

GW - 92

**GENERAL
CORRESPONDENCE**

YEAR(S):

2001 - 1986

Martin, Ed

To: Richard Duarte (E-mail)
Subject: Rio Vista Compressor Station

I am processing the approval on Rio Vista today. When you get it, please note the next to last paragraph in the cover letter and discharge plan condition #1.

Below are the new fees effective January 15, 2001:

Filing Fee	\$100	
Flat fee for compressor stations 0 to 1000 hp	\$400	
Flat fee for compressor stations > 1000 hp	\$1,700	
Flat fee for gas processing plants	\$4,000	
Flat fee for crude pump stations	\$1,200	
Flat fee for Injection wells Class I		\$4,500
Flat fee for Injection wells Class III and geothermal	\$1,700	
Flat fee for Service companies	\$1,700	
Flat fee for refineries	\$8,400	
Flat fee for underground gas storage	\$1,700	

Due for Rio Vista would have been:

Filing fee	\$100
Flat Fee	\$1,700
Total	\$1,800

Received with renewal application:

Filing Fee	\$50
Flat Fee	\$690
Total	\$740

Still due \$1,060

Call me if you have any questions.

Ed Martin
New Mexico Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505
Phone: (505) 476-3492
Fax: (505) 476-3471

AFFIDAVIT OF PUBLICATION

Ad No. 45567

**STATE OF NEW MEXICO
County of San Juan:**

CONNIE PRUITT, being duly sworn says:
That she is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meeting of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):
Monday, January 21, 2002.

And the cost of the publication is \$70.00.

Connie Pruitt

ON 1/28/02 CONNIE PRUITT appeared before me, whom I know personally to be the person who signed the above document.

Lenny Beck
My Commission Expires April 2, 2004.

COPY OF PUBLICATION

918 Legals

NOTICE OF PUBLICATION

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

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

(GW-092) - El Paso Natural Gas Co., Mr. Richard Duarte, 3801 Atrisco Blvd. N.W., Albuquerque, NM 87120, has submitted a discharge plan renewal application for their Rio Vista Compressor Station located in the SE/4 SW/4, Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The facility is designed to minimize the generation of waste effluent. Any waste effluent will be stored in a below-grade, closed-top, steel tank equipped with secondary containment and leak detection and will be disposed of at an OCD approved facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3,400 mg/l. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

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

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

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 15th day of January 2002.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

LORI WROTENBERY, Director

Legal No. 45567, published in The Daily Times, Farmington, New Mexico, Monday, January 21, 2002.

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [REDACTED] dated 1/16/02
or cash received on 1/15/02 in the amount of \$ 240.00
from EL PASO NATURAL GAS Co. GW-092
for GW-092

Submitted by: _____ Data: _____
(Family Name) (OF No.)

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee New Facility _____ Renewal

Modification _____ Other _____
(Specify)

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

PAID OLD FEES IN ERROR.

BALANCES DUE:	DUE	PP.	STILL DUE
FILING FEE	100.00	- 50.00	= 50.00
FLAT FEE	1700.00	- 690.00	= 1010.00
TOTAL DUE			<u>\$ 1060.00</u>

EL PASO NATURAL GAS COMPANY
P.O. BOX 4430
HOUSTON, TX 77210-4430

CITIBANK DELAWARE
A Subsidiary of Citicorp
One Penn's Way
New Castle, DE 19720

CHECK DATE
01/16/2002
62-20
311

CHECK NUMBER
[REDACTED]

Amount

***\$740.00

VOID AFTER ONE YEAR

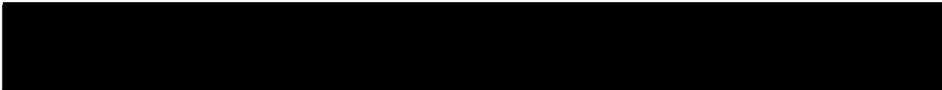
Pay ***SEVEN HUNDRED FORTY AND XX / 100 US DOLLAR***

To The
Order Of

NEW MEXICO ENVIRONMENT DEPT
WATER QUALITY MANAGEMENT FUND
NM OIL CONSERVATION DIVISION
ENVIRONMENTAL BUREAU ATT ED MARTIN
1220 S ST FRANCIS DR
SANTA FE, NM 87505

H. Brent Austin

Authorized Signature



Martin, Ed

To: David Bays (E-mail)
Subject: Discharge Plan Renewals

The following El Paso facilities' discharge plans are coming up for renewal soon:

GW-92	Rio Vista Compressor Station	Expires: 01/17/02
GW-71	Chaco Gas Plant	Expires: 05/18/02

Please forward renewal applications for these two along with the application fees of \$100.00 each and we can set up inspections at a later date. As soon as I get the renewals, I will do what needs to be done on my end as far as public notification and the like goes.

Hope you have a very nice Christmas.

Ed

NOTICE OF PUBLICATION

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

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(GW-092) – El Paso Natural Gas Co., Mr. Richard Duarte, 3801 Atrisco Blvd. N.W., Albuquerque, NM 87120, has submitted a discharge plan renewal application for their Rio Vista Compressor Station located in the SE/4 SW/4, Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The facility is designed to minimize the generation of waste effluent. Any waste effluent will be stored in a below-grade, closed-top, steel tank equipped with secondary containment and leak detection and will be disposed of at an OCD approved facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3,400 mg/l. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

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

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 15th day of January 2002.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

LORI WROTENBERY, Director

12/20/01

EPNG Rio Vista C.S. GW-092
RICHARD DUARTE

ROCK BARRIER ERECTED NORTH
SIDE OF PLANT IN 1997 TO
HELP EROSION. OTHER ³ SIDES
ENCIRCLED IN 2001. NOW
FULLY ENCIRCLED.

~~3~~ COMPRESSORS

#1 1100 H.P.

#2 1100 H.P.

#3 5478 ISO HP.

SAW NO PROBLEMS
GAS POWERED TURBINES

RICHARD SAID EP IS COMING OUT WITH
STORMWATER MGMT. PROCEONRE.



January 14, 2002

Ed Martin, Engineer
NMOCD – Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Overnight Mail
FedEx Air Bill No. 7909 8549 3786

**Re: Discharge Plan GW-92 Renewal; El Paso Natural Gas Company's Rio Vista Station,
near Bloomfield, San Juan County, NM**

Dear Mr. Martin:

Enclosed please the subject documents. A check in amount of \$740 to cover the filing fee \$50 and renewal fee \$690 will be transmitted from our corporate offices in Houston, Texas, later this week.

Please note that EPNG is proposing to conduct its drain-line integrity testing during the annual shutdown for the facility tentatively scheduled for the fall of 2002. Also, your information and as we discussed at Rio Vista, enclosed are several draft procedures from El Paso Corporation's field handbook for its natural gas transmission companies. Once the handbook is finalized (in March 2002), I will share a copy with you.

Please contact me at (505) 831-7763 if you have any questions regarding this renewal application.

Sincerely,

A handwritten signature in cursive script that reads "Richard Duarte".

Richard Duarte
Principal Environmental Engineer
Pipelines West – Environmental Department
El Paso Corporation

Enclosure (application – 1 original & 1 copy)

Copy (with enclosure):

Denny G. Foust
NMOCD – Environmental Bureau
1000 Rio Brazos Street
Aztec, NM 87410

Original

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

State of New Mexico
Energy Minerals and Natural Resources

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

Revised January 24, 2001

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

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES
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 (Natural Gas Transmission)
2. Operator: El Paso Natural Gas Company
Address: 2 North Nevada Ave., Colorado Springs, Colorado 80903
Contact Person: Richard Duarte Phone: (505) 831-7763
3. Location: SE /4 SW /4 Section 27 Township 29 Range North
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 are 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: Richard Duarte

Title: Principle Environmental Engineer

Signature: *Richard Duarte*

Date: 01/14/02

Item 1

Indicate the major operational purpose of the facility. If the facility is a compressor station include the total combined site rated horsepower.

EPNG Natural Gas Company (“EPNG”) provides pipeline-quality natural gas transportation services for natural gas suppliers and end users throughout the Southwestern United States. EPNG owns and operates a large pipeline network for which Rio Vista Compressor Station (“Rio Vista”) is one of many stations that provide natural gas compression. The amount of pipeline quality gas transported in the system varies depending on customer demand for natural gas. Compression is needed to maintain enough pressure in the pipeline to make required deliveries to customers.

To accomplish this natural gas compression, Rio Vista utilizes the following:

“A” Plant:

2 – Solar Saturn 10 turbines and one Centaur 50 T5502 turbine.

Item 2

Name of operator or legally responsible party and local representative.

Legally Responsible Party Thomas P. Morgan, Vice President
El Paso Natural Gas Company
2 North Nevada
Colorado Springs, Colorado 80903

Local Representative Richard Duarte (505) 831-7763
El Paso Natural Gas Company
3801 Atrisco Blvd. NW
Albuquerque, NM 87120

Operator El Paso Natural Gas Company
Physical Address #81 County Road 4900
Bloomfield, NM 87413

Mailing Address El Paso Natural Gas Company
P. O. 127
Bloomfield, NM 87413
(505) 632-6001, Russell S. Pyeatt, Manager
1-800-334-8047
(24 hour emergency notification)

Item 3

Give a legal description of the location and county. Attach a large-scale topographic map.

San Juan County, New Mexico
Township 29 North, Range 11 West, SE/4 of the SW/4 of Section 27.

The topographic map is attached in Appendix A.

Item 4

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

United States of America
Bureau of Land Management
1235 La Plata Hwy
Farmington, NM 87401
(505) 599-8900

Item 5

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

Gas Compressors. All natural gas that is compressed centrifugal compressors do not produce wastewater. Any spill or wash down water from cleaning operations will be contained and discharged into a 1,000-gallon underground tank.

Any used lube oil that is generated is drained into the 1,000-gallon underground tank and hauled from the site by an oil recycler.

Natural gas scrubbers units. The natural gas transported at this facility is considered of pipeline quality ready for market usage. All inlet gas is passed through gas scrubber units to remove any deleterious materials contained within the natural gas stream. Any residual material from this scrubber is discharge into the 1,000-gallon underground tank.

Underground Tank: The 1,000-gallon underground tank receives liquids from the compressor building drains, used oil from turbines and two suction scrubbers and the fuel gas scrubber.

Storm water. Located in an alluvial region, the Rio Vista Station has good natural drainage. Any storm water from the compressor area is collected in a gravel-lined ditched that drains onto the rangeland.

Lube Oil Storage Tank. An 8,000-gallon lube oil storage tank is used to store lube-oil for the three turbines and is located within a secondary-containment structure.

Underground Drain Lines. All underground drain lines will be hydrostatically tested during the annual station shutdown during the 2002 calendar year. This event is tentatively scheduled for the fall of 2002. EPNG will provide the OCD with a notice and results of the test findings.

Item 6

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

Container	ID	Material	Form	Volume	Location	Containment
Closed steel AGT	Mobil 797 Lube oil	Turbine lube oil	Liquid	8,000 gallons	South of Control Building	Concrete containment

Item 7

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

Source	Type of Waste	Volume	Quality
Compressor sumps and engine drains	Spills, leaks and used engine oil, wash down water, and some rain water collected.	2 bbl/year	Used lube oil and water with detergents

Item 8

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

Type of Waste	Collection	Storage	Hauler	Disposal
Used oil.	Drained to an underground tank	ABT steel	Removed as necessary by Mesa Environmental	Recycled by Mesa Environmental Hydrocarbon Recovery Facility

OCD Transporters/Disposal Facilities

Waste Management of Four Corners, 101 Spruce St., Farmington, NM (505) 327-6284

Hazardous Waste

With the exception of fluorescent light bulbs, Lead-acid or Ni-Cad batteries, no RCRA-listed hazardous waste are generated at the facility. Safety-Kleen of Farmington, NM recycles all batteries.

Other Solid Waste

All solid waste will be managed by disposal into the Waste Management dumpsters.

Item 9

Attach a description of proposed modifications to existing collection/treatment/disposal system.

No modifications to the facility are necessary to meet NMOCD requirements.

Item 10

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

The facility is unattended and inspected periodically by an operator. The integrity of any buried piping installed at the facility was last tested in 1996 will be tested again during the year 2002 plant shutdown and then re-tested once every five years.

Item 11

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

EPNG will handle all spills and leaks immediately as required by company procedures and will report all spills and leaks according to the requirements of the State of New Mexico as found in NMOCD Rule 116 and WQCC Section 1203.

Any waste generated will be characterized and profiled in accordance with NMOCD-Approved landfill requirements or solid-waste facility requirements (like Waste Management disposal facility).

Item 12

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

Average annual precipitation in the area is 8.5 inches per year.

Site Geology. The Rio Vista Compressor site is located on a bluff 1,800 feet south of, and 120 feet above the San Juan River in the San Juan River Basin. The Hammond Ditch is located on this bluff and is about 600-feet north of the compressor site boundaries. Based on geotechnical site assessment, the station is built upon an alluvium cover, which caps the Nacimiento Formation. The top of bedrock was encountered in the alluvium between 12 and 28-feet below the surface. Groundwater was encountered in the alluvium between 24 and 28-feet below the ground surface.

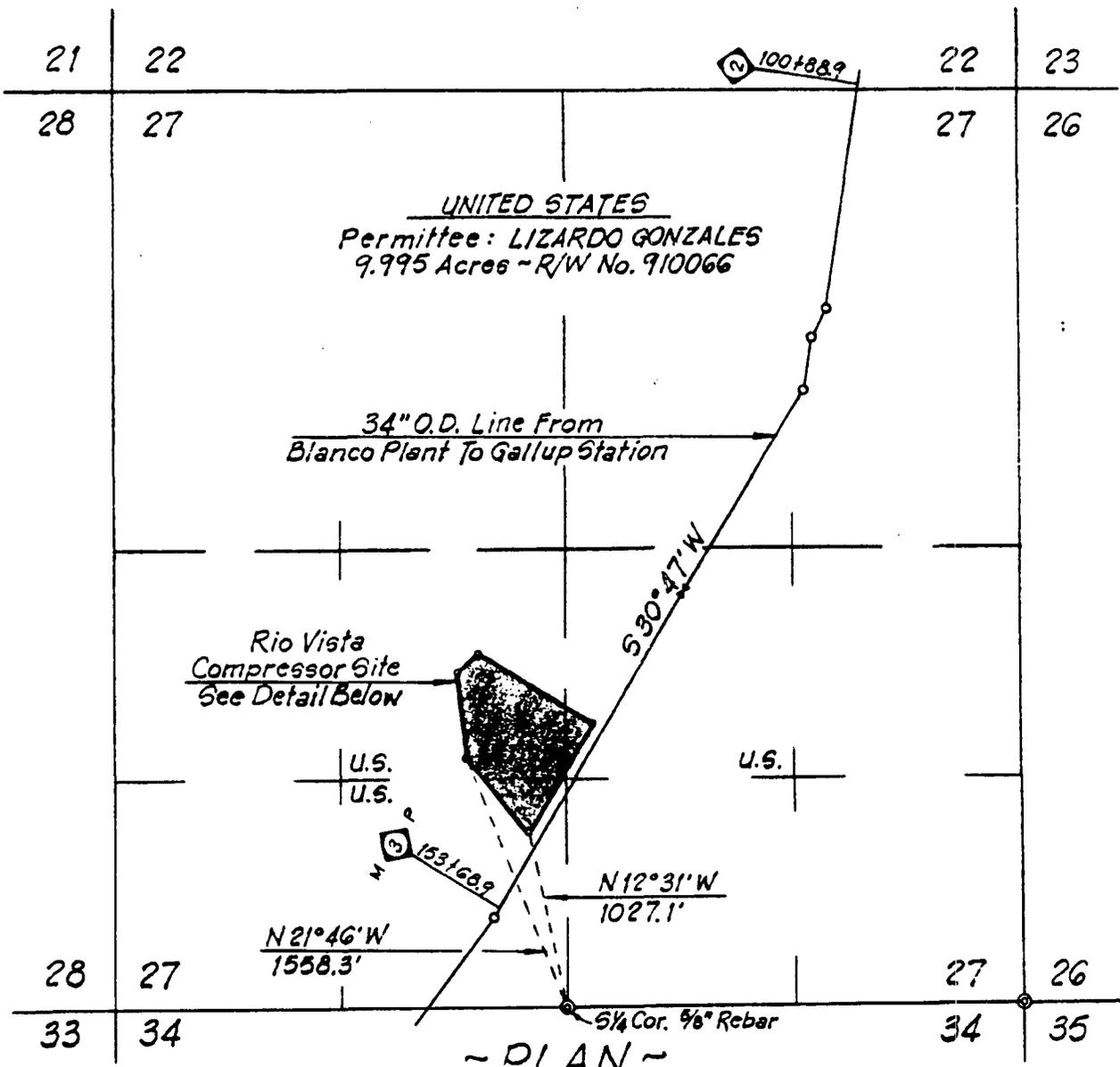
The alluvium on this site consists of fine to coarse sand, clays and varying combinations of the two. The soils tend to be weak, compressible, and moderately permeable. These soils, which extend to depths of 2 and 14 feet, are fine to medium grained and generally soft at the surface and become moderately firm-to-firm with depth.

The rainfall frequency data were obtained from NOAA Atlas 2 Precipitation – Frequency Atlas of the Western United States Volume IV, New Mexico. The 10-year, 25-year, 50-year and 100-year, 24-hour rainfall amounts were estimated to be 1.7, 2.0, 2.4 and 2.6 inches, respectively.

Item 13

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

All reasonable and necessary measures will be taken to prevent the exceedance of 20 NMAC 6.2.3103 water quality standards should EPNG choose to permanently close the facility. Closure measures will include removal or closure in place of all underground piping and equipment. All tanks will be emptied. No potentially toxic materials or effluents will remain on site. All potential sources of toxic pollutants will be inspected. Should contaminated soil be discovered, any necessary reporting under NMOCD Rule 116 and 20 NMAC 6.2.1203 will be made, and clean-up activities will commence. Post closure maintenance and monitoring plans would not be necessary unless contamination is encountered.



N
 T-29-N, R-11-W, N.M.P.M.

UNITED STATES
 Permittee: LIZARDO GONZALES
 9.995 Acres - R/W No. 910066

34" O.D. Line From
 Blanco Plant To Gallup Station

Rio Vista
 Compressor Gite
 See Detail Below

U.S.
 U.S.

U.S.

100+88.9
 133168.9

N 12° 31' W
 1027.1'

N 21° 46' W
 1558.3'

5/4 Cor. 5/8" Rebar

~ PLAN ~
 Scale: 1" = 1000'

N 15° 53' E

Marked Valve No. 1

E.S. 132+67.1

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 8/29/96,
or cash received on _____ in the amount of \$ 740.00
from EPNG
for Rio Vista C.S.
Submitted by: _____ Date: GW-092
Submitted to ASD by: R. Anderson Date: 10/18/96
Received in ASD by: K. Paul Date: 12/22/96
Filing Fee _____ New Facility _____ Renewal _____
Modification _____ Other _____
Organization Code 521.07 Applicable FY 97

To be deposited in the Water Quality Management Fund.
Full Payment _____ or Annual Increment _____

MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM

	PAYABLE AT: CITIBANK DELAWARE A SUBSIDIARY OF CITICORP ONE PENN'S WAY NEW CASTLE, DE 19720	CONTROL NO. 232 CBD	DATE 08/29/96	CHECK NO. [redacted]
--	--	------------------------	------------------	-------------------------

P.O. BOX 1492
EL PASO, TX 79978

62-20
311

VOID AFTER 1 YEAR

PAY AMOUNT
\$740.00

PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
2040 S PACHECO
SANTA FE NM 87505



EL PASO NATURAL GAS COMPANY

REMITTANCE ADVICE

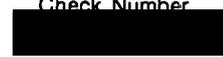
Vendor Number

018711 001

Check Date

08/29/96

Check Number



VOUCHER NUMBER	INVOICE NUMBER	AMOUNT		
		Invoice	Discount	Net
REFER PAYMENT	INQUIRIES TO ACCOUNTS PAYABLE (915)	541-5354		
VOUCHER NO	INVOICE NO	GROSS	DISCOUNT	NET
000591652	CKREQ960822	740.00	.00	740.00
FILING FEE & FLAT FEE FOR RIO VISTA	COMPRESSOR STATION DISCHARGE PLAN GW-92			
RENEWAL	TOTALS	740.00	.00	740.00



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 761-4525 Fax: (505) 761-4542

October 9, 1996

RECEIVED

OCT 15 1996

Environmental Bureau
Oil Conservation Division

OCT 11 1996
CONSERVATION DIVISION

Mr. William J. Lemay
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Lemay:

This responds to the Energy, Minerals, and Natural Resources Department Oil Conservation Division's public notice dated September 6, 1996, regarding the State of New Mexico's proposal to approve the discharge plan for the applicant listed below.

(GW-92) - El Paso Natural Gas Company. Mr. Richard Duarte has submitted an application renewal to discharge waste effluent to a below grade closed top steel tank with secondary containment and leak detection in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico.

It is unclear from the Notice of Publication whether the facility is in, near, or upslope of the San Juan River Basin floodplain. If the facility is in close proximity to the floodplain or has the potential of accidental release to the floodplain, then greater precautions in waste handling and storage might be warranted.

Thank you for the opportunity to comment on this permit. If you have any questions, please contact Joel D. Lusk at (505) 761-4525.

Sincerely,

Sonja Johnson
for Jennifer Fowler Propst
Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Chief, New Mexico Environment Department, Surface Water Quality Bureau, Santa Fe, New Mexico
Geographic Manager, New Mexico Ecosystems, U.S. Fish and Wildlife Service, Albuquerque, New Mexico

MEMORANDUM OF MEETING OR CONVERSATION

Telephone

Personal

Time 8.45 AM

Date 10-11-96.

Originating Party

Other Parties

Pat Sanchez - OCD

Richard Dawte - EPMG

Subject

EPMG "Rio Vista" GW-92

Discussion

① No signed / completed discharge Plan application form. ② No statement for who is the "Land owner" of the site. ③ No Topographic map. * (See Renewal letters from OCD dated 1-17-96 & 7-19-96) * Old D.P. has a Topo. Map we can use.

on No. ② Richard said the land is BLM.

Conclusions or Agreements

Mr. Dawte will send No. ① and No. ② by Friday of next week. (Oct. 18, 1996). for inclusion in the discharge Plan.

Distribution File, Denny Faust.

Signed

Patricia W. Sedy

AFFIDAVIT OF PUBLICATION

No. 36880

STATE OF NEW MEXICO
County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Tuesday, September 17, 1996;

and the cost of publication is: \$63.56.

Robert Lovett

On 9/19/96 **ROBERT LOVETT** appeared before me, whom I know personally to be the person who signed the above document.

Denise H. Henson
My Commission Expires May 17, 2000

COPY OF PUBLICATION

Legals



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 applications have been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-92) - El Paso Natural Gas Company, Mr. Richard Duarte, (505)-831-7763, 3801 Atrisco NW, Albuquerque, NM 87120, has submitted a Discharge Plan Renewal Application for the Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West NMPM, San Juan County, New Mexico. The facility is designed to minimize the generation of waste effluent. Any waste effluent will be stored in a below grade closed top steel tank equipped with secondary containment and leak detection and will be disposed of at an OCl approved facility. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of 24 feet with a total dissolved solids concentration of approximately 3400 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 applications 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 public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 6th day of September, 1996.

SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
/s/William J. LeMay/mes
WILLIAM J. LEMAY, Director

-WJL/pws

Legal No. 36880 published in The Daily Times, Farmington, New Mexico on Tuesday, September 17, 1996.

RECEIVED

SEP 20 1996

Environmental Bureau
Oil Conservation Division

The Santa Fe New Mexican

Since 1849. We Read You.

NEW MEXICO OIL CONSERVATION
ATTN: SALLY MARTINEZ
2040 S. PACHECO ST.
SANTA FE, NM 87505

AD NUMBER: 549430

ACCOUNT: 56689

LEGAL NO: 60388

P.O. #: 9619900299

RECEIVED

SEP 18 1996

Environmental Bureau
Oil Conservation Division

174 LINES once at \$ 69.60
Affidavits: 5.25
Tax: 4.68
Total: \$ 79.53

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

**ENERGY, MINERALS
AND NATURAL
RESOURCES
DEPARTMENT**

**OIL CONSERVATION
DIVISION**

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

(GW-92) - El Paso Natural Gas Company, Mr. Richard Duarte, (505) 831-7763; 3801 Atrisco NW, Albuquerque, NM 87120, has submitted a Discharge Plan Renewal Application for their Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The facility is designed to minimize the generation of waste effluent. Any waste effluent will be stored in a below grade closed top steel tank equipped with secondary containment and leak detection and will be disposed of at an OCD approved facility. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of 24 feet with a total dissolved solids concentration of approximately 3400 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 discharge plan application and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 6th day of September 1996.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION
WILLIAM J. LEMAY,
Director
Legal #60388
Pub. September 16, 1996

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, BETSY PERNER being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily news paper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a News paper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 60388 a copy of which is hereto attached was published in said newspaper once each week for one consecutive week(s) and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 16th day of SEPTEMBER 1996 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

BSI Betsy Perner
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this
16th day of SEPTEMBER A.D., 1996



OFFICIAL SEAL

Laura E. Harding

NOTARY PUBLIC - STATE OF NEW MEXICO

MY COMMISSION EXPIRES 11/23/99

Laura E. Harding

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 6th day of September, 1996.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink that reads "William J. Lemay" followed by a large, stylized flourish that ends in the letters "MES".

WILLIAM J. LEMAY, Director

S E A L

WJL/pws

El Paso
Natural Gas Company

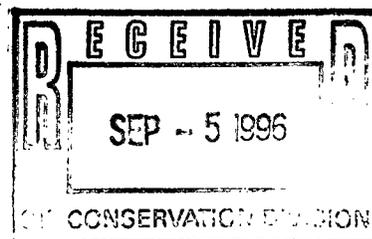
3801 ATRISCO, N. W.
ALBUQUERQUE, NEW MEXICO 87120
PHONE: 505-831-7700

August 30, 1996

Certified Mail
P591 541 719

Oil Conservation Division
Attn: Mr. Roger C. Anderson
Environmental Bureau Chief
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Discharge Plan GW-92 Renewal
Rio Vista Compressor Station
San Juan County, New Mexico



Dear Mr. Anderson:

This letter and the Discharge Plan Renewal package attached provide the information you requested in your letter dated January 17, 1996 regarding the expiration of the current approval of Discharge Plan GW-92. Please accept this request to renew the discharge plan for the Rio Vista Compressor Station since we wish to continue operation and therefore continue to have potential to discharge.

The initial discharge plan submitted in November of 1991 was, of course, an estimate of the anticipated facility operations and chemical usage. We have made some changes to the system and revisions from the original discharge plan that are reflected in this Discharge Plan Renewal request.

Enclosed is the original and one copy of the discharge plan renewal and a check made payable to NMED - Water Quality Management, in the amount of \$740.00 for the \$50 nonrefundable filing fee and \$690.00 for the flat fee of an approved discharge plan renewal.

Should you have questions or need further clarification for any portion of the discharge plan, please contact me at (505) 831-7763.

Sincerely,

A handwritten signature in cursive script that reads "Richard Duarte".

Richard Duarte
Sr. Compliance Engineer

Cc: Mr. Patricio Sanchez
Mr. Denny Foust

RECEIVED

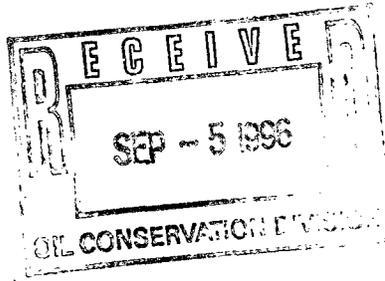
SEP 05 1996

Environmental Bureau
Oil Conservation Division

August 30, 1996

Oil Conservation Division
Attn: Mr. Roger C. Anderson
Environmental Bureau Chief
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Santa Fe, New Mexico 87505

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Rio Vista Compressor Station
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Richard Duarte
Sr. Compliance Engineer

Cc: Mr. Patricio Sanchez
Mr. Denny Foust

Enclosures

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SEP 05 1996

Environmental Bureau
Oil Conservation Division

THIS MULTICOLORED AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTTOM AND BOTTOM



PAYABLE AT
 CITIBANK DELAWARE
 SUBSIDIARY OF CITICORP
 100 PENN'S WAY
 NEW CASTLE, DE 19720

CONTROL NO. 232 CBD DATE 08/29/96 CHECK NO. [REDACTED]

P.O. BOX 1492
 EL PASO, TX 79978

62-20
 311

VOID AFTER 1 YEAR

PAY AMOUNT
\$740.00

PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
 2040 S PACHECO
 SANTA FE NM 87505



COPYBAR, ANTI-FRAUD PROTECTION - PATENTS 4,210,346, 4,227,720, 4,310,142, 5,197,755



Detach and retain for your records
EL PASO NATURAL GAS COMPANY

REMITTANCE ADVICE

Vendor Number
 018711 001

Check Date
 08/29/96

Check Number
 [REDACTED]

VOUCHER NUMBER	INVOICE NUMBER	AMOUNT		
		Invoice	Discount	Net
REFER PAYMENT INQUIRIES TO ACCOUNTS PAYABLE (915) 541-5354				
VOUCHER NO	INVOICE NO	GROSS	DISCOUNT	NET
000591652	CKREQ960822	740.00	.00	740.00
FILING FEE & FLAT FEE FOR RIO VISTA COMPRESSR STATION DISCHARGE PLAN GW-92 RENEWAL				
	TOTALS	740.00	.00	740.00

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 SEP 05 1996
 Environmental Bureau
 Oil Conservation Division

file copy.

