT IDENTIFICATION **********

MOBIL DTE 25

SUPPLIER:
MOBIL OIL CORP.

CHEMICAL NAMES AND SYNONYMS:
PET. HYDROCARBONS AND ADDITIVES

USE OR DESCRIPTION:
HYDRAULIC OIL

HEALTH EMERGENCY TELEPHONE:
(609) 737-4411

TRANSPORT EMERGENCY TELEPHONE:
(800) 424-9300 (CHEMTREC)

PRODUCT TECHNICAL INFORMATION:
(800) 662-4525

********** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES **********

APPEARANCE: Dark Amber Liquid ODOR: Mild PH: NA
VISCOSITY AT 100 F, SUS: 238.0 AT 40 C, CS: 46.0
VISCOSITY AT 210 F, SUS: 48.0 AT 100 C, CS: 7.0
FLASH POINT F(C): > 395(202) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -10(-23)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.885 SOLUBILITY IN WATER: Negligible
VAPOR PRESSURE-mm Hg 20C: < .1

NA=Not Applicable NE=Not Established D=Decomposes

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

********** III. POTENTIALLY HAZARDOUS INGREDIENTS **********

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O=OSHA, S=Supplier
NOTE: Limits shown for guidance only. Follow applicable regulations.

********** IV. HEALTH HAZARD DATA **********

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---

THRESHOLD LIMIT VALUE: 5.00 mg/m3 Suggested for Oil Mist
EFFECTS OF OVEREXPOSURE: Not expected to be a problem.

********** V. EMERGENCY AND FIRST AID PROCEDURES **********

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush thoroughly with water. If irritation persists, call a physician.

SKIN CONTACT: Wash contact areas with soap and water. High pressure accidental injection through the skin requires immediate medical attention for possible incision, irrigation and/or debridement.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter(pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

********** VI. FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT F(C): > 395(202) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6% UEL: 7.0%
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None.
NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

********** VII. REACTIVITY DATA **********

STABILITY (Thermal, Light, etc.): Stable
CONDITIONS TO AVOID: Extreme heat.
INCOMPATIBILITY (Materials to Avoid): Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.
HAZARDOUS POLYMERIZATION: Will not occur.

********** VIII. SPILL OR LEAK PROCEDURE **********

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.
WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

********** IX. SPECIAL PROTECTION INFORMATION **********

EYE PROTECTION: No special equipment required.
SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.
RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.
VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

********** X. SPECIAL PRECAUTIONS **********

No special precautions required.

********** XI. TOXICOLOGICAL DATA **********

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Slightly toxic ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Slightly toxic ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

EYE IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at Mobil Environmental and Health Sciences Laboratory by dermal application to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of similar oils showed no evidence of carcinogenic effects.

********** XII. REGULATORY INFORMATION **********

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA and EINECS.

DOT:

Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D); does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity, and is not formulated with the contaminants listed in the Toxicity Characteristic (TC) Rule as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312 - FORMERLY 302) REPORTABLE HAZARD CATEGORIES: None

This product contains no chemicals reportable under SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (.06%)	7440-66-6	15
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP) (.67%)	68649-42-3	15

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

********** XIII. INGREDIENTS **********

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS ONE OR MORE OF THE FOLLOWING BASE OILS:	> 95.00	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC	0.005	64742-52-5
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	0.005	64742-53-6
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC	0.180	64742-55-8

********** APPENDIX **********

FOR MOBIL USE ONLY: MCN: , MHC: 1* 1* NA 0* 0*, MPPEC: A, PPEC: A,
US91-461 APPROVE 08/02/91 REQ: US - MARKETING

****

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

****

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265

MATERIAL SAFETY DATA SHEET

An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.
(Similar to U.S. Department of Labor Form OMB 1218-0072 and generally accepted in Canada for information purposes)
Do Not Duplicate This Form. Request an Original.

I. PRODUCT IDENTIFICATION

PRODUCT	Molecular Sieve Type 4A		
CHEMICAL NAME	Sodium/Aluminosilicate	**SYNONYMS**	Zeolite
FORMULA	Na_2O, MgO, Al_2O_3, SiO_2	**CHEMICAL FAMILY**	Molecular Sieve
		MOLECULAR WEIGHT	Not Applicable

TRADE NAME UOP® Molecular Sieve formerly UNION CARBIDE® Molecular Sieve

II. HAZARDOUS INGREDIENTS

A complex of elements and compounds composed of material shown below.
NOTE: In the table below, the symbol "<" means "less than."

MATERIAL (CAS/TSCA NO.)	Wt (%)	1989-1990 ACGIH TLV—TWA (OSHA-PEL)	
Sodium Oxide (1313-59-3)	<30	None established	(None established)
Magnesium Oxide (1309-48-4)	< 5	10 mg/m³ Fume	(10 mg/m³ Fume Total) (5 mg/m³ Respirable fraction)
Aluminum Oxide (1344-28-1)	<30	10 mg/m³ as Al	(10 mg/m³ Total dust) (5 mg/m³ Respirable fraction)
Silicon Oxide (7631-86-9)	<50	10 mg/m³	(6 mg/m³)

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not Applicable	**FREEZING POINT**	Not Applicable
SPECIFIC GRAVITY (H_2O = 1)	1.1 (piece), 2.0 (crystal)	**VAPOR PRESSURE AT 20°C.**	Not Applicable
VAPOR DENSITY (air = 1)	Not Applicable	**SOLUBILITY IN WATER, % by wt.**	Not Applicable
PERCENT VOLATILES BY VOLUME	Not Applicable	**EVAPORATION RATE (BUTYL ACETATE = 1)**	Not Applicable

APPEARANCE AND ODOR: Product may appear as a bead, pellet, TRISIV, mesh, cake or powder; odorless.

M-4502-D

EMERGENCY PHONE NUMBER

IN CASES OF EMERGENCIES involving this material, further information is available at all times:
Emergency Phone No.: In USA: UOP 708-391-2123 CHEMTREC 800-424-9300
In Canada: CANUTEC 613-996-6666 From other Countries: CHEMTREC 202-483-7616
For routine information contact your local supplier

UOP urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the potential hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS. To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product, and (3) request

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF SINGLE (ACUTE) OVEREXPOSURE:

SWALLOWING — The product gets hot as it adsorbs water. Burns to moist body tissues can result if contact is prolonged. No evidence of adverse effects from available information.

SKIN ABSORPTION — No evidence of adverse effects from available information.

INHALATION — May cause irritation of the nose and throat, accompanied by cough and chest discomfort.

SKIN CONTACT — May cause irritation seen as local redness and/or burns.

EYE CONTACT — May cause irritation seen as excess redness of the conjunctiva and/or burns.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: Prolonged inhalation may cause lung damage.

OTHER EFFECTS OF OVEREXPOSURE: None currently known.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Breathing of dust may aggravate asthma and inflammatory or fibrotic pulmonary disease.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING — If ingested in large quantities, then drink 2 glasses of water. Contact physician for permission to induce vomiting.

SKIN CONTACT — Wash the contacted area with soap and water.

INHALATION — Remove the person to fresh air.

EYE CONTACT — Flush eyes with water for at least 15 minutes.

NOTES TO PHYSICIAN: *This product is a desiccant and generates heat as it adsorbs water. The used product can contain material of a hazardous nature. Identify that material and treat symptomatically.*

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	Does not burn	AUTOIGNITION TEMPERATURE	Not Applicable

FLAMMABLE LIMITS IN AIR, % by volume	LOWER	UPPER
	Not Applicable	Not Applicable

EXTINGUISHING MEDIA: Unused material will not burn. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Depends on the use of the material. Used material may contain products of a hazardous nature. The user of this product must identify the hazards of the retained material and inform the fire fighters of these hazards.

UNUSUAL FIRE AND EXPLOSION HAZARDS: In their fresh unused state, molecular sieves are not flammable. When exposed to water, however, they can get quite hot. When first wetted they can heat to the boiling point of water. Flooding will reduce the temperature to safe limits.

VI. REACTIVITY DATA

STABILITY	
UNSTABLE	STABLE
	X

CONDITIONS TO AVOID: The addition of moisture (water) without flooding can cause rise in temperature from heat of adsorption, and contact with skin might result in burns.

INCOMPATIBILITY (Materials to Avoid): Sudden contact with high concentrations of chemicals having high heats of adsorption such as olefins, HCl, etc.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrocarbons and other materials that contact the molecular sieve during normal use can be retained on the sieve. It is reasonable to expect that decomposition products will come from these retained materials of use. The molecular sieve itself does not readily decompose unless subjected to extreme temperature or chemical conditions. If such decomposition did occur the products would include the mix of oxides listed in Section II.

HAZARDOUS POLYMERIZATION	
May Occur	Will not Occur
	X

CONDITIONS TO AVOID: *None currently known.*

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Sweep the spill area. Collect and place the spilled material in a waste disposal container. Avoid raising dust.

WASTE DISPOSAL METHOD: Discard any product (including any retained materials of use), disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and local regulations.

RCRA Hazardous Waste No.: Not federally regulated.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: A NIOSH/MSHA approved respirator for protection against dust, mist or vapor is recommende for operations when the permissible exposure limit might be exceeded.

VENTILATION	**LOCAL EXHAUST** — Local exhaust ventilation is recommended for operations where the permissible exposur limit might be exceeded.
	MECHANICAL (general) — Not applicable - See Local Exhaust.
	SPECIAL — Not applicable - See Local Exhaust.
	OTHER — Not applicable - See Local Exhaust.

PROTECTIVE GLOVES: Use gloves to avoid PROLONGED skin contact.

EYE PROTECTION: Safety glasses or goggles selected as per OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Select in accordance with OSHA 1910.132 and 1910.133.

IX. SPECIAL PRECAUTIONS

LABEL:

CAUTION

DUST MAY IRRITATE EYES, NOSE, THROAT AND SKIN.
Avoid breathing dust.
Avoid contact with eyes and skin.
Open container slowly.
Use with adequate ventilation.
Do not put in mouth or pour liquid into product. Burns can result.
BEFORE HANDLING OR USING, READ AND UNDERSTAND CURRENT MATERIAL SAFETY DATA SHEET FOR THIS MATERIAL, and, when appropriate, also read safety booklet, M-1001.

FIRST AID - EYE CONTACT: Immediately flush with water for at least 15 minutes. Call a physician if irritation persists. **SWALLOWING:** Give two or more glasses of water. **INHALED:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. **SKIN CONTACT:** Flush with plenty of water.

OTHER HANDLING AND STORAGE CONDITIONS: pH range if in aqueous slurry 8-11.

Designers of processes and fabricators of equipment should read UOP's free booklet, *Precautions and Safe Practices for Handling Molecular Sieves in Process Units* M-1001. Request a copy from your UOP representative.

X. REGULATORY INFORMATION

Under the TSCA rules for chemical mixtures and naturally occurring substances the EPA defines this product to be a statuatory mix, therefore, only its component oxides or metals shown in Section II of this MSDS are in the inventory. The human and the environmental hazards are, however, not the summation of the hazards of the components because the components do not separate from the product (see Section VI of this MSDS). The hazards discussed in this MSDS are based on the product as a whole.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are: ****NONE****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.
Components present in this product at a level which could require reporting under the statute are: ****NONE****

D.O.T.: Hazard Class — Not a corrosive, flammable, irritant, or explosive material. Not a Class B poison by skin contact or acute inhalation.

PROPOSITION 65: This product contains no levels of listed substances, which the State of Califor ia has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

This product is not classified as a controlled product under Canada's Federal Hazardous Product Act (WHMIS).

The opinions expressed herein are those of qualified experts within UOP. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of UOP, it is the user's obligation to determine the conditions of safe use of the product.

GENERAL OFFICES

IN THE USA:
UOP
Molecular Sieve Adsorbents
25 East Algonquin Road
Des Plaines, IL 60017-5017

IN CANADA:
UOP Canada Inc.
245 Eglington Ave. East Suite 310
Toronto, Ontario M4P 3B7

Other offices in principal cities all over the world.

MOLSIV® ADSORBENTS

ZEOCHEM®
Chemie Uetikon
and United Catalysts Inc.
Joint Venture

P.O. Box 35940
Louisville, KY 40232 USA
Telephone: 502-634-760(
Telex: 204190, 204239
Fax: 502-634-8133

M A T E R I A L S A F E T Y D A T A S H E E T

I. PRODUCT IDENTIFICATION

PRODUCT Z3-01, 02, 03, 04; Z4-01, 02; Z5-01, 02; Z10-01; Molecular Sieve 3A-Z8, 3A-Z8-02, 4A-Z8, 5A-Z8, 13X-Z8

FORMULA $Mx/n[AlO_2)x(SiO_2)y]+wH_2O$

CHEMICAL NAME Synthetic Sodium Potassium or Calcium Aluminosilicate

CHEMICAL FAMILY Molecular Sieve Zeolite

II.(A) INGREDIENTS

COMPONENT	CAS No.	Zeolite Type
Zeolite, NaA	1344-00-9	4A
Zeolite, KA	12736-96-8	3A
Zeolite, CaA	1344-01-0	5A
Zeolite, NaX	1344-00-9	13X
Mg Aluminosilicate	1327-43-1	Clay

II. (B) PRODUCT ANALYSES & EXPOSURE LIMITS

COMPONENT	CAS NO.	%	OSHA/PEL	ACGIH/TLV
Zeolite	See above	75-85	10mg/m^3	10mg/m^3
Mg Aluminosilicate	1327-43-1	23-15	10mg/m^3	10mg/m^3
Quartz	14808-60-7	2-0	0.1mg/m^3	0.1mg/m^3

III. PHYSICAL DATA

MELTING POINT ^oF >2900

MELTING POINT ^oC >1600

BULK DENSITY 0.68 g/cc

PERCENT VOLATILES BY WEIGHT <5%

DATE OF ISSUE: January 1, 1986
DATE OF REVISION: August 29, 1990

ZEOCHEM®
Chemie Uetikon
and United Catalysts Inc.
Joint Venture

P.O. Box 35940
Louisville, KY 40232 USA
Telephone: 502-634-760
Telex: 204190, 204239
Fax: 502-634-8133

M A T E R I A L S A F E T Y D A T A S H E E T

I. PRODUCT IDENTIFICATION

PRODUCT Z3-01, 02, 03, 04; Z4-01, 02; Z5-01, 02; Z10-01; Molecular Sieve 3A-Z8, 3A-Z8-02, 4A-Z8, 5A-Z8, 13X-Z8

FORMULA $Mx/n[AlO_2)x(SiO_2)y]+wH_2O$

CHEMICAL NAME Synthetic Sodium Potassium or Calcium Aluminosilicate

CHEMICAL FAMILY Molecular Sieve Zeolite

II.(A) INGREDIENTS

COMPONENT	CAS No.	Zeolite Type
Zeolite, NaA	1344-00-9	4A
Zeolite, KA	12736-96-8	3A
Zeolite, CaA	1344-01-0	5A
Zeolite, NaX	1344-00-9	13X
Mg Aluminosilicate	1327-43-1	Clay

II. (B) PRODUCT ANALYSES & EXPOSURE LIMITS

COMPONENT	CAS NO.	%	OSHA/PEL	ACGIH/TLV
Zeolite	See above	75-85	10mg/m^3	10mg/m^3
Mg Aluminosilicate	1327-43-1	23-15	10mg/m^3	10mg/m^3
Quartz	14808-60-7	2-0	0.1mg/m^3	0.1mg/m^3

III. PHYSICAL DATA

MELTING POINT ^oF >2900

MELTING POINT ^oC >1600

BULK DENSITY 0.68 g/cc

PERCENT VOLATILES BY WEIGHT <5%

DATE OF ISSUE: January 1, 1986
DATE OF REVISION: August 29, 1990

PRODUCT	Z3-01, 02, 03, 04; Z4-01, 02; Z5-01, 02; Z10-01; Molecular Sieve 3A-Z8, 3A-Z8-02, 4A-Z8, 5A-Z8,13X-Z8
APPEARANCE AND ODOR	Product may appear as light tan bead, cake or powder.

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	Nonflammable	FIREFIGHTING MEDIA	Dry chemical, water spray or foam.

FIRE AND EXPLOSION HAZARD - Negligible fire and explosion hazard when exposed to heat or flame by reaction with incompatible substances.

FIREFIGHTING - Nonflammable solids, liquids or gases: Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in enclosed area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or discoloration of the tank due to fire.

V. HEALTH HAZARD DATA

Health hazards may arise from ingestion, inhalation and contact with the skin and eyes. Ingestion may result in damage to throat, esophagus, and/or gastro-intestinal tract. Inhalation may cause burning of the upper respiratory tract and/or temporary or permanent lung damage. Prolonged or repeated contact with the skin, in the absence of proper hygiene, may cause dryness, irritation, and/or dermatitis. Contact with eye tissue may result in irritation, burns or conjunctivitis. This product contains a small amount of crystalline silica which may cause delayed respiratory disease if inhaled over a prolonged period of time. IARC Monographs on the evaluation of the Carcinogenic Risk of Chemicals to Humans (volume 42, 1987) concludes that there is "limited evidence" of the carcinogenicity of crystalline silica to humans. IARC classification 2A.

First Aid (Inhalation) - Remove to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

First Aid (Ingestion) - If large amounts have been ingested, give emetics to cause vomiting. Stomach siphon may be applied as well. Milk and fatty acids should be avoided. Get medical attention immediately.

First Aid (Eyes) - Wash affected areas immediately and carefully for 15 to 20 minutes with running water. Get prompt medical attention.

First Aid (Skin) - Wash with soap and water.

NOTE TO PHYSICIAN - This product is a desiccant and generates heat as it absorbs water. The used product can contain material of hazardous nature. Identify that material and treat accordingly.

VI. REACTIVITY DATA

Reactivity - Is stable under normal temperatures and pressures in sealed containers. Hazardous polymerization will not occur. Moisture can cause rise in temperature which may result in burn. Avoid sudden contact with high concentrations of chemicals having high heats of adsorption such as olefins, HCl, etc.

VII. SPILLS OR LEAK PROCEDURES

Notify safety personnel of spills or leaks. Cleanup personnel need protection against inhalation of dusts or fumes. Eye protection is required. Vacuuming or wet methods of cleanup are preferred. Place in appropriate containers for disposal keeping airborne particulate at a minimum.

Disposal Method - In selecting the method of disposal, applicable local, state and federal regulations should be consulted.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection - Provide a NIOSH/MSHA jointly approved respirator in the absence of proper environmental control or where TLV for crystalline silica may be exceeded. Contact your safety equipment supplier for proper mask type.

Ventilation - Provide general and/or local exhaust ventilation to keep exposures below the threshold limit value. Ventilation used must be designed to prevent spots of dust accumulation or recycling of dusts.

Protective Clothing - Wear protective clothing, including gloves, to prevent repeated or prolonged skin contact.

Eye Protection - Chemical splash goggles designed in compliance with OSHA regulations are recommended. Consult your safety equipment supplier.

IX. REGULATORY INFORMATION

The information presented herein is believed to be accurate but is not warranted. Recipients are advised to confirm in advance that the information is current and applicable to meet their circumstances.

This product contains substances which appear on lists of the indicated act or agency.

XX American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substance in the Work Environment

XX California Proposition 65

____ Clean Air Act 40 CFR 61

____ Clean Water Act 40 CFR 116

____ Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) 40 CFR 302

XX International Agency for Research on Cancer (IARC) Monographs on the Evaluation of Carcinogenic Risks to Humans Volumes 1-42

____ NTP Annual Report on Carcinogens

XX Occupational Safety and Health Administration (OSHA) 29 CFR 1910

____ Resource Conservation and Recovery Act (RCRA) 40 CFR 261 Subpart C

____ Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III Section 313 40 CFR 372

XX Toxic Substances Control Act (TSCA) 40 CFR 700

MATERIAL SAFETY DATA SHEET
PROCESS CHEMICALS DIVISION

Industrial Water Engineering, Inc. 7309 Jefferson NE Albuquerque, NM 87109 505-345-5055 FAX 505-345-5375

SECTION I: IDENTIFICATION

PRODUCT NAME:	Aqua Serv 7423
MANUFACTURED FOR:	INDUSTRIAL WATER ENGINEERING, INC. 7309 Jefferson NE Albuquerque, NM 87109
EMERGENCY TELEPHONE:	(505) 345-5055 OR For Chemical Emergency Spill, leak, fire, exposure, or accident, call CHEMTREC-day or night 800-424-9300
CHEMICAL NAME:	Microbiocide
TRADE NAME:	Aqua Serv 7423
CHEMICAL FAMILY:	Microbiocide

SECTION II: HAZARDOUS INGREDIENTS

MATERIAL:	CAS NUMBER	HAZARD	%	OSHA PEL	ACGIH TLV	UNIT
5-chloro-methyl-isothiazoline-3-one	26172-55-4	Corrosive	1.15	NE	NE	NA
2-methyl-4-isothiazoline-3-one	2682-20-4	Corrosive	.35	NE	NE	NA

SECTION III: PHYSICAL DATA

Boiling point, 760 mm. Hg.	212F
Specific gravity	1.02
Vapor pressure at 20°C	17 mm of Hg
Vapor density----(air =1)	0.62
Solubility in water	Complete
Evaporation rate (water = 1)	1
Appearance	lt. green liquid
Odor	mild aromatic
pH	3.0

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash point---------- none
Autoignition temperature---------- none
Flammable limits in air---------- N.A.
Extinguishing media---------- water spray, carbon dioxide, dry chemical, foam

SPECIAL FIRE FIGHTING PROCEDURES:
Firefighters should wear positive pressure self contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the buildup of pressure) when exposed to extreme heat. Irritating vapors may be emitted during a fire.

SECTION V: REACTIVITY DATA

Stability---------- stable
Incompatability (materials to avoid)---------- strong oxidizers.
Hazardous Decomposition or Byproducts----------Sulfur dioxide, hydrogen chloride

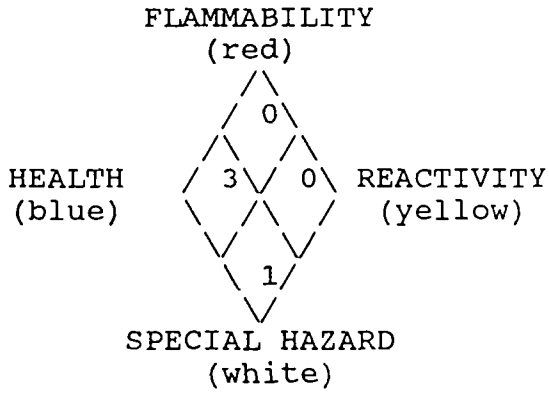
SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye, skin, ingestion
EFFECTS OF EXPOSURE
-BY INGESTION: May cause nausea and diarrhea
-EYE CONTACT: Severe irritation and corneal injury
-SKIN:Severe irritation, skin sensitizer

HEALTH HAZARDS corrosive to eyes and skin
Oral LD50 (rat):3.81 g/kg
Dermal LD50 (rabbit): > 5 g/kg
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-not known
CARCINOGENICITY-not listed by NTP, IARC, or OSHA
EMERGENCY AND FIRST AID PROCEDURES
Eyes: Immediately flush with water for 15 minutes.
Skin: Wash with soap and water
Ingestion: Drink water, call a physician

NFPA HAZARD SIGNAL:

DEGREE OF HAZARD



SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear protective clothing, goggles and respirator. Soak up spills with sand or other absorbent. Place into chemical waste container for disposal. Flush area with water

WASTE DISPOSAL METHOD

Dispose of at approved chemical waste reprocessing facility approved for handling pesticides.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Store in a cool protected location. Keep container closed when not in use.

OTHER PRECAUTIONS

Clean up spills immediately. Triple rinse container before reuse or disposal.

SECTION VIII: CONTROL MEASURES

RESPIRATORY PROTECTION-Use acid gas/organic vapor respirator for poor ventilation.

VENTILATION

a) Local exhaust: Not normally required.
b) Mechanical: General mechanical ventilation recommeded for enclosed areas.

PROTECTIVE GLOVES-rubber or plastic recommended.

EYE PROTECTION-Chemical Splash goggles and faceshield

OTHER PROTECTIVE CLOTHING OR EQUIPMENT-Eye wash station. Full drench shower. Protective clothing

WORK/HYGENIC PRACTICES-Manufacturer recommended TWA for 5-chloro-methyl-isothiazoline-3-one is 0.5 mg/M3

SECTION IX-REGULATORY INFORMATION

NMFC SHIPPING NAME
Corrosive liquid, n.o.s, (chloro-methyl-isothiazoline)
D.O.T. CLASS: Corrosive Material
D.O.T. NUMBER: UN 1760
RCRA STATUS: Corrosive Waste D-002
CERCLA STATUS
Reportable quantity for this product:100 pound.
SARA/TITLE III-Section 304 Emergency Notification Reporting:
This product contains a Section 304 listed hazardous substance for emergency release notification. No Threshold Planning Quantity.

SARA/TITLE III-Section 313 Toxic Chemical Release Reporting:
This product does not contain a section 313 listed toxic chemical subject to release reporting requirements.
TSCA INVENTORY STATUS
All chemical components are listed in TSCA inventory.

2/13/89
11/14/89
10/1/89
3/26/90
8/14/91

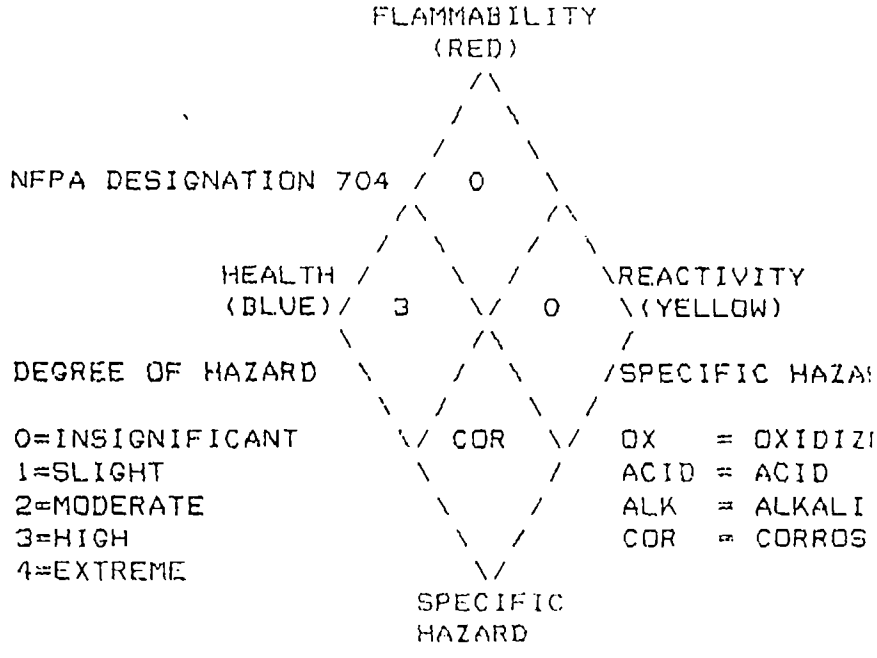
REVISION DATE : 12/09/91

'DUCT CODE/DESCRIPTION

7423	- MICROBIOCIDE	PLOS

CHEMICALS, INCORPORATED
13560 COLOMBARD COURT
FONTANA, CA 92335
(909) 681-9697

EMERGENCY 24 HOUR PHONE:
(800) 424-9300



DEGREE OF HAZARD

0=INSIGNIFICANT
1=SLIGHT
2=MODERATE
3=HIGH
4=EXTREME

OX = OXIDIZI
ACID = ACID
ALK = ALKALI
COR = CORROS

INDUSTRIAL WATER ENGR INC
FRT TO GO FREIGHT COLLECT
7309 JEFFERSON NE
ALBUQUERQUE, NM 87109

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS	CAS NUMBER	HAZARD	OSHA TWA	ACGIH TLV	UNI
5-chloro-methyl-isothiazolin-3-one	26172-55-4	Corrosive	N E	N E	N.A.
	OSHA STEL: N E	OSHA CEILING: N E	SKIN: N		
2-methyl-4-isothiazolin-3-one	2682-20-4	Corrosive	N E	N E	N.A.
	OSHA STEL: N E	OSHA CEILING: N E	SKIN: N		

SECTION III - PHYSICAL DATA

BOILING POINT	212F	SPECIFIC GRAVITY (H2O=1)	1.02
VAPOR PRESSURE (mm Hg)	0.1	VAPOR DENSITY (AIR=1)	0.62
EVAP RATE (WATER=1)	1	pH	3-5
APPEARANCE	Green liquid		
[illegible]R	Pungent		
[illegible]UBILITY IN WATER	Complete		

PRODUCT CODE/DESCRIPTION

7423	- MICROBIOCIDE	PL05

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT None FLAMMABILITY LIMITS/LEL N.A. UEL N

EXTINGUISHING MEDIA

Water spray, carbon dioxide, dry chemical, foam

SPECIAL FIREFIGHTING PROCEDURES

Wear self-contained breathing apparatus, pressure-demand type. Use full protective gear.

UNUSUAL FIRE AND EXPLOSION HAZARD

Irritating or corrosive vapors may be emitted during fire. Do not breathe fumes. Contain run-off.

SECTION V - REACTIVITY DATA

STABILITY STABLE

INCOMPATIBILITY (Materials to avoid)

Oxidizing agents, reducing agents, amines, mercaptans

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Hydrogen chloride, sulfur oxides

SECTION VI - HEALTH HAZARD DATA

PRIMARY ROUTE OF ENTRY Eye, skin, ingestion

SIGNS AND SYMPTOMS OF EXPOSURE

Eye:, Corrosive. Causes eye damage.
Skin: Corrosive. Causes skin burns. Skin sensitizer.
Ingestion: May be fatal if swallowed or absorbed through skin.
Inhalation: May be harmful if inhaled.

HEALTH HAZARDS

Allergic contact dermatitis may occur in some people.
Dermal LD50 (rabbit) = >5g/kg. Oral LD50 (rat), 3.81 g/kg. Inhalation LC50, 4hr (rat) = >13.7 mg/L.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Not known

CARCINOGENICITY

Not listed by NTP, IARC or OSHA

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately flush with water for 15 minutes
Skin: Immediately wash with soap and water. Wash clothing.
Ingestion: Drink 2 glasses of water. Call a physician.
Inhalation: Move to fresh air.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear protective clothing (butly rubber, nitrile), goggles, respirator.
Soak up spills with sand or other absorbent. Place into chemical waste container for disposal.
Flush spill area with water.

PRODUCT CODE/DESCRIPTION			
7423	-	MICROBIOCIDE	PLOS

WASTE DISPOSAL METHOD
Dispose of at chemical waste reprocessing facility approved for handling pesticides.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Store in a cool protected location. Keep container closed when not in use. Keep out of reach of children.

OTHER PRECAUTIONS
Clean up spills immediately. Empty container is hazardous. Triple rinse container before reuse or disposal.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION
Use acid gas/organic vapor respirator.

VENTILATION
(A) LOCAL EXHAUST
Use with min capture velocity of 150ft/min at point of mist evolution.
(B) MECHANICAL
General mechanical ventilation recommended for enclosed area.

P[redacted]ECTIVE GLOVES
Butyl rubber or nitrile plastic.

EYE PROTECTION
Chemical splash goggles and faceshield

OTHER PROTECTIVE CLOTHING OR EQUIPMENT
Eye wash station. Full drench shower. Impervious apron.

WORK / HYGIENIC PRACTICES
Manufacturers' recommended exposure limits are TWA = 0.1 mg/M3 and STEL = 0.3 mg/M3 for each active component.

SECTION IX - REGULATORY INFORMATION

NMFC SHIPPING NAME
Corrosive Liquid, n.o.s., (Chloro-Methyl-Isothiazolin)

D.O.T. CLASS : Corrosive Material
D.O.T. NUMBER : UN 1760
RCRA STATUS : Corrosive Waste D-002

CERCLA STATUS
Reportable Quantity for this product: 100 pounds

SARA/TITLE III - SECTION 304 EMERGENCY NOTIFICATION REPORTING:
This product contains a Section 304 listed hazardous substance for emergency release notification
No Threshold Planning Quantity
Report releases in excess of 100 pounds

S[redacted]/TITLE III - SECTION 313 TOXIC CHEMICAL RELEASE REPORTING:
Th[redacted] product does not contain a Section 313 listed toxic chemical subject t[redacted] release reporting requirements

[redacted]A INVENTORY STATUS
All chemical components are listed on TSCA inventory.

DUCT CODE/DESCRIPTION

7423 - MICROBIOCIDE PLOS

ECTION X - OTHER REGULATORY INFORMATION

ALIFORNIA PROPOSITION 65 STATUS :
his product does not contain chemicals currently on the
alifornia list of known carcinogens and reproductive toxins.

CALCIUM HYPOCHLORITE REVISION OF: 01/80/87
WATER TREATMENT /:LYBROOK

CLOSED 08/81/85
NEW ORLEANS STOCKPOINT 52101
8888 MAPLE ST.
NEW ORLEANS LA 70118

HOPPER SPECIALTY COMPANY FARMINGTON: 327-2075 ALBUQUERQUE: 884-1939
CHEMICAL SPECIALTY DIVISION FAX: 327-9437 FAX: 888-1472

EMERGENCY ASSISTANCE

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC
(800) 424-9300.

