

GW - 50-4

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

---

2006-1986



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

February 28, 2006

Ms. Jennifer Knowlton  
Agave Energy Company  
105 South Fourth Street  
Artesia, NM 88210

RE: Requests for Closure of Four Agave Energy Co. Facilities  
Separate Requests dated February 20, 2006

Dear Ms. Knowlton:

The New Mexico Oil Conservation Division (NMOCD) has reviewed the above requests. Closure of the following facilities and related NMOCD discharge permits is approved:

1. Agave Salt Creek Compressor Station, located in unit letter C, Section 26, Township 8 South, Range 22 East, Discharge Permit Number GW-50-6
2. Agave Ned State Compressor Station, located in unit letter H, Section 5, Township 9 South, Range 23 East, Discharge Permit Number GW-50-4
3. Agave Haystack Compressor Station, located in Section 15, Township 7 South, Range 26 East, Discharge Permit Number GW-50-2
4. Agave Isler Compressor Station, located in unit letter I, Section 15, Township 7 South, Range 26 East, Discharge Permit Number GW-50-3

NMOCD approval of closure does not relieve Agave Energy Co. of liability should its operations at these sites prove to have been harmful to public health or the environment. Nor does it relieve Agave Energy Co. of its responsibility to comply with the rules and regulations of any other governmental agency.

If you have any questions, contact Ed Martin at (505) 476-3492 or [ed.martin@state.nm.us](mailto:ed.martin@state.nm.us)

NEW MEXICO OIL CONSERVATION DIVISION

Roger C. Anderson  
Environmental Bureau Chief

Copy: NMOCD, Artesia

# AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4275

February 20, 2006

Ed Martin  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Discharge Plan GW 50-4  
Ned State Compressor Station  
Agave Energy Company**

*H-5-9S-23E*

Dear Ed:

The Ned State Compressor Station is no longer operational as of the end of 2004. The compressor engine was removed from the facility in mid-2005. There are a couple of disconnected tanks still located onsite until we have further use for them at a different facility. The site is fenced and locked. Pictures of the facility are attached.

Agave Energy would like to close the above mentioned discharge permit. If you require any additional information, please do not hesitate to call me at 505-748-4471 or email me at [jknowlton@ypcnm.com](mailto:jknowlton@ypcnm.com)

Sincerely,



Jennifer Knowlton  
Environmental Engineer

(Discharge022006.doc)



Ned State Compressor Station



**Martin, Ed, EMNRD**

**From:** Jennifer Knowlton [jknowlton@YPCNM.COM]  
**Sent:** Tuesday, January 31, 2006 11:40 AM  
**To:** Martin, Ed, EMNRD  
**Subject:** Agave Discharge Permits  
**Attachments:** Jennifer Knowlton.vcf

Ed,

I went through the files that our aid copied for me and I have a couple of questions and clarifications.

OK Red Bluff #1 (GW 50-7) expired on 4/7/05. I will be working on the renewal application in February  
OK Red Bluff #2 (GW 50-5) expired on 6/13/04. I will be working on the renewal application in February.  
Red Bluff #3 (GW 50-8) - there wasn't a copy of the actual discharge permit in the file. Granted, I didn't copy the files, the the aid copied everything else except the maps. Could this have been misfiled? Can I get a copy of the discharge permit for my files? I am assuming that it has expired, but I don't know that for sure.  
Bitter Lake (GW 50-1) expired 6/13/04. I will be working on the renewal application for February.

I will work on formal closure plans for the following facilities: Ned State (GW 50-4), Red Bluff #4, Red Bluff #5, and Red Bluff #6. I haven't found permit numbers for the last three facilities. If you can match these facilities to the permit number, it will make the paper work easier.

I also found a letter from Agave to OCD stating that the following facilities weren't operational: Haystack (GW 50-2), Isler (GW 50-3) and Salt Creek (GW 50-6). These have not been operational since before Agave purchased the facilities from Transwestern. We immediately made system wide changes that permanently shut these facilities down. Are the discharge permits still "open" and if so, do I need to formally close them as with the Ned State etc permit?

I appreciate your help with this. I will be working on the renewals for the four permits that have expired next month so that those are taken care of as quickly as possible. Then I will focus my attention on the modified permit for the Agave Dagger Draw Gas Plant.

If you could get back to me on the closures by Wednesday I would appreciate it. Weather permitting (i.e. not blowing 100 mph), Ivan and I are going to visit those sites and take the pictures that you requested for the closure. If we need to visit additional facilities to formally close the discharge permit, it would be easier to do it that day since they are in the same relative location.

Thanks, Jen

Jennifer Knowlton  
Agave Energy Company  
Environmental Engineer  
105 South Fourth Street  
Artesia, New Mexico 88210  
Office: 505-748-4471  
Fax: 505-748-4275

2/9/2006

# AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

Ed Martin  
New Mexico Environment Department  
Oil Conservation Division  
2040 Pacheco Street  
Santa Fe, NM  
87505

February 22, 2001

RECEIVED  
27

RE: Ned State Discharge Plan GW-50-4, Drain Line Pressure Test  
SE/4, NE/4, S4, T9S, R23E

Dear Ed:

On January 17<sup>th</sup>, 2001, Melvin Kier, from Agave Energy Company, supervised the pressure testing of the drain lines at the Ned State Compressor Station, per your directive.

The lines were pressurized to 10 pounds and the gauges were observed for a period of 10 minutes. During this time interval, no change in pressure was observed. Based on this test we conclude there are no leaks present in the Ned State drain lines. To verify this test see the enclosed Compressor Station Equipment Maintenance Report.

If you have any questions about this test please contact Melvin Kier at O: (505) 627-8393, C: (505) 626-3649, or Rusty Nasta at : (505) 748-4555, C: (505) 626-7971. If I can be of any help please feel free to contact me at O: (505) 748-4223, C: (505) 365-4212.

Sincerely,



David Haggith  
YPC Environmental Coordinator  
New Mexico

Encl

Dist: Rusty Nasta, Agave Energy Company  
Melvin Kier, Agave Energy Company  
File

Eng/DavidH/Agave/NedState/PressureTest2001

# Agave Energy Co.

## Compressor Station Equipment Maintenance Report

Compressor Station Name: NEO STATE  
Date of <sup>TEST</sup> Failure: JAN 17, 2001  
Type of Failure: NO FAILURE - PRESSURE TEST LINES.  
Hrs. at Time of Failure: NA.  
Down Time Hrs: 0 Scheduled:      Non-Scheduled:     

Describe Failure and Possible Causes: ON  
GREG HUELSMAN PRESSURED THE DRAIN  
LINES AT NEO STATE COMPRESSOR  
STATION UP TO 10 LBS. AND HELD  
THE PRESSURE FOR 10 MINUTES. WE HAD  
NO DROP IN PRESSURE DURING THE  
10 MINUTE TEST.

Mehmet A. Kien  
(Employee's Signature)

FEB 19, 2001  
Date

# OCD ENVIRONMENTAL BUREAU

## SITE INSPECTION SHEET

DATE: December 7, 2000 Time: 9:00 am

Type of Facility: Refinery ☐ Gas Plant ☐ Compressor St. X ☐ Brine St. ☐ Oilfield Service Co. ☐  
Surface Waste Mgt. Facility ☐ E&P Site ☐ Crude Oil Pump Station ☐  
Other ☐ \_\_\_\_\_

Discharge Plan No ☐ Yes ☐ DP# 50-04

FACILITY NAME: Ned State Compressor Station

PHYSICAL LOCATION: 3 Miles North and 8.4 miles West of Roswell. CR 13 West off US 285 to ends, rt., then 8.4 miles

Legal: QTR SE QTR NE Sec 04 TS 09S R 23E County Chaves

OWNER/OPERATOR (NAME) Agave Energy Co.

Contact Person: Paula Haggith, then David Haggith Tele: # \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Owner/Operator Rep's: Melvin Kier

OCD INSPECTORS: Ed Martin

1. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

All OK

2. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

OK

3. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

OK

4. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

OK

5. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

OK

6. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

N/A

7. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

Underground wastewater line to be pressure tested by 2/28/01.

8. Onsite/Offsite Waste Disposal and Storage Practices:  
Are all wastes properly characterized and disposed of correctly? Yes  
Does the facility have an EPA hazardous waste number? No

ARE ALL WASTE CHARACTERIZED AND DISPOSED OF PROPERLY? Yes

9. **Class V Wells:** Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

ANY CLASS V WELLS    NO ☒    IF YES DESCRIBE BELOW!    Undetermined ☐

10. **Housekeeping:** All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

Good. Facility visited at least once per month. Compressor station is only operated about 5 days per month (average 150 hours per month).

11. **Spill Reporting:** All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the proper OCD District Office.

OK

12. **Does the facility have any other potential environmental concerns/issues?**

No

13. **Does the facility have any other environmental permits - i.e. SPCC, Stormwater Plan, etc.?**

No

14. **ANY WATER WELLS ON SITE?**    NO ☒    YES ☐    IF YES, HOW IS IT BEING USED ?

**Miscellaneous Comments:**

Clean site. Curbing and containment around all tanks per regulations. Monthly inspections.

Number of Photos taken at this site:   0    
attachments- None

## Lemon Fruit Freeze

### ***Ingredients:***

Rice Chex Cereal (1 box)	Fruit Cocktail (1 can)
Eagles Brand Milk (1 can)	Cool Whip (1 large tub)
Lemon Pie Filling (1 cans)	Lemon Juice (1 small jar)

Crumble 3 cups Chex Cereal (reserve some crumbs for garnish) and mix well with melted butter. Form into crust and cook for 2 minutes. Let cool down. In large container, mix pie filling, milk, fruit cocktail (drain) and lemon juice - blend well.

Pour mixed ingredients into pie crust and layer evenly. Spread cool whip over layer and garnish with crumbs of chex cereal.



THE SANTA FE  
**NEW MEXICAN**

Founded 1849

NM OIL CONSERVATION DIVISION  
ATTN: DONNA DOMINGUEZ  
2040 S. PACHECO STREET  
SANTA FE, NM 87505

AD NUMBER: 143337      ACCOUNT: 56689  
LEGAL NO: 67243      P.O.#: 00199000278  
180 LINES      1 time(s) at \$ 79.35  
AFFIDAVITS:      5.25  
TAX:      5.29  
TOTAL:      89.89

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 #67243 a copy of which is hereto attached was published in said newspaper 1 day(s) between 04/19/2000 and 04/19/2000 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 19 day of April, 2000 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/

Betty Perner  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this  
18 day of April A.D., 2000

Notary

Candace R. Duntor

Commission Expires

11/16/2003

**NOTICE OF PUBLICATION**

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico

87505, Telephone (505) 827-7131:

**GW-50 Agave Energy Company, Paula Haggith, Engineer has submitted a discharge plan renewal application for their Ned State (GW 50-04) natural gas compressor station located in the SE/4 NE/4 of Section 4, Township 9 South, Range 32 East, NMPM, Chaves County, New Mexico. A total estimated volume of 5 to 50 barrels per day of produced water, lube oil, spent glycol and arsenic removal solids is discharged to above ground drums/tanks prior to off site disposal at an OCD approved disposal facility. Groundwater most likely to be affected by an accidental spill is at a depth greater than 160 feet with a total dissolved solids concentration ranging from 2400 to 8200 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 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 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 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 twelfth (12th) day of April, 2000.

STATE OF NEW MEXICO  
OIL CONSERVATION  
DIVISION  
LORI WROTENBERY,  
Director

Legal #67243  
Pub. April 19, 2000

THE SANTA FE  
**NEW MEXICAN**  
Founded 1849

NM OIL CONSERVATION DIVISION  
ATTN: DONNA DOMINGUEZ

AD NUMBER: 144388 ACCOUNT: 56689  
LEGAL NO: 67276 P.O.#: 00199000278  
180 LINES 1 time(s) at \$ 79.35  
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STATE OF NEW MEXICO  
OIL CONSERVATION  
DIVISION  
LORI WROTENBERY,  
Director

Legal #67276  
Pub. April 25, 2000

**AFFIDAVIT OF PUBLICATION**

STATE OF NEW MEXICO  
COUNTY OF SANTA FE

I, B. Reiner 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 #67276 a copy of which is hereto attached was published in said newspaper 1 day(s) between 04/25/2000 and 04/25/2000 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 25 day of April, 2000 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/s/

Betty Reiner  
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this  
25 day of April A.D., 2000

Notary

Candace K. Dunton

Commission Expires

11/16/2003

OK to  
pay  
Ed Martin



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this twelfth (12<sup>th</sup>) day of April, 2000.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY, Director

SEAL

Z 559 572 833

US Postal Service

**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail. (See reverse)

Sent to <b>Roswell Daily Record</b>	
P.O. Box 1897	
Street & Number	
<b>Roswell, NM 88202-1897</b>	
Post Office, State, & ZIP Code	
Postage	\$ .55
Certified Fee	1.40
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.25
Return Receipt Showing to Whom, Date, & Addressee's Address	
<b>TOTAL Postage &amp; Fees</b>	<b>\$ 3.20</b>
Postmark or Date	

PS Form 3800, April 1995

64-50 ACAPV

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. 12872 dated 4-4-00,  
or cash received on 4-10-00 in the amount of \$ 50.00  
from AGAVE ENERGY CO.  
for DISCHARGE PLAN RENEWAL FEE GW-50-04  
Submitted by: Ed Martin Date: 4-11-00  
Submitted to ASD by: ED MARTIN Date: 4-11-00  
Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_  
Filing Fee ☒ New Facility \_\_\_\_\_ Renewal \_\_\_\_\_  
Modification \_\_\_\_\_ Other \_\_\_\_\_  
Organization Code 521.07 Applicable FY 2000

To be deposited in the Water Quality Management Fund.

Full Payment ☒ or Annual Increment \_\_\_\_\_

NationsBank

32-1  
1110

AGAVE ENERGY COMPANY

12872

105 South Fourth Street  
Artesia, New Mexico 88210  
505-748-4555

DATE 4/04/2000 VENDOR NO. 666850

\*\*\*\*\*50DOLLARS\*\*00CENTS

PAY TO THE ORDER OF:

OIL CONSERVATION DIVISION  
2040 SOUTH PACHECO  
SANTA FE NM 87505

AMOUNT

\*\*\*\*\*50.00

*David R. Martin*  
*Dennis P. Maupin*

⑈0000012872⑈ ⑆111000012⑆ 375 004 9907⑈

# AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

March 31, 2000

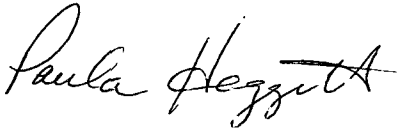
Wayne Price  
Oil Conservation Division  
2040 S. Pacheco St.  
Santa Fe, NM 87505

Re: Renewal of Compressor Discharge Plan for GW-50-4

Dear Mr. Price:

Enclosed is the application for renewal for the referenced discharge plan and a check for \$50.00. Please let me know if you need additional information.

Sincerely,



Paula Haggith  
Engineer



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

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

Revised 12/1/95

Submit Original  
Plus 1 Copies  
to Santa Fe  
1 Copy to appropriate  
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,  
GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS**  
(Refer to the OCD Guidelines for assistance in completing the application)

☐ New

☒ Renewal

☐ Modification

1. Type: Natural Gas Compressor Station - Ned Station
2. Operator: Agave Energy Company  
Address: 105 S. 4th St., Artesia N.M. 88210  
Contact Person: Paula Haggith Phone: 505-748-4526
3. Location: SE /4 NE /4 Section 4 Township 95 Range 23E  
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14. CERTIFICATION

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

NAME: Paula Haggith Title: Engineer

Signature: Paula Haggith Date: 3/31/00

## DISCHARGE PLAN RENEWAL GW-50-4

Agave Energy Company

### Ned State Compressor Station:

1. Type:  
Natural Gas Compressor Station
2. Operator: Agave Energy Company  
Address: 105 S. 4<sup>th</sup>  
Artesia, NM 88210  
Contact: Paul Ragsdale Phone: 505 748 4520
3. Location: SE/4 NE/4 Sec. 4-T9S-R23E
4. Landowner: State of New Mexico
5. Description of Facility:  
Ned State is a natural gas boost compressor station, which compresses gas and also treats gas for the removal small amounts of contaminants from gas and multiple meters.
6. Description of Material Stored or Used at the Facility:  
Engine oil, antifreeze, multiple types of new filters, gas treating catalyst consisting of copper and zinc oxide on an alumina core. There are also produced pipeline liquids, oily wastewater, used lube oil and used antifreeze. Used lube oil and wastewater are pumped into tanks for disposal. All water and condensates extracted during compression are contained in the pipeline liquids tanks.
7. Description of present effluent and waste solids including average quality and daily volumes.
  - a. Inlet Separator: 5 barrels per month of produced water and condensate, RCRA Exempt
  - b. Engine Cooling Water: 5 gallons per year, RCRA Exempt
  - c. Waste Engine Oil: 50 gallons per year, RCRA non-Exempt
  - d. Engine filters: 5 per year, RCRA non-Exempt
  - e. Spent Catalyst: 2000 lb per 10+ years, RCRA Exempt
8. Describe current liquid and solid waste collection/ treatment/disposal procedure.

All liquid waste goes to above ground storage tanks and is removed by certified waste haulers and either disposed in Class II disposal or recycled. Filter media, trash and filter elements go to *Waste Management* for proper disposal.