Rio Vista Compressor Station
Discharge Plan GW-92 Renewal



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SEP 05 1996

Environmental Bureau
Oil Conservation Division

Prepared for:

New Mexico Oil Conservation Division

August 30, 1996

El Paso Natural Gas Company
3801Atrisco NW
Albuquerque, NM 87120

(505) 831-7763

**Rio Vista Compressor Station
Discharge Plan**

I. General Information

This Discharge Plan GW-92 Renewal has been prepared in accordance with New Mexico Oil Conservation Division (OCD) "Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants". The original discharge plan for this facility dated November 1, 1991 was submitted pursuant to Water Quality Control Commission (WQCC) regulation 3106 and was approved pursuant to section 3109 for a period of five years.

A. Name of Discharger:

All correspondence regarding this discharge plan should be sent to EPNG Main Office at the address below:

C. B. O'Nan
Director of Transmission Operations
Albuquerque Division
3801 Atrisco NW
Albuquerque, NM 87120
(505) 831-7788
Fax: (505) 831-7740

B. Local Representative or contact:

A copy of all correspondence and all questions should be directed to the Albuquerque Division Senior Compliance Engineer:

Sam Armenta
San Juan Complex Manager
PO Box 127
Bloomfield, NM 87413
(505) 632-6001
Fax: (505) 632-6093

and/or

Richard Duarte
Senior Compliance Engineer
3801 Atrisco NW
Albuquerque, NM 87120
(505) 831-7763
Fax: (505) 831-7739

C. Location of Discharge:

The Rio Vista Compressor Station site is located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico; or, South of the city of Bloomfield, New Mexico approximately 3,000 feet south of County Road No. 4990. Reference the attached site plans attached as tab 1.

D. Type of Natural Gas Operation:

The compressor facility pressurizes pipeline-quality natural gas produced in the San Juan Basin. The stream flows through horizontal filter/separators before going to the compressors. The installation includes two Saturn T-1200 Turbine which combine for 1,770 site horsepower and one Solar Centaur "H" Turbine rated at 3,775 site horsepower, and their associated equipment. The total site horsepower is 5,545.

Major operational components are:

- One Solar Centaur turbine and two Solar Saturn turbines
- One inlet filter/scrubber
- One fuel gas scrubber
- Six gas discharge coolers (fin-fans)
- Auxiliary electric generator
- One lube oil storage tank (8,000 gallons)
- One underground waste liquids tank (1,000 gallons)

Discharges from each of the above components are discussed separately in section II of this Discharge Plan Renewal.

Affirmation

I hereby certify that I am familiar with the information contained in this renewal application submitted for the Rio Vista Compressor Station Discharge Plan and that such information is true, accurate, and complete to the best of my knowledge and belief.

C. B. O'Nan
Signature

9/3/36
Date

C. B. O'Nan
Printed Name

Director, Albuquerque Division
Transmission Operations
Title

II. Plant Processes

Compressors:

The compressors have been installed in such a manner to ensure containment of drips, spills, and washdown water. Any spill or washdown water from cleaning operations are contained and discharged into a 1,000 gallon underground tank.

Used lube oil is being generated at an approximate rate of 20 gallons per 2,000 hours of operation. This oil is drained into the 1,000 gallon underground tank and hauled from the site by an oil recycler.

The site also has a septic tank system for domestic sewer. The septic system receives sewer from the one wash room designed with one toilet and one wash basin at the station. The septic system also receives sewer from the two wash rooms designed with one toilet and one wash basin each from the office located nearby. This system is constructed in accordance with NMED guidelines for on-site disposal systems.

Inlet & Fuel Gas Scrubber:

One suction scrubber on the inlet side of the compressor unit removes natural gas liquids. Natural gas liquids generated by this scrubber are discharged to the 1,000 gallon underground tank. The volume of liquids vary.

A fuel gas scrubber is at the inlet to the fuel gas line for all three turbines. Any natural gas liquids from this scrubber are also discharged into the 1,000 gallon underground tank.

Underground Tank:

One fiber-reinforced plastic 1,000 gallon underground storage tank is installed on-site. The tank has been installed with an electronic leak detection system. The tank is mechanically checked annually for leaks by monitoring the liquid level over a 48 hour period. The tank is presumed to be intact if the liquid level remains static.

The tank receives liquids from compressor and auxiliary building drains, used oil from turbines, natural gas liquids from the two suction scrubbers and the fuel gas scrubber.

Water and oil from the tank is decanted periodically by EPNG personnel and taken to EPNG's Blanco Plant for further processing in an oil/water separator. The volume of water and oil will vary with operations.

Used oil from this tank is removed on a regular basis by an oil recycler.

Lube Oil Storage Tank:

A fiber-reinforced plastic 8,000 gallon lube oil storage tank is located on site to supply oil to all three turbines. This storage unit has a concrete secondary containment berm.

Underground Drain Lines:

At the time of installation, all underground piping and drain lines carrying either chemical commercial products or waste liquids were hydrostatically tested at 1½ times their design pressure for a minimum of 4 hours.

Effluent Handling and Site Housekeeping:

The Rio Vista Compressor Station has been designed with State-of-the-Art equipment and controls. This design minimizes on-site chemicals and prevents and mitigates any unplanned releases to the environment. Regularly scheduled maintenance procedures also helps to assure that the equipment remains functional and thus the possibility of spills or leaks is further minimized. Herbicides are applied by a New Mexico licensed contractor.

This site is visited on a weekly basis by EPNG personnel. Leaks, spills, and drips are be managed as follows:

Small spills are absorbed by the solid or commercial absorbent pads. The soil is then excavated and contained in drums for recycle or off-site disposal.

Large spills are contained by the drain system or with commercial absorbent pads. Where possible, liquid and solid waste are segregated and managed in separate drums for recycle or disposal.

When soil treatment is necessary, EPNG may obtain a permit from the NMOCD before beginning treatment as required by the NMOCD Guidelines for Permit Application, Design, and Construction of Waste Storage / Disposal Facilities, Section VII.A.3. The waste generated from either scenario above will then be characterized and recycled if possible. If not recyclable, waste is then disposed according to its analytical profile.

Verbal and written notification of leaks or spills are made to NMOCD in accordance with NMOCD Rule 116 and 118. Any release of a chemical with a reportable quantity regulated by Title 40 Code of Federal Regulations Parts 300 through 372 is reported to the National Response Center, and where applicable by NMED.

Naturally Occurring Radioactive Materials (NORM) at regulated levels have not been detected at Rio Vista. However, any suspect NORM materials will be characterized and if classified as NORM contaminated, will be managed in accordance with 20 NMAC 3.1, subpart 14.

III. Effluent and Solid Waste Disposal.

There is minimal liquid and solid waste generated. All effluent and solid waste is characterized and managed for recycle, if possible, or disposal according to their analytical profile. Effluent and solid waste that cannot be recycled is disposed of in facilities approved by OCD, NMED or other jurisdictional agencies.

IV. Site Characteristics

Hydrologic Features:

The Rio Vista Compressor site is located on a bluff 1,800 feet south of, and 120 feet above the San Juan River in the San Juan River Basin. The Hammond Ditch is located on this bluff, about 600 feet north of the compressor site boundaries. The Gary-Williams Refinery is located on the bluff between the compressor site and the river. Gary-Williams has installed several monitoring and recovery wells into the shallow alluvial aquifer which exists to the north of the compressor site.

Based on a geotechnical site assessment, the compressor station was built upon alluvium which caps the Nacimiento Formation. The top of bedrock was encountered in the alluvium between 12 feet and 28 feet below the surface. Groundwater was encountered in the alluvium between 24 and 28 feet below the ground surface, or elevations approximately 5495 to 5505 above mean sea level. Groundwater was only encountered in borings on the terrace which occupies the eastern portion of the site. Claystone was encountered at total depth in three of the four borings where groundwater was present. Not borings were completed to a sufficient depth to determine if water is present under the hill which occupies the western portion of the site, or to determine the extent that this alluvial aquifer is connected with sandstone aquifers in the Nacimiento Formation.

The general flow direction in the alluvium appears to be to the northeast, following the surface gradient. Flow in the Nacimiento is assumed to follow regional dip of the Nacimiento, which also is toward the northeast here at the site. The dip of the beds are shallow here, and the gradient is assumed to also be shallow.

Water quality in the alluvial aquifer in the San Juan Basin is highly variable, but average specific conductance values in the San Juan River valley is approximately 2,500 umhos (Stone et. Al, 1983). Total dissolved solids measured in two wells

producing from the Nacimiento Formation in this portion of the San Juan Basin were 3900 mg/1 and 5400 mg/1 (Levings et. Al, 1990).

Geologic Description:

The compressor site is located on alluvium, which consists of fine to coarse sand, clays, and varying combinations of the two. The soils tend to be weak, compressible, and moderately permeable. These soils, which extend to depths of between 2 and 14 feet, are fine to medium grained and generally soft at the surface and become moderately firm to firm with depth. The silty sands are generally nonplastic and the clay soils are of low plasticity. Directly underlying the surface stratum, clean sands with varying amounts of gravel and cobbles are encountered. The alluvium is deposited on the Nacimiento Formation.

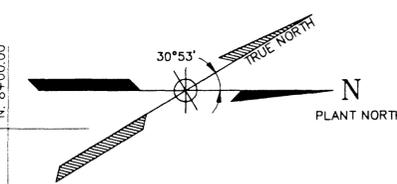
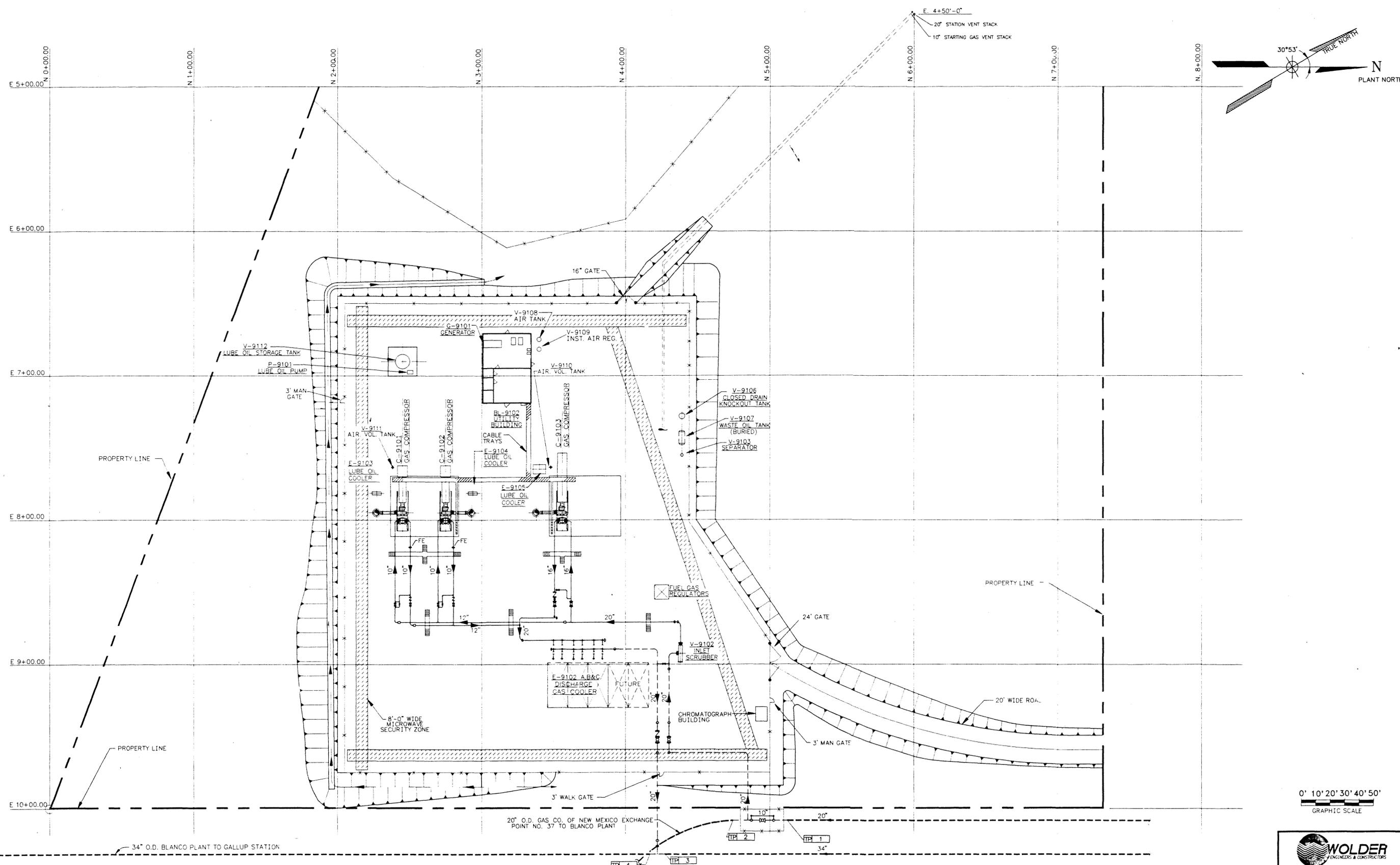
Flood Protection:

The Rio Vista site is located on a bluff above the San Juan River at an altitude of about 5530 feet. The river is about $\frac{3}{4}$ of a mile north of the compressor site and drains in an east-west direction. Flooding from the San Juan River would not affect the site because it is located 130 feet above the river and outside the 100-year flood plain.

The site grading is designed to ensure that offsite drainage is diverted from the station and that no more than 1" of surface drainage accumulates on any portion of the project site at any time. The design basis shall be the most stringent 100 year criteria published for the location.

Material Safety Data Sheets

Material Safety Data Sheets are attached in tab 2.



ENG. RECORD		DATE	EIPaso		NATURAL GAS COMPANY	
DRAFTING	LJS	2/26/93	RIO VISTA COMPRESSOR STATION PLOT PLAN Environmental Bureau Oil Conservation Division			
DESIGN	BLE	3/1/93				
COMPUTER GRAPHICS	JES	4/9/93				
CHECKED	JES	4/9/93				
PROJECT APPROVAL	CEJ	5/22/93				
SECTION APPROVAL	SMI	6/22/93	SCALE: 1"=25'-0"		DIAG. NO. 110	
DATE	BY	DESCRIPTION	W.C.	APP.	DATE	TO
1/3/22/94	GW	AS-BUILT	L-4437	TRJA		
4/26/93	GW	ISSUED FOR CONSTRUCTION	L-4437	TRJA		
14/9/93	GW	ISSUED FOR APPROVAL	L-4437	TRJA		
NO.	DATE	BY	DESCRIPTION	W.C.	APP.	DATE

RECEIVED
 SEP 05 1998
 Environmental Bureau
 Oil Conservation Division

MATERIAL SAFETY DATA SHEET

Identity: Eyesaline Solution - Part #'s 400, 501, 502, 504, 505, 506, 507, 508, 510, 512, 520, 533 -401				
Section I				
Manufacturer: Fendall Company		Emergency Telephone: 708-577-7400		
Address: 5 East College Drive Arlington Heights, IL 60004		Information Telephone: 800-543-4842		Date Prepared: 12/15/92
Section II - Hazardous Ingredients/Identity Information				
Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other limits recommended	% (optional)
ALKYLDIMETHYLBENZYLAMONIUMCHLORIDE CAS#68424-85-1	NONEEST.	NONEEST.	N/A	>0.1%
Section III - Physical/Chemical Characteristics				
Boiling Point: 212° F (100° C)		Specific Gravity (H₂O)=1: NOT DETERMINED		
Vapor Pressure (mm Hg.): 760		Melting Point: N/A		
Vapor Density (Air = 1): NOT DETERMINED		Evaporation Rate (Butyl Acetate = 1): NOT DETERMINED		
Solubility in Water: 100%				
Appearance and Odor: COLORLESS LIQUID WITH NO DISCERNABLE ODOR.				
Section IV - Fire and Explosion Hazard Data				
Flash Point (Method Used): N/A		Flammable Limits:		LEL: N/A UEL: N/A
Extinguishing Media: THIS IS A NONFLAMMABLE AQUEOUS SOLUTION				
Special Fire Fighting Procedures: N/A				
Unusual Fire and Explosion Hazards: N/A				
Section V - Reactivity Data				
Stability	Unstable: NO Stable: YES	Conditions to Avoid: THIS PRODUCT IS STABLE CONSIDERED NON-REACTIVE AND STABLE UNDER NORMAL CONDITIONS OF STORAGE AND USAGE.		
Incompatibility (Materials to Avoid): STRONG OXIDIZING AGENTS				
Hazardous Decomposition or Byproducts: POSSIBLE COMBUSTION PRODUCTS MAY INCLUDE CARBON MONOXIDE (CO) AND PHENOLIC VAPORS				
Hazardous Polymerization	May Occur: NO Will Not Occur: YES	Conditions to Avoid: NONE		
Section VI - Health Hazard Data				
Route(s) of Entry: Inhalation? NO Skin? NO Ingestion? YES				
Health Hazards (Acute and Chronic): INGESTION OF VOLUMES IN EXCESS OF 20 LITERS MAY CAUSE GASTRIC IRRITATION				
Carcinogenicity: NTP? NO IARC Monographs? NO OSHA Regulated? NO				
Signs and Symptoms of Exposure: N/A				
Medical Conditions Generally Aggravated by Exposure: N/A				
Emergency First Aid Procedures: NOTES TO PHYSICIAN: IN THE UNLIKELY EVENT OF RAPID INGESTION OF LARGE VOLUMES OF THE SOLUTION, INDUCE VOMITING AND OBSERVE THE PATIENT FOR GASTRIC IRRITATION.				
Section VII - Precautions for Safe Handling and Use				
Steps to Be Taken in Case Material is Released or Spilled: FLUSH AREA WITH WATER. THE SOLUTION IS NOT RCRA HAZARDOUS WASTE				
Waste Disposal Method: N/A				
Precautions to Be Taken in Handling and Storing: DO NOT FREEZE OR EXPOSE TO TEMPERATURES IN EXCESS OF 110° F (43° C) FOR EXTENDED PERIODS				
Other Precautions: N/A				
Section VIII - Control Measures				
Respiratory Protection: N/A				
Ventilation	Local Exhaust: N/A		Special: N/A	
	Mechanical: N/A		Other: N/A	
Protective Gloves: N/A		Eye Protection: N/A		
Other Protective Clothing: N/A				
Work Hygienic Practices: N/A				

CUSTOMER NAME : GEO S THOMSON CUSTOMER NUMBER: 065235002
CUSTOMER INVOICE : 2251614

***** SECTION 1: PRODUCT IDENTIFICATION *****

MANUFACTURERS ADDRESS : 1101 THIRD STREET SOUTH MINNEAPOLIS, MN 55415
TELEPHONE NUMBER : (512) 332-7071
CHEMICAL NAME OR FAMILY : PAINT PRODUCT
FORMULA : Z711676
TRADE NAME : 37 019Y163 19Y163 VALKOTE ORANG

***** SECTION 2: HAZARDOUS INGREDIENTS *****

NAME	HECM LEVEL	TLV	PEL
COMMON(NA): ODORLESS MINERAL SPIRITS CHEMICAL : CAS 64742-09-8 NAPHTHA	NA	500.00 (1)	NA ()
COMMON(NA): TOLUOL CHEMICAL : CAS 108-88-3 BENZENE, METHYL	NA	100.00 (1)	NA ()
COMMON(NA): HEXANE CHEMICAL : CAS 110-54-3	NA	50.00 (1)	NA ()
COMMON(NA): LACOLENE CHEMICAL : CAS 64742-89-8 NA	NA	500.00 (1)	NA ()
COMMON(NA): PROPANE CHEMICAL : CAS 74-98-6 DIMETHYLMETHANE	NA	1000.00 (1)	NA ()
COMMON(NA): ISOBUTANE CHEMICAL : CAS 75-28-52 2-METHYLPROPANE	NA	1000.00 (1)	NA ()

AEROSOL: CONTENTS UNDER PRESSURE 52 +/- 5 PSIG
(1) = PPM

***** SECTION 3: PHYSICAL DATA *****

BOILING POINT: <0.0 DEG F. FOR PROPELLANT
VAPOR PRESSURE MM HG AT 68 DEG F: NA
VAPOR DENSITY (AIR = 1.0): HEAVIER THAN AIR
SPECIFIC GRAVITY: WEIGHT PER GALLON: NA
PERCENT VOLATILE BY VOLUME: 84
EVAPORATION RATE (BUTYL ACETATE = 1): PROPELLANT FASTER THAN ETHER
SOLUBILITY IN WATER: NA
APPEARANCE AND ODOR: ORANGE LIQUID NORMAL FOR COATINGS PRODUCT

***** SECTION 4: FIRE AND EXPLOSION HAZARD *****

FLASH POINT ICC/PM DEG F : PROPELLANT <20F (T.O.C.)
LOWER EXPLOSIVE LIMIT : XYLOL AND LACOLENE 1.1
UPPER EXPLOSIVE LIMIT : NA
SPECIAL FIRE FIGHTING PROCEDURES:
EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL OR FOAM
WATER MAY BE INEFFECTIVE. WATER MAY BE USED TO KEEP FIRE EXPOSED CONTAINER COOL.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:
DO NOT SPRAY NEAR OPEN FLAME. KEEP AT ROOM TEMPERATURE AS EXPOSURE TO DIRECT SUNLIGHT OR OTHER HEAT MAY CAUSE BURSTING.

***** SECTION 5: HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: NOT REQUIRED FOR MIXTURES.
EFFECTS OF OVEREXPOSURE:
IN CONFINED AREA VAPORS IN HIGH CONCENTRATION ARE ANESTHETIC, IRRITANT TO SKIN AND UPPER RESPIRATORY SYSTEM. OVER-EXPOSURE MAY RESULT IN LIGHT HEADEDNESS, STAGGERING GAIT, GIDDINESS AND POSSIBLE NAUSEA. HARMFUL OR FATAL

***** SECTION 5: HEALTH HAZARD DATA *****
IF SWALLOWED.
CHRONIC: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE - ANY RESPIRATORY OR SKIN CONDITION.

EMERGENCY AND FIRST AID PROCEDURES:
BREATHING: REMOVE PATIENT TO FRESH AIR
EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES.
SKIN: WASH WITH SOAP AND WATER.
SWALLOWING: CALL A PHYSICIAN IMMEDIATELY. DO NOT INDUCE VOMITING.

***** SECTION 6: REACTIVITY DATA *****

THIS PRODUCT IS STABLE
CONDITIONS TO AVOID: DO NOT STORE ABOVE 120F.
INCOMPATIBILITY: NA

HAZARDOUS DECOMPOSITION PRODUCTS:
BY OPEN FLAME: CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN CHLORIDE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: NA

***** SECTION 7: SPILL OR LEAK PROCEDURES *****
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REMOVE ALL SOURCES OF IGNITION, VENTILATE, AVOID BREATHING VAPORS AND REMOVE WITH INERT MATERIAL.

WASTE DISPOSAL METHOD:
DO NOT INCINERATE. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS REGARDING POLLUTION.

***** SECTION 8: SPECIAL PROTECTION INFORMATION *****
RESPIRATORY PROTECTION:
AVOID BREATHING OF VAPOR OR SPRAY MIST.

VENTILATION: PROVIDE LOCAL EXHAUST VENTILATION IN VOLUME AND PATTERN TO KEEP TLV OF HAZARDOUS INGREDIENTS BELOW MINIMUM LIMIT. KEEP LEL BELOW MINIMUM.

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT.
EYE PROTECTION: FOR PROLONGED USE IN CLOSE QUARTERS RECOMMEND SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS.
OTHER PROTECTIVE EQUIPMENT:
NA

***** SECTION 9: SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
DO NOT STORE ABOVE 120 DEG F. KEEP AT ROOM TEMPERATURE AS EXPOSURE TO DIRECT SUNLIGHT OR HEAT MAY CAUSE BURSTING.

OTHER PRECAUTIONS:
KEEP AWAY FROM CHILDREN
DO NOT PUNCTURE OR INCINERATE
DO NOT SPRAY NEAR FIRE OR OPEN FLAME

NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND

***** SECTION 1: SPECIAL PRECAUTIONS *****
THE CONTENTS MAY BE HARMFUL OR FATAL.

*****CONTINUED*****

ISSUE DATE: 04/16/86

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ABBREVIATIONS USED:

ACGIH-AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS;
IARC-INTERNATIONAL AGENCY FOR RESEARCH ON CANCER; LEL-LOWER EXPLOSIVE LIMITS;
UEL-UPPER EXPLOSIVE LIMITS; MG CU M-MILLIGRAMS PER METERS CUBED; MM-MILLIMETERS
MPPCF-MILLIONS OF PARTICLES PER CUBIC FOOT; MSHA-MINE SAFETY AND HEALTH
ADMINISTRATION; NA-NOT APPLICABLE; NIOSH-NATIONAL INSTITUTE OF OCCUPATIONAL
SAFETY AND HEALTH; NOT EST-NOT ESTABLISHED; NTP-NATIONAL TOXICOLOGY PROGRAM;
PB-LEAD; PEL-PERMISSIBLE EXPOSURE LEVEL; PPM-PARTS PER MILLION;
TCC/PM-TAG CLOSED CUP/PENSKY-MARTEN; RECM-RECOMMENDED; TLY-THRESHOLD LIMIT VALUES.

***** DISCLAIMER SECTION *****

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V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

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CUSTOMER NAME : GEO S THOMSON CUSTOMER NUMBER: 865235002
CUSTOMER INVOICE : 2251814

***** SECTION 1: PRODUCT IDENTIFICATION *****

MANUFACTURERS ADDRESS : 1101 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415
MFG TELEPHONE NUMBER : (612) 332-7371
24 HR EMERGENCY PHONE NO : 1-800-228-5533
CHEMICAL NAME OR FAMILY : PAINT PRODUCT
FORMULA : 0020W9R-122-A-02
TRADE NAME : 37 20W9R M&F ENAMEL WHITE
ISSUE DATE : 10-01-88

***** SECTION 2: HAZARDOUS INGREDIENTS *****

NAME	APPROX WT %	REC'D LEVEL	TLV	PEL
COMMON(NA): EXEMPT MINERAL SPIRITS CAS: 8032-32-4 CHEMICAL: NAPHTHA	30%	NOT EST	100.00 (1)	NOT EST
COMMON(NA): TALC CAS: 14807-96-6 CHEMICAL: SILICIC ACID, MAGNESIUM SA LT (1:1)	1%	NOT EST	10.00 (2)	20.00 (3)
COMMON(NA): TITANIUM DIOXIDE CAS: 13463-67-7 CHEMICAL: TITANIUM DIOXIDE	30%	NOT EST	10.00 (2)	15.00 (2)

(1) = PPM
(2) = MG CU M
(3) = MPPCF

***** SECTION 3: PHYSICAL DATA *****

BOILING POINT: 319 DEG F.
VAPOR PRESSURE MM HG AT 100 DEG F: .5
VAPOR DENSITY (AIR = 1.0): 4.80
SPECIFIC GRAVITY: 1.21
PERCENT VOLATILE BY VOLUME: 50.01
EVAPORATION RATE (BUTYL ACETATE = 1): .09
SOLUBILITY IN WATER: NO
APPEARANCE AND ODOOR: NORMAL FOR A COATINGS PRODUCT.

***** SECTION 4: FIRE AND EXPLOSION HAZARD *****

FLASH POINT TCC/PM DEG F : 112
LOWER EXPLOSIVE LIMIT : 0.90
UPPER EXPLOSIVE LIMIT : 19.00

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM, AND/OR WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:
FIRE FIGHTERS MUST WEAR SELF CONTAINED BREATHING APPARATUS OR AIR MASKS.
CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:
CONTAINS OXIDIZING MATERIALS. CONTAMINATED RAGS, WIPES, SAWDUST, ETC.
MAY CATCH FIRE SPONTANEOUSLY. STORE WASTE UNDER WATER IN CLOSED METAL
CONTAINERS UNTIL DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

***** SECTION 5: HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: NOT REQUIRED FOR MIXTURE.

EFFECTS OF OVEREXPOSURE:

IMMEDIATE EFFECTS (ACUTE):
HARMFUL IF INHALED. MAY AFFECT THE BRAIN, NERVOUS SYSTEM OR RES-
PIRATORY SYSTEM, CAUSING DIZZINESS, HEADACHE, NAUSEA OR RESPIRATORY
IRRITATION.
OVEREXPOSURE TO INGREDIENTS IN THIS PRODUCT MAY CAUSE
NOSE AND THROAT IRRITATION, EYE IRRITATION, SKIN IRRITATION.
DELAYED EFFECTS (CHRONIC):

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***** SECTION 5: HEALTH HAZARD DATA *****CONTINUED*****
NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL
OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM
DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND
INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE - ANY
RESPIRATORY OR SKIN CONDITION.