FOR PRODUCT AND SALES INFORMATION

HOPPER SPECIALTY COMPANY FARMINGTON: 327-2075 ALBUQUERQUE: 884-1939
CHEMICAL SPECIALTY DIVISION FAX: 327-9437 FAX: 888-1472

PRODUCT IDENTIFICATION

PRODUCT NAME: CALCIUM HYPOCHLORITE CAS NO.: 7778-54-8
COMMON NAMES/SYNONYMS: HYPOCHLOROUS VW&R CODE: T1266
ACID; CALCIUM SALT; CALCIUM OXYCHLORIDE;
LIME CHLORIDE; HI-CHLOR; BIG SHOT; SENTRY;
HTH*; CLOR-TABS; CCH*; PULSAR; CHLORYTE
*TRADEMARK OF OLIN CORPORATION

FORMULA: CA O2 C12 DATE ISSUED: 06/86
HAZARD RATING (NFPA 704) SUPERCEDES: 02/86
HEALTH: 1 HAZARD RATING SCALE:
FIRE: 0 0-MINIMAL 8-SERIOUS
REACTIVITY: 2 1-SLIGHT 4-SEVERE
SPECIAL: OXY 2-MODERATE

HAZARDOUS INGREDIENTS

		EXPOSURE LIMITS, PPM			
		OSHA	ACGIH	OTHER	
COMPONENT	%	PEL	TLV	LIMIT	HAZARD
CALCIUM HYPOCHLORITE	UNK	NONE	NONE	NONE	TOXIC; OXIDIZER; CORROSIVE

PHYSICAL PROPERTIES

BOILING POINT, DEG F: N/A VAPOR PRESSURE, MM HG/20 DEG C: N/A
MELTING POINT, DEG F: 850.6 (DEC) VAPOR DENSITY (AIR-1): N/A
SPECIFIC GRAVITY (WATER-1): 2.85 WATER SOLUBILITY, %: 21
APPEARANCE AND ODOR: WHITE GRANULES; CHLORINE ODOR EVAPORATION RATE (BUTYL ACETATE-1): N/A

FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT

BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER OR MILK. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SWALLOWED; SKIN OR EYE CONTACT

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: DUSTS ARE CORROSIVE TO THE ENTIRE RESPIRATORY TRACT. BREATHING DUST CAN DAMAGE THE MUCOUS MEMBRANES. FUMES LIBERATED DURING DECOMPOSITION OR UPON CONTACT WITH ACIDS OR WATER ARE CORROSIVE TO THE RESPIRATORY TRACT AND CAN CAUSE CONFUSION, PULMONARY EDEMA AND COLLAPSE.

EYE CONTACT: DUSTS OR FUMES ARE EXTREMELY CORROSIVE TO THE EYES.

SKIN CONTACT: DUSTS ARE EXTREMELY CORROSIVE TO THE SKIN AND MAY CAUSE SEVERE CHEMICAL BURNS. MOISTURE ON THE SKIN, SUCH AS FROM PERSPIRATION, WILL ACCELERATE TISSUE DESTRUCTION.

SWALLOWED: DUSTS OR SOLIDS ARE EXTREMELY CORROSIVE TO THE MOUTH AND THROAT. SWALLOWING DUSTS OR SOLIDS CAUSES BURNING OF THE MOUTH, THROAT, AND DIGESTIVE TRACT ACCOMPANIED BY SEVERE PAIN, VOMITING AND COLLAPSE. LARGE DOSES MAY BE FATAL.

CHRONIC EFFECTS OF EXPOSURE: NO SPECIFIC INFORMATION AVAILABLE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

TOXICITY DATA

ORAL: RAT LD50 - 850 MG/KG

DERMAL: RABBIT LD50 - >2 G/KG

INHALATION: RAT LC50 - <20 MG/L AND > 2 MG/L: 1 HR.

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE.

PERSONAL PROTECTION

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MINIMIZING DUST EMISSIONS AT THE POINT OF USE.

RESPIRATORY PROTECTION: IF USE CONDITIONS GENERATE DUSTS, WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THOSE EMISSION LEVELS. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR WITH PARTICULATE FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: CHEMICAL GOGGLES UNLESS A FULL FACEPIECE RESPIRATOR IS ALSO WORN. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, RUBBER GLOVES, AND RUBBER APRON.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

FIRE AND EXPLOSION INFORMATION

FLASH POINT, DEG F: N/A FLAMMABLE LIMITS IN AIR, %
METHOD USED: N/A LOWER: N/A UPPER: N/A
EXTINGUISHING MEDIA: FLOOD WITH WATER.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE. WET MATERIAL WILL RELEASE CORROSIVE CHLORINE GAS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: WHILE CALCIUM HYPOCHLORITE IS NOT COMBUSTIBLE, CONTAMINATION OR MIXING WITH ANY FOREIGN MATERIAL, ACIDS, OR ACID FUMES MAY RESULT IN EXPLOSION OR FIRE OF GREAT INTENSITY. HIGHLY TOXIC AND CORROSIVE FUMES MAY BE PRODUCED UNDER FIRE CONDITIONS.

HAZARDOUS REACTIVITY

STABILITY: STABLE POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: EXCESSIVE HEAT, MOISTURE, AND CONTAMINATION OF ANY KIND.

MATERIALS TO AVOID: ACIDS, REDUCING AGENTS, COMBUSTIBLE MATERIALS SUCH AS WOOD, CLOTH OR ORGANIC MATERIALS, METALS SUCH AS IRON AND COPPER AND THEIR ALLOYS, WATER OR STEAM. CONTACT WITH THESE MATERIALS PRESENTS AN EXPLOSION AND FIRE HAZARD. TOXIC AND CORROSIVE FUMES MAY BE LIBERATED.

HAZARDOUS DECOMPOSITION PRODUCTS: TOXIC AND CORROSIVE FUMES OF CHLORINE GAS ARE EMITTED DURING DECOMPOSITION OR UPON EXPOSURE TO ACIDS OR WATER.

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR

RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED WITH PARTICULATE FILTERS/ACID GASES MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. FOR SMALL SPILLS, SWEEP UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, SHOVEL INTO DOT-APPROVED WASTE CONTAINERS. SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL. USE EXTREME CARE TO PREVENT CONTAMINATION WITH ORGANIC OR COMBUSTIBLE MATERIAL WHICH MAY CAUSE A FIRE OR EXPLOSION.
COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.
NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

SPECIAL PRECAUTIONS

STORAGE AND HANDLING PRECAUTIONS: STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP BAGS OR FIBER DRUMS DRY AT ALL TIMES. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES. USE ONLY CLEAN, DRY UTENSILS TO REMOVE PRODUCT FROM CONTAINERS. DO NOT REUSE THE EMPTY CONTAINER.

REPAIR AND MAINTENANCE PRECAUTIONS: NONE.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

FOR ADDITIONAL INFORMATION

CONTACT DOUGLAS EISNER, TECHNICAL DIRECTOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (415)678-8000

NOTICE

VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED WARRENTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HERRIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER

CALCIUM HYPOCHLORITE REVISION OF: 01/80/87

PROCESS.

REVISION 0000002

08/86: ADDED TRADENAMES TO LIST OF SYNONYMS. REVISED FIRST AID FOR SWALLOWING AND ADD CONTACT AS A ROUTE OF EXPOSURE. CORRECTED ORAL TOXICITY DATA. REVISED RESPIRATORY, EYE, AND FIRE FIGHTERS CLOTHING RECOMMENDATIONS. REVISED SPILL/LEAK PROCEDURES AND HANDLING RECOMMENDATIONS. CORRECTED OTHER SPECIAL PRECAUTIONS.

********** END OF MSDS **********

MAIL TO:

36044488
SUNTERRA GAS PROCESSING
2 MI E. ON IND. BLVD
BLOOMFIELD NM 87413

ORDER NO: 361000856
PROD NO: 04148808

VAN WATERS & ROGERS INC., SUBSIDIARY OF UNIVAR
1600 NORTON BLDG. SEATTLE, WA 98104-1564 (408) 435-8700

EMERGENCY ASSISTANCE

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800)424-9300

FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

PRODUCT NAME: CAUSTIC SODA LIQUID CAS NO.: 1310-73-

COMMON NAMES/SYNONYMS: SODIUM HYDROXIDE SOLUTION; LYE SOLUTION; SODA LYE; CAUSTIC SODA 25% RAYON GRADE; CAUSTIC SODA 25% RAYON; CAUSTIC SODA 50%; BLEND NEUTRALIZER 191; BLEND SOUTHLAND A; CAUSTIC SODA 10%; CAUSTIC SODA 22%; CAUSTIC SODA 15.4%; QUAKER CAUSTIC BLEND. CAUSTIC SODA 15.4 %; QUAKER CAUSTIC BLEND

MSDS #: P1377

FORMULA: NA O H DATE ISSUED: 10/90

MOLECULAR WEIGHT: NOT APPLICABLE SUPERCEDES: 04/90

HAZARD RATING (NFPA 404) HMIS RATIN

HEALTH: 3
FIRE: 0
REACTIVITY: 0
SPECIAL: CORROSIVE

HAZARD RATING SCALE
0=MINIMAL 3=SERIOUS
1=SLIGHT 4=SEVERE
2=MODERATE

HEALTH:
FIRE:
REACTIVITY:

HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, MG/M3 OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
SODIUM HYDROXIDE	1310-73-2	10-50	2	2 (CEILING)	NONE	CORROSIVE; TOXIC
WATER	7732-18-5	BALANCE	NONE	NONE	NONE	NONE

PHYSICAL PROPERTIES

BOILING POINT, DEG F: SEE BELOW

MELTING POINT, DEG F: SEE BELOW

SPECIFIC GRAVITY (WATER=1): SEE BELOW

VAPOR PRESSURE, MM HG: 1 pH: BAS

VAPOR DENSITY (AIR=1): N/A WATER SOLUBILITY %: 1

EVAPORATION RATE (BUTYL ACETATE = 1): N

% VOLATILE (BY VOLUME): NO DATA FOUND

APPEARANCE AND ODOR: WATER-WHITE TO SLIGHTLY TURBID SOLUTION; NO ODOR

	SODIUM HYDROXIDE, %:						
	10	18	20	25	30	33	50
BOILING POINT, DEG F:	218	224	226	232	240	246	288
FREEZING POINT, DEG F:	10	-20	-16	-2	32	42	50
SPECIFIC GRAVITY: (WATER =1)	1.11	1.20	1.22	1.27	1.33	1.36	1.53

FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 30 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH LOTS OF RUNNING WATER FOR 30 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER OR MILK. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

NOTES TO PHYSICIAN: NONE

HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: VAPORS AND MISTS ARE EXTREMELY CORROSIVE TO THE NOSE, THROAT, AND MUCOUS MEMBRANES. BRONCHITIS, PULMONARY EDEMA, AND CHEMICAL PNEUMONITIS MAY OCCUR. IRRITATION, COUGHING, CHEST PAIN, AND DIFFICULTY IN BREATHING MAY OCCUR WITH BRIEF EXPOSURE WHILE PROLONGED EXPOSURE MAY RESULT IN MORE SEVERE IRRITATION AND TISSUE DAMAGE. BREATHING HIGH CONCENTRATIONS MAY RESULT IN DEATH.

EYE CONTACT: VAPORS, LIQUID, AND MISTS ARE EXTREMELY CORROSIVE TO THE EYES. BRIEF CONTACT OF THE VAPORS WILL BE SEVERELY IRRITATING. BRIEF CONTACT OF THE LIQUID OR MISTS WILL SEVERELY DAMAGE THE EYES AND PROLONGED CONTACT MAY CAUSE PERMANENT EYE INJURY WHICH MAY BE FOLLOWED BY BLINDNESS.

SKIN CONTACT: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE SKIN. MISTS WILL SEVERELY IRRITATE THE SKIN AND LIQUID AND MISTS WILL SEVERELY BURN THE SKIN. PROLONGED LIQUID CONTACT WILL BURN OR DESTROY SURROUNDING TISSUE AND DEATH MAY ACCOMPANY BURNS WHICH EXTEND OVER LARGE PORTIONS OF THE BODY.

SWALLOWED: VAPORS, MISTS, AND LIQUID ARE EXTREMELY CORROSIVE TO THE MOUTH AND THROAT. SWALLOWING THE LIQUID BURNS THE TISSUES, CAUSES SEVERE ABDOMINAL PAIN, NAUSEA, VOMITING, AND COLLAPSE. SWALLOWING LARGE QUANTITIES CAN CAUSE DEATH.

CHRONIC EFFECTS OF EXPOSURE: MAY RESULT IN AREAS OF DESTRUCTION OF

SKIN TISSUE OR PRIMARY IRRITANT DERMATITIS. SIMILARLY, INHALATION OF DUSTS, VAPORS, OR MISTS MAY CAUSE VARYING DEGREES OF DAMAGE TO THE AFFECTED TISSUES AND ALSO INCREASING SUSCEPTIBILITY TO RESPIRATORY ILLNESS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

TOXICITY DATA

NO DATA FOUND FOR THE LIQUID; HOWEVER, FOR SODIUM HYDROXIDE:

ORAL: RAT LD50 = 140-340 MG/KG

DERMAL: RABBIT LD50 = 1,350 MG/KG

INHALATION: NO DATA FOUND

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE

ECOLOGICAL INFORMATION SECTION

NO DATA FOUND

PERSONAL PROTECTION

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THE VAPOR OR MIST CONCENTRATION AT THE POINT OF USE. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED FOR DUST/MIST FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: CHEMICAL GOGGLES AND FULL FACESHIELD UNLESS A FULL FACEPIECE RESPIRATOR IS ALSO WORN. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: ALKALI-RESISTANT SLICKER SUIT WITH RUBBER APRON, RUBBER BOOTS WITH PANTS OUTSIDE, AND RUBBER GLOVES WITH GAUNTLETS.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

FIRE AND EXPLOSION INFORMATION

FLASH POINT, DEG F: NONE
METHOD USED: NOT APPLICABLE

FLAMMABLE LIMITS IN AIR, %
LOWER: NOT APPLICABLE
UPPER: NOT APPLICABLE

AUTOIGNITION TEMPERATURE, DEG. F: NO DATA FOUND

EXTINGUISHING MEDIA: THIS MATERIAL IS NOT COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EXTINGUISH ALL NEARBY SOURCES OF IGNITION SINCE FLAMMABLE HYDROGEN GAS WILL BE LIBERATED FROM CONTACT WITH SOME METALS.

HAZARDOUS REACTIVITY

STABILITY: STABLE POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

MATERIALS TO AVOID: ACIDS, COMBUSTIBLE MATERIALS, AND METALS SUCH AS ALUMINUM, TIN, GALVANIZED ZINC, BRASS, AND BRONZE. ALSO AVOID MANY ORGANIC CHEMICALS, ESPECIALLY NITROCARBONS, LEATHER AND WOOL, AND ORGANIC ACIDS AND THEIR ANHYDRIDES. THIS PRODUCT MAY ALSO REACT WITH VARIOUS SUGARS TO FORM HAZARDOUS CARBON MONOXIDE.

HAZARDOUS DECOMPOSITION PRODUCTS: GENERATES HAZARDOUS MIST AT BOILING POINT, 218-288 DEG F. FLAMMABLE HYDROGEN GAS WILL BE LIBERATED UPON CONTACT WITH METALS SUCH AS ALUMINUM, TIN, OR ZINC.

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR ALKALI-RESISTANT SLICKER SUIT AND COMPLETE PROTECTIVE EQUIPMENT INCLUDING RUBBER GLOVES, RUBBER BOOTS, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED WITH HIGH EFFICIENCY PARTICULATE FILTERS MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. REMOVE ALL SOURCES OF IGNITION. FOR SMALL SPILLS AND DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WITH SOIL OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND CAREFULLY NEUTRALIZE WITH DILUTE HYDROCHLORIC ACID. KEEP NON-NEUTRALIZED MATERIAL OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL.

COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

SPECIAL PRECAUTIONS

STORAGE AND HANDLING PRECAUTIONS: STORE IN A DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. STORE AT TEMPERATURES ABOVE THE SOLUTION FREEZING POINT TO REMAIN LIQUID. REFER TO TABLE IN INGREDIENTS SECTION FOR APPROPRIATE FREEZING POINTS.

REPAIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER. HAZARDOUS CARBON MONOXIDE GAS CAN FORM UPON CONTACT WITH FOOD AND BEVERAGE PRODUCTS IN ENCLOSED SPACES AND CAN CAUSE DEATH. DO NOT ENTER TANKS WHERE SUCH CONTACT IS SUSPECTED UNLESS THE ABSENCE OF CARBON MONOXIDE HAS BEEN CONFIRMED BY TESTS.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL. WHEN MIXING CAUSTIC SODA WITH WATER ALWAYS ADD CAUSTIC SLOWLY TO WATER AND STIR CONTINUOUSLY TO DISSIPATE THE HEAT OF DILUTION THAT IS FORMED. NEVER ADD WATER TO CAUSTIC SODA.

OTHER REGULATORY INFORMATION

SECTION 313: NONE

PROPOSITION 65: NONE

SECTION 311 & PROP. 65: SEE BELOW

SECTION 313 (WITH CHEMICALS LISTED): NONE

PROPOSITION 65 (WITH CHEMICALS LISTED): NONE

MASSACHUSETTS: UNDER THE MASSACHUSETTS RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCE AND EXTRAORDINARILY HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT WHICH REQUIRES REPORTING ARE:

HAZARDOUS SUBSTANCES CHEMICALS	CAS NO.	CONCENTRATION (>1%)
SODIUM HYDROXIDE	1310-73-2	10-50

PENNSYLVANIA: UNDER THE PENNSYLVANIA RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCES AND SPECIAL HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT WHICH REQUIRE REPORTING ARE:

HAZARDOUS SUBSTANCES CHEMICALS	CAS NO.	CONCENTRATION (>1%)
SODIUM HYDROXIDE	1310-73-2	10-50

CALIFORNIA SCAQMD: NONE

TSCA: THE INGREDIENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY.

----------REVISION----------

01/90: ADDED SYNONYM.

02/90: ADDED SYNONYMS, MOLECULAR WEIGHT, HMIS RATING, AUTOIGNITION TEMPERATURE, pH, % VOLATILE, ECOLOGICAL INFORMATION, OTHER REGULATORY INFORMATION (EXCEPT SECTION 313), CALIFORNIA SCAQMD & TSCA.

04/90: ADDED SYNONYM & REVISED NFPA RATING.

06/90: ADDED SYNONYM

10/90: ADDED: SYNONYMS

REVISED: HMIS (HEALTH)

----------FOR ADDITIONAL INFORMATION----------

CONTACT MSDS COORDINATOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (408)435-8700

----------NOTICE----------

**VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED WARRENTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN. **

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

**** E N D O F M S D S ****

MATERIAL SAFETY DATA SHEET
PROCESS CHEMICALS DIVISION

Industrial Water Engineering, Inc. 7309 Jefferson NE Albuquerque, NM 87109 505-345-5055 FAX 505-345-5375

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION

PRODUCT NAME:	**CS4015**
MANUFACTURED BY:	**INDUSTRIAL WATER ENGINEERING, INC.** **7309 JEFFERSON NE** **ALBUQUERQUE, NM 87109**
EMERGENCY TELEPHONE:	(505) 345-5055 OR FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT **CALL CHEMTREC - DAY OR NIGHT** **(800) 424-9300**
CHEMICAL NAME:	CLOSED TREATMENT
TRADE NAME:	CS4015
CHEMICAL FAMILY:	SODIUM NITRITE, POLYMERS

SECTION II: HAZARDOUS INGREDIENTS

Section 313 hazardous ingredients.

MATERIAL	CAS NUMBER	HAZARD	OSHA PEL	ACGIH TLV	UNIT
Sodium Nitrite	7632-00-0	toxic	15	10	mg/m3
Sodium Metaborate	7775-19-1	eye irritant	NE	NE	NA

SECTION III: PHYSICAL DATA

Boiling point, 760 mm. Hg.	212F
Specific gravity	1.151
Vapor pressure at 20°C	23.75
Vapor density	<1
Solubility in water	complete
Evaporation rate (water = 1)	1
Appearance	dark blue liquid
Odor	bland chemical
pH	12.9

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash point ---------- none
Autoignition temperature ---------- none
Flammable limits in air ---------- none
Extinguishing media --- Water, foam, dry chemical or carbon dioxide for fires in storage area

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear positive pressure self contained breathing apparatus and full protective clothing. Keep container cool with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the buildup of pressure) when exposed to extreme heat.

SECTION V: REACTIVITY DATA

Stability ---------- stable
Incompatability (materials to avoid) ---------- strong acids, ammonia salts, amines, phthalic acid, cyanides
Hazardous Decomposition or Byproducts ----------nitrogen oxides. Leaves caustic residue.

SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: eye, skin, ingestion

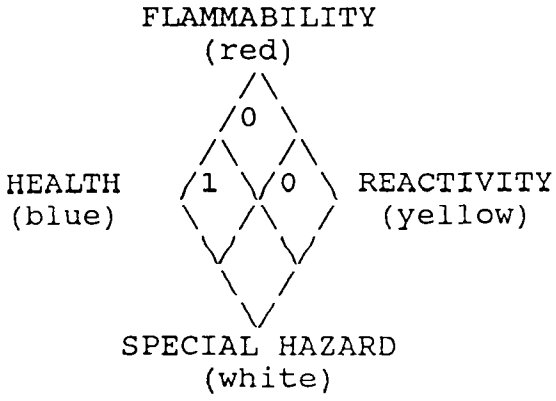
EFFECTS OF EXPOSURE -
-BY INGESTION: toxic
-EYE CONTACT: causes severe eye irritation
-INHALATION: not anticipated
-SKIN:may cause skin irritation

HEALTH HAZARDS: not known
CARCINOGENICITY: not listed by NTP, IARCV, OSHA
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: not known

EMERGENCY FIRST AID and PROCEDURES:
- Eyes: flush with water for 15 minutes
- Skin: flush with water for 5 minutes
-Inhalation: no required
-Ingestion: induce vomiting, get medical attention

NFPA HAZARD SIGNAL:

DEGREE OF HAZARD



SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wear protective clothing, goggles and respirator. Soak up spills with sand or other absorbent. Place into chemical waste container for disposal. Flush spill area with water.

WASTE DISPOSAL METHOD:
Dispose of at an approved chemical waste reprocessing facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Store in a cool protected location. Keep container closed when not in use.

OTHER PRECAUTIONS:
Clean up spills immediately. Triple rinse container before disposal.

SECTION VIII: CONTROL MEASURES

RESPIRATORY PROTECTION:not normally required

VENTILATION:

A) Local exhaust: not normally required

B) Mechanical: not normally required, except if applicable TLV is exceeded

PROTECTIVE GLOVES: rubber or plastic recommended

EYE PROTECTION: goggles or faceshield

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station. Protective clothing recommended.

WORK/HYGENIC PRACTICES: wash thoroughly after handling.

SECTION IX: REGULATORY INFORMATION

NMFC SHIPPING NAME
Scale/preventing/scale removing, liquid or paste
D.O.T. CLASS
Non-DOT classified
D.O.T. NUMBER
NA
RCRA STATUS
Corrosive Waste D002
CERCLA STATUS
Reportable quanitity for Sodium Nitrate:5000 pounds
SARA/TITLE III-SECTION 304 EMERGENCY NOTIFICATION REPORTING
This product does not contain a Section 304 listed hazardous substance for emergency release notification.
SARA/TITLE III-SECTION 313 TOXIC CHEMICAL RELEASE REPORTING
This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.
TSCA INVENTORY STATUS
All chemical components are listed on TSCA inventory.
07/17/90

MATERIAL SAFETY DATA SHEET
PROCESS CHEMICALS DIVISION

Industrial Water Engineering, Inc. 7309 Jefferson NE Albuquerque, NM 87109 505-345-5055 FAX 505-345-5375

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION

PRODUCT NAME:	**CW7935**
MANUFACTURED BY:	**INDUSTRIAL WATER ENGINEERING, INC.** **7309 JEFFERSON NE** **ALBUQUERQUE, NM 87109**
EMERGENCY TELEPHONE:	(505) 345-5055 OR FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT **CALL CHEMTREC - DAY OR NIGHT** **(800)-424-9300**
CHEMICAL NAME:	ORGANO ALKALINE
TRADE NAME:	**CW7935**
CHEMICAL FAMILY:	ORGANIC WATER TREATMENT

SECTION II: HAZARDOUS INGREDIENTS

MATERIAL	CAS NUMBER	%	HAZARD	OSHA PEL	ACGIH TLV	UNIT
Potassium Hydroxide	1310-58-3	6	Severe irritant	2	2	mg/m3

SECTION III: PHYSICAL DATA

Boiling point, 760 mm. Hg.	212^0F
Specific gravity	1.15
Solubility in water	Complete
Evaporation rate (water = 1)	1
Appearance	Amber liquid
Odor	Bland Chemical Odor
pH	9.3

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash point ---------- None
Autoignition temperature ---------- N.A.
Flammable limits in air ---------- N.A.
Extinguishing media --- Water, foam, dry chemical or carbon dioxide for fires in storage area

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear positive pressure self contained breathing apparatus and full protective clothing. Keep container cool with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the buildup of pressure) when exposed to extreme heat. Dried residue can thermally decompose, giving off irritating and toxic fumes.

SECTION V: REACTIVITY DATA

STABILITY ---------- Stable
INCOMPATABILITY (materials to avoid) -- Strong Oxidizers
HAZARDOUS DECOMPOSITION OR BYPRODUCTS -Phosphines, CO, CO2, NOx may form.

SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye, skin, ingestion

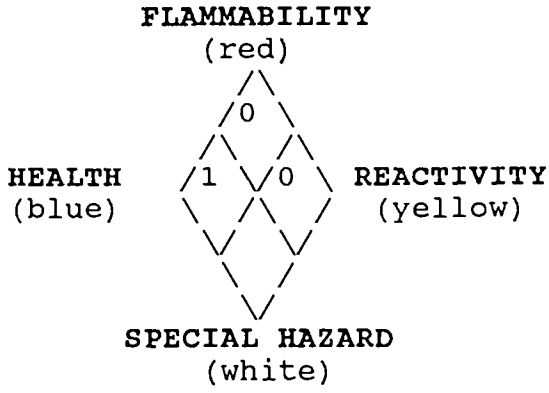
EFFECTS OF EXPOSURE -
-INGESTION: Not considered toxic
-EYE CONTACT: Causes eye irritation
-INHALATION: N.A.
-SKIN: May cause skin irritation with prolonged contact

HEALTH HAZARDS: None expected
CARCINOGENICITY: Not listed by NTP, IARC, OSHA
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not known

EMERGENCY AND FIRST AID PROCEDURES:
-Eyes: Flush with water for 15 minutes.
-Skin: Flush with water for 5 minutes.
-Inhalation: N.A.
-Ingestion: Do not induce vomiting. Get medical attention

NFPA HAZARD SIGNAL:

DEGREE OF HAZARD



SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wear protective clothing, goggles and respirator. For small spills, flush to sanitary sewer. For large spills, squeegee and collect or vacuum spillage and place into chemical waste containers for reuse or disposal. Flush spill area with water.

WASTE DISPOSAL METHOD:
Dispose of at an approved chemical waste reprocessing facility. Small quantities may be disposed of the the sanitary sewer.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Store in a cool protected location. Keep container closed when not in use.

OTHER PRECAUTIONS:
Clean up spills immediately. Triple rinse container before reuse or disposal.

SECTION VIII: CONTROL MEASURES

RESPIRATORY PROTECTION: Not normally required
VENTILATION:
A) Local exhaust: Not normally required
B) Mechanical: Not normally required, except if applicable TLV is exceeded.
PROTECTIVE GLOVES: Rubber or plastic recommended
EYE PROTECTION: Goggles or faceshield
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash station. Protective clothing recommeded.
WORK/HYGENIC PRACTICES: Wash thoroughly after handling

SECTION IX - REGULATORY INFORMATION

NMFC SHIPPING NAME
Scale Preventing/Scale Removing, Liquid or Paste.
D.O.T. CLASS
Non-DOT Classified
D.O.T NUMBER:
NA
RCRA STATUS
No RCRA listed Hazardous Constituents
CERCLA STATUS
Potassium Hydroxide, 1000 lbs
SARA/TITLE III - SECTION 304 EMERGENCY NOTIFICATION REPORTING
This product does not contain a Section 304 listed hazardous substance for emergency release notification.
SARA/TITLE III-SECTION 313 TOXIC CHEMICAL RELEASE REPORTING
This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.
TSCA INVENTORY STATUS
All chemical components are listed on TSCA inventory.

08/24/90

MATERIAL SAFETY DATA SHEET
PROCESS CHEMICALS DIVISION

Industrial Water Engineering, Inc. 7309 Jefferson NE Albuquerque, NM 87109 505-345-5055 FAX 505-345-5375

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION

PRODUCT NAME:	**IWE 7212**
MANUFACTURED BY:	INDUSTRIAL WATER ENGINEERING, INC. 7309 JEFFERSON NE ALBUQUERQUE, NM 87109
EMERGENCY TELEPHONE:	(505) 345-5055 OR FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT **CALL CHEMTREC - DAY OR NIGHT** **(800) 424-9300**
CHEMICAL NAME:	MICROBIOCIDE
TRADE NAME:	IWE 7212

SECTION II: HAZARDOUS INGREDIENTS

MATERIAL	CAS NUMBER	HAZARD	OSHA PEL	ACGIH TLV	UNIT
Potassium Dimethyldithiocarbonate	128-03-0	Corrosive to eyes	NE	NE	NA

SECTION III: PHYSICAL DATA

Boiling point, 760 mm. Hg.	212°F
Specific gravity	1.088
Vapor pressure at 20°C	N.A.
Vapor density	N.A.
Solubility in water	Complete
Evaporation rate (water = 1)	>1
Appearance	pale yellow
Odor	sulfur odor
pH	12.5

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash point ---------- none
Autoignition temperature ---------- N.A.
Flammable limits in air ---------- N.A.
Extinguishing media --- Water spray, carbon dioxide, alcohol foam, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear positive pressure self contained breathing apparatus and full protective clothing. Keep container cool with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Irritating vapors may be emitted during a fire. Closed containers may explode (due to the buildup of pressure) when exposed to extreme heat. Irritating vapors may be emitted during a fire.

SECTION V: REACTIVITY DATA

Stability ---------- Stable
Incompatibility (materials to avoid) -- Strong oxidizing agents,strong acids
Hazardous Decomposition or Byproducts -- not known

SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye, skin, ingestion, inhalation

EFFECTS OF EXPOSURE -
BY INGESTION: nausea, vomiting,
EYE CONTACT: causes irritation
INHALATION: Respiratory tract irritation, headaches and vomiting
SKIN: Slightly irritating
HEALTH HAZARDS: Oral LDS50-female rats=1.86
CARCINOGENOCITY: Not listed by NTP,IARC, or OSHA.

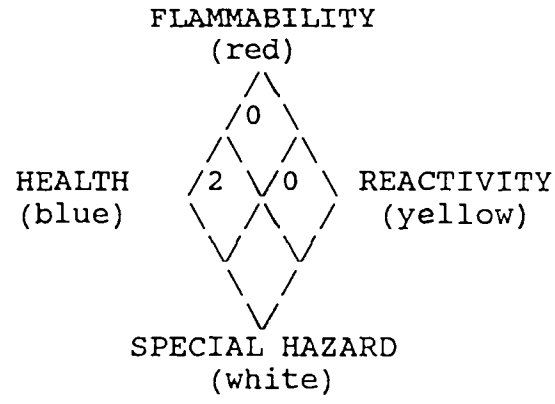
MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE: not known

EMERGENCY AND FIRST AID PROCEDURES:

Eyes:	Immediately flush with water for 15 minutes
Skin:	Flush with water for 5 minutes
Inhalation:	Remove to fresh air. Seek medical attention.
Ingestion:	Induce vomiting

NFPA HAZARD SIGNAL:

DEGREE OF HAZARD
- 0 = Insignificant
- 1 = Slight
- 2 = Moderate
- 3 = High
- 4 = Extreme



SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND STORAGE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all ignition sources. Ventilate enclosed areas. Collect free liquid. Soak up remaining spillage with sand or other absorbent. Place into chemical waste container for disposal. Flush spilled area with detergent and water.

WASTE DISPOSAL METHOD:

Dispose of at an approved chemical waste reprocessing facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in a cool protected location. Keep container closed when not in use.

OTHER PRECAUTIONS:

Clean up spills immediately. Do not reuse empty container. Triple rinse container before reuse or disposal.

SECTION VIII: CONTROL MEASURES

RESPIRATORY PROTECTION:	Not normally required.
VENTILATION:	
A) Local exhaust:	Not normally required
B) Mechanical:	General mechanical ventilation recommended for enclosed areas
PROTECTIVE GLOVES:	Rubber or plastic recommended
EYE PROTECTION:	Goggles or faceshield
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	Eye wash station. Protective clothing recommended.
WORK/HYGENIC PRACTICES:	Wash thoroughly after handling

SECTION IX-REGULATORY INFORMATION

NMFC SHIPPING NAME: Compounds industrial water, treating liquid.

D.O.T. Class: Not -DOT classified
D.O.T. Number: N.A.
RCRA Status: No RCRA Listed Hazardous Constituents
CERCLA Status: Not regulated
SARA/TITLE III-Section 313 Toxic Chemical Release Reporting
This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.
SARA/TITLT III-Section 304 Emergency Notification Reporting
This product does not contain a Section 304 listed hazardous substance for emergency release notification.
TSCA INVENTORY STATUS
All chemical components are listed in TSCA inventory.