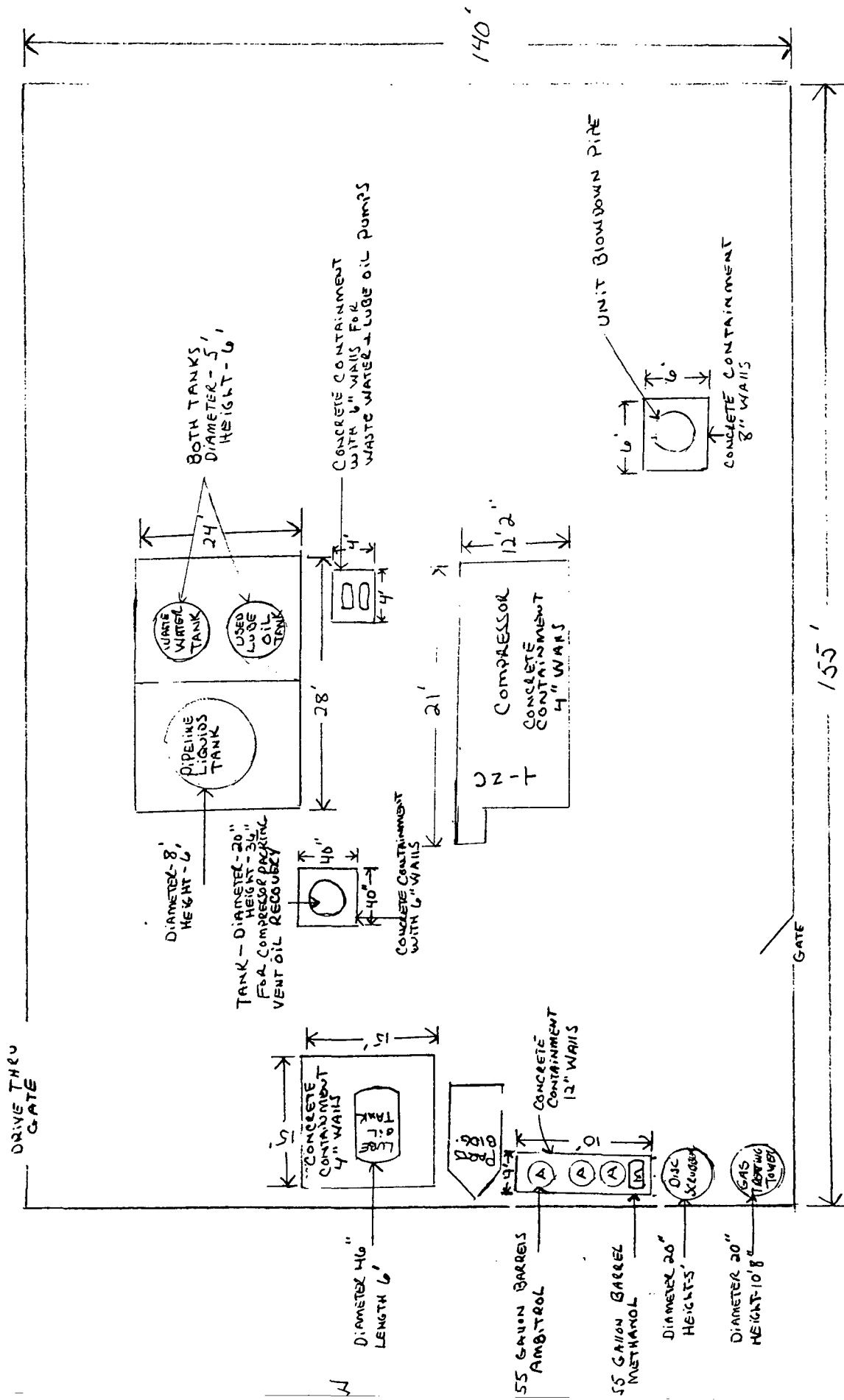
The spent catalyst is a RCRA exempt material. It is containerized in drums until it is transported, in accordance with DOT regulations, to an appropriately permitted recycling facility. Care is taken in the maintenance of equipment to extend the life of the catalyst and minimize waste.

9. No proposed modifications are planned at this time to the current waste collection/treatment/disposal procedures.
10. Routine inspection and maintenance plan to ensure permit compliance:  
This is a station that has an operator/mechanic assigned to it and is visited on a daily basis when the compressor unit is running. The operator visually inspects the facilities as a matter of routine maintenance. Semi-annual leak tests are performed on the tanks.
11. Attached is a contingency plan for reporting and clean up of spills or releases. See attachment #2 for Contingency Plan.
12. Geological/Hydrologic Information:
13. Facility Closure Plan:  
There are no plans at this time to close this facility.

## Attachment #2

### Plan for Reporting and Clean-Up of Spills or Releases

1. SOP for spill is to immediately call a vacuum truck.
2. Notify OCD pursuant to OCD Rule 116 and any other federal, state or local agency to be notified.
3. Contain spill as necessary.
4. Apply absorbents and/ or bio remediation material.
5. Send follow-up reports to the agencies as needed.





Date: 02/26/87

CITGO PETROLEUM CORPORATION  
P. O. Box 3758  
Tulsa, Oklahoma 74102

**MATERIAL SAFETY DATA SHEET**

Trade Name: CITGO Pacemaker Gas Engine Oil 1000

Commodity Code: 32-032

Synonyms: Lubricating Oil

CAS Reg. No.: Mixture  
(Refer to Section I)

Citgo Index No. (CIN): 0208

Technical Contact: (918) 561-5165

Medical Emergency: (318) 491-6215

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**MATERIAL HAZARD EVALUATION**  
(Per OSHA's Hazard Communication  
Standard [29 CFR Part 1910.1200])  
"OHCS"

Health: Non-Hazardous. (OHCS).

Precautionary Statement: Avoid prolonged skin contact with used motor oils.

---

**I. GENERIC COMPOSITION/COMPONENTS**

<u>Components</u>	<u>CAS #</u>	<u>%</u>	<u>Hazard Data</u>
Refined Petroleum Oil(s)	64742-65-0 64741-88-4	90-98	Oral: LD50(rat): >5g/kg
Dispersant, anti-wear, anti-oxidant	Mixture	6-10	Minor eye and skin irritant

---

ND = No Data  
NA = Not Applicable

LAS/32-032

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II. PHYSICAL DATA

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

No Combustible  
No Compressed Gas  
No Explosive  
No Flammable  
No Organic Peroxide

No Oxidizer  
No Pyrophoric  
No Reactivity  
Yes Stable  
No Unstable

Boiling Point, 760 mmHg,  
°C(°F): -415(-780)

Melting Point, °C(°F): NA

Vapor Pressure, mmHg (25°C):  $<5 \times 10^{-5}$ 

Specific Gravity  
(H<sub>2</sub>O=1): 0.88

Solubility in H<sub>2</sub>O, % By Wt.: Negligible

Vapor Density (Air=1): &gt;1

Evaporation Rate  
(Butyl Acetate=1): <1

% Volatiles By Vol.: Negligible

pH of Undiluted Product: ND

Appearance and Odor: Amber liquid, mild odor.

III. FIRE AND EXPLOSION DATA

Flash Point, COC, °C(°F): 260(500)

NFPA\*

Flash Point, PM, °C(°F): 230(446)

Health: 1

Fire Point, COC, °C(°F): 288(550)

Flammability: 1Reactivity: 0

Flammable Limits in Air, % Vol.:

Lower: NA Upper: NA

Extinguishing Media: CO<sub>2</sub>, dry chemical, foam or water fog.

Special Fire Fighting Procedure: None.

Unusual Fire or Explosion Hazard: Water may cause frothing.

\*Citgo assignment based on our evaluation per NFPA guidelines.  
Hazard Rating least-0; slight-1; moderate-2; high-3; extreme-4.

ND = No Data  
NA = Not Applicable

LAS/32-032





IV. REACTIVITY DATA

Stability: Yes Stable No Unstable

Conditions Contributing to Instability: None.

Incompatibility: Strong oxidants.

Hazardous Decomposition Products (thermal, unless otherwise specified):  
CO, CO<sub>2</sub>.

Conditions Contributing to Hazardous Polymerization: None.

---

V. SPILL OR LEAK PROCEDURES

Procedures if Material is spilled:

Remove sources of heat or ignition, provide adequate ventilation, contain leak. Absorb small spills with suitable material such as rags, straw or sand. Report spills as required to appropriate authorities.

Chemtrec Emergency Number: 800-424-9300.

Waste Disposal:

It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.

Check before disposing to be sure you are in compliance with all applicable laws and regulations.

Protective measures during repair and maintenance of contaminated equipment:

Refer to Section VII - Special Protection Information.

Avoid prolonged contact with used oil, wash skin thoroughly with soap and water.

---

ND = No Data

NA = Not Applicable

LAS/32-032

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VI. HEALTH HAZARD DATA

Health Hazard Classification (Per 29 CFR Part 1910.1200)

<u>No</u>	Carcinogen	<u>No</u>	Corrosive
<u>No</u>	Animal Carcinogen	<u>No</u>	Irritant
<u>No</u>	Suspect Carcinogen	<u>No</u>	Sensitizer
<u>No</u>	Mutagen	<u>No</u>	Teratogen
<u>No</u>	Highly Toxic	<u>No</u>	Target Organ
<u>No</u>	Toxic		

Product listed as carcinogen or potential carcinogen by:

NTP No, IARC No, OSHA No, OTHER No.

Toxicity Summary: Slightly toxic, 1 pt. to 1 qt. is approximate lethal oral dose for 150 lb. human adult.

Major Route(s) of Entry: Inhalation of fumes.

Acute Exposure Symptoms:

Inhalation: Low risk of inhalation. In enclosed spaces or when hot, vapors may reach concentrations sufficient to cause drowsiness, dizziness, headache, nausea, or lung irritation. Mists above TLV may cause chemical pneumonitis.

Dermal Contact: Mild irritant.

Eye Contact: Mild irritant.

Ingestion: Generally low toxicity. Very large amounts may cause generalized depression, headache, drowsiness, nausea, vomiting, diarrhea. Small doses may produce irritation and diarrhea.

Injection: Irritation, erythema, edema.

Chronic Exposure: Prolonged and/or frequent contact may cause drying, cracking (dermatitis) or folliculitis. Repeated, excessive exposure to mists or fumes may induce pulmonary irritation or chronic bronchitis.

Other Special

Effects: None expected.

First Aid and Emergency Procedures for Acute Effect

Inhalation: Remove to fresh air. Respiratory support if necessary. Seek medical aid.

Dermal: Wash with soap and water. Do not wear heavily contaminated clothing before laundering.

Eyes: Flush with large volumes of water. See physician if any complications arise.

Ingestion: Do not induce vomiting. Seek medical aid.

Injection: Subcutaneous injection is a medical emergency . . seek medical aid immediately.

Notes to Physician: On ingestion, an oil Saybolt viscosity of -600 SUS (100°F) presents no significant aspiration hazard into the lungs. Although, for large quantities, lavage may still be recommended.



## VII. SPECIAL PROTECTION INFORMATION

Ventilation Requirements: Ventilation is required when work place exposures exceed TLV.

Permitted Threshold	Agency:	OSHA	OSHA	ACGIH	ACGIH
Air Concentrations:	Year:	1972	1985	1985-86	1985-86
	Type:	TWA	PEL	TWA	STEL
Mineral Oil Mist	ppm:	--	--	--	--
	mg/m <sup>3</sup> :	5	5	5	10

### Specific Personal Protective Equipment:

Respiratory: Normally none required. If high vapor or mist concentrations expected - use respirator approved for organic vapors and mists.

Eyes: Safety goggles, or chemical splash goggles if splashing is anticipated.

Dermal: Oil impervious gloves if frequent or prolonged contact is expected.

Other Clothing or Equipment: Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder soiled work clothes before reuse.

## VIII. TRANSPORTATION AND SPECIAL PRECAUTIONS

### Hazardous Material Placard/Label:

Caution: Avoid prolonged skin contact with used motor oils. Continuous contact with used oil has caused skin cancer in laboratory animals. After draining oil, wash skin thoroughly with soap and water.

Storage: Store below 120°F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

### DOT Information:

DOT/UN Shipping Name:	Petroleum Lubricating Oil.
DOT Hazard Class:	Non-Hazardous.
DOT/UN Hazard Identification Number:	None assigned.
DOT Shipping Container Restrictions:	None.
DOT Placard:	None.

Caution: Empty containers may contain product residue which could include flammable or explosive vapors.

Consult appropriate Federal, State and Local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

All statements, information, and data provided in this material safety data sheet are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied, on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. Nothing contained herein is intended as permission, inducement or recommendation to violate any laws or to practice any invention covered by existing patents.

ND = No Data

NA = Not Applicable

LAS/32-032

(S) SUBSIDIARY OF THE SOUTHLAND CORPORATION

## M A T E R I A L   S A F E T Y   D A T A   S H E E T

Dow Chemical U.S.A.\*   Midland, MI 48674   Emergency Phone: 517-636-4400

Product Code: 07670

Page: 1

PRODUCT NAME: AMBITROL (R) INHIBITOR COOLANT

Effective Date: 10/06/88   Date Printed: 12/16/88

MSDS:000553

## 1. INGREDIENTS: (% w/w, unless otherwise noted)

Ethylene glycol	CAS# 000107-21-1	7.2%
Water	CAS# 007732-18-5	36.0%
Dipotassium phosphate	CAS# 007758-11-4	55.0%

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: 227F, 108C  
VAP PRESS: Not applicable  
VAP DENSITY: Not applicable.  
SOL. IN WATER: Infinite.  
SP. GRAVITY: 1.54 @ 60/60F, 15/15C  
APPEARANCE: Clear liquid.  
ODOR: Not distinguishable.

## 3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None. Boils at 227F with no flash.  
METHOD USED: TCC

FLAMMABLE LIMITS  
LFL: Not applicable.  
UFL: Not applicable.

EXTINGUISHING MEDIA: Water fog, foam, CO2, dry chemical.

FIRE & EXPLOSION HAZARDS: None known.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained

(Continued on Page 2)

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# M A T E R I A L   S A F E T Y   D A T A   S H E E T

Dow Chemical U.S.A.\*    Midland, MI 48674    Emergency Phone: 517-636-4400

Product Code: 07670

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PRODUCT NAME: AMBITROL (R) INHIBITOR COOLANT

Effective Date: 10/06/88    Date Printed: 12/16/88

MSDS:000553

## 3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

breathing apparatus if product is involved in fire.

## 4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID)    Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)    Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS:    After water has volatilized, burning will produce carbon dioxide, carbon monoxide, and water.

HAZARDOUS POLYMERIZATION:    Will not occur.

## 5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS:    Avoid entry into sewers and natural waterways. Small spills: Soak up with absorbent material, scoop into drums for disposal. Large spills: Dike and pump into containers for disposal or for reprocessing.

DISPOSAL METHOD:    Incinerate in an approved incinerator. Follow all local, federal, and state requirements for disposal.

## 6. HEALTH HAZARD DATA:

EYE:    May cause slight transient (temporary) eye irritation.

SKIN CONTACT:    Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is abraded (scratched or cut).

SKIN ABSORPTION:    A single prolonged exposure is not likely to

(Continued on Page 3)

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# MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A.\* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 07670

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PRODUCT NAME: AMBITROL (R) INHIBITOR COOLANT

Effective Date: 10/06/88 Date Printed: 12/16/88

MSDS:000553

## 6. HEALTH HAZARD DATA: (CONTINUED)

result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined. Repeated skin exposure to large quantities may result in absorption of harmful amounts.

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is >3980 mg/kg. Amounts ingested incidental industrial handling are not likely to cause injury; however, ingestion of larger amounts could cause serious injury, even death. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure.

INHALATION: At room temperature, vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, concentrations may be attained that are sufficient to cause irritation and other effects.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include formation of bladder stones after repeated oral doses of diethylene glycol. Observations in animals include deposition of calcium salts in various tissues after long-term dietary intake of ethylene glycol. Ethylene glycol did not cause cancer in long-term animal studies. Based on data from long-term animal studies, diethylene glycol is not believed to pose a carcinogenic risk to man. Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation (tested nose-only in animals to prevent ingestion) or skin contact, the primary routes of occupational exposure, had minimal or essentially no effect on the fetus. Birth defects are unlikely from exposure to diethylene glycol. Exposures having no adverse effects on the mother should have no effect on the fetus. Diethylene glycol has not interfered with reproduction in animal studies. In studies on rats, ethylene glycol has been shown not to interfere with reproduction. In studies on mice, ingestion of

(Continued on Page 4)

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Dow Chemical U.S.A.\*    Midland, MI 48674    Emergency Phone: 517-636-4400

Product Code: 07670

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PRODUCT NAME: AMBITROL (R) INHIBITOR COOLANT

Effective Date: 10/06/88    Date Printed: 12/16/88

MSDS:000553

## 6. HEALTH HAZARD DATA: (CONTINUED)

ethylene glycol in large amounts caused a small decrease in the number of litters per pair, live pups per litter, and in live pup weight. Results of in vitro (test tube) mutagenicity tests have been negative (ethylene glycol). Results of mutagenicity tests in animals have been negative (ethylene glycol).

## 7. FIRST AID:

EYES: Irrigate immediately with water for at least five minutes.

SKIN: Wash off in flowing water or shower.

INGESTION: Induce vomiting if large amounts are ingested.  
Consult medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: In treatment of intoxication with ethylene glycol, hemodialysis and intravenous fluids to control acidosis should be considered. N. Eng. J. Med., 304:21 1981. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. If burn is present, treat as any thermal burn, after decontamination.

## 8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): ACGIH TLV is 50 ppm (125 mg/m<sup>3</sup>) ceiling for ethylene glycol vapor.

VENTILATION: Good general ventilation should be sufficient for most conditions.

RESPIRATORY PROTECTION: No respiratory protection should be needed.

(Continued on Page 5)

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# M A T E R I A L   S A F E T Y   D A T A   S H E E T

Dow Chemical U.S.A.\*    Midland, MI 48674    Emergency Phone: 517-636-4400

Product Code: 07670

Page: 5

PRODUCT NAME: AMBITROL (R) INHIBITOR COOLANT

Effective Date: 10/06/88    Date Printed: 12/16/88

MSDS:000553

## 8. HANDLING PRECAUTIONS: (CONTINUED)

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. Use impervious gloves when prolonged or frequently repeated contact could occur. If hands are cut or scratched, use impervious gloves even for brief exposures.

EYE PROTECTION: Use safety glasses. Where contact with material is likely, chemical goggles are recommended because eye contact may cause discomfort even though it is unlikely to cause injury.

## 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

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: No special precautions other than the practice of reasonable care and caution.

MSDS STATUS: Revised Sections 1, and 6-8.

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.

\* An Operating Unit of The Dow Chemical Company

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**United Catalysts Inc.**  
Girdler and CCI Catalysts

Post Office Box 32370  
Louisville, Kentucky 40232

Telephone 502-634-7200  
Telex 204190, 204239  
Facsimile 502-637-3732

MATERIAL SAFETY DATA SHEET  
G-132B

SECTION I PRODUCT IDENTIFICATION

Trade Name and Synonyms G-132B

Chemical Family

Formula

Heterogeneous Catalyst

$\text{CuO} + \text{ZnO} + \text{Al}_2\text{O}_3 + \text{C}$

SECTION II HAZARDOUS INGREDIENTS

Hazardous Components in the Solid Mixture

COMPONENT	CAS No.	%	OSHA/PEL	ACGIH/TLV
Zinc oxide	1314-13-2	40-50	2.0 mg/m <sup>3</sup>	10.0 mg/m <sup>3</sup>
Copper oxide	1317-38-0	35-45	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>
Aluminum oxide	1344-28-1	8-15	15.0 mg/m <sup>3</sup>	10.0 mg/m <sup>3</sup>
Carbon (Syn. graphite)	7782-42-5	1-5	*NIA	10.0 mg/m <sup>3</sup>

SECTION III PHYSICAL DATA

Appearance and Odor: Dark brown cylindrical tablets. No odor.

Melting Point: Greater than 1600°C, greater than 3000°F.

Solubility in Water: Insoluble.

Bulk Density: 80 lbs./cu. ft.

Percent Volatile by Weight at 1000°F: Less than 7%.



MATERIAL SAFETY DATA SHEET  
G-132B

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SECTION IV FIRE EXPLOSION DATA

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**Fire and Explosion Hazard**

Negligible fire and explosion hazard when exposed to heat or flame by reaction with incompatible substances.

**Flash Point**

Non-flammable

**Firefighting Media**

Dry chemical, water spray, or foam.

For larger fires, use water spray fog or foam.

**Firefighting**

Non-flammable 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 any discoloration of the tank due to fire.

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SECTION V HEALTH HAZARD DATA

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Health hazards may arise from inhalation, ingestion, or contact with the skin and eyes.

Excessive repeated inhalation of carbon may cause irritation to the upper respiratory tract and lung damage. Activated carbon may cause irritation of the eyes and mucous membranes, conjunctivitis, epithelial hyperplasia of the cornea, and eczematous inflammation of the eyes. Ingestion of large quantities may cause stomach and alimentary tract irritation. In the form of dust, activated carbon may contain small amounts of irritating and possibly toxic impurities.