EMERGENCY AND FIRST AID PROCEDURES:
INHALATION: REMOVE PERSON FROM EXPOSURE AREA. IF BREATHING HAS
STOPPED, USE MOUTH-TO-MOUTH RESUSCITATION AND GET MEDICAL ATTENTION.
EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES.
SKIN CONTACT: WASH WITH SOAP AND WATER.

POSSIBLE ROUTES OF ENTRY: INHALATION, INGESTION, SKIN ABSORPTION.

***** SECTION 6: REACTIVITY DATA *****

THIS PRODUCT IS STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY: NA

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON DIOXIDE/MONOXIDE

HAZARDOUS POLYMERIZATION: NONE

***** SECTION 7: SPILL OR LEAK PROCEDURES *****

VENTILATE AREA. AVOID BREATHING OF VAPORS. USE SELF-CONTAINED
BREATHING APPARATUS OR AIRMASK FOR LARGE SPILLS IN A CONFINED AREA.
WIPE UP OR ABSORB ON SUITABLE MATERIAL AND SHOVEL UP.
AVOID CONTACT WITH EYES.

WASTE DISPOSAL METHOD:
DISPOSE IN CHEMICAL DISPOSAL AREA OR IN A MANNER THAT COMPLIES WITH LOCAL,
STATE, AND FEDERAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

***** SECTION 8: SPECIAL PROTECTION INFORMATION *****

RESPIRATORY PROTECTION:
WEAR APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING
AND AFTER APPLICATION UNLESS AIR MONITORING VAPOR/MIST LEVELS ARE BELOW
APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURERS DIRECTIONS FOR
RESPIRATOR USE.

VENTILATION:
REQUIRED FOR SPRAYING OR IN A CONFINED AREA, VENTILATION EQUIPMENT SHOULD BE
EXPLOSION PROOF.

PROTECTIVE GLOVES: USUAL HAND PROTECTION FOR PAINT APPLICATION.
EYE PROTECTION: USUAL EYE PROTECTION FOR APPLYING PAINT.
OTHER PROTECTIVE EQUIPMENT: USUAL CLOTHING FOR PAINTING OPERATIONS.

***** SECTION 9: SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. KEEP CONTAINER
CLOSED WHEN NOT IN USE. DO NOT STORE ABOVE 120 DEG F. BASED ON THE PRODUCT FLASH
POINT AND VAPOR PRESSURE SUITABLE STORAGE SHOULD BE PROVIDED IN ACCORDANCE WITH
OSHA REGULATION 1910. 106. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE,
INCLUDING FLAMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON OR
NEAR CONTAINER. ALL LABEL WARNINGS MUST BE OBSERVED UNTIL THE CONTAINER HAS
BEEN CLEANED OR RECONDITIONED.

VALS PAR CORPORATION
MATERIAL SAFETY DATA SHEET

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CUSTOMER NAME : GEO S THOMSON
CUSTOMER INVOICE : 2251771
CUSTOMER NUMBER: 885235008

***** SECTION 1: PRODUCT IDENTIFICATION *****

MANUFACTURERS ADDRESS : 1101 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415
MFG TELEPHONE NUMBER : (612) 332-7371
24 HR EMERGENCY PHONE NO : 1-800-228-5635
CHEMICAL NAME OR FAMILY : PAINT PRODUCT
FORMULA : 20R41C1-122-A-02
TRADE NAME : 37 20R9R NSF ENAMEL RED
ISSUE DATE : 01-09-87

***** SECTION 2: HAZARDOUS INGREDIENTS *****

NAME	APPROX WT %	RECM LEVEL	TLV	PEL
COMMON(NA):TOLUENE CAS:108-88-3 CHEMICAL: PHENYL, METHYL	1%	NOT EST	100.00 (1)	200.00 (1)
COMMON(NA):EXEMPT MINERAL SPIRITS S:8032-32-4 CHEMICAL: NAPHTHA	50%	NOT EST	100.00 (1)	NOT EST

(1) = PPM

***** SECTION 3: PHYSICAL DATA *****

BOILING POINT: 230 DEG F.
VAPOR PRESSURE MM HG AT 70 DEG F: 28.0
VAPOR DENSITY (AIR = 1.0): 4.80
SPECIFIC GRAVITY: 0.92
PERCENT VOLATILE BY VOLUME: 59.47
EVAPORATION RATE (BUTYL ACETATE = 1): 2.00
SOLUBILITY IN WATER: NO
APPEARANCE AND ODOR: NORMAL FOR A COATINGS PRODUCT.

***** SECTION 4: FIRE AND EXPLOSION HAZARD *****

FLASH POINT TCC/PM DEG F : 108
LOWER EXPLOSIVE LIMIT : 0.90
UPPER EXPLOSIVE LIMIT : 6.00

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM, AND/OR WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:
FIRE FIGHTERS MUST WEAR SELF CONTAINED BREATHING APPARATUS OR AIR MASKS.
CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:
CONTAINS OXIDIZING MATERIALS. CONTAMINATED RAGS, WIPES, SAWDUST, ETC.
MAY CATCH FIRE SPONTANEOUSLY. STORE WASTE UNDER WATER IN CLOSED METAL
CONTAINERS UNTIL DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

***** SECTION 5: HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: NOT REQUIRED FOR MIXTURE.

EFFECTS OF OVEREXPOSURE:
IMMEDIATE EFFECTS (ACUTE):
HARMFUL IF INHALED. MAY AFFECT THE BRAIN, NERVOUS SYSTEM OR RESPIRATORY SYSTEM, CAUSING DIZZINESS, HEADACHE, NAUSEA OR RESPIRATORY IRRITATION.
PROLONGED INHALATION OF DUSTS MAY RESULT IN SHORTNESS OF BREATH
OVEREXPOSURE TO INGREDIENTS IN THIS PRODUCT MAY CAUSE NOSE AND THROAT IRRITATION, EYE IRRITATION, SKIN IRRITATION, CNS DEPRESSION, CORNEAL INJURY/EYE DAMAGE.
DELAYED EFFECTS (CHRONIC):
NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

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***** SECTION 5: HEALTH HAZARD DATA *****CONTINUED*****
CONTAINS INGREDIENTS WHICH MAY CAUSE LIVER DAMAGE, KIDNEY DAMAGE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE - ANY RESPIRATORY OR SKIN CONDITION.

EMERGENCY AND FIRST AID PROCEDURES:
INHALATION: REMOVE PERSON FROM EXPOSURE AREA. IF BREATHING HAS STOPPED, USE MOUTH-TO-MOUTH RESUSCITATION AND GET MEDICAL ATTENTION.
EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES.
SKIN CONTACT: WASH WITH SOAP AND WATER.

POSSIBLE ROUTES OF ENTRY: INHALATION, INGESTION, SKIN ABSORPTION.

***** SECTION 6: REACTIVITY DATA *****

THIS PRODUCT IS STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY: NA

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON DIOXIDE/MONOXIDE

HAZARDOUS POLYMERIZATION: NONE

***** SECTION 7: SPILL OR LEAK PROCEDURES *****

VENTILATE AREA. AVOID BREATHING OF VAPORS. USE SELF-CONTAINED BREATHING APPARATUS OR AIRMASK FOR LARGE SPILLS IN A CONFINED AREA.
WIPE UP OR ABSORB ON SUITABLE MATERIAL AND SHOVEL UP.
AVOID CONTACT WITH EYES.

WASTE DISPOSAL METHOD:
DISPOSE IN CHEMICAL DISPOSAL AREA OR IN A MANNER THAT COMPLIES WITH LOCAL, STATE, AND FEDERAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

***** SECTION 8: SPECIAL PROTECTION INFORMATION *****

RESPIRATORY PROTECTION:
WEAR APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING AND AFTER APPLICATION UNLESS AIR MONITORING VAPOR/MIST LEVELS ARE BELOW APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURERS DIRECTIONS FOR RESPIRATOR USE.

VENTILATION:
REQUIRED FOR SPRAYING OR IN A CONFINED AREA. VENTILATION EQUIPMENT SHOULD BE EXPLOSION PROOF.

PROTECTIVE GLOVES: USUAL HAND PROTECTION FOR PAINT APPLICATION.
EYE PROTECTION: USUAL EYE PROTECTION FOR APPLYING PAINT.
OTHER PROTECTIVE EQUIPMENT: USUAL CLOTHING FOR PAINTING OPERATIONS.

***** SECTION 9: SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT STORE ABOVE 120 DEG F. BASED ON THE PRODUCT FLASH POINT AND VAPOR PRESSURE SUITABLE STORAGE SHOULD BE PROVIDED IN ACCORDANCE WITH OSHA REGULATION 1910. 106. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE, INCLUDING FLAMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON OR NEAR CONTAINER. ALL LABEL WARNINGS MUST BE OBSERVED UNTIL THE CONTAINER HAS BEEN CLEANED OR RECONDITIONED.

ABBREVIATIONS USED:
OSHA-OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION;
IARC-INTERNATIONAL AGENCY FOR RESEARCH ON CANCER; LEL-LOWER EXPLOSIVE LIMITS;
UEL-UPPER EXPLOSIVE LIMITS; MG CU M-MILLIGRAMS PER METERS CUBED; MM-MILLIMETERS
MPPCF-MILLIONS OF PARTICLES PER CUBIC FOOT; MSHA-MINE SAFETY AND HEALTH

***** SECTION 9: SPECIAL PRECAUTIONS *****CONTINUED*****
ADMINISTRATION; NA-NOT APPLICABLE; NIOSH-NATIONAL INSTITUTE OF OCCUPATIONAL
SAFETY AND HEALTH; NOT EST-NOT ESTABLISHED; NTP-NATIONAL TOXICOLOGY PROGRAM;
PB-LEAD; PEL-PERMISSIBLE EXPOSURE LEVEL; PPM-PARTS PER MILLION;
TCC/PM-TAG CLOSED CUP/PENSKY-MARTEN; RECM-RECOMMENDED; TLV-THRESHOLD LIMIT VALUES.

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MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶

51,270-6

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87367 (4-85)

24 HOUR EMERGENCY ASSISTANCE			GENERAL MSDS ASSISTANCE		
SHELL: 713-473-9461 CHEMTREC: 800-424-9300			SHELL: 713-241-4819		
ACUTE HEALTH 3	FIRE 4	REACTIVITY 0	HAZARD RATING ▶	LEAST - 0 HIGH - 3	SLIGHT - 1 EXTREME - 4
*For acute and chronic health effects refer to the discussion in Section III					



SECTION I	NAME
PRODUCT ▶	RU 2000(R) (REGULAR UNLEADED GASOLINE)
CHEMICAL NAME ▶	PETROL
CHEMICAL FAMILY ▶	HYDROCARBON
SHELL CODE ▶	02100

SECTION II-A			
PRODUCT/INGREDIENT			
NO.	COMPOSITION	CAS NUMBER	PERCENT
P	RU 2000 (REGULAR UNLEADED GASOLINE)	MIXTURE	100
1	ALKANES, CYCLOALKANES, ALKENES AND AROMATIC HYDROCARBONS	MIXTURE	BALANCE
2	TOLUENE	108-88-3	0-25.0
3	XYLENE	1000-20-7	0-25.0
4	BENZENE	71-43-2	<5.0

SECTION II-B			
ACUTE TOXICITY DATA			
NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	>5 GM/KG (RAT)	>2 GM/KG (RABBIT)	>5 MG/L/4HR (RAT)

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT

BASED ON PRODUCT TESTING PRODUCT IS MODERATELY IRRITATING TO THE EYES.

SKIN CONTACT

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

INHALATION

THIS PRODUCT MAY CAUSE IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT AND ADDITIONALLY, MAY PRODUCE LIVER AND KIDNEY DAMAGE.

INGESTION

THIS PRODUCT MAY BE HARMFUL OR FATAL IF SWALLOWED. INGESTION OF PRODUCT MAY RESULT IN VOMITING; ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITIS.

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS

CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

SECTION X

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED (SEE SECTION X). PER 29 CFR 1910.124 OR 29 CFR 1910.1028 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. FOR SERVICE STATION PERSONNEL PROTECTION, SEE SECTION XII.

PROTECTIVE CLOTHING

AS REQUIRED TO MINIMIZE SKIN AND EYE CONTACT, WEAR IMPERVIOUS GLOVES, EYE PROTECTION, AND OTHER PROTECTIVE CLOTHING.

ADDITIONAL PROTECTIVE MEASURES

USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

SECTION XI

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

DANGER: EXTREMELY FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. *** LARGE SPILLS *** ISOLATE THE HAZARD AREA AND DENY ENTRY TO UNNECESSARY PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. WATER FOG MAY BE USEFUL IN SUPPRESSING VAPOR CLOUD; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

WASTE DISPOSAL

EPA - RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) REGULATIONS. AS PRODUCED, THIS MATERIAL IS A PRODUCT AND NOT A WASTE. IF DISCARDED OR INTENDED TO BE DISCARDED AS IS, IT IS A LIQUID IGNITABLE HAZARDOUS WASTE AS DEFINED IN RCRA (40 CFR 261.21). THE EPA HAZARDOUS WASTE NUMBER IS D001. FREE LIQUID IGNITABLE WASTES ARE BANNED FROM DISPOSAL BY LANDFILLING BULK OR IN CONTAINERS. PRODUCT RECOVERY AND RECYCLING ARE RECOMMENDED WHERE POSSIBLE.

ENVIRONMENTAL HAZARDS

EPA - CLEAN WATER ACT (CWA). THIS PRODUCT IS CLASSIFIED AS AN OIL UNDER SECTION 311 OF THE CLEAN WATER ACT. SPILLS ENTERING (A) SURFACE WATERS OR (B) ANY WATERCOURSES OR SEWERS ENTERING/LEADING TO SURFACE WATERS THAT CAUSE A SHEEN MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8802. KEEP OUT OF SURFACE WATERS AND ANY WATER COURSES OR SEWERS ENTERING OR LEADING TO SURFACE WATERS.

SECTION XII

SPECIAL PRECAUTIONS

DANGER. EXTREMELY FLAMMABLE. AVOID HEAT, SPARKS, OPEN FLAMES, INCLUDING PILOT LIGHTS, AND STRONG OXIDIZING AGENTS. USE EXPLOSION-PROOF VENTILATION TO PREVENT VAPOR ACCUMULATION. ALL HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. HARMFUL OR FATAL IF SWALLOWED. DO NOT SIPHON GASOLINE BY MOUTH.

FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE. UNDER NORMAL WORKING CONDITIONS AT SERVICE STATIONS, A RESPIRATOR IS NOT WARRANTED.

IF A MAJOR SPILL OCCURS, GET UPWIND AND NOTIFY LOCAL EMERGENCY PERSONNEL. REMEMBER EXPLOSION AND FIRE IS THE MOST IMMEDIATE DANGER.

SIGNS AND SYMPTOMS

IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONCIOUSNESS AND DEATH MAY OCCUR. ASPIRATION PNEUMONITIS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLuish SKIN); IN SEVERE CASES DEATH MAY OCCUR. KIDNEY DAMAGE MAY BE EVIDENCED BY CHANGES IN URINE OUTPUT, URINE APPEARANCE OR EDEMA (SWELLING FROM FLUID RETENTION). LIVER DAMAGE MAY BE EVIDENCED BY LOSS OF APPETITE, JAUNICE (YELLOWISH SKIN COLOR) AND SOMETIMES PAIN IN THE UPPER ABDOMEN ON THE RIGHT SIDE.

AGGRAVATED MEDICAL CONDITIONS

PREEXISTING EYE, SKIN, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED LIVER AND KIDNEY FUNCTION(S) FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS

IT HAS BEEN REPORTED THAT CHRONIC INHALATION EXPOSURE TO AN UNLEADED MOTOR GASOLINE, WHICH WAS FULLY VAPORIZED, HAS PRODUCED KIDNEY AND LIVER CANCERS IN SOME LABORATORY RODENTS. THE STUDIES WERE SPONSORED BY THE AMERICAN PETROLEUM INSTITUTE. THE API TEST MATERIAL USED WAS BLENDED TO REPRESENT A TYPICAL UNLEADED MOTOR GASOLINE. BENZENE IS LISTED BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, AND OSHA AS A CHEMICAL CAUSALLY ASSOCIATED WITH CANCER IN HUMANS.

SEE SECTION VI FOR SUPPLEMENTAL INFORMATION.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

NO.	OSHA		ACGIH		OTHER
	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
P			300 PPM	500 PPM	
4	1 PPM	6 PPM*	10 PPM**		

*15 MINUTE STEL; **CLASSIFIED BY ACGIH AS A "SUSPECTED HUMAN CARCINOGEN" (A2)

SECTION V EMERGENCY AND FIRST AID PROCEDURES

- EYE CONTACT**
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.
- SKIN CONTACT**
FLUSH WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.
- INHALATION**
REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.
- INGESTION**
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION."

NOTE TO PHYSICIAN
*IF MORE THAN 2.0 ML PER KG HAS BEEN INGESTED AND VOMITING HAS NOT OCCURRED, EMESIS SHOULD BE INDUCED WITH MEDICAL SUPERVISION. KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE USING A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

A CHRONIC INHALATION STUDY (REFERENCED IN SECTION III) SUPPORTED BY THE AMERICAN PETROLEUM INSTITUTE FOUND THAT FULLY VAPORIZED UNLEADED GASOLINE EXPOSURE PRODUCED DOSE-RELATED INCIDENCES OF KIDNEY CANCER IN MALE RATS. GASOLINE EXPOSURE ALSO PRODUCED AN INCREASE OF LIVER CANCER AT HIGH DOSES (2086 PPM) IN FEMALE MICE. EXPOSURES WERE FOR 6 HRS/DAY, 5 DAYS/WEEK FOR A TOTAL OF 27 MONTHS. THE RELATIONSHIP AND SIGNIFICANCE TO MAN OF THE RESULTS OF THIS STUDY IS NOT KNOWN.

INHALATION STUDIES ON GASOLINE VAPORS HAVE CAUSED CENTRAL NERVOUS SYSTEM EFFECTS IN DOGS AT 10,000 PPM.

UNLEADED GASOLINE WAS EVALUATED FOR GENETIC ACTIVITY IN ASSAYS USING MICROBIAL CELLS, CULTURED MAMMALIAN CELLS AND RAT BONE MARROW CELLS. THE RESULTS WERE ALL NEGATIVE. UNLEADED GASOLINE WAS CONSIDERED NON-MUTAGENIC UNDER THESE CONDITIONS.

LABORATORY ANIMALS EXPOSED BY VARIOUS ROUTES TO HIGH DOSES OF XYLENE SHOWED EVIDENCE OF EFFECTS IN THE LIVER, KIDNEYS, LUNGS, SPLEEN, HEART AND ADRENALS. RATS EXPOSED TO XYLENE VAPOR DURING PREGNANCY SHOWED EMBRYO/FETOTOXIC EFFECTS. MICE EXPOSED ORALLY TO DOSES PRODUCING MATERNAL TOXICITY ALSO SHOWED EMBRYO/FETOTOXIC EFFECTS. LABORATORY RATS EXPOSED TO HIGH CONCENTRATIONS OF XYLENE EXPERIENCED RECORDABLE HEARING LOSS.

WHILE THERE IS NO EVIDENCE THAT INDUSTRIALLY ACCEPTABLE LEVELS OF TOLUENE VAPORS (E.G., THE TLV) HAVE PRODUCED CARDIAC EFFECTS IN HUMANS, ANIMAL STUDIES HAVE SHOWN THAT INHALATION OF HIGH LEVELS OF TOLUENE PRODUCED CARDIAC SENSITIZATION. SUCH SENSITIZATION MAY CAUSE FATAL CHANGES IN HEART RHYTHMS. THIS LATTER EFFECT WAS SHOWN TO BE ENHANCED BY HYPOXIA OR THE INJECTION OF ADRENALIN-LIKE AGENTS. LABORATORY RATS EXPOSED TO HIGH CONCENTRATIONS OF TOLUENE EXPERIENCED RECORDABLE HEARING LOSS.

PROLONGED AND REPEATED BENZENE EXPOSURE MAY CAUSE SERIOUS INJURY TO BLOOD FORMING ORGANS; BENZENE IS SUSPECTED OF CARCINOGENIC (LEUKEMIA) POTENTIAL IN MAN. ANIMAL STUDIES ON BENZENE HAVE DEMONSTRATED IMMUNOTOXICITY, TESTICULAR EFFECTS AND ALTERATIONS IN REPRODUCTIVE CYCLES, EVIDENCE OF CHROMOSOMAL DAMAGE OR OTHER CHROMOSOMAL CHANGES, AND EMBRYO/FETOTOXICITY BUT NOT TERATOGENICITY.

THE HANDLING PROCEDURES AND SAFETY PRECAUTIONS IN THIS MSDS SHOULD BE FOLLOWED TO MINIMIZE EMPLOYEE EXPOSURE.

SECTION VII

PHYSICAL DATA

BOILING POINT: 100-425 APPROX. (DEG F)	SPECIFIC GRAVITY: 0.72-0.76 (H2O=1)	VAPOR PRESSURE: 7-14.6 PSI (MM HG) (REID)
MELTING POINT: NOT AVAILABLE (DEG F)	SOLUBILITY: NEGLIGIBLE (IN WATER)	VAPOR DENSITY: 3.5 (AIR=1)
EVAPORATION RATE (N-BUTYL ACETATE = 1): NOT AVAILABLE		% VOLATILE BY VOL = 100 (@ 415 DEG. F)

APPEARANCE AND ODOR: BRONZE COLOR; CLEAR AND BRIGHT LIQUID. HYDROCARBON ODOR.

SECTION VIII

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: -40 DEG F TAG CLOSED TESTER	FLAMMABLE LIMITS /% VOLUME IN AIR LOWER: 1.3 UPPER: 7.6
--	--

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
DANGER. EXTREMELY FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL AND ISOLATE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS
VAPORS ARE HEAVIER THAN AIR ACCUMULATING IN LOW AREAS AND TRAVELING ALONG THE GROUND AWAY FROM THE HANDLING SITE. DO NOT WELD, HEAT OR DRILL ON OR NEAR CONTAINER. HOWEVER, IF EMERGENCY SITUATIONS REQUIRE DRILLING, ONLY TRAINED EMERGENCY PERSONNEL SHOULD DRILL.

SECTION IX

REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

PRODUCT NAME: RU 2000(R) (REGULAR UNLEADED GASOLINE)

MSDS 01,270-8
PAGE 5

SECTION XIII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION: FLAMMABLE LIQUID
D.O.T. PROPER SHIPPING NAME: GASOLINE

OTHER REQUIREMENTS:
D.O.T. I.D. #UN 1203. GUIDE NO. 27.

SECTION XIV OTHER REGULATORY CONTROLS

THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: FEBRUARY 18, 1988

JOHN P. SEPESE

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
P. O. BOX 4320
HOUSTON, TX 77210

COOPERGardner-Denver
Industrial Machinery27-13-31
1st Edition**Material Safety Data Sheet***AIR COMP***Section I - Product Identification**

Trade Name and Synonyms AEON 9000 SP	Part Numbers: 28G29, 28G30	Health Emergency Phone Number (217) 222-5400 Safety Department
Manufacturer's Name Cooper Industries/Gardner-Denver Industrial Machinery Division		
Address 1800 Gardner Expressway - Quincy, IL 62301		
Product Identification Rotary Screw Compressor Lubricant and Coolant		Transport Emergency Phone Number (800) 424-9300 (CHEMTREC)
Chemical Names and Synonyms Synthetic Hydrocarbon Base		

Section II - Transportation (NR - Not Regulated by TDG)

UN Number: NR	Primary Classification: NF	Subsidiary Classification: NF	Compatibility Groups: NR
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Section III - Composition

COMPONENTS	ALLOWABLE LIMITS (8 Hr.)	% (Vol.)	CAS #
Polyalphaolefin C _n H _{2n+2}	5 mg/m ³ (oil mist)	> 98	68037-01-4
Defoamer, antioxidants, rust inhibitors, dye	N/A	< 2	N/A

Section IV - Physical Data

Density (at 15°C):	0.86 kg/L	Boiling Point/Range (at 1 atm):	> 300°F
Vapour Pressure (at 25°C):	< 1.0 mm Hg	Percent Volatile (at 20°C):	0%
Vapour Density (at 20°C):	N/A	Evaporation Rate:	N/A
Solubility in Water	Negligible	Pour Point:	< -39°C
Viscosity (Kinematic):	46 Approximate		

Section V - Fire and Explosion Hazard Data

Flash Point (method used = COC):	226°C (minimum)
Flammable limits in air (% by volume)	N/A
Auto-Ignition Temperature:	> 355°C
Fire and Explosion Hazards:	Addition of water or foam may cause frothing. Do not cut, drill or weld empty containers.
Extinguishing media:	Dry chemical, foam, water spray, carbon dioxide for small fires.
Firefighting Procedures:	Contain spill. Cover with extinguishing agent. Use water spray to cool fire-exposed containers and as a protective screen. Do not point solid water stream directly into burning oil to avoid spreading.
LOW FIRE HAZARD	

Section VI - Health Hazard Information

Toxicity Data	* Estimated acute LD ₅₀ 5000 mg/kg (rat. oral); practically non-toxic. Severely hydrotreated base oils are negative when tested by the modified Ames test.
Effects of Overexposure	
Inhalation:	If heated, sprayed or misted may cause chemical pneumonitis.
Skin and eyes:	Mildly irritating to eyes. Prolonged or repeated contact with skin may cause mild irritation and possibly dermatitis.
Ingestion:	Low toxicity on ingestion. Has laxative effect.

* Based on toxicity of severely hydrotreated paraffinic oil only.

Emergency and First Aid Procedure Information	
Skin:	Remove contaminated clothing - launder before reuse. Soap and water wash. Discard saturated leather articles.
Eyes:	Copious warm water flush - 15 minutes. Physician assessment if eyes inflamed.
Inhalation:	Evacuate to fresh air. Apply Cardiopulmonary Resuscitation if required. Administer oxygen if available. If resuscitation is required, physician assessment mandatory.
Ingestion:	DO NOT INDUCE VOMITING. Force fluids. Activated charcoal tablets.
Notes to Physician:	Gastric lavage should only be done after endotracheal intubation in view of the risk of aspiration which can cause serious chemical pneumonitis for which antibiotic and corticosteroid therapy may be indicated.

Section VII - Reactivity Data

Stability:	Stable.
Conditions to avoid:	Excessive heat, formation of oil mist.
Materials to avoid:	Strong oxidizing agents (peroxides, chlorine, strong acids, etc.)
Hazardous decomposition products:	CO ₂ , smoke and combustion.
Can hazardous polymerization occur:	No

Section VIII - Spill or Leak Procedure

Steps to be taken if material is released or spilled:	Contain spill. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth; commercial sorbents, or recover using pumps. Scoop up used adsorbent and rags into drums.
Waste Disposal Method:	Dispose in approved landfill site or licensed waste reclaimer facility.

Section IX - Special Protection Information

Ventilation:	General ventilation.
Respirator Protection:	Normally not necessary. If mist generated by heating, spraying etc. wear approved organic vapour respirator suitable for oil mist in areas with sufficient oxygen.
Protective Gloves:	Polyvinyl Alcohol, Butyl Rubber, Polyethylene
Eye Protection:	None normally required; chemical goggles if splashing likely or high-pressure system used.
Other Protective Clothing:	Oil-resistant clothing if direct contact with liquid likely.

Section X - Special Precautions

Store in cool, well-ventilated area. Wash hands after handling and before eating. Avoid inhalation and skin contact. Launder work clothes frequently. Discard saturated leather articles.

NOTE: Not a controlled product under Canadian WHMIS Hazard Criteria; as specified in Controlled Product Regulation.

AEON Lubricants are not formulated to contain PCBS.



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

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

July 19, 1996

P 594 835 284

CERTIFIED MAIL
RETURN RECEIPT NO. P-594-835-284

Mr. Richard Duarte
El Paso Natural Gas Company
3801 Atrisco, N.W.
Albuquerque, NM 87120

**RE: Discharge Plan GW-92 Renewal
Rio Vista compressor Station
San Juan County, New Mexico**

Dear Mr. Duarte:

On January 17, 1992, the groundwater discharge plan, GW-92, for the El Paso Natural Gas Company "Rio Vista" Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico, was approved by the Director of the New Mexico Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval will expire on January 17, 1996.

If the facility continues to have potential or actual effluent or leachate discharges and wishes to continue operation, the discharge plan must be renewed. Pursuant to Section 3106.F., if an application for renewal is submitted at least 120 days before the discharge plan expires (on or before September 17, 1996), then the existing approved discharge plan for the same activity shall not expire until the application for renewal has been approved or disapproved. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several weeks to months. Please indicate whether El Paso Natural Gas Company has made, or intends to make, any changes in the system, and if so, please include these modifications in the application for renewal.