06/21/90

MATERIAL SAFETY DATA SHEET
PROCESS CHEMICALS DIVISION

Industrial Water Engineering, Inc. 7309 Jefferson NE Albuquerque, NM 87109 505-345-5055 FAX 505-345-5375

MATERIAL DATA SAFETY SHEET

SECTION I: IDENTIFICATION

PRODUCT NAME:	**IWE 7215** (Bromicide Tablets)
MANUFACTURED BY:	**INDUSTRIAL WATER ENGINEERING, INC.** **7309 JEFFERSON NE** **ALBUQUERQUE, NM 87109**
EMERGENCY TELEPHONE:	(505) 345-5055 OR FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT **CALL CHEMTREC - DAY OR NIGHT** **(800) 424-9300**
CHEMICAL NAME:	MICROBIOCIDE
TRADE NAME:	IWE 7215
CHEMICAL FAMILY:	OXIDIZING BIOCIDE

SECTION II: HAZARDOUS INGREDIENTS

MATERIAL:	CAS No.	Hazard	OSHA TWA	ACGIH TLV	Unit
1. 1-bromo-3-chloro-5, 5-dimethylhydantoin	16079-88-2	oxidizer Corrosive skin hazard.	15	10	mg/m3

SECTION III: PHYSICAL DATA

Boiling point, 760 mm. Hg.	not applicable
Melting point	120-148 ^{o}C
Specific gravity	not applicable
Vapor pressure at 20^{o}C	not applicable
Vapor density	not applicable
Solubility in water	0.15 grams/100 gms @ 77^{o}F.
% Volatiles by Volume	<0.5
Evaporation rate	<1
Appearance and Odor	white solid
pH	not applicable

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash point---------- none
Autoignition temperature---------- not known
Extinguishing media-----carbon dioxide, dry chemical, foam, water fog.

SPECIAL FIRE FIGHTING PROCEDURES:
Material is combustible in a fire and may produce noxious gases. To minimize the progressive generation of noxious gases, flood burning material with large quantities of water. Must wear MSHA/NIOSH approved self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water spray. May form hydrogen bromide or bromine may be released. Do not use ammonium phosphate.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Material is a strong oxidizer and corrosive.
In large fires fueled by other sources, product may smolder for prolonged periods emitting a dense black smoke.

SECTION V: REACTIVITY

Stability----------Stable
Incompatability----------Organics
Oxidizable Materials
Hazardous Decomposition or Byproducts----Thermal Decomposition releases Unidentified Noxious Gases of Chlorine and Bromine.
Materials to Avoid----------Strong Acids, Alkalies, High Storage Temperatures, and Moisture.
Hazardous Polymerization will not occur.

SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye, Skin, Ingestion, Inhalation

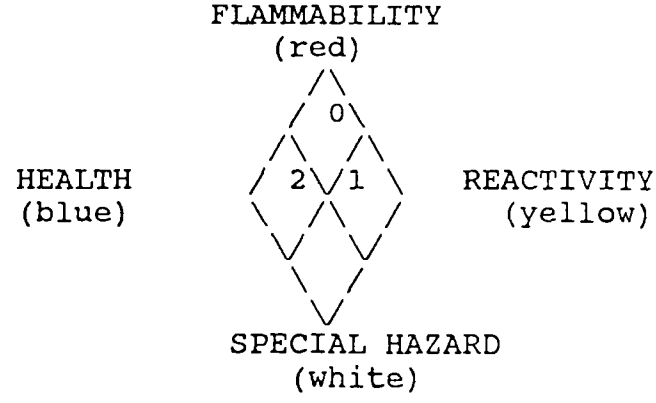
EFFECTS OF EXPOSURE -
-EYE CONTACT: Severe Eye Irritation/Possible Irreversable Damage
-INHALATION: Severe Irritation/System Absorption/Tissue Damage
-INGESTION: Severe Irritation/System Absorption/Tissue Damage
-SKIN: Severe Irritation/Tissue Damage

HEALTH HAZARDS: Direct skin and eye contact can result in severe skin and eye irritations that may produce irreversible damage. Inhalation of high concentrations can be severely irritating to the lung with potential systemic absorption and tissue damage.
CARCINOGENICITY: Not Listed by NTP, IARC, OSHA.
EMERGENCY FIRST AID AND PROCEDURES:
-EYES: Flush Eyes With Water For 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. If physician is not available, flush for additional 15 minustes. Get immediate medical attention.
-SKIN: Immediately wipe away excess material with a dry cloth while removing contaminated clothing and shoes. Under a safety shower, wash affected areas thoroughly with large amounts of water, and soap if available, for at least 15 minutes. Get immediate medical attention. Discard or decontaminate clothing and shoes.
-INHALATION: Remove from area to fresh air. If not breathing, clear airway and start mouth to mouth artificaial respiration or use a bag mask respirator. Get immediate medical attention. If victim is having trouble breathing, transport to medical care, and if available, give supplemental oxygen.

-INGESTION: If swallowed, feed bread soaked in milk, followed by olive or cooking oils. Do not induce vomiting. Have physician determine if patient's condition allows induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

NFPA HAZARD SIGNAL:

DEGREE OF HAZARD



SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear protective clothing, goggles and dust mask. Sweep up spilled material and place in container for reuse or disposal. Flush spilled area with water. For small spills, absorb with sand or vermiculite and place in compatible chemical container for disposal. Carefully sweep material (avoid generating dust) and place ion compatible chemical container for recovery or disposal.

WASTE DISPOSAL METHODS

Dispose of in compliance with all Federal, State and Local Laws.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Store in a dry protected location. Keep container closed when not in use.

OTHER PRECAUTIONS

Clean up spills immediately.

SECTION VIII: CONTROL MEASURE

RESPIRATORY PROTECTION: A NIOSH/MSHA jointly approved respiration is advised in the absence of proper environmental controls.
VENTILATION:
A) Local exhaust: Required
B) Mechanical: General Mechanical Ventilation Recommended for Enclosed Areas.
PROTECTIVE GLOVES: Rubber or Neoprene
EYE PROTECTION: Chemical Goggles
OTHER PROTECTIVE CLOTHING AND EQUIPMENT: Eye Wash, Safety Shower, Protective (Long Sleeves, Coveralls, or Other as Appropriate) to Prevent Repeated or Prolonged Skin Contact.
WORK/HYGENIC PRACTICES: Wash thoroughly after handling.

SECTION IX: REGULATORY INFORMATION

NMFC SHIPPING NAME
Oxidizer, n.o.s., (bromine) DOT-E 8151
D.O.T. CLASS
Oxidizer
D.O.T. NUMBER
UN 1479
RCRA STATUS:
No RCRA Listed Hazardous Constituents
CERCLA Status:
Not Regulated
SARA/TITLE III-SECTION 304 EMERGENCY REPORTING NOTIFICATION
This Product Does Not Contain Section 304 Listed Hazardous Substances For Emergency Release Notification.
SARA/TITLE III-SECTION 313 TOXIC CHEMICAL RELEASE REPORTING
This Product Does Not Contain Section 313 Listed Toxic Chemicals Subject To Release Reporting Requirements.
TSCA INVENTORY STATUS
All Chemical Components Are Listed On TSCA Inventory.

7/27/90

MATERIAL SAFETY DATA SHEET

OSHA Form 174

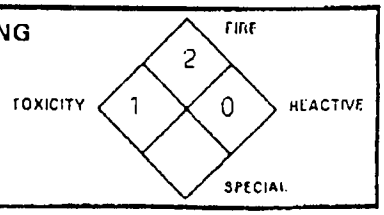
May be used to comply with
OSHA Hazard Communication Standard (29 CFR 1910.1200)
Consult OSHA standard for specific requirements

ATHEA LABORATORIES
P.O. Box 23926, 7855 N. Faulkner Rd.
Milwaukee, Wisconsin 53223

EMERGENCY PHONE: (414) 354-6417

****

NFPA HAZARD RATING
4 - EXTREME
3 - HIGH
2 - MODERATE
1 - SLIGHT
0 - INSIGNIFICANT



Trade name: CHERRY SEWER SWEETENER

Family: WATER BASED DEODORANT

Formula: MIXTURE

DOT Hazard Class: NONE

Lybrook Plant
Used for sewage pond
10/91

********** SECTION II - HAZARDOUS INGREDIENTS **********

Substance	CAS Reg. Number	Approximate Percentage	OSHA PEL	Carcinogenicity NTP	IARC	OSHA
Isopropanol	67-63-0	< 3	400 ppm	No	No	No

********** SECTION III - PHYSICAL DATA **********

Boiling point (°F): 180
Vapor pressure (mmHg): NOT DET.
Vapor density (air=1): NOT DET.
Solubility in water: SOLUBLE
Specific gravity: 0.99
% volatile(volume %): >80
Evap. rate (water=1): >1
pH: 7.3
Appearance / odor: CLEAR, PINK LIQUID, CHARACTERISTIC CHERRY FRAGRANCE.

********** SECTION IV - FIRE AND EXPLOSION HAZARD DATA **********

Flash point (°F): 116
(Test method): CLOSED CUP (ASTM D3278)
Flammable limits in air (volume %):
Upper: 12.7 Lower: 2.0
Extinguishing media: WATER, FOAM, CARBON DIOXIDE, DRY CHEMICAL.
Special fire fighting procedures: COOL CONTAINERS IN VICINITY OF FIRE WITH WATER FOG. MOVE CONTAINERS FROM FIRE AREA IF POSSIBLE. FIREFIGHTERS MUST WEAR FULL PROTECTIVE GEAR AND SELF-CONTAINED BREATHING APPARATUS.
Unusual fire / explosion hazard: NONE

********** SECTION V - HEALTH HAZARD DATA **********

Threshold limit value: NOT ESTABLISHED FOR MIXTURE.
Primary Route of Exposure: EYE CONTACT, INGESTION.

Effects of overexposure:
EYES: IRRITATION, REDNESS.
SKIN: MILD IRRITATION WITH PROLONGED EXPOSURE.
INGESTION: GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING.
INHALATION: IRRITATION OF RESPIRATORY TRACT, HEADACHE, NAUSEA, DIZZINESS,

Emergency first aid procedures:
EYES: FLUSH EYES AND UNDER EYELIDS WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.
SKIN: WASH THOROUGHLY WITH SOAP AND WATER.
INGESTION: CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. GIVE PERSON SEVERAL GLASSES OF WATER AND INDUCE VOMITING. NEVER INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
INHALATION: REMOVE PERSON TO FRESH AIR. ADMINISTER ARTIFICAL RESPIRATION IF INDICATED. OBTAIN MEDICAL ATTENTION.

********** SECTION VI - REACTIVITY DATA **********

Stability: STABLE Conditions to avoid: NONE
Incompatibility: NONE
Hazardous decomposition products: THERMAL DECOMPOSITION MAY YIELD CO AND CO_2.
Hazardous polymerization WILL NOT OCCUR. Conditions to avoid: NONE

********** SECTION VII - SPILL OR LEAK PROCEDURES **********

Steps to be taken if material is released or spilled: EXTINGUISH ALL SOURCES OF IGNITION AND VENTILATE AREA. WEAR SUITABLE PROTECTIVE GEAR AND USE NON-SPARKING TOOLS. STOP LEAK BY REPOSITIONING CONTAINER AND CONTAIN SPILL. SOAK UP ON INERT ABSORBENT AND PLACE IN CLOSED CONTAINER.
Waste disposal method: CONSULT LOCAL ENVIRONMENTAL AUTHORITIES FOR WASTE DISPOSAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

********** SECTION VIII - SPECIAL PROTECTION INFORMATION **********

Respiratory protection: USE WITH ADEQUATE VENTILATION
Ventilation: SPECIAL VENTILATION NOT REQUIRED FOR NORMAL USE.
Protective gloves: NOT REQUIRED FOR NORMAL USE
Eye protection: CHEMICAL GOGGLES
Other protective equipment: EMERGENCY SHOWER AND EYE WASH FACILITIES.

********** SECTION IX - SPECIAL PRECAUTIONS **********

Precautions for handling and storage: STORE IN A COOL, DRY PLACE, AWAY FROM HEAT, SPARK OR OPEN FLAME. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.
Other precautions: KEEP OUT OF REACH OF CHILDREN. EMPTY CONTAINER MAY CONTAIN HAZARDOUS RESIDUE. DO NOT CUT OR WELD EMPTY CONTAINER.

Date of preparation: 11/21/1990 Thomas J. Schmit

MATERIAL SAFETY DATA SHEET
FOR

MATERIAL IDENTIFICATION

NUMBER : M0000018
NAME : "HYVAR" X Herbicide

"HYVAR" is a registered trademark of the DuPont Company.

GRADE : An 80% formulation
CHEMICAL FAMILY : Uracil
CAS NAME : 5-bromo-3-sec-butyl-6-methyluracil
NFPA RATING : Health: 1 Flammability: 1 Reactivity: 0
NPCA-HMIS RATING : Health: 1 Flammability: 1 Reactivity: 0
Personal Protection rating to be supplied by user depending on use conditions.

MANUFACTURER/DISTRIBUTOR: E.I. du Pont de Nemours & Co., Inc.
1007 Market Street
Wilmington, DE 19898

PRODUCT INFORMATION PHONE : 1-(800)441-7515
TRANSPORTATION EMERGENCY PHONE : 1-(800)424-9300
MEDICAL EMERGENCY PHONE : 1-(800)441-3637

****

COMPONENTS

Material	CAS Number	%
Bromacil	314-40-9	80
Inert Ingredients		20

****

PHYSICAL DATA

pH : 9
Form : Solid
Color : Beige
Bulk Density : 0.53 g/cc

****

HAZARDOUS REACTIVITY

Instability : Stable at normal temperatures and storage conditions.
Incompatibility : Incompatible with strong acids and oxidizing agents.
Decomposition : Decomposes with heat. Hazardous gases/vapors produced are highly toxic fumes, including oxides of nitrogen and bromine compounds.

(HAZARDOUS REACTIVITY - CONTINUED)

Polymerization : Polymerization will not occur.

****

FIRE AND EXPLOSION DATA

May be ignited by heat or open flame.

FIRE AND EXPLOSION HAZARDS

Like most organic powders or crystals, under severe dusting conditions this material may form explosive mixtures in air.

EXTINGUISHING MEDIA

Water Spray. Foam. Dry Chemical. CO2.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Cool tank/container with water spray. Runoff from fire control may be a pollution hazard.
If area is heavily exposed to fire and if conditions permit, let fire burn itself out, since water may increase the contamination hazard.

****

HEALTH HAZARD INFORMATION

CAUTION! May irritate eyes, nose, throat and skin.

ANIMAL DATA

Oral LD50: 2,000 mg/kg (male rat); 1,300 mg/kg (female rat). Slightly toxic by ingestion.
Skin absorption LD50: > 5,000 mg/kg in rabbits. Slightly toxic by contact.
Inhalation 4 hr LC50: > 4.8 mg/L rats. Slightly toxic by inhalation.

The compound is a moderate skin irritant, is a mild to moderate eye irritant, and is not a skin sensitizer. Rabbits acutely exposed via dermal route demonstrated no clinical signs of toxicity, and no gross tissue changes were observed at the highest practical dose, 5,000 mg/kg.

Inhalation: Acute exposure of rats resulted in only general signs of distress, rapid and deep respiration, at the highest dose tested, 4.8 mg/L. Toxicity described in animals repeatedly exposed to 0.1, 0.5 or 2.0 mg/L of the compound for two weeks include slightly increased platelet counts, and lower serum cholesterol in the group exposed to 2.0 mg/L. Slightly increased liver weights were noted in

(HEALTH HAZARD INFORMATION - CONTINUED)

animals were normal after a 14 day recovery period.

Ingestion: When a massive dose was administered to the dog (5,000 mg/kg), incoordination, salivation, vomiting, weakness, lacrimation and dilated pupils were observed. Toxicity described in animals repeatedly exposed to near lethal doses included liver changes, increased liver, adrenal and heart weights, and decreased brain, kidney and spleen weights. In another study, body weights were lower and changes were noted in the liver, kidneys and thyroids in rats repeatedly fed 2,500 ppm in the diet for 90 days. Dogs fed 50, 250 or 1,250 ppm of the compound for two years had no evidence of toxicity in any exposure group. Rats fed the same doses of the compound for two years had lower weight gain, and there were suggestions of slight thyroid effects, focal hyperplasia, in the high dose group. Mice that were administered 250, 1,250 or 5,000 ppm in the diet for 18 months demonstrated reduced growth rates at 1,250 ppm in females and at 5,000 ppm in males. Higher mortality was noted among female mice in the high dose group. Increased incidences of naturally occuring changes in aging mice, including testicular tubule atrophy and liver effects, were observed at the higher doses. An increase in total liver tumors that was above the normal background incidence was observed in high-dose male mice. This response in male mice is considered only as limited evidence of a carcinogenic response in the species. The weight of the scientific data for bromacil suggests that this is not indicative of a similar response in female mice, other laboratory animals or in man.

Additional animal testing indicated that this compound was not teratogenic and was not uniquely toxic to the conceptus. No reproductive effects were observed in rats exposed to 250 ppm in the diet for three generations. The compound does not produce heritable genetic damage in animals. Most studies for genetic damage in mammalian and bacterial cells in culture were also negative.

HUMAN HEALTH EFFECTS

Skin contact may initially cause irritation or rash. Eye contact may initially include irritation, tearing, or blurring of vision.

Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human sensitization.

Carcinogenicity

(HEALTH HAZARD INFORMATION - CONTINUED)

IARC, NTP, OSHA, or ACGIH as a carcinogen.

Exposure Limits for "HYVAR" X Herbicide

TLV ** (ACGIH) : None Established
PEL (OSHA) : None Established

Other Applicable Exposure Limits:

Exposure Limits for Bromacil

AEL * (DuPont): 10 mg/m3, 8 & 12 Hr. TWA
TLV ** (ACGIH) : 1 ppm, 11 mg/m3
PEL (OSHA) : 1 ppm, 10 mg/m3

* AEL is DuPont's Acceptable Exposure Limit.
** TLV is a registered trademark.

Safety Precautions

Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

****

FIRST AID

INHALATION
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT
Flush skin with water after excessive contact. Wash contaminated clothing before reuse.

EYE CONTACT
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION
If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician.

****

PROTECTION INFORMATION

Generally Applicable Control Measures and Procedures

Use only with adequate ventilation. Keep container tightly closed. Do not consume food, drink or tobacco in the areas where they may become contaminated with this material.

(PROTECTION INFORMATION - CONTINUED)

Personal Protective Equipment

Eye/Face : Coverall chemical splash goggles.
Additional : Protective clothing
Respirator: Approved pesticide respirator if exposure may exceed "TLV" limit.

****

DISPOSAL INFORMATION

Aquatic Toxicity :
Rainbow Trout LC50 (72 hr. exposure) is 38 ppm.

Spill, Leak, or Release

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Dike spill. Shovel or sweep up.
If spill area is on ground near valuable plants or trees, remove top 2 inches of soil after initial cleanup.

Waste Disposal

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Do not flush to surface water or sanitary sewer system.
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning.

****

SHIPPING INFORMATION

DOT
Proper Shipping Name :
Not regulated by D.O.T.
Freight Class : Herbicide preparations, other

****

STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

MATERIAL SAFETY DATA SHEET	Ashland	ASHLAND CHEMICAL, INC. Subsidiary Of Ashland Oil, Inc P.O. BOX 2219 COLUMBUS, OHIO 43216 (614) 889-3333	24-HOUR Emergency Telephone 1(800) 274-5263 1(800) ASHLAND

000070 **MINERAL SPIRITS 66** Page

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: MINERAL SPIRITS 66
CAS NUMBER: 8052-41-3

SUNTARRA GAS PROCESSING CO.
ATTN: JESSICA
P.O. BOX 1869
BLOOMFIELD, NM 87413

05 91 072 4113944-272

PRODUCT:
INVOICE: REQST
INVOICE DATE: 07/24/91
TO:

Data Sheet No: 0000591-004
Prepared: 05/31/89
Supersedes: 03/04/86

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: ALIPHATIC HYDROCARBON

DOT Hazard Classification: COMBUSTIBLE (173.115)

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
ALIPHATIC HYDROCARBONS (STODDARD TYPE) CAS #: 8052-41-3	>95	100 PPM	100 PPM	(1)

Notes:

(1) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

SECTION III - PHYSICAL DATA

Boiling Point	for PRODUCT	334.00 Deg F (167.77 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	2.00 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density	AIR = 1	4.9
Specific Gravity		.770 - .806 @ 60.00 Deg F (15.55 Deg C)
Percent Volatiles		100.00%
Evaporation Rate	(ETHER = 1)	70.00

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT 100.0 Deg F (37.8 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 0 FLAMMABILITY- 2 REACTIVITY- 0

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 100 PPM

THRESHOLD LIMIT VALUE 100 PPM

EFFECTS OF ACUTE OVEREXPOSURE:

EYES - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS, AND EVEN DEATH.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

SECTION V-HEALTH HAZARD DATA (Continued)

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY. GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING, KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE:

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS:, CENTRAL NERVOUS SYSTEM EFFECTS

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS.

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE. DIKE AREA OF SPILL TO PREVENT SPREADING. PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

WASTE DISPOSAL METHOD:

SMALL SPILL: ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY LIQUID INCINERATION.

CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED.SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

MATERIAL SAFETY DATA SHEET	Ashland	ASHLAND CHEMICAL, INC. Subsidiary of Ashland Oil, Inc. P.O. BOX 2219 COLUMBUS, OHIO 43216 (614) 889-3333	24 - hour Emergency Telephone 1 (800) 273-5263 1-800-ASHLAND

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC, or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELS) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If the Specific Vapor Density of a product is not known, the value is expressed as lighter or greater than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit and vapor pressure above 0.1mm Hg at 68 F.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowset value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY"

MATERIAL SAFETY DATA SHEET

SECTION I

HOPPER SPECIALTY COMPANY
CHEMICAL SPECIALTY DIVISION

FARMINGTON: 327-2075
FAX: 327-9437

ALBUQUERQUE: 884-1939
FAX: 888-1472

Address (Number, Street, City, State, and Zip Code)
814 E. Main St.
Farmington, NM 87401

Chemical Name and Synonyms: Protease Enzyme & Bacillus Subtilis Bacteria

Trade Name and Synonyms: Sneaky Pete

Chemical Family: Protein

Formula:

SECTION II - HAZARDOUS INGREDIENTS

Paints, Preservatives, and Solvents	%	TLV (Units)	Alloys and Metallic Coatings	%	TLV (Units)

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY OSHA 1910.1200*

"Hazardous chemical" means any chemical which is a physical hazard or a health hazard.

"Health hazard" means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes or mucous membranes.

"Physical hazard" means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water reactive.

*See also Section X, Special Precautions.

SECTION III - PHYSICAL DATA

Boiling Point (°F)	N/A	Specific Gravity (H_2O = 1)	N/A
Vapor Pressure (mm Hg)	N/A	Percent Volatile by Volume (%)	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (_____ = 1)	N/A

Solubility in Water: 30%

Appearance and Odor: Light to darker tan, essentially odorless.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	N/A	Flammable Limits	Lel N/A	Uel	N/A

Extinguishing Media: N/A

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

SECTION V - LISTED IN

NTP	IARC	Other
OSHA		N/A

SECTION VI - HEALTH HAZARD DATA

Threshold Limit Value	N/A
Permissible Exposure Limit	N/A
Other	N/A

Effects of Overexposure

May cause skin, eye or respiratory irritation upon prolonged contact.

Emergency First Aid Procedures

Thoroughly wash material from skin or eyes with water.

Primary Routes of Entry

N/A

SECTION VII - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable		N/A

Incompatability (Materials to Avoid)

None known.

Hazardous Decomposition Products

N/A

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur		N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled

Avoid skin and eye contact and creating dust.
Clean up according to normal procedures for powder spills.

Waste Disposal Method

Flush into sewage system with water.

SECTION IX - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type)

Ventilation	Local Exhaust		Special
	Mechanical (General)	N/A	Other

Protective Gloves	Eye Protection

Other Protective Equipment Protective dust mask.

SECTION X - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing

Store in a cool, dry area. Keep container tightly sealed to protect from moisture.

Other Precautions

Despite not being hazardous, it is still advisable to follow prudent laboratory practices

Sneaky Pete

MUNICIPAL SEWAGE TREATMENT SYSTEMS

FOR IMHOFF TANKS

Initial Treatment - Add one pound/1000 cubic feet of sewage (approximately 7500 gallons) to the inlet line of the tank every week until the system is operating properly.

Preventive Maintenance Treatment - The above treatment level can be reduced to four ounces/1000 cubic of sewage every other week.

ANAEROBIC SLUDGE DIGESTERS

Initial Treatment - Use one pound/1000 cubic feet of sludge (approximately 7500 gallons) in the digester once every 3 days for four weeks. Apply treatments through sludge pump.

Preventive Maintenance - Use one pound/1000 cubic feet of sludge in the digester weekly.

> Note: Where a very heavy scum formation or "Matting" has occurred in the digester, a heavier initial treatment may be called for. In this case 1 pound should be added for each 5000 gallons of sludge in the digester. This treatment should be repeated every four days for four weeks. At the end of this time reduce the treatment to one pound per 10,000 gallons of sludge once a week for four more weeks. Thereafter, the regular preventive maintenance schedule noted above should be adequate.

TRICKLING FILTERS

Initial Treatment - Use five pounds/million gallons of daily flow. The required amount can be added either to the primary settling tank or to the syphon tank. If necessary, this treatment can be repeated in 48 hours.

Preventive Maintenance - Use Two and one half pounds/million gallons weekly to treat filter.

NATURALLY THE PLANT OPERATOR WILL WANT TO DETERMINE THE MOST ECONOMICAL ORGANIC DIGESTER LEVEL TO USE FOR HIS PARTICULAR LOAD, TEMPERATURE AND PROCESSING CONDITIONS.

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

07/19/

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 12/18/87 ZEP SUPER-D-ICE
SUPERSEDES: 04/09/86 PRODUCT NUMBER: 1494

SECTION I - E M E R G E N C Y C O N T A C T S

ZEP MANUFACTURING COMPANY TELEPHONE:(404)352-1680 BETWEEN 8:00 AM-5:00 PM (EST)
P.O. BOX 2015 NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS:AREA CODE 4
ATLANTA, GEORGIA 30301 435-0973, 996-0899, 351-2952, 971-1037, 432-2873
LOCAL POISON CONTROL CENTER .....

TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED
DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

SECTION II - H A Z A R D O U S I N G R E D I E N T S

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
** CALCIUM CHLORIDE ANHYDROUS BEADS ** CALCIUM CHLORIDE; CAS# 10043-52-4; RTECS# EV9800000	N/D	IRR	90-9
OSHA PEL N/D: MFR 10MG/M3 (NUISANCE DUST) ** SODIUM CHLORIDE ** HALITE; SALT; CAS# 7647-14-5; RTECS# VZ4725000; OSHA PEL-N/D.	N/D	EIP	5-1

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

SECTION III - H E A L T H H A Z A R D D A T A

ACUTE EFFECTS OF OVEREXPOSURE:
THIS PRODUCT CAN BE AN EYE IRRITANT. INFLAMMATION OF EYE TISSUE IS CHARACTERIZED BY REDNESS, WATERING, AND/OR ITCHING.

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 12/19/87 ZEP SUPER-D-ICE
SUPERSEDES: 04/09/86 PRODUCT NUMBER: 1494

SECTION III - H E A L T H H A Z A R D D A T A (CONTINUED)

CHRONIC EFFECTS OF OVEREXPOSURE:
THERE ARE NO KNOWN EFFECTS FROM CHRONIC EXPOSURE TO THIS PRODUCT.
NONE OF THE INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, OR OSHA.

EST I PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: N/A

HMIS CODES: HEALTH 1;FLAM. 0;REACT. 0;PERS. PROTECT. B ;CHRONIC HAZ. NC

FIRST AID PROCEDURES:
SKIN : FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER. CONSULT A PHYSICIAN IF IRRITATION DEVELOPS.
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.
INHALE: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION PROMPTLY.
INGEST: IF THIS PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. IF VICTIM IS CONSCIOUS GIVE PLENTY OF WATER TO DRINK. GET MEDICAL ATTENTION AT ONCE.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

PROTECTIVE CLOTHING : WEAR IMPERVIOUS GLOVES THAT HAVE DEMONSTRATED RESISTANCE TO THE INGREDIENTS IN THIS PRODUCT.
EYE PROTECTION : USE OF TIGHT-FITTING SAFETY GLASSES OR GOGGLES IS STRONGLY RECOMMENDED, ESPECIALLY WHEN WEARING CONTACT LENSES.
RESPIRATORY PROTECTION: NO SPECIAL MEASURES ARE REQUIRED.

VENTILATION : NO SPECIAL MEASURES ARE REQUIRED.

SECTION V - P H Y S I C A L D A T A

BOILING POINT (F)	: N/A	SPECIFIC GRAVITY	: N/A
VAPOR PRESSURE(MMHG)	: N/A	PERCENT VOLATILE BY VOLUME (%)	: < 0.1
VAPOR DENSITY(AIR=1)	: N/A	EVAPORATION RATE(=1)	: N/A
SOLUBILITY IN WATER	: 240/100ML MIN.	PH(CONCENTRATE)	: N/A
		PH(USE DILUTION OF)	: N/A

APPEARANCE AND ODOR :A WHITE DELIQUESCENT, CRYSTALLINE POWDER WITH LITTLE ODOR.

SECTION VI - F I R E A N D E X P L O S I O N D A T A

FLASH POINT(F) (METHOD USED): NONE (TCC)
FLAMMABLE LIMITS LEL N/A UEL N/A
EXTINGUISHING MEDIA : NON-COMBUSTIBLE SOLID
SPECIAL FIRE FIGHTING: NONE

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 12/18/87 ZEP SUPER-D-ICE
SUPERSEDES: 04/09/86 PRODUCT NUMBER: 1494

SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE
INCOMPATIBILITY(AVOID) : CONCENTRATED SOLUTIONS MAY BE CORROSIVE TO METALS
POLYMERIZATION : WILL NOT OCCUR
HAZARDOUS DECOMPOSITION: NONE

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 7 DURING CLEAN-UP. PICK UP SPILLED MATERIAL AND PLACE IN A SUITABLE WASTE CONTAINER. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE AREA WELL WITH WATER.

WASTE DISPOSAL METHOD:
PRODUCT IS NOT CONSIDERED A HAZARDOUS WASTE UNDER RCRA. UNUSABLE MATERIAL SHOULD BE DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL LANDFILL IF IF PERMITTED PUT INTO SOLUTION WITH WATER AND FLUSHED INTO A SANITARY SEWER. NEUTRALIZATION OF PH MAY BE A PREREQUISITE FOR SEWER DISPOSAL. CONSULT LOCAL, STATE, AND FEDERAL AGENCIES FOR PROPER METHOD OF DISPOSAL IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
KEEP PRODUCT AWAY FROM SKIN AND EYES.
DO NOT BREATHE DUST.
KEEP OUT OF THE REACH OF CHILDREN.

SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME
NONE
DOT HAZARD CLASS: N/A
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: NONE
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 02/01/91 ZEPELEC
SUPERSEDES: 06/05/89 PRODUCT NUMBER: 0327

SECTION I - E M E R G E N C Y C O N T A C T S

ZEP MANUFACTURING COMPANY TELEPHONE:(404)352-1680 BETWEEN 8:00 AM-5:00 PM (EST)
P.O. BOX 2015 NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS:AREA CODE 4(
ATLANTA, GEORGIA 30301 435-2973, 996-0899, 051-2952, 971-3367, 482-2873
LOCAL POISON CONTROL CENTER .....
TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-930(ALL CALLS RECORDEI
DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

SECTION II - H A Z A R D O U S I N G R E D I E N T S

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD
@** 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE ** FLUORO-CARBON 113; FREON 113; FREON TF; CAS# 76-13-1; RTECS# ...4000000; OSHA PEL 1000 PPM	1000	EIR CNS	>90

@ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

SECTION III - H E A L T H H A Z A R D D A T A

ACUTE EFFECTS OF OVEREXPOSURE:
SEVERE OVEREXPOSURE (GREATER THAN 2500 PPM) BY INHALATION CAN CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION RESULTING IN HEADACHE, NAUSEA, AND DIZZINESS. IN EXTREME CASES STUPOR, UNCONSCIOUSNESS, AND DEATH MAY RESULT. ONE INGREDIENT IN THIS PRODUCT HAS CAUSED CARDIAC SENSITIZATION IN ANIMALS DURING TESTS AT LEVELS ABOVE 20,000 PPM, WHILE THIS EFFECT HAS BEEN IMPLICATED FOR HUMANS IT HAS NOT BEEN PROVEN; ADRENALIN INTENSIFIES THE EFFECT. SKIN OR EYE CONTACT MAY CAUSE DE-

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 02/01/91 ZEPELEC
SUPERSEDES: 06/05/89 PRODUCT NUMBER: 0327

SECTION III - H E A L T H H A Z A R D D A T A (CONTINUED)

CHRONIC EFFECTS OF OVEREXPOSURE:
SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE MORE SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMITITIS.
NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

LIST 2 PEL/TLV: 1000 PPM PRIMARY ROUTES OF ENTRY: INH.