Alumina particles deposited in the eye may cause necrosis of the cornea. Ingestion may cause stomach and intestinal distress. Salts of alumina may cause dermatoses, eczema, conjunctivitis, and irritation of the mucous membranes of the upper respiratory tract. Prolonged inhalation of alumina dust may result in pneumoconiosis. Lung damage (Shaver's Disease) may result from inhalation of finely divided aluminum oxide particles; it is complicated by silica and oxides of iron in the inhaled air.



MATERIAL SAFETY DATA SHEET  
G-132B

Excessive inhalation of copper dusts may produce irritation to the upper respiratory tract and may cause temporary or permanent damage to the lungs. Sublimed copper oxide may be responsible for a form of metal fume fever. Ingestion of large quantities may result in damage to the liver, pancreas, kidney, or nervous system. Prolonged or repeated contact with the skin may result in irritation and possible dermatitis in sensitive individuals. Contact with eye tissue may result in irritation and/or conjunctivitis.

Inhalation of zinc dust, mists, or fumes may irritate the respiratory tract, mucous membranes and skin. At higher levels of exposure "zinc chills" or "zinc fume fever" may occur with symptoms of metallic or sweet taste, marked thirst, coughing, weakness, fatigue, muscular pain, nausea and vomiting, followed by fever, perspiration and chills, dyspnea, rales throughout the chest, and tachycardia. Onset of symptoms usually occur about 4-12 hours after exposure. Workers in zinc refining have been reported to suffer from a variety of nonspecific intestinal, respiratory, and nervous symptoms. Excessive contact may cause perforation of the nasal septum. Prolonged or repeated contact under poor hygienic conditions may produce a papular, pustular eczema or dermatitis called "oxide pox." Contact with the eye tissue may produce irritation and/or conjunctivitis.

**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 eyes immediately and carefully for 15 to 20 minutes with running water, lifting upper and lower eyelids occasionally. Get prompt medical attention.

**First Aid (Skin)**

To avoid repeated or prolonged contact with this chemical, use good hygienic practices. Wash with soap and a large amount of water. Get medical attention if irritation or inflammation develops.



MATERIAL SAFETY DATA SHEET  
G-132B

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SECTION VI REACTIVITY DATA

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**Reactivity**

Is stable under normal temperatures and pressures in sealed containers. Hazardous polymerization will not occur. Finely divided particles can result in fire or explosion. Toxic fumes are produced at elevated temperatures. When heated, can react explosively with magnesium or chlorinated rubber.

---

SECTION VII SPILL OR LEAK PROCEDURES

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Notify safety personnel of spills or leaks. Clean-up personnel need protection against inhalation of dusts or fumes. Eye protection is required. Vacuuming and/or wet methods of cleanup are preferred. Place in appropriate containers for disposal, keeping airborne particulates at a minimum.

**Disposal**

Consult applicable local, state, and federal regulations to select the method of disposal. Recover metal components by reprocessing when possible.

---

SECTION VIII SPECIAL PROTECTION INFORMATION

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**Respiratory Protection**

Provide a NIOSH/MSHA jointly approved respirator in the absence of proper environmental control. Contact your safety equipment supplier for proper mask type.

**Ventilation**

Provide general and/or local exhaust ventilation to keep exposures below the TLV. Ventilation used must be designed to prevent spots of dust accumulation or recycling of dusts.

**Protective Clothing**

Wear protective clothing, including long sleeves and 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.



**United Catalysts Inc.**  
Girdler and CCI Catalysts

MATERIAL SAFETY DATA SHEET  
G-132B

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SECTION IX

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This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Please refer to 40 CFR Part 372, Subpart D (372.62 - Specific Toxic Chemical Listings) and Section II - Hazardous Ingredients of this document for the names and percentages of the toxic chemical(s) in this product.

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.

\* No Information Available

Doc. 151



METHANOL

MSDS No.  
HCR00142  
Rev. Date  
02/03/89

## XII.

## Label Information

Manufacturer:	LYONDELL PETROCHEMICAL COMPANY 1221 MCKINNEY AVENUE, SUITE 1600 P.O. BOX 3646 HOUSTON, TEXAS 77253-3646	Telephone Numbers EMERGENCY 800/424-9300 CHEMTREC 800/245-4532 HOT LINE CUSTOMER SERVICE 713/652-7200 INFO ONLY
Use Statement	FOR INDUSTRIAL USE ONLY KEEP OUT OF REACH OF CHILDREN	
Signal Word	DANGER	
Physical Hazards:	EXTREMELY FLAMMABLE CORROSIVE TO SOME METALS	
Health Hazards:	HIGH INGESTION HAZARD HIGH SKIN CONTACT HAZARD INHALATION HAZARD SEVERE EYE IRRITANT MAY DAMAGE THE OPTIC NERVE SKIN IRRITANT - DEFATTING ACTION MAY CAUSE LONG-TERM ADVERSE HEALTH EFFECTS MUCOUS MEMBRANE IRRITANT MAY CAUSE KIDNEY DAMAGE PROLONGED EXPOSURE MAY DAMAGE THE LUNGS & LIVER	
Precautionary Measures:	DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME. SPILL/LEAK CAN CAUSE FIRE/EXPLOSION. KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT CONTACT WITH OXIDIZABLE MATERIALS. USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED BREATHING OF VAPOR. WASH THOROUGHLY AFTER HANDLING. PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS. DO NOT TASTE/SWALLOW.	
DOT Information:	UN/NA ID Number- UN 1230 Hazard Class- FLAMMABLE LIQUID Proper Shipping- METHYL ALCOHOL	
Instructions:	ALCOHOL TYPE FOAM HALON In case of fire, use- DRY CHEMICAL FOAM CO2 WATERSPRAY	
First Aid -Inhalation	IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. KEEP INDIVIDUAL QUIET. FOR RESPIRATORY DISTRESS, GIVE AIR OR OXYGEN AND/OR ADMINISTER CARDIOPULMONARY RESUSCITATION (CPR). OBTAIN EMERGENCY MEDICAL ATTENTION.	
-Eye Contact	IMMEDIATELY FLUSH EYES WITH PLENTY OF CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.	
-Skin Contact	IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH AFFECTED SKIN THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE; WASH OR DISCARD CONTAMINATED LEATHER SHOES/GLOVES.	
-Ingestion	SEE "EMERGENCY MEDICAL TREATMENT PROCEDURES" AND THE MSDS SUPPLEMENT PAGE.	
In case of spill,	CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. EVACUATE ALL NON-ESSENTIAL PERSONNEL. IN URBAN AREAS, CLEAN UP ASAP. IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. USE PROPER PROTECTIVE EQUIPMENT. BLANKET WITH FOAM OR USE WATER FOG TO DISPERSE VAPORS. PADS OR ABSORBANT MATERIALS CAN BE USED. THIS MATERIAL WILL FLOAT ON WATER AND RUN-OFF MAY CREATE AN EXPLOSION OR FIRE HAZARD. AVOID ENTRY INTO WATER BODIES. COMPLY WITH ALL LAWS. SPILLS MAY NEED TO BE REPORTED TO THE NATIONAL RESPONSE CENTER (800/424-8802). THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO HUMAN AND OTHER LIFE.	
Protective Equipment	DO NOT USE AIR-PURIFYING RESPIRATOR. ONLY NIOSH/MSHA APPROVED SUPPLIED AIR OR SELF-CONTAINED BREATHING APPARATUS OPERATED IN POSITIVE PRESSURE MODE.	
-Respiratory	EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING.	
-Eye	WHEN SKIN CONTACT IS POSSIBLE. PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN.	
-Skin		

## XIII.

## Supplement

INGESTION HAZARD AND MEDICAL TREATMENT:

INGESTION OF THIS PRODUCT, EVEN IN SMALL AMOUNTS, CAN CAUSE BLINDNESS AND DEATH. ONSET OF SYMPTOMS MAY BE DELAYED FOR 18-24 HOURS. TREATMENT PRIOR TO ONSET OF OBVIOUS SYMPTOMS MAY BE LIFE-SAVING. METHANOL IS RAPIDLY ABSORBED AND EMESIS SHOULD BE INITIATED EARLY TO BE EFFECTIVE, WITHIN 30 MINUTES OF INGESTION, IF POSSIBLE. ADMINISTER SYRUP OF IPECAC. AFTER THE DOSE IS GIVEN, ENCOURAGE PATIENT TO TAKE 6-8 OUNCES OF CLEAR NON-CARBONATED FLUID. DOSE MAY BE REPEATED ONCE IF EMESIS DOES NOT OCCUR WITHIN 20-30 MINUTES. ADMINISTRATION OF AN AQUEOUS SLURRY OF ACTIVATED CHARCOAL WITH MAGNESIUM CITRATE OR SORBITOL AS A CATHARTIC HAS BEEN REPORTED HELPFUL.

ETHANOL INHIBITS THE FORMATION OF TOXIC METABOLITES. IF ETHANOL THERAPY IS INDICATED, ADMINISTER A LOADING DOSE OF 7.6-10 ML/KG OF BODY WEIGHT OF 10% ETOH IN D5W OVER 30-60 MINUTES. MAINTENANCE DOSE IS 1.4 ML/KG/HR OF 10% ETOH, TO ACHIEVE A 100-130 MG/DL BLOOD ETOH LEVEL DURING ETHANOL THERAPY. (IF CHARCOAL IS ADMINISTERED, ETHANOL SHOULD BE ADMINISTERED INTRAVENOUSLY AND NOT ORALLY.)

MAINTAIN CONTACT WITH POISON CONTROL CENTER DURING ALL ASPECTS OF DIAGNOSIS AND TREATMENT.

REGULATORY STATUS INFORMATION:

TOXIC SUBSTANCE CONTROL ACT (TSCA) - (40 CFR 700-799)  
METHANOL IS LISTED ON THE TSCA INVENTORY.

CLEAN AIR ACT SECTION 111 - (40 CFR 80.489)  
THE EPA CLASSIFIES METHANOL AS A "VOLATILE ORGANIC CHEMICAL".

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) - (40 CFR 302)  
RELEASED OR SPILLED QUANTITIES OF 5000 POUNDS OR MORE OF METHANOL (METHYL ALCOHOL) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800/424-8802).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) - (40 CFR 280-280)  
THE EPA CLASSIFIES METHANOL AS AN "IGNITABLE WASTE". THE HAZARDOUS WASTE NUMBER FOR METHANOL IS U154.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1988 (SARA), TITLE III - (40 CFR 355 AND 370)  
UNDER THE PROVISIONS OF SECTION 311/312, METHANOL IS CLASSIFIED INTO THE FOLLOWING HAZARD CATEGORIES: IMMEDIATE HEALTH, DELAYED HEALTH, AND FIRE.  
THE EPA CLASSIFIES METHANOL AS A "TOXIC CHEMICAL" THAT IS REPORTABLE UNDER SECTION 313.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1988--PROPOSITION 85  
METHANOL IS NOT REGULATED BY THE STATE OF CALIFORNIA HEALTH AND WELFARE AGENCY.



X. Physical and Chemical Data			
Boiling Point (At 760.0 mm Hg) AP 147° F	Viscosity Units, Temp. (Method) AP 1 CPS AT 30° C (D-445)		Dry Point N/AP
Freezing Point AP -144° F	Vapor Pressure (MM HG AT 68° F) AP 96		Volatile Characteristics APPRECIABLE
Specific Gravity (H <sub>2</sub> O = 1 at 39.2° F) AP 0.79	Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F) AP 1.1	Solubility in Water COMPLETE	pH N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	Other Chemical Reactivity N/P		Stability STABLE

Other Physical and Chemical Properties MOLECULAR WEIGHT = 32.04;  
EVAPORATION RATE = 4.6 (IF N-BUTYL ACETATE = 1.0).

Appearance and Odor CLEAR, COLORLESS LIQUID; FAINT, CHARACTERISTIC ALCOHOL ODOR;  
ODOR THRESHOLD = 55 PPM IN AIR; ODOR IS NOT A GOOD INDICATOR OF EXPOSURE LEVEL.

Conditions to Avoid HEAT, SPARKS, OPEN FLAME, AND OXIDIZING CONDITIONS.

Materials to Avoid STRONG OXIDIZING AGENTS; ALUMINUM, ZINC (GALVANIZED), OR ANY OTHER REACTIVE METAL WHICH WILL DISPLACE HYDROGEN; CERTAIN FORMS OF PLASTICS; AND RUBBER OR RUBBER-BASED COATINGS.

Hazardous Decomposition Products INCOMPLETE COMBUSTION WILL GENERATE HIGHLY POISONOUS CARBON MONOXIDE AND PERHAPS OTHER TOXIC VAPORS SUCH AS FORMALDEHYDE.

XI. Additional Precautions

Handling, Storage and Decontamination Procedures STORE ONLY IN TIGHTLY CLOSED/ PROPERLY VENTED CONTAINERS AWAY FROM HEAT/ SPARKS/OPEN FLAMES/STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. BLANKET STORAGE WITH DRY INERT GAS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. GROUND CONTAINERS BEFORE TRANSFER. WILL ABSORB ATMOSPHERIC MOISTURE. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. CARBON STEEL IS SATISFACTORY MATERIAL OF CONSTRUCTION. DO NOT STORE IN ALUMINUM OR ZINC (GALVANIZED). HANDLE "EMPTY" DRUMS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE/POISONOUS.

ISOLATE, VENT, DRAIN, WASH AND PURGE SYSTEMS OR EQUIPMENT BEFORE ANY REPAIR OR MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR OXYGEN DEFICIENCIES AND EXPLOSIVITY. USE ADEQUATE PERSONAL PROTECTIVE EQUIPMENT AND OBSERVE PRECAUTIONS PERTAINING TO CONFINED SPACE ENTRY.

General Comments

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications: EQ = Equal AP = Approximately N/P = No Applicable Information Found  
LT = Less Than UK = Unknown N/AP = Not Applicable  
GT = Greater Than TR = Trace N/DA = No Data Available

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.



# MATERIAL SAFETY DATA SHEET

METHANOL 91

1250 W MOCKINGBIRD LANE / DALLAS, TX 75247 / EMERGENCY PHONE: 806-665-5522 / INFORMATION PHONE: 214-689-4000

56/20672

## IDENTIFICATION

ISSUED NOVEMBER 25, 1985

PRODUCT NAME: Methanol  
CHEMICAL NAME: Methanol  
CHEMICAL FAMILY: Alcohol  
SYNONYMS: Methyl alcohol; carbinol; monohydroxy-methane; methyl hydroxide.

FORMULA:  $\text{CH}_3\text{OH}$   
MOLECULAR WEIGHT: 32  
CAS NUMBER: 67-56-1  
CAS NAME: Methanol

## DEPARTMENT OF TRANSPORTATION INFORMATION

HAZARD CLASSIFICATION: Flammable Liquid  
SHIPPING NAME: Methanol

UNITED NATIONS NUMBER: UN 1230  
DOT EMERGENCY RESPONSE GUIDE NUMBER: 28

## PHYSICAL DATA

BOILING POINT (760 mm Hg):  $64.6^\circ\text{C}$  ( $148^\circ\text{F}$ )  
SPECIFIC GRAVITY ( $\text{H}_2\text{O} = 1$  @  $20/20^\circ\text{C}$ ): 0.7925  
VAPOR DENSITY (AIR = 1 @  $20^\circ\text{C}$ ): 1.11  
PERCENT VOLATILES BY VOLUME: 100  
APPEARANCE AND ODOR: Clear, colorless, mobile liquid with mild alcohol odor.

FREEZING POINT:  $-97.8^\circ\text{C}$  ( $-144^\circ\text{F}$ )  
VAPOR PRESSURE ( $20^\circ\text{C}$ ): 96.0 mm Hg  
SOLUBILITY IN WATER (% by WT @  $20^\circ\text{C}$ ): Complete  
EVAPORATION RATE (BuAc = 1): 2.0

HAZARDOUS INGREDIENTS: Methanol, 99.85%

## FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS IN AIR, % BY VOLUME  
Upper: 36.5  
Lower: 5.5

### FLASH POINT (TEST METHOD):

TAG OPEN CUP (ASTM D1310):  $60^\circ\text{F}$  ( $15^\circ\text{C}$ )  
TAG CLOSED CUP (ASTM D56):  $54^\circ\text{F}$  ( $12^\circ\text{C}$ )

## SPECIAL HAZARD DESIGNATIONS

	HMIS	HFPA	KEY
HEALTH:	3	1	0 - Minimal
FLAMMABILITY:	3	3	1 - Slight
REACTIVITY:	0	0	2 - Moderate
PROTECTIVE			3 - Serious
EQUIPMENT:	SC	--	4 - Severe

OSHA 29CFR1910.1200 EVALUATION: Hazardous

EXTINGUISHING MEDIA: Use  $\text{CO}_2$  or dry chemical for small fires, alcohol-type aqueous film-forming foam or water spray for large fires. Water may be ineffective but should be used to cool fire-exposed structures and vessels.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and complete personal protective equipment when potential for exposure to vapors or products of combustion exists. Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor is heavier than air and can travel considerable distance to a source of ignition and flashback. Material can burn with little or no visible flame.

## REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Heat, sparks, flame.

MATERIALS TO AVOID: Sulfuric acid; oxidizing agents such as hydrogen peroxide, nitric acid, perchloric acid and chromium trioxide.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Carbon monoxide.

## HEALTH DATA

### PERMISSIBLE EXPOSURE LIMITS

OSHA STANDARD: 200 ppm, 8-hr TWA

ACGIH TLV: 200 ppm, 8-hr TWA; 250 ppm, STEL; potential contribution to overall exposure possible via skin absorption.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH LEVEL: 25,000 ppm

### EFFECTS OF EXPOSURE/TOXICITY DATA

#### ACUTE

INGESTION (SWALLOWING): Poisonous if swallowed. Can affect the optic nerve resulting in blindness. Can cause mental sluggishness, nausea and vomiting leading to severe illness, possibly death (in humans). Practically non-toxic to animals (oral LD50, rats: 7.5 g/kg).

INHALATION (BREATHING): Extremely high levels cause stupor, headache, nausea, dizziness and unconsciousness. Practically non-toxic to animals (Inhalation LC50, rats, 4 hrs: 64,000 ppm).

SKIN CONTACT: Essentially non-irritating. Repeated or prolonged contact causes drying, brittleness, cracking and irritation. Slightly toxic to animals by absorption (dermal LD50, rabbits: 20 g/kg).

EYE CONTACT: May cause eye injury which may persist for several days. Liquid, and vapor in high concentrations, causes irritation, tearing and burning sensation.

#### CHRONIC

MUTAGENICITY: In vitro, limited evidence of mutagenicity (mouse lymphoma forward mutation assay) In vivo, no information.

CARCINOGENICITY: No evidence of carcinogenicity to mice in two limited skin-painting studies and one oral study.

REPRODUCTION: No information.

### EMERGENCY AND FIRST AID PROCEDURES

INGESTION (SWALLOWING): Induce vomiting of conscious patient immediately by giving two glasses of water and pressing finger down throat. Contact a physician immediately.

INHALATION (BREATHING): Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.

SKIN CONTACT: Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persists, contact a physician.

EYE CONTACT: Flush eyes with water for at least 15 minutes. Contact a physician immediately.