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided. *GW-92: REV*
Do not use for International Mail (See reverse)

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

PS Form 3800, April 1995

Mr. Richard Duarte
EPNG - GW-092
July 19, 1996
Page 2

The discharge plan renewal application for the **Rio Vista Compressor Station** is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee of \$50 plus a flat fee of \$690 for Compressor Stations above 3,000 horsepower. The \$50 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable.

Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office.

Please submit the original discharge plan renewal application and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. **Note that the completed and signed application form must be submitted with your discharge plan renewal request.**

If El Paso Natural Gas Company no longer has any actual or potential discharges and a discharge plan is not needed, please notify this office. If El Paso Natural Gas Company has any questions, please do not hesitate to contact Pat Sanchez at (505) 827-7156.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/pws

xc: Mr. Denny Foust



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

January 17, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-997

Mr. Richard Duarte
El Paso Natural Gas Company
3801 Atrisco, N.W.
Albuquerque, NM 87120

**RE: Discharge Plan GW-92 Renewal
Rio Vista compressor Station
San Juan County, New Mexico**

Dear Mr. Duarte:

On January 17, 1992, the groundwater discharge plan, GW-92, for the El Paso Natural Gas Company Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico, was approved by the Director of the New Mexico Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulation 3106 and was approved pursuant to section 3109 for a period of five years. The approval will expire on January 17, 1997.

If your facility continues to have potential or actual effluent or leachate discharges and you wish to continue operation, you must renew your discharge plan. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several weeks to months. Please indicate whether you have made, or intend to make, any changes in your system, and if so, please include these modifications in your application for renewal.

The discharge plan renewal application for the Rio Vista Compressor Station is subject to the WQCC Regulations 3114 discharge plan fee. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee of \$50 plus a flat fee of \$690 for Compressor Stations in above 3,000 horsepower.

The \$50 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable. The flat fee for an approved discharge plan renewal may be paid in a single

Mr. Richard Duarte
January 17, 1996
Page 2

payment due at the time of approval, or in equal annual installments over the duration of the discharge plan - with the first payment due the at the time of approval. Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office.

Please submit the original and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. **Note that the completed and signed application form must be submitted with your discharge plan renewal request.** The following information is enclosed: Application form, Guidelines, and WQCC regulations.

If you no longer have any actual or potential discharges, a discharge plan is not needed, please notify this office, and provide a closure plan for the facility. If you have any questions regarding this matter, please do not hesitate to contact Mr. Patricio Sanchez at (505) 827-7156.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/pws

xc: Mr. Denny Foust

Enclosures

MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time 8:00 AM

Date 1-16-96

Originating Party

Other Parties

Pat Sanchez - NMOCOD

Mr. David Bays - EPNG

505-599-2256

Subject EPNG "Rio Vista" compressor station - GW-92
1 year Renewal letter and Information package.

Discussion Left Mr. Bays with EPNG/EPFS a voice
mail with regards to the above facility:

"Who does NMOCOD need to mail the
1 year renewal letter and information
to at EPNG/EPFS?"

Also gave him the GW # and legal location
of the facility - Section 27, T29N, R11W, NMPM,
San Juan County, New Mexico.

Conclusions or Agreements

• Wait for Mr. Bays to return call.

Distribution File, Denny Faust.

Signed

Robert W. Faust



OIL CONSERVATION DIVISION
RECEIVED

3801 ATRISCO, NW
ALBUQUERQUE, NEW MEXICO 87120
PHONE: 505/831-7700

93 MAR 12 AM 9 01

March 9, 1993

New Mexico Oil Conservation Division
Attn: Kathy Brown
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Re: El Paso Natural Gas Company's (EPNG's) Rio Vista Compressor Station: Ground-water Discharge Plan (GW-92).

Dear Ms. Brown:

The purpose of letter is to confirm our March 2, 1993 telephone conversation and to transmit a check in the amount of \$1,380 for the subject Discharge Plan.

In short, I initiated the phone call to inform you of EPNG's intent to proceed with the construction of the Rio Vista Compressor Station after having temporarily suspended its plans. Please reference my January 5, 1993, letter to you regarding the temporary suspension of construction. Secondly, I informed you that, for now, construction was merely limited to ground clearing activities and actual construction of the facility would not begin until April 1993. You stated that it was important to have an approved discharge plan and fee paid prior to actual construction of the facility. I stated that I considered the ground clearing activity not to be part of the construction of the actual facility since the Discharge Plan is specific only to the facility discharges; and, the Clean Water Act-NPDES and archaeological regulations already monitored the ground clearing operations. You concurred with my interpretation.

Lastly, I informed you that since the submittal of the Discharge Plan on November 1, 1991, EPNG had slightly reconfigured the compressor station from its initial plans. With regard to this reconfiguration, the only change to the Discharge Plan is within Section I. D. Type of Natural Gas Operation. As I mentioned to you, the facility at this time would only transport New Mexico Gas and no Colorado Dry Gas would be compressed. Due to this reconfiguration, the only significant operational change to a major component is that only one Centaur turbine would be at the site rather than the two Centaur turbines initially planned. The total horsepower for the site is now 13,400 ISO hp. This new configuration does not, however, affect or change any of the information provided in the remaining sections (II, III and IV) of the November 1, 1991, Discharge Plan. Furthermore, the deletion of the one turbine does not change the flat fee as specified in WQCC Rule 3-114.3.B.1.(b), nor does it "result in any significant modification in the discharge of water contaminants" which would otherwise require a notice to the NMOCD director pursuant to WQCC Rule 3-107.C. Therefore, enclosed is a check for the Discharge Plan fee of \$1380.

If you have any questions or clarifications on the statements above, please do not hesitate to give me a call at 505/831-7763.

Sincerely,

Richard Duarte
Sr. Compliance Engineer
Environmental Compliance

attachment - Check No. 007220813 payable to NMED Water Quality Management

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [REDACTED] dated 3/4/93,
or cash received on 3/15/93 in the amount of \$ 1380.00
from El Paso Natural Gas Company
for Rio Vista Compressor Station GUL-92

Submitted by: _____ (Facility Name) Date: _____ (DP No.)

Submitted to ASD by: Kathy Brown Date: 3/15/93

Received in ASD by: Sherry Gonzalez Date: 3/15/93

Filing Fee _____ New Facility Renewal _____
Modification _____ Other _____ (specify)

Organization Code 521.07 Applicable FY 93

To be deposited in the Water Quality Management Fund.
Full Payment or Annual Increment _____



P.O. BOX 1492
EL PASO, TX 79978

PAYABLE AT
CITIBANK DELAWARE
A SUBSIDIARY OF CITICORP
ONE PENN'S WAY
NEW CASTLE, DE 19720

CONTROL NO.
232 CBD
62-20
311

CHECK NO. [REDACTED]
03/04/93
Date

PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
P O BOX 2088
SANTA FE NM 87504

PAY AMOUNT
\$1,380.00
Void After 1 Year

Authorized Signatory



EL PASO NATURAL GAS COMPANY

REMITTANCE ADVICE

Vendor Number
018711 001

Check Date
03/04/93

Check Number
[REDACTED]

VOUCHER NUMBER	INVOICE NUMBER	AMOUNT		
		Invoice	Discount	Net
REFER PAYMENT INQUIRIES TO ACCOUNTS PAYABLE (915) 541-5354				
VOUCHER NO	INVOICE NO	GROSS	DISCOUNT	NET
000183832	CKREQ930226	1,380.00	.00	1,380.00
FEE FOR DISCHARGE PLAN GW-92 FOR RIO				
VISTA COMPRESSOR STATION				
TOTALS		1,380.00	.00	1,380.00



MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 9:20 AM.	Date 3/1/93
---	-----------------------------------	------------------	----------------

<u>Originating Party</u> Richard Durants EPNG	<u>Other Parties</u> Kathy Brown OCD
---	--

Subject Rio Vista Compressor Station

Discussion Have gotten FERC approval to construct facility, so would now like to pay the flat fee and begin construction. Will begin earth work on Wednesday and check won't be here til Friday and just wanted to make sure it's OK. Point #2 - one change to discharge plan is that they will not be accepting Colorado dry gas, but will be accepting New Mexico dry gas. Nothing else will change.

Conclusions or Agreements
Richard will send us a letter confirming this.

Description File
Signed Kathy Brown

OIL CONSERVATION DIVISION
RECEIVED

'93 JAN 7 AM 8 49

3801 ATRISCO, N. W.
ALBUQUERQUE, NEW MEXICO 87120
PHONE: 505-831-7700

El Paso
Natural Gas Company

January 5, 1993

Kathy M. Brown
Geologist
NM Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

**Re: Fee for Discharge Plan GW-92 for EPNG's Proposed Rio Vista Compressor Station,
San Juan County, NM.**

Dear Ms. Brown:

Please accept this letter as confirmation of our telephone conversation yesterday regarding the subject discharge plan fee. The purpose of my call was to respond to your letter to Mr. Larry R. Tarver, EPNG Vice President, dated December 17, 1992, regarding non-payment of the flat-fee (\$1,380) for the approved discharge plan, GW-92, as required by WQCC Regulation 3-114.

As I mentioned, EPNG has not commenced construction of Rio Vista because we are evaluating other compressor locations in Colorado. Although construction is not foreseen in the near future, EPNG has not completely abandoned its Rio Vista plans. Thus, I requested that EPNG be permitted to defer the flat-fee payment until the station's construction is near. You stated that this would be an acceptable option; however, you advised that NMOCD would have to be renotified prior to construction, and further review of the approved discharge plan may be required.

Lastly, I mentioned to you that due to reorganization within EPNG, some changes had occurred which affect important information in Section 2.0 of the discharge plan. The following is provided to help ensure prompt correspondence and responses should NMOCD require further information:

2.0 General Information

2.1 Name of Discharger/Legally Responsible Party: All correspondence regarding the subject discharge plan should be sent to the address below:

Don N. Bigbie
Vice President
Transmission Operations
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978
915/541-5215



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



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

December 17, 1992

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-928

Mr. Larry R. Tarver
Vice President North Region
El Paso Natural Gas Company
304 Texas Street
El Paso, Texas 79901

**RE: Fee for Discharge Plan GW-92
Rio Vista Compressor Station
San Juan County, New Mexico**

Dear Mr. Tarver:

Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund". Every billable facility submitting a new discharge plan will be assessed a filing fee plus either a flat fee or discharge fee.

The discharge plan for the EPNG Rio Vista Compressor Station (GW-92) was approved by the Director on January 17, 1992. Our records show that the \$50 filing fee has been paid, but the flat fee has not been paid. The flat fee for compressor stations with a maximum horsepower greater than 3000 is \$1380. Please submit the appropriate flat fee or records showing that the fee has been paid.

The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval.

Please make all checks payable to: **NMED - Water Quality Management** and addressed to the OCD Santa Fe Office.

Mr. Larry Tarver
December 17, 1992
Page 2

If you have any questions, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

A handwritten signature in cursive script that reads "Kathy M. Brown". The signature is written in black ink and is positioned above the printed name.

Kathy M. Brown
Geologist



OIL CONSERVATION DIVISION

RECEIVED

DEC 20 9 42 AM '91

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

December 20, 1991

Mr. William J. Lemay
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the Public Notice dated December 4, 1991, regarding the effects of granting State of New Mexico groundwater discharge permits on fish, shellfish, and wildlife resources in New Mexico.

The U.S. Fish and Wildlife Service (Service) comments are for the following permits.

(GW-93) - Meridian Oil Inc., Rattlesnake Compressor Station, NW/4, Section 36, T31N, R9W, NMPM, San Juan County, New Mexico. Wastewater is to be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility.

(GW-71) - El Paso Natural Gas Company, Chaco Canyon Gas Processing Plant, Section 16, T26N, R12W, NMPM, San Juan County, New Mexico. Wastewater is disposed of in four unlined lagoons.

(GW-92) - El Paso Natural Gas Company, Rio Vista Compressor Station, Section 27, T29N, R11W, NMPM, San Juan County, New Mexico. Waste from a compressor station will be stored in a below grade steel tank.

(GW-88) - BHP-Petroleum (Americas), Inc., Gallegos Canyon Compressor Station, Section 21, T29N, R12W, NMPM, San Juan County, New Mexico. Wastewater will be stored in an above grade steel tank prior to transport to an OCD approved offsite Class II disposal well.

(GW-91) - Williams Fields Services, 32-9 Central Delivery Point, NE/4 SE/4, Section 15, and NW/4 SW/4, Section 14, T31N, R10W, NMPM, San Juan County, New Mexico. Wastewater will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal facility.

The Service is concerned with potential adverse effects of the proposed discharge plans upon migratory bird species. A significant number of migratory birds use evaporative ponds, tanks, and adjacent wetlands as a stopover during spring and fall migrations. There are also resident birds that nest and raise young in the area. Mortality due to poisoning or hypothermia may occur if migratory birds ingest or become covered with petroleum hydrocarbons and/or other organic or inorganic constituents present in these wastewaters. To avoid this consequence, the Service recommends that

Mr. William J. Lemay

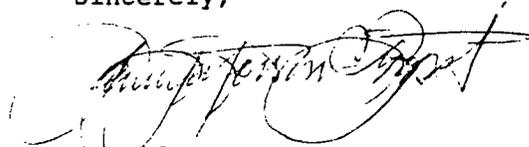
2

all wastewater impoundments be designed and constructed to prevent access by migratory birds.

The pits, tanks, or impoundment should be screened, fenced, netted, or covered with material of sufficient size to prevent access by migratory birds. All pits, tanks, or impoundments should be lined to prevent seepage and possible access by migratory birds to contaminated water. These comments represent the views of the Service.

If you have any questions concerning our comments, please contact Richard Roy at FTS 474-7877 or (505) 883-7877.

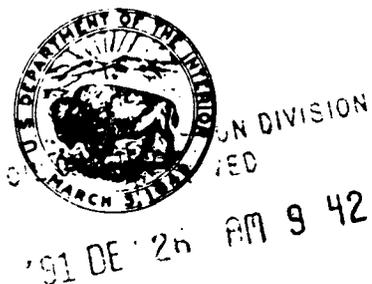
Sincerely,

A handwritten signature in cursive script, appearing to read "Jennifer Fowler-Propst", written in black ink.

Jennifer Fowler-Propst
Field Supervisor

cc:

Assistant Regional Director, Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

December 20, 1991

Mr. William J. Lemay
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the Public Notice dated December 4, 1991, regarding the effects of granting State of New Mexico groundwater discharge permits on fish, shellfish, and wildlife resources in New Mexico.

The U.S. Fish and Wildlife Service (Service) comments are for the following permits.

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Mr. William J. Lemay

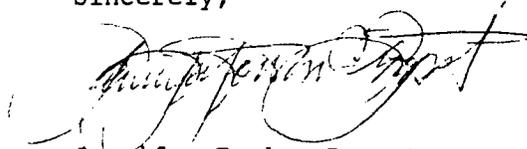
2

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If you have any questions concerning our comments, please contact Richard Roy at FTS 474-7877 or (505) 883-7877.

Sincerely,

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Jennifer Fowler-Propst
Field Supervisor

cc:

Assistant Regional Director, Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico

STATE OF NEW MEXICO

County of Bernalillo

ss

OIL CONSERVATION DIVISION

RECEIVED

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 applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-93)-Meridian Oil Inc., Danny W. Hill, Plant/Pipeline Manager, PO Box 4289, Farmington, New Mexico 87499-4289, has submitted a discharge plan application for their Rattlesnake Compressor Station located in the NW/4, Section 38, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 67 gallons per day of waste water is stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Ground water most likely to be affected by an accidental discharge is at a depth of approximately 25 feet with a total dissolved solids concentration of approximately 1200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-71)-El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, PO Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their Chaco Canyon Gas Processing Plant located in Section 18, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 180,000 gallons per day of process waste water is disposed of in four unlined lagoons. The discharge application proposes closure of the unlined lagoons and construction of double lined evaporation ponds equipped with leak detection. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 220 feet with a total dissolved solids concentration of approximately 560 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

(GW-02)-El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, PO Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their proposed Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The compressor station is designed to minimize the generation of wastes. Any wastes generated will be stored in a below grade steel tank equipped with secondary containment and leak detection. Those wastes that cannot be recycled will be transported offsite to an OCD approved disposal site. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3400 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for..... 1times, the first publication being on the..... 18day
of..... Dec....., 1991, and the subsequent consecutive
publications on....., 1991.

Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this 18 day of Dec....., 1991.

PRICE..... \$ 52.54

Statement to come at end of month.

CLA-22-A (R-12/91)

ACCOUNT NUMBER..... 281184

Bernadette
BERNADETTE
PUBLIC-HEARINGS
OIL CONSERVATION DIVISION
12-18-93

91-05; 20 AM 8 46

(GW-88)-BHP-Petroleum (Americas), Inc., Jesse L. Roberts, Manager-Regulatory and Environmental Affairs, 5847 San Felipe, Suite 3600, Houston, Texas, 77057, has submitted a discharge plan application for their proposed Gallegos Canyon Compressor Station located in Section 21, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 2800 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal well. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 200 feet with a total dissolved solids concentration of approximately 1000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-01)-Williams Field Services, Sandy Fisher, Environmental Specialist, PO Box 58900, M.S. 10368, Salt Lake City, Utah, 84158-0900, has submitted a discharge plan application for their proposed 32-0 GDP (Central Delivery Point) located in the NE/4 SE/4, Section 15, and the NW/4 SW/4, Section 14, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 10 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 500 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a

hearing should be held. A hearing will be held if the Director determines there is significant public interest.

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

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 4th day of December, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director
Journal: December 18, 1991

AFFIDAVIT OF PUBLICATION

COPY OF PUBLICATI

No. 28702

STATE OF NEW MEXICO,
County of San Juan:

CHRISTINE HILL being duly sworn, says: "That she is the NATIONAL AD MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (/////) on the same day as follows:

- First Publication WEDNESDAY, DECEMBER 11, 1991
- Second Publication _____
- Third Publication _____
- Fourth Publication _____

and that payment therefore in the amount of \$ 78.27 has been made.

Christine Hill

Subscribed and sworn to before me this 18th day of DECEMBER, 1991.

Connie Andrae

Notary Public, San Juan County,
New Mexico

My Comm expires: JULY 3, 1993

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

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NOTICE OF PUBLICATION

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

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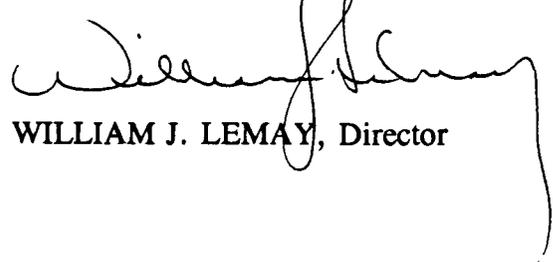
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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 4th day of December, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY, Director

S E A L

OIL CONSERVATION DIVISION
RECEIVED

El Paso
Natural Gas Company

'91 NOV 5 AM 8 58

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

November 1, 1991

Mr. William J. LeMay, Director
Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

Re: Discharge Plan for El Paso Natural Gas Company's (El Paso)
Proposed Rio Vista Compressor Station

Dear Mr. LeMay:

Enclosed for your review is the Discharge Plan for El Paso's proposed natural gas compressor facility to be known as the "Rio Vista Compressor Station." The Discharge Plan specifies proposed procedures to ensure compliance with the New Mexico Water Quality Control Commission Regulations. Also enclosed is a check in the amount of fifty dollars (\$50.00) to cover the application filing fee.

El Paso respectfully requests your approval of this plan and will meet with you or agency personnel whenever necessary should more information be required. Construction for Rio Vista is proposed to commence in mid-November and we expect that it will be fully operational by April 1992.

Should you or agency personnel have any information requests, please direct questions to me at (915) 541-3531.

Thank you for your consideration of this matter.

Sincerely,

Thomas D. Hutchins

Thomas D. Hutchins, PE
Manager
North Region Compliance Engineering

enclosure

**Rio Vista Compressor Station
Discharge Plan**



Prepared for:

**New Mexico Oil Conservation Division
November 1, 1991**

**El Paso Natural Gas Company
304 Texas Street
El Paso, Texas 79901
(915) 541-3531**

**Rio Vista Compressor Station
Discharge Plan**

This Discharge Plan has been prepared in accordance with New Mexico Oil Conservation Division (OCD) "Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants".

I. General Information

El Paso Natural Gas (EPNG) Company proposes to install a natural gas compressor station to be known as the "Rio Vista Compressor Station".

A. Discharger:

All correspondence regarding this discharge plan should be sent to EPNG North Region headquarters at the address below:

Larry R. Tarver
Vice President
North Region
El Paso Natural Gas Company
304 Texas Street
El Paso, Texas 79901
(915) 541-5050

B. Local Representative:

A copy of all correspondence and all questions should be directed to the North Region Manager of Compliance Engineering:

Thomas D. Hutchins
Manager
Compliance Engineering
North Region
El Paso Natural Gas Company
304 Texas Street
El Paso, Texas 79901
(915) 541-3531

C. Location of Discharge:

The compressor site is located in Section 27, Township 29 North, Range 11 West, N. M. P. M., San Juan County, New Mexico; or, South of the City of Bloomfield, New Mexico approximately 1000 feet south of Farm Road No. 4990. Reference the attached site plans attached as tab 1.

D. Type of Natural Gas Operation:

The compressor facility will pressurize Colorado Dry Gas and New Mexico Gas. Both streams will flow through horizontal filter/separators before going to the compressors. The proposed installation includes two Saturn T-1200 Turbines which combine for 1,375 site horsepower and two Solar Centaur "H" Turbines which combine for 7,006 site horsepower, and their associated equipment.

The Colorado Dry Gas will flow into the Saturn units for compression and on discharge the gas will be cooled before it and the New Mexico Gas are recompressed by the Centaur units.

Major operational components are:

- two new Centaur turbines and two Saturn turbines
- two inlet filter/scrubbers
- one fuel gas scrubber
- two gas discharge coolers (fin-fans)
- auxiliary electric generator
- one lube oil storage tank (8,000 gallons)
- one underground waste liquids tank (1,000 gallons)

Discharges from each of the above components are discussed separately in section II of this application.

Affirmation

I hereby certify that I am familiar with the information contained in this application submitted for the Rio Vista Compressor Station Discharge Plan and that such information is true, accurate, and complete to the best of my knowledge and belief.

D.M. Biggie
Signature

Date

Printed Name

Title

II. Plant Processes

Compressors:

The compressors will be installed in such a manner to ensure containment of drips, spills, and washdown water. Any spill or washdown water from cleaning operations will be contained and discharged into a 1,000-gallon underground tank.

Used lube oil will be generated at an expected rate of 20 gallons per 2,000 hours of operation. This oil will be drained into the 1,000-gallon underground tank and hauled from the site by an oil recycler.

The site will also have a septic tank system for domestic sewer. The septic system will only receive sewer from one wash room designed with one toilet and one wash basin. This system will be constructed in accordance with NMED guidelines for on-site disposal systems.

Inlet & Fuel Gas Scrubbers:

Two suction scrubbers, one on the inlet side of each compressor unit, will remove natural gas liquids. Natural gas liquids generated by these scrubbers will be discharged to the 1,000-gallon underground tank. The volume of liquids will vary.

A fuel gas scrubber will be at the inlet to the fuel gas line for all four turbines. Any natural gas liquids from this scrubber will also be discharged to the 1,000-gallon underground tank.

Underground Tank:

One 1,000-gallon underground storage tank will be installed on-site. The tank will be installed with secondary containment and a leak detection system according to OCD Guidelines for Installation of Below-Grade Tanks.

The tank will receive liquids from compressor and auxiliary building drains, used oil from turbines, natural gas liquids from the two suction scrubbers and the fuel gas scrubber.

Water from the tank will be decanted periodically by EPNG personnel and taken to EPNG's Blanco Plant for further processing in an oil/water separator. The volume of water will vary with operations.

Waste and used oil from this tank will be removed on a regular basis by an oil recycler.

Lube Oil Storage Tank:

A 8,000-gallon lube oil storage tank will be located on site to supply oil to all four turbines. This storage unit will have a secondary containment berm.

Underground Drain Lines:

All underground piping and drain lines carrying either chemical commercial products or waste liquids will be hydrostatically tested at 1 1/2 times their design pressure for a minimum of 8 hours. In case the above procedure is not feasible, test pressures and duration of test will be determined using procedures specified for drainage and vent systems as set forth in the 1979 International Conference of Building Officials (ICBO) Plumbing Code, Sections 1004 (A) 1 and 1006.

All hydrotest procedures and results will be forwarded to OCD within 2 months of the facility commencing operations. Thereafter, EPNG proposes to hydrotest once every 15 years or other specified interval as required by any future OCD regulations.

Effluent Handling and Site Housekeeping:

The Rio Vista Compressor Station has been designed with State-of-the-Art equipment and controls. This design minimizes on-site chemicals and prevents and mitigates any unplanned releases to the environment. Regularly scheduled maintenance procedures will also help to assure that the equipment remains functional and thus the possibility of spills or leaks is further minimized.

This site will be visited on a daily basis by EPNG personnel. Leaks, spills, and drips will be managed as follows:

Small spills will be absorbed by the soil or commercial absorbent pads. The soil will be excavated and contained in drums for recycle or off-site disposal.

Large spills will be contained by the drain system or with commercial absorbent pads. Where possible, liquid and solid waste will be segregated and managed in separate drums for recycle or disposal.

The waste generated from either scenario above will be characterized and recycled if possible. If not recyclable, waste will be disposed according to its analytical profile.

Verbal and written notification of leaks or spills will be made to OCD in accordance with OCD Rule 116. Any release of a chemical with a reportable quantity regulated by Title 40 Code of Federal Regulations Parts 300 through 372 will be reported to the National Response Center, and where applicable NMED.

III. Effluent and Solid Waste Disposal.

There will be minimal liquid and solid waste generated. All effluent and solid waste will be characterized and managed for recycle, if possible, or disposal according to their analytical profile. Effluent and solid waste that cannot be recycled will be disposed of in facilities approved by OCD, NMED or other jurisdictional agencies.

IV. Site Characteristics

Hydrologic Features:

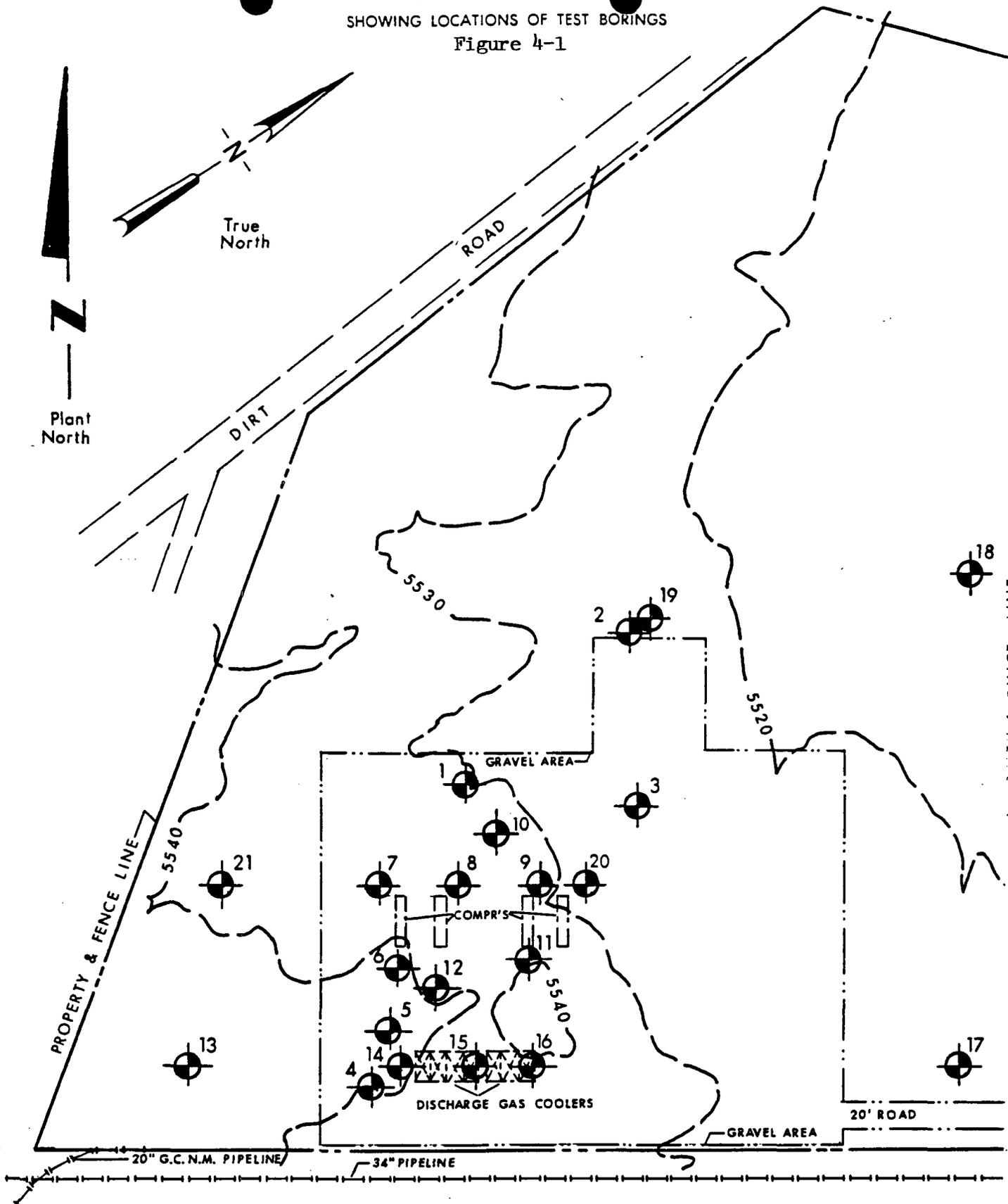
The Rio Vista Compressor site is located on a bluff 1,800 feet south of, and 120 above the San Juan River in the San Juan River Basin. The Hammond Ditch is located on this bluff, about 600 feet north of the compressor site boundaries. The Gary-Williams Refinery is located on the bluff between the compressor site and the river. Gary-Williams has installed several monitoring and recovery wells into the shallow alluvial aquifer which exists to the north of the compressor site.

