

**GW – 377**

**PERMITS,  
RENEWALS,  
& MODS  
Application**



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2009 FEB 9 AM 9 28

301 Commerce St., Ste. 700  
Fort Worth, TX 76102

Phone: 817.302.9425 Fax:  
Fax: 817-302-9351

February 4, 2009

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

**Subject: Discharge Permit – Approval Conditions  
Adobe Compressor Station, GW-377  
Unit Letter K, Section 23, Township 20 South, Range 38 East, NMPM,  
Lea County, New Mexico**

Dear Mr. Wayne Price:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 – 20.6.2.3114 NMAC, the Oil Conservation (OCD) has approved the discharge permit for Southern Union Gas Services, Ltd. (SUGS) for the above referenced site contingent upon the conditions specified with the permit. SUGS agrees to the conditions as stated and the conditions agreement has been signed by Robert A. Milam, VP Engineering & Gas Operations, with an original copy attached.

We appreciate your efforts in getting this accomplished in an expeditious manner. If there are any questions, please do not hesitate to contact myself at the number above or email [karen.ingram@sug.com](mailto:karen.ingram@sug.com) or Tony Savoie at 585-395-2085 or email [tony.savoie@sug.com](mailto:tony.savoie@sug.com).

Regards,

A handwritten signature in cursive script that reads "Karen Ingram".

Karen Ingram  
Compliance Specialist, Environmental Health and Safety

C: Dennis Slack  
Tony Savoie  
Randall Dunn  
Alberto Gutierrez w/Geolex

## ATTACHMENT- DISCHARGE PERMIT APPROVAL CONDITIONS

- 1. Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. The flat fee for a compressor station operating at less than 1001 horsepower is \$400.00 and has been paid in full to the OCD. Please return the signed permit within 30 days.
- 2. Permit Expiration, Renewal Conditions and Penalties:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on January 26, 2014** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.*
- 3. Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.
- 4. Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its March 2008 discharge plan application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.
- 5. Modifications:** WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.
- 6. Waste Disposal and Storage:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

**A. OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

**B. Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

**7. Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

**8. Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

**9. Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

**10. Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

**11. Below-Grade Tanks/Sumps and Pits/Ponds.**

**A.** All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

**B.** All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all

pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

## 12. **Underground Process/Wastewater Lines:**

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. **Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

**14. Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

**15. Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

**16. OCD Inspections:** The OCD performed an inspection of this facility on January 23, 2009. Tony Savoie and Jim Griswold were in attendance. The inspection concluded the following.

The OCD has concluded that the overall facility is in good condition and would like to note the following areas of concern.

- A. The AST needs to be lined within 5 years.
- B. Track the amount of soil staining. There were only a few minor staining noted. Southern Union Gas shall ensure no additional staining occurs at this site.

**17. Storm Water:** The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

**18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. **An unauthorized discharge is a violation of this permit.**

**19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

**20. Additional Site Specific Conditions:** N/A

**21. Transfer of Discharge Permit (WQCC 20.6.2.3111)** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written

notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

**22. Closure Plan and Financial Assurance:** Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.

**23. Certification: (Owner/Operator),** by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Southern Union Gas Services, Ltd

\_\_\_\_\_  
Company Name-print name above

Robert A. Miliam

\_\_\_\_\_  
Company Representative-print name

  
\_\_\_\_\_  
Company Representative-Signature

Title: VP, Engineering & Operations

Date: February 4, 2009

# New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**

Governor

**Joanna Prukop**

Cabinet Secretary

**Reese Fullerton**

Deputy Cabinet Secretary

**Mark Fesmire**

Division Director

**Oil Conservation Division**



January 26, 2009

Mr. Bruce Williams

Southern Union Gas Services, Ltd.