NOTE TO PHYSICIAN: When plasma methanol concentrations are higher than 20 milligrams per deciliter, when ingested doses are greater than 30 milliliters, and when there is evidence of acidosis or visual abnormalities, a 10% solution of ethanol in 5% aqueous dextrose, administered intravenously, is a safe, effective antidote (Western Journal of Medicine, March 1985, p. 337).

## S P I L L O R L E A K P R O C E D U R E S

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use an absorbent. Avoid runoff into storm sewers and ditches which lead to natural waterways. Call the National Response Center (800-424-8802) if spill is equal to or greater than reportable quantity (5000 lb/day) under "Superfund". All clean-up and disposal should be carried out in accordance with federal, state and local regulations. If required, state and local authorities should be notified.

WASTE DISPOSAL METHOD: This product when spilled or disposed is a hazardous solid waste as defined in Resource Conservation Recovery Act regulations (40CFR261). Preferred method is incineration or biological treatment in federal/state approved facility.

#### SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Use full-face NIOSH-approved self-contained breathing apparatus (SCBA) or other air-supplying full-face respirator.

##### VENTILATION

LOCAL EXHAUST: Recommended when appropriate to control employee exposure.

MECHANICAL (GENERAL): Not recommended as the sole means of controlling employee exposure.

PROTECTIVE GLOVES: Neoprene or rubber.

EYE PROTECTION: Chemical safety goggles.

OTHER PROTECTIVE EQUIPMENT: For operations where spills or splashing can occur, use impervious body covering and boots. A safety shower and eye bath should be available.

#### SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, well-ventilated area. Do not expose to temperatures above 49°C (120°F). Keep away from heat, sparks and flame. Keep containers closed. Use only DOT-approved containers. Use spark-resistant tools. Do not load into compartments adjacent to heated cargo. When transferring follow proper grounding procedures. Use with adequate ventilation. Provide emergency exhaust. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing.



# METHANOL

MSDS No.  
HCR001423  
Rev. Date  
02/03/89

## II

## Emergency and First Aid

Inhalation	IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. KEEP INDIVIDUAL QUIET. FOR RESPIRATORY DISTRESS, GIVE AIR OR OXYGEN AND/OR ADMINISTER CARDIOPULMONARY RESUSCITATION (CPR). OBTAIN EMERGENCY MEDICAL ATTENTION.
Eye Contact	IMMEDIATELY FLUSH EYES WITH PLENTY OF CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.
Skin Contact	IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH AFFECTED SKIN THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE; WASH OR DISCARD CONTAMINATED LEATHER SHOES/GLOVES.
Ingestion	SEE "EMERGENCY MEDICAL TREATMENT PROCEDURES" AND THE MSDS SUPPLEMENT PAGE.
Emergency Medical Treatment Procedures	METHANOL INGESTION IS LIFE-THREATENING. IF SWALLOWED AND CONSCIOUS, DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY FINGER DOWN THE THROAT OR WITH SYRUP OF IPECAC. FOLLOW EMESIS WITH TWO TEASPOONS OF BAKING SODA IN WATER. SYMPTOM ONSET MAY BE DELAYED. ETHANOL THERAPY MAY BE INDICATED. SEE THE SUPPLEMENT PAGE FOR ADDITIONAL INFORMATION.

## VIII

## Spill and Disposal

**Precautions if Material is Spilled or Released**

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. EVACUATE ALL NON-ESSENTIAL PERSONNEL. IN URBAN AREAS, CLEAN UP ASAP. IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. USE PROPER PROTECTIVE EQUIPMENT. BLANKET WITH FOAM OR USE WATER FOG TO DISPERSE VAPORS. PADS OR ABSORBANT MATERIALS CAN BE USED. THIS MATERIAL WILL FLOAT ON WATER AND RUN-OFF MAY CREATE AN EXPLOSION OR FIRE HAZARD. AVOID ENTRY INTO WATER BODIES. COMPLY WITH ALL LAWS. SPILLS MAY NEED TO BE REPORTED TO THE NATIONAL RESPONSE CENTER (800/424-8802). THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO HUMAN AND OTHER LIFE.

### Waste Disposal Methods

FOR LARGE SPILLS, MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. FREE LIQUID MAY BE COLLECTED USING EXPLOSION-PROOF DIESEL OR VACUUM PUMPS. FOR CLEANUP OR SMALL SPILLS, ABSORB MATERIAL WITH COMBUSTIBLE PADS OR SOLIDIFICATION ADDITIVE. TRANSPORT WASTE MATERIALS IN A D.O.T.-APPROVED CONTAINER. DISPOSE OF THEM IN A LICENSED FACILITY WHICH IS PERMITTED TO HANDLE RCRA HAZARDOUS LIQUID WASTE. INCINERATION IS THE RECOMMENDED DISPOSAL METHOD. FOR SPILLS ON WATER, COLLECT FLOATING MATERIAL WITH A VACUUM SYSTEM OR ABSORBANT PADS AND HANDLE AS AN EPA "IGNITABLE HAZARDOUS WASTE". BIODEGRADATION MAY BE USED; HOWEVER, GENERATION OF TOXIC VAPORS SHOULD BE AVOIDED.

## IX

## Components

(This may not be a complete list of components)

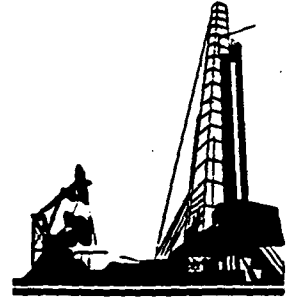
Component Name	CAS No.	Carcinogen##	Composition amount (WT) (See Qualification on Page 99 PERCENT
METHANOL (METHYL ALCOHOL)	67-56-1	N/AP GT	

Compositions given are typical values, not specifications.

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

## OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, NM 87505  
(505) 827-7133  
Fax: (505) 827-8177



(PLEASE DELIVER THIS FAX)

To: PAULA HAGGITH - AGAVE ENERGY

From: OCD-

Date: 2/24/00

Number of Pages (Includes Cover Sheet) 4

Message: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If you have any trouble receiving this, please call:  
(505) 827-7133



Oil Conservation Div.  
Environmental Bureau  
2040 S. Pacheco  
Santa Fe, NM 87505

**Telephone**     X      
**Personal**             
**E-Mail**           

**Date:** 2/24/00

**OIL CONSERVATION DIVISION - DISTRICT I Hobbs - P.O. Box 1980 - Hobbs, NM 88241-1980 - (505) 393-6161 FAX (505) 393 - 0720**



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury  
CABINET SECRETARY

Oil Conservation Div.  
Environmental Bureau  
2040 S. Pacheco  
Santa Fe, NM 87505

**Memorandum of Meeting or Conversation**

Telephone   X    
Personal             
E-Mail           

Time: 3:30 pm  
Date: February 23, 2000

Originating Party: Wayne Price-OCD

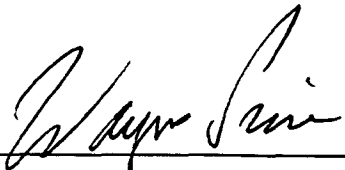
Other Parties: Paula Haggith

Subject: Agave Discharge Plan sites GW-50 series

**Discussion:**

OCD is going to publish public notices for GW-50-1 (Bitter Lake), GW-50-5 (Red Bluff #1), GW-50-7 (Red Bluff #7) and GW-50-8 (Red Bluff #8). Please let us know the status of GW-50-2 (Hay Stack), GW-50-3 (Isler Station), GW-50-4 (Ned Station), and GW-50-6 (Salt Creek).

**Conclusions or Agreements:**

Signed: 

CC: Att: Mr. Paul Ragsdale fax 505-748-4576



# AGAVE ENERGY COMPANY

105 South Fourth Street

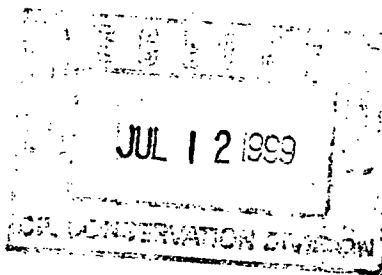
Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

July 9, 1999

Wayne Price  
N.M.O.C.D.  
2040 S. Pacheco Street  
Santa Fe, NM 87505



Re: Compressor Discharge Plans for GW-050, 050-1,2,3,4,5,6.

Dear Mr. Price,

I have received your letter of June 12th that states that Agave's existing plans will be extended until new plans are approved and the new plans need to be submitted by July 13th. Agave has made extensive changes to these compressor stations and we have been unable to adequately compile all of the supporting documentation necessary to submit these plans.

Therefore, we are requesting a sixty day extension until September 13, 1999 to submit these plans. This extension will enable us to do a more complete description of all of the changes that have been made.

We appreciate your cooperation in this matter and apologize for the inconvenience. If you need further assistance please call me at 505 748-4520.

Sincerely,

Paul Ragsdale  
Vice President

# AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

September 7, 1999

Wayne Price  
N.M.O.C.D.  
2040 S. Pacheco Street  
Santa Fe, NM 87505

Re: Renewal of Compressor Discharge Plan for GW-050

Dear Mr. Price,

Agave Energy Company has submitted applications for renewal of the OCD Discharge Plans for the Red Bluff #1,2,3 and Bitter Lakes Compressor Stations. These are stations that were purchased by Agave Energy from Transwestern Pipeline in 1995.

Since the purchase, Agave has conducted a detailed engineering program to optimize the use of the compression. The net result is that Agave has shut several stations down and are in the process of moving the equipment to other locations. The stations that have been shut down are:

Red Bluff #4	Sec 27-T6S-R25E
Red Bluff #5	Sec 11-T6S-R25E
Red Bluff #6	Sec 24-T5S-R24E
Isler #1	Sec 15-T7S-R26E
Round Top	Sec 9-T7S-R26E

Therefore, we have not submitted a renewal application for these stations and will submit a closure plan once the equipment has been moved. Please let me know if there is additional information you need for these stations.

Sincerely yours,



Paul Ragsdale  
Vice President



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

OIL CONSERVATION DIVISION  
2040 South Pacheco Street  
Santa Fe, New Mexico 87506  
(505) 827-7131

June 12, 1999

**CERTIFIED MAIL**

**RETURN RECEIPT NO. Z 357 870 136**

Mr. Paul Ragsdale  
Agava Energy Company  
105 South Fourth Street  
Artesia, New Mexico 88210

Re: Compressor Discharge Plans for GW-050, 050-1,2,3,4,5,6.

Dear Mr. Ragsdale:

The New Mexico Oil Conservation Division (NMOCD) is in receipt of Agava Energy Company's (AEC) letter dated February 9, 1999 requesting discharge plans be extended until new plans are approved. Pursuant to New Mexico Water Quality (WQCC) Regulation 3106.F AEC's request will be honored if AEC submits discharge plan applications with all supporting documentation and the \$50.00 filing fees for each plan by July 13, 1999.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

Wayne Price-Pet. Engr. Spec.  
Environmental Bureau

cc: OCD Artesia District office

# AGAVE ENERGY COMPANY

105 South Fourth Street

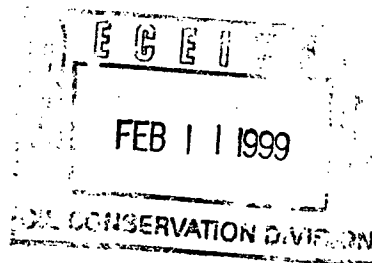
Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

February 9, 1999

Wayne Price  
N.M.O.C.D.  
2040 S. Pacheco  
Santa Fe, NM 87505



Re: Compressor Discharge Plans

Dear Sir:

Agave Energy Company's Compressor Discharge Plans, GW-050, GW-050-1, GW-050-2, GW-050-3, GW-050-4, GW-050-5, GW-050-6 expire June 13, 1999. Agave requests that these discharge plans be extended until new plans are approved.

We appreciate the O.C.D.'s cooperation in this matter. Please call me at 505-748-4520 for further information.

Sincerely yours,

Paul Ragsdale  
Vice President

# AGAVE ENERGY COMPANY

105 South Fourth Street Artesia, New Mexico 88210 (505) 748-1471 Fax (505) 748-4576

CS FEB 15 1996

February 13, 1996

**RECEIVED**

FEB 16 1996

Environmental Bureau  
Oil Conservation Division

Roger Anderson  
Oil Conservation Division  
2040 South Pacheco St.  
Santa Fe, NM 87504

Re: OCD Discharge Plans

Dear Roger:

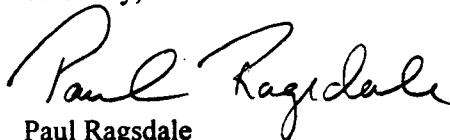
Agave Energy has purchased certain gathering system assets in Chaves and Eddy Counties,  
The following facilities are covered under an approved OCD Discharge Plan:

Yates Plant in Eddy County  
Red Bluff Gas Treating Systems in Chaves County

Operations will continue as before except that your agency should contact me for  
information at:

Paul Ragsdale  
Agave Energy Company  
105 South Fourth Street  
Artesia, NM 88210  
505-748-4520

Sincerely,



Paul Ragsdale  
Vice President

Enclosure

**Transwestern Pipeline Company**

**TECHNICAL OPERATIONS**

January 25, 1996 6381 North Main • Roswell, New Mexico 88201

Mr. Paul Ragsdale  
Agave Energy Company  
105 S. 4th Street  
Artesia, New Mexico 88210

**RECEIVED**

**FEB 16 1996**

Environmental Bureau  
Oil Conservation Division

Re: OCD Discharge Plan Change in Ownership Notification

Dear Paul:

With the purchase of gathering assets from Transwestern Pipeline Company by Agave, certain facilities within that purchase were permitted by the Oil Conservation Division (OCD) under an approved discharge plan. The facilities are as follows:

Yates Plant  
Enron 6- (Arsenic Treating facilities in the Red Bluff system)

Under the current regulatory scheme, ownership transfer of any property under an approved discharge plan must notify the OCD agency in Santa Fe at the following address, and apprise them of the new ownership status:


Oil Conservation Division  
2040 South Pacheco St.  
Santa Fe, New Mexico 87504

Atten: Roger Anderson

Also, please be advised that disposal activities involving any non exempt waste, requires written approval by the OCD prior to removal of the waste from the facility.

If I can be of any further assistance, contact our Roswell office of Operations and Commercial Support at (505) 625-8022.

Sincerely,



Larry Campbell  
Division Environmental Specialist

xc: Lou Soldano  
OCD Office, Santa Fe, New Mexico

Ned State

1. There are one compressor engine, one scrubber, and two fuel filters at this location.

Parker Gas Companies, Inc. has one scrubber and one filter installed at this location. Produced water and condensates from all vessels are controlled by automatic liquid level controllers that discharge to the condensate tank.

Waste oil and anti-freeze are drained into containers and poured into the condensate tank.

2. The storage tanks at this location are as follows:

2 ea. - 500 gal. liquid storage tanks

1 ea. - .5' x 3.5' vessels with zinc oxide, copper oxide, and aluminum oxide plus carbon catalyst absorbent.

There are no underground storage tanks at this location and no leak detection system is installed.

3. The following chemicals are used at this location:

- a. Citgo Pacemaker 1100
- b. Norkool SI2400 anti-freeze
- c. Stoddard solvent
- d. Alpha Blue Tiger soap
- e. Crain degreaser - Oil Off
- f. Catalyst - zinc oxide, copper oxide, and aluminum oxide plus carbon

4. All of the aboveground tanks are bermed or curbed.
5. All liquid waste goes to aboveground tanks and is removed by Enron Oil Trading and Transportation Company. Since the aboveground tanks are bermed or curbed, any leakage would be contained and the contaminated soil removed when discovered during periodic visual inspections. The buildings are not bermed.
6. Filter media, trash, and filter elements go to a public land fill for disposal.
7. Drum storage at this location does not have pads or containment. In order to prevent spills, barrels will be kept in good condition. Valves will be plugged when not in use, and employees are instructed to use extreme caution when drawing liquids from barrels. Should a spill occur, it is to be cleaned up at once and the contaminated soil placed in containers for proper disposal.

FEB 23, 1989

**RECEIVED**

APR 21 1989

OIL CONSERVATION DIV.  
SANTA FE

NED STATE

MATERIAL SAFETY DATA SHEET





Date: 04/10/87

CITGO PETROLEUM CORPORATION  
P. O. Box 3758  
Tulsa, Oklahoma 74102

MATERIAL SAFETY DATA SHEET

Trade Name: CITGO Pacemaker Gas Engine Oil 1100

Commodity Code: 32-210

Synonyms: Lubricating Oil

CAS Reg. No.: Mixture  
(Refer to Section I)

Citgo Index No. (CIN): 0209

Technical Contact: (918) 561-5165  
Medical Emergency: (318) 491-6215

---

MATERIAL HAZARD EVALUATION  
(Per OSHA's Hazard Communication  
Standard [29 CFR Part 1910.1200])  
"OHCS"

Health: Non-Hazardous. (OHCS)

Precautionary Statement: Avoid prolonged skin contact with used motor oils.

---

I. GENERIC COMPOSITION/COMPONENTS

<u>Components</u>	<u>CAS #</u>	<u>%</u>	<u>Hazard Data</u>
Refined Petroleum Oil(s)	64742-65-0 64741-88-4	85-95	Oral: LD50(rat): >15g/kg Eye: Practically Non-Irritating Skin: Practically Non-Irritating Ihln: LC50/4H(rat): >5,000mg/m <sup>3</sup> Comparable material non-carcinogenic in mouse skin assay.
Dispersant, anti-wear, anti-oxidant	Mixture	6-10	Minor eye and skin irritant
VI improver	Mixture	5-7	Eye irritant
Pour Depressant	Mixture	<1	Eye and skin irritant

---

ND = No Data  
NA = Not Applicable

LAS/32-210

II. PHYSICAL DATA

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

No Combustible  
No Compressed Gas  
No Explosive  
No Flammable  
No Organic Peroxide

No Oxidizer  
No Pyrophoric  
No Reactivity  
Yes Stable  
No Unstable

Boiling Point, 760 mmHg,  
°C(°F): ND

Melting Point, °C(°F): NA

Vapor Pressure, mmHg (25°C): ND

Specific Gravity  
(H<sub>2</sub>O=1): 0.88

Solubility in H<sub>2</sub>O, % By Wt.: Negligible

Vapor Density (Air=1): &gt;1

Evaporation Rate  
(Butyl Acetate=1): <1

% Volatiles By Vol.: Negligible

pH of Undiluted Product: ND

Appearance and Odor: Amber liquid, mild odor.

III. FIRE AND EXPLOSION DATA

Flash Point, COC, °C(°F): 245(473)

NFPA\*

Flash Point, PM, °C(°F): 210(410)

Health: 1

Fire Point, COC, °C(°F): 288(535)

Flammability: 1Reactivity: 0

Flammable Limits in Air, % Vol.:

Lower: NA Upper: NA

Extinguishing Media: CO<sub>2</sub>, dry chemical, foam or water fog.

Special Fire Fighting Procedure: None.

Unusual Fire or Explosion Hazard: Water may cause frothing.

\*Citgo assignment based on our evaluation per NFPA guidelines.  
Hazard Rating least-0; slight-1; moderate-2; high-3; extreme-4.

ND = No Data  
NA = Not Applicable

LAS/32-210



#### IV. REACTIVITY DATA

Stability: Yes Stable No Unstable

Conditions Contributing to Instability: None.