HMIS CODES: HEALTH 1;FLAM. 1;REACT. 1;PERS. PROTECT. X ;CHRONIC HAZ. NO

FIRST AID PROCEDURES:

SKIN : IMMEDIATELY FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS.

EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.

INHALE: MOVE EXPOSED PERSON TO FRESH AIR AT ONCE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

INGEST: IF SWALLOWED, DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD BELOW HIP LEVEL. GET EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

PROTECTIVE CLOTHING : WEAR NITRILE GLOVES OR USE GLOVES WITH DEMONSTRATED RESISTANCE TO THE INGREDIENTS IN THIS PRODUCT.

EYE PROTECTION : USE TIGHT-FITTING SAFETY GLASSES. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS MATERIAL.

RESPIRATORY PROTECTION: IF VENTILATION IS INADEQUATE, WEAR A PROPERLY FITTING MSHA OR OSHA-APPROVED RESPIRATOR.

VENTILATION : VENTILATION SHOULD BE EQUAL TO OUTDOORS. USE EXHAUST FANS AND/OR EXHAUST HOOD IN ENCLOSED SPACES.

SECTION V - P H Y S I C A L D A T A (FOR FILL MATERIAL ONLY)

BOILING POINT (F)	: 117.6F	SPECIFIC GRAVITY	: 1.57
VAPOR PRESSURE(MMHG)	: 334	PERCENT VOLATILE BY VOLUME (%)	: 100
VAPOR DENSITY(AIR=1)	: 2.9	EVAPORATION RATE(CCL4	=1): 0.3
SOLUBILITY IN WATER	: 0.02	PH(CONCENTRATE)	: N/A
		PH(USE DILUTION OF	): N/A

APPEARANCE AND ODOR :A CLEAR, THIN LIQUID WITH A MILD SOLVENT ODOR.

SECTION VI - F I R E A N D E X P L O S I O N D A T A

FLASH POINT(F) (METHOD USED): NOT FLAMMABLE (CSMA)
FLAMMABLE LIMITS LEL N/A UEL N/A
EXTINGUISHING MEDIA : N/A

SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE
INCOMPATIBILITY(AVOID) : HEAT, SUNLIGHT, STRONG OXIDIZERS, AND ACIDS
POLYMERIZATION : WILL NOT OCCUR.
HAZARDOUS DECOMPOSITION: CARBON DIOXIDE,CARBON MONOXIDE, HYDROGEN CHLORIDE, AND SMALL AMOUNTS OF PHOSGENE & CHLORINE GAS.

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 9 DURING SPILL CLEAN-UP. LARGE SPILLS ARE UNLIKELY DUE TO PACKAGING. SPILL MAY BE ABSORBED ON AN INERT ABSORBENT (EG ZEP-O-ZORB), PLACED IN A SUITABLE CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:
PRODUCT IS CONSUMED IN USE. DO NOT CRUSH, PUNCTURE OR INCINERATE SPENT CONTAINERS. LARGE NUMBERS OF AEROSOL CONTAINERS MAY REQUIRE HANDLING AS A HAZARDOUS WASTE, BUT IN MOST STATES TOTAL HAZARDOUS WASTE QUANTITIES LESS THAN 220 LBS PER MONTH MAY ALLOW DISPOSAL IN A CHEMICAL OR INDUSTRIAL WASTE LANDFILL. CONSULT LOCAL, STATE AND FEDERAL AGENCIES FOR THE PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: F002

SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
DO NOT STORE AT TEMPERATURES ABOVE 120F. OR IN DIRECT SUNLIGHT. DO NOT PUNCTURE OR INCINERATE CONTAINER.
CONTAINER MAY BURST IF HEATED ABOVE 120F.
DO NOT BREATHE SPRAY MISTS OR VAPORS.
KEEP OUT OF THE REACH OF CHILDREN.

SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME
CONSUMER COMMODITY
DOT HAZARD CLASS: N/A
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: ORM-D
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): N/A

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

07/19/91

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 04/23/90 ZEP INSECT REPELLENT
SUPERSEDES: 06/06/88 PRODUCT NUMBER: 0141

SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY: TELEPHONE:(404)350-1680 BETWEEN 8:00 AM-5:00 PM (EST)
P.O. BOX 2015 NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS:AREA CODE 404
ATLANTA, GEORGIA 30301 435-2973, 996-0629, 351-2952, 971-2367, 432-2873
LOCAL POISON CONTROL CENTER .....
TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED
DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
** ISOPROPYL ALCOHOL ** IPA; DIMETHYLCARBINOL; 2-PRO- PANOL; CAS# 67-63-0; RTECS# NT8050000; OSHA PEL-400 PPM; OSHA/ACGIH STEL-500 PPM	400	IRR FBL	70-90
* DIETHYLTOLUAMIDE ** N,N-DIETHYL-M-TOLAMIDE; META- ZLTOMINE; DEET; CAS# 134-62-3; RTECS# XS8575000	N/D	IRR	10-2

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

SECTION III - HEALTH HAZARD DATA

ACUTE EFFECTS OF OVEREXPOSURE:
EYE IRRITANT. EYE CONTACT MAY PRODUCE STINGING, BURNING, INFLAMMATION, AND IN EXTREME CASES MAY PRODUCE CORNEAL DAMAGE. EXPOSURE MAY BE IRRITATING TO SKIN, AND UPPER RESPIRATORY TRACT. ACCUMULATION OF HARMFUL QUANTITIES OF VAPOR IS PRECEDED BY SEVERE IRRITATION WHICH MAKES OVER-EXPOSURE UNLIKELY. OVER-EXPOSURE CAN RESULT IN MILD NARCOTIC EFFECTS, INCLUDING FLUSHING, HEADACHE, DIZZINESS, AND NAUSEA.

SECTION III - H E A L T H H A Z A R D D A T A (CONTINUED)

CHRONIC EFFECTS OF OVEREXPOSURE:
REPEATED OR PROLONGED, SKIN CONTACT MAY PRODUCE SOME DRYNESS OF SKIN. CHRONIC EFFECTS FROM ALCOHOL VAPORS ARE RARE AND WOULD RESULT FROM SEVERE, PROLONGED, AND REPEATED CONTACT, WHICH IS USUALLY PRECLUDED BY IRRITATION. IN MOST EXTREME CASES, NARCOSIS, UNCONSCIOUSNESS, AND DEATH COULD RESULT.
NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EIY & FIL. TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: INH.

HMIS CODES: HEALTH 2;FLAM. 3;REACT. 0;PERS. PROTECT. N/A;CHRONIC HAZ. NO

FIRST AID PROCEDURES:
SKIN : THIS PRODUCT IS FORMULATED FOR USE ON SKIN. IF IRRITATION OCCURS, WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.
INHALE: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION PROMPTLY.
INGEST: IF SWALLOWED, DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD BELOW HIP LEVEL. GET EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

PROTECTIVE CLOTHING : NO SPECIAL MEASURES ARE REQUIRED.

EYE PROTECTION : NO SPECIAL MEASURES ARE REQUIRED.

RESPIRATORY PROTECTION: NO SPECIAL MEASURES ARE REQUIRED.

VENTILATION : NO SPECIAL MEASURES ARE REQUIRED.

SECTION V - P H Y S I C A L D A T A (FOR FILL MATERIAL ONLY)

BOILING POINT (F)	: 182-184F	SPECIFIC GRAVITY	: 0.787
VAPOR PRESSURE(MMHG)	: 0.1	PERCENT VOLATILE BY VOLUME (%)	: 86%
VAPOR DENSITY(AIR=1)	: N/D	EVAPORATION RATE(BUTYL ACETATE =1)	: <0.01
SOLUBILITY IN WATER	: COMPLETE	PH(CONCENTRATE)	: N/A
		PH(USE DILUTION OF)	: N/A

APPEARANCE AND ODOR :CLEAR, WATER-WHITE WITH SLIGHT FLORAL ODOR

SECTION VI - F I R E A N D E X P L O S I O N D A T A

FLASH POINT(F) (METHOD USED): FLAMMABLE (CSMA)
FLAMMABLE LIMITS LEL 2 UEL 12
EXTINGUISHING MEDIA : CO2, FOAM, DRY CHEMICAL

SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE
INCOMPATIBILITY(AVOID) : HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS
POLYMERIZATION : WILL NOT OCCUR.
HAZARDOUS DECOMPOSITION: CARBON DIOXIDE, CARBON MONOXIDE, AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS.

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 9 DURING SPILL CLEAN-UP. LARGE SPILLS ARE UNLIKELY DUE TO PACKAGING. SPILL MAY BE ABSORBED ON AN INERT ABSORBENT (EG ZEP-O-ZORB), PLACED IN A SUITABLE CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:
PRODUCT IS CONSUMED IN USE. DO NOT CRUSH, PUNCTURE OR INCINERATE SPENT CONTAINERS. LARGE NUMBERS OF AEROSOL CONTAINERS MAY REQUIRE HANDLING AS A HAZARDOUS WASTE, BUT IN MOST STATES TOTAL HAZARDOUS WASTE QUANTITIES LESS THAN 220 LBS PER MONTH MAY ALLOW DISPOSAL IN A CHEMICAL OR INDUSTRIAL WASTE LANDFILL. CONSULT LOCAL, STATE AND FEDERAL AGENCIES FOR THE PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: D001

SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
FLAMMABLE! STORE AND USE AWAY FROM HEAT, SPARKS, OPEN FLAME, AND ANY SOURCE OF IGNITION.
DO NOT STORE AT TEMPERATURES ABOVE 120F. OR IN DIRECT SUNLIGHT. DO NOT PUNCTURE OR INCINERATE CONTAINER.
KEEP PRODUCT AWAY FROM SKIN AND EYES.
KEEP AWAY FROM FOOD AND FOOD PRODUCTS.
KEEP OUT OF THE REACH OF CHILDREN.

SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME
CONSUMER COMMODITY
DOT HAZARD CLASS: N/A
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: ORM-D
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET 07/19/

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 04/23/86 ZEPSTART
SUPERSEDES: 03/28/86 PRODUCT NUMBER: 0306

SECTION I - E M E R G E N C Y C O N T A C T S

ZEP MANUFACTURING COMPANY TELEPHONE:(404)352-1680 BETWEEN 8:00 AM-5:00 PM (EST
P.O. BOX 2015 NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS:AREA CODE 4
ATLANTA, GEORGIA 30301 435-2970, 996-0899, 351-2952, 971-3367, 432-2873
LOCAL POISON CONTROL CENTER .....
TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDE
DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDE

SECTION II - H A Z A R D O U S I N G R E D I E N T S

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD
HEPTANE CAS# 142-82-5	500		60-7
ETHYL ETHER CAS# 60-29-7	400		30-4

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

SECTION III - H E A L T H H A Z A R D D A T A

ACUTE EFFECTS OF OVEREXPOSURE:
INHALATION OF VAPOR CAN PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY DIZZINESS, HEADACHE, NAUSEA, CARDIAC AND/OR RESPIRATORY DEPRESSION, STUPOR, UNCONSCIOUSNESS AND DEATH, IN EXTREME CASES. EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR BY DIRECT CONTACT OR INHALATION CAN BE IRRITATING TO MUCOUS MEMBRANES, SUCH AS EYES AND UPPER RESPIRATORY TRACT. SEVERE EYE EXPOSURE TO LIQUID CAN CAUSE REVERSIBLE EYE DAMAGE. SKIN CONTACT MAY CAUSE A BURNING SENSATION AND REDDENING OF THE SKIN. INTRODUCTION OF SOLVENT TO THE LUNGS, AS IN ASPIRATION OF VOMITUS FLUIDS, MAY CAUSE CHEMICAL PNEUMONIA. EXPOSURE TO THIS PRODUCT MAY AG-

ZEP MANUFACTURING COMPANY
FIRST IN MAINTENANCE PRODUCTS

MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 04/23/86 ZEPSTART
SUPERSEDES: 03/28/86 PRODUCT NUMBER: 0306

SECTION III - H E A L T H H A Z A R D D A T A (CONTINUED)

CHRONIC EFFECTS OF OVEREXPOSURE:
REPEATED OR PROLONGED CONTACT BY INHALATION OR SKIN ABSORPTION MAY PRODUCE LIVER OR KIDNEY DAMAGE OR DAMAGE TO THE CENTRAL NERVOUS SYSTEM (CHARACTERIZED BY TINGLING OR NUMBNESS IN THE EXTREMITIES, BLURRED VISION OR CONFUSION). SKIN WHICH IS DEFATTED BY REPEATED EXPOSURE TO SOLVENTS, IS MORE SUSEPTIBLE TO IRRITATION, INFECTION, AND DERMATITIS.
NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EST'D PEL/TLV: 400 PPM PRIMARY ROUTES OF ENTRY: INH, SKIN.

HMIS INDEX: HEALTH 1;FLAM. 4;REACT. 1;PERS. PROTECT. A ;CHRONIC HAZ. NO

FIRST AID PROCEDURES:
SKIN : IMMEDIATELY FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS.
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.
INHALE: MOVE EXPOSED PERSON TO FRESH AIR AT ONCE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.
INGEST: IF SWALLOWED, DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD BELOW HIP LEVEL. GET EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

PROTECTIVE CLOTHING : NO SPECIAL MEASURES ARE REQUIRED.

EYE PROTECTION : USE OF TIGHT-FITTING SAFETY GLASSES OR GOGGLES IS STRONGLY RECOMMENDED, ESPECIALLY WHEN WEARING CONTACT LENSES.
RESPIRATORY PROTECTION: IF VENTILATION IS INADEQUATE, WEAR A PROPERLY FITTING MSHA OR OSHA-APPROVED RESPIRATOR.
VENTILATION : VENTILATION SHOULD BE EQUIVALENT TO OUTDOORS. USE EXHAUST FANS AND OPEN WINDOWS IN ENCLOSED SPACES.

SECTION V - P H Y S I C A L D A T A (FOR FILL MATERIAL ONLY)

BOILING POINT (F)	: 94F	SPECIFIC GRAVITY	: 0.71
VAPOR PRESSURE(MMHG)	: 442 @20C	PERCENT VOLATILE BY VOLUME (%)	: 100
VAPOR DENSITY(AIR=1)	: 2.56	EVAPORATION RATE(BUTYL ACETATE =1)	: 6.9
SOLUBILITY IN WATER	: SLIGHT	PH(CONCENTRATE)	: N/A
		PH(USE DILUTION OF)	: N/A

APPEARANCE AND ODOR :A CLEAR, COLORLESS LIQUID WITH A PIERCING AROMATIC ODOR.

SECTION VI - F I R E A N D E X P L O S I O N D A T A

FLASH POINT(F) (METHOD USED): EXTREMELY FLAMMABLE (CSMA)
FLAMMABLE LIMITS LEL 2% UEL 48%
EXTINGUISHING MEDIA : CO2, FOAM, DRY CHEMICAL
SPECIAL FIRE FIGHTING: DIRECT STREAM OF WATER INTO INTACT CONTAINERS

SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE
INCOMPATIBILITY(AVOID) : HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS
POLYMERIZATION : WILL NOT OCCUR
HAZARDOUS DECOMPOSITION: MAY DECOMPOSE TO FORM TOXIC/CORROSIVE GASES IF EXPOSED TO HIGH HEAT.

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 9 DURING SPILL CLEAN-UP. LARGE SPILLS ARE UNLIKELY DUE TO PACKAGING. SPILL MAY BE ABSORBED ON AN INERT ABSORBENT (IE IZP-O-ZORB). PLACED IN A SUITABLE CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:
PRODUCT IS CONSUMED IN USE. DO NOT CRUSH, PUNCTURE OR INCINERATE SPENT CONTAINERS. LARGE NUMBERS OF AEROSOL CONTAINERS MAY REQUIRE HANDLING AS A HAZARDOUS WASTE, BUT IN MOST STATES TOTAL HAZARDOUS WASTE QUANTITIES LESS THAN 220 LBS PER MONTH MAY ALLOW DISPOSAL IN A CHEMICAL OR INDUSTRIAL WASTE LANDFILL. CONSULT LOCAL, STATE AND FEDERAL AGENCIES FOR THE PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: D001

SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
DO NOT STORE AT TEMPERATURES ABOVE 120F. OR IN DIRECT SUNLIGHT. DO NOT PUNCTURE OR INCINERATE CONTAINER.
DO NOT BREATHE SPRAY MISTS OR VAPORS.
KEEP PRODUCT OUT OF EYES.
KEEP OUT OF THE REACH OF CHILDREN.

SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME
ENGINE STARTING FLUID
DOT HAZARD CLASS: FLAMMABLE GAS
DOT I.D. NUMBER : UN1960 DOT LABEL/PLACARD: FLAMMABLE
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

CLEANERS SOLVENT

FINA OIL & CHEMICAL COMPANY
MATERIAL SAFETY DATA SHEET

PRODUCT: FINASOL — PAGE 1 OF 3
DATE OF ISSUE: 01-22-91 — MSDS NUMBER: L 56
SUPERCEDES: 09-18-89 — PRODUCT CODE: 013900

SECTION I - IDENTIFICATION

MANUFACTURERS NAME
FINA OIL AND CHEMICAL CO.
ADDRESS
P.O. BOX 2159, DALLAS, TX 75221
TRADE NAME
FINASOL
CAS REGISTRY NUMBER
N.AV.
CHEMICAL FAMILY
HYDROCARBON MIXTURE
OTHER

EMERGENCY TELEPHONE NUMBER
(409) 962-4421
CHEMTREC TELEPHONE NUMBER
(800) 424-9300
CHEMICAL NAME
N.AP.
CHEMICAL FORMULA
N.AP.
DOT IDENTIFICATION NUMBER
N.AP.

CLEANERS SOLVENT

SECTION II - HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	VOL %	TLV
STODDARD SOLVENT ***T.C.*** (CAS# 8052-41-3)		100 PPM (ACGIH)
XYLENE ISOMERS*T.C.*(CAS#1330-20-7)		100 PPM (ACGIH)

SECTION III - PHYSICAL DATA

BOILING POINT (DEG F)
N.AV.
VAPOR PRESSURE (MMHG)
N.AV.
VAPOR DENSITY (AIR=1)
N.AV.
SOLUBILITY IN WATER
NEGLIGIBLE
APPEARANCE AND ODOR
WATER WHITE LIQUID; NON-RESIDUAL ODOR

SPECIFIC GRAVITY (WATER=1)
0.77-0.79
PERCENT VOLATILE (VOL%)
N.AV.
EVAPORATION RATE
N.AV.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)
105+ DEG F (COC)

FLAMMABLE LIMITS - LOWER N.AV. UPPER N.AV.

FIRE EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, HALON, WATER (FOG PATTERN)

SPECIAL FIRE FIGHTING PROCEDURES: AVOID INHALATION OF VAPORS.

UNUSUAL FIRE/EXPLOSION HAZARDS: COMBUSTIBLE LIQUID. DO NOT USE NEAR OPEN FLAME, ELECTRIC SPARKS OR ON HOT SURFACES.

N.E.=NOT ESTABLISHED, N.AP.=NOT APPLICABLE, N.AV.=NOT AVAILABLE
T.C.=LISTED TOXIC CHEMICAL UNDER SEC. 313 OF TITLE III OF SARA 1986

FINA OIL & CHEMICAL COMPANY
MATERIAL SAFETY DATA SHEET

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

XYLENE ISOMERS:		
	100 PPM/8 HR DAY - STEL 150 PPM/15 MIN	(ACGIH)
	100 PPM/8 HR DAY- CEILING 200 PPM/10 MIN	(NIOSH)
STODDARD SOLVENT:	100 PPM/8 HR DAY	(ACGIH)

ACUTE EFFECTS OF OVEREXPOSURE

INHALATION	MAY CAUSE DROWSINESS, HEADACHE, NASAL, AND RESPIRATORY IRRITATION. FATIGUE AND CENTRAL NERVOUS SYSTEM DEPRESSION.
SKIN CONTACT & ABSORPTION	MINIMUM HAZARD; MAY CAUSE REDDENING OF THE SKIN. PROLONGED AND REPEATED CONTACT MAY LEAD TO VARIOUS DISORDERS (AS DERMATITIS, OIL ACNE, FOLLICULTITIS)
EYE CONTACT	IRRITATION
INGESTION	POSSIBLE EFFECTS INCLUDE HEADACHE, DROWSINESS, NAUSEA, FATIGUE, PNEUMONITIS, PULMONARY EDEMA, CENTRAL NERVOUS SYSTEM DEPRESSION - ASPIRATION HAZARD.

EMERGENCY FIRST AID PROCEDURES

INHALATION	MOVE PERSON TO FRESH AIR. IF A LARGE AMOUNT HAS BEEN INHALED, KEEP VICTIM WARM AND GET MEDICAL ATTENTION. IF VICTIM HAS STOPPED BREATHING, GIVE ARTIFICIAL RESPIRATION.
SKIN CONTACT & ABSORPTION	REMOVE AFFECTED CLOTHING. WASH WITH SOAP AND WATER WASH SOILED CLOTHES BEFORE REUSE.
EYE CONTACT	WASH EYES WITH LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.
INGESTION	DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION AS SOON AS POSSIBLE

CHRONIC EFFECTS OF OVEREXPOSURE

SIGNS AND SYMPTOMS OF CHRONIC EXPOSURE RESEMBLE THOSE OF ACUTE EXPOSURE LISTED ABOVE.

FINA OIL & CHEMICAL COMPANY
MATERIAL SAFETY DATA SHEET

PRODUCT: FINASOL

SECTION VI - REACTIVITY DATA

STABILITY
STABLE

CONDITIONS TO AVOID
HEAT AND OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID)
STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE, CARBON MONOXIDE

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR

CONDITIONS TO AVOID
OXIDIZING MATERIALS

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	CONTAIN SPILL AND SAFELY STOP THE FLOW. EVACUATE ALL NON-ESSENTIAL PERSONNEL. ELIMINATE IGNITION SOURCES AND VENTILATE AREA.
WASTE DISPOSAL METHOD	RECOVER FREE LIQUID. TRANSFER MATERIAL TO AN APPROVED DISPOSAL AREA IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION
USE OF NIOSH-APPROVED RESPIRATORS RECOMMENDED FOR PROLONGED EXPOSURE.

PROTECTIVE CLOTHING
CHEMICAL RESISTANT GLOVES RECOMMENDED WHEN CONTACT IS LIKELY.

EYE PROTECTION
SPLASH-PROOF GOGGLES OR SAFETY GLASSES.

VENTILATION
AVOID BREATHING MIST AND VAPORS. VENTILATE AS NEEDED.

OTHER PROTECTIVE EQUIPMENT
N.AP.

SECTION IX - HANDLING AND STORAGE PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	COMBUSTIBLE LIQUID. KEEP AWAY FROM FIRE, SPARKS, AND FLAME.

OTHER PRECAUTIONS
N.AP.

Lybrook Plant 10/91

NFPA Rating* Health ____ Flammability ____ Reactivity ____ Special ____

HMIS Rating* Health 2 Flammability 0 Reactivity 0 Personal Protection B

Material Safety Data Sheet

This MSDS complies with OSHA's Hazard Communication Standard 29 CFR 1910. 1200 and OSHA FORM 174.

DOT HAZARD CLASSIFICATION:* Non-Hazardous

Identity (Trade Name As Used On Label) R-328 Tridet Cleaning Solvent

MSDS Number* R-328- 3

MANUFACTURER'S NAME Amrep, Inc.

ADDRESS 63 Industrial Drive

Cartersville, georgia 30120

CHEM TREC: 1-800-424-9300

Date Prepared 6/12/90

Phone Number (For Information) (404) 386-3083

Prepared By* ES/IAB

Emergency Phone Number (404) 386-3083

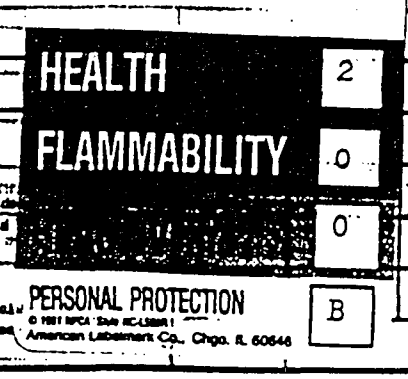
NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	APPROX. % (wt)*	OSHA PEL (ppm)	ACGIH TLV (ppm)	CARCINOGEN REFERENCE SOURCE **
Sodium Metasilicate Anhydrous	6834-92-0	< 3.0	None established		D
Trisodium Phosphate Dodecahydrate	10101-89-0	> 1.0	5mg/m3	5mg/m3	D
Butyl Cellosolve	111-76-2	> 3.0	50	20	D

NOTICE: THIS PRODUCT MAY CONTAIN ONE OF THE LISTED SARA TITLE III SECTION 313 CHEMICALS.

67-64-1 Acetone	71-55-6 1,1,1-Trichloroethane	13463-67-7 Titanium Dioxide	
50-00-0 Formaldehyde	75-09-2 Methylene chloride	7664-38-2 Phosphoric Acid	
67-56-1 Methanol	107-21-1 Ethylene glycol*	7761-88-8 Silver nitrate	
95-48-7 o-Cresol	114-26-1 Propoxur	7664-93-9 Sulfuric Acid	
94-75-7 2,4-D	108-88-3 Toluene	7440-66-6 Zinc (dust)	
72-43-5 Methoxychlor	127-18-4 Tetrachloroethylene	7647-01-0 Hydrochloric Acid	
78-92-2 sec-Butyl alcohol	139-13-9 Nitrilotriacetic Acid	1330-20-7 Xylene, mixed isomers	
*Possible glycol ethers.		76-13-1 Freon TF	



SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point	> 212° F.	**Specific Gravity (H,O = 1)**	1.08
Vapor Pressure PSIG @ 70°F (Aerosols)	N/A	**Vapor Pressure (Non-Aerosols) (mm Hg and Temperature)**	N/D
Vapor Density (Air = 1)	N/D	**Evaporation Rate (____water____ = 1)**	> 1.0
Solubility in Water	Total	**Water Reactive**	None
Appearance and Odor	Clear fluid, dark purple, sassafras/butyl odor.		

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (AEROSOLS)	Auto-ignition Temperature	Flammability Limits in Air % by Volume	LEL	UEL
N/A	N/A		N/A	N/A

Flash Point and Method Used (Non-Aerosols)	None.
Extinguisher Media	Product is not considered combustible.
Special Fire Fighting Procedures	None identified.
Unusual Fire and Explosion Hazards	None identified.

*Optional ** Chemical Listed [3] NTP [4] OSHA [5] Animal

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY	Conditions To Avoid
☒ Stable ☐ Unstable	Exposure to bare or reactive metals.

Incompatability (Materials to Avoid) Bare or reactive metals.

Hazardous Decomposition Products None identified.

HAZARDOUS POLYMERIZATION	Conditions To Avoid
☐ May occur ☒ Will Not Occur	None.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY ☐ Inhalation ☐ Ingestion ☐ Not Hazardous ☒ Skin Absorption ☒ Eye

ACUTE EFFECTS -

Inhalation May cause irritation to mucous membrane.

Eye Contact Mild irritation.

Skin Contact Mild irritation.

Ingestion May cause gastrointestinal irritation.

CHRONIC EFFECTS None identified.

Medical Conditions Generally Aggravated by Exposure None identified.

EMERGENCY FIRST AID PROCEDURES -

Eye Contact Wash with water for 15 minutes. Consult a physician if irritation continues.

Skin Contact Wash with soap and water - remove contaminated clothing.

Inhalation Remove to fresh air.

Ingestion Do not induce vomiting. Seek medical aid.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type) None required.

Protective Gloves	Eye Protection
Rubber, if desired.	Goggles or safety glasses.

VENTILATION REQUIREMENTS	
	None required.

Other Protective Clothing and Equipment Boots and splash apron, if desired.

Hygienic Work Practices Wash hands after use. Remove contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken if Material is Spilled Or Released Contain spill and dilute with clear water. Large spills should be absorbed on inert material for deep burial.

Waste Disposal Methods In accordance with local, state, and federal regulations.

Precautions to be Taken in Handling and Storage Keep stored in cool, dry area. Store not more than 1 year.

Other Precautions and / or Special Hazards Keep away from children.

MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

PRODUCT NAME: DIETHANOLAMINE LOW FREEZING GRADE

Effective Date: 03/20/88 *Date Printed:* 04/13/88 MSDS:000904

1. INGREDIENTS:

Diethanolamine	CAS# 000111-42-2	85%
Water	CAS# 007732-18-5	15%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: 244F, 118C
VAP PRESS: Low.
VAP DENSITY: Not determined.
SOL. IN WATER: Completely miscible.
SP. GRAVITY: 1.08 @ 25/4C
FREEZING POINT: 28F, -2C
APPEARANCE: Colorless liquid.
ODOR: Slight ammoniacal odor.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: * None
METHOD USED: Setaflash

* No flash point observed up to the boiling point. Flash point of diethanolamine is 325F, 163C by Setaflash.

FLAMMABLE LIMITS
LFL: Not determined.
UFL: Not determined.

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO2, dry chemical.

(Continued on Page 2)

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE & EXPLOSION HAZARDS: Not available.

FIRE-FIGHTING EQUIPMENT: Wear self-contained, positive-pressure breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Strong oxidizers, strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Possible nitrogen oxides. This product should not be heated above 60C in the presence of aluminum due to excessive corrosion and potential chemical reaction releasing flammable hydrogen gas.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Soak up with absorbent material or sand. Scoop into waste containers.

DISPOSAL METHOD: Burn in approved incinerator. Follow all local, state, and federal requirements for disposal.

6. HEALTH HAZARD DATA:

EYE: May cause severe irritation with corneal injury.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn.

(Continued on Page 3)

6. HEALTH HAZARD DATA: (CONTINUED)

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is approximately 12,000 mg/kg (for diethanolamine).

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is between 710-1820 mg/kg (for diethanolamine). Amounts ingested incidental to industrial handling are not likely to cause injury; however ingestion of larger amounts may cause injury.

INHALATION: At room temperature, exposures to vapors are unlikely due to physical properties; higher temperatures may generate vapor levels sufficient to cause irritation and other effects. Excessive exposure may cause liver and kidney injury.

SYSTEMIC & OTHER EFFECTS: Repeated excessive exposures may cause liver and kidney injury. Results of in vitro ("test tube") mutagenicity tests have been negative. (For diethanolamine).

7. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower. Remove contaminated clothing immediately and wash before reuse. Remove and destroy contaminated leather articles, such as shoes, belts, and watchbands.

INGESTION: Induce vomiting if large amounts are ingested. Consult medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

(Continued on Page 4)

7. FIRST AID: (CONTINUED)

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): ACGIH TLV is 3 ppm for diethanolamine.

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation.

EYE PROTECTION: Use chemical goggles.

9. ADDITIONAL INFORMATION:

REGULATORY REQUIREMENTS:

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

(Continued on Page 5)

9. ADDITIONAL INFORMATION: (CONTINUED)

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Prevent eye contact. Avoid skin contact. Avoid breathing vapors if generated. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.

Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5 ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm 8 hr TWA for EO. (Code of Federal Regulations Part 1910.1047 or Title 29).

MSDS STATUS: Revised Section 9.

UNION CARBIDE CORPORATION 39 OLD RIDGEBURY ROAD, DANBURY, CT 06817-0001
INDUSTRIAL CHEMICALS DIVISION

MATERIAL SAFETY DATA SHEET ADDENDUM

REGULATORY INFORMATION

for

DIETHYLENE GLYCOL, TRIETHYLENE GLYCOL

and TETRAETHYLENE GLYCOL

California Proposition 65

The products outlined below contain the following materials which the State of California has found to cause cancer and/or birth defects or other reproductive harm.

DIETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	2.2 PPM

TRIETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	1.0 PPM

TETRAETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	1.0 PPM

DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 18 SEP 78 PRODUCT CODE: 21148

PRODUCT NAME: DIETHYLENE GLYCOL (REGULAR GRADE) MSD: 0070

INGREDIENTS (TYPICAL VALUES-NOT SPECIFICATIONS)	: % :
DIETHYLENE GLYCOL	: 99 :

SECTION 1 PHYSICAL DATA

BOILING POINT: 472.6F : SOL. IN WATER: COMPLETELY MISCIBLE
VAP PRESS: < 0.01 MMHG @ 20C : SP. GRAVITY: 1.118 @ 20/20C
VAP DENSITY (AIR=1): 2.14 : % VOLATILE BY VOL: NOT APPLICABLE
APPEARANCE AND ODOR: COLORLESS, MILD, LIQUID.

SECTION 2 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 255F : FLAMMABLE LIMITS (STP IN AIR)
METHOD USED: PMCC : LFL: NOT DETER. UFL: NOT DETER.
EXTINGUISHING MEDIA: WATER FOG, ALCOHOL FOAM, CO2, DRY CHEMICAL.
SPECIAL FIRE FIGHTING EQUIPMENT AND HAZARDS: NONE.

SECTION 3 REACTIVITY DATA

STABILITY: IGNITES IN AIR AT 444F.
INCOMPATIBILITY: OXIDIZING MATERIAL.
HAZARDOUS DECOMPOSITION PRODUCTS: ----
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 4 SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS (USE APPROPRIATE SAFETY EQUIPMENT): DAM TO PREVENT WATER POLLUTION. SOAK UP WITH ABSORBENT MATERIAL. USE VACUUM TRUCK TO RECOVER. RETURN TO PLANT FOR REPROCESSING.
DISPOSAL METHOD: BURN ACCORDING TO LOCAL, STATE, AND FEDERAL LAWS.