301 Commerce Street, Suite 700

Fort Worth, TX 76102

Re: Discharge Plan Permit  
Adobe compressor station, GW-377  
Unit letter K Section 23, Township 20 South, Range 38 East, NMPM,  
Lea County, New Mexico

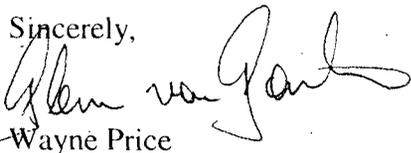
Dear Mr. Williams:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for the **Southern Union Gas Services, Ltd.**, (owner/operator) for the above referenced site contingent upon the conditions specified in the enclosed **Attachment to the Discharge Permit**. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

  
Wayne Price

Environmental Bureau Chief

Attachments-1

xc: OCD District Office

Oil Conservation Division \* 1220 South St. Francis Drive

\* Santa Fe, New Mexico 87505

\* Phone: (505) 476-3440 \* Fax (505) 476-3462\* <http://www.emnrd.state.nm.us>



## ATTACHMENT- DISCHARGE PERMIT APPROVAL CONDITIONS

- 1. Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division (“OCD”) has received the required \$100.00 filing fee. The flat fee for a compressor station operating at less than 1001 horsepower is \$400.00 and has been paid in full to the OCD. Please return the signed permit within 30 days.
- 2. Permit Expiration, Renewal Conditions and Penalties:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on January 26, 2014** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.*
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**C.** The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

**D.** The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

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**A.** The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

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Southern Union Gas shall ensure no additional staining occurs at this site.

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**18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. **An unauthorized discharge is a violation of this permit.**

**19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

**20. Additional Site Specific Conditions:** N/A

**21. Transfer of Discharge Permit (WQCC 20.6.2.3111)** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written

notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

**22. Closure Plan and Financial Assurance:** Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.

**23. Certification: (Owner/Operator),** by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

\_\_\_\_\_  
Company Name-print name above

\_\_\_\_\_  
Company Representative- print name

\_\_\_\_\_  
Company Representative- Signature

Title\_\_\_\_\_

Date:\_\_\_\_\_

**Lowe, Leonard, EMNRD**

---

**From:** Lowe, Leonard, EMNRD  
**Sent:** Wednesday, September 03, 2008 1:45 PM  
**To:** 'bruce.williams@sug.com'  
**Cc:** 'Savoie, Tony'; 'James C. Hunter, RG'; Johnson, Larry, EMNRD  
**Subject:** GW-377, Adobe Compressor Station Admin. Complete  
**Attachments:** GW-377, Admin Complete Letter.pdf; GW-377, Draft Permit.pdf; GW-377 OCD PN.pdf

Mr. Bruce Williams,

Your submitted discharge plan application for the Adobe compressor station has been determined to be administratively complete.

llowe

**Leonard Lowe**

Environmental Engineer  
Oil Conservation Division/EMNRD  
1220 S. St. Francis Drive  
Santa Fe, N.M. 87505  
Office: 505-476-3492  
Fax: 505-476-3462  
E-mail: [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>



New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**

Governor  
Joanna Prukop  
Cabinet Secretary  
Reese Fullerton  
Deputy Cabinet Secretary

**Mark Fesmire**  
Division Director  
Oil Conservation Division



September 3, 2008

Mr. Bruce Williams  
Southern Union Gas Services, Ltd.  
301 Commerce Street, Suite 700  
Fort Worth, TX 76102

**Re: New discharge plan permit, GW-377  
Adobe compressor station  
Lea County, New Mexico**

Dear Mr. Williams:

The New Mexico Oil Conservation Division (NMOCD) has received Southern Union Gas Services, Ltd's request, initial and facility fee, dated March 4, 2008 for a new discharge permit for the Adobe compressor station located in unit letter K of Section 23, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico. The Oil Conservation Division has identified this facility as GW - 377 for their discharge permit, please reference all future submitted documentation with this number. The initial submittal has provided the required information in order to deem the application "administratively" complete.