Based on a geotechnical site assessment (Figure 4.1), the compressor station will be built upon alluvium which caps the Nacimiento Formation. The top of bedrock was encountered in the alluvium between 12 feet and 28 feet below the surface (Table 4.1). Groundwater was encountered in the alluvium between 24 and 28 feet below the ground surface, or elevations approximately 5495 to 5505 above mean sea level. Groundwater was only encountered in borings on the terrace which occupies the eastern portion of the site. Claystone was encountered at total depth in three of the four borings where groundwater was present. No borings were completed to a sufficient depth to determine if water is present under the hill which occupies the western portion of the site, or to determine the extent that this alluvial aquifer is connected with sandstone aquifers in the Nacimiento Formation.

SITE PLAN

SHOWING LOCATIONS OF TEST BORINGS

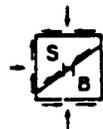
Figure 4-1



S.H.B JOB NO. E91-1109
SCALE: 1"=100'
JULY, 1991

 BORE HOLE

**RIO VISTA
COMPRESSOR STATION**
EL PASO NATURAL GAS COMPANY
SAN JUAN COUNTY, NEW MEXICO



SERGENT, HAUSKINS & BECKWITH

CONSULTING GEOTECHNICAL ENGINEERS
PHOENIX • ALBUQUERQUE • SANTA FE • SALT LAKE CITY • EL PASO
• TUCSON •

Table 4-1. Soil Boring Summary – Proposed EPNG Rio Vista Compressor Site

Boring No.	Ground Elev.	Bed Rock	Bedrock Elev.	Total Depth	TD Elev.	Date Drilled	Depth Water	Water Level	Uppermost Bedrock Lithology
1	5530	14	5516	20	5510	6/18/91	nr	nr	Siltstone
2	5524	25.5	5498.5	30	5494	6/18/91	24	5500	Claystone
3	5523	29.5	5493.5	31	5492	6/18/91	28.3	5494.7	Claystone
4	5540	12	5528	21	5519	6/18/91	nr	nr	Sandstone
5	5543	18	5525	24.5	5518.5	6/18/91	nr	nr	Sandstone
6	5542	13	5529	20.5	5521.5	6/18/91	nr	nr	Sandstone
7	5535	15	5520	21	5514	6/19/91	nr	nr	Sandstone
8	5537	nr	nr	16	5521	6/19/91	nr	nr	nr
9	5532	25.5	5506.5	32	5500	6/19/91	nr	nr	Claystone
10	5533	nr	nr	14	5519	6/19/91	nr	nr	nr
11	5540	25	5515	31	5509	6/19/91	nr	nr	Claystone
12	5539	19	5520	22	5517	6/19/91	nr	nr	Sandstone
13	5549	13.5	5535.5	21	5528	6/20/91	nr	nr	Sandstone
14	5540	23	5517	25	5515	6/20/91	nr	nr	Sandstone
15	5537	nr	nr	18	5519	6/20/91	nr	nr	nr
16	5539	nr	nr	10	5529	6/20/91	nr	nr	nr
17	5524	nr	nr	20	5504	6/20/91	nr	nr	nr
18	5515	nr	nr	12	5503	6/20/91	nr	nr	nr
19	5523	29	5494	34	5489	6/20/91	27	5496	Claystone
20	5527	nr	nr	27	5500	6/20/91	25	5502	nr
21	5538	25.5	5512.5	26	5512	6/21/91	nr	nr	Claystone

nr=not reported

The general flow direction in the alluvium appears to be to the northeast, following the surface gradient. Flow in the Nacimiento is assumed to follow regional dip of the Nacimiento, which also is toward the northeast here at the site. The dip of the beds are shallow here, and the gradient is assumed to also be shallow.

Water quality in the alluvial aquifer in the San Juan Basin is highly variable, but average specific conductance values in the San Juan River valley is approximately 2,500 umhos (Stone et. al, 1983). Total dissolved solids measured in two wells producing from the Nacimiento Formation in this portion of the San Juan Basin were 3900 mg/l and 5400 mg/l (Levings et. al, 1990).

Geologic Description:

The compressor site will be located on alluvium, which consists of fine to coarse sand, clays, and varying combinations of the two. The soils tend to be weak, compressible, and moderately permeable. These soils, which extend to depths of between 2 and 14 feet, are fine to medium grained and generally soft at the surface and become moderately firm to firm with depth. The silty sands are generally nonplastic and the clayey soils are of low plasticity. Directly underlying the surface stratum, clean sands with varying amounts of gravel and cobbles are encountered. The alluvium is deposited on the Nacimiento Formation.

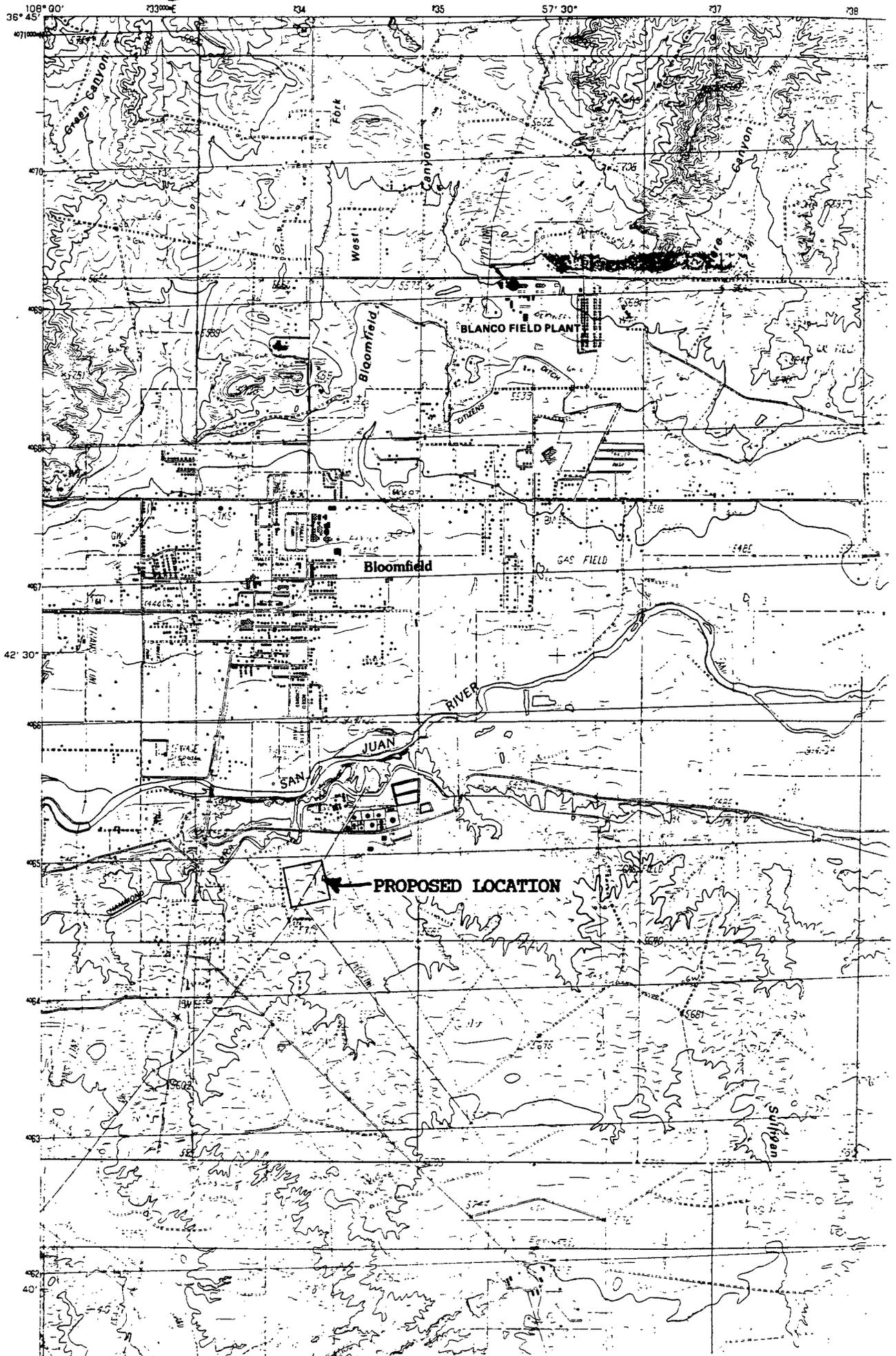
Flood Protection:

The Rio Vista site is located on bluff above the San Juan River at an altitude of about 5530 feet. The river is about 3/4 of a mile north of the compressor site and drains in an east-west direction. Flooding from the San Juan River would not affect the site because it is located 130 feet above the river and outside the 100-year flood plain.

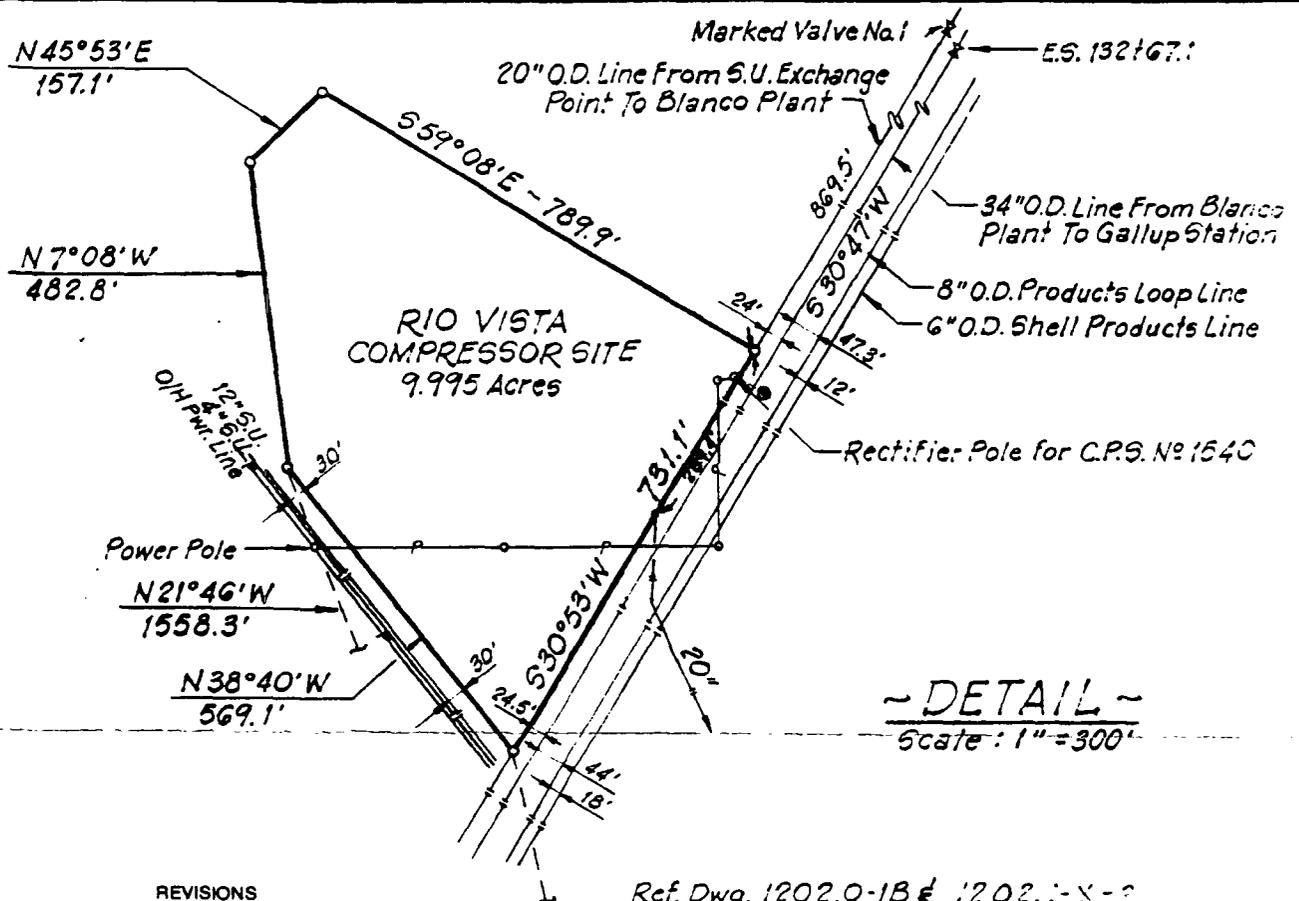
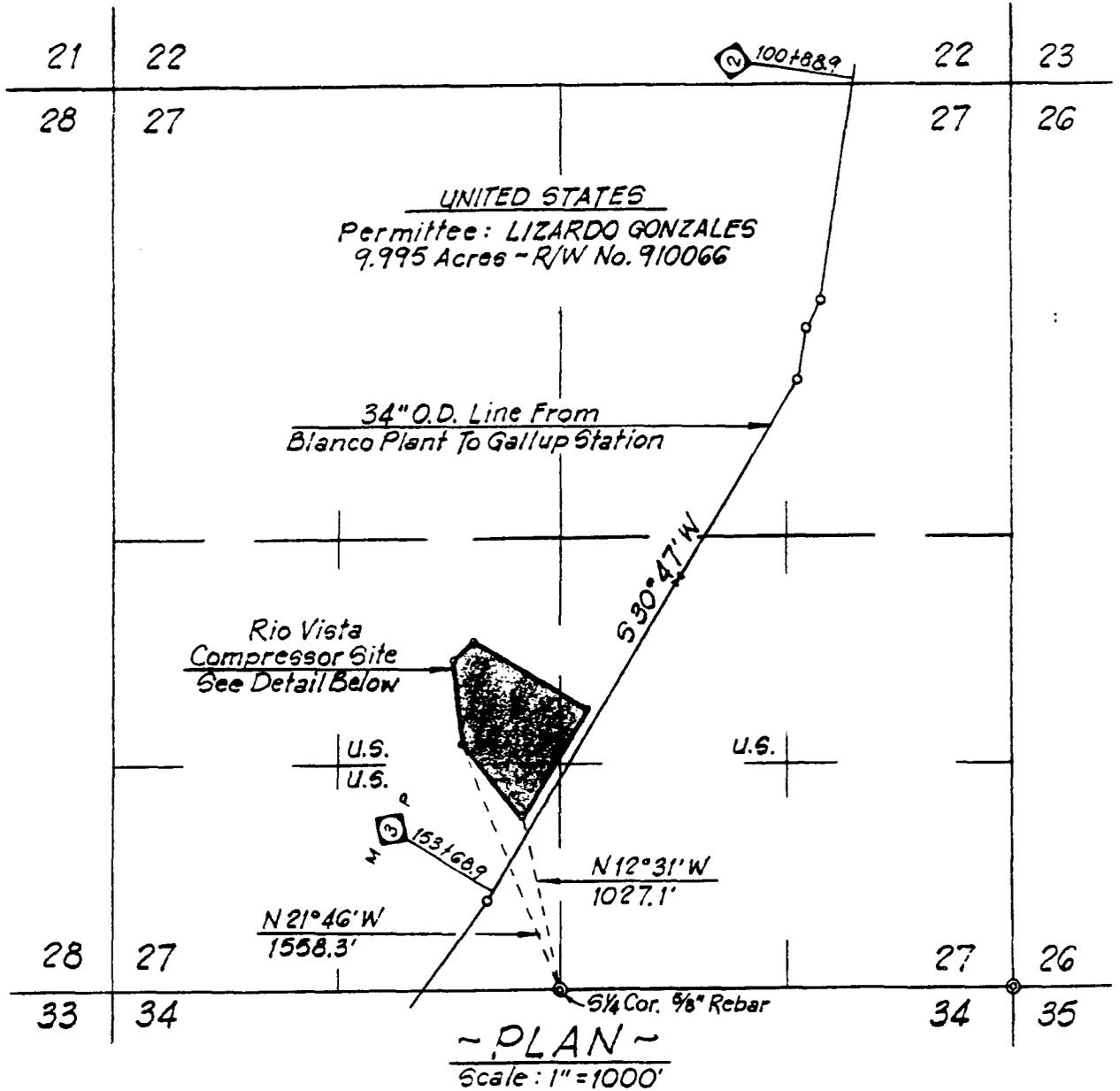
The site grading shall be designed to ensure that offsite drainage is diverted from the station and that no more than 1" of surface drainage accumulates on any portion of the project site at any time. The design basis shall be the most stringent 100 year criteria published for the location.

Material Safety Data Sheets

Material Safety Data Sheets are attached in tab 2.



T-29-N, R-11-W, N.M.P.M.



REVISIONS

Ref. Dwa. 1202.0-1B & 1202.1-X-2

A SITE RELOCATED 5-2-91



NO.	DATE	TO	W.O.	ENG. REC.	DATE
				DRAWN	R.V.M. 4-24-91
				CHECKED	J.T.C. 5-2-91
				CHECKED	
				PROJ. APP.	
				SURVEYED	4-17-91
				CGC NO.	
				R/W NO.	910066
				W.O.	L-4437

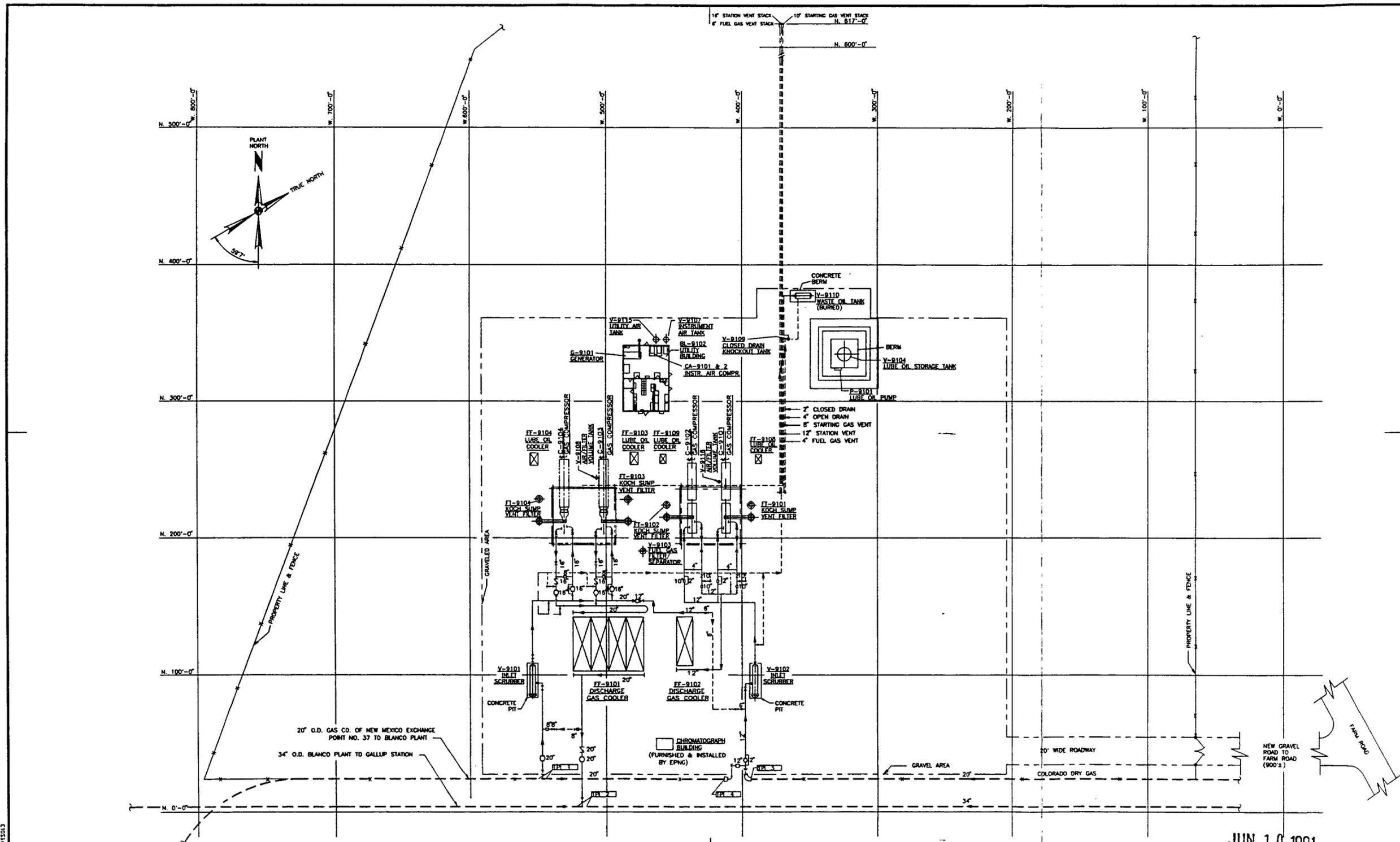
RIO VISTA COMPRESSOR SITE
 Section 27, T-29-N, R-11-W, N.M.P.M.
 San Juan County, New Mexico

SCALE: Shown

DWG. NO. 5230.0-X-1

REV.

PRINT RECORD



JUN 10 1991

06/07/91 AT 1643 BY DLH JAVIS03

ENG. RECORD DATE DRAFTING RMC 5/2/91 DESIGN RMC 5/2/91 COMPUTER RMC 5/2/91 CHECKED C.M. 5/2/91 PROJECT APPROVAL DFM 5/2/91 DESIGN APPROVAL		EIPaso NATURAL GAS COMPANY RIO VISTA COMPRESSOR STATION PLOT PLAN		SCALE: 1"=30' DWG. NO. RV-1-P1 REV 0
DWG. NO. REFERENCE DRAWINGS	NO. DATE BY 0 3/17/91 RN ISSUED FOR RD L-4437	DESCRIPTION REVISIONS	W.O. APP. PRT/SEP DATE TO W.O. PLOT RECORD	COMPUTER SAVE NAME #V5013

Material Safety Data Sheet

Devcon.

DEVCON CORPORATION/30 ENDICOTT STREET/DANVERS, MASSACHUSETTS 01923/(617) 777-1100

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.

H HEALTH	1
F FLAMMABILITY	1
R REACTIVITY	1

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

SECTION 1 - IDENTITY AND EMERGENCY INFORMATION

TRADE NAME	SILITE RTV SILICONE - CLEAR, WHITE, HIGH TEMPERATURE RED	EMERGENCY TELEPHONE NO. (617) 777-1100
CHEMICAL FAMILY	SILICONE	OTHER INFORMATION CALLS: DEVCON SAFETY DEPT. (617) 777-1100
OTHER PRODUCT INFORMATION		

SECTION 2 - HAZARDOUS INGREDIENTS

INGREDIENTS	CAS NUMBER	%	NATURE OF HAZARD
Acetoxysilane	Not issued	5	Eye and skin irritant

SECTION 3. PHYSICAL DATA

BOILING POINT (F)	> 300	VAPOR DENSITY (AIR = 1)	> 1	EVAPORATION RATE (BuAc = 1)	< 1
MELTING POINT (F)	n.a.	SPECIFIC GRAVITY	1.05	SOLUBILITY IN WATER	Negligible
VAPOR PRESSURE (mm Hg) @ 77°F	< 5	PERCENT VOLATILE BY VOLUME (%)	< 5	pH (5 wt. % in H ₂ O)	3-4
APPEARANCE AND ODOR					
White, clear or red paste - odor of acetic acid					

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (F) (Method Used)	> 250 (TOC)	FLAMMABLE LIMITS IN AIR	LEL	UEL
EXTINGUISHED MEDIA	CO ₂ , dry chemical, foam, water fog		n.a.	n.a.
SPECIAL FIRE FIGHTING PROCEDURES				
Wear self-contained breathing apparatus and protective clothing.				
UNUSUAL FIRE AND EXPLOSION HAZARDS				
None				

SECTION 5. HEALTH HAZARD DATA

EMERGENCY AND FIRST AID PROCEDURES	
EYES:	Flush with water for 15 minutes. Obtain medical attention.
SKIN:	Wipe off and flush with water.
INGESTION:	Obtain immediate medical attention.
INHALATION:	Remove to fresh air. Obtain immediate medical attention.

SECTION 5. HEALTH HAZARD DATA (Continued)

THRESHOLD LIMIT VALUE	ORAL LD ₅₀ (RAT):	DERMAL LD ₅₀ (RABBIT):	INHALATION LC ₅₀ (RAT)	ALL data for acetic acid
10ppm(Acetic Acid)*	3300mg/kg	1060mg/kg	>15,000ppm	- acid

ROUTE OF EXPOSURE	EFFECTS OF OVEREXPOSURE
ACUTE:	
S.	Mild irritation
SKIN:	Possible irritation
INHALATION:	Respiratory toxicant
CHRONIC:	No data

SECTION 6. REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE <input checked="" type="checkbox"/>	

INCOMPATIBILITY (Materials to Avoid) Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS Oxides of carbon

HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR <input checked="" type="checkbox"/>	

SECTION 7. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Scrape up excess. Apply absorbent.

WASTE DISPOSAL METHOD

Dispose of in accordance with federal, state and local regulations.

SECTION 8. SPECIAL PROTECTION INFORMATION

EYES: Safety glasses with side shields

SKIN: Wear protective clothing

INHALATION: Use respiratory protection unless ventilation is adequate. Use acid gas organic vapor type.

VENTILATION
Use sufficient ventilation to maintain exposure levels with TLV guidelines.

SECTION 9. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING, STORING, ETC.

Store below 90°F.

* Acetic acid is generated during the curing process

D.O.T. PROPER SHIPPING NAME Not regulated

H.T. HAZARD CLASS (IF APPLICABLE) _____

DATE: October 1985

U.S. DEPARTMENT OF LABOR
WAGE AND LABOR STANDARDS ADMINISTRATION
 Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET (SPRAY)
 9-1-84

SECTION I	
MANUFACTURER'S NAME WD-40 Company	EMERGENCY TELEPHONE NO. 619/275-1400
ADDRESS (Number, Street, City, State, and ZIP Code) 1061 Cudahy Place (92110), P. O. Box 80607, San Diego, California 92138-9021	
CHEMICAL NAME AND SYNONYMS Organic mixture	TRADE NAME AND SYNONYMS WD-40 spray cans
CHEMICAL FAMILY	FORMULA

SECTION II HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	TLV (Units)	
PIGMENTS	Not applicable		BASE METAL	Not applicable	
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDDUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
(1) Aliphatic petroleum distillate (stoddard solvent) CAS 8052-41-3 over				50	500ppm
(2) Petroleum base oil (CAS 8012-95-1) over				15	
(3) A-70 hydrocarbon propellant (liquified petroleum gas) (CAS 68476 85 7*)				25	1000ppm
(4) Proprietary corrosion inhibitors and wetting agents *				Balance	

SECTION III PHYSICAL DATA			
BOILING POINT (°F.)		SPECIFIC GRAVITY (H ₂ O = 1)	Total mix in can .710
VAPOR PRESSURE (mm Hg.)	In cans @ 70° F. 50 psig	PERCENT VOLATILE BY VOLUME (%)	Total can contents 80
VAPOR DENSITY (AIR = 1)	greater than 1	EVAPORATION RATE	
SOLUBILITY IN WATER	insoluble - forms unstable emulsion.		
APPEARANCE AND ODOR	light amber colored liquid slight characteristic odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	FLAMMABLE LIMITS	Let	Upt
Not applicable to spray cans	propellant portion	1.8 vol	9.5 vol
EXTINGUISHING MEDIA	CO ₂ , dry chemical, foam		
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			
Considered "extremely flammable" under Consumer Product Safety Commission regulations.			