SECTION 5 HEALTH HAZARD DATA

INGESTION: LOW SINGLE DOSE ORAL TOXICITY FOR LAB ANIMALS; MODERATE FOR HUMANS.
EYE CONTACT: UP TO MILD IRRITATION.
SKIN CONTACT: ESSENTIALLY NON-IRRITATING.
SKIN ABSORPTION: ABSORBED THROUGH SKIN BUT LOW IN TOXICITY BY THIS ROUTE.

(CONTINUED ON PAGE 2)

DOW CHEMICAL U.S.A. MIDLAND MICHIGAN 48640 EMERGENCY PHONE: 517-636-4400

EFFECTIVE DATE: 18 SEP 78 PRODUCT CODE: 21148
PRODUCT (CONT'D): DIETHYLENE GLYCOL (REGULAR GRADE) MSD: 0070

SECTION 5 HEALTH HAZARD DATA (CONTINUED)

INHALATION: NO GUIDE FOR CONTROL KNOWN. NOT LIKELY A PROBLEM BECAUSE OF LOW VOLATILITY. A LEVEL OF 100 PPM HAS BEEN SUGGETED AS A GUIDE IF MATERIAL IS HANDLED HOT.
EFFECTS OF OVEREXPOSURE: DEGENERATION OF THE KIDNEY AND TO A LESSER EXTENT THE LIVER.

SECTION 6 FIRST AID--NOTE TO PHYSICIAN

FIRST AID PROCEDURES:

EYES: IRRIGATION OF THE EYE IMMEDIATELY WITH WATER FOR 5 MINUTES IS GOOD SAFETY PRACTICE. CONSULT MEDICAL.
SKIN: WASH OFF IN FLOWING WATER. DECONTAMINATE CLOTHING AND ACCESSORIES BEFORE REUSE. GOOD PERSONAL HYGIENE.
INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR.
INGESTION: TOXIC BY INGESTION. INDUCE VOMITING IMMEDIATELY. CALL A PHYSICIAN AND/OR TRANSPORT TO EMERGENCY FACILITY.
NOTE TO PHYSICIAN: STAIN FOR EVIDENCE OF CORNEAL ABRASION OR INJURY. MAY CAUSE NEUROLOGIC SIGNS AND SYMPTOMS. MAY CAUSE KIDNEY DAMAGE. MAY CAUSE ELECTROLYTE IMBALANCE. SUGGEST BASELINE CBC, UA, AND 12 TEST. SUGGEST BASELINE ELECTROLYTES. CONSULT STANDARD LITERATURE. USE OF ALCOHOL MAY BE HELPFUL.

SECTION 7 SPECIAL HANDLING INFORMATION

VENTILATION: GOOD VENTILATION USUALLY ADEQUATE FOR MOST OPERATIONS.
RESPIRATORY PROTECTION: IF HANDLING HOT MATERIAL, CONTROL VAPORS TO 100 PPM OR LESS. NONE NORMALLY NEEDED.
PROTECTIVE CLOTHING: CLEAN CLOTHING.
EYE PROTECTION: NOT NORMALLY NECESSARY.

SECTION 8 SPECIAL PRECAUTIONS AND ADDITIONAL INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: PRACTICE REASONABLE CAUTION TO AVOID SKIN AND EYE CONTACT. AVOID BREATHING VAPORS FROM HOT MATERIAL.
ADDITIONAL INFORMATION: ----

LAST PAGE

UNION CARBIDE CORPORATION 39 OLD RIDGEBURY ROAD, DANBURY, CT 06817-0001
INDUSTRIAL CHEMICALS DIVISION

MATERIAL SAFETY DATA SHEET ADDENDUM

REGULATORY INFORMATION

for

DIETHYLENE GLYCOL, TRIETHYLENE GLYCOL

and TETRAETHYLENE GLYCOL

California Proposition 65

The products outlined below contain the following materials which the State of California has found to cause cancer and/or birth defects or other reproductive harm.

DIETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	2.2 PPM

TRIETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	1.0 PPM

TETRAETHYLENE GLYCOL

Chemical/CAS Number	Upper Bound Concentration
Dioxane/123-91-1	1.0 PPM

TRIETHYLENE GLYCOL EFFECTIVE DATE: 09-25-90

MAIL TO:

36804489
SUNTERRA GAS PROCESSING
LYBROOK PLANT HWAY 44
40 MILES NW OF CUBA
CUBA NM 87013

ORDER NO: 362000072
PROD NO: 04765000

VAN WATERS & ROGERS INC., SUBSIDIARY OF UNIVAR
1600 NORTON BLDG. SEATTLE, WA 98104-1564 (408) 435-8700

EMERGENCY ASSISTANCE

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800)424-9300

FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

PRODUCT NAME: TRIETHYLENE GLYCOL CAS NO.: 112-27

COMMON NAMES/SYNONYMS: TRIETHYLENE GLYCOL WITH IHIBITOR

COMMON NAMES/SYNONYMS: TRIETHYLENE GLYCOL; TEG MSDS #: P1255

FORMULA: C6 H14 O4 DATE ISSUED: 09/90

MOLECULAR WEIGHT: 150.17 SUPERCEDES: 04/90

HAZARD RATING (NFPA 325M) HMIS RATING

HEALTH: 1
FIRE: 1
REACTIVITY: 0
SPECIAL: NONE

HAZARD RATING SCALE
0=MINIMAL 3=SERIOUS
1=SLIGHT 4=SEVERE
2=MODERATE

HEALTH:
FIRE:
REACTIVITY:

HAZARDOUS INGREDIENTS

COMPONENT	%	EXPOSURE LIMITS, PPM OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
TRIETHYLENE GLYCOL	>99	NONE	NONE	NONE	NONE

PHYSICAL PROPERTIES

BOILING POINT, DEG F: 546

MELTING POINT, DEG F: N/A

SPECIFIC GRAVITY (WATER=1): 1.1

VAPOR PRESSURE, MM HG: NIL pH: NO DATA FOU

VAPOR DENSITY (AIR=1): 5.2 WATER SOLUBILITY %: 1(

EVAPORATION R

% VOLATILE (BY VOLUME): NO DATA FOUND

APPEARANCE AND ODOR: COLORLESS LIQUID; MILD ODOR.

FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

IF SWALLOWED: IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING BY GIVING 2 GLASSES OF WATER AND STICKING A FINGER DOWN THE THROAT. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

NOTES TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. THEATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO THE PATIENT.

HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: NONE CURRENTLY KNOWN.

EYE CONTACT: NONE CURRENTLY KNOWN.

SKIN CONTACT: NO IRRITATION IS LIKELY AFTER BRIEF CONTACT BUT MAY BE IRRITATING AFTER PROLONGED CONTACT.

SWALLOWED: SINGLE DOSE ORAL TOXICITY IS LOW.

CHRONIC EFFECTS OF EXPOSURE: NO SPECIFIC INFORMATION AVAILABLE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

TOXICITY DATA

ORAL: RAT LD50 = 17 G/KG; HUMAN LDLO = 5000 MG/KG

DERMAL: NO DATA FOUND

INHALATION: NO DATA FOUND

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

OTHER DATA: NONE

ECOLOGICAL INFORMATION SECTION

NO DATA FOUND

PERSONAL PROTECTION

VENTILATION: GENERAL ROOM VENTILATION.

RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR WITH PARTICULATE FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: SAFETY GLASSES WITH SIDE SHIELDS. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, AND GLOVES.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

FIRE AND EXPLOSION INFORMATION

FLASH POINT, DEG F: 350 FLAMMABLE LIMITS IN AIR, %

METHOD USED: PMCC LOWER: 0.9 UPPER: 9.2

AUTOIGNITION TEMPERATURE, DEG. F: NO DATA FOUN

EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL OR CO2.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINE BREATHING APPARATUS. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

HAZARDOUS REACTIVITY

STABILITY: STABLE POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: EXCESSIVE HEAT. WILL IGNITE IN AIR AT 700 DEG F.

MATERIALS TO AVOID: OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY LIBERATE CARBON MONOXIDE OR CARBON DIOXIDE.

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF TH SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATO EQUIPPED FOR PARTICULATES MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. FOR SMALL SPILLS OR DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WIT SOIL OR OTHER NON-COMBUSTIBLE SORBENT MATERIAL AND THEN PUMP INTO DOT-APPROVED WASTE CONTAINERS; OR ABSORB WITH NON-COMBUSTIBLE SORBENT MATERIAL PLACE RESIDUE IN DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOILS.

COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

STORAGE AND HANDLING PRECAUTIONS: STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHL AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. TRACE QUANTITIES OF ETHYLENE OXIDE (EO) MAY BE PRESENT IN THIS PRODUCT. WHILE THESE TRACE QUANTITIES COULD ACCUMULATE IN HEADSPACE AREAS OF STROAGE AND TRANSPORT VESSELS, THEY AR NOT EXPECTED TO CREATE A CONDITION WHICH WILL RESULT IN EO CONCENTRTIONS GREATER THAN 0.5 PPM (8 HOUR TWA) IN THE BREATHING ZONE OF THE WORKPLACE FOR APPROPRIATE APPLICATIONS. OSHA HAS ESTABLISHED A PERMISSIBLE EXPOSURE LIMIT OF 1.0 PPM 8 HR TWA FOREO. (CODE OF FEDERAL REGULATIONS PART 1910.1047 OF TITLE 29).

REPAIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

ECOLOGICAL INFORMATION SECTION

NO DATA FOUND

OTHER REGULATORY INFORMATION

SECTION 313: NONE

PROPOSITION 65: SEE BELOW

SECTION 313 & PROP. 65: SEE BELOW

SECTION 313 (WITH CHEMICALS LISTED): NONE

PROPOSITION 65 (WITH CHEMICALS LISTED): THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) CONSIDERED BY THE STATE OF CALIFORNIA'S SAFE DRINKIN WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) AS CAUSING CANCER OR REPRODUCTIVE TOXICITY AND FOR WHICH WARNINGS ARE NOW REQUIRED:

CHEMICALS	CAS NO.	% WT
1,4 DIOXANE	123-91-1	1 PPM

MASSACHUSETTS: NONE

PENNSYLVANIA: UNDER THE PENNSYLVANIA RIGHT-TO-KNOW LAW, HAZARDOUS SUBSTANCES AND SPECIAL HAZARDOUS SUBSTANCES COMPONENTS PRESENT IN THIS PRODUCT WHICH REQUIRE REPORTING ARE:

HAZARDOUS SUBSTANCES CHEMICALS	CAS NO.	CONCENTRATION (>1%)
TRIETHYLENE GLYCOL	112-27-6	100

CALIFORNIA SCAQMD: NONE

TSCA: THE INGREDIENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY.

REVISION

08/87: CORRECTED NFPA REFERENCE. EXPANDED HAZARDS OF EYE AND SKIN CONTACT AND SWALLOWING. EXPANDED AGGRAVATED MEDICAL CONDITIONS. REVISED PERSONAL PROTECTION, SPILL AND LEAK PROCEDURES AND HANDLING ADVICE.

04/90: ADDED MOLECULAR WEIGHT, HMIS RATING, NOTES TO PHYSICIAN, AUTOIGNITION TEMPERATURE, pH, % VOLATILE, ECOLOGICAL INFORMATION, OTHER REGULATORY INFORMATION, CALIFORNIA SCAQMD & TSCA

08/89: CHANGED HEADING AND CONTACT INFORMATION.
08/90 : ADDED: SYNONYM

09/90: ADDED: MOLECULAR WEIGHT, HMIS RATING, NOTES TO PHYSICIAN, AUTOIGNITION TEMPT., STORAGE AND HANDLING, PH, % VOLATILE, ECOLOGICAL INFORMATION, OTHER REGULATORY INFORMATION.

REVISED: EYE/SKIN CONTACT, SWALLOWED, MEDICAL CONDITION AGGRAVATED, UNUSU FIRE HAZARD, EYE PROTECTION.

----------FOR ADDITIONAL INFORMATION----------

CONTACT MSDS COORDINATOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (408)435-8700

----------NOTICE----------

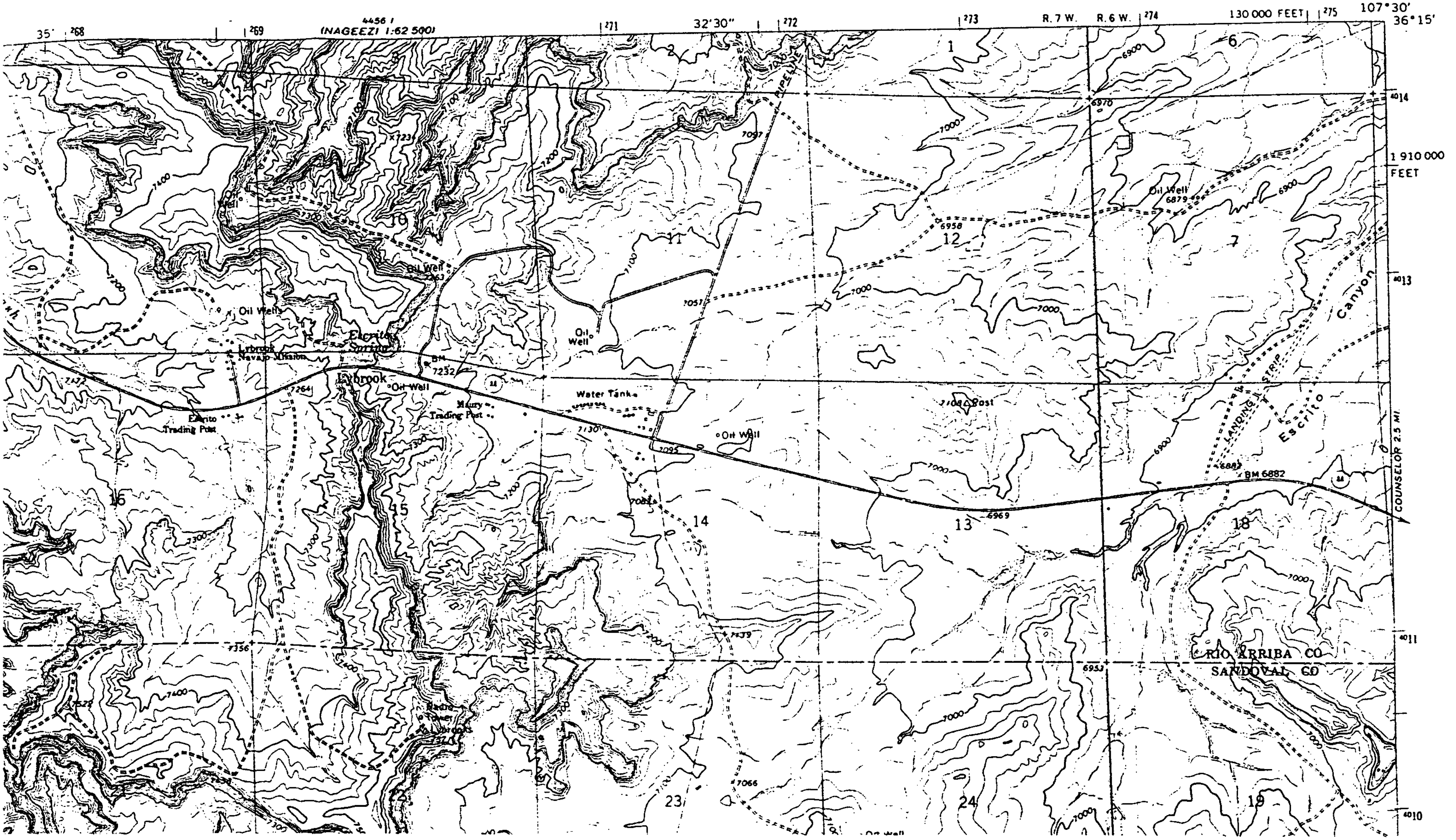
VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED WARRENTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

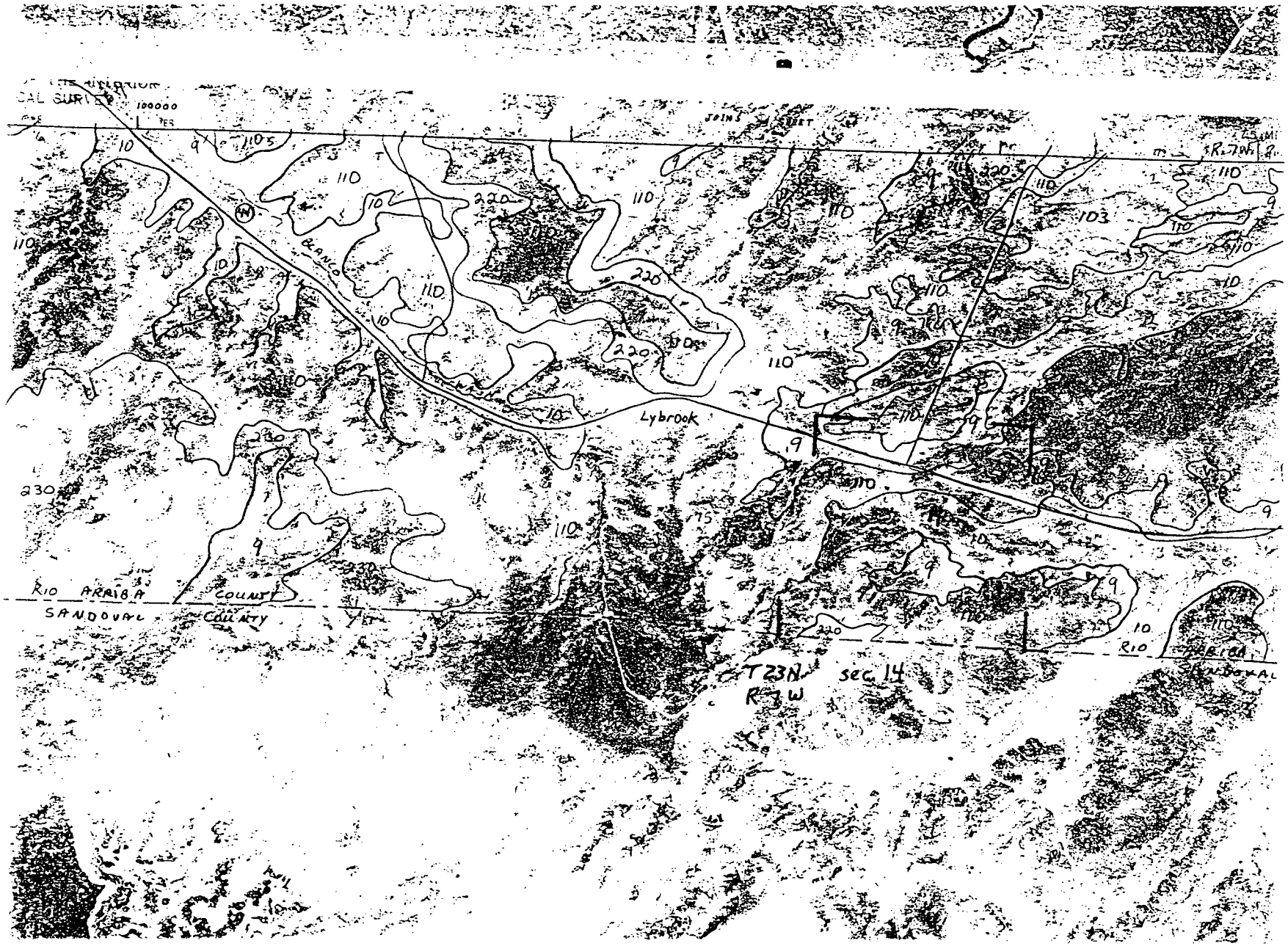
**** E N D O F M S D S ****

PROD: 04765000 23:59:17 08 APR 1991 CUST: 36804489 INVOICE: 362000072

LYBROOK QUADR
NEW MEXICO
7.5 MINUTE SERIES (TOPOGRAPHIC)



Arriba County
' Survey
t 55



9-Pinavetes-Florita complex, 2 to 10 percent slopes

Composition

Pinavetes and similar soils: 50 percent
Florita and similar soils: 40 percent
Contrasting inclusion: 10 percent

Contrasting Inclusions

-The well drained Sparank soils which have clay subsoil are on valley floors
-The well drained San Mateo soils which have clay loam subsoil are on valley floors

Setting

Landform: hills
Position on landform:
Pinavetes soil: dunes that are encroaching on hills
Florita soil: Toeslopes of hills
Slope:
Pinavetes loamy sand: 2 to 10 percent
Florita sandy loam: 2 to 6 percent
Shape of areas: Irregular
Size of areas: 50 to 600 acres
Elevation: 6000 to 6900 feet
Average frost-free period: 120 to 160 days
Average annual air temperature: 48 to 51 degrees F
Average annual precipitation: 10 to 12 inches

Pinavetes Soil

Typical profile:
0 to 3 inches--light yellowish brown loamy sand
3 to 14 inches--brown loamy sand
14 to 26 inches--strong brown loamy sand
26 to 60 inches--very pale brown sand

-Depth class: Deep
-Parent material: Eolian material derived from sandstone
-Drainage class: Excessively drained
-Permeability: Rapid
-Available water capacity: Low
-Surface runoff: Slow
-Hazard of water erosion: Severe
-Hazard of soil blowing: Severe

Florita Soil

Typical profile:
0 to 2 inches--pale brown sandy loam
2 to 6 inches--brown sandy loam
6 to 24 inches--light yellowish brown coarse sandy loam
24 to 36 inches--yellowish brown loamy sand
36 to 60 inches--pale brown sandy loam

-Depth class: Deep
-Parent material: Alluvium and eolian material derived from sandstone
-Drainage class: Well drained
-Permeability: Moderately rapid
-Available water capacity: Moderate
-Surface runoff: Medium
-Hazard of water erosion: Moderate
-Hazard of soil blowing: Moderate

Major Uses

Livestock grazing

Livestock Grazing

Pinavetes
-The potential plant community on the Pinavetes soil is characterized by blue grama, Indian ricegrass, galleta, and western wheatgrass.
-The average annual production of air-dry vegetation ranges from 900 pounds per acre in favorable years to 500 pounds in unfavorable years.
-When deterioration of the plant community occurs Indian ricegrass and western wheatgrass will decrease and there will be an

increase in the proportion of ring muhly, sandhill muhly, threeawns, sagebrush, and rabbitbrush which normally occur in small amounts in the potential natural plant community.

Florita

-The potential plant community on the Florita soil is characterized by western wheatgrass and Indian ricegrass.
-The average annual production of air-dry vegetation ranges from 1100 pounds per acre in favorable years to 600 pounds in unfavorable years.
-When deterioration of the plant community occurs western wheatgrass, muttongrass and Indian ricegrass will decrease and there will be an increase in the proportion of blue grama, ring muhly, mat muhly, big sagebrush, and rabbitbrush which normally occur in small amounts in the potential plant community.

Major Limitations to Use

Hazard of soil blowing
Hazard of water erosion
Permeability

Suitable Management Practices

-Practices that facilitate range management such as fencing, livestock water pipelines and watering facilities are suitable on this unit.
-Lining of earthen ponds is necessary.
-Grazing management should be designed to increase the productivity and reproduction of desirable species.
-Rotation grazing helps to maintain the quality and quantity of forage.

110-Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes

Composition

Vessilla and similar soils: 45 percent
Menefee and similar soils: 25 percent
Orlie and similar soils: 20 percent
Contrasting inclusion: 10 percent

Contrasting Inclusions

-Rock outcrop on breaks
-The excessively drained Pinavetes soils which have less clay in the subsoil and are on hillsides.
-The well drained Gobernador soils which have more clay in the subsoil and are on valley bottoms.

Setting

Landform: Mesas and plateaus
Position on landform:
Vessilla soil: Breaks and hillslopes
Menefee soil: Breaks
Orlie soil: Mesa tops and plateaus
Slope:
Vessilla sandy loam: 1 to 30 percent
Menefee clay loam: 2 to 30 percent
Orlie silt loam: 1 to 8 percent

Shape of areas: irregular
Size of areas: 450 to 700 acres
Elevation: 6100 to 7200 feet
Average frost-free period: 110 to 130 days
Average annual air temperature: 49 to 52 degrees F
Average annual precipitation: 12 to 14 inches

Vessilla Soil

Typical profile:
0 to 1 inches--pale brown sandy loam
1 to 5 inches--pale brown sandy loam
5 to 15 inches--brown sandy loam
15 inches--sandstone bedrock

-Depth class: Shallow
-Parent material: Material derived from sandstone
-Drainage class: Well drained
-Permeability: Moderately rapid
-Available water capacity: Very low
-Surface runoff: Medium
-Hazard of water erosion: Moderate
-Hazard of soil blowing: Severe

Menefee Soil

Typical profile:
0 to 3 inches--grayish brown clay loam
3 to 10 inches--grayish brown clay loam
10 inches--shale bedrock

-Depth class: Shallow
-Parent material: Colluvium derived from shale
-Drainage class: Well drained
-Permeability: Slow
-Available water capacity: Very low
-Surface runoff: Medium
-Hazard of water erosion: Moderate
-Hazard of soil blowing: Severe

Orlie Soil

Typical profile:
0 to 4 inches--brown silt loam
4 to 14 inches--brown clay loam
14 to 24 inches--brown clay loam
24 to 35 inches--strong brown clay loam
35 to 60 inches--light brown clay loam

-Depth class: Deep
-Parent material: Alluvium derived from sandstone and shale
-Drainage class: Well drained
-Permeability: Moderately slow
-Available water capacity: Very high
-Surface runoff: Medium
-Shrink-swell potential: Moderate
-Hazard of water erosion: Moderate
-Hazard of soil blowing: Slight

Major Uses

Livestock grazing and wood products

Livestock Grazing

Orlie

-The potential plant community on the Orlie soil is characterized by western wheatgrass, big sagebrush, Indian ricegrass, needleandthread, and galleta.
-The average annual production of air-dry vegetation ranges from 1100 pounds per acre in favorable years to 600 pounds in unfavorable years.
-When deterioration of the plant community occurs western wheatgrass, Indian ricegrass, and fourwing saltbush will decrease and there will be an increase in the proportion of big sagebrush, broom snakeweed, rabbitbrush, and blue grama which normally occur in small amounts in the potential plant community. Juniper may invade the site.

Major Limitations

Hazard of water erosion
Hazard of soil blowing
Shrink-swell potential

Suitable Management Practices:

-Practices that facilitate range management such as fencing, surface livestock water pipelines, reinforced watering facilities, and earthen ponds are suitable.
-Grazing management should be designed to increase the productivity and reproduction of desirable species.
-Rotation grazing helps to maintain the quality and quantity of forage.

Wood Products

Vessilla

-Suitable tree species are pinyon and juniper.
-The site index averages 40.
-Using 40 as a site index, this soil can produce 5 cords of wood per acre in a stand of trees that averages 5 inches in diameter at a height of one foot.

Menefee

-Suitable tree species are pinyon and juniper.
-The site index averages 60.
-Using 60 as a site index, this soil can produce 8 cords of wood per acre in a stand of trees that averages 5 inches in diameter at a height of one foot.

Vessilla and Menefee

-The present understory vegetation for the unit is characterized by blue grama, sideoats grama, little bluestem and Gambel oak

Major Limitations

Soil depth
Hazard of soil blowing
Hazard of water erosion

Suitable Management Practices

-Reforestation must be carefully managed to reduce competition from undesirable understory plants. Bushy plants such as Gamble oak limit natural regeneration.
-Forage, browse and tree growth can be enhanced by selection or improvement thinning
-Roads and landings can be protected from erosion by constructing water bars and by seeding cuts and fills.
-Light harvesting of the stand will prevent excessive windthrow.

PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

Survey Area- RIO ARRIBA AREA, NEW MEXICO, PARTS OF RIO ARRIBA AND SANDOVAL COUNTIES

Map Symbol	Soil Name	Depth (In)	Clay (pct)	Moist Blk Density (g/cm3)	Permeability (In/hr)	Available water cap (In/in)	Soil React (ph)	Salinity (mmhos/cm)	Shrink Swel Pot.	Erosion Factor K	Erosion Factor T	Wind Erod. Group	Organic Matter (pct)
9	PINAVETES	0- 3	3-10	1.40-1.50	6.00-20.00	0.06-0.08	6.6-8.4	-	LOW	.17	5	2	0.5- 1.0
		3-60	7-15	1.40-1.50	6.00-20.00	0.05-0.07	6.6-8.4	-	LOW	.20			0.0- 0.8
	FLORITA	0- 2	15-20	1.40-1.50	2.00- 6.00	0.11-0.13	7.9-8.4	0- 2	LOW	.24	5	3	0.5- 1.0
		2- 6	10-15	1.40-1.50	2.00- 6.00	0.11-0.13	7.9-8.4	0- 2	LOW	.24			0.0- 0.5
		6-24	5-10	1.40-1.50	2.00- 6.00	0.10-0.12	7.9-8.4	0- 2	LOW	.20			0.0- 0.5
		24-60	10-15	1.40-1.50	2.00- 6.00	0.11-0.13	8.5-9.0	0- 2	LOW	.24			0.0- 0.5
10	SPARANK	0- 2	20-27	1.10-1.30	0.60- 2.00	0.10-0.12	7.9-9.0	0- 4	LOW	.43	5	4L	1.0- 2.0
		2-60	35-50	1.35-1.45	0.00- 0.06	0.10-0.12	7.9-9.0	4- 8	HIGH	.37			0.0- 0.5
	SAN MATEO	0- 2	15-25	1.35-1.50	0.60- 2.00	0.19-0.21	7.4-8.4	0- 2	LOW	.43	5	4L	0.5- 0.9
		2-60	18-35	1.35-1.45	0.20- 0.60	0.14-0.16	7.4-9.0	4- 8	MODER	.37			0.0- 0.8
110	VESSILLA	0- 1	10-20	1.45-1.55	2.00- 6.00	0.11-0.13	6.6-8.4	-	LOW	.24	1	3	0.6- 0.9
		1-15	8-18	1.50-1.60	2.00- 6.00	0.13-0.15	7.4-8.4	0- 2	LOW	.28			0.0- 0.5
		15-19	-	0.00-0.00	0.00- 0.00	0.00-0.00	0.0-0.0	-					0.0- 0.0
	MENEFEE	0- 3	30-35	1.25-1.35	0.20- 0.60	0.19-0.21	7.4-8.4	0- 2	MODER	.32	1	4L	2.0- 3.0
		3-10	30-35	1.25-1.35	0.06- 0.20	0.19-0.21	7.4-8.4	0- 2	MODER	.32			0.0- 1.0
		10-14	-	0.00-0.00	0.00- 0.00	0.00-0.00	0.0-0.0	-					0.0- 0.0
	ORLIE	0- 4	18-27	1.05-1.15	0.60- 2.00	0.19-0.21	6.6-7.3	-	LOW	.43	5	6	2.0- 3.0
		4-14	28-35	1.40-1.50	0.20- 0.60	0.19-0.21	6.6-8.4	0- 2	MODER	.37			0.7- 0.9
		14-60	28-35	1.40-1.50	0.20- 0.60	0.16-0.20	7.4-8.4	0- 4	MODER	.37			0.0- 0.5

1990

POLICY MANUAL

OPERATIONS/MAINTENANCE
PLANTS

ISSUED	REVISED	NUMBER	PAGE
04/01/71	01/29/87	679	1

679.01 General

Each operating location which is responsible for the operation and maintenance of compressor stations and similar major installations must have a program to assure that they will function properly.

679.02 Procedures

Each operating location must prepare and maintain detailed written procedures for starting, operating and shutdown of all gas compressor units under its control.

Additional written procedures must be established for the isolation of the equipment for maintenance and/or alteration. Instructions for the purging of all piping and equipment must be included in these procedures.

All necessary steps for each operation, for each unit and for the station as a whole must be listed in these procedures. Copies of the procedures must be kept at each station and must be given or be available to all operators of the equipment. The line diagram shall be posted at appropriate places in the station.

679.03 Emergency Action

Each operating location must prepare and maintain detailed procedures covering action to be taken in the event of an emergency at the station. These procedures shall contain the location of all emergency equipment (fire extinguishers, emergency shut-down stations, telephones and similar facilities) and all emergency exits from the building(s) and fenced area(s).

679.04 Inspection

A regular inspection program must be established and maintained for each compressor station. The following must be included in the inspection:

1. An inspection and test of all relief devices (except rupture discs) to make sure that they are in good condition and set to function at the correct pressure.

2. A check of the operation of remote control shut-down equipment.

3. An inspection of the internal and external corrosion of piping and equipment.

4. An inspection of all fire fighting and other emergency equipment.

5. A review of all operating procedures required by this section of the policies to make sure that they are still appropriate and that all drawings and materials required thereby are in place.

Inspections must be made at least once each calendar year, at intervals not exceeding fifteen months. A written report must be prepared for each inspection indicating the conditions found; inadequacies noted and corrective action taken. Copies of the report must be sent to the Division Engineering Department.

679.05 Material Storage

All materials must be stored in locations provided for that purpose. In no case shall stored materials be placed where they might impeded emergency exits.

All combustible or flammable materials must be stored in a separate building(s) that is constructed of fire resistant material and that is a safe distance from the compressor building. However, a small amount of these materials may be kept in the compressor building for daily use.