The New Mexico Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC for a new discharge plan has been satisfied and demonstrated to the NMOCD. Each public notice must be approved by the OCD prior to the applicant posting them to the public. NMOCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3492 or [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us). On behalf of the staff of the NMOCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Leonard R. Lowe  
Environmental Engineer

xc: OCD District I Office, Hobbs





New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson  
Governor  
Joanna Prukop  
Cabinet Secretary  
Reese Fullerton  
Deputy Cabinet Secretary

Mark Fesmire  
Division Director  
Oil Conservation Division



September 3, 2008

Mr. Bruce Williams  
Southern Union Gas Services, Ltd.  
301 Commerce Street, Suite 700  
Fort Worth, TX 76102

Re: **DRAFT** Discharge Permit (new)  
Adobe compressor station (GW-377)  
Unit letter K Section 23, Township 20 South, Range 38 East, NMPM,  
Lea County, New Mexico

Dear Mr. Williams:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for the **Southern Union Gas Services, Ltd.**, (owner/operator) for the above referenced site contingent upon the conditions specified in the enclosed **Attachment to the Discharge Permit**. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 45 days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

*The final permit should be issued in approximately 45 days.* If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Wayne Price  
Environmental Bureau Chief

Attachments-1  
xc: OCD District Office



## ATTACHMENT- DISCHARGE PERMIT APPROVAL CONDITIONS

1. **Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a flat fee (see WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. *The flat fee for a compressor station operating less than 1001 horsepower is \$400.00 and has been paid in full to the OCD. Please return the signed permit once received.*
2. **Permit Expiration, Renewal Conditions and Penalties:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on Month Day, 2013** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.*
3. **Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.
4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its March 2008 discharge plan application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.
5. **Modifications:** WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.
6. **Waste Disposal and Storage:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste

stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

**A. OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

**B. Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

**7. Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

**8. Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

**9. Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (double liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids at or near atmospheric temperature and pressure are exempt from this containment requirement.

**10. Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

**11. Below-Grade Tanks/Sumps and Pits/Ponds.**

**A.** All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

**B.** All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

**C.** The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

**D.** The owner/operator shall maintain the results of tests and inspections of the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

## **12. Underground Process/Wastewater Line**

**A.** The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one atmosphere, shall test at the normal operating pressure, if possible, or for atmospheric drain systems, test at a pressure one pound per square inch greater than normal operating pressure, and pressure held for a minimum of 15 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

**B.** The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

**13. Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

**14. Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

**15. Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

**16. OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections. The OCD will set up an inspection date and time for this facility. Findings will be noted here.

**17. Storm Water:** The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

**18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. **An unauthorized discharge is a violation of this permit.**

**19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

**20. Additional Site Specific Conditions:** N/A

**21. Transfer of Discharge Permit (WQCC 20.6.2.3111)** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be

charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

**22. Closure Plan and Financial Assurance:** Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modification plan, and/or provide adequate financial assurance.

**23. Certification: (Owner/Operator),** by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

\_\_\_\_\_  
Company Name-print name above

\_\_\_\_\_  
Company Representative-print name

\_\_\_\_\_  
Company Representative- Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

## 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 (20.6.2.3106 NMAC), the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

**(GW-377) Southern Union Gas Services, Ltd. , 301 Commerce Street, Suite 700, Fort Worth Texas 76102, has submitted an application for a new discharge plan for their Adobe compressor station, operating at 330 HP, located in unit letter K of Section 23, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico, approximately 8 miles northeast of Eunice. The facility provides natural gas compression, removal of excess liquids, the measuring and transport of gas to pipelines. Approximately 100 – 200 gallons/month of used oil, 78-200 gallons/month of wash/storm water and 50 – 100 bbl/month of gas liquids will be generated on site along with other solid wastes. The discharge plan summarizes the specifics of generated waste at this facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 20 - 75 feet, with a total dissolved solids concentration of 375 – 630 mg/L. The discharge plan addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.**

The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site <http://www.emnrd.state.nm.us/ocd/>. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. 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 that there is significant public interest.