*These do not constitute any special toxicity or handling hazards

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	For thinner (lowest TLV of all components) 500 ppm.	
EFFECTS OF OVEREXPOSURE	Drying of skin, eye irritation, inhalation of vapor may cause anesthesia, headache, dizziness, nausea & upper respiratory irritation. Swallowing can cause irritation, nausea, vomiting, and diarrhea. Aspiration into lungs can cause chemical pneumonitis.	
EMERGENCY AND FIRST AID PROCEDURES	For ingestion, do not induce vomiting , call a physician. For eye contact, flush with plenty of water, remove contact lenses if worn. For skin contact, wash with soap and water, apply skin cream. For inhalation, remove to fresh air, give artificial respiration if necessary; if breathing is difficult, give oxygen.	

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATABILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Spills unlikely from cans. Leaking cans should be placed in plastic bag or open pail until pressure has dissipated.
WASTE DISPOSAL METHOD
Empty spray cans should not be punctured or incinerated, bury in land fill. Liquid should be incinerated or buried in land fill.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)			
VENTILATION	LOCAL EXHAUST Sufficient to keep solvent vapor less than TLV.	SPECIAL	None
		OTHER	None
PROTECTIVE GLOVES	None required	EYE PROTECTION	None required
OTHER PROTECTIVE EQUIPMENT	None required.		

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep from sources of ignition. Do not take internally. Avoid excessive inhalation of spray particles. Do not store above 120°F. Do not incinerate or puncture containers.
OTHER PRECAUTIONS

**MATERIAL SAFETY DATA SHEET**PROGRAM NCBEV159
MSDS 021

PAGE 1

I - PRODUCT IDENTIFICATIONTRADE NAME : ROCKWELL 555 SEALANT (STICK GRADE)
SYNONYMS : ROCKWELL STICK SEALANT NO. 555**II - MATERIAL ANALYSIS (- HAZARDOUS MATERIAL)**

<u>COMPONENT</u>	<u>CAS NO.</u>	<u>% BY WT.</u>	<u>TLV (PPM)</u>
VEGETABLE OIL		55-65	
TREATED CLAY	68953-58-2	15-20	
POLYAMIDE RESIN	37219-83-3	15-20	
EPOXY RESIN	25068-39-6	2-5	
PROPYLENE CARBONATE	108-32-7	<1	
POLYTETRAFLUOROETHYLENE	9002-84-0	<1	
ANTI-OXIDANT		<1	

NO INGREDIENT LISTED AS CARCINO-
GENIC BY NAT. TOXICOLOGY PROGRAM**III - PHYSICAL DATA**

VAPOR PRESSURE: NIL MM HG @70 DEG C EVAPORATION RATE (ETHER=1): NIL
 SOLUBILITY IN WATER: NEGLIGIBLE BOILING POINT (@14.7 PSIA): N.A. DEG F
 SPECIFIC GRAVITY: 1.05 @ 75 DEG F VAPOR DENSITY (AIR=1): N.A.
 % OF VOLATILES BY VOL.: NIL
 APPEARANCE AND ODOR:
 BROWN GREASE IN STICK FORM. VEGETABLE OIL ODOR.

IV - FIRE AND EXPLOSION DATA

FLASH POINT 535 F COC

FLAMMABLE (EXPLOSIVE) LIMITS
UPPER : N.A. LOWER : N.A.EXTINGUISHING MEDIA :
DRY CHEMICAL POWDER, CARBON DIOXIDE, CHEMICAL FOAM.SPECIAL FIRE FIGHTING PROCEDURES :
WEAR SELF-CONTAINED BREATHING APPARATUS WHEN FIGHTING FIRE IN CONFINED AREAS.
TREAT AS BURNING LIQUID.UNUSUAL FIRE AND EXPLOSION HAZARDS :
NONE KNOWN.

MATERIAL SAFETY DATA SHEET

PAGE 2

TRADE NAME: ROCKWELL 555 SEALANT (STICK GRADE)
SYNONYMS: ROCKWELL STICK SEALANT NO. 555

V- EMERGENCY AND FIRST AID PROCEDURES

EYES:
FLUSH EYES FOR 15 MINUTES WITH CLEAR WATER.
CONTACT PHYSICIAN.

SKIN:
WASH THOROUGHLY WITH SOAP AND WATER.

INHALATION:
VAPOR PRESSURE IS VERY LOW.
VAPOR INHALATION UNDER AMBIENT CONDITIONS IS NOT NORMALLY A PROBLEM.

INGESTION:
CONSULT PHYSICIAN.

VI- HEALTH EFFECTS

INHALATION:
NONE EXPECTED.

INGESTION:
MAY CAUSE GASTROINTESTINAL IRRITATION.

SKIN:
PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE IRRITATION.

EYES:
PRODUCT CONTACTING THE EYES MAY CAUSE TEMPORARY IRRITATION.

VII- REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:
PRODUCT IS STABLE.

INCOMPATIBILITY:
AVOID CONTACT WITH STRONG OXIDANTS.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE AND ASPHYXIANTS.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:
NONE

VIII- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
RECOVER FREE MATERIAL. ADD SUITABLE ADSORBENT TO SPILL AREA.
CLEAN SPILL AREA WITH DETERGENT SOLUTION.

WASTE DISPOSAL METHOD:
WASTE MATERIAL SHOULD BE BURIED IN AN APPROVED LANDFILL OR INCINERATED.
DISPOSAL MUST COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

MATERIAL SAFETY DATA SHEET

PAGES

TRADE NAME: ROCKWELL 555 SEALANT (STICK GRADE)
SYNONYMS :ROCKWELL STICK SEALANT NO. 555

IX - VENTILATION AND PERSONAL PROTECTIVE EQUIPMENT

VENTILATION REQUIREMENTS:
ADEQUATE VENTILATION IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE IS SUFFICIENT.

RESPIRATORY:
RESPIRATORY PROTECTION NOT NEEDED UNDER NORMAL CONDITIONS.

EYE:
SAFETY GLASSES ADVISED AS STANDARD SAFETY PRECAUTION.

GLOVE:
USE CHEMICALLY RESISTANT GLOVES AS NEEDED TO MINIMIZE CONTACT.

OTHER CLOTHING AND EQUIPMENT:
NONE NORMALLY NEEDED.

X - SPECIAL PRECAUTIONS INCLUDING STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
STORE IN SEALED CONTAINERS AWAY FROM HEAT AND OXIDIZING MATERIALS.

OTHER PRECAUTIONS:
THIS PRODUCT NOT LISTED AS CARCINOGENIC BY NATIONAL TOXICOLOGY PROGRAM.

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUE AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESS OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.

ROCKWELL INTERNATIONAL
MEASUREMENT & FLOW CONTROL DIVISION
MATERIALS ENGINEERING DEPT.
400 NORTH LEXINGTON AVE.
PITTSBURGH, PA 15208
(412) 247-3000

REVISION DATE: 03-87

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED: 01/12/89

***** I. PRODUCT IDENTIFICATION *****
MOBILGREASE SPECIAL

SUPPLIER:	MOBIL OIL CORP.	HEALTH EMERGENCY TELEPHONE:	(212) 883-4411
CHEMICAL NAMES AND SYNONYMS:	PET. HYDROCARBONS AND ADDITIVES	TRANSPORT EMERGENCY TELEPHONE:	(800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION:	WATER RESISTANT GREASE	PRODUCT TECHNICAL INFORMATION:	(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: GRAY-BLACK GREASE ODOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 900.0 AT 40 C, CS: 170.0
 VISCOSITY AT 210 F, SUS: 75.0 AT 100 C, CS: 13.8
 FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))
 MELTING POINT F(C): NE POUR POINT F(C): NA
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.867 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1

NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3 PPM	(AND NOTES)
POTENTIALLY HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:

REFINED MINERAL OILS	>80
ADDITIVES AND/OR OTHER INGREDIENTS	<10
LITHIUM-SOAP THICKENER	<10

SEE SECTION XII FOR COMPONENT REGULATORY INFORMATION.

SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA, S=SUPPLIER
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
 EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. HIGH PRESSURE ACCIDENTAL INJECTION THROUGH THE SKIN REQUIRES IMMEDIATE MEDICAL ATTENTION FOR POSSIBLE INCISION, IRRIGATION AND/OR DEBRIDEMENT.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))

FLAMMABLE LIMITS. LEL: .6 UEL: 7.0

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS. PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS OR DRINKING WATER SUPPLY.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: DISPOSE OF WASTE AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
STORAGE: THIS PRODUCT HAS A LIMITED SHELF LIFE.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS
HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES
LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT
DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL
INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC
EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY
FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR
SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF
SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

***** XII. REGULATORY INFORMATION *****

GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA AND EINECS.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

THIS PRODUCT CONTAINS THE FOLLOWING SARA (313) TOXIC RELEASE CHEMICALS:

ZEINS (ZINC RESINATE)	9010-69-9	1%
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	1.28%

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZEINS (ZINC RESINATE)	9010-69-9	9

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: RR175C2MOLB1) MCN: , MHC: 1* 1* NA 1*
1*, MPPEC: A, PPEC: A, US86-083 APPROVE 12/18/88



ENVIRONMENTAL PROTECTION	Code No. 00700
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Waste Disposal Method:
Under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixture, processes, etc. may render the resulting material hazardous. (See Remarks for Waste Classification.)

Procedures in Case of Breakage or Leakage: (Transportation Spills Call CHEMTREC (800) 424-9300)
Contain spill if possible. Wipe up or absorb on suitable material and shovel up.

Remarks:
Waste Classification: Product has been evaluated for RCRA characteristics and does not meet criteria of a hazardous waste if discarded in its purchased form.

PRECAUTIONS

NONE CONSIDERED NECESSARY

Requirements for Transportation, Handling and Storage:
Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

DOT Proper Shipping Name: **N.A.**
DOT Hazard Class (if applicable): **N.A.**

CHEMICAL AND PHYSICAL PROPERTIES

Boiling Point (°F) N.D. Vapor Pressure N.D. (mmHg)

Specific Gravity 0.8681 (H₂O=1) Vapor Density N.D. (Air=1)

Appearance and Odor Mobile liquid

pH of undiluted product N.A. Solubility N.D.

Percent Volatile by Volume N.D. Evaporation N.D. ()=1

Viscosity 30.5 cSt @40°C Other -

Hazardous Polymerizations Occur X Do not occur

The Material Reacts Violently With (if others is checked below, see additional comments on page 6 for further details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
			X		



COMPOSITION

Code No. 00700

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
Solvent-dewaxed heavy paraffinic petroleum distillates	64742650	5mg/m3 ACGIH (MIST) 5mg/m3 OSHA (MIST) 10mg/m3 STEL (MIST)	95.00 - 99.99

To the best of our knowledge, none of the above listed components is hazardous according to OSHA (1910.1200) or one or more state Right-To-Know lists.



PRODUCT SHIPPING LABEL

Code No. 00700

00700 REGAL OIL R&O 32

NONE CONSIDERED NECESSARY

Chemical/Common Name	CAS No.	Range in %
Solvent-dewaxed heavy paraffinic petroleum distillates	64742650	95.00 - 99.99

To the best of our knowledge, none of the above listed components is hazardous according to OSHA (1910.1200) or one or more state Right-To-Know lists.

HMIS
 Health : 0 Reactivity : 0
 Flammability: 1 Special : -

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

HEALTH EMERGENCY TELEPHONE: (914) 831-3400 (EXT. 204)

Texaco Inc.
2000 Westchester Avenue
White Plains, New York 10650

For Additional Information Concerning:

- Fuels/Lubricants/Antifreezes
call (914) 831-3400 (EXT.204)
- Chemicals
call (512) 459-6543
- Transportation Spills
call CHEMTREC (800) 424-8300



ADDITIONAL COMMENTS

Code No. **00700**

TEXACO INTENDS TO COMPLY FULLY WITH PROVISIONS OF THE TOXIC SUBSTANCES CONTROL ACT
STATE OF MICHIGAN CRITICAL MATERIALS ACT (REVISED 1986)
No critical materials present.

To determine applicability or effect of any law or regulation with respect to the product, users should consult his legal advisor or the appropriate government agency. Texaco does not undertake to furnish advice on such matters.

By R. T. Richards Title Mgr. Env. Conservation & Toxicology
Date 01-05-87 New Revised, Supersedes 11-27-85

N.D. - Not Determined N.A. - Not Applicable
< - Less Than > - Greater Than



THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT AS PART OF TEXACO'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

EXPLANATION OF THE INDUSTRIAL HYGIENE,
TOXICOLOGY, AND MATERIAL SAFETY DATA SHEET

PRODUCT INFORMATION

Trade Name and Synonyms

Refer to the code number and name under which the product is marketed and the common commercial name of the product.

Manufacturer's Name and Address Self explanatory.

Chemical Name and/or Family or Description

Refer to chemical, generic, or descriptive name of single elements and compounds.

For purposes of this form, a product is defined as hazardous if it possesses one or more of the following characteristics: (1) has a flash-point below 200 degrees Fahrenheit, closed cup or subject to spontaneous heating; (2) has a threshold limit value as established by the American Conference of Governmental Industrial Hygienists and/or the Occupational Safety and Health Administration (with exception to petroleum oil mist); (3) a single dose oral LD50 below 500 mg/kg; (4) causes burns to the skin in the short-term exposure or is systemically toxic by skin contact; (5) has been demonstrated to be a skin or eye irritant or causes respiratory irritation; (6) may cause skin or respiratory sensitization; (7) has teratogenic, mutagenic or other toxic effects; (8) may cause asphyxia or pneumoconiosis; (9) in the course of normal operations may produce dusts, gases, fumes, vapor, mist, or smoke which have one or more of the above characteristics; (10) contains a component which may be carcinogenic according to NTP (National Toxicology Program), IARC (International Agency for Research on Cancer), OSHA (Occupational Safety and Health Administration), EPA (Environmental Protection Agency) and/or NCI (National Cancer Institute.); (11) has a median LC50 (RATS) in air of 200 ppm or less by volume of gas or vapor or 2.0 mg/l or less of mist, fume or dust when administered by continuous inhalation for one hour; (12) is a hazard as identified in the Product Shipping Label on page 5.

OCCUPATIONAL CONTROL PROCEDURES

(Consult your Industrial Hygienist or Occupational Health Specialist)

Protective Equipment

Type of protective equipment that is necessary for the safe handling and use of this product.

Ventilation

Normal means adequate to maintain permissible concentrations.
Ventilation type, i.e. local exhaust, mechanical, etc.

Permissible Concentrations

Indicates worker exposure limits, such as the Threshold Limit Value (TLV) as established by the American Conference of Governmental Industrial Hygienists or standards, promulgated by the Occupational Safety and Health Administration (e.g. PEL).

TLV-Time Weighted Average (TWA) is the concentration in air averaged over an 8 hour daily exposure.

TLV-Ceiling (C) is the ceiling limit on concentration that should not be exceeded during any part of the working exposure "skin".

"Skin" Notation (ACGIH) indicates that dermal absorption can contribute to overall exposure following direct contact or exposure to airborne material.

Permissible Exposure Level (PEL) is the time weighted concentration in air averaged over an 8 hour daily exposure.

EMERGENCY AND FIRST AID PROCEDURES

Administer first aid and emergency procedures in case of eye and/or skin contact, ingestion and inhalation.

PHYSIOLOGICAL EFFECTS

Acute Exposures (Eye, Skin, Respiratory System)

Refers to the most common effects that would be expected to occur from direct contact with the product.

Chronic

Refers to the effects that are most likely to occur from repeated or prolonged exposure.

Sensitizer

Means a substance which will cause on or in normal living tissue, through an allergic or photodynamic process, a hypersensitivity which becomes evident on reapplication of, or exposure to, the same substance.

Median Lethal Dose or Concentration (LD50,LC50)

Refers to that dose or concentration of the material which will produce death in 50 per cent of the animals. For inhalation, exposure time is indicated.

Irritation Index

Refers to an empirical score (Draize Method) for eye and skin irritation when tested by the method described. If numbers are not available, an estimated score indicates whether or not the material is an irritant.

FIRE PROTECTION INFORMATION

Ignition Temperature

Refers to the temperature in degrees Fahrenheit, at which a liquid will give off enough flammable vapor to ignite and burn continuously for 5 seconds.

Flash Point (Method used)

Refers to the temperature in degrees Fahrenheit, at which a liquid will give off enough flammable vapor to ignite.

Flammable Limits

Refers to the range of gas or vapor concentration (percent by volume in air) which will burn or explode if an ignition source is present. Lower means the lower flammable limit and upper means the upper flammable limit given in percent.

Products Evolved When Subjected to Heat or Combustion.

The products evolved when this material is subjected to heat or combustion. Includes temperature at which oxidation or other forms of degradation occurs.

Recommended Fire Extinguishing Agents and Special Procedures

Specifies the fire fighting agents that should be used to extinguish fires. If unusual fire hazards are involved or special procedures indicated, this is specified.

Unusual Fire or Explosive Hazards

Specifies hazards to personnel in case of fire, explosive danger.

ENVIRONMENTAL PROTECTION

Specifies how this product may be disposed.

Indicates precautions necessary in the event that leakage or breakage occurs. Included are (a) clean-up procedures, (b) personal protective equipment if necessary, (c) hazards that may be created, i.e. fire, explosion, etc.

PRECAUTIONS

Label that is required or recommended.

Requirements for Transportation, Handling and Storage

Specifies handling and storage procedures. Gives ICC, DOT, or other regulations related to safety and health for transportation.

CHEMICAL AND PHYSICAL PROPERTIES

Boiling Point (or Range)

In degrees Fahrenheit or Celsius Boiling Point at 760 mmHg.

Vapor Pressure

Pressure exerted when a solid or liquid is in equilibrium with its own vapor.

Specific Gravity

The ratio of the density of the product to the density of water.

Vapor Density

The ratio of the density of the vapor at saturation concentration (20 degrees Celsius or 68 degrees Fahrenheit) to the density of air at 760 mmHg.

Appearance and Odor

Refers to the general characterization of the material, e.g. powder, colorless liquid, aromatic odor, etc.

pH

Refers to the degree of acidity or basicity of the material in a specific concentration.

pH1-5 - STRONGLY ACIDIC
pH5-7 - WEAKLY ACIDIC
pH7-9 - WEAKLY BASIC
pH9-14 - STRONGLY BASIC

Solubility

Refers to the solubility of a material by weight in water at room temperature. The term negligible, less than 0.1 %; slight, 0.1 to 1%; moderate, 1 to 10%; appreciable, 10% or greater. Gives solubility in organic solvents where appropriate.

Percent Volatile By Volume

Refers to the amount volatilized at 20 degrees Celsius or 68 degrees Fahrenheit when allowed to evaporate.

Evaporation

Gives the rate of evaporation compared to a standard

Viscosity

Measure of flow characteristics in Kinematic viscosity in Centistokes.

Hazardous Polymerization

Hazardous polymerization is that reaction which takes place at a rate which produces large amounts of energy. Indicates whether it may or may not occur and under what storage conditions.

Does the Material React Violently

Indicates whether the material will react violently, releasing large amounts of energy when exposed under conditions listed.

Composition

Components of the product as required by OSHA (1910.1200) and one or more state Right to Know laws.

Texaco Inc.
2000 Westchester Avenue
White Plains, New York 10650
Phone (914) 831-3400 (Beacon)

TEXACO INC.
INDUSTRIAL HYGIENE, TOXICOLOGY, AND MATERIAL
SAFETY DATA SHEET



NOTE: NO REPRESENTATION IS MADE AS TO THE ACCURACY OF THE INFORMATION
HEREIN. SEE PAGE 7 FOR CONDITIONS UNDER WHICH DATA ARE FURNISHED.

Name and Synonyms

REGAL OIL R&O 32

Manufacturer's Name

Emergency Telephone No.

Co. Inc.

(914) 831-3400 ext. 204

Address
Box 509 Beacon, NY 12508

Product Name and/or Family or Description

~~REGAL OIL~~

PRODUCT IS CLASSIFIED AS:

NOT HAZARDOUS:

HAZARDOUS BY DEFINITION NO.(S)

ON ATTACHED EXPLANATION SHEETS

WARNING STATEMENT:

NONE CONSIDERED NECESSARY

OPERATIONAL CONTROL PROCEDURES

Protective Equipment (Type)

Respirator: Chemical type goggles or face shield optional.

Hygiene: Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

Handwashing: None required if exposures are within permissible concentrations; see below.

Exposure: Adequate to meet component permissible concentrations.

Permissible Concentrations:

None established for product; refer to page 4 for component permissible concentrations.

SPILLAGE AND FIRST AID PROCEDURES

First Aid: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

Decontamination: Wash exposed areas with soap and water.

~~None considered necessary.~~

Spillage: None considered necessary.

Special Instructions: None.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED: 04/07/90

***** I. PRODUCT IDENTIFICATION *****

MOBIL DTE OIL BB

SUPPLIER: MOBIL OIL CORP.	HEALTH EMERGENCY TELEPHONE: (609) 737-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES	TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: HYDRAULIC OIL	PRODUCT TECHNICAL INFORMATION: (800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: DARK AMBER LIQUID	ODOR: MILD	PH: NA
VISCOSITY AT 100 F, SUS: 1217.9	AT 40 C, CS: 230.0	
VISCOSITY AT 210 F, SUS: 98.0	AT 100 C, CS: 19.3	
FLASH POINT F(C): > 440(227)	(ASTM D-92)	
MELTING POINT F(C): NA	POUR POINT F(C): 25(-4)	
BOILING POINT F(C): > 600(316)		
RELATIVE DENSITY, 15/4 C: 0.89	SOLUBILITY IN WATER: NEGLIGIBLE	
VAPOR PRESSURE-MM HG 20C: < .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

NONE

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 440(227) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.
USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE
USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED
AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS
OR DRINKING WATER SUPPLY.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: STRONG OXIDATION
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE
CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS
SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE
DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY.
USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE
LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS
AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS
HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES
LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT
DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL
INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC
EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY
FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR
SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF
SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

***** XII. REGULATORY INFORMATION *****
GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (0.045%)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS TWO OR MORE OF THE FOLLOWING > 95.00		
BASE OILS:		
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED		64742-62-7
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
LUBRICATING OILS (PETROLEUM), $\tau > 25$ HYDROTREATED BRIGHT STOCK-BASED		72623-83-7

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RL1088FVC011) MCN: , MHC: 1* 1* NA 0*
0*, MPPEC: A, PPEC: A, US89-290 APPROVE 06/15/89

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (800) 227-0707 x3265

CHEMICAL NAME: **Shield Concentrate** (Purple X)

SYNONYMS:

CHEMICAL FAMILY: **Detergent**

FORMULA: **Blended Anionic detergent**

MOLECULAR WEIGHT:

TRADE NAME AND SYNONYMS: **Shield Concentrate**

I. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	232 F	FREEZING POINT	28F
SPECIFIC GRAVITY (H ₂ O = 1)	1.05	VAPOR PRESSURE at 20°C.	
VAPOR DENSITY (air = 1)		SOLUBILITY IN WATER. % by wt. at 20°C.	100%
PER CENT VOLATILES BY VOLUME	none	EVAPORATION RATE (Butyl Acetate = 1)	
APPEARANCE AND ODOR	Colorless -- bland odor <i>Shield</i>		

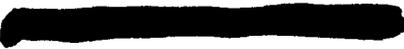
II. HAZARDOUS INGREDIENTS

MATERIAL	%	TLV (Units)
None		

III. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	over 500	AUTOIGNITION TEMPERATURE		
FLAMMABLE LIMITS IN AIR, % by volume		LOWER	1.1	UPPER
EXTINGUISHING MEDIA	Water			
SPECIAL FIRE FIGHTING PROCEDURES	None			
UNUSUAL FIRE AND EXPLOSION HAZARDS	None			

EMERGENCY PHONE NUMBERS

 John Barnett, 915-366-2214 (ni)

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	None
EFFECTS OF OVEREXPOSURE	Very mild to skin blend of soaps and synthetic detergents
EMERGENCY AND FIRST AID PROCEDURES	if ingested get medical attention

V. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID	Oxidizing agents
UNSTABLE	STABLE		
---	✓		
INCOMPATIBILITY (materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	None
May Occur	Will not Occur		

VI. SPILL OR LEAK PROCEDURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Flush with water into sewer or land fill
WASTE DISPOSAL METHOD	Sewage drain disposal - no Special precautions

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)		None	
VENTILATION	LOCAL EXHAUST	SPECIAL --	
	MECHANICAL (general)	OTHER --	
PROTECTIVE GLOVES		None	EYE PROTECTION
OTHER PROTECTIVE EQUIPMENT		None	

VIII. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING	Keep away from children
OTHER HANDLING AND STORAGE CONDITIONS	

LUBRICATION ENGINEERS, INC.
P. O. BOX 7128 FORT WORTH, TX 76111

MATERIAL SAFETY DATA SHEET

***** SECTION I *****

PRODUCT IDENTIFICATION

SUPPLIER:
Lubrication Engineers, Inc.
3851 Airport Freeway
Fort Worth, TX 76111

EMERGENCY TELEPHONE NO.:
(817) 834-6321

CHEMICAL NAME AND SYNONYMS:
Not Applicable

TRADE NAME AND SYNONYMS:
1232 Almatek General Purpose
Lubricant

CHEMICAL FAMILY:
Petroleum-Hydrocarbon

FORMULA:
Not Applicable

***** SECTION II *****

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE:
Red lubricant

VISCOSITY: At 210 F, SUS
Not applicable

At 100 C, CS
Not applicable

ODOR:
Lube oil odor

VISCOSITY: At 100 F, SUS
Not applicable

At 40 C, CS
Not applicable

RELATIVE DENSITY: (Air=1)
>1

SOLUBILITY IN WATER:
Negligible

PH: 6-8

MELTING POINT:
360 F

POUR POINT:
Not applicable

BOILING POINT: F
>500

FLASH POINT: F (Method)
430 (C.O.C.)

VAPOR PRESSURE: (MM HG 60F)
<5

SPECIFIC GRAVITY: (H2O=1)
Approx. .95

***** SECTION III *****

INGREDIENTS

	WT PCT (APPROX)	TLV	ORAL LD50	DERMAL LD50
HAZARDOUS INGREDIENTS:				
Zinc diamyldithiocarbamate (Oxidation inhibitor)	<1.0	Unknown	14900mg/ kg Rat	>2000mg/ kg Rabbit
Barium dinonylnaphthalene sulfonate (Rust inhibitor)	<1.0	Unknown	3.5ml/kg Rat	2mg/kg Rabbit
Barium compounds	<1.0	Unknown	Unknown	Unknown
Oil mist (Mineral)	>80.0	5mg/m3 TWA	Unknown	Unknown
Zinc and compounds	<1.0	Unknown	Unknown	Unknown

NON-HAZARDOUS INGREDIENTS:

ADDITIVES AND/OR OTHER INGREDIENTS. This product is a mixture. The specific chemical identity of hazardous ingredients and non-hazardous ingredients, their C.A.S. numbers and their exact percent of composition are proprietary to Lubrication Engineers, Inc. and are being withheld as Trade Secrets. The above listing of hazardous ingredients discloses the properties, approximate concentration and known toxicological effects of the hazardous ingredients. This material is an automotive/industrial lubricant with a low order of toxicity and irritancy.

Any Chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, they will be listed in the above HAZARDOUS INGREDIENTS.

***** SECTION IV *****

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: F (Method Used) **FLAMMABLE LIMITS:** **LEL** **UEL**
 430 (C.O.C.) Unknown

EXTINGUISHING MEDIA:
 Foam, dry chemical, water fog, or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES:
 Do not direct a solid stream of water into fire. Treat as a petroleum oil fire. Respiratory protection required for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
 None

***** SECTION V *****

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: (If Established)
Not established. Oil mist = 5mg/m3

EFFECTS OF OVEREXPOSURE:

Although there are no consistent primary routes of entry, the product may cause mild dermatitis upon prolonged contact and is expected to be an eye and lung irritant. Any existing skin, eye, or lung irritation may be aggravated by direct contact. No components are listed on OSHA, I.A.R.C., or N.T.P. lists for carcinogens.

***** SECTION VI *****

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

Flush immediately with water until irritation subsides.

SKIN CONTACT:

Wash affected skin area with mild soap and water.

INGESTION:

Do not induce vomiting. Contact a physician.

INHALATION:

Remove to fresh air. If not breathing, give artificial respiration. Contact a physician.

***** SECTION VII *****

REACTIVITY DATA

STABILITY: (Thermal, Light, Etc.)
Stable

CONDITIONS TO AVOID:
Contact with nuclear radiation and strong oxidizing materials.

INCOMPATIBILITY: (Materials to avoid)
Strong oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS:

Dense smoke; oxides of C, Zn, S, and N; Ba compounds; hydrogen sulfide.

HAZARDOUS POLYMERIZATION:

Will not occur.

***** SECTION VIII *****

SPILL OR LEAK PROCEDURES

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

Remove all sources of ignition. Treat as a petroleum oil spill.

WASTE DISPOSAL METHOD:

Incinerate where permitted under federal, state, and local laws. Used petroleum products may be recycled through re-refining processes.

***** SECTION IX *****

SPECIAL PROTECTION INFORMATION

EYE PROTECTION:

Sufficient to avoid direct contact.

SKIN PROTECTION:

Protective neoprene or plastic gloves may be desired.