Incompatibility: Strong oxidants.

Hazardous Decomposition Products (thermal, unless otherwise specified):  
CO, CO<sub>2</sub>.

Conditions Contributing to Hazardous Polymerization: None.

---

#### V. SPILL OR LEAK PROCEDURES

Procedures if Material is spilled:

Remove sources of heat or ignition, provide adequate ventilation, contain leak. Absorb small spills with suitable material such as rags, straw or sand. Report spills as required to appropriate authorities.  
Chemtrec Emergency Number: 800-424-9300.

Waste Disposal:

It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.  
Check before disposing to be sure you are in compliance with all applicable laws and regulations.

Protective measures during repair and maintenance of contaminated equipment:

Refer to Section VII - Special Protection Information.  
Avoid prolonged contact with used oil, wash skin thoroughly with soap and water.

VI. HEALTH HAZARD DATA

Health Hazard Classification (Per 29 CFR Part 1910.1200)

<u>No</u>	Carcinogen	<u>No</u>	Corrosive
<u>No</u>	Animal Carcinogen	<u>No</u>	Irritant
<u>No</u>	Suspect Carcinogen	<u>No</u>	Sensitizer
<u>No</u>	Mutagen	<u>No</u>	Teratogen
<u>No</u>	Highly Toxic	<u>No</u>	Target Organ
<u>No</u>	Toxic		

Product listed as carcinogen or potential carcinogen by:

NTP No, IARC No, OSHA No, OTHER No.

Toxicity Summary: Slightly toxic, 1 pt. to 1 qt. is approximate lethal oral dose for 150 lb. human adult.

Major Route of Entry: Inhalation of accidentally produced fumes.

Acute Exposure Symptoms:

Inhalation: Low risk of inhalation. In enclosed spaces or when hot, vapors may reach concentrations sufficient to cause drowsiness, dizziness, headache, nausea, or lung irritation. Mists above TLV may cause chemical pneumonitis.

Dermal Contact: Mild irritant.

Eye Contact: Transient, mildly irritating.

Ingestion: Generally low toxicity. Very large amounts may cause generalized depression, headache, drowsiness, nausea, vomiting or diarrhea. Small doses may produce irritation and diarrhea.

Injection: Irritating.

Chronic Exposure: Prolonged and/or frequent contact may cause drying, cracking (dermatitis) or folliculitis.

Other Special

Effects: None expected.

First Aid and Emergency Procedures for Acute Effect

Inhalation: Remove to fresh air. Respiratory support if necessary. Seek medical aid.

Dermal: Wash with soap and water. Do not wear heavily contaminated clothing before laundering.

Eyes: Flush with large volumes of water. See physician if any complications arise.

Ingestion: Do not induce vomiting. Seek medical aid.

Injection: Subcutaneous injection is a medical emergency . . seek medical aid immediately.

Notes to Physician: On ingestion, an oil viscosity of about 530 SUS (100°F) presents no aspiration hazard. However, for large quantities, lavage may still be advised.



## VII. SPECIAL PROTECTION INFORMATION

Ventilation Requirements: Ventilation is required when work place exposures exceed TLV.

Permitted Threshold	Agency:	OSHA	OSHA	ACGIH	ACGIH
Air Concentrations:	Year:	1972	1985	1985-86	1985-86
	Type:	TWA	PEL	TWA	STEL
Mineral Oil	ppm:	-	-	-	-
	mg/m <sup>3</sup> :	5	5	5	10

### Specific Personal Protective Equipment:

Respiratory: Normally none required. If high vapor or mist concentrations expected - use respirator approved for organic vapors and mists.

Eyes: Safety goggles, or chemical splash goggles if splashing is anticipated.

Dermal: Oil impervious gloves if frequent or prolonged contact is expected.

Other Clothing or Equipment: Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder soiled work clothes before reuse.

## VIII. TRANSPORTATION AND SPECIAL PRECAUTIONS

### Hazardous Material Placard/Label:

Caution: Avoid prolonged skin contact with used motor oils. Continuous contact with used oil has caused skin cancer in laboratory animals. After draining oil, wash skin thoroughly with soap and water.

Storage: Store below 120°F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

### DOT Information:

DOT/UN Shipping Name:	Petroleum Lubricating Oil.
DOT Hazard Class:	Non-Hazardous.
DOT/UN Hazard Identification Number:	None assigned.
DOT Shipping Container Restrictions:	None.
DOT Placard:	None

Caution: Empty containers may contain product residue which could include flammable or explosive vapors.

Consult appropriate Federal, State and Local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

All statements, information, and data provided in this material safety data sheet are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied, on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. Nothing contained herein is intended as permission, inducement or recommendation to violate any laws or to practice any invention covered by existing patents.

ND = No Data

NA = Not Applicable

LAS/32-210

**U.S. DEPARTMENT OF LABOR**  
Occupational Safety and Health Administration

Form Approved  
OMB No. 44-R1387

# MATERIAL SAFETY DATA SHEET

Required under USOL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

MANUFACTURER'S NAME <b>Norchem</b>		EMERGENCY TELEPHONE NO. <b>(815) 942-7301</b>
ADDRESS (Name, Street, City, State, and Zip Code) <b>8805 N. Tabler Road Morris, IL 60450-9988</b>		
CHEMICAL NAME AND SYNONYMS <b>Ethylene Glycol Antifreeze Coolant</b>	TRADE NAME AND SYNONYMS <b>NORKOOL® Concentrate Coolant</b>	
CHEMICAL FAMILY <b>Dihydric Alcohol</b>	FORMULA <b>HO-CH<sub>2</sub>-CH<sub>2</sub>-OH</b>	

## SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	0		BASE METAL	0	
CATALYST	0		ALLOYS	0	
VEHICLE	0		METALLIC COATINGS	0	
SOLVENTS	0		FILLER METAL PLUS COATING OR CORE FLUX	0	
ADDITIVES	0		OTHERS	0	
OTHERS	0				

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
<b>Ethylene Glycol</b>	<b>90</b>	<b>50 ppm (v)</b>
<b>Other Glycols</b>	<b>5</b>	<b>N.A.</b>
<b>Proprietary inorganic and organic corrosion inhibitors</b>	<b>3</b>	<b>N.A.</b>
<b>Water</b>	<b>2</b>	<b>N.A.</b>

## SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	<b>325</b>	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	<b>1.134</b>
VAPOR PRESSURE (mm Hg.)	<b>N.A.</b>	PERCENT VOLATILE BY VOLUME (%)	<b>N.A.</b>
VAPOR DENSITY (AIR=1)	<b>N.A.</b>	EVAPORATION RATE (_____ = 1)	<b>N.A.</b>
SOLUBILITY IN WATER	<b>100%</b>		
APPEARANCE AND ODOR	<b>Blue liquid, no odor.</b>		

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) <b>250°F., Cleveland Open Cup</b>	FLAMMABLE LIMITS <b>N.A.</b>	LFL	UFL
EXTINGUISHING MEDIA <b>Water</b>			
SPECIAL FIRE FIGHTING PROCEDURES <b>None</b>			
UNUSUAL FIRE AND EXPLOSION HAZARDS <b>None</b>			

## THRESHOLD LIMIT VALUE

Unknown, LD50 (Rats) - 8 g/K. It is not a primary skin or eye irritant.

## EFFECTS OF OVEREXPOSURE

Unknown

## EMERGENCY AND FIRST AID PROCEDURES

Flush well with water

## SECTION VI - REACTIVITY DATA

## STABILITY

UNSTABLE

STABLE

## CONDITIONS TO AVOID

## INCOMPATIBILITY (Materials to avoid)

Strong caustic solutions.

## HAZARDOUS DECOMPOSITION PRODUCTS

None known.

HAZARDOUS  
POLYMERIZATION

MAY OCCUR

WILL NOT OCCUR

X

## CONDITIONS TO AVOID

## SECTION VII - SPILL OR LEAK PROCEDURES

## STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Soak up and/or flush with water to sanitary drain.

## WASTE DISPOSAL METHOD

Biodegradation.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

## RESPIRATORY PROTECTION (Specify type)

None required.

## VENTILATION

LOCAL EXHAUST

SPECIAL

MECHANICAL (General) Consistent with good

OTHER

manufacturing procedures.

## PROTECTIVE GLOVES

Not required

## EYE PROTECTION

Safety Goggles.

## OTHER PROTECTIVE EQUIPMENT

## SECTION IX - SPECIAL PRECAUTIONS

## PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep from freezing. Freeze point is

approximately 15°F.

## OTHER PRECAUTIONS

None

# MATERIAL SAFETY DATA SHEET

METHANOL

MSDS No.  
998211201  
Rev. Date  
01/28/83



ARCO CHEMICAL COMPANY  
DIVISION OF ATLANTIC RICHFIELD COMPANY  
1500 MARKET STREET  
P.O. BOX 7258  
PHILADELPHIA, PENNSYLVANIA 19101

IMPORTANT: Read this MSDS before  
handling and disposing of this product  
and pass this information on to  
employees, customers, and users of  
this product

I. General			
Trade Name METHANOL		Telephone Numbers 800/424-9300 CHEMTREC 215/353-8300 ARCO CHEM 215/557-2000 INFO ONLY	
Other Names METHYL ALCOHOL, WOOD ALCOHOL			
Chemical Family ALIPHATIC ALCOHOL	DOT Hazardous Materials Proper Shipping Name METHYL ALCOHOL		
Generic Name	DOT Hazard Class FLAMMABLE LIQUID		
CAS No.	Company ID No. E000142300	UN No. 1230	
II. Summary of Hazards			
<p><b>DANGER</b> EXTREMELY FLAMMABLE - MAY BURN WITH INVISIBLE FLAME</p> <p><b>CAUTION</b> - MODERATE INHALATION HAZARD - SERIOUS OVEREXPOSURE TO METHANOL VAPOR CAN CAUSE BLINDNESS AND PERHAPS DEATH</p> <p><b>CAUTION</b> - MODERATE INGESTION HAZARD - UNSAFE FOR HUMAN CONSUMPTION, MAY CAUSE BLINDNESS OR DEATH</p> <p><b>CAUTION</b> - MODERATE SKIN HAZARD - EXTENSIVE/PROLONGED LIQUID CONTACT CAN CAUSE SERIOUS ILLNESS</p> <p><b>CAUTION</b> - MODERATE EYE HAZARD</p>			
III. Fire and Explosion			SEE SUPPLEMENT BEGINNING ON PAGE 5
Flash Point (Method) AP 50 F (CC )		Autoignition Temperature (Method) AP 725 F	Flammable Limits at Normal Atmospheric Temperature Pressure (% Vol. in Air) Lower 6.0 Upper 36.5
Unusual Fire and Explosion Hazards	RELEASES FLAMMABLE VAPOR BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, CAN BURN IN THE OPEN OR EXPLODE IF CONFINED. MIXTURES WITH WATER AND AS LITTLE AS 21% (BY VOL) METHANOL ARE STILL FLAMMABLE (FLASH PT. <100 F). UNDER SOME CIRCUMSTANCES, MAY CORRODE CERTAIN METALS, INCLUDING ALUMINUM AND ZINC, AND GENERATE HYDROGEN GAS.		
Extinguishing Media	<p>DRY CHEMICAL ALCOHOL TYPE FOAM</p> <p>CO2</p> <p>FOR ADDITIONAL EXTINGUISHING MEDIA INFORMATION - SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF MSDS</p>		
Special Firefighting Procedures	DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION X - DECOMPOSITION PRODUCTS POSSIBLE. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS. SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. APPLY AQUEOUS EXTINGUISHING MEDIA CAREFULLY TO AVOID FROTHING AND LIMIT EXPOSURE OF NEARBY EQUIPMENT. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS. A METHANOL FIRE MAY NOT BE VISIBLE TO THE NAKED EYE.		



IV.

## Health Hazards

SEE SUPPLEMENT  
BEGINNING ON PAGE 5

**Primary Hazard** BURNS AND INJURY DUE TO FIRE AND EXPLOSION. INHALATION OF EXCESSIVE VAPOR OR AEROSOL CONCENTRATION.

## ROUTE OF EXPOSURE

## SIGNS AND SYMPTOMS

**Inhalation** DROWSINESS/DRUNKENNESS, HEADACHE, VISUAL DISTURBANCE LEADING TO BLINDNESS; COUGHING/SHORTNESS OF BREATH; COLLAPSE AND DEATH AT VERY HIGH CONCENTRATIONS

**Eye Contact** UPON DIRECT LIQUID CONTACT, MAY CAUSE MODERATE BURNING, TEARING, REDNESS, AND SWELLING. HIGH VAPOR CONCENTRATIONS (>2000 PPM) MAY CAUSE SAME SYMPTOMS.

**Skin Absorption** IN LIQUID OR SOLUTION FORM, THIS MATERIAL MAY BE ABSORBED THROUGH INTACT SKIN AND PRODUCE TOXIC EFFECTS.

**Skin Irritation** FOLLOWING EXTENSIVE, REPEATED AND/OR PROLONGED SKIN CONTACT, MAY CAUSE BURNING, ITCHING, REDNESS, OR BLISTERS.

**Ingestion** SWALLOWING BETWEEN 2 AND 8 OUNCES OF METHANOL CAN CAUSE DEATH.

**Effects Of Overexposure** SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.

## Protective Equipment

SEE SUPPLEMENT  
BEGINNING ON PAGE 5

**Respiratory** DO NOT USE AIR-PURIFYING RESPIRATORS. METHANOL CANNOT BE DETECTED BY ITS ODOR UNTIL DANGEROUS EXPOSURE OCCURS. SEE SUPPLEMENTAL SHEET BEGINNING ON PAGE 5 OF THIS MSDS FOR DETAILED RECOMMENDATIONS.

**Ventilation** LOCAL EXHAUST VENTILATION MAY BE REQUIRED TO MEET EXPOSURE STANDARD(S) IN ADDITION TO GENERAL ROOM VENTILATION.

**Eye** EYE PROTECTION, SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE MASK, MUST BE WORN WHEN ANY POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN.

**Skin** PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS AND HEAD AND FACE PROTECTION MUST BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

**Other** EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

VI.

## Occupational Exposure Limits

1.	Substance	Source	Date
	METHANOL	OSHA	1972
Exposure Limit Value/Time		Short Term Limit/Time	Peak Limit
200.00 PPM / 8 HOURS			
2.	Substance	Source	Date
	METHANOL - SKIN	ACGIH	1982
Exposure Limit Value/Time		Short Term Limit/Time	Peak Limit
200.00 PPM / 8 HOURS		250.00 PPM / 15 MINUTES	



# METHANOL

MSDS No.  
998211201  
Rev. Date  
01/28/83

## VII.

### Emergency and First Aid

SEE SUPPLEMENT  
BEGINNING ON PAGE 5

#### Inhalation

IF OVERCOME BY EXPOSURE, IMMEDIATELY MOVE VICTIM TO FRESH AIR. KEEP VICTIM QUIET. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION IMMEDIATELY. PROMPT ACTION IS ESSENTIAL.

#### Eye Contact

IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH CLEAN, LOW PRESSURE, LUKEWARM WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING EYELIDS. OBTAIN MEDICAL ATTENTION.

#### Skin Contact

SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.

#### Ingestion

IF SWALLOWED, ADMINISTER LUKEWARM WATER (PINT) ONLY IF VICTIM IS COMPLETELY CONSCIOUS/ALERT. INDUCE VOMITING. OBTAIN IMMEDIATE EMERGENCY MEDICAL TREATMENT. PROMPT ACTION IS ESSENTIAL.

#### Note to Physician

IN CASE OF INGESTION OR MASSIVE INHALATION, OBSERVE AS INPATIENT BECAUSE SLOW METABOLISM CAUSES A LATENT PERIOD OF 24 HOURS BETWEEN EXPOSURE AND ACIDOSIS/BLINDNESS. SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS FOR ADDITIONAL INFORMATION.

## VIII.

### Spill and Disposal

SEE SUPPLEMENT  
BEGINNING ON PAGE 5

#### Precautions if Material is Spilled or Released

SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.

#### Waste Disposal Methods

DESIGNATE RCRA F005 IF SPENT SOLVENT INTENDED FOR DISPOSAL. DESIGNATE SPILL CLEANUP RESIDUE RCRA U154. LANDFILL PROPERLY CONTAINED, CONTAMINATED SOLIDS ONLY AT PERMITTED DISPOSAL SITES USING REGISTERED CONTRACTORS. BURN CONCENTRATED LIQUID WASTE IN PROPERLY DESIGNED COMBUSTION SYSTEMS. TAKE SAFETY PRECAUTIONS DUE TO LOW FLASH POINT. ASSURE EMISSIONS ARE COMPLIANT WITH ALL APPLICABLE AIR POLLUTION CONTROL REGULATIONS. DILUTE AQUEOUS WASTE (<1% WT) MAY BE BIODEGRADABLE WHEN FED IN LOW PROPORTION TO SUITABLE BIOPANT. AVOID OVERLOADING/POISONING THE BIOMASS. ASSURE EFFLUENT IS COMPLIANT WITH ALL APPLICABLE WATER POLLUTION CONTROL REGULATIONS.

## IX.

### Components

{ This may not be a complete  
list of components }

#### Component Name

#### CAS No.

#### Composition amount (See Note on Page 4)

METHANOL

67-56-1

AP

100 PERCENT

Compositions given are typical values, not specifications.

**Physical and Chemical Data**

Boiling Point AP 148 F	Evaporation Rate (Ratio of Time) N/AP	Dry Point N/AP
Freezing Point AP -144 F	Vapor Pressure (MM HG AT 68 F) AP 96	Volatile Characteristics MODERATE
Specific Gravity (H <sub>2</sub> O = 1 at 39.2° F) AP 0.79	Vapor Density (Air = 1 at 60 - 90° F) AP 1.1	Solubility in Water COMPLETE
Hazardous Polymerization NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method N/AP	Stability STABLE
pH N/AP		

**Other Physical and Chemical Properties**

Appearance and Odor CLEAR LIQUID WITH FAINT ALCOHOL ODOR. ODOR IS NOT GOOD INDICATION OF EXPOSURE LEVEL.

Conditions to Avoid HEAT, SPARKS, OPEN FLAME, OXIDIZING CONDITIONS; OPEN CONTAINERS AND POOR VENTILATION.

Materials to Avoid STRONG OXIDIZING AGENTS; ALUMINUM; ZINC; ANY REACTIVE METAL WHICH WILL DISPLACE HYDROGEN; CERTAIN FORMS OF PLASTICS, RUBBER, AND COATINGS.

Hazardous Decomposition Products INCOMPLETE COMBUSTION WILL GENERATE HIGHLY POISONOUS CARBON MONOXIDE AND PERHAPS OTHER TOXIC VAPORS SUCH AS FORMALDEHYDE.

**Additional Precautions****Handling and Storage**

STORE ONLY IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, OPEN FLAME, SPARKS, STRONG OXIDIZING AGENTS. MAY BE STORAGE FIRE HAZARD ON CONTACT WITH AIR ABOVE 50 DEG. F. BLANKET STORAGE WITH DRY INERT GAS. STORE DRUMS W/ BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. GROUND CONTAINERS BEFORE TRANSFER. WILL ABSORB ATMOSPHERIC MOISTURE. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. CARBON STEEL IS SATISFACTORY MATERIAL OF CONSTRUCTION. DO NOT STORE IN ALUMINUM OR ZINC (GALVANIZED). HANDLE "EMPTY" DRUMS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. DECONTAMINATE CONTAINERS BEFORE REUSE/DISPOSAL.