679.06 Above-Ground Gasoline or Oil Storage

All above-ground oil or gasoline storage tanks must be protected in accordance with the National Fire Protection Association Standard No. 30.

PREVENTATIVE MAINTENANCE

MONTHLY CHECK LIST

Fire Detection

Gas Detection

Oil & Water Separator Leak Check

Monotoring Wells

Fin Fan Vibrations

EVERY OTHER MONTH (6 TIMES PER YEAR)

Cooling Tower Moline Oil & Filter Change

R 4 & R 5 Anchor & Header

PREVENTATIVE MAINTENANCE

QUARTERLY 4 TIMES PER YEAR

Electrical Cord

LOADING DOCK CHECK

Clark Lubricator

I. R. Lubricator

Cooling Tower Pump

Electrical Connection, Motor Controls Centers, Breakers, etc./W Heat Gun

Fire Hydrant Flush

Oil Sample

Propane & Product Meter Prove & Dec 1 Meter Prove

Electrical Inspection
I.R. Power valves

2 TIMES PER YEAR

Regulator Pot

Yard Valve

R 4 Bearing & C. H. Deflection

Plant E.S.D.

Expander Bladder

Oil Tank Heater

Swamp Air Conditioner

Instrument Air Comp. Oil/Filter

Instrument Air Dryer Valve

R 5 Bearing, C H Deflection Spark Plug

Clark Vibration

I. R. Vibration

R 4 Overspeed Switch & R 5 Overspeed Switch

Clark Scavenger

Water Tank Anode

PREVENTATIVE MAINTENANCE

ONE TIME PER YEAR

Dehydrator Outlet Filter

Test Propane Tanks (Vehicles)

Test Fire Pumps

Fire Pump Oil Change

Solar # 1 8000 Hour

Solar # 4 8000 Hour

Expander Vibration

Solar # 2 8000 Hour

Solar # 5 8000 Hour

Clark Air & Oil Filter

I. R. Air & Oil Filter

Fire Hose Pressure

Air Comp. Oil Change

Expander Instruments

Treated Gas Filter

Solar # 3 8000 Hour

Solar # 5 8000 Hour

Gear Box Oil Change

R 5 Rocker Arm

Furnace

Clark Water Temp. S.D.

I. R. Water Temp. S.D.

Precomp 8000 Hour

Solar # 1 Vibration

Solar # 3 Vibration

Welder Oil Change

Relief Valve Pin

Tractor Oil Change

Utility Air Compressor

I. R. Anchor Bolt & Scavinger

Expander Surge

Heat Trace

DEA Filter

I. R. Anchor Bolt & Header Jack

Solar # 2 Vibration

Solar # 6 Vibration

R 4 Rocker Arm

Name of P. M.	J	F	M	A	M	J	J	A	S	O	N	D
Fire Detection	x	x	x	x	x	x	x	x	x	x	x	x
Gas Detection	x	x	x	x	x	x	x	x	x	x	x	x
O. & W. Separator Leak Check	x	x	x	x	x	x	x	x	x	x	x	x
Monotoring Wells	x	x	x	x	x	x	x	x	x	x	x	x
Fin Fan Vibrations	x	x	x	x	x	x	x	x	x	x	x	x
Cooling T. Moline O & F Change		x		x		x		x		x		x
R 4 & R 5 Anchor & Header		x		x		x		x		x		x
Electrical Cord	x			x			x			x		
Clark Lubricator	x			x			x			x		
I. R. Lubricator	x			x			x			x		
Cooling Tower Pump	x			x			x			x		
Elec Conn, MCC, & Brkers.		x			x			x			x	
Fire Hydrant Flush		x			x			x			x	
Oil Sample		x			x			x			x	
Propane Meter Prove		x			x			x			x	
Product Meter Prove		x			x			x			x	
Dec 1 Meter Prove		x			x			x			x	
Electrical Inspection		x				x				x		
Regulator Pot			x							x		
Yard Valve			x						x			
R 4 Bearing & C. H. Deflection			x							x		
Plant E.S.D.				x					x			
Expander Bladder				x					x			
Oil Tank Heater				x						x		
Swamp Air Conditioners				x						x		
Instrument A.C. Oil/Filters					x						x	
Instrument Air Dryer Valve					x					x		
R 5 Bearing, C.H. Defl. & SP					x					x		
Clark Vibration					x						x	
I. R. Vibration					x						x	
R 4 Overspeed Switch			x						x			
R 5 Overspeed Switch			x						x			
Clark Scavenger			x						x			
Water Tank Anode			x								x	
Dehydrator Outlet Filter	x											
Test Propane Tanks (vehicle)				x								
Test Fire Pumps				x								
Fire Pump Oil				x								
Solar # 1 8000 Hour				x								
Solar # 4 8000 Hours				x								
Clark Air & Oil Filter						x						
I. R. Air & Oil Filter						x						
Fire Hose Pressure						x						
Air Comp. Oil Change						x						
Expander Instruments						x						
Treated Gas Filter						x						
Solar # 3 8000 Hour						x						
Solar # 5 8000 Hour						x						
Gear Box Oil Change							x					
R 5 Rocker Arm							x					
Furnace							x					
Clark Water Temp. S.D.							x					
I. R. Water Temp. S.D.							x					
Precomp 8000 Hour							x					
Solar # 1 Vibration							x					
Solar # 3 Vibration							x					
Welder Oil Change								x				
Relief Valve Pin								x				

Name of P. M.	J	F	M	A	M	J	J	A	S	O	N	D
Fire Detection	x	x	x	x	x	x	x	x	x	x	x	x
Gas Detection	x	x	x	x	x	x	x	x	x	x	x	x
O. & W. Separator Leak Check	x	x	x	x	x	x	x	x	x	x	x	x
Monotoring Wells	x	x	x	x	x	x	x	x	x	x	x	x
Fin Fan Vibrations	x	x	x	x	x	x	x	x	x	x	x	x
Cooling I. Moline O & F Change		x		x		x		x		x		x
R 4 & R 5 Anchor & Header		x		x		x		x		x		x
Electrical Cord	x			x			x			x		
Clark Lubricator	x			x			x			x		
I. R. Lubricator	x			x			x			x		
Cooling Tower Pump	x			x			x			x		
Elec Conn, MCC, & Brkers.		x			x			x			x	
Fire Hydrant Flush		x			x			x			x	
Oil Sample		x			x			x			x	
Propane Meter Prove		x			x			x			x	
Product Meter Prove		x			x			x			x	
Dec 1 Meter Prove		x			x			x			x	
Electrical Inspection		x				x				x		
Regulator Pot			x							x		
Yard Valve			x						x			
R 4 Bearing & C. H. Deflection			x							x		
Plant E.S.D.				x					x			
Expander Bladder				x					x			
Oil Tank Heater				x						x		
Swamp Air Conditioners				x						x		
Instrument A.C. Oil/Filters					x						x	
Instrument Air Dryer Valve					x					x		
R 5 Bearing, C.H. Defl. & SP					x					x		
Clark Vibration					x						x	
I. R. Vibration					x						x	
R 4 Overspeed Switch			x						x			
R 5 Overspeed Switch			x						x			
Clark Scavenger			x						x			
Water Tank Anode			x								x	
Dehydrator Outlet Filter	x											
Test Propane Tanks (vehicle)				x								
Test Fire Pumps				x								
Fire Pump Oil				x								
Solar # 1 8000 Hour				x								
Solar # 4 8000 Hours				x								
Clark Air & Oil Filter						x						
I. R. Air & Oil Filter						x						
Fire Hose Pressure						x						
Air Comp. Oil Change						x						
Expander Instruments						x						
Treated Gas Filter						x						
Solar # 3 8000 Hour						x						
Solar # 5 8000 Hour						x						
Gear Box Oil Change							x					
R 5 Rocker Arm							x					
Furnace							x					
Clark Water Temp. S.D.							x					
I. R. Water Temp. S.D.							x					
Precomp 8000 Hour							x					
Solar # 1 Vibration							x					
Solar # 3 Vibration							x					
Welder Oil Change								x				
Relief Valve Pin								x				

Name of P. M	J	F	M	A	M	J	J	A	S	O	N	D
Tractor Oil Change								X				
Utility Air Compressor								X				
I. R. Anchor Bolt & Scavenger									X			
Expander Surge									X			
Heat Trace										X		
DEA Filter										X		
I. R. Anchor Bolt & Header Jk.											X	
Solar # 2 Vibration											X	
Solar # 6 Vibration											X	
R 4 Rocker Arm												X

MASTER METER GAS SYSTEM

MAINTENANCAE & INSPECTION SCHEDULE

WORK TO BE DONE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FAS LEAK CHECK OF ALL FITTINGS BY SOAP TEST (EVERY 6 MONTHS)				X						X		
GAS LEAK SURVEY (EVERY 5 YEARS)								NEXT SURVEY 1993				
CHECK ANODE LEADS AT GAS RISERS (EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK GAS RISERS FOR CONTACTS TO PREVENT SHORTS(EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK RECTIFIER (EVERY 2 MONTHS)		X		X		X		X		X		X
MAKE PIPE-TO-SOIL MEASUREMENTS OF CATHODIC PROTECTION SYSTEM (EVERY YEAR)						X						
CHECK BURIED MAIN VALVES OR LEAKS AND PARTIALLY OPERATE & GREASE (EVERY YEAR)						X						
CHECK VALVES OF SERVICE LINES NOT IN USE- LOCKED OR OTHER ENDS SEALED (EVERY MONTH)	X	X	X	X	X	X /	X	X	X	X	X	X

P. M. MONTHLY WORKSHEET

January 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Electrical Tool & Cord				
Clark Lubricator	1/2/91	Wigg's	All lubricated & Working	3hrs
I. R. Lubricator	1-8-91	Jones	All lubricated & Working	2 hrs
Cooling Tower Pump				
Dehydrator Outlet Filter				
Battery (solar, inverter,)	1-9-91	Wiggs, Jones	P/M on Solar, inverter batteries	1 hr.
Fire Detection				
Gas Detection				
Oil & Water Sep. Leak Check	1-4-91	wiggs	All ok no leaks	1
Monotoring Wells	1-4-91	wiggs	wells are all dry	1
Fin Fan Vibration	1-"	"	All Vibration recorded	1
Comp Hse				
Carried over from December				

P. M. MONTHLY WORKSHEET

February 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
R 4 & R 5 Anchor & Header	2-26-90	Jose, Belen		4
C.I. Moline Oil & Filter Change	2-21-90	Jose	2-19-91 3 hrs. Jose	2
Electrical Inspection	2-21-90	Belen		
Propane Meter Prove FT 210	2-19-90	Arturo		2
Product Meter Prove				
Elec.Conn., MCC, Breakers	2-22-90	Belen		10
Oil Samples				
Flush Fire Hydrants	2-21-90	Filipino	2-18-91 3 hrs. Jose	4
Dec 1 Meter Prove FT204	2-19-90	Arturo		2
Oil & Wtr. Sep. Leak Check	2-21-90	Jose	2-15-91 1hr. Jose	1
Monotoring Wells			2-6-91 1hr. Jose	
Fire & Gas Detection				
Fin Fan Vibration	2-21-90	Jose		2
Carried Over From January				
camp Gas	2-15-91	JOSE		2 hrs
Electrical Tools & Cord.	2-20-91	JOSE		1 hr.
Cooling Tower Pump	2-19-91	JOSE		3 hrs.

P. M. ' .NTHLY WORKSHEET

'arch

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Water Tank Anode	3-1-90	Jose	checked all rectifiers	2
Clark Scavenger				
Regulator Pot				
Yard Valve			#1 1.5hr 3-26-90	
R-4 Bearing & C.H. Deflection				
Fin Fan Vibration	3-14-90	Belen		2
R-4 & R-5 Overspeed Switch				
Oil & Wtr. Separator Leak Chk.				
Monotoring Wells	3-6-90	Belen	S-5 has 5" water	4
Fire Detection				
Gas Detection				
Battery (sodas, inverter,)	3-23-90	Belen		2
Housing water pump & pump house	3-26-90	Jose		2
waste heat	3-28-90	Belen		
Fire house truck	3-26-90	Jose		2
Employee shop	3-26-90	Jose		2
Carried over from February				

P. M. MONTHLY WORKSHEET
APRIL

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Test Propane Tanks (Vehicles)				
Fin Fan Vibration	4-2-90	Jose		2
Test Fire Pumps				
Fire Pump Oil Change				
Solar # 1 8000 Hour				
Solar # 4 8000 Hour				
Total Plant E. S. D.	4-2-96	Balon / Jose		1
Expander Bladder				
R-4 & R-5 Anchor & Header				
Oil Tank Heater				
Swamp Type Air Conditioner				
Electrical Tool & Cord	4-3-90	Balon		2
Cooling Tower Pump	4-24-90	Balon		2
Clark Lubricator	4-19-90	Jose		2
I. R. Lubricator				
Fire Hydrant				
~~Propane Meter Prove~~ sewage pond treatment	4-3-90	Jose		1
~~Product Meter Prove~~				
C. I. Moline Oil & Filter Chng				
Fire Detection				
Gas Detection				
Oil & Water Separator Leak Chk	4-3-90	Balon / Jose		1
Monotoring Wells	4-3-90	Balon / Jose		2
~~Dec 1 Meter Prove (qtrly)~~				
Carried over from March				

P. M. MONTHLY WORKSHEET
May

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Expander Vibration				
Solar # 2 8000 Hour				
Solar # 5 8000 Hour				
Instrument Air C. Oil/Filter				
Instrument Air Dryer Valve	5-2-90	Below		
R-5 Brg, C.H., Deflc.,Spk.Plg.				
Clark Vibration				
I. R. Vibration	5-14-90	Jose		2
Oil Sample	5-15-90	Jose		6
Elec. Conn.,M.C.C., Breakers				
Flush Fire Hydrants				
Oil & Water Seperator Leak Chk.	5-7-90	Jose		1
Monotoring Wells	5-7-90	Jose		1
Fire Detection				
Gas Detection				
Fin Fan Vibration	5-2-90	Jose		2
Battery (solar, inverter)				
Carried Over From April				

P. M. MONTHLY WORKSHEET

JUNE

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Clark Air & Oil Filter				
I. R. Air & Oil Filter	8-11-90	B.C.	#1 IR only	
Fire Hose Pressure				
Air Comp. Oil Change				
Expander Instrument				
Treated Gas Filter				
Solar # 3 8000 Hour				
Solar # 5 8000 Hour				
R-4 & R-5 Anchor & Header				
C. T. Moline Oil & Filter Chng				
Electrical Inspection				
Fire Detection				
Gas Detection				
Monotoring Wells	6-4-90	Jose		1
Oil & Water Separator Leak Chk.	6-4-90	Jose		1
Fin Fan Vibration				
Carried over from May				

P. M. MONTHLY WORKSHEET
JULY

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Gear Box Oil Change				
R-5 Rocker Arm				
Furnace				
Clark Water Temp. S.D.				
I. R. Water Temp S. D.				
Precompressor 8000 Hr.				
Solar # 1 Vibration				
Solar # 3 Vibration				
Electrical Tool & Cord				
Clark Lubricator				
I. R. Lubricator				
Cooling Tower Pump				
Fire Detection				
Gas Detection				
O & W Separator Leak Check				
Monotoring Wells	8-13-90	Below	all wells are dry	
Fin Fan Vibration				
Batting (solar, inverter)				
Carried over from June				

P. M. MONTHLY WORKSHEET
AUGUST 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Welder Oil Change				
Relief Valve Pin				
Tractor Oil Change				
Utility Air Compressor				
Propane Meter Prove				
Product Meter Prove				
Dec 1 Meter Prove				
Elect. Con.,MCC, Brkers,				
Oil Sample				
O. & W. Separator Leak Check	8-13-90	Below		1
Monotoring Wells	8-13-90	Below		1
Fire & Gas Detection				
Flush Fire Hydrants (qtly)	8-9-90	Below		1
Fin Fan Vibrations				
Carried over from July				

P. M. MONTHLY WORKSHEET
Sept. 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I. R. Anchor Bolt & Header				
Expander Surge				
Expander Bladder				
Clark Scavenger				
Instrument Air Dryer Valve				
Yard Valve				
Total Plant E. S. D.				
O. & W. Separator Leak Check	9-12 "	"		1 hr.
Monotoring Wells	"	"		1 hr.
Fire Detection				
Gas Detection				
Fin Fan Vibration				
R-4 Overspeed Switch				
R-5 Overspeed Switch				
Battery (soda, inverter)				
I-R Pump Water check	9 " "	Dave		3 hrs.
Carried over from August				

P. M. MONTHLY WORKSHEET
October 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Heat Trace				
Dea Filter				
Swamp Type Air Conditioner				
R-5 Brng, C.H. & Deflection				
Regulator Pot				
Oil Tank Heater				
Electrical Tool & Cord				
Electrical Inspection				
Clark Lubricator				
Cooling Tower Pump				
I. R. Lubricator				
R-4 & R-5 Anchor Bolt & Header				
R-4 Brng, C.H., Deflect.& S.Pl.				
C.T. Moline Oil & Filter Change				
Gas Detection				
Fire Detection				
O. & W. Separator Leak Check				
Monotoring Wells	10-19-90	Jose	Gauged wells	1
Fin Fan Vibration				
Carried over from September				

P. M. MONTHLY WORKSHEET

November 1990

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I. R. Anchor Bolt & Header Jack				
Water Tank Anode	10/[illegible]-90	[illegible]		1
Instrument Air Comp. Oil & Filter	2-90	Jose	Changed oil, & filters	5 hrs.
Solar # 2 Vibration				
Solar # 6 Vibration				
Clark Vibration				
I. R. Vibration				
Oil Sample				
Propane Meter Prove	11/14/90	[illegible]		3
Product Meter Prove				
Dec 1 Meter Prove	11/[illegible]-90	[illegible]		3
Elect. Con. MCC & Brker				
Flush Fire Hydrants	11-9-90	Jose	Flushed Hydrants	
O. & W. Separator Leak Check	11-5-90	Jose	Checked water in oil	1 hr.
Monotoring Wells	11-5-90	Jose	Purged wells	1 hr.
Fire Detection				
Gas Detection				
Fin Fan Vibrations	11-8-90	Jose	Checked Vibrations	2 hrs.
Batteries (scales & inverter)				
Carried over from October				
Cooling Tower doors	11-6-90	Jose	Installed doors	4 hrs.

P. M. MONTHLY WORKSHEET

December 199

P.M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Air Compressor Oil Change	12/12/90	Clifton W.	changed oil	4 hrs
R-4 Rocker Arm				
R-4 & R-5 Anchor Bolt & Header	JK.			
C. T. Moline Oil & Filter	12-12-90	Delbert S.	changed oil + oil filter	3 hrs
O. & W. Separator Leak Check	12-12-90	T. L.	checked Sep. for leak.	1 hr.
Well Monotoring	12-11-90	Delbert Stokes	Checked for water on all 8 wells.	1.0 hr
Fire Detection				
Gas Detection				
Fin Fan Vibrations	12-11-90	Delbert Stokes	tripped & restarted all Fans	2.0 hr
Camp burning gas	12-12-90	T. L.	checking out gas systems	2 hr
Carried over from November				
oil sample	12-11-90	T. L.	Took oil samples on all engines	7 hrs.

LYBROOK P.M.
SCHEDULE

1992

GENE GRUETTE

679.01 General

Each operating location which is responsible for the operation and maintenance of compressor stations and similar major installations must have a program to assure that they will function properly.

679.02 Procedures

Each operating location must prepare and maintain detailed written procedures for starting, operating and shutdown of all gas compressor units under its control.

Additional written procedures must be established for the isolation of the equipment for maintenance and/or alteration. Instructions for the purging of all piping and equipment must be included in these procedures.

All necessary steps for each operation, for each unit and for the station as a whole must be listed in these procedures. Copies of the procedures must be kept at each station and must be given or be available to all operators of the equipment. The line diagram shall be posted at appropriate places in the station.

679.03 Emergency Action

Each operating location must prepare and maintain detailed procedures covering action to be taken in the event of an emergency at the station. These procedures shall contain the location of all emergency equipment (fire extinguishers, emergency shut-down stations, telephones and similar facilities) and all emergency exits from the building(s) and fenced area(s).

679.04 Inspection

A regular inspection program must be established and maintained for each compressor station. The following must be included in the inspection:

1. An inspection and test of all relief devices (except rupture discs) to make sure that they are in good condition and set to function at the correct pressure.

2. A check of the operation of remote control shut-down equipment.

3. An inspection of the internal and external corrosion of piping and equipment.

4. An inspection of all fire fighting and other emergency equipment.

5. A review of all operating procedures required by this section of the policies to make sure that they are still appropriate and that all drawings and materials required thereby are in place.

Inspections must be made at least once each calendar year, at intervals not exceeding fifteen months. A written report must be prepared for each inspection indicating the conditions found; inadequacies noted and corrective action taken. Copies of the report must be sent to the Division Engineering Department.

679.05 Material Storage

All materials must be stored in locations provided for that purpose. In no case shall stored materials be placed where they might impeded emergency exits.

All combustible or flammable materials must be stored in a separate building(s) that is constructed of fire resistant material and that is a safe distance from the compressor building. However, a small amount of these materials may be kept in the compressor building for daily use.

679.06 Above-Ground Gasoline or Oil Storage

All above-ground oil or gasoline storage tanks must be protected in accordance with the National Fire Protection Association Standard No. 30.

PREVENTATIVE MAINTENANCE

MONTHLY CHECK LIST

Fire Detection

Gas Detection

Oil & Water Separator Leak Check

Monotoring Wells

Fin Fan Vibrations

EVERY OTHER MONTH (6 TIMES PER YEAR)

Cooling Tower Moline Oil & Filter Change

R 4 & R 5 Anchor & Header

QUARTERLY 4 TIMES PER YEAR

Electrical Cord

LOADING DOCK CHECK

Clark Lubricator

I. R. Lubricator

Cooling Tower Pump

Electrical Connection, Motor Controls.Centers, Breakers, etc./W Heat Gun

Fire Hydrant Flush

Oil Sample

Propane & Product Meter Prove & Dec 1 Meter Prove

I. R. Power Valve

Electrical Inspection

2 TIMES PER YEAR

Regulator Pot

Yard Valve

R 4 Bearing & C. H. Deflection

Plant E.S.D.

Expander Bladder

Oil Tank Heater

Swamp Air Conditioner

Instrument Air Comp. Oil/Filter

Instrument Air Dryer Valve

R 5 Bearing, C H Deflection Spark Plug

Clark Vibration

I. R. Vibration

R 4 Overspeed Switch & R 5 Overspeed Switch

Clark Scavenger

Water Tank Anode

PREVENTATIVE MAINTENANCE

ONE TIME PER YEAR

Dehydrator Outlet Filter

Test Propane Tanks (Vehicles)

Test Fire Pumps

Fire Pump Oil Change

Solar # 1 8000 Hour

Solar # 4 8000 Hour

Expander Vibration

Solar # 2 8000 Hour

Solar # 5 8000 Hour

Clark Air & Oil Filter

I. R. Air & Oil Filter

Fire Hose Pressure

Air Comp. Oil Change

Expander Instruments

Treated Gas Filter

Solar # 3 8000 Hour

Solar # 5 8000 Hour

Gear Box Oil Change

R 5 Rocker Arm

Furnace

Clark Water Temp. S.D.

I. R. Water Temp. S.D.

Precomp 8000 Hour

Solar # 1 Vibration

Solar # 3 Vibration

Welder Oil Change

Relief Valve Pin

Tractor Oil Change

Utility Air Compressor

I. R. Anchor Bolt & Scavinger

Expander Surge

Heat Trace

DEA Filter

I. R. Anchor Bolt & Header Jack

Solar # 2 Vibration

Solar # 6 Vibration

R 4 Rocker Arm

Name of P. M.	J	F	M	A	M	J	J	A	S	O	N	D
Fire Detection	x	x	x	x	x	x	x	x	x	x	x	x
Gas Detection	x	x	x	x	x	x	x	x	x	x	x	x
O. & W. Separator Leak Check	x	x	x	x	x	x	x	x	x	x	x	x
Monotoring Wells	x	x	x	x	x	x	x	x	x	x	x	x
Fin Fan Vibrations	x	x	x	x	x	x	x	x	x	x	x	x
Cooling T. Moline O & F Change		x		x		x		x		x		x
R 4 & R 5 Anchor & Header		x		x		x		x		x		x
Electrical Cord	x			x			x			x		
Clark Lubricator	x			x			x			x		
I. R. Lubricator	x			x			x			x		
Cooling Tower Pump	x			x			x			x		
Elec Conn, MCC, & Brkers.		x			x			x			x	
Fire Hydrant Flush		x			x			x			x	
Oil Sample		x			x			x			x	
Propane Meter Prove		x			x			x			x	
Product Meter Prove		x			x			x			x	
Dec 1 Meter Prove		x			x			x			x	
Electrical Inspection		x				x				x		
Regulator Pot			x							x		
Yard Valve			x						x			
R 4 Bearing & C. H. Deflection			x							x		
Plant E.S.D.				x					x			
Expander Bladder				x					x			
Oil Tank Heater				x						x		
Swamp Air Conditioners				x						x		
Instrument A.C. Oil/Filters					x						x	
Instrument Air Dryer Valve					x					x		
R 5 Bearing, C.H. Defl. & SP					x					x		
Clark Vibration					x						x	
I. R. Vibration					x						x	
R 4 Overspeed Switch			x						x			
R 5 Overspeed Switch			x						x			
Clark Scavenger			x						x			
Water Tank Anode			x								x	
Dehydrator Outlet Filter	x											
Test Propane Tanks (vehicle)				x								
Test Fire Pumps				x								
Fire Pump Oil				x								
Solar # 1 8000 Hour				x								
Solar # 4 8000 Hours				x								
Clark Air & Oil Filter						x						
I. R. Air & Oil Filter						x						
Fire Hose Pressure						x						
Air Comp. Oil Change						x						
Expander Instruments						x						
Treated Gas Filter						x						
Solar # 3 8000 Hour						x						
Solar # 5 8000 Hour						x						
Gear Box Oil Change							x					
R 5 Rocker Arm							x					
Furnace							x					
Clark Water Temp. S.D.							x					
I. R. Water Temp. S.D.							x					
Precomp 8000 Hour							x					
Solar # 1 Vibration							x					
Solar # 3 Vibration							x					
Welder Oil Change								x				
Relief Valve Pin								x				

Name of P. M	J	F	M	A	M	J	J	A	S	O	N	D
Tractor Oil Change								x				
Utility Air Compressor								x				
I. R. Anchor Bolt & Scavenger									x			
Expander Surge									x			
Heat Trace										x		
DEA Filter										x		
I. R. Anchor Bolt & Header Jk.											x	
Solar # 2 Vibration											x	
Solar # 6 Vibration											x	
R 4 Rocker Arm												x

MASTER METER GAS SYSTEM

MAINTENANCAE & INSPECTION SCHEDULE

WORK TO BE DONE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FAS LEAK CHECK OF ALL FITTINGS BY SOAP TEST (EVERY 6 MONTHS)				X						X		
GAS LEAK SURVEY (EVERY 5 YEARS)								NEXT SURVEY 1993				
CHECK ANODE LEADS AT MAGNESIUM GAS RISERS (EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK GAS RISERS FOR CONTACTS TO PREVENT SHORTS(EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK RECTIFIER ERY 2 MONTHS)		X		X		X		X		X		X
RE PIPE-TO-SOIL MEASUREMENTS OF CATHODIC PROTECTION SYSTEM (EVERY YEAR)						X						
CHECK BURIED MAIN VALVES OR LEAKS AND PARTIALLY OPERATE & GREASE (EVERY YEAR)						X						
CHECK VALVES OF SERVICE LINES NOT IN USE- LOCKED OR OTHER ENDS SEALED (EVERY MONTH)	X	X	X	X	X	X /	X	X	X 2	X	X	X

P. M. MONTHLY WORKSHEET

JANUARY 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Electrical Tool & Cord	1-4-92	JOSE	check Electrical tool & Cords	1
Clark Lubricator	1-5-92	JOSE	MCCord P/m	4
I. R. Lubricator	1-2-92	JOSE	IHCCord P/m	4
Cooling Tower Pumps	1-7-92	JOSE	P/m on BOTH PUMPS	6
Dehydrator Outlet Filter				
Battery (Solar, Inverter)	1-8-92	JOSE	P/m on SOLAR BATTERYS	3
Fire Detection				
Gas Detection				
Oil & Water Sep. Leak Check	1-4-92	JOSE	checked Separator	1
Monotoring Wells	1-4-92	JOSE	checked + Gauged Wells	1
Fin Fan Vibration	1-4-92	JOSE	checked Vibrations	2
Camp Gas	1-4-92	JOSE	Checked Gas System	2
I. R. Power Valve Check	1-6-92	JOSE	Checked, adjusted Valves	5
Cooling Tower Fin Fan	1-13-92	JOSE	P/m on BOTH FANS	4
Carried over from December				

P. M. MONTHLY WORKSHEET

FEBRUARY 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
R 4 & R 5 Anchor & Header				
C.T. Moline Oil & Filter Change	2-5-92	JOSE	OIL & FILTERS CHANGE	4
Electrical Inspection	2-19-92	JOSE	SAFETY AUDIT	1
Propane Meter Prove FT 210				
Product Meter Prove				
Elec. Conn., MCC, Breakers				
Oil Samples	2-11-92 2-10-92	JOSE	PULLED OIL SAMPLES	6
Flush Fire Hydrants	2-10-92	JOSE	FLUSHED FIRE HYDRANTS	5
DeC1 Meter Prove FT 204				
Oil & Wtr. Sep. Leak Check	2-4-92	JOSE	CHECKED SEPERATOR	1
Monotoring Wells	2-4-92	JOSE	GUAGED WELLS	1
Fire & Gas Detection				
Fin Fan Vibration	2-4-92	JOSE	CHECKED VIBRATION	1
Camp Gas	2-4-92	JOSE	CHECKED GAS SYSTEM	2
RECTIFIER CHECK	2-10-92	JOSE	CHECK RECTIFIERS	1
Carried over from January				

P. M. MONTHLY WORKSHEET

MARCH 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Water Tank Anode				
Clark Scavenger				
Regulator Pot				
Yard Valve	3.25.92	JOSE	GREASED YARD VALVES	4 HRS.
R-4 Bearing & C.H. Deflection				
Oil & Wtr. Separator Leak Check	3-4-92	JOSE	SEPARATOR'S OK	1 HR.
Monotoring Wells	3-4-92	JOSE	WELL'S ARE DRY	1 HR.
Fire Detection				
Gas Detection				
Battery (Solar, Inverter)	3-25-92	JOSE	BATTERIES P/M	3 HRS.
Housing Water Pump & Pump House	3-4-92	JOSE	NORTH, SOUTH PUMP, SHOP BLDG.	4 HRS.
Waste Heat				
Fire House Truck	3-18-92	JOSE	P/M, NEW SPARK PLUGS, WASH.	4 HR
Employee shop				
Camp Gas	3-5-92	JOSE	CHECKED GAS SYSTEM	2 HRS.
I. R. Power Valve Check	3-5-92	JOSE	ADJUSTED POWER VALVES	4 HRS.
Carried over from February				

P. M. MONTHLY WORKSHEET

APRIL 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Test Propane Tanks (Vehicles)				
Fin Fan Vibration	4-10-92	JOSE	VIBERATION P/m	2 HRS.
Test Fire Pumps				
Fire Pump Oil Change	4-21-92	JOSE	#1, & #2 FIRE PUMP ENGINE P/m	4 HRS.
Solar #1 8000 Hour				
Solar #4 8000 Hour				
Total Plant E..S. D.				
Expander Bladder				
R-4 & R-5 Anchor & Header				
Oil Tank Heater				
Swamp Type Air Conditioner				
Electrical Tool & Cord	4-21-92	JOSE	ELECTRICAL TOOL CORD P/m	3 HR
Cooling Tower Pump				
Clark Lubricator	4-20-92	JOSE	BOTH UNITS, P/m RECORD.	4HRS.
I.R. Lubricator	4-16-92 4-20-92	JOSE JOSE	#11-R RECORD P/m #21-R RECORD P/m	2 HRS. 2HRS.
Fire Hydrant				
Sewage Pond Treatment	4-10-92	JOSE	ADDED BACTERIN CHEMICAL	1HR.
Camp Gas	4-10-92	JOSE	P/m ON GAS SYSTEM	2HRS.
C.T. Moline Oil & Filter Change	4-15-92	JOSE	OIL & FILTERS CHANGE	4HRS.
Fire Detection				
Gas Detection				
Oil & Water Separator Leak Check	4-9-92	JOSE	CHECKED SEPARATOR.	1 HR.
Monotoring Wells	4-9-92	JOSE	GUAGED WELLS.	1 HR.
Carried over from March				