RESPIRATORY PROTECTION:

Usually not needed.

VENTILATION:

Usually not needed in open, unconfined areas.

OTHER:

Not needed.

***** SECTION X *****

SPECIAL PRECAUTIONS

Close containers when not in use. Keep away from heat, open flames, and strong oxidants. Avoid eye contact and prolonged skin contact. Avoid breathing oil mists. Wash thoroughly after handling.

HAZARD RATINGS

There are several recognized and accepted systems that assign hazard ratings to materials. Although this product has not been evaluated specifically against these systems, the ratings for the National Fire Protection Association (NFPA) and the National Paint and Coatings Association's Hazardous Material Identification System (HMIS) are:

	<u>NFPA</u>	<u>HMIS</u>
Health	2	1
Flammability	1	1
Reactivity	1	1

El Paso
Natural Gas Company

OIL CONSERVATION DIVISION
RECEIVED

'91 SEP 9 AM 9 05

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

September 6, 1991

Mr. David Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

Subject: Proposed Rio Vista Compressor Station
Near Bloomfield, New Mexico

Dear Mr. Boyer;

Exploratory geotechnical borings were completed by Sergeant, Hauskins and Beckwith for EPNG in March, 1991 at a proposed compressor station site on BLM land immediately west of the Gary-Williams Bloomfield Refinery. Hydrocarbon contamination of the soil and groundwater was noted in some of the borings. Table 1 summarizes data from the soil borings, including surface elevation, top of bedrock (where encountered), water level (where encountered), field description of contamination, and the analytical results of soil and groundwater samples taken in March. Figure 1 is a map showing locations of the borings relative to proposed compressor plant layout, and Figure 2 shows the location of this site relative to the refinery.

Twenty four borings were completed using hollow stem auger techniques to between 10 and 35 feet below the surface. Groundwater was encountered in eight borings at depths ranging from about 8 to 31 feet. Hydrocarbon contamination was noted in nine borings. Contamination was reported at the surface of the groundwater in four of the borings which reached groundwater.

Once contamination was identified, a limited number of samples were collected to identify the type and extent of contamination. Soil and/or water samples collected from eight of these borings (see below) all indicated the presence of hydrocarbon contamination. Water samples were collected by lowering disposable teflon bailers inside the hollow stem auger. No well development techniques were used. Water samples were collected from water which entered the borehole during and after drilling. The soil sample from Boring 1 was a grab sample, the remainder of the soil samples were collected by split spoon.

Mr. David Boyer
September 6, 1991
Page 2

EPNG personnel have talked with Bloomfield Refinery personnel and reviewed the report prepared for Bloomfield Refining Company by Geoscience Consultants, Ltd. EPNG borings indicate that the hydrocarbons encountered during these geotechnical explorations are the result of present flow from the refinery to the southwest. The refinery expressed interest in placing a recovery well south of their existing property line. We feel this is an issue for the Bureau of Land Management, the refinery and NMOCD to work out.

EPNG has decided to locate the proposed station about fifteen hundred feet south of this location. A discharge plan application will be submitted outlining the current and proposed characteristics of the new location.

If you wish to discuss the issue further or desire additional information, please contact me at 915/541-3531.

Sincerely yours,

Thomas D. Hutchins

Thomas D. Hutchins
Manager
North Region Engineering

Attachment

Table 1. Soil Boring Summary – Proposed EPNG Rio Vista Compressor Site

Boring No.	Ground Elev.	Bed Rock	Bedrock Elev.	Total Depth	TD Elev.	Date Drilled	Depth Water	Water Level	Field Description of Contamination	Soil TPH mg/kg	Soil 8015 mg/kg	Water 8015 mg/l
1	5523.7	nr	nr	19.5	5504.2	3/14/91	18.5	5505.2	Floating product at 19'	14000	21000	kerosene
2	5536.7	nr	nr	35.5	5501.2	3/14/91	31.5	5505.2	Faint odor in soil at 35'	650	530	1100
3	5534.5	nr	nr	29.5	5505	3/15/91	29.5	5505	Floating product at 30'	23000	20000	ns
4	5521.5	nr	nr	21	5500.5	3/15/91	17.5	5504	Faint odor in soil at 20'	890	290	610
5	5524.3	nr	nr	20	5504.3	3/15/91	nr	nr	nr	ns	ns	ns
6	5521.7	nr	nr	21	5500.7	3/15/91	18.5	5503.2	Floating product at 20'	3100	3800	3900
7	5522.7	nr	nr	10.2	5512.46	3/29/91	nr	nr	nr	ns	ns	ns
8	5522	nr	nr	11	5511	3/29/91	nr	nr	nr	ns	ns	ns
9	5522.1	nr	nr	14.7	5507.35	3/29/91	nr	nr	nr	ns	ns	ns
10	5522.1	nr	nr	14.5	5507.6	3/22/91	nr	nr	nr	ns	ns	ns
11	5523	nr	nr	10	5513	3/22/91	nr	nr	nr	ns	ns	ns
12	5523	nr	nr	11	5512	3/22/91	nr	nr	nr	ns	ns	ns
13	5523.3	nr	nr	10	5513.3	3/22/91	nr	nr	nr	ns	ns	ns
14	5523.6	nr	nr	9.75	5513.85	3/22/91	nr	nr	nr	ns	ns	ns
15	5524.2	nr	nr	15.5	5508.7	3/22/91	nr	nr	nr	ns	ns	ns
16	5522.2	nr	nr	13	5509.2	3/22/91	nr	nr	nr	ns	ns	ns
17	5519.8	22.5	5497.3	29.7	5490.05	3/25/91	11.5	5508.3	nr	ns	ns	ns
18	5519.3	nr	nr	15	5504.3	3/25/91	nr	nr	nr	ns	ns	ns
19	5523	nr	nr	18	5505	3/25/91	nr	nr	nr	ns	ns	ns
20	5520	nr	nr	11	5509	3/25/91	nr	nr	nr	ns	ns	ns
21	5511.2	nr	nr	10.7	5500.45	3/25/91	8.1	5503.1	nr	5600	6400	ns
22	5513.5	11.5	5502	16	5497.5	3/25/91	nr	nr	nr	36000	27000	ns
23	5527.6	27.5	5500.1	29.7	5497.85	3/26/91	26	5501.6	Hydrocarbons at 25'	1200	2600	ns
24	5525.4	25.5	5499.9	26	5499.4	3/26/91	nr	nr	Faint odor in soil at 25'	5100	4900	ns

NR=None Reported NS=Not Sampled

FIGURE 1
Soil Borings Relative to
EPNG Proposed Compressor Site

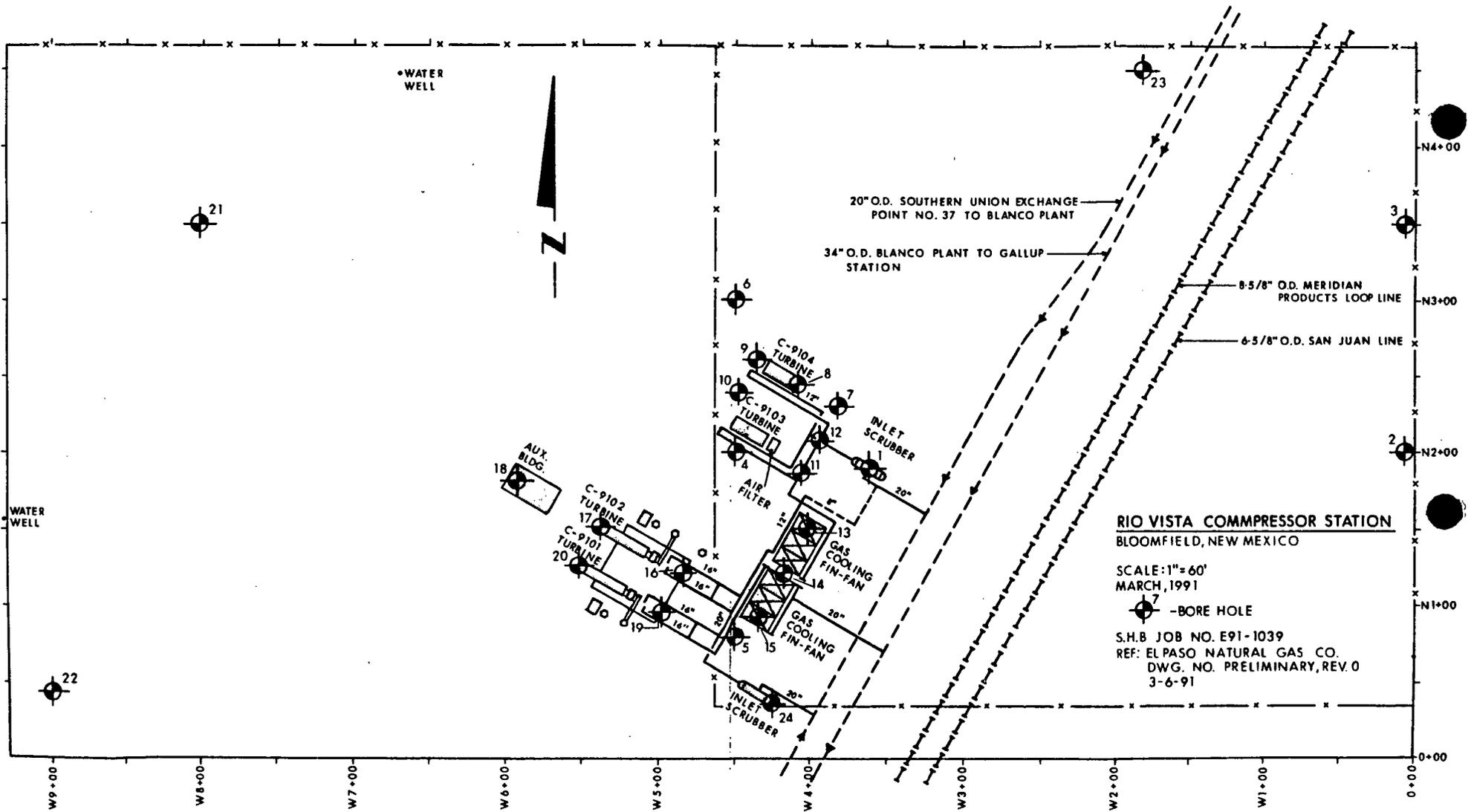


FIGURE 2
Proposed EPNG Site
and Bloomfield Refinery



PLATEAU REFINERY

PROPOSED

126-00 MATCH

200' LINE FROM S.U. EXH. POINT TO PLANCO PLANT SEE DWG. 3-223-0-11

BLOCK MAP
M.P. 2-13-1

Mobil

600114-00 Page 1 of 4

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

TURBINE OIL

REVISED:01/14/92

***** I. PRODUCT IDENTIFICATION *****
 MOBIL DTE 797 OIL.

SUPPLIER:	MOBIL OIL CORP.	24-HOUR EMERGENCY (CALL COLLECT):
		(609) 737-4411
CHEMICAL NAMES AND SYNONYMS:	PET. HYDROCARBONS AND ADDITIVES	CHEMTREC:
		(800) 424-9300
USE OR DESCRIPTION:	STEAM TURBINE OIL	PRODUCT AND MSDS INFORMATION:
		(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: Straw Liquid	ODOR: Mild	PH: NA
VISCOSITY AT 100 F. SUS: 161.0	AT 40 C. CS: 31.3	
VISCOSITY AT 210 F. SUS: 44.0	AT 100 C. CS: 5.4	
FLASH POINT F(C): > 405(207) (ASTM D-92)		
MELTING POINT F(C): NA	POUR POINT F(C): 20(-7)	
BOILING POINT F(C): > 600(316)		
RELATIVE DENSITY, 15/4 C: 0.86	SOLUBILITY IN WATER: Negligible	
VAPOR PRESSURE-mm Hg 20C: < .1		

NA=Not Applicable NE=Not Established D=Decomposes
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O=OSHA, S=Supplier
 NOTE: Limits shown for guidance only. Follow applicable regulations.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---

THRESHOLD LIMIT VALUE: 5.00 mg/m³ Suggested for Oil Mist

EFFECTS OF OVEREXPOSURE: Slight skin irritation.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush thoroughly with water. If irritation persists, call a physician.

SKIN CONTACT: Wash contact areas with soap and water.

INHALATION: Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance and call a physician. If breathing has stopped, use mouth to mouth resuscitation.

INGESTION: Not expected to be a problem when ingested. If uncomfortable seek medical assistance.

Mobil

MOBIL DTE 797 OIL

600114-00 Page 2 of 4

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 405(207) (ASTM D-92)

FLAMMABLE LIMITS. LEL: .6% UEL: 7.0%

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing.

Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

***** VII. REACTIVITY DATA *****

STABILITY (Thermal, Light, etc.): Stable

CONDITIONS TO AVOID: Extreme heat.

INCOMPATIBILITY (Materials to Avoid): Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: Normal industrial eye protection practices should be employed.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

VENTILATION: Use in well ventilated area.

***** X. SPECIAL PRECAUTIONS *****

No special precautions required.

Mobil

MOBIL DTE 797 OIL

600114-00 Page 3 of 4

***** XI. TOXICOLOGICAL DATA *****

--- ACUTE TOXICOLOGY ---

ORAL TOXICITY (RATS): Nontoxic ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Nontoxic ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not established

EYE IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): May cause slight irritation on prolonged or repeated contact. ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at Mobil Environmental and Health Sciences Laboratory by dermal application to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of similar oils showed no evidence of carcinogenic effects.

***** XII. REGULATORY INFORMATION *****

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA.

DOT:

Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D); does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity, and is not formulated with the contaminants listed in the Toxicity Characteristic (TC) Rule as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

THIS PRODUCT HAS BEEN AUTHORIZED BY USDA FOR USE UNDER THE FOLLOWING CATEGORY: H2 - Lubricants With No Food Contact

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312 - FORMERLY 302) REPORTABLE HAZARD CATEGORIES: None

This product contains no chemicals reportable under SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:



MOBIL DTE 797 OIL

600114-00

Page 4 of 4

CHEMICAL NAME CAS NUMBER LIST CITATIONS

*** NO REPORTABLE INGREDIENTS ***

KEY TO LIST CITATIONS

- 1 = OSHA 2, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS THE FOLLOWING BASE OIL:	> 95.00	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7

***** APPENDIX *****

FOR MOBIL USE ONLY: MCN: , HHC: 0* 0* NE 0* 1*, MPPEC: A, PPEC: A, US91-791 APPROVE 01/14/92 REQ: US - MARKETING

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWES ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:06/29/90

***** I. PRODUCT IDENTIFICATION *****
 MOBIL PEGASUS 80 (P.L.)

SUPPLIER:	MOBIL OIL CORP.	HEALTH EMERGENCY TELEPHONE:	(609) 737-4411
CHEMICAL NAMES AND SYNONYMS:	PET. HYDROCARBONS AND ADDITIVES	TRANSPORT EMERGENCY TELEPHONE:	(800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION:	GAS ENGINE LUBRICANT	PRODUCT TECHNICAL INFORMATION:	(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 4.0 LIQUID	ODOR: MILD	PH: 8.8
VISCOSITY AT 100 F, SUS: 635.1	AT 40 C, CS: 121.5	
VISCOSITY AT 210 F, SUS: 72.0	AT 100 C, CS: 13.0	
FLASH POINT F(C): > 480(249)	(ASTM D-92)	
MELTING POINT F(C): NA	POUR POINT F(C): 5(-15)	
BOILING POINT F(C): 730(388)		
RELATIVE DENSITY, 15/4 C: 0.89	SOLUBILITY IN WATER: NEGLIGIBLE	
VAPOR PRESSURE-MM HG 20C: < .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

NONE

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
 THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
 EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---
 EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 480(249) (ASTM D-92)

FLAMMABLE LIMITS. LEL: .6 UEL: 7.0

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE

USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED

AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS

OR DRINKING WATER SUPPLY.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE
CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS
SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE
DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY.
USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE
LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS
AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS
HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES
LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT
DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL
INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC
EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY
FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR
SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF
SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

***** XII. REGULATORY INFORMATION *****
 GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (0.03%)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK; 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS THE FOLLOWING BASE OILS:	> 90.00	
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
2,5-FURANDIONE, DIHYDRO-, POLYBUTENYL DERIVATIVES, REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE	< 3.00	68583-75-5
SULFONIC ACIDS, PETROLEUM, CALCIUM SALTS	< 2.00	61789-86-4
PHENOL, C12-AND C18-30-ALKYL DERIVS., SULFURIZED, CALCIUM SALTS, OVERBASED	< 2.00	73758-62-0

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: RN2722DIN*250) MCN: , MHC: 1* 1* NA 0*
0*, MPPEC: A, PPEC: A, US89-375 APPROVE 06/07/89

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265



CLIMAX VALVE LUBRICANTS

7915 EAST ELM STREET • 713-923-2626 • P.O. BOX 5235 • HOUSTON, TEXAS 77262
FAX 713-928-9025 • TWX 910-881-1192 CABLE CLIMAX LUBE HOU

Climax Specialty Manufacturing Co.
Manufactures of:
Climax Lubricants
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Spin-Out Thread Compounds

Climax Lubricants & Equipment Co.
Representing:
G. E. Silicone (Compounds & R.T.V.)
Klene Compressor Access.
Alemite Products
Kolor Kut Products
Lufkin Tapes
Kessier Thermometers

CLIMAX LUBRICANTS SPEC SHEET ON #650 LUBRICANT

MELTING POINT	NON DROPPING
BASE OIL	VEGETABLE
THICKNER	SILICA
SHELF LIFE	INDEFINITE
OXIDATION STABILITY	GOOD
TEMPERATURE RANGE	-40 ⁰ F to 500 ⁰ F

Non Hazardous Material
Flash point above 400⁰F
Non Flammable

A superior Plug Valve Lubricant and Sealant for Hydrocarbon and
LPG Service.

Dennis M. Frauenberger, President
Climax Lubricants and Equipment Co.

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST : ~~K & W PRODUCTS~~
5901 EASTERN AVENUE EMERGENCY PHONE.....: 213-724-8650
CITY OF COMMERCE PREPARATION/REVISION DATE: 8/3/89
CA 90040
PREPARER/CONTACT: PAT PATEL

TRADE NAME/SYNONYMS...: STOCK # ~~1724-KNOCK-ER-LOOSE~~
CHEMICAL NAME/SYNONYMS: N/A (AEROSOL)
CHEMICAL FAMILY.....: NOT APPLICABLE
FORMULA.....: NOT APPLICABLE
PRODUCT CODE.....: 1724

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

* HEALTH..... 2 *
* FLAMMABILITY.. 4 *
* REACTIVITY.... 0 *
* PROTECTION.... D *

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
THERMINOL (ALKYLATED AROMATICS)	68855-24-3	N/A	N/A	N/A
ALIPHATIC STODDARD SOLVENT	64741-85-1	N/A	200 PPM	200 PPM
KEROSENE	08008-20-6	N/A	500 PPM	500 PPM
LUBRICATING BASE OIL	64742-52-5	N/A	5000 PPM	5000 PPM
THIS PRODUCT DOES NOT CONTAIN CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 AND 40 CFR 372.				
ISOBUTANE	00075-28-5	N/A	1000 PPM	1000 PPM
PROPANE	00074-98-6	N/A	1000 PPM	1000 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, or OSHA):NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (Acute And Chronic)-
HIGH VAPOR CONCENTRATIONS ARE IRRITATING TO THE EYES AND THE RESPIRATORY TRACT
MAY CAUSE HEADACHES AND DIZZINESS, ARE ANESTHETIC, AND MAY HAVE OTHER CENTRAL
NERVOUS SYSTEM EFFECTS
PROLONGED OR REPEATED SKIN CONTACT WITH THIS PRODUCT TENDS TO REMOVE SKIN OIL,
POSSIBLY LEADING TO IRRITATION AND DERMATITIS.
PRODUCT CONTACTING THE EYES MAY CAUSE IRRITATION.

093

PRODUCT HAS A LOWER OF ACUTE ORAL AND DERMAL TOXICITY, BUT MINUTE AMOUNTS ASPIRATED INTO THE LUNGS DURING INGESTION OR VOMITING MAY CAUSE MILD TO SEVERE PULMONARY INJURY.

PRIMARY ROUTES OF ENTRY-
INHALATION, SKIN, EYE AND INGESTION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-
SEE HEALTH EFFECTS ABOVE.

PREEXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

EMERGENCY FIRST AID PROCEDURES-

INHALATION : REMOVE TO FRESH AIR. ADMINISTER OXYGEN IF NEEDED. APPLY ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED. SEEK MEDICAL ATTENTION.

SKIN : WIPE WITH TOWEL. WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

EYES : IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET MEDICAL ATTENTION.

SWALLOWING : IF SWALLOWED, DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F).....: < 0
VAPOR PRESSURE (mmHg): N/A
VAPOR DENSITY (AIR=1): >1

SPECIFIC GRAVITY (WATER=1).....: N/A
PERCENT VOLATILE BY VOLUME (%): 60
EVAPORATION RATE (BUTYL ACETATE =1): > 1

SOLUBILITY IN WATER-
N/A

APPEARANCE AND ODOR INFORMATION-
AEROSOL PRODUCT.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (Method Used): < 20F T.O.C FLAMMABLE LIMITS : Lel=1.11. UEL=2.3

EXTINGUISHING MEDIA-
FOAM, CARBON DIOXIDE, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES-

USE WATER SPRAY TO COOL CONTAINERS EXPOSED TO FLAMES. WEAR GOGGLES AND SELF-CONTAINED BREATHING APPARTUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS-

EXTINGUISH ALL NEAR BY SOURCES OF IGNITION SINCE CONTAINERS MAY EXPLODE FROM PRESSURE BUILD-UP WHEN EXPOSED TO EXTREME HEAT AND VAPORS WILL DECOMPOSE TO HAZARDOUS PRODUCTS AT HIGH TEMPERATURES.

INCOMPATIBILITY (Materials To Avoid)-
STRONG OXIDIZING CHEMICALS AND ALKALIS.

HAZARDOUS DECOMPOSITION PRODUCTS-
MAY PRODUCE FUMES WHEN HEATED TO DECOMPOSITION. FUMES MAY CONTAIN CARBON MONOXIDE OR CARBON DIOXIDE.

WILL HAZARDOUS POLYMERIZATION OCCUR-
WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION-
N/A

IS THE PRODUCT STABLE-
YES

CONDITIONS TO AVOID FOR STABILITY-
THIS MATERIAL IS FLAMMABLE AND CAN BE IGNITED BY HEAT, SPARKS AND FLAMES.

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED-
AVOID BREATHING OF VAPORS. VENTILATE AREA. REMOVE ALL SOURCES OF IGNITION.
CLEAN UP AREA WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINER FOR
DISPOSAL. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS AND SOIL.

WASTE DISPOSAL METHODS-
DO NOT INCINERATE. DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL
GOVERNMENTAL REGULATIONS.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION-
LOCAL EXHAUST: SUFFICIENT
SPECIAL.....: N/A
MECHANICAL (General): N/A
OTHER.....: N/A

RESPIRATORY PROTECTION-
NONE UNDER NORMAL USE. AVOID BREATHING OF VAPOR OR SPRAY MIST.

PROTECTIVE GLOVES-
NONE UNDER NORMAL USE. FOR PROLONGED OR REPEATED CONTACT USE SOLVENT RESISTANT
GLOVES.

OTHER PROTECTIVE EQUIPMENT-
EYE PROTECTION :NONE UNDER NORMAL USE; HOWEVER, USE OF SAFETY GLASSES WITH
FLASH GUARDS OR FULL FACE SHIELD IS RECOMMENDED.

OTHER ENGINEERING CONTROLS-
N/A

WORK PRACTICES-

EYE WASHES AND SAFETY SHOWERS IN THE WORKPLACE IS RECOMMENDED.

HYGIENIC PRACTICES-

AVOID BREATHING OF VAPORS AND SKIN CONTACT.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE-

STORE AND USE IN COOL, DRY, WELL-VENTILATED AREAS. DO NOT STORE ABOVE 120 DEG F, DO NOT PUNCTURE OR INCENERATE CONTAINERS. DO NOT SPRAY IN EYES. DO NOT TAKE INTERNALLY. AVOID BREATHING OF VAPORS AND PHYSICAL CONTACT WITH SKIN.

MAINTENANCE PRECAUTIONS-

N/A

OTHER PRECAUTIONS-

N/A

ADDITIONAL COMMENTS-

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, K & W PRODUCTS MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY THEMSELVES THAT THEY HAVE ALL CURRENT DATA RELEVANT TO THEIR PARTICULAR USE.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:02/27/91

***** I. PRODUCT IDENTIFICATION *****

MOBIL PEGASUS SPECIAL

SUPPLIER:	15-40W	HEALTH EMERGENCY TELEPHONE:
MOBIL OIL CORP.		(609) 737-4411
CHEMICAL NAMES AND SYNONYMS:		TRANSPORT EMERGENCY TELEPHONE:
PET. HYDROCARBONS AND ADDITIVES		(800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION:		PRODUCT TECHNICAL INFORMATION:
GAS ENGINE OIL		(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: DARK AMBER LIQUID	ODOR: MILD	PH: NA
VISCOSITY AT 100 F, SUS: 451.4	AT 40 C, CS: 88.3	
VISCOSITY AT 210 F, SUS: 73.0	AT 100 C, CS: 13.4	
FLASH POINT F(C): > 400(204) (ASTM D-92)		
MELTING POINT F(C): NA	POUR POINT F(C): -30(-34)	
BOILING POINT F(C): > 600(316)		
RELATIVE DENSITY, 15/4 C: 0.89	SOLUBILITY IN WATER: NEGLIGIBLE	
VAPOR PRESSURE-MM HG 20C: < .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

NONE

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA, S=SUPPLIER
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ASTM D-92)
 FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
 EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
 SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.
 USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE
 USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED
 AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
 PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS
 OR DRINKING WATER SUPPLY.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.
 NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
 CONDITIONS TO AVOID: EXTREME HEAT.
 INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
 HAZARDOUS DECOMPOSITION PRODUCTS: METAL OXIDES. CARBON MONOXIDE.
 HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
 AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
 REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
 INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
 NUMBER (800) 424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY
 CHEMTREC (800) 424-9300.
 PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
 TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
 AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
 CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
 CHARACTERISTICS AT TIME OF DISPOSAL.
 WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
 CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
 INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE
 CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS
 SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE
 DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY.
 USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE
 LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS
 AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
 EMPLOYED.
 SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
 HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
 RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
 CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
 VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
 AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

***** XII. REGULATORY INFORMATION *****
 GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA.

DOT:

SHIPPING NAME: NOT APPLICABLE
 HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE CONTAMINANTS LISTED IN THE TOXICITY CHARACTERISTIC (TC) RULE AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
FORMALDEHYDE	50-00-0	12
ZINC (ELEMENTAL ANALYSIS) (.02%)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS TWO OR MORE OF THE FOLLOWING		
BASE OILS:		
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC	> 85.00	64742-54-7
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC		64741-88-4
2-PROPENOIC ACID, 2-METHYL-,EICOSYL ESTER, POLYMER WITH 1-ETHENYL-2-PYRROLIDINONE, HEXADECYL 2-METHYL-2-PROPENOATE, ISODECYL 2-METHYL-2-PROPENOATE, METHYL 2-METHYL-2-PROPENOATE AND OCTADECYL 2-METHYL-2-PROPENOATE	< 3.00	68171-46-0
CONTAINS ONE OF THE FOLLOWING ADDITIVE		
COMPONENTS:		
AMINES, POLYETHYLENEPOLY-, REACTION PRODUCTS WITH SUCCINIC ANHYDRIDE POLYBUTENYL DERIVS.	< 6.00	68439-80-5
ALKYL AMIDES		NJT 003066009-5094P

***** APPENDIX *****
 FOR MOBIL USE ONLY: (FILL NO: MTN391BBD3*202) MCN: , MHC: 1* 1* NA
 1* 1*, MPPEC: A, PPEC: A, US90-837 APPROVE 02/27/91

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWES ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072



IDENTITY (As Used on Label and List)

Climax #650

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name

Climax Lubricants & Equipment Co.

Emergency Telephone Number

713-485-3181

Address (Number, Street, City, State, and ZIP Code)

7915 E. Elm

Telephone Number for Information

713-923-2626

Date Prepared

June 17, 1990

Signature of Preparer (optional)

Dennis M. Frauenberger

Houston Texas 77012

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))

OSHA PEL

ACGIH TLV

Other Limits Recommended

Castor Oil

Non-Hazardous

Non-Petroleum Hydro Carbons

Section III - Physical/Chemical Characteristics

Boiling Point

+400°F.

Specific Gravity (H₂O = 1)

1.10

Vapor Pressure (mm Hg.)

N/A

Melting Point

None

Vapor Density (AIR = 1)

N/A

Evaporation Rate

(Butyl Acetate = 1)

N/A

Solubility in Water

None

Appearance and Odor

Odorless

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)

+500°F.