**General Comments**

IT IS RECOMMENDED THAT SPILL CLEANUP RESIDUES CONTAMINATED WITH THIS PRODUCT BE SHIPPED AS:

HAZARDOUS WASTE (METHYL ALCOHOL)  
FLAMMABLE LIQUID  
UN 1230

-- Note -- Qualifications: EQ = Equal AP = Approximately UK = Unknown N/AV = Not Available  
LT = Less Than GT = Greater Than TR = Trace N/AP = Not Applicable

**Disclaimer of Liability**

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.



## METHANOL

MSDS No.  
998211201  
Rev. Date  
01/28/83

XII

### Supplement

#### FIRE EXTINGUISHING MEDIA

DO NOT USE SOLID WATER STREAM BUT WATER SPRAY/FOG ARE USEFUL TO COOL EXPOSED FACILITIES OR DILUTE THIS WATER SOLUBLE LIQUID BELOW FLASH POINT. WATER DILUTION REQUIRED TO EXTINGUISH FIRE IS HIGH (>5:1).

#### EFFECTS OF OVEREXPOSURE

EXPOSURE TO 4,000-13,000 PPM OF METHANOL FOR 12 HOURS WAS FATAL TO ONE WORKER. APPARENT EXPOSURE TO 1,200-8,000 PPM FOR 4 YEARS CAUSED CHRONIC POISONING WITH DIMMING OF VISION AMONG A GROUP OF WORKERS; OTHERS IN THE AREA WERE NOT AFFECTED. HEADACHES REPORTED AMONG DUPLICATING MACHINE OPERATORS EXPOSED TO 300 PPM. MOST SERIOUS CASES OF METHANOL POISONING REPORTED IN LAST 40 YEARS RESULTED FROM INGESTION IN BELIEF IT WAS ETHYL ALCOHOL.

#### RESPIRATORY PROTECTION

CONDITION	MINIMUM RESPIRATORY PROTECTION* REQUIRED ABOVE 200 PPM
<u>VAPOR CONCENTRATION</u>	
2000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR ANY SELF-CONTAINED BREATHING APPARATUS
10,000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE, HELMET OR HOOD ANY SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE
25,000 PPM OR LESS	A TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH FULL FACEPIECE, HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.
GREATER THAN 25,000 PPM OR ENTRY AND ESCAPE FROM UNKNOWN CONCENTRATIONS	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE. A COMBINATION RESPIRATOR WHICH INCLUDES TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE OR CONTINUOUS-FLOW MODE AND AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
FIRE-FIGHTING	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
ESCAPE	ANY ESCAPE SELF-CONTAINED BREATHING APPARATUS.

\*ONLY NIOSH-APPROVED OR MSHA-APPROVED EQUIPMENT SHOULD BE USED.

#### NOTE TO PHYSICIAN

METHANOL IS WATER SOLUBLE AND DISTRIBUTES IN THE WATER SPACE (0.65 X WT. (KG)). IT IS SLOWLY METABOLIZED TO FORMIC ACID. ETHANOL, BY COMPETITIVE INHIBITION, RETARDS METHANOL METABOLISM. TREATMENT SHOULD BEGIN WITH PO ETHANOL VIA NG TUBE OR IV ETHANOL UNTIL BLOOD ETHANOL LEVEL REACHES 100 MG/DL. CONTINUE ETHANOL UNTIL BLOOD METHANOL LEVEL IS LESS THAN 20 MG/DL. RELAPSES CAN OCCUR IF ETHANOL STOPPED PREMATURELY. HEMODIALYSIS IS HELPFUL TO REMOVE METHANOL AND FORMATE BUT ALSO REMOVES ETHANOL AND DOSAGE ADJUSTMENT IS REQUIRED.

XII

## Supplement Continued

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE MAY CAUSE FIRE/EXPLOSION. EVACUATE/EXCLUDE NONESSENTIAL PERSONNEL. EXTINGUISH ALL IGNITION SOURCES/STOP RELEASE IF FEASIBLE WITHOUT UNDUE RISK. IMMEDIATELY NOTIFY FIRE/WATER SUPPLY/POLLUTION CONTROL AUTHORITIES. DO NOT FLUSH TO SEWER. LIQUID REMAINS FLAMMABLE EVEN WHEN MIXED WITH WATER UNLESS MAJOR DILUTION IS ACHIEVED. BLANKET SPILL WITH ALCOHOL RESISTANT FOAM TO LIMIT VAPOR EMISSION. EQUIP CLEANUP CREW WITH PROPER PROTECTION.

DIKE/IMPOUND DOWNGRADE FROM LARGE LAND SPILL. SOAK UP SMALL SPILL ONTO INERT SOLIDS/SHOVEL INTO SUITABLE DISPOSAL CONTAINERS. RESTRICT WATER USE IN CLEANUP. ON WATER, LIQUID IS HIGHLY SOLUBLE/WILL REMAIN ON SURFACE UNTIL RECOVERED OR DISPERSED. LIQUID IS HIGHLY BIODEGRADABLE/MAY DEplete OXYGEN FROM WATER/CAUSE FISH KILL. DISPERSE UNRECOVERABLE MATERIAL TO MINIMIZE THIS EFFECT. IF RELEASED TO THE ENVIRONMENT, COMPLY WITH ALL REGULATORY NOTIFICATION REQUIREMENTS.

RECEIVED  
TRANSWESTERN PIPELINE CO

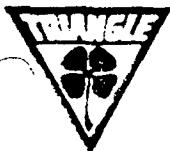
JAN 24 1984

SAFETY OFFICE  
ROSWELL, NEW MEXICO

RECEIVED  
TRANSWESTERN PIPELINE CO

JAN 25 1984

DIVISION OFFICE  
ROSWELL, NEW MEXICO

**TRIANGLE REFINERIES, INC.**

SPECIALTY PRODUCTS DIVISION

100 ANGLIS STREET • SUITE 100 • HARRISBURG, LOUISIANA 70705  
TELEPHONE (504) 681-1111 • FAX (504) 681-1041

A SUBSIDIARY OF KERR-MCCREE REFINING CORPORATION

**MATERIAL SAFETY DATA SHEET**

MSDS NUMBER

W-1410

EMERGENCY TELEPHONE

COMPANY

405/270-2526

CHEMTREC

800/424-9300

**I. PRODUCT IDENTIFICATION**

PRODUCT	CHEMICAL NAME		
KERMAC 100-W	Stoddard Solvent, White Spirits		
CHEMICAL FAMILY	FORMULA	CAS NUMBER	
Petroleum Hydrocarbon Naphtha	C <sub>8</sub> -C <sub>12</sub>	64741-48-9	
NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATING CODES	HEALTH CODE	FIRE CODE	REACTIVITY CODE
Least - 0      Slight - 1 Moderate - 2      High - 3      Extreme - 4	0	2	0

**II. HAZARDOUS COMPONENTS**

INGREDIENT	%	OSHA LIMIT	TLV
Stoddard Solvent	100	TWA-500 ppm	TWA-100 ppm STEL-200 ppm
Xylene	Up to 1%	TWA-100 ppm	TWA-100 ppm STEL-150 ppm

**III. PHYSICAL AND CHEMICAL PROPERTIES**

PERCENT VOLATILE BY VOLUME (%)	MAJOR CONSTITUENT	APPEARANCE
100	Approximately 140	Clear Liquid
ODOR AND THRESHOLD	MOLECULAR WEIGHT	VAPOR DENSITY (AIR = 1)
Petroleum Naphtha/Approx 1 ppm	Not Available	4.8
MELTING POINT	BOILING POINT	SOLUBILITY (G/100G WATER AT 20 °C)
Not Available	Not Available	Not Available

#### IV. FIRE PROTECTION INFORMATION

FLASH POINT AND METHOD

Tag Closed Cup 100°F minimum

AUTOIGNITION TEMPERATURE

Approx. 440°F

FLAMMABLE LIMITS % VOLUME IN AIR

LOWER

UPPER

1

6

EXTINGUISHING MEDIA

Carbon dioxide, dry chemical, or foam. Water stream may spread fire; use water spray only to cool containers exposed to fire. If leak or spill has not ignited, use water spray to disperse vapors.

HAZARDOUS DECOMPOSITION PRODUCTS

Incomplete combustion can yield carbon monoxide and various hydrocarbons.

FIRE AND EXPLOSION HAZARDS

Can form flammable mixtures with air and flash when heated to approximately 100°F. Explosion hazard in fire situation. Vapor heavier than air and may travel considerable distance to a source of ignition and flash back.

HAZARDOUS POLYMERIZATION

STABILITY

☒ Will Not Occur

☐ May Occur

☒ Stable

☐ Unstable

#### V. HEALTH INFORMATION

INHALATION

Possible effects include headache, nasal and respiratory irritation, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, central nervous system depression.

EYE CONTACT

Irritation

SKIN CONTACT

Irritation, may cause dermatitis due to defatting of keratin layer.

INGESTION

Possible effects include headache, drowsiness, nausea, fatigue, pneumonitis, pulmonary edema, central nervous system depression. Aspiration hazard.

REPORTED AS POTENTIAL CARCINOGEN  
OR CARCINOGEN

☒ Not Applicable

☐ International Agency for Research on Cancer

☐ National Toxicology Program  
☐ OSHA

## VI. FIRST AID PROCEDURES

### INHALATION

Expose person to fresh air. If breathing has stopped, perform artificial respiration. Get medical attention as soon as possible.

### EYE CONTACT

Immediately flush eyes with water for a minimum of 15 minutes, occasionally lifting the lower and upper lids. Get medical attention as soon as possible.

### SKIN CONTACT

If clothing soaked, immediately remove clothing and wash skin with soap and water. Launder clothing before wearing. Get medical attention promptly.

### INGESTION

Do not induce vomiting. Get medical attention as soon as possible.

## VII. EMPLOYEE PROTECTION

RESPIRATORY PROTECTION (UTILIZE NIOSH APPROVED RESPIRATORS. REFER TO MANUFACTURER'S PROTECTION FACTORS AND OSHA STANDARD 1910.134, AS A GUIDELINE.)

Up to 500 ppm, half-mask organic vapor respirator.

Up to 1000 ppm, full-face organic vapor respirator or full-face supplied air respirator.

Greater than 1000 ppm, fire fighting, or unknown concentration, self-contained breathing apparatus with positive pressure.

PROTECTIVE CLOTHING	EYE	Chemical goggles, face shield.
	SKIN	Gloves: Nitrile, neoprene or other material resistant to naphtha solvent.

### VENTILATION

Maintain local or dilution ventilation to keep air concentration below 100 ppm. Loading, unloading, tank gauging, etc. remain upwind. Request assistance of safety and industrial hygiene personnel to determine air concentrations.



## VIII. TRANSPORTATION AND STORAGE INFORMATION

DOT Hazardous Material  
DOT SHIPPING NAME AND NUMBER

☒ Yes

☐ No

DOT HAZARD CLASS

Petroleum naphtha UN1255  
STORAGE

Combustible liquid

Do not store with strong oxidizers. Store as OSHA Class II combustible liquid.

## IX. ENVIRONMENTAL PROTECTION

SPILLS

Notify emergency response personnel. Evacuate area and remove ignition sources. Build dike to contain flow. Remove free liquid, do not flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal. If flash point of residue is under 140°F, utilize hazardous waste manifest and permitted hazardous waste disposal site. If flash is above 140°F, utilize permitted industrial waste disposal site.

WASTE DISPOSAL

EPA Hazardous Waste

☒ Yes

☐ No

EPA WASTE CODE NUMBER

D 001

WASTE CHARACTERISTIC OR HAZARD CODE

Ignitable

Utilize licensed waste disposal company. Consider recycling or incineration. Based on flash point, utilize permitted hazardous waste disposal site and manifest or permitted industrial waste disposal site as appropriate.

MANAGER'S SIGNATURE (PRODUCT SAFETY AND COMPLIANCE)

Prepared by Kerr-McGee Refining Corporation for Triangle Refineries, Inc.

C. L. Russell

DATE PREPARED

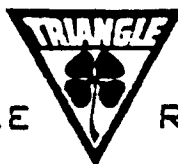
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DISCLAIMER

The information and recommendations contained in this publication have been compiled from sources believed to be reliable and to represent the best current opinion on the subject at the time of publication. Since we cannot anticipate or control the many different conditions under which this information or our products may be used, we make no guarantee that the recommendations will be adequate for all individuals or situations. Each user of the product described herein should determine the suitability of the described product for his particular purpose and should comply with all federal and state rules and regulations concerning the described product.

H. W. DUDLEY  
VICE-PRESIDENT  
ALS. SPECIALTIES MARKETING

TRIANGLE



REFINERIES, INC.

From: Brewer Oil  
Bob Smith  
1-29-87

HOUSTON  
PHONE (713) 663-4800

POST OFFICE BOX 3367

HOUSTON, TEXAS

77253

KERMAC Mineral Spirits (100W)

WYNNEWOOD REFINERY

TYPICAL SPECIFICATIONS

API GRAVITY @ 60 F.	49.0
SPECIFIC GRAVITY	.7839
FLASH POINT TCC	100 F. Min.
COLOR	+30
DISTILLATION	
IBP	314
10%	323
50%	338
90%	368
DP	396
Aniline Point	138.7
Kauri Butanol	35.9
CHEMICAL COMPOSITION VOL %	
Paraffins	45.2
Olefins	Nil.
Aromatics	11.3
Naphthenes	43.5
CORROSION	1-A
SULFUR	NIL
DOCTOR	NEG.

RECEIVED JAN 15 1987

NOTICE JUDGEMENT BASED ON INDIRECT TEST DATA

**MATERIAL SAFETY DATA SHEET**

DATE:

(ESSENTIALLY SIMILAR TO FORM OSHA-20)

I-PRODUCT INFORMATION			
MANUFACTURED FOR <b>ALPHA DYN CHEMICAL</b>		EMERGENCY PHONE NUMBER <b>(505) 392-7034</b>	
ADDRESS <b>P.O. BOX F #3 BRAND DRIVE HOBBS, N.M. 88240</b>		OTHER	
FORMULA <b>PROPRIETARY</b>		TRADE NAME <b>BLUE TIGER</b>	
II-HAZARDOUS INGREDIENTS			
	CAS #	% (wt)	TLV (ppm)
III-PHYSICAL DATA			
BOILING POINT (°F)	212	SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.035
VAPOR PRESSURE (psig)	18	% VOLATILE BY VOLUME	90.00
VAPOR DENSITY	N/A	EVAPORATION RATE (WATER = 1)	1.00
SOLUBILITY IN WATER	100%	APPEARANCE AND ODOR	CLEAR, BLUE, MOD. VISCIOUS LIQUID
IV-FIRE & EXPLOSION HAZARD DATA			
FLAMMABILITY AS PER CPSC FLAME EXTENSION TEST NONE		FLAMMABLE LIMITS Lower Upper	
EXTINGUISHING MEDIA NONE			
SPECIAL FIRE FIGHTING PROCEDURES NONE			
UNUSUAL FIRE & EXPLOSION HAZARDS NONE			
V-REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

## VI-HEALTH HAZARD DATA

OSHA PERMISSIBLE EXPOSURE LIMIT

EFFECTS OF OVER EXPOSURE

INHALATION NO ADVERSE EFFECTS FROM INHALATION.

SKIN CONTACT / ABSORPTION MAY BE IRRITATING TO SKIN. FLUSH OFF WITH CLEAR WATER.

INGESTION GASTROINTESTINAL IRRITATION IF INGESTED. DO NOT INDUCE VOMITING. DRINK LARGE VOLUMES OF CLEAR WATER AND SEEK PROMPT MEDICAL ATTENTION.

EYES FLUSH WITH CLEAR WATER, THEN APPLY AN ISOTONIC EYEWASH SOLUTION.

EMERGENCY AND FIRST AID PROCEDURES

EYES AND SKIN

FLUSH OFF WITH CLEAR WATER

INHALATION

N/A

INGESTION

DRINK LARGE VOLUMES OF CLEAR WATER AND SEEK PROMPT MEDICAL ATTENTION

## VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED FLUSH ALL EFFECTED SURFACES WITH CLEAR WATER, SQUEEGEE TO FLOOR DRAIN, THEN FLUSH TO STANDARD SEWER WITH LARGE VOLUMES OF CLEAR WATER. WIPE DRY OR ALLOW TO AIR DRY.

WASTE DISPOSAL METHOD DILUTE CONCENTRATION OF WASTE OR SPENT MATERIAL WITH CLEAR WATER, THEN FLUSH TO STANDARD SEWER. EMPTY CONTAINER MAY BE SENT TO A LANDFILL SITE OR OFFERED FOR RECONDITIONING.

## VIII-SPECIAL PROTECTION INFORMATION

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

EYE GOGGLES

SKIN RUBBER GLOVES

OTHER

VENTILATION REQUIREMENTS ADEQUATE

## IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING KEEP OUT OF THE REACH OF CHILDREN. KEEP CONTAINER SEALED WHEN NOT IN USE. PROTECT PRODUCT FROM STORAGE IN AREA EXPOSED TO TEMPERATURE EXTREMES. STORE PRODUCT IN ORIGINAL SHIPPING CONTAINER WITH PRODUCT LABEL INTACT. READ PRODUCT LABEL CAREFULLY BEFORE USING PRODUCT.