P. M. MONTHLY WORKSHEET

MAY 19 92

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Expander Vibration				
Solar #2 8000 Hour				
Solar #5 8000 Hour				
Instrument Air C. Oil/Filter	5-7-92 5-8-92	JOSE	CHANGED OIL FILTERS SEP. FILTERS " " " " "	4 HRS. 4 HRS.
Instrument Air Dryer Valve	5-11-92	JOSE	P/m ON DRYER VALVES	3 HRS.
R-5 Brg. C.H., Defle., Spk. Plg				
Clark Vibration	#4 CLARK	JOSE	CROSS HEAD, SHUT DOWN	1 HR.
I.R. Vibration				
Oil Sample	5-1-92 5-4-92	JOSE	FILLED OIL SAMPLES OIL SAMPLES REPORTS	3 HRS. 3 HRS.
Elec. Conn., M.C.C., Breakers				
Flush Fire Hydrants	5-6-92	JOSE	FLUSHED HYDRANTS	4 HRS.
Oil & Water Seperator Leak Check	5-4-92	JOSE	CHECKED OUT SEPARATOR OK	1 HR.
Monotoring Wells	5-4-92	JOSE	GUAGED WELLS OK. DRY	1 HR.
Fire Dectection				
Gas Detection				
Fin Fan Vibration	5-7-92	JOSE	Vibration P/m	2 HRS.
Battery (Solar, Inverter)	5-18-92	JOSE	BATTERIES P/M	2 HRS.
Camp Gas	5-4-92	JOSE	CHECKED ANODE, VALVE AND ETC	2 HRS.
I.R. Power Valve Check	4-15-92	JOSE	DONE THIS IN APRIL -	2 HRS.
Cooling Tower Fin Fan				
Carried over from April				

P. M. MONTHLY WORKSHEET

JUNE 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Clark Air & Oil Filter	6-5-92	[illegible], Jose	NEW CLARK AIR FILTERS	7 HRS.
I. R. Air & Oil Filter	6-22-92	JOSE	NEW I-R AIR FILTERS	8 HRS.
Fire Hose Pressure	6-4-92	JOSE	[illegible]	
Air Comp. Oil Change	6-4-92	JOSE	[illegible]	2 HRS.
Expander Instrument				
Treated Gas Filter				
Solar #3 8000 Hour				
Solar #5 8000 Hour				
R-4 & R-5 Anchor & Header	7-17-92	Tyler Smith	Torque anchor found 1½ Anchor Broken "R Front	5 hrs
C.T. Moline Oil & Filter Change	6-8-92	JOSE	OIL & FILTERS CHANGED	4 HRS.
Electrical Inspection	6-5-92	JOSE	[illegible]	2 HRS.
Fire Detection			ICU - WERE DOING THE WORK	
Gas Detection			" " " " "	
Monotoring Wells	6-2-92	JOSE	[illegible]	1 HR.
Oil & Water Separator Leak Check	6-3-92	JOSE	[illegible] OK.	1/4 HR.
Fin Fan Vibration	6-5-92	JOSE	[illegible]	2 HRS.
Camp Gas	6-3-92	JOSE	GAS SYSTEM ALL OK	2 HRS.
Carried over from May				

P. M. MONTHLY WORKSHEET

JULY 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Gear Box Oil Change				
R-5 Rocker Arm				
Furnace				
Clark Water Temp. S.D.				
I.R. Water Temp S.D.				
Precompressor 8000 hour				
Solar #1 Vibration				
Solar #3 Vibration				
Electrical Tool & Cord	6-30-92	JOSE	ELECTRICAL TOOL & CORD P/M	2 HRS
Clark Lubricator	6-23-92	JOSE	LUBRICATOR P/M	5HRS.
I. R. Lubricator	6-24-92	JOSE	LUBRICATOR P/M	3 HRS.
Cooling Tower Pump				
Fire Detection				
Gas Detection				
O & W Separator Leak Check	7-1-92	JOSE	SEPARATOR LEAK CHECK	1 HR.
Monotoring Wells	7-1-92	JOSE	CHECKED, GUAGED WELLS	1HR
Fin Fan Vibration	6-30-92	JOSE	VIBRATION P/M	2 HRS
Battery (Solar, Inverter)				
Camp Gas	7-1-92	JOSE	CHECKED GAS SYSTEM	2HRS.
I.R. Power Valve Check	6-24-92	JOSE	POWER VALVE P/M	1 HRS.
Carriend over from June				

P. M. MONTHLY WORKSHEET

AUGUST 19 92

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Welder Oil Change				
Relief Valve Certification				
Tractor Oil Change				
Utility Air Compressor	8-31-92	JOSE	OIL CHANGE, COMPRESSORS	3 HRS.
Propane Meter Prove				
Product Meter Prove				
DeC1 Meter Prove				
Elect. Con., MCC, Breakers.				
Oil Sample	8-18-92	JOSE	TANK OIL CHANGES & GREASE	7 HR.
O & W Separator Leak Check	8-1-92	JOSE	CHECKED SEPARATOR	1 HR.
Monotoring Wells	8-1-92	JOSE	GUAGED WELLS	1 HR.
Fire & Gas Detection				
Flush Fire Hydrants (qtly)				
Fin Fan Vibrations	8-1-92	JOSE	CHECKED VIBRATIONS	3HRS.
Camp Gas	8-2-92	JOSE	DONE P/M CAMP GAS	2HRS.
C.T. Moline Oil & Filter				
Carried over from July	8-2-92	JOSE	CHECKED CAMP GAS SYSTEM	2HRS.
TREATED GAS FILTER CHANGE	8-12-92	JIM MARTIN RIBENT A.	CHANGED OUT FILTERS & ADDED A FILTER SUPPORT	6HRS

P. M. MONTHLY WORKSHEET

OCTOBER 19 92

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Heat Trace				
DEA Filter				
Swamp Type Air Conditioner				
R-5 Brng, C.H. & Deflection				
Regulator Pot				
Oil Tank Heater				
Electrical Tool & Cord				
Electrical Inspection				
Clark Lubricator				
Cooling Tower Pump				
I. R. Lubricator				
R-4 & R-5 Anchor Bolt Header				
R-4 Brng, C.H., Deflect. & S.Pl.				
C.T. Moline Oil & Filter Change				
Gas Detection				
Fire Detection				
O & W Separator Leak Check	10-29-92	JOSE	MONTHLY PM, LEAKS	1 HR.
Monotoring Wells	10-29-92	JOSE	MONTHLY PM, GUAGING	1 HR.
Fin Fan Vibration				
Camp Gas	10-29-92	JOSE	MONTHLY PM	2 HRS.
Carried over from September				

P. M. MONTHLY WORKSHEET

SEPTEMBER 19 92

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I.R. Anchor Bolt & Header				
Expander Surge				
Expander Bladder				
Clark Scavenger	9-25-92	TABBY TELES	DO WORK, DURING OVER-HAUL	16 HRS,
Instrument Air Dryer Valve				
Yard Valve				
Total Plant E. S. D.				
O & W Separator Leak Check	9-3-92	JOSE	MAKE O & W SEPARATOR	1 HR.
Monotoring Wells	9-3-92	JOSE	GAUGED WELLS & CHECKED	1 HR.
Fire Detection				
Gas Detection				
Fin Fan Vibration				
R-4 Overspeed Switch				
R-5 Overspeed Swithe				
Battery (Solar, Inverter)				
Camp Gas	9-3-92	JOSE	CHECKED OUT GAS SYSTEM	2 HRS.
I.R. Power Valve Check	8-21-92	JOSE	RAN P/M ON POWER VALVES	5 HRS
Cooling Tower Fin Fan				
Carried over from August				

P. M. MONTHLY WORKSHEET

NOVEMBER 1992

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I.R. Anchor Bolt & Header Jack				
Water Tank Anode				
Istrument Air Comp. Oil & Filter				
Solar #2 Vibration				
Solar #6 Vibration				
Clark Vibration				
I.R. Vibration				
Oil Sample	11-6-92	JOSE	PICKED-UP OIL SAMPLES	3 HRS.
Propane Meter Prove				
Camp Gas	11-12-92	JOSE	MONTHLY P/m	2 HRS.
DeCl Meter Prove				
Elect. Con. MCC & Breakers				
Flush Fire Hydrants				
O & W Separator Leak check	11-12-92	JOSE	MONTHLY P/m	1 HR.
Monotoring Wells	11-12-92	JOSE	MONTHLY P/m	1 HR.
Gas & Fire Detection				
Fin Fan Vibrations	11-23-92	JOSE	MONTHLY P/m	2 HRS.
Battery (Solar, Inverter)				
I.R. Power Valve Check	11-23-92	JOSE	BOTH I-R POWER VALVES P/m	4 HRS.
Carried over from October	11-29-92	JOSE	P/m ON I-R LUBRICATOR	4 HRS.
OVERSPEED ON #5 CLARK	11-2-92	GREEN TELES	DONE DURING OVER-HAUL	16 HRS.
SLINGER GEARS ON #5 CLARK	11-13-92	TABOY TELES	" " " "	16 HRS.
DEFLECTION BRG CHECK, #5 CLARK	11-13-92	THOMAS TELES	" " " "	16 HRS.
LUBRICATOR ON #5 CLARK	11-13-92	TABOY TELES	" " " "	16 HRS.
ANCHOR BOLTS, #5 CLARK	11-13-92	TABOY TELES	" " " "	16 HRS.
DEFLECTION, BRG CHECK, #4 CLARK	11-10-92	TABOY TELES	" " " "	16 HRS.

P. M. MONTHLY WORKSHEET

DECEMBER 19 92

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Air Compressor Oil Change	12-15-92	JOSE	#1, #2, #3 AIR-COMP. OIL CHANGED OUT.	3 HRS.
R-4 Rocker Arm			change out Bushing & pins	
R-4 & R-5 Anchor Bolt & Header	12-4-92	T Barela	Anchor Bolt on Flywheel side Broken	
C.T. Moline Oil & Filter	12-14-92	Jose	Changed oil & filters	4 Hrs.
O & W Separator Leak Check	12-3-92	T. Barela	Monthly P/m "No Leaks"	1
Well Monotoring	12-3-92	T. Barela	Monthly P/m "OK"	1
Fire Detection				
Gas Detection				
Fin Fan Vibrations	12-3-92	T. Barela	monthly P/m "ok"	2
Camp Gas	12-3-92	T Barela	monthly P/m "ok"	3
Carried over from November				

LYBROOK P.M.
SCHEDULE

1993

679.01 General

Each operating location which is responsible for the operation and maintenance of compressor stations and similar major installations must have a program to assure that they will function properly.

679.02 Procedures

Each operating location must prepare and maintain detailed written procedures for starting, operating and shutdown of all gas compressor units under its control.

Additional written procedures must be established for the isolation of the equipment for maintenance and/or alteration. Instructions for the purging of all piping and equipment must be included in these procedures.

All necessary steps for each operation, for each unit and for the station as a whole must be listed in these procedures. Copies of the procedures must be kept at each station and must be given or be available to all operators of the equipment. The line diagram shall be posted at appropriate places in the station.

679.03 Emergency Action

Each operating location must prepare and maintain detailed procedures covering action to be taken in the event of an emergency at the station. These procedures shall contain the location of all emergency equipment (fire extinguishers, emergency shut-down stations, telephones and similar facilities) and all emergency exits from the building(s) and fenced area(s).

679.04 Inspection

A regular inspection program must be established and maintained for each compressor station. The following must be included in the inspection:

1. An inspection and test of all relief devices (except rupture discs) to make sure that they are in good condition and set to function at the correct pressure.

2. A check of the operation of remote control shut-down equipment.

3. An inspection of the internal and external corrosion of piping and equipment.

4. An inspection of all fire fighting and other emergency equipment.

5. A review of all operating procedures required by this section of the policies to make sure that they are still appropriate and that all drawings and materials required thereby are in place.

Inspections must be made at least once each calendar year, at intervals not exceeding fifteen months. A written report must be prepared for each inspection indicating the conditions found; inadequacies noted and corrective action taken. Copies of the report must be sent to the Division Engineering Department.

679.05 Material Storage

All materials must be stored in locations provided for that purpose. In no case shall stored materials be placed where they might impeded emergency exits.

All combustible or flammable materials must be stored in a separate building(s) that is constructed of fire resistant material and that is a safe distance from the compressor building. However, a small amount of these materials may be kept in the compressor building for daily use.

679.06 Above-Ground Gasoline or Oil Storage

All above-ground oil or gasoline storage tanks must be protected in accordance with the National Fire Protection Association Standard No. 30.

PREVENTATIVE MAINTENANCE

MONTHLY CHECK LIST

Fire Detection

Gas Detection

Oil & Water Separator Leak Check

Monotoring Wells

Fin Fan Vibrations

EVERY OTHER MONTH (6 TIMES PER YEAR)

Cooling Tower Moline Oil & Filter Change

R 4 & R 5 Anchor & Header

QUARTERLY 4 TIMES PER YEAR

Electrical Cord

LOADING DOCK CHECK

Clark Lubricator

I. R. Lubricator

Cooling Tower Pump

Electrical Connection, Motor Controls Centers, Breakers, etc./W Heat Gun

Fire Hydrant Flush

Oil Sample

Propane & Product Meter Prove & Dec 1 Meter Prove

I. R. Power Valve

Electrical Inspection

2 TIMES PER YEAR

Regulator Pot

Yard Valve

R 4 Bearing & C. H. Deflection

Plant E.S.D.

Expander Bladder

Oil Tank Heater

Swamp Air Conditioner

Instrument Air Comp. Oil/Filter

Instrument Air Dryer Valve

R 5 Bearing, C H Deflection Spark Plug

Clark Vibration

I. R. Vibration

R 4 Overspeed Switch & R 5 Overspeed Switch

Clark Scavenger

Water Tank Anode

PREVENTATIVE MAINTENANCE

ONE TIME PER YEAR

Dehydrator Outlet Filter

Test Propane Tanks (Vehicles)

Test Fire Pumps

Fire Pump Oil Change

Solar # 1 8000 Hour

Solar # 4 8000 Hour

Expander Vibration

Solar # 2 8000 Hour

Solar # 5 8000 Hour

Clark Air & Oil Filter

I. R. Air & Oil Filter

Fire Hose Pressure

Air Comp. Oil Change

Expander Instruments

Treated Gas Filter

Solar # 3 8000 Hour

Solar # 5 8000 Hour

Gear Box Oil Change

R 5 Rocker Arm

Furnace

Clark Water Temp. S.D.

I. R. Water Temp. S.D.

Precomp 8000 Hour

Solar # 1 Vibration

Solar # 3 Vibration

Welder Oil Change

Relief Valve Pin

Tractor Oil Change

Utility Air Compressor

I. R. Anchor Bolt & Scavinger

Expander Surge

Heat Trace

DEA Filter

I. R. Anchor Bolt & Header Jack

Solar # 2 Vibration

Solar # 6 Vibration

R 4 Rocker Arm

Name of P. M.	J	F	M	A	M	J	J	A	S	O	N	D
Fire Detection	x	x	x	x	x	x	x	x	x	x	x	x
Gas Detection	x	x	x	x	x	x	x	x	x	x	x	x
O. & W. Separator Leak Check	x	x	x	x	x	x	x	x	x	x	x	x
Monotoring Wells	x	x	x	x	x	x	x	x	x	x	x	x
Fin Fan Vibrations	x	x	x	x	x	x	x	x	x	x	x	x
Cooling T. Moline O & F Change		x		x		x		x		x		x
R 4 & R 5 Anchor & Header		x		x		x		x		x		x
Electrical Cord	x			x			x			x		
Clark Lubricator	x			x			x			x		
I. R. Lubricator	x			x			x			x		
Cooling Tower Pump	x			x			x			x		
Elec Conn, MCC, & Brkers.		x			x			x			x	
Fire Hydrant Flush		x			x			x			x	
Oil Sample		x			x			x			x	
Propane Meter Prove		x			x			x			x	
Product Meter Prove		x			x			x			x	
Dec 1 Meter Prove		x			x			x			x	
Electrical Inspection		x				x				x		
Regulator Pot			x							x		
Yard Valve			x						x			
R 4 Bearing & C. H. Deflection			x							x		
Plant E.S.D.				x					x			
Expander Bladder				x					x			
Oil Tank Heater				x						x		
Swamp Air Conditioners				x						x		
Instrument A.C. Oil/Filters					x						x	
Instrument Air Dryer Valve					x					x		
R 5 Bearing, C.H. Defl. & SP					x					x		
Clark Vibration					x						x	
I. R. Vibration					x						x	
R 4 Overspeed Switch			x						x			
R 5 Overspeed Switch			x						x			
Clark Scavenger			x						x			
Water Tank Anode			x								x	
Dehydrator Outlet Filter	x											
Test Propane Tanks (vehicle)				x								
Test Fire Pumps				x								
Fire Pump Oil				x								
Solar # 1 8000 Hour				x								
Solar # 4 8000 Hours				x								
Clark Air & Oil Filter						x						
I. R. Air & Oil Filter						x						
Fire Hose Pressure						x						
Air Comp. Oil Change						x						
Expander Instruments						x						
Treated Gas Filter						x						
Solar # 3 8000 Hour						x						
Solar # 5 8000 Hour						x						
Gear Box Oil Change							x					
R 5 Rocker Arm							x					
Furnace							x					
Clark Water Temp. S.D.							x					
I. R. Water Temp. S.D.							x					
Precomp 8000 Hour							x					
Solar # 1 Vibration							x					
Solar # 3 Vibration							x					
Welder Oil Change								x				
Relief Valve Pin								x				

Items	J	F	M	A	M	J	J	A	S	O	N	D
Tractor Oil Change								X				
Utility Air Compressor								X				
I. R. Anchor Bolt & Scavenger									X			
Expander Surge									X			
Heat Trace										X		
DEA Filter										X		
I. R. Anchor Bolt & Header Jk											X	
Solar # 2 Vibration											X	
Solar # 6 Vibration											X	
R 4 Rocker Arm												X

MASTER METER GAS SYSTEM

MAINTENANCAE & INSPECTION SCHEDULE

WORK TO BE DONE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FAS LEAK CHECK OF ALL FITTINGS BY SOAP TEST (EVERY 6 MONTHS)				X						X		
GAS LEAK SURVEY (EVERY 5 YEARS)								NEXT SURVEY 1993				
CHECK ANODE LEADS AT GAS RISERS (EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK GAS RISERS FOR CONTACTS TO PREVENT SHORTS(EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X
CHECK RECTIFIER ERY 2 MONTHS)		X		X		X		X		X		X
XE PIPE-TO-SOIL MEASUREMENTS OF CATHODIC PROTECTION SYSTEM (EVERY YEAR)						X						
CHECK BURIED MAIN VALVES OR LEAKS AND PARTIALLY OPERATE & GREASE (EVERY YEAR)						X						
CHECK VALVES OF SERVICE LINES NOT IN USE- LOCKED OR OTHER ENDS SEALED (EVERY MONTH)	X	X	X	X	X	X	X	X	X	X	X	X

P. M. MONTHLY WORKSHEET

JANUARY 19 93

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Electrical Tool & Cord	1-10-93	JOSE	MONTHLY P/m	2HRS.
Clark Lubricator				
I. R. Lubricator	12-28-92	JOSE	LUBRICATORS P/m	4HRS.
Cooling Tower Pump				
Dehydrator Outlet Filter	1-11-93	JOSE	DEHY. OUTLET P/m	3HRS
Battery (Solar, Inverter)	1-11-93	JOSE	BATTERY P/m	2HRS.
Fire Detection				
Gas Detection				
Oil & Water Sep. Leak Check	1-7-93	JOSE	LEAK CHECK P/m	1HR.
Monotoring Wells	1-7-93	JOSE	GUAGE P/m	1HR.
Fin Fan Vibration	1-10-93	JOSE	MONTHLY P/m	2 HRS.
Camp Gas	1-7-93	JOSE	GAS SYSTEM P/m	2 HRS.
I. R. Power Valve Check	12-28-92	JOSE	POWER VALVES P/m	3HRS.
Cooling Tower Fin Fan	12-29-92	JOSE	FIN-FAN P/m	4 HRS.
Carried over from December				

P. M. MONTHLY WORKSHEET

FEBRUARY 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
R 4 & R 5 Anchor & Header	2-17-93	T Bank	Check Anchor & Header on Both units	7
C.T. Moline Oil & Filter Change	2-5-93	JOSE	OIL, FILTERS. CHANGE	3HRS.
Electrical Inspection	2-9-93	JOSE	INSPECTED ELECT. SYSTEM	2HRS.
Propane Meter Prove FT 210				
Product Meter Prove				
Elec. Conn., MCC, Breakers				
Oil Samples	2-9-93	JOSE	SAMPLES & REPORTS	5HRS.
Flush Fire Hydrants ✓	2-4-93	JOSE	FLUSHED HYDRANTS	2 HRS.
DeC1 Meter Prove FT 204				
Oil & Wtr. Sep. Leak Check ✓	2-4-93	JOSE	CHECKED S.P. TANKS	1 HR.
Monotoring Wells ✓	2-4-93	JOSE	GUAGE ALL WELLS	1 HR.
Fire & Gas Detection				
Fin Fan Vibration	2-8-93	JOSE	CHECKED OUT VIBRATION	2 HRS
Camp Gas ✓	2-4-93	JOSE	CHECKED CAMP GAS SYSTEM	2 HRS
Carried over from January				

P. M. MONTHLY WORKSHEET

MARCH 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Water Tank Anode				
Clark Scavenger				
Regulator Pot				
Yard Valve				
R-4 Bearing & C.H. Deflection				
Oil & Wtr. Separator Leak Check	3-2-93	JOSE	CHECKED LEAKS	1HR.
Monotoring Wells	3-2-93	JOSE	CHARGED WELLS	1HR.
Fire Detection				
Gas Detection				
Battery (Solar, Inverter)				
Housing Water Pump & Pump House	3-9-93	JOSE	P/M ON HOUSING PUMP	2 HRS.
Waste Heat				
Fire House Truck	3-8-93	JOSE	CLEAN HOSE TRUCK	3 HRS
Employee shop	3-5-93	JOSE	CLEAN SHOP BLDG	2 HR.
Camp Gas	3-8-93	JOSE	CHECKED GAS SYSTEM	2 HRS.
I. R. Power Valve Check	3-18-93	JOSE	F/I-R, POWER CHECKS	2 HRS.
Carried over from February				

P. M. MONTHLY WORKSHEET

APRIL 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Test Propane Tanks (Vehicles)				
Fin Fan Vibration	4-8-93	Jose	VIBRATION MON	2HR.
Test Fire Pumps				
Fire Pump Oil Change	4-14-93	T. Barela	oil change	2
Solar #1 8000 Hour				
Solar #4 8000 Hour				
Total Plant E. S. D.				
Expander Bladder				
R-4 & R-5 Anchor & Header				
Oil Tank Heater				
Swamp Type Air Conditioner				
Electrical Tool & Cord	4-15-93	Jose	REPAIR ELECTRICAL CORD	4 HRS
Cooling Tower Pump				
Clark Lubricator	4-14-93	T. Barela	[illegible]	5 HRS
I.R. Lubricator	4-[illegible]-93	Jose	CHECKED OUT LUBRICATOR	4 HRS.
Fire Hydrant	4-13-93	Jose	FLUSHED ALL HYDRANTS	4 HRS.
Sewage Pond Treatment	4-12-93	Jose	ADDED CHLORINE (POUNDS)	2 HR
Camp Gas	4-8-93	Jose	CHECK CAMP GAS SYSTEM	2 HR.
C.T. Moline Oil & Filter Change	4-13-93	[illegible]	[illegible]	2 HRS.
Fire Detection				
Gas Detection				
Oil & Water Separator Leak Check	4-8-93	Jose	CHECKED OIL & WATER SEP.	1 HR
Monotoring Wells	11-6-93	Jose	GUAGED WELLS	1 HR.
Carried over from March				
#2 L.P. Power House Pump	4-6-93	Jose	POWER HOUSE CHECKS	2 HRS.

P. M. MONTHLY WORKSHEET

MAY 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Expander Vibration				
Solar #2 8000 Hour				
Solar #5 8000 Hour				
Instrument Air C. Oil/Filter				
Instrument Air Dryer Valve				
R-5 Brg. C.H., Defic., Spk. Plg				
Clark Vibration				
I.R. Vibration				
Oil Sample				
Elec. Conn., M.C.C., Breakers				
Flush Fire Hydrants	5-25-93	ALTON & SHIRLEY	FLUSHED ALL HYDRANTS	4 HRS.
Oil & Water Seperator Leak Check	5-25-93	JOSE	CHECKED SEPARATOR	1 HR.
Monotoring Wells	5-25-93	JOSE	GUAGED WELLS (DRY)	1 HR.
Fire Dectection				
Gas Detection				
Fin Fan Vibration				
Battery (Solar, Inverter)				
Camp Gas	5-24-93	JOSE	CHECK CAMP GAS SYSTEM	2 HRS.
I.R. Power Valve Check	5-27-93	JOSE	POW. VAL. CHECKED H.E. #2, 1-RS	5 HRS.
Cooling Tower Fin Fan				
Carried over from April				

P. M. MONTHLY WORKSHEET

JUNE 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Clark Air & Oil Filter				
I. R. Air & Oil Filter				
Fire Hose Pressure	5- -93	ALTON, SHANNON	CHECKED HOSE PRESSURE	14 HRS.
Air Comp. Oil Change	6-1-93	JOSE	OIL CHANGE (COMPRESSORS)	2 HRS.
Expander Instrument				
Treated Gas Filter				
Solar #3 8000 Hour				
Solar #5 8000 Hour				
R-4 & R-5 Anchor & Header				
C.T. Moline Oil & Filter Change				
Electrical Inspection				
Fire Detection				
Gas Detection				
Monotoring Wells	6-2-93	JOSE	GUAGED WELL, OK	1 HR.
Oil & Water Separator Leak Check	6-2-93	JOSE	CHECKED SEP. LEAK, OK	1 HR.
Fin Fan Vibration	6-1-93	JOSE	CHECKED FIN-FAN VIBERATION	2 HRS.
• Camp Gas	6-2-93	JOSE	CHECKED CAMP GAS SYS.	3 HRS.
Carried over from May				

P. M. MONTHLY WORKSHEET

JULY 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Gear Box Oil Change				
R-5 Rocker Arm	7-15	TB	Replace Pins Bushings [illegible]	
Furnace				
Clark Water Temp. S.D.				
I.R. Water Temp S.D.				
Precompresser 8000 hour				
Solar #1 Vibration				
Solar #3 Vibration				
Electrical Tool & Cord	[illegible]	[illegible]	CHECKED OUT TOOL & CORDS	2 HRS
Clark Lubricator	7-2-93	T Burk	Rejecte Mroad pump 4	6.
I. R. Lubricator	7-12-93	JOSE	LUBRICATOR PM	4 HRS.
Cooling Tower Pump				
Fire Detection				
Gas Detection				
O & W Separator Leak Check	[illegible]	[illegible]	[illegible]	1/2.
Monotoring Wells	[illegible]	JOSE	WELLS ALL [illegible]	1 HR.
Fin Fan Vibration	7-7-93	T. Burk	Vibration Switch on North Radiator needs replace	
Battery (Solar, Inverter)				
Camp Gas	[illegible]	[illegible]	[illegible]	2 HRS
I.R. Power Valve Check	[illegible]	JOSE	VALVES SERVICE	5 HRS.
Carriend over from June				
R-4-5 Rocker-Header	7-15	TB	Torque Header	4
Clark oil Filters				
Clark Vibration				

P. M. MONTHLY WORKSHEET

AUGUST 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Welder Oil Change				
Relief Valve Certification				
Tractor Oil Change				
Utility Air Compressor				
Propane Meter Prove				
Product Meter Prove				
DeC1 Meter Prove				
Elect. Con., MCC, Breakers.				
Oil Sample				
O & W Separator Leak Check	8-1-93	JOSE	CHECKED SEPARATOR	1 HR.
Monotoring Wells	8-1-93	JOSE	GUAGED WELLS	1 HR.
Fire & Gas Detection				
Flush Fire Hydrants (qtly)	8-30-93	JOSE	FLUSHED ALL HYDRANTS	4 HRS.
Fin Fan Vibrations				
Camp Gas	8-4-93	JOSE	CHECKED GAS SYSTEM	2 HRS.
C.T. Moline Oil & Filter Change				
Carried over from July				

P. M. MONTHLY WORKSHEET

SEPTEMBER 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I.R. Anchor Bolt & Header				
Expander Surge				
Expander Bladder				
Clark Scavenger				
Instrument Air Dryer Valve				
Yard Valve				
Total Plant E. S. D.	9-14-93		PLANT SHUT DOWN	16HRS.
O & W Separator Leak Check	9-26-93	JOSE	LEAK CHECK	1HR
Monotoring Wells	9-26-93	JOSE	GUAGED WELLS	1HR
Fire Detection				
Gas Detection				
Fin Fan Vibration				
R-4 Overspeed Switch				
R-5 Overspeed Swithc				
Battery (Solar, Inverter)				
Camp Gas	9-13-93	CLOSE	CHECKED CAMP GAS	2 HRS
I.R. Power Valve Check	9-1-93	JOSE	POW. VAL. ADJUSTMENT	5HRS
Cooling Tower Fin Fan				
Carried over from August				
ENGINE OIL & FILTERS CHANGE	9-13-93	JOSE	OIL & FILTERS CHANGED	2HRS

P. M. MONTHLY WORKSHEET

OCTOBER 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Heat Trace				
DEA Filter				
Swamp Type Air Conditioner				
R-5 Brng, C.H. & Deflection	9-14-93	JOSE	R-5 DEFLECTION	2 HRS.
Regulator Pot				
Oil Tank Heater				
Electrical Tool & Cord				
Electrical Inspection				
Clark Lubricator	11-9-93	JB		
Cooling Tower Pump	10-25-93	JOSE	CHECKED TOWER PUMP	2 HRS.
I. R. Lubricator	10-13-93	JOSE	LUBRICATOR, OK	4 HRS.
R-4 & R-5 Anchor Bolt Header				
R-4 Brng, C.H., Deflect. & S.Pl.	9-14-93	JOSE	R-4 DEFLECTION	2 HRS.
C.T. Moline Oil & Filter Change	10-25-93	JOSE	OIL & FILTERS CHGE	4 HRS
Gas Detection				
Fire Detection				
O & W Separator Leak Check	10-5-93	JOSE	LEAK CHECK, OK	1 HR.
Monotoring Wells	10-5-93	JOSE	GUAGES WELL, OK	1 HR.
Fin Fan Vibration	10-6-93	JOSE	CHECKED VIBRATION	2 HRS
Camp Gas	10-5-93	JOSE	CHECKED CAMP GAS SYSTEM	2 HRS.
Carried over from September				

P. M. MONTHLY WORKSHEET

NOVEMBER 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
I.R. Anchor Bolt & Header Jack				
Water Tank Anode				
Istrument Air Comp. Oil & Filter				
Solar #2 Vibration				
Solar #6 Vibration				
Clark Vibration				
I.R. Vibration				
Oil Sample				
Propane Meter Prove				
Camp Gas	11-01	JOSE	H2S ON CAMP GAS.	2HRS
DeCl Meter Prove				
Elect. Con. MCC & Breakers				
Flush Fire Hydrants				
O & W Separator Leak check	11-05	JOSE	CHECKED FOR LEAKS	1HR
Monotoring Wells	11-05	JOSE	GAUGED WELLS	1HR
Gas & Fire Detection				
Fin Fan Vibrations	11-19	JOSE	CHECKED FOR VIBRATIONS	2HRS.
Battery (Solar, Inverter)				
I.R. Power Valve Check	11-10-93	JOSE	PRESS. CHL. SETTING	4HRS.
Carried over from October				

P. M. MONTHLY WORKSHEET

DECEMBER 1993

P. M. to be Performed	Date	Mechanic	Comments & Carryover	Hours
Air Compressor Oil Change	12-12	JOSE	COMP. OIL CHANGE	4 HRS.
R-4 Rocker Arm				
R-4 & R-5 Anchor Bolt & Header				
C.T. Moline Oil & Filter	12-10	JOSE	OIL & FILTERS CHANGED	3 HRS.
O & W Separator Leak Check	12-5	JOSE	CHECK FOR LEAKS	1 HR
Well Monotoring	12-5	JOSE	GUAGED ALL WELLS	1 HR.
Fire Detection				
Gas Detection				
Fin Fan Vibrations	12-5	JOSE	CHECKED VIBRATIONS	2 HRS.
Camp Gas	12-5	JOSE	CHECKED GAS SYSTEM	2 HRS.
Carried over from November				

Submit 4 Copies
to Appropriate
District Office

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-134
Aug. 1, 1989

Permit No. _____
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952
FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule711(I)

Operator Name: SUNTERRA GAS PROCESSING COMPANY

Operator Address: HCR 17, BOX 360 NM HWY 44, CUBA N.M. 87013

Lease or Facility Name LYBROOK PLANT Location NW C 14 T23N R 7W
(Ut. Ltr. Sec. Twp. Rge)

Size of pit or tank: 3 PONDS @ 1,606,700 GALLON CAPACITY

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

__X__ The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

THE WATER IN THIS PIT IS WASTE WATER FROM THE PROCESSING PLANT AT KUTZ 1 & 2. IT CONTAINS NO OIL.

1) If any oil or hydrocarbons should reach this facility give method and time required for removal:

IF AN EMERGENCY OCCURS BEFORE OIL CAN REACHTHE POND IT WILL GO TO A SEPERATOR AND A PUMP WILL PUMP OFF THE OIL, BUT IF FOR SOME REASON OIL DID GET THROUGH THE SEPERATOR A BOOM WILL ISOLATE THE OIL AND IT WILL BE REMOVED IMMEDIATELY.