Flammable Limits

Extinguishing Media

Dry Chemical or Water

Special Fire Fighting Procedures

None

Unusual Fire and Explosion Hazards

None

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	XXX	

Compatibility (Materials to Avoid) **Acidic in Nature Avoid Alkaline Contact**

Hazardous Decomposition or Byproducts **None**

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	XXX	

None Special

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?

Health Hazards (Acute and Chronic) **None**

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure **None Known**

Medical Conditions Generally Aggravated by Exposure **None Known**

Emergency and First Aid Procedures

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled **Clean and dispose of in the normal manner**

Waste Disposal Method **Normal**

Precautions to Be Taken in Handling and Storing **None**

Other Precautions

Section VIII — Control Measures

Respiratory Protection (Specify Type) **None Required**

Ventilation	Local Exhaust		Special
	Mechanical (General)		Other
Gloves	None required		Eye Protection None required

Other Protective Clothing or Equipment **None required**

Work/Hygienic Practices **Clean as normal**

I. MATERIAL IDENTIFICATION

Name: Antifreeze/Coolant, Ice King
 Conoco Product Code: 2060
 Synonyms: Ethylene Glycol
 Manufacturer: Conoco Inc.
 Address: P.O. Box 1267, Ponca City, OK 74603

CAS Registry No.: Mixture;
 major components may be some
 combination of 107-21-1
 Transportation Emergency No.:
 (800) 424-9300 (Chemtrec)
 Product Information No.:
 (405) 767-6000

II. HAZARDOUS INGREDIENTS

HAZARD DATA

Hazard Determination:

Health Effect Properties:
 Ethylene glycol

Toxic to nervous system, kidney and liver.

Physical Effect Properties:
 Product/Mixture: None.

Not Applicable.

III. PHYSICAL DATA

Appearance and Odor: Fluorescent green liquid; mild glycol odor.

Boiling Point (Deg.F)	<u>320</u>	Specific Gravity (H ₂ O=1)	<u>1.125</u>
Vapor Pressure (mmHg)	<u>0.05</u>	% Volatile (by volume)	<u>Not Applicable</u>
Vapor Density (Air=1)	<u>2.14</u>	Evaporation Rate (=1)	<u>Not Applicable</u>
Solubility in Water	<u>Completely</u>		

IV. REACTIVITY DATA

Stable: **X** Unstable:

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, vapors of ethylene glycol.

Conditions To Avoid: Strong oxidizing agents.

Hazardous Polymerization: Will not occur.

FIRE AND EXPLOSION HAZARD DATA

LFL: 3.2

UFL: 15.3

Flash Point (Method used): 230F (PMCC)

Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, alcohol resistant foam, or carbon dioxide.

Special Fire Fighting Procedures: Use water to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. If water evaporates off, residual materials could burn. Small amounts of oxides of nitrogen can be produced.

National Fire Protection Agency (NFPA) CLASSIFICATION**HAZARD RATING**Health 1 Fire 1 Reactivity 0

Least - 0

Slight - 1

Moderate - 2

High - 3

Extreme - 4

VI. TRANSPORTATION AND STORAGE

DOT HAZARD CLASS: Not Applicable

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

D.O.T. Label: Not Regulated.

OSHA Label: WARNING: Contains ethylene glycol. Harmful or fatal if swallowed. If swallowed, immediately induce vomiting and call a physician. Overexposure may cause nervous system depression, kidney damage or irritation. Do not store in open or unlabeled containers. Keep out of reach of children and animals. Do not reuse this container.

VII. HEALTH HAZARD INFORMATION

PEL Not available TLV 50 ppm or 125 mg/m³ (Ceiling values)*

Ceiling Value 50 ppm or 125 mg/m³*

PEL 50 ppm or 10 mg/m³ as a time-weighted average*.

These values are for ethylene glycol.

VII. HEALTH HAZARD INFORMATION (continued)

Primary Routes of Exposure/Entry: Skin, inhalation.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure:

No adverse health effect has been identified specifically for this product. Health effect information has been included for components of the product.

Ethylene glycol may cause irritation to eyes, lungs, or skin. Overexposure may cause central nervous system depression and liver or kidney toxicity.

Reproduction studies in mice and rats have shown that extremely high doses, which were toxic to the pregnant female, were also toxic to the newborn and caused birth defects. In this regard, the volatility of ethylene glycol is quite low and exposure to the chemical should be easy to control.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Emergency procedure for ethylene glycol intoxication should be followed.

SPILL, LEAK AND DISPOSAL PROCEDURES

HAZARDOUS WASTE: Yes _____ No X

Case Of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including soils and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controlled incineration, complying with federal, state and local regulations.

VI. PRECAUTIONARY MEASURES

Respiratory Protection: None normally required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: Impervious.

Eye Protection: Chemical goggles.

Other Protective Equipment: Not normally required.

The above data is based on tests and experience which Conoco believes reliable and are supplied for informational purposes only. CONOCO DISCLAIMS ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA AND NOTHING CONTAINED THEREIN SHALL CONSTITUTE A GUARANTEE, WARRANTY (INCLUDING WARRANTY OF MERCHANTABILITY) OR REPRESENTATION (INCLUDING FREEDOM FROM PATENT LIABILITY) ON THE PART OF CONOCO WITH RESPECT TO THE DATA, THE PRODUCT DESCRIBED, OR THEIR USE FOR ANY SPECIFIC PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO CONOCO.

CHEMICAL NAME: SLC Concentrate (PURPLE X)

SYNONYMS: **CHEMICAL FAMILY:** Detergent

FORMULA: Blended Detergent, Liquid **MOLECULAR WEIGHT:**

TRADE NAME AND SYNONYMS: SLC Constrate

I. PHYSICAL DATA

BOILING POINT, 760 mm. Hg		FREEZING POINT	30° F
SPECIFIC GRAVITY (H₂O = 1)	1.05	VAPOR PRESSURE at 20°C.	
VAPOR DENSITY (air = 1)		SOLUBILITY IN WATER. % by wt. at 20°C.	Completely
PER CENT VOLATILES BY VOLUME	none	EVAPORATION RATE (Butyl Acetate = 1)	
APPEARANCE AND ODOR	Neutral		

II. HAZARDOUS INGREDIENTS

MATERIAL	%	TLV (Units)
NOT APPLICABLE		

III. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	none	AUTOIGNITION TEMPERATURE	
FLAMMABLE LIMITS IN AIR, % by volume		LOWER	1.1
		UPPER	
EXTINGUISHING MEDIA	None Needed		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

EMERGENCY PHONE NUMBERS

Paul Woltz, 915/362-0021 (night)
 SCOTT CAUTER 915/337-1571 Odessa TX, (Shield Inc.)

Legal responsibility is assumed only for the fact that all studies reported here and all opinions are those of qualified experts.

MATERIAL SAFETY DATA SHEET

L-4559-C
May 1985



An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.
(Essentially similar to U.S. Department of Labor Form OSHA-20 and generally accepted in Canada for information purposes)
Do Not Duplicate This Form. Request an Original.



I. PRODUCT IDENTIFICATION

PRODUCT	Acetylene		
CHEMICAL NAME	Acetylene	SYNONYMS	Acetylen, Ethine, Ethyne, Narcylene
FORMULA	C ₂ H ₂	CHEMICAL FAMILY	Alkyne
		MOLECULAR WEIGHT	26.038

TRADE NAME Acetylene (This product is intended for welding and cutting use.)

II. HAZARDOUS INGREDIENTS

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding and cutting with the normal use of this product are covered by Section VI. The term "hazardous" should be interpreted as a term required and defined in OSHA 29 CFR 1910.1200 and does not necessarily imply the existence of any hazard.

MATERIAL (CAS NO.)	Vol (%)	1984-1985 ACGIH TLV-TWA (OSHA-PEL)	
Acetylene (74-86-2)	100	Simple asphyxiant	(None currently established)

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not Applicable	SUBLIMATION POINT	-84°C (-119.2°F) @ 760mm Hg
SPECIFIC GRAVITY (H ₂ O = 1)	Not Applicable	VAPOR PRESSURE AT 21°C.	635 psig
VAPOR DENSITY (air = 1)	0.91	SOLUBILITY IN WATER, % by wt.	Slight
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	Not Applicable

APPEARANCE AND ODOR Colorless gas at normal temperature and pressure; garlic-like odor.

EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times:
In the USA 304 — 744-3487 In Canada 514 — 645-5311
For routine information contact your local supplier

Union Carbide requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

UNION CARBIDE CORPORATION LINDE DIVISION
UNION CARBIDE CANADA LIMITED LINDE DIVISION

IV. HEALTH HAZARD DATA**THRESHOLD LIMIT VALUE**

OSHA 1984-85 recommended limit for welding fume, not otherwise classified (NOC), is 5mg/m³.

TLV-TWA's should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations. See Section VI for specific fume constituents which may modify this TLV-TWA.

EFFECTS OF OVEREXPOSURE AND EMERGENCY AND FIRST AID PROCEDURES

Working with welding and cutting may create one or more of the following health hazards:

FUMES AND GASES can be dangerous to your health and may cause serious lung disease.*

HEAT RAYS (INFRARED RADIATION from the flame or hot metal) can injure eyes.

NOISE can damage hearing.

Acetylene is an asphyxiant. Moderate concentrations may cause headache, drowsiness, dizziness and unconsciousness. Lack of oxygen can cause death. Keep your head out of the fumes. Do not breathe fumes and gases caused by the process. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. The type and amount of fumes and gases depend on the equipment and supplies used. Possibly dangerous materials may be found in fluxes, coatings, gases, and metals. Get a Material Safety Data Sheet (MSDS) for every material used. Air samples can be used to find out what respiratory protection is needed.

Wear correct ear, eye, and body protection.

Short term overexposure to fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

MIXTURES: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

A detailed description of the Health Hazards and their consequences may be found in Linde's free safety booklet L-2035. You may obtain copies from your local supplier, or by writing to Union Carbide Corporation, Linde Division, Communications Department, 39 Old Ridgebury Road, Danbury, Connecticut, 06817-0001.

FIRST AID IN CASE OF EMERGENCY — Call for medical aid. Employ First Aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. Call a physician. IF NOT BREATHING, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin external heart massage. Immediately call a physician. IN CASE OF EYE BURN call a physician.

***NOTES TO PHYSICIAN:**

Acute — Gases, fumes, and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty breathing, frequent coughing, or chest pains.

Chronic — Protracted inhalation of air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest x-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work related factors such as smoking, etc.

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)		- 17.8°C (0°F) T.C.C.		AUTOIGNITION TEMPERATURE		299°C (571°F)	
FLAMMABLE LIMITS IN AIR, % by volume		LOWER	2.3%	UPPER	100%		

EXTINGUISHING MEDIA

See paragraphs below.

SPECIAL FIRE FIGHTING PROCEDURES

Refer to CGA pamphlet SB-4, "Handling Acetylene Cylinders in Fire Situations."

Evacuate all personnel from danger area. Immediately cool containers with water spray from maximum distance taking care not to extinguish flames. Remove ignition sources if without risk. If flames are accidentally extinguished, explosive re-ignition may occur. Use self-contained breathing apparatus. Stop flow of gas if without risk while continuing cooling water spray. Remove all containers from area of fire if without risk. Allow fire to burn out. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Extremely flammable gas. Forms explosive mixtures with air and oxidizing agents. Container may rupture due to heat of fire. Do not extinguish flames due to possibility of explosive re-ignition. Flammable vapors may spread from leak. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with approved explosion meter. No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). All containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature. Contact with copper, silver, or mercury or their alloys or halogens can cause explosion.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID Stable as shipped. Avoid use at pressures above 15 psig.
UNSTABLE	STABLE	
X		

INCOMPATIBILITY (materials to avoid)

Copper, silver, mercury or their alloys, oxidizing agents, acids, halogens, moisture.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition or burning may produce CO/CO₂/H₂. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction or oxidation of the material being worked.

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID Elevated temperature and pressure and/or the presence of a catalyst.
May Occur	Will not Occur	
X		

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Forms explosive mixtures with air (See Section V). Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off leak if without risk. Ventilate area of leak or move leaking container to well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with appropriate device.

WASTE DISPOSAL METHOD Prevent waste from contaminating surrounding environment. Keep personnel away. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and local regulations.

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) — Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select as per OSHA29 CFR1910.134.

VENTILATION	LOCAL EXHAUST — Use enough ventilation, local exhaust or both, to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. Train the worker to keep his head out of the fumes.
	MECHANICAL (general) ALWAYS WORK WITH ENOUGH VENTILATION
	SPECIAL Not applicable
	OTHER Depends on specific use conditions, and location. Use adequate ventilation or personal respiratory protection. See Section IX and OSHA29 CFR1910.252.

PROTECTIVE GLOVES Welding gloves recommended

EYE PROTECTION — Wear goggles with filter lens selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA29 CFR1910.133.

OTHER PROTECTIVE EQUIPMENT — As needed, wear hand, head, and body protection which help to prevent injury from radiation, and sparks. See ANSI Z49.1. At a minimum this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, shoulder protection, as well as substantial clothing. Train the worker not to touch live electrical parts.

IX SPECIAL PRECAUTIONS

Fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being worked, process, procedure and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being worked (such as paint, plating, or galvanizing), the number of workers and the volume of the work area, the quality and amount of ventilation, the position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the worker's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1, available from the American Welding Society, 550 N.W. Le Jeune Rd., Miami, FL 33126.

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety In Welding And Cutting" published by the American Welding Society and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more details. For further safety and health information refer to Linde's free safety booklet L-2035.

OTHER HANDLING AND STORAGE CONDITIONS

Heat and sparks during use could be the source of ignition of combustible materials. Prevent fires. Refer to NFPA 51B "Cutting and Welding Processes" and NFPA 50 "Oxygen-Fuel Gas Systems." Use piping and equipment adequately designed to withstand pressures to be encountered. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve when not in use and when empty. Never work on a pressurized system.

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide, it is the user's obligation to determine the conditions of safe use of the product.

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MATERIAL SAFETY DATA SHEET

L-4637-B
September 1985



An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200,
available from OSHA regional or area offices.
(Essentially similar to U.S. Department of Labor Form OSHA-20
and generally accepted in Canada for information purposes)
Do Not Duplicate This Form. Request an Original.



I. PRODUCT IDENTIFICATION

PRODUCT Oxygen (Cryogenic Liquid)

CHEMICAL NAME	Oxygen	SYNONYMS	Not applicable
FORMULA	O ₂	CHEMICAL FAMILY	Not applicable
		MOLECULAR WEIGHT	32.00

TRADE NAME Liquid Oxygen

II. HAZARDOUS INGREDIENTS

For mixtures of this product request the respective component Material Safety Data Sheets. See Section IX.

MATERIAL (CAS NO.)	Wt (%)	1984-1985 ACGIH TLV-TWA (OSHA-PEL)
Oxygen (7782-44-7)	100	None currently established (None currently established)

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	-183°C (-297.4°F)	FREEZING POINT	-218.4°C (-361.1°F)
SPECIFIC GRAVITY (H ₂ O = 1)	1.141 @ -183°C	VAPOR PRESSURE AT 20°C.	Gas
VAPOR DENSITY (air = 1)	1.105 @ 25°C	SOLUBILITY IN WATER, % by wt.	Not applicable
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	High

APPEARANCE AND ODOR Light Blue cryogenic liquid, odorless.

EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times:
In the USA 304 — 744-3487 In Canada 514 — 645-5311
For routine information contact your local supplier

Union Carbide requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

UNION CARBIDE CORPORATION LINDE DIVISION
UNION CARBIDE CANADA LIMITED LINDE DIVISION

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF SINGLE (ACUTE) OVEREXPOSURE:

SWALLOWING — Severe frostbite may result from contact with liquid. No harmful effects expected from vapor.

SKIN ABSORPTION — No evidence of adverse effects from available information.

INHALATION — Breathing 80% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular twitching, unconsciousness and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

SKIN CONTACT — Liquid may cause severe frostbite. No harmful effects expected from vapor.

EYE CONTACT — Liquid may cause severe frostbite. No harmful effects expected from vapor.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: No evidence of adverse effects from available information.

OTHER EFFECTS OF OVEREXPOSURE: See "Notes to Physician."

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: See "Notes to Physician."

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION: None currently known.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING — This product is a gas at normal temperature and pressure.

SKIN — For exposure to liquid, immediately warm frostbite area with warm water (not to exceed 105°F). Remove and thoroughly air contaminated clothing. In case of massive exposure, remove clothing while showering with warm water. Call a physician.

INHALATION — Remove to fresh air. Give artificial respiration if not breathing. Keep victim warm and at rest. Call a physician.

EYES — In the case of splash contamination, immediately flush eyes with water for at least 15 minutes. See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN: Supportive treatment should include immediate sedation, anti-convulsive therapy if needed, and rest. Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increases the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce "vacuum-type" headache.

Newborn premature infants exposed to high oxygen concentrations may suffer delayed retinal damage which can progress to retinal detachment and blindness (retrolental fibroplasia). Retinal damage can also occur in adults exposed to 100% oxygen under greater than atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised.

If individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should have ophthalmologic examinations.

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	Not applicable	AUTOIGNITION TEMPERATURE	Not applicable
FLAMMABLE LIMITS IN AIR, % by volume	LOWER Not applicable	UPPER	Not applicable

EXTINGUISHING MEDIA: Oxidizing agent. Vigorously accelerates combustion. Use media appropriate for surrounding fire. Water (i.e. safety shower) is the preferred extinguishing media for clothing fires.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate all personnel from danger area. Immediately cool containers with water spray from maximum distance until cool then move containers away from fire if without risk. Do not discharge water sprays into liquid oxygen.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Oxidizing agent, vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion. Closed container may rupture due to heat of fire. Liquid oxygen will freeze water rapidly. Containers are provided with pressure relief devices that are designed to vent the contents when they are exposed to elevated temperatures. Do not walk on or roll equipment over spill as this could cause explosion. Liquid causes cryogenic "burns" (frostbite-like injury; see Section IV). Smoking, flames, and electric sparks in the presence of enriched oxygen atmospheres are potential explosion hazards.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID: Heat (See Section IX). Oxygen reacts with many materials. Refer to NFPA 491M "Manual of Hazardous Chemical Reactions."
UNSTABLE	STABLE	
	X	

INCOMPATIBILITY (materials to avoid): Flammable and combustible materials, especially oils and greases, including many materials not normally considered flammable.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID: None currently known.
May Occur	Will not Occur	
	X	

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Immediately evacuate all personnel from danger area.

Extremely cold oxidizing liquid and gas. Allow spilled liquid to evaporate. Do not walk on or roll equipment over spill as this could cause explosion. Contact with flammable materials may cause fire or explosion. Shut off leak if without risk. Ventilate area of leak or move leaking container to ventilated area.

WASTE DISPOSAL METHOD: Keep personnel away. Liquid oxygen should be dumped into an outdoor pit filled with clean, grease-free and oil-free gravel, where it will safely evaporate.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): Not required.

VENTILATION	LOCAL EXHAUST — Preferred.
	MECHANICAL (general) — Adequate.
	SPECIAL — Not applicable.
	OTHER — Not applicable.

PROTECTIVE GLOVES: Loose-fitting Cryogenic gloves.

EYE PROTECTION: Select in accordance with OSHA 29 CFR 1910.133

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Protective clothing where needed. Cuffless trousers should be worn outside the shoes. High top shoes are preferred. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133.

IX. SPECIAL PRECAUTIONS

Extremely cold oxidizing liquid and gas. Vigorously accelerates combustion. Contact with liquid or cold gas causes severe frostbite. Combustibles with liquid oxygen may explode on ignition or contact. Keep oil, grease and combustibles away. Use only with equipment conditioned for oxygen service. Use piping and equipment adequately designed to withstand the pressures and temperatures to be encountered. Do not get liquid in eyes, on skin or clothing. Store and use with adequate ventilation. Close valve when not in use and when empty. Clothing exposed to oxygen should be removed immediately and aired out to reduce the likelihood of an engulfing fire. Ignition sources, such as static electricity generated in clothing by walking, etc., should be prevented. Protect container against physical damage. Isolate from combustible gas installations and combustible materials by adequate distance or by gas-tight, fire-resistive barriers. Protect against overheating.

MIXTURES: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the final product. Remember, gases and liquids have properties which can cause serious injury or death.

Be sure to read and understand all labels and other instructions supplied with all containers of this product.

NOTE: Compatibility with plastics should be confirmed prior to use. For safety information on general handling of compressed gas cylinders, obtain a copy of pamphlet P-1, "Safe Handling of Compressed Gases in Containers", pamphlet P-12, "Safe Handling of Cryogenic Liquids", and pamphlet G-4, "Oxygen", from the Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA 22202.

OTHER HANDLING AND STORAGE CONDITIONS: For storage and use at consumer sites, refer to NFPA 50, "Bulk Oxygen Systems", and NFPA 51, "Oxygen-Fuel Gas System for Welding, Cutting, and Allied Processes," available from National Fire Protection Association, Batterymarch Park, Quincy, MA 02210. Never work on a pressurized system. If there is a leak, close the cylinder valve, blow down the system by venting to a safe place, then repair the leak. Never lubricate oxygen valves, regulators, etc., with any combustible substance.

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide, it is the user's obligation to determine the conditions of safe use of the product.



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Material Safety Data Sheet

From Genium's Reference Collection
 Genium Publishing Corporation
 1145 Catalyn Street
 Schenectady, NY 12303-1836 USA
 (518) 377-8855



No. 61
NITROGEN
 (Revision A)
 Issued: April 1980
 Revised: April 1986

SECTION 1. MATERIAL IDENTIFICATION

MATERIAL NAME: NITROGEN

DESCRIPTION: Gas supplied in cylinders (2000+ psig) or cold liquid supplied in vented Dewar containers.

OTHER DESIGNATIONS: N₂, CAS #7727-37-9, ASTM #D1933

MANUFACTURER/SUPPLIER: Available from several suppliers, including:

Air Products & Chemicals, Inc., Industrial Gas Division, PO Box 538, Allentown, PA 18105; Telephone: (215) 481-4911

Airco Industrial Gases of the Boc Group, Inc., 575 Mountain Avenue, Murray Hill, NJ 07974; Telephone: (201) 464-81000

Union Carbide Corp., Linde Div., 39 Old Ridgebury Rd., Danbury, CT 06817; Telephone: (203) 794-5300

HMIS
 H: 2
 F: 0
 R: 0
PPE*
 *See Sect. 8
R 1
I 1
S 2 (Liquid)
K 0



SECTION 2. INGREDIENTS AND HAZARDS

Nitrogen, CAS #7727-37-9
 Oxygen, CAS # 7782-44-7

HAZARD DATA

No TLV Established.

SECTION 3. PHYSICAL DATA

Boiling Point, 760 mm Hg ... -320.4°F (-195.8°C)

Vapor Density (Air = 1) ... 0.967

Solubility in Water @ 20°C, Vols./100 vols. ... 1.6

Density (liq.), g/cm³ ... 0.8

Melting Point ... -345.7°F (-209.86°C)

Critical Temperature ... -232.8°F (-147.1°C)

Critical Pressure, Atm ... 33.5

Molecular Weight ... 28.01

Expansion Ratio, Liquid to Gas @ 70°F ... 1:696

Appearance and odor: A colorless, odorless, tasteless gas or a cryogenic liquid.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method

Not Found

Autoignition Temp.

Not Found

Flammability Limits in Air

Nonflammable

LOWER

Not Found

UPPER

Not Found

Use extinguishing media that are appropriate to the surrounding fire. Do not discharge solid streams of water into liquid N₂. Use water spray to cool fire-exposed containers or, if desirable, to increase the rate of evaporation of the liquid if the increased rate can be controlled (cryogenic liquid will rapidly freeze water). Nitrogen is a nonflammable material that will not support combustion. It presents no unusual explosion hazard unless the compressed gas is exposed to fire; then containers may rupture violently. Nitrogen cylinders are equipped with pressure-relief devices that are designed to vent N₂ when they are exposed to elevated temperatures and pressures. When liquid nitrogen is spilled it can release a rapidly vaporizing cloud that will create an oxygen-deficient atmosphere.

SECTION 5. REACTIVITY DATA

Nitrogen is stable when stored in closed containers. It does not polymerize. Nitrogen is noncorrosive and is nearly inert at room temperature. At high temperatures it can combine with oxygen to form oxides, and with hydrogen to form ammonia. When heated with carbon in the presence of alkalis or barium oxide it may form cyanides. It can form nitrides with lithium, silicon, calcium, strontium, and barium when it is at a red heat. It has been reported that nitrogen can be oxidized explosively by ozone. Lithium and titanium at an elevated temperature can burn in a nitrogen atmosphere. Beryllium can be ignited in a mixed nitrogen-and-carbon dioxide atmosphere. Nitrogen will react with oxygen in the presence of sparking (from an electric arc or a gas-fired furnace) to produce nitric oxide gas.

SECTION 6. HEALTH HAZARD INFORMATION

Nitrogen is not listed as a carcinogen by the NTP, IARC, or OSHA.
 This material is nontoxic and is classified as a simple asphyxiant by virtue of its displacement of oxygen. Symptoms of exposure depend on the degree and the duration of oxygen deficiency. They can include increased frequency and volume of breathing, increased pulse rate, muscular incoordination, fatigue, nausea, vomiting, and collapse. Inhalation of pure nitrogen atmosphere produces immediate loss of consciousness; death follows unless air/oxygen breathing can be quickly restored.
 Contact with liquid nitrogen or cold vapors can cause cryogenic burns (severe frostbite/freeze burns).
FIRST AID: CONTACT WITH LIQUID NITROGEN: Promptly flush areas affected with lots of tepid water to reduce freezing of tissue. (Do not apply direct heat to affected areas!) Do not rub frozen areas. Loosely apply dry, sterile, bulky dressings to protect area from infection and from further injury. Get medical help.*
INHALATION: Caution! Would-be rescuers need to be concerned with their own safety in oxygen-deficient areas. Use self-contained breathing equipment. Remove victim to fresh air. Quickly restore and/or support his breathing as required, administering oxygen if available. Get medical help.*
INGESTION: Get medical help.* **ACUTE EFFECTS:** Gas - Simple asphyxiation by displacement of oxygen. Liquid - Cryogenic burns. **PRIMARY ENTRY:** Inhalation
 * GET MEDICAL ASSISTANCE = In plant, paramedic, community. Get medical help for further treatment, observation, and support after first aid.

SECTION 7. SPILL, LEAK, AND DISPOSAL PROCEDURES

Notify safety personnel of major nitrogen leaks or spills. Shut off leak if you can do so without risk. Evacuate all personnel from the danger area until ventilation can restore a safe oxygen level. Emergency personnel need self-contained breathing equipment. Minor leaks (which are dangerous in enclosed areas) can be detected by painting the suspected area of leakage with a soap solution. Prevent liquid nitrogen from contacting vulnerable steel structures and vehicle tires (see sect. 9). Allow spilled liquid to evaporate.
DISPOSAL: Remove a liquid nitrogen container or leaking cylinder outdoors or place into a hood with good forced ventilation. Allow gas to discharge at a moderate rate. Defective cylinders should be tagged to indicate defect. Close the valve and return the defective cylinder to supplier.

SECTION 8. SPECIAL PROTECTION INFORMATION

Provide adequate general and local exhaust ventilation to prevent workplace atmospheres from becoming oxygen deficient (minimum O₂ volume = 18%). Provide air-supplied or self-contained breathing equipment for emergency or nonroutine situations where the nitrogen level is excessive. Use a safety line and a standby worker when respirator-protected personnel enter a hazardously nitrogen-enriched area. (The standby worker should have a self-contained breathing apparatus immediately available.) Those working with liquid nitrogen should wear approved insulating gloves, safety glasses, and other protective clothing as required by use conditions to prevent any skin contact with liquid nitrogen. Cuffless trousers should be worn outside high-topped shoes. Safety shoes are recommended for those handling cylinders of gases.
 Wear safety gloves and approved insulated gloves. Use air-supplied or self-contained breathing apparatus.
 Contact lenses pose a special hazard; soft lenses may absorb irritants, and all lenses concentrate them.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

STORAGE SEGREGATION: Store in a cool, dry, well-ventilated, low fire-risk area. Protect containers against physical damage.
SPECIAL HANDLING/STORAGE: Protect containers from extremes of temperature and weather. (Do not allow any part of a compressed gas cylinder to be exposed to temperatures above 125°F [51.6°C]). Follow general safety procedures for handling and securing compressed gas cylinders. Liquid nitrogen storage areas should be kept clean and free from flammable materials. Make sure that liquid nitrogen containers are properly vented to prevent buildup of pressure. All pressure equipment and process lines should be designed so that the minimum burst pressure is at least four (4) times the expected maximum pressure. Certain materials are unsuitable for service in contact with liquid nitrogen because they become extremely brittle and can be readily shattered by impact.
DOT Classification: Nonflammable Gas UN1066 (Compressed); UN1977 (Cryogenic Liquid)
LABEL: Nonflammable Gas
Data Source(s) Code: 1, 4-11, 14, 17, 25, 51, 63, 82, 84. CK

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