OTHER PRECAUTIONS

## HAZARD COMMUNICATION GUIDE

Material Safety  
Data Sheet

N/D = No Data

N/A = Not Applicable

Supersedes: 10/20/86		I. General Information Date Revised: 12/12/88							
Chemical Name & Synonyms <b>N/A</b> Chemical Family <b>Solvent=Surfactant Mixture</b> Proper DOT Shipping Name <b>Compound, degreasing, liquid</b> Manufacturer <b>Crain Chemical Co., Inc.</b> Manufacturer's Address <b>P.O. Box 540995, Dallas, TX 75354</b>	Trade Name & Synonyms <b>OIL-OFF</b> Formula <b>N/A</b> DOT Hazard Classification <b>Combustible material</b> Manufacturer's Phone Number <b>214/358-3301</b> Chemtrec Phone Number <b>1-800-424-9300</b>								
<b>II. Ingredients</b>									
Principal Hazardous Components  <b>Petroleum Hydrocarbon Distillate</b> <b>CAS# 8008-20-6</b>	Percent	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; padding: 5px;">Threshold Limit Value (units)</th> </tr> <tr> <th style="width: 50%; text-align: center; padding: 5px;">OSHA</th> <th style="width: 50%; text-align: center; padding: 5px;">ACGIH</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">500ppm</td> <td style="text-align: center; padding: 5px;">N/D</td> </tr> </tbody> </table>		Threshold Limit Value (units)		OSHA	ACGIH	500ppm	N/D
Threshold Limit Value (units)									
OSHA	ACGIH								
500ppm	N/D								
<b>III. Physical Data</b>									
Boiling Point (°F) <b>354-525</b> Vapor Pressure (mm Hg.) <b>0.4 @ 68°F</b> Vapor Density (Air = 1) <b>6.6</b> Solubility in Water <b>Negligible</b> Appearance & Odor <b>Clear, dark blueish green liquid/characteristic odor</b>	Specific Gravity (H <sub>2</sub> O = 1) <b>0.848</b> Percent Volatile By Volume (%) <b>75</b> Evaporation Rate (_____ = 1) Toluene <b>&lt; 0.1</b> pH <b>N/A</b>								
<b>IV. Fire &amp; Explosion Hazard Data</b>									
Flash Point (Test Method) <b>149°F</b> Flammable Limits <b>Combustible</b> Extinguishing Media <b>Foam, dry chemical, CO<sub>2</sub></b> Special Fire Fighting Procedures <b>Water stream may spray fire. Use water spray only to keep fire exposed containers cool.</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; padding: 5px;">Auto Ignition Temperature</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; text-align: center; padding: 5px;"> <b>410°F</b>            TEL  <b>1.0</b> </td> <td style="width: 50%; text-align: center; padding: 5px;">           UEL  <b>8.0</b> </td> </tr> </tbody> </table>			Auto Ignition Temperature		<b>410°F</b> TEL <b>1.0</b>	UEL <b>8.0</b>		
Auto Ignition Temperature									
<b>410°F</b> TEL <b>1.0</b>	UEL <b>8.0</b>								
Unusual Fire & Explosion Hazards  <b>Can form combustible mixtures with air when heated to approximately 171°F will not flash spontaneously.</b>									

# HAZARD COMMUNICATION GUIDE

## V. Health Hazard Data

Threshold Limit Value

500ppm

Carcinogen - NTP Program

N/A

OSHA Threshold Limit Value

500ppm

Carcinogen - IARC Program

N/A

ACGIH Threshold Limit Value

N/D

Symptoms of Exposure

Irritation, possible effects include headache, drowsiness, nausea, fatigue, pneumonitis, pulmonary edema, CNS depression, aspiration hazard.

Medical Conditions Aggravated By Exposure

Many aggravate existing eye, skin or respiratory conditions.

Primary Route(s) of Entry

Inhalation, skin

Emergency First Aid

Inhalation: Move to fresh air. Resuscitate if necessary. Eyes: Immediately flush with water for 15 minutes, occasionally lifting upper & lower eyelids. Skin: Wash with soap and water. Ingestion: Do NOT induce vomiting. Get medical attention as soon as possible.

## VI. Reactivity Data

Stability

☒

Unstable

Stable

Conditions To Avoid

Heat, sparks, open flames, welding arcs.

Incompatibility

Materials To Avoid

Strong oxidizing agents

Hazardous

☒

May Occur

Conditions To Avoid

Polymerization

☒

Will Not Occur

Not known to polymerize

Hazardous Decomposition Products

Incomplete combustion can yield CO and various hydrocarbons.

## VII. Environmental Protection Procedures

Spill Response

Notify emergency response personnel. Remove ignition sources and evacuate area. Remove free liquid. Do Not Flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal.

Waste Disposal Method

Utilize licensed waste disposal company. Consider recycling or incineration. Utilize permitted industrial waste disposal site.

## VIII. Special Protection Information

Eye Protection

Chemical goggles

Skin Protection

Solvent-resistant gloves

Respiratory Protection (Specific Type) Half/mask or full

Ventilation Recommended

face organic respirator or supplied air, or self contained breathing apparatus. NIOSH/MSHA approved

Maintain adequate ventilation to keep vapor concentrations below TLV.

Rubber aprons and boots.

## IX. Special Precautions

Hygienic Practices In Handling & Storage

Maintain good industrial hygienic practices. Store as a Class III A combustible liquid.

Precautions For Repair & Maintenance Of Contaminated Equipment

Remove all ignition sources.

Other Precautions

Avoid breathing vapors over extended periods.

Avoid contact with eyes, skin. Keep out of reach of children.



**United Catalysts Inc.**  
Girdler and CCI Catalysts

Post Office Box 32370  
Louisville, Kentucky 40232

Telephone 502-634-7200  
Telex 204190, 204239  
Facsimile 502-637-3732

**MATERIAL SAFETY DATA SHEET**  
**G-132B**

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**SECTION I PRODUCT IDENTIFICATION**

---

**Trade Name and Synonyms**      **G-132B**

**Chemical Family**

**Formula**

**Heterogeneous Catalyst**

**$\text{CuO} + \text{ZnO} + \text{Al}_2\text{O}_3 + \text{C}$**

---

**SECTION II HAZARDOUS INGREDIENTS**

---

**Hazardous Components in the Solid Mixture**

<u>COMPONENT</u>	<u>CAS No.</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Zinc oxide	1314-13-2	40-50	2.0 mg/m <sup>3</sup>	10.0 mg/m <sup>3</sup>
Copper oxide	1317-38-0	35-45	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>
Aluminum oxide	1344-28-1	8-15	15.0 mg/m <sup>3</sup>	10.0 mg/m <sup>3</sup>
Carbon (Syn. graphite)	7782-42-5	1-5	*NIA	10.0 mg/m <sup>3</sup>

---

**SECTION III PHYSICAL DATA**

---

**Appearance and Odor:** Dark brown cylindrical tablets. No odor.

**Melting Point:** Greater than 1600°C, greater than 3000°F.

**Solubility in Water:** Insoluble.

**Bulk Density:** 80 lbs./cu. ft.

**Percent Volatile by Weight at 1000°F:** Less than 7%.



**United Catalysts Inc.**  
Girdler and CCI Catalysts

**MATERIAL SAFETY DATA SHEET**  
**G-132B**

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**SECTION IV FIRE EXPLOSION DATA**

---

**Fire and Explosion Hazard**

Negligible fire and explosion hazard when exposed to heat or flame by reaction with incompatible substances.

**Flash Point**

Non-flammable

**Firefighting Media**

Dry chemical, water spray, or foam.

For larger fires, use water spray fog or foam.

**Firefighting**

Non-flammable 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 any discoloration of the tank due to fire.

---

**SECTION V HEALTH HAZARD DATA**

---

Health hazards may arise from inhalation, ingestion, or contact with the skin and eyes.

Excessive repeated inhalation of carbon may cause irritation to the upper respiratory tract and lung damage. Activated carbon may cause irritation of the eyes and mucous membranes, conjunctivitis, epithelial hyperplasia of the cornea, and eczematous inflammation of the eyes. Ingestion of large quantities may cause stomach and alimentary tract irritation. In the form of dust, activated carbon may contain small amounts of irritating and possibly toxic impurities.

Alumina particles deposited in the eye may cause necrosis of the cornea. Ingestion may cause stomach and intestinal distress. Salts of alumina may cause dermatoses, eczema, conjunctivitis, and irritation of the mucous membranes of the upper respiratory tract. Prolonged inhalation of alumina dust may result in pneumoconiosis. Lung damage (Shaver's Disease) may result from inhalation of finely divided aluminum oxide particles; it is complicated by silica and oxides of iron in the inhaled air.





**United Catalysts Inc.**  
Girdler and CCI Catalysts

**MATERIAL SAFETY DATA SHEET**  
**G-132B**

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**SECTION VI    REACTIVITY DATA**

---

**Reactivity**

Is stable under normal temperatures and pressures in sealed containers. Hazardous polymerization will not occur. Finely divided particles can result in fire or explosion. Toxic fumes are produced at elevated temperatures. When heated, can react explosively with magnesium or chlorinated rubber.

---

**SECTION VII    SPILL OR LEAK PROCEDURES**

---

Notify safety personnel of spills or leaks. Clean-up personnel need protection against inhalation of dusts or fumes. Eye protection is required. Vacuuming and/or wet methods of cleanup are preferred. Place in appropriate containers for disposal, keeping airborne particulates at a minimum.

**Disposal**

Consult applicable local, state, and federal regulations to select the method of disposal. Recover metal components by reprocessing when possible.

---

**SECTION VIII    SPECIAL PROTECTION INFORMATION**

---

**Respiratory Protection**

Provide a NIOSH/MSHA jointly approved respirator in the absence of proper environmental control. Contact your safety equipment supplier for proper mask type.

**Ventilation**

Provide general and/or local exhaust ventilation to keep exposures below the TLV. Ventilation used must be designed to prevent spots of dust accumulation or recycling of dusts.

**Protective Clothing**

Wear protective clothing, including long sleeves and 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.



**MATERIAL SAFETY DATA SHEET**  
**G-132B**

Excessive inhalation of copper dusts may produce irritation to the upper respiratory tract and may cause temporary or permanent damage to the lungs. Sublimed copper oxide may be responsible for a form of metal fume fever. Ingestion of large quantities may result in damage to the liver, pancreas, kidney, or nervous system. Prolonged or repeated contact with the skin may result in irritation and possible dermatitis in sensitive individuals. Contact with eye tissue may result in irritation and/or conjunctivitis.

Inhalation of zinc dust, mists, or fumes may irritate the respiratory tract, mucous membranes and skin. At higher levels of exposure "zinc chills" or "zinc fume fever" may occur with symptoms of metallic or sweet taste, marked thirst, coughing, weakness, fatigue, muscular pain, nausea and vomiting, followed by fever, perspiration and chills, dyspnea, rales throughout the chest, and tachycardia. Onset of symptoms usually occur about 4-12 hours after exposure. Workers in zinc refining have been reported to suffer from a variety of nonspecific intestinal, respiratory, and nervous symptoms. Excessive contact may cause perforation of the nasal septum. Prolonged or repeated contact under poor hygienic conditions may produce a papular, pustular eczema or dermatitis called "oxide pox." Contact with the eye tissue may produce irritation and/or conjunctivitis.

**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 eyes immediately and carefully for 15 to 20 minutes with running water, lifting upper and lower eyelids occasionally. Get prompt medical attention.

**First Aid (Skin)**

To avoid repeated or prolonged contact with this chemical, use good hygienic practices. Wash with soap and a large amount of water. Get medical attention if irritation or inflammation develops.



**United Catalysts Inc.**  
Girdler and CCI Catalysts

**MATERIAL SAFETY DATA SHEET**  
**G-132B**

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**SECTION IX**

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This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

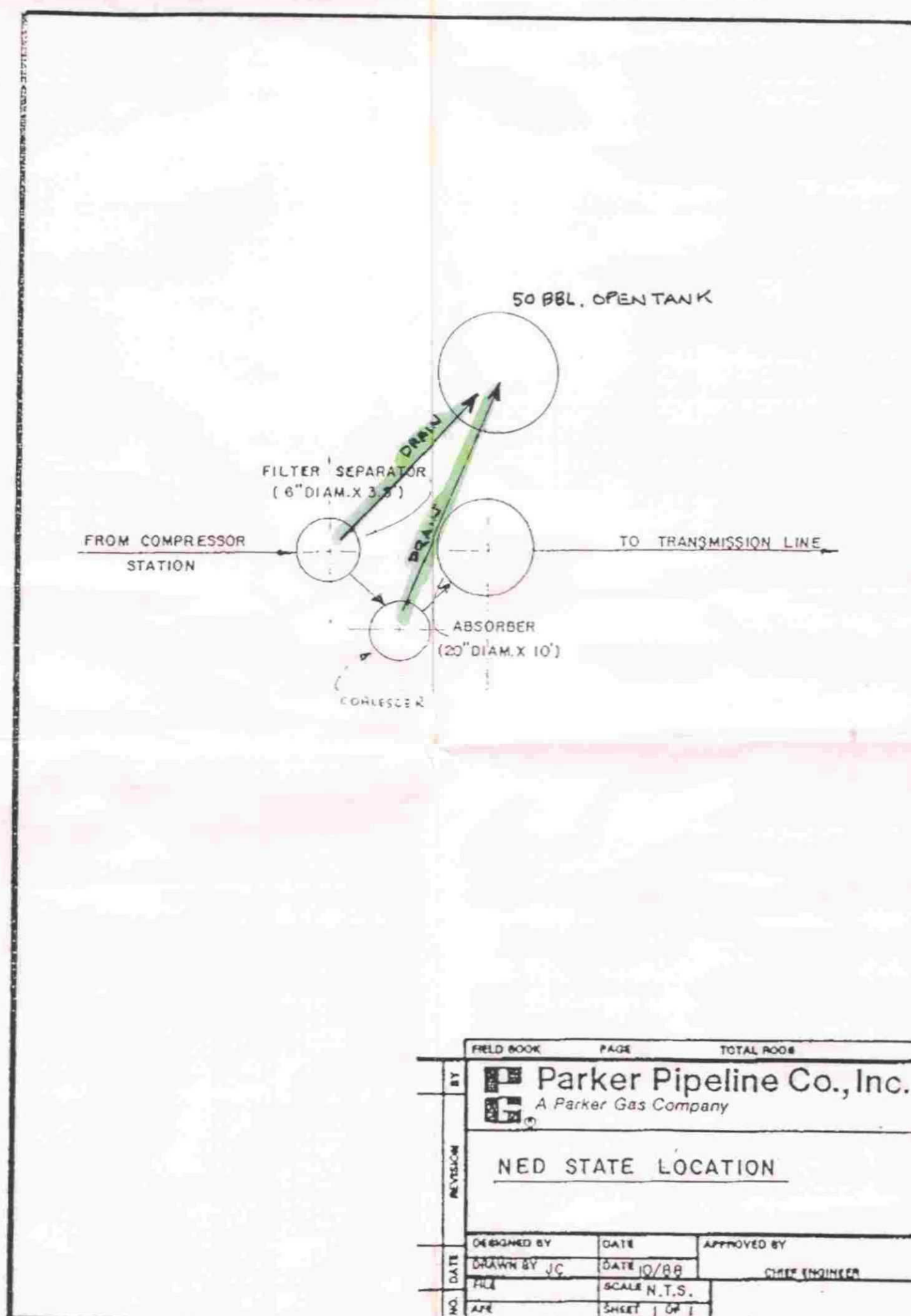
Please refer to 40 CFR Part 372, Subpart D (372.62 - Specific Toxic Chemical Listings) and Section II - Hazardous Ingredients of this document for the names and percentages of the toxic chemical(s) in this product.

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.

\* No Information Available

Doc. 151

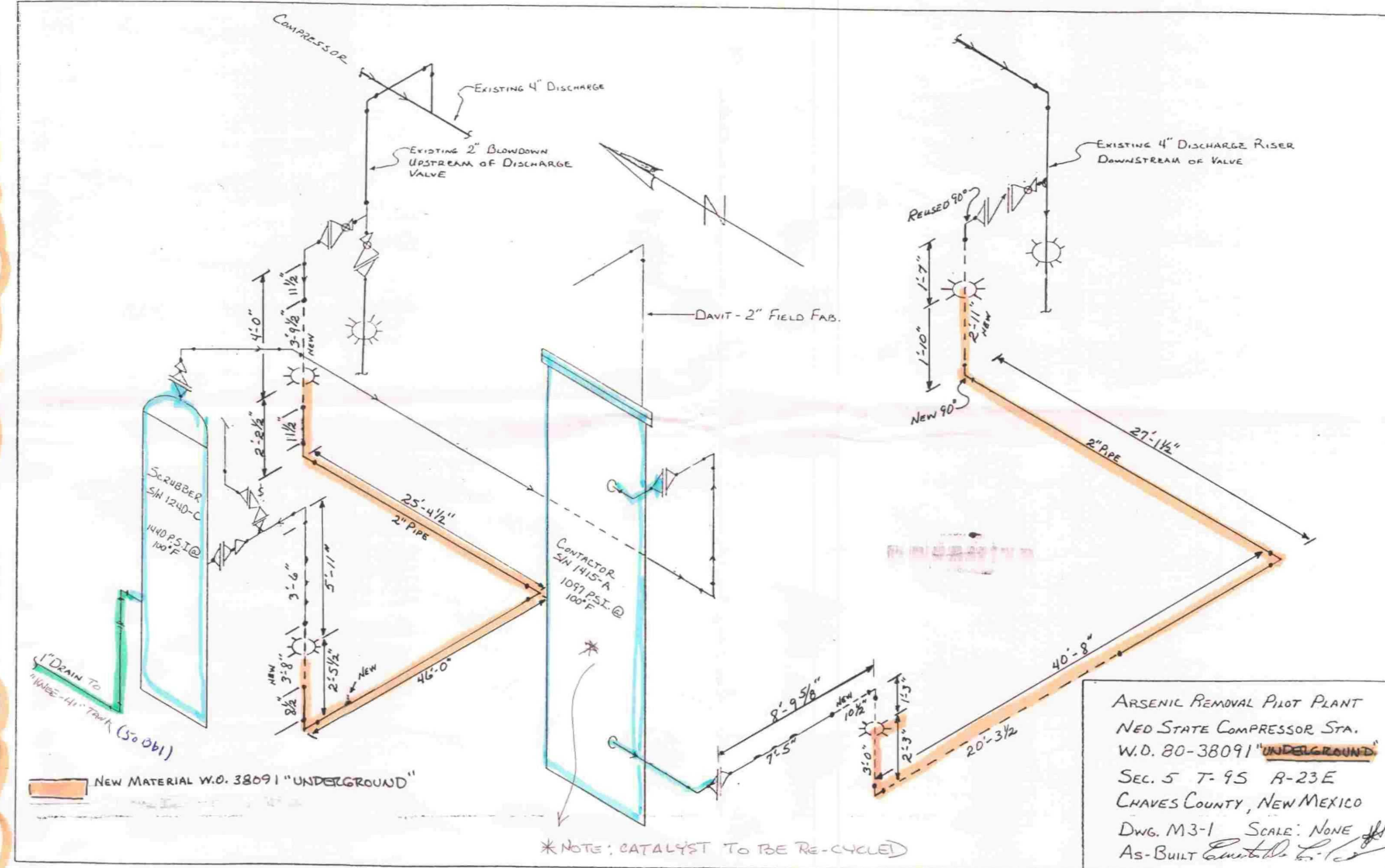




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OIL CONSERVATION DIV.  
SANTA FE

DWG. STATUS	CHECKED		APPROVED		WORK ORDER NUMBER		<b>ENRON</b> Gas Pipeline Operating Company Houston, Texas <b>TRANSWESTERN PIPELINE COMPANY</b> <b>NED STATE</b> <b>ARSENIC REMOVAL UNIT INSTALLATION</b> CHAVES COUNTY, NEW MEXICO	<b>ENRON GAS PIPELINE GROUP</b> APPROVED BY CHIEF ENGINEER APPROVED BY VICE PRESIDENT APPROVED BY OPERATING COMPANY DRAWING NUMBER PARKER
	BY	DATE	BY	DATE	BY	DATE		
PREL.Y.								
BID								
CONSTR.		11-88				11-88		
CADD								