2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

_____ Operator proposes the following alternate protective measures: _____

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature Denver Bearden Title ADMINISTRATOR III Date 9/27/93

Printed Name DENVER BEARDEN Telephone No. 632-4131

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected _____ Approved by _____

Inspected by _____ Title _____

Date _____

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

December 2, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P 176 012 049

Mr. Randy Bible
Vice President
CF&M Oil Field Services, Inc.
#37 Rd. 5267
Farmington, NM 87401

RE: Approval to Spread Soil and Gravel
San Juan County, New Mexico

Dear Mr. Bible,

The New Mexico Oil Conservation Division (OCD) has received your November 5, 1993 request to spread contaminated soil and gravel received from the Sunterra Lybrook Gas Processing Plant in Lybrook, New Mexico.

Based on the laboratory analysis of the soils supplied by Sunterra, the tested contaminants are below regulatory limits. Therefore, the OCD approves your request to spread the soil and gravel at the CF&M yard in Farmington, New Mexico.

Please be advised that the approval of this operation does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment which may be actionable under other laws and/or regulations.

Sincerely,

Robert L. Myers II
Petroleum Engineer Specialist

xc: OCD Aztec Office
Denver Bearden, Sunterra (GCNM)

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 8, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-176-012-040

Mr. John Renner
Sunterra Gas Processing Company
P.O. Box 1869
Bloomfield, NM 87413

RE: Discharge Plan GW-47 Renewal
Lybrook Gas Plant
Rio Arriba County, New Mexico

Dear Mr. Renner,

On August 8, 1989, the groundwater discharge plan, GW-47 for the Lybrook Gas Plant located in the NW/4 NW/4 of Section 14, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico, was approved by the Director of the Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval will expire on August 9, 1994.

If your facility continues to have potential or actual effluent or leachate discharges and you wish to continue operation, you must renew your discharge plan. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several months. Please indicate whether you have made, or intend to make, any changes in you system, and if so, please include these modifications in your application for renewal.

Note that the completed and signed application form must be submitted with your discharge plant renewal request.

If you no longer have any actual or potential discharges please identify this office. If you have any questions, please do not hesitate to contact Bobby Myers at (505)827-4080.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/rlm

xc: OCD Aztec Office

P 176 012 040

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to Renner - Sunterra	
Street and No. PO 1869	
P.O., State and ZIP Code Bloomfield NM 87413	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form 3800, June 1991

CF&M Oil Field Service, Incorporated

OIL CONSERVATION DIVISION
RECEIVED
'93 NOV 15 AM 8 51

November 5, 1993

Mr. Roger C. Anderson
Environmental Bureau Chief
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, Nm 87504

RE: CONTAMINATED SOIL FROM SUNTERRA LYBROOK GAS PLANT

On June 29th, we hauled a load of soil and gravel from the Sunterra Lybrook Gas Plant to our yard located about 8 miles North of Bloomfield on Highway 550.

The soil and gravel was dumped and has not been moved or spread. We received information from the Gas Company that the test results were above acceptable standards.

We request permission to spread the soil and gravel on our yard to be used as a driveway. If you have any questions, please call me at 632-8069.

Sincerely,

Randy Bible, Vice-President
CF&M Oil Field Service, Inc.

RB;ac
cc:file

#37 Rd 5267 ◦ Farmington, New Mexico 87401 ◦ (505) 632-8069

GAS COMPANY OF NEW MEXICO

OIL CONSERVATION DIVISION
RECEIVED
'93 NOV 1 AM 9 48

October 26, 1993

Mr. Roger C. Anderson
Environmental Bureau Chief
Energy, Minerals and Natural Resources Dept.
Oil Conservation Division
Post Office Box 2088
Santa Fe, NM 87504

Re: Lybrook Gas Plant Contaminated Soil

Dear Mr. Anderson:

In June of this year, a general cleanup of the Lybrook Sunterra Gas Plant was done. Soil and gravel from different areas in the plant were removed due to surface contamination. The areas were IR scrubber, sidewalk in the fractionator area, and demethanizer tower. The contamination was due to leaks of processing lean oil and compressor lubricating oil.

The soil and gravel were removed from the Lybrook Gas Plant without written authorization from the OCD. CF&M, the contractor doing work at the plant, removed the material. The soil and gravel were taken to CF&M yard located on Highway 544 approximately 3 miles from Bloomfield. That is the present location of the material.

The soil and gravel were tested by State Approved Method on August 10, 1993. Test results were given to Kathy Brown, OCD, on October 21, 1993. The soil was tested randomly and by composite by state approved methods.

The cleanup of the surface contamination was completed on June 29, 1993, with no further action required. Measures have been taken to prevent future spills by replacing valves and placing containers to catch lube oil spills.

Gas Transmission Operations has been reinstructed as to the proper method of contaminated material disposal. GTO will work with CF&M to properly request spreading the material at its present location.

If you have any questions, please contact me at (505) 632-4131.

Sincerely,

Denver Bearden
Administrator III

xc: OCD Aztec Office

Mr. Denny Foust
New Mexico Oil Conservation
Deputy Oil and Gas Inspector
1000 Rio Brazos Road
Aztec, NM 87410

Dear Mr. Foust,

I am following up on a letter I sent on September 27 concerning the contaminated gravel that was removed from the Sunterra Processing Plant at Lybrook and placed in another location.

The test results were below the acceptable limits. We request permission to spread the gravel at its present location.

If you have any questions, please call me at 632-4131. Thank you for your help and cooperation.

Sincerely,

Denver Bearden
Administrator III

imi
Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Po# L-446-322

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Sunterra Gas Processing Co	Lybrook Plant	
Sampler: (Signature)	Chain of Custody Tape No.	Remarks

FILE COPY

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP Vol	TCLP Semivol Pest Herb			
			3369		3					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	8/10/93	11:30		8/10/93	11:30
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945
☐ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
☐ 910 Technology Blvd. Suite B, Bozeman, Montana 59715, Telephone (406) 586-8450
☐ Route 3, Box 256, College Station, TX 77845, Telephone (409) 776-8945
☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

10832

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Locatio Lybrook Plant
Sample ID: Oily Soil, Yard
Laboratory ID: 3369 / 0693G01993
Sample Matrix: Soil
Condition: Warm

Report Date: 09/08/93
Date Sampled: 08/10/93
Date Received: 08/11/93
Date Extracted -
TCLP: 08/16/93
Volatile: 08/30/93
Date Analyzed: 08/30/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Benzene	**0.007**	0.005	0.5
Carbon Tetrachloride	ND	0.005	0.5
Chlorobenzene	ND	0.005	100
Chloroform	ND	0.005	6.0
1,2-Dichloroethane	ND	0.005	0.5
1,1-Dichloroethylene	ND	0.005	0.7
Methyl ethyl ketone	ND	0.010	200
Tetrachloroethylene	ND	0.005	0.7
Trichloroethylene	ND	0.005	0.5
Vinyl Chloride	ND	0.005	0.2

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	100%	76 - 114%
Toluene - d8	99%	88 - 110%
Bromofluorobenzene	97%	*86 - 115%*

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Oily Soil, Yard
Laboratory ID: 3369 / 0693G01993

Report Date: 09/08/93
Date Sampled: 08/10/93
Date Analyzed: 08/30/93

Analyte	Retention Time (minutes)	Concentration (mg/L)
Methylene Chloride	4.45	0.013
Toluene	13.06	0.011
1,1,2-Trichlorotrifluoroethane	3.84	0.127 *B
Unknown phthalate	15.17	0.08 *B

* - Concentration calculated using assumed relative response factor = 1
B - analyte detected in method blank

Comments: Methylene chloride and 1,1,2-Trichlorotrifluoroethane are laboratory contaminants.

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ORGANOCHLORINE PESTICIDES

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Oily soil, yard
Laboratory ID: 3369 / 0693G01993
Sample Matrix: Soil
Condition: Warm

Report Date: 09/13/93
Date Sampled: 08/10/93
Date Received: 08/11/93
Date Extracted -
TCLP: 09/08/93
Pesticide: 09/09/93
Date Analyzed: 09/09/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Chlordane	ND	0.02	0.03
Endrin	ND	0.002	0.02
Heptachlor	ND	0.002	0.008
Gamma - BHC (Lindane)	ND	0.002	0.4
Methoxychlor	ND	0.002	10
Toxaphene	ND	0.02	0.5

ND - Analyte not detected at stated limit of detection

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8080: Organochlorine Pesticides and PCBs
Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Comments: Original TCLP extraction: 08/17/93, pesticide extraction: 08/19/93

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

CASE NARRATIVE

On August 11, 1993, one sample was received by Inter-Mountain Laboratories - College Station, Texas. It was received warm and one of three containers was broken. Analyses for TCLP Volatiles, TCLP Semivolatiles, TCLP Pesticides, and TCLP Herbicides were performed according to the accompanying chain of custody form.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of samples reported here are found in "Test Methods for Evaluating Solid Waste", SW-846, USEPA, 1993.

The QA//QC results were outside acceptance limits for the pesticide and herbicide extractions. The TCLP extraction, pesticide and herbicide extractions were redone. Those results are reported in this package.

Quality Control reports have been included for your information and use. These reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,

Ulonda M Rogers

Ulonda M. Rogers
Manager, IML-Longmire

IMLF1993

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Location: Lybrook Plant
Sample ID: Oily Soil, Yard
Laboratory ID: 3369 / 0693G01993
Sample Matrix: Soil
Condition: Warm

Report Date: 09/08/93
Date Sampled: 08/10/93
Date Received: 08/11/93
Date Extracted -
TCLP: 08/16/93
Volatile: 08/30/93
Date Analyzed: 08/30/93

Analyte	Spiked Sample Concentration	Sample Concentration	Spike Recovered	Spike Added	Percent Recovery
Benzene	0.103	0.007	0.096	0.100	96%
Carbon tetrachloride	0.095	ND	0.095	0.100	95%
Chlorobenzene	0.102	ND	0.102	0.100	102%
Chloroform	0.102	ND	0.102	0.100	102%
1,2 - Dichloroethane	0.097	ND	0.097	0.100	97%
1,1 - Dichloroethylene	0.089	ND	0.089	0.100	89%
Methyl ethyl ketone	0.103	ND	0.103	0.100	103%
Tetrachloroethylene	0.100	ND	0.100	0.100	100%
Trichloroethylene	0.099	ND	0.099	0.100	99%
Vinyl chloride	0.094	ND	0.094	0.100	94%

All units in mg/L.
ND - Not detected

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	110%	76 - 114%
Toluene - d8	99%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Wastes, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK ANALYSIS
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Location: Lybrook Plant
Sample ID: ZHE TCLP Method Blank
Laboratory ID: TMB27V
Sample Matrix: Solid
Condition: NA

Report Date: 09/08/93
Date Sampled: N/A
Date Received: N/A
Date Extracted -
TCLP: 08/16/93
Volatile: 08/30/93
Date Analyzed: 08/30/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chloroform	ND	0.005
1,2 - Dichloroethane	ND	0.005
1,1 - Dichloroethylene	ND	0.005
Methyl ethyl ketone	ND	0.010
Tetrachloroethylene	ND	0.005
Trichloroethylene	ND	0.005
Vinyl chloride	ND	0.005

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	100%	76 - 114%
Toluene - d8	99%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK ANALYSIS

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

VOLATILE ORGANIC COMPOUNDS

ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Location: Lybrook Plant
Sample ID: ZHE TCLP Method Blank
Laboratory ID: TMB27V

Report Date: 09/08/93
Date Sampled: N/A
Date Analyzed: 08/30/93

Analyte	Retention Time (minutes)	Concentration (mg/L)
Methylene Chloride	4.45	0.011
1,1,2-Trichlorotrifluoroethane	3.77	0.025 *
Unknown phthalate	9.66	0.017 *
Unknown phthalate	14.18	0.009 *
Unknown phthalate	14.59	0.010 *
Unknown phthalate	15.18	0.10 *

* - Concentration calculated using an assumed relative response factor = 1

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Comments: Methylene chloride and 1,1,2-Trichlorotrifluoroethane are laboratory contaminants.

Wanda M Rogers
Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8240 VOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Method Blank
Laboratory ID: MB 0830
Sample Matrix: Water

Report Date: 09/08/93
Date Extracted: 08/30/93
Date Analyzed: 08/30/93

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acetone	ND	20
Benzene	ND	5
Bromodichloromethane	ND	5
Bromoform	ND	5
Bromomethane	ND	5
2-Butanone (MEK)	ND	10
Carbon disulfide	ND	5
Carbon tetrachloride	ND	5
2-Chloroethyl vinyl ether	ND	50
Chlorobenzene	ND	5
Chloroethane	ND	10
Chloroform	ND	5
Chloromethane	ND	10
Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5
1,1-Dichloroethene	ND	5
1,2-Dichloroethene (total)	ND	5
1,2-Dichloroethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
trans-1,3-Dichloropropene	ND	5
Ethylbenzene	ND	5
2-Hexanone	ND	5
Methylene chloride	ND	5
4-Methyl-2-pentanone	ND	5
Styrene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
1,1,1-Trichloroethane	ND	5
1,1,2-Trichloroethane	ND	5
Trichloroethene	ND	5
Vinyl acetate	ND	5
Vinyl chloride	ND	5
Xylenes (total)	ND	5

ND - Analyte not detected at stated limit of detection

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
EPA METHOD 8240 VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Method Blank
Laboratory ID MB 0830

Report Date: 09/08/93
Date Analyzed: 08/30/93

Tentative Identification	Retention Time (Minutes)	Concentration* (ug/L)
1,1,2-Trichlorotrifluoroethane	3.87	85
Unknown hydrocarbon	25.9	15

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2-Dichloroethane-d4	98%	76 - 114%
Toluene-d8	99%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

Reference: Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993. Capillary column.

Comments: 1,1,2-Trichlorotrifluoroethane is a laboratory contaminant.

Analyst

Review

Inter-Mountain Laboratories, Inc

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX DUPLICATE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS

Client:	**SUNTERRA GAS PROCESSING CO.**		
Project Name:	Lybrook Plant	Report Date:	09/08/93
Sample ID:	TCLP Extraction Duplicate	Date Sampled:	07/29/93
Laboratory ID:	C931915	Date Received:	07/30/93
Sample Matrix:	Soil	Date Extracted -	
Condition:	Warm, Intact	TCLP:	08/10/93
		Volatile:	08/20/93
		Date Analyzed:	08/20/93

Analyte	Duplicate Result (mg/L)	Sample Result (mg/L)	Percent Difference
Benzene	ND	ND	NA
Carbon tetrachloride	ND	ND	NA
Chlorobenzene	ND	ND	NA
Chloroform	ND	ND	NA
1,2 - Dichloroethane	ND	ND	NA
1,1 - Dichloroethylene	ND	ND	NA
Methyl ethyl ketone	ND	ND	NA
Tetrachloroethylene	ND	ND	NA
Trichloroethylene	ND	ND	NA
Vinyl chloride	ND	ND	NA

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
1,2 - Dichloroethane - d4	99%	76 - 114%
Toluene - d8	98%	88 - 110%
Bromofluorobenzene	100%	86 - 115%

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX DUPLICATE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
VOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: TCLP Extraction Duplicate
Laboratory ID: C931915

Report Date: 09/08/93
Date Sampled: 07/29/93
Date Analyzed: 08/20/93

Analyte	Retention Time (minutes)	Concentration (mg/L)
Methylene Chloride	4.52	0.019
Unknown phthalate	9.67	0.021 B*
Unknown phthalate	14.67	0.011 B*
Unknown aromatic	19.55	0.014 B*
Unknown hydrocarbon	21.43	0.014 *
Unknown hydrocarbon	22.29	0.012 *
Unknown hydrocarbon	22.96	0.014 *

* - Concentration calculated using assumed relative response factor = 1.

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 Environmental Protection Agency, November 1992.
Method 8240A: Gas Chromatography / Mass Spectrometry for Volatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Comments: TCLP extraction duplicate.

Wanda M Rogers
Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Oily Soil, Yard
Laboratory ID: 3369 / 0693G01993
Sample Matrix: Soil, Rocks
Condition: Warm, intact

Report Date: 09/09/93
Date Sampled: 08/10/93
Date Received: 08/11/93
Date Extracted -
TCLP: 08/17/93
BNA: 08/24/93
Date Analyzed: 08/31/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.06	200
m,p - Cresol	ND	0.06	200
1,4 - Dichlorobenzene	ND	0.06	7.5
2,4 - Dinitrotoluene	ND	0.06	0.13
Hexachlorobenzene	ND	0.06	0.13
Hexachloro-1,3-butadiene	ND	0.06	0.5
Hexachloroethane	ND	0.06	3.0
Nitrobenzene	ND	0.06	2.0
Pentachlorophenol	ND	0.06	100
Pyridine	ND	0.06	5.0
2,4,5 - Trichlorophenol	ND	0.06	400
2,4,6 - Trichlorophenol	ND	0.06	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	66%	21 - 110%
Phenol - d6	77%	10 - 110%
Nitrobenzene - d5	75%	35 - 114%
2 - Fluorobiphenyl	70%	43 - 116%
2,4,6 - Tribromophenol	77%	10 - 123%
Terphenyl - d14	80%	33 - 141%

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Oily Soil, Yard
Laboratory ID: 3369 / 0693G01993

Report Date: 09/09/93
Date Sampled: 08/10/93
Date Analyzed: 08/31/93

Analyte	Retention Time (minutes)	Concentration * (mg/L)
Unknown Organic Acid	6.30	180
Unknown Hydrocarbon	21.27	110
Hydrocarbon Envelope	10 - 33	

* - Concentration calculated using assumed Relative Response Factor = 1

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK

EPA Method 8270

SEMIVOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Method Blank
Laboratory ID: MB 597
Sample Matrix: Reagent Water

Report Date: 09/09/93
Date Extracted: 08/24/93
Date Analyzed: 08/31/93

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Acenaphthene	ND	10
Acenaphthylene	ND	10
Anthracene	ND	10
Benzo(a)anthracene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(g,h,i)perylene	ND	10
Benzo(a)pyrene	ND	10
Benzoic acid	ND	10
Benzyl alcohol	ND	10
Bis(2-chloroethoxy)methane	ND	10
Bis(2-chloroethyl)ether	ND	10
Bis(2-chloroisopropyl)ether	ND	10
Bis(2-ethylhexyl)phthalate	ND	25
4-Bromophenyl phenyl ether	ND	10
Butyl benzyl phthalate	ND	10
p - Chloroaniline	ND	10
p - Chloro - m - cresol	ND	10
2 - Chloronaphthalene	ND	10
2 - Chlorophenol	ND	10
4-Chlorophenyl phenyl ether	ND	10
Chrysene	ND	10
m - Cresol	ND	10
p - Cresol	ND	10
Di - n - butylphthalate	ND	25
Dibenz(a,h)anthracene	ND	10
o - Dichlorobenzene	ND	10
m - Dichlorobenzene	ND	10
p - Dichlorobenzene	ND	10
3,3 - Dichlorobenzidine	ND	10
2,4 - Dichlorophenol	ND	10
Diethyl phthalate	ND	10
2,4 - Dimethylphenol	ND	10
Dimethyl phthalate	ND	10
4,6 - Dinitro -2- methylphenol	ND	25

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

EPA Method 8270
SEMIVOLATILE ORGANIC COMPOUNDS (cont)

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Method Blank
Laboratory ID: MB 597

Report Date: 09/09/93
Date Analyzed: 08/31/93

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
2,4 - Dinitrophenol	ND	25
2,4 - Dinitrotoluene	ND	10
2,6 - Dinitrotoluene	ND	10
Di-n-octyl phthalate	ND	25
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorocyclopentadiene	ND	25
Hexachloroethane	ND	10
Hexachlorobutadiene	ND	10
Ideno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2 - Methylnaphthalene	ND	10
Naphthalene	ND	10
o - Nitroaniline	ND	10
m - Nitroaniline	ND	10
p - Nitroaniline	ND	10
Nitrobenzene	ND	10
o - Nitrophenol	ND	10
p - nitrophenol	ND	10
n - Nitrosodimethylamine	ND	10
n - Nitrosodiphenylamine	ND	10
n-Nitroso-di-n-propylamine	ND	10
Pentachlorophenol	ND	25
Phenanthrene	ND	10
Phenol	ND	10
Pyrene	ND	10
1,2,4 - Trichlorobenzene	ND	10
2,4,5 - Trichlorophenol	ND	10
2,4,6 - Trichlorophenol	ND	10

ND - Analyte not detected at stated limit of detection

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

EPA Method 8270

SEMIVOLATILE HYDROCARBONS

ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Method Blank
Sample Number: MB 597

Report Date: 09/09/93
Date Analyzed: 08/31/93

Tentative Identification	Retention Time (Minutes)	Concentration (ug/L)
No compounds detected at reportable levels.		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	58%	21 - 110%
Phenol - d6	66%	10 - 110%
Nitrobenzene - d5	59%	35 - 114 %
2 - Fluorobiphenyl	52%	43 - 116 %
2,4,6 - Tribromophenol	59%	10 - 123 %
Terphenyl - d14	72%	33 - 141 %

References: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics
Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - TCLP METHOD BLANK
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: TCLP Method Blank
Laboratory ID: TMB 20 SV

Report Date: 09/09/93
Date Extracted -
TCLP: 08/17/93
BNA: 08/24/93
Date Analyzed: 08/31/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o - Cresol	ND	0.020	200
m,p - Cresol	ND	0.020	200
1,4 - Dichlorobenzene	ND	0.020	7.5
2,4 - Dinitrotoluene	ND	0.020	0.13
Hexachlorobenzene	ND	0.020	0.13
Hexachloro-1,3-butadiene	ND	0.020	0.5
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Pentachlorophenol	ND	0.020	100
Pyridine	ND	0.020	5.0
2,4,5 - Trichlorophenol	ND	0.020	400
2,4,6 - Trichlorophenol	ND	0.020	2.0

ND - Analyte not detected at stated limit of detection

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
2 - Fluorophenol	54%	21 - 110%
Phenol - d6	54%	10 - 110%
Nitrobenzene - d5	44%	35 - 114%
2 - Fluorobiphenyl	36%	43 - 116%
2,4,6 - Tribromophenol	48%	10 - 123%
Terphenyl - d14	67%	33 - 141%

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS
ADDITIONAL DETECTED COMPOUNDS

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: TCLP Method Blank
Laboratory ID: TMB 20 SV

Report Date: 09/09/93
Date Sampled:
Date Analyzed:

Analyte	Retention Time (minutes)	Concentration (mg/L)
None detected at reportable levels		

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8270: Gas Chromatography / Mass Spectrometry for Semivolatile Organics Test Methods for Evaluating Solid Waste, SW - 846, Final Update I, United States Environmental Protection Agency, July 1993.

Comments: One base/neutral surrogate outside acceptance limits.

Analyst

Review

Inter-Mountain Laboratories, Inc.
3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SEMIVOLATILE ORGANIC COMPOUNDS

Client:	**SUNTERRA GAS PROCESSING CO.**		
Project Name:	Lybrook Plant	Report Date:	09/09/93
Sample ID:	Oily Soil, Yard (Spike)	Date Sampled:	08/10/93
Laboratory ID:	3369 / 0693G01993 SPK	Date Received:	08/11/93
Sample Matrix:	Soil, Rocks	Date Extracted -	
Condition:	Warm, intact	TCLP:	08/16/93
		BNA:	08/24/93
		Date Analyzed:	08/31/93

Analyte	Spiked Sample Concentration (mg/L)	Initial Sample Concentration (mg/L)	Spike Added (mg/L)	Percent Recovery
o - Cresol	0.140	ND	0.200	70%
m,p - Cresol	0.290	ND	0.400	73%
1,4 - Dichlorobenzene	0.114	ND	0.200	57%
2,4 - Dinitrotoluene	0.126	ND	0.200	63%
Hexachlorobenzene	0.134	ND	0.200	67%
Hexachloro-1,3-butadiene	0.112	ND	0.200	56%
Hexachloroethane	0.112	ND	0.200	56%
Nitrobenzene	0.131	ND	0.200	66%
Pentachlorophenol	0.145	ND	0.200	73%
Pyridine	0.082	ND	0.200	41%
2,4,5 - Trichlorophenol	0.138	ND	0.200	69%
2,4,6 - Trichlorophenol	0.150	ND	0.200	75%

Quality Control:

Surrogate	Percent Recovery	cceptance Limits
2 - Fluorophenol	59%	21 - 110%
Phenol - d6	70%	10 - 110%
Nitrobenzene - d5	63%	35 - 114%
2 - Fluorobiphenyl	59%	43 - 116%
2,4,6 - Tribromophe	70%	10 - 123%
Terphenyl - d14	75%	33 - 141%

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
CHLORINATED HERBICIDES

Client: **SUNTERRA GAS PROCESSING CO.**

Project Name: Lybrook Plant
Sample ID: Oily soil, yard
Laboratory ID: 0693G01993
Sample Matrix: Soil
Condition: Warm

Report Date: 09/13/93
Date Sampled: 08/10/93
Date Received: 08/11/93
Date Extracted -
TCLP: 09/08/93
Herbicide: 09/09/93
Date Analyzed: 09/10/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
2,4 - D	ND	0.005	10
2,4,5 - TP (Silvex)	ND	0.001	1

ND - Analyte not detected at stated limit of detection

References: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8150: Chlorinated Herbicides
Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Comments: Original TCLP extraction: 08/17/93, herbicide extraction 08/24/93.

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
CHLORINATED HERBICIDES

Client:	**SUNTERRA GAS PROCESSING CO.**		
Project Name:	Energy Services	Report Date:	09/13/93
Sample ID:	TCLP Method Blank	Date Extracted-	
Sample Number:	TMB 22 SV	TCLP:	09/08/93
Sample Matrix:	TCLP Leachate	BNA:	09/09/93
		Date Analyzed:	09/10/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
2,4-D	ND	0.0005
Silvex	ND	0.0001

ND - Analyte not detected at stated detection limit

Reference: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8150: Chlorinated Herbicides
Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
METHOD 8150 - CHLORINATED HERBICIDES

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample ID: Blank Spike
Sample Number: DI SPK 649
Sample Matrix: Reagent Water

Report Date: 09/13/93
Date Extracted: 09/09/93
Date Analyzed: 09/10/93

Analyte	Spiked Sample Conc. (mg/L)	Blank Conc. (ug/L)	Spike Added (mg/L)	Percent Recovery	Acceptance Limits
2,4 - D	0.0016	ND	0.0020	81%	NE
2,4,5 - TP (Silvex)	0.0015	ND	0.0020	75%	NE

ND - Analyte not detected
NE - Not established

Reference: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8150: Chlorinated Herbicides
Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.
Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
METHOD 8150
CHLORINATED HERBICIDES

Client: **SUNTERRA GAS PROCESSING CO.**
Project Name: Lybrook Plant
Sample Number: MB 650
Sample Matrix: Reagent Water

Report Date: 09/02/93
Date Extracted: 09/09/93
Date Analyzed: 09/10/93

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Dicamba	ND	0.1
2,4 - D	ND	0.5
2,4,5 - TP (Silvex)	ND	0.1
2,4,5 - T	ND	0.1
2,4 - DB	ND	0.1
Dalapon	ND	0.1
MCPP	ND	200
MCPA	ND	400
Dichloroprop	ND	0.1
Dinoseb	ND	0.1

ND - Analyte not detected at stated detection limit

Reference: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8150: Chlorinated Herbicides
Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
ORGANOCHLORINE PESTICIDES

Sample ID: TCLP Method Blank
Laboratory ID: TMB 22 SV
Sample Matrix: TCLP Leachate

Report Date: 09/13/93
Date Extracted -
TCLP: 09/08/93
Pesticide: 09/09/93
Date Analyzed: 09/09/93

Analyte	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
Chlordane	ND	0.001	0.03
Endrin	ND	0.0001	0.02
Heptachlor	ND	0.0001	0.008
Gamma - BHC (Lindane)	ND	0.0001	0.4
Methoxychlor	ND	0.0001	10
Toxaphene	ND	0.001	0.5

ND - Analyte not detected at stated detection limit

Reference: Toxicity Characteristic Leaching Procedure, Final Rule, Federal Register, 40 CFR 261 - 302, Part V, Environmental Protection Agency, Vol. 55, No. 126, November 1992.
Method 8080: Organochlorine Pesticides and PCBs
Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE
ORGANOCHLORINE PESTICIDES and PCBs

Client:	**SUNTERRA GAS PROCESSING CO.**		
Project Name:	Lybrook Plant	Report Date:	09/13/93
Laboratory ID:	DI SPK 647	Date Extracted:	09/09/93
Sample Matrix:	Reagent Water	Date Analyzed:	09/09/93

Analyte	Spike added (mg/L)	Sample Result (mg/L)	Spike Result (mg/L)	Percent Recovery	Acceptance Limits, %
gamma-BHC	0.0020	ND	0.0011	53%	32-127
Heptachlor	0.0020	ND	0.0011	55%	34-111
Heptachlor Epoxide	0.0020	ND	0.0012	59%	37-142
Endrin	0.0020	ND	0.0010	51%	30-147
Methoxychlor	0.0200	ND	0.0163	81%	NE

ND - Analyte not detected at established detection limit
NE - Not established

References: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8080: Organochlorine Pesticides and PCBs
Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - METHOD BLANK
ORGANOCHLORINE PESTICIDES and PCBs

Client:	SUNTERRA GAS PROCESSING CO.		
Sample ID:	Method Blank	Report Date:	09/13/93
Laboratory ID:	MB648	Date Extracted:	09/09/93
Sample Matrix:	Reagent Water	Date Analyzed:	09/09/93

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Aldrin	ND	0.05
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Chlordane	ND	0.5
4,4'-DDD	ND	0.05
4,4'-DDE	ND	0.05
4,4'-DDT	ND	0.05
Dieldrin	ND	0.05
Endosulfan I	ND	0.05
Endosulfan II	ND	0.05
Endosulfan Sulfate	ND	0.05
Endrin	ND	0.05
Endrin Aldehyde	ND	0.05
Heptachlor	ND	0.05
Heptachlor epoxide	ND	0.05
Methoxychlor	ND	0.2
Toxaphene	ND	0.5
PCB-1016	ND	0.5
PCB-1221	ND	0.5
PCB-1232	ND	0.5
PCB-1242	ND	0.5
PCB-1248	ND	0.5
PCB-1254	ND	0.5
PCB-1260	ND	0.5

ND - Analyte not detected at stated detection limit

Reference: Method 3510: Separatory Funnel Liquid-Liquid Extraction
Method 8080: Organochlorine Pesticides and PCBs
Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Final Update I, July 1993.

Analyst

Review

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

October 14, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-176-012-036

Mr. John Renner
Sunterra Gas Processing Company
P.O. Box 1869
Bloomfield, NM 87413

RE: Lybrook Gas Plant
Contaminated Soil Remediation

Dear MR. Renner,

The New Mexico Oil Conservation Division (OCD) has received copies of Mr. Denver Bearden's correspondence with Mr. Denny Foust of our Aztec offices concerning the cleanup of amine-contaminated gravel at the Lybrook Gas Plant in Rio Arriba County, New Mexico.

This facility is operating under OCD Discharge Plan GW-47, which was issued to Sunterra on August 9, 1989. As inferred in the letters from Mr. Bearden, a clean-up operation is currently underway to spread previously-removed contaminated soil at its present location since testing of the soil indicates that the contamination was below regulatory hazardous waste limits.

Based on the information received, Sunterra is in violation with the terms and conditions of discharge plan GW-47, and with OCD Rule 116 - *NOTIFICATION OF FIRE, BREAKS, LEAKS, SPILLS AND BLOWOUTS.*

Sunterra's actions have resulted in the following violations:

1. Removal and relocation of contaminated soil was done prior to receiving OCD approval. A detailed plan is required to be submitted prior to removal, outlining cleanup, transport and storage procedures. The actions Sunterra executed are not approvable by OCD.

2. Two letters received by OCD from Mr. Bearden concerning lab results and request for final disposition of the contaminated soil were not signed, were on blank stationary, not company letterhead, and the second was not dated (it refers to the first).

The following actions will be taken by Sunterra Gas Processing Company:

1. By November 1, 1993, supply the OCD Santa Fe office with a report identifying sampling procedures followed, including the exact location, time and method of sampling.

2. By November 1, 1993, supply the OCD Santa Fe office with a copy of the written authorization received to move the soil to CDK's yard.

3. By November 1, 1993, supply the OCD Santa Fe office with official signed requests, on company stationary, requesting permission to spread the contaminated gravel at its present location. If the present location of the contaminated soil is not Sunterra-owned or -operated, the landowner must make theis request.

4. By December 1, 1993, a final closure plan for the contamination cleanup, including cleanup procedures, analytical results of remaining contaminant levels, and a summary of volume and analysis of materials removed.

Please be advised that violations of the Water Quality Act can result in assessment of civil and/or criminal penalties.

I look forward to working with Sunterra in correcting this situation. If you have any questions, please contact me at (505) 827-5812.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/rlm

xc: OCD Aztec Office

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 1:50	Date Oct. 12, 1993
Originating Party		**Other Parties**
Bobby Myers		Denny Foust - OCD Aztec

Subject Sunterra Lybrook Gas Plant - amine spill in June

Discussion Sunterra reported spill, but not gravel removal to CDK's yard in Farmington (been there since June)

- Primary problem - should have notified OCD prior to removal
- would not have gone to yard w/o liner & berm

requests to OCD should be specific & detailed procedure

Conclusions or Agreements

I will draft ltr for Roger's signature summarizing deficiencies

Distribution

Signed Robert F. Myers II