Smith, B. J. - 12-17-  
SIGNATURE DATE

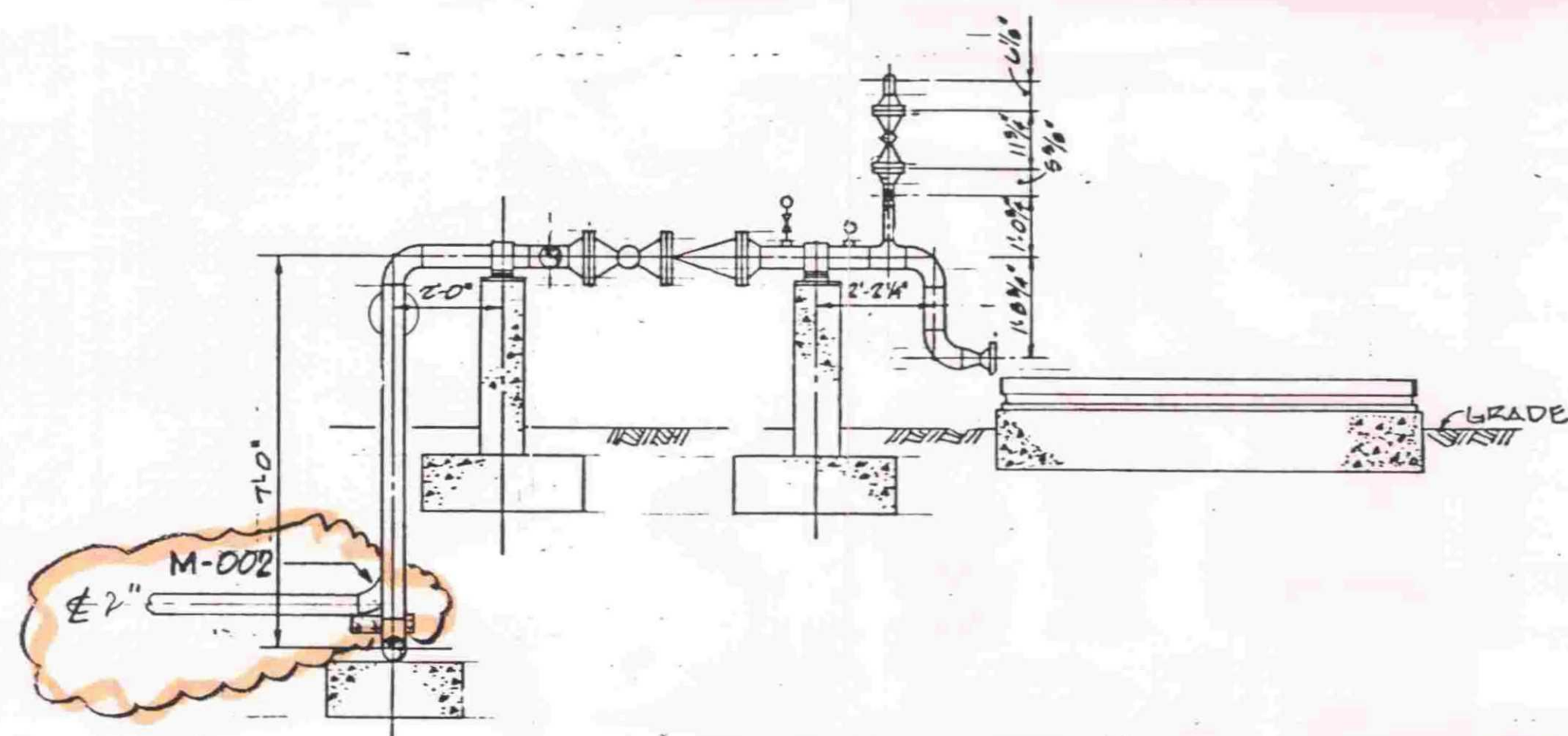
**APPROVED FOR  
CONSTRUCTION**

3 CLOUDED AREA DENOTES EXIST. MATERIAL  
(ABOVE GROUND) 3 PROP. MATERIAL TO BE  
BURIED AS SHOWN UNDER W.O. NO. 38091

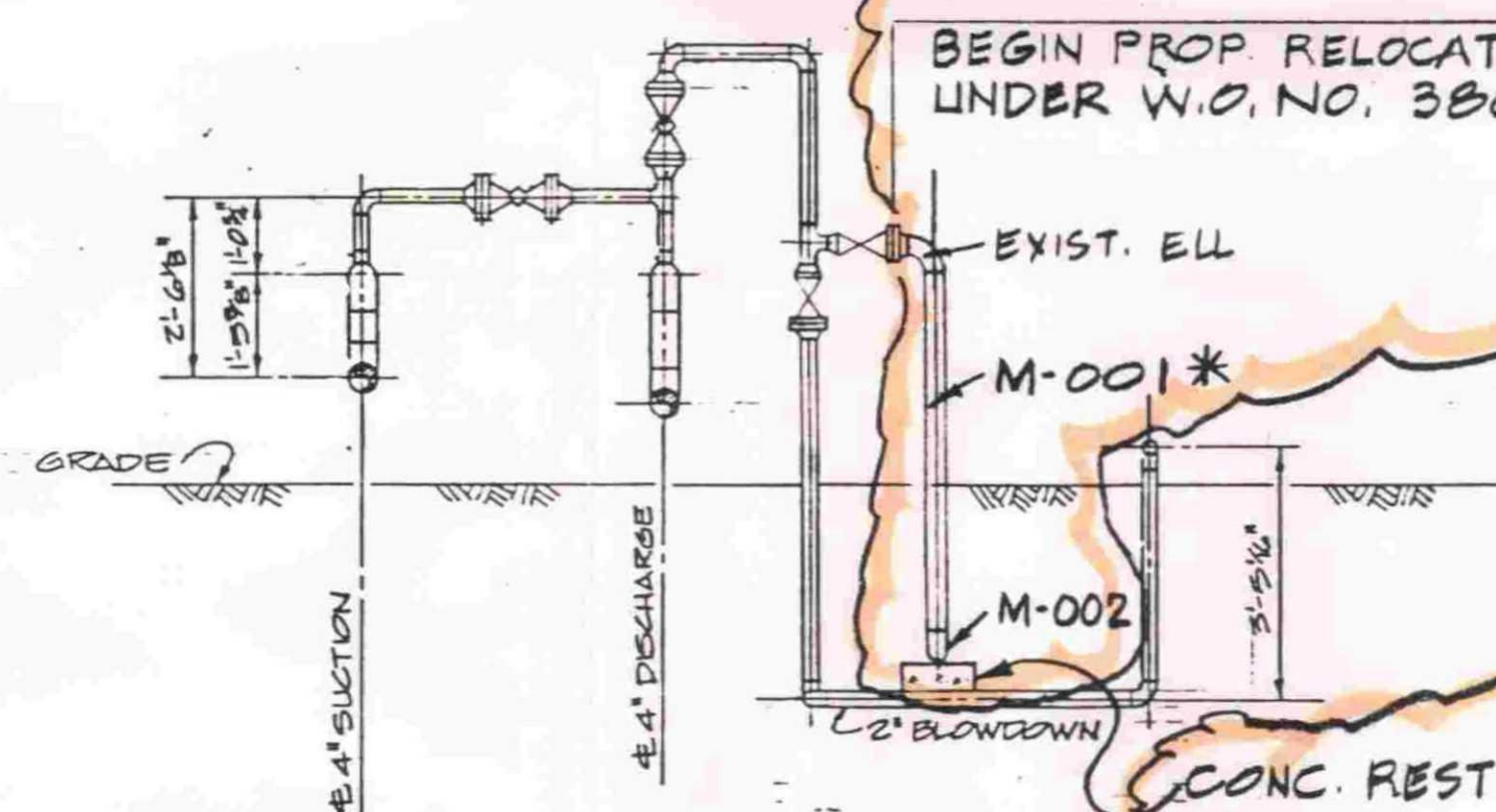
OIL CONSERVATION DIV  
SANTA FE

										DWG. STATUS		CHECKED BY DATE		APPROVED BY DATE		WORK ORDER NUMBER <b>38091</b>		ENRON Gas Pipeline Operating Company Houston, Texas		ENRON GAS PIPELINE GROUP	
																P.L. OR STA. ACCOUNTY NUMBER					
										PREL.Y.						1988 CONSTRUCTION		TRANSWESTERN PIPE LINE COMPANY			
																BY DATE		NED STATE			
										BID						DESIGN L.H. 11-88		YARD PIPING PLAN			
																DRAWN M.L. 11-88		ARSENIC REMOVAL UNIT INSTALLATION			
										CONSTR.		SEER 11-11-88		JCH 11-11-88		AS BUILT		CHAVES COUNTY, NEW MEXICO			
																MICROFILM					
										CADDS		PLOT DATE:				VIEW 1-303					
												DWG.				SCALE 3/8" = 1'-0"					
P.O.	W.O.	YR.	NO.	REVISION — DESCRIPTION				BY	DATE	CHK'D	APP'D					DRAWING NUMBER M3-1A					





SECTION "E-E"



SECTION "D-D"

BEGIN PROP. RELOCATION  
UNDER W.O. NO. 38091

\*PIPE ELEVATIONS 3 LINE PIPE REQUIRED  
UNDER W.O. NO. 38091 TO BE  
DETERMINED IN THE FIELD.

SEE DRAWING M3-1 INSERT ON DRAWING M3-1A

CONC. REST BLOCK AS PER ES. 4835 (TYP.)

NOV111988  
**APPROVED FOR  
CONSTRUCTION**

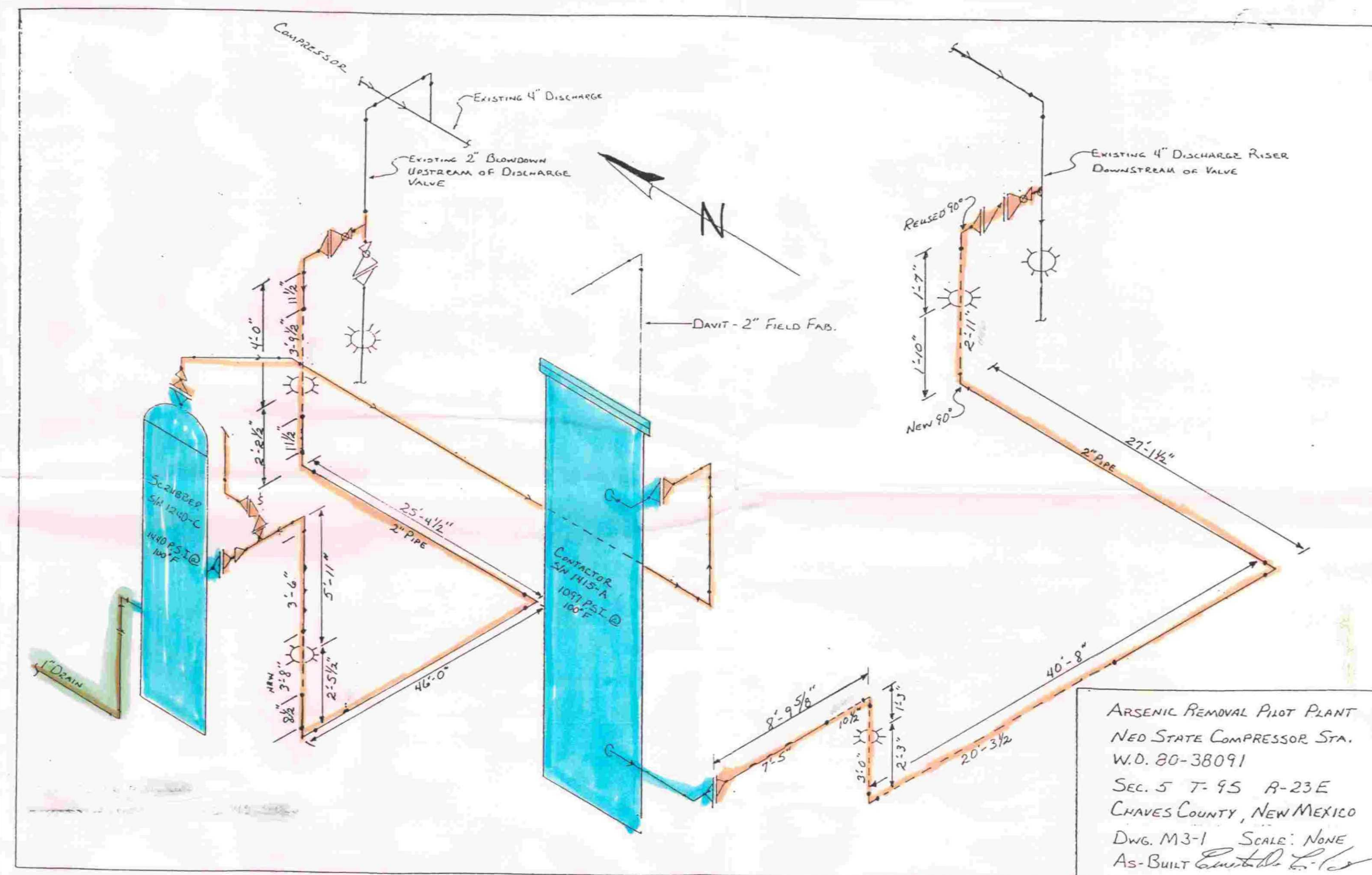
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THIS PRINT TO BE FOR  
FIELD CHECK  
INFORMATION  
ONLY  
SIGNATURE DATE

CLOUDED AREA DENOTES EXIST. 3  
NEW MATERIAL TO BE INSTALLED  
AS SHOWN UNDER W.O. NO. 38091

P.O.				W.O.				YR.				PREVIOUS CONSTR.				NO.				REVISION—DESCRIPTION				BY				DATE				CHK'D				APP'D			
DWG. STATUS				CHECKED				APPROVED				WORK ORDER NUMBER				ENRON				Gas Pipeline Operating Company				Houston, Texas				ENRON				GAS PIPELINE GROUP							
PREL.Y.				BY				DATE				38091				TRANSWESTERN PIPELINE COMPANY				NED STATE				APPROVED BY				CHIEF ENGINEER											
BID				BY				DATE				1988 CONSTRUCTION				DESIGN				LH 11-88				APPROVED BY				VICE PRESIDENT											
CONSTR.				BY				DATE				11-11-88				DRAWN				M.L. 11-88				APPROVED BY				OPERATING COMPANY											
CADD				BY				DATE				11-11-88				AS BUILT				M-303				DRAWING NUMBER				M5-1A											
PLOT DATE				BY				DATE				11-11-88				MICROFILM				3/8" = 1'-0"				CHAVES COUNTY, NEW MEXICO															
DWG.				BY				DATE				11-11-88				SCALE																							





BY PARKER GAS  
 NEW T.W. PIPING TO TIE IN ARSENIC PLANT

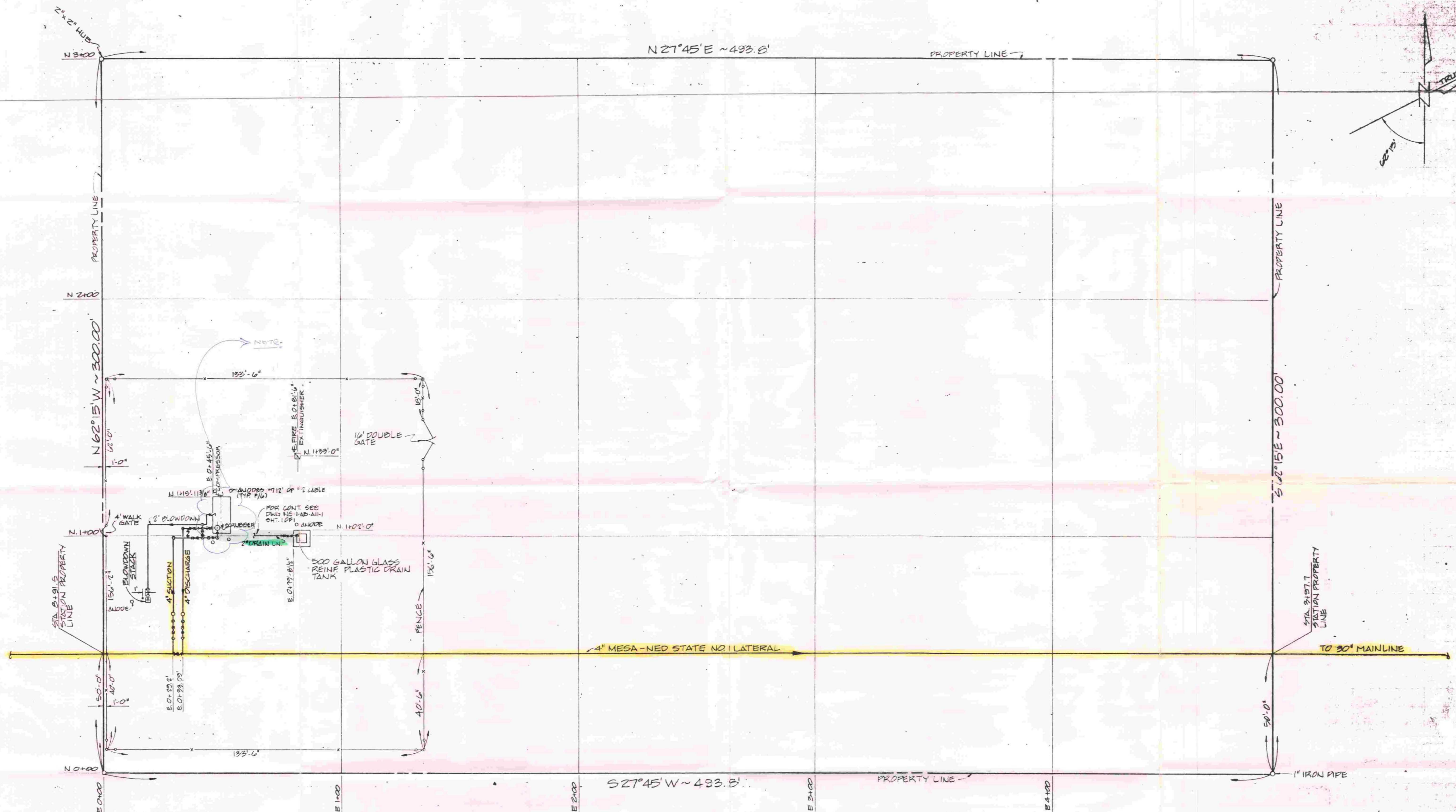
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 OIL CONSERVATION DIV.  
 SANTA FE

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		AS BUILT MICROFILM FILE NO. M-303 SCALE 3/8" = 1'-0"																									
		ENRON Gas Pipeline Operating Company Houston, Texas TRANSWESTERN PIPE LINE COMPANY - NED STATE - ARSENIC REMOVAL UNIT INSTALLATION YARD PIPING - SECTIONS & DETAILS CHAVES COUNTY, NEW MEXICO																									
		ENRON GAS PIPELINE GROUP APPROVED BY CHIEF ENGINEER APPROVED BY VICE PRESIDENT APPROVED BY OPERATING COMPANY DRAWING NUMBER <b>M3-1</b>																									



CHAVES COUNTY, NEW MEXICO  
T95-R23E



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SALTREE



TRANSWESTERN PIPELINE COMPANY

PLOT PLAN

NED STATE NO 1 COME STATION, CHAVES CO, N. MEXICO

SCALE 1" = 20'	DATE 4-28-89	JOB NO. AFE 22827	DRAWING NO. N3-1-AE-21-1
DRAWN DM	CHECKED CJS	APPROVED	ENG.

REV.	DATE	DESCRIPTION	DR. CHK.	APP.	REFERENCE DRAWINGS
△					N3-1-AE-21-1 COMPRESSOR AREA PIPING PLAN
△					T-13825 STATION PROPERTY PLAT
△					SA-2-3 ALIGN 4" MESA-NED STATE NO 1 LAT.
△					DWG. NO. DESCRIPTION