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

Para obtener más información sobre esta solicitud en español, sírvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energía, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservación Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 3<sup>rd</sup> day of September 2008.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

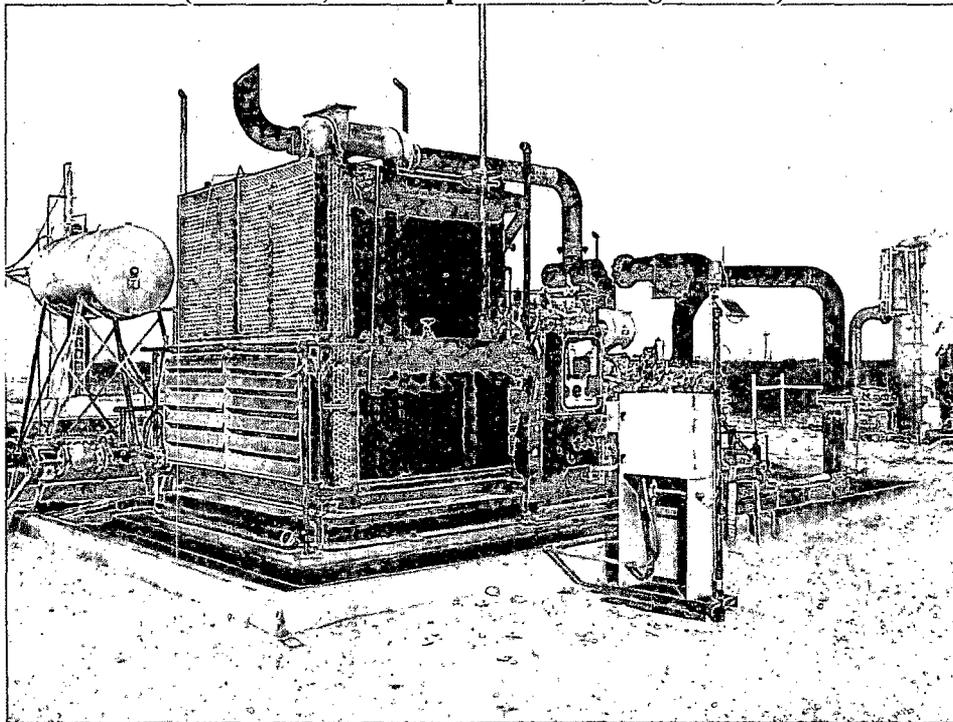
SEAL

Mark Fesmire, Director

  
**Southern Union  
Gas Services**

RECEIVED  
2008 MAR 7 PM 1 25

**Application for New Mexico Oil Conservation Division Discharge Plan  
ADOBE COMPRESSOR STATION  
(Section 23, Township 20 South, Range 38 East)**



**February 26, 2008**

*Prepared For:*  
**New Mexico Oil Conservation Division  
1200 South Saint Francis Drive  
Santa Fe, New Mexico 87505**

*On Behalf of:*  
**Southern Union Gas Services, Ltd.  
301 Commerce Street, Suite 700  
Fort Worth, Texas 76102  
Telephone: (817)-302-9400**

*Prepared By:*  
**Geolex, Inc.®  
500 Marquette Avenue, NE, Suite 1350  
Albuquerque, New Mexico 87102  
Telephone: (505) 842-8000**

**GEOLEX**  
INCORPORATED

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

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

Revised June 10, 2003  
Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

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

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

New       Renewal       Modification

1. Type: Adobe Compressor Station (see Section 1.0)
2. Operator: Southern Union Gas Services, L.P. (see Section 2.0)  
  
Address: P.O. Box 1226, Jal, New Mexico 88252  
  
Contact Person: Mr. Randall Dunn      Phone: (505)-395-2116
3. Location: NE 1/4 SW 1/4 Section 23 Township 20S Range 38E  
Submit large scale topographic map showing exact location.  
(see Section 3.0 and Figure 1)
4. Attach the name, telephone number and address of the landowner of the facility site. (see Section 4.0)
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.  
(see Section 6.0 and Figures 4, 5 and 6)
6. Attach a description of all materials stored or used at the facility. (see Section 7.0 and Appendix A)
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included. (see Section 8.0 and Appendix C)
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures. (see Section 9.0)
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems. N/A
10. Attach a routine inspection and maintenance plan to ensure permit compliance. (see Section 10.0, Appendix B)
11. Attach a contingency plan for reporting and clean-up of spills or releases. (see Sections 10.0 and 11.0)
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.  
(see Section 5.0 and Figures 1, 2 and 3)
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders. (see Section 12.0)
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: Mr. Bruce M. Williams      Title: Vice President, Operations  
Signature: *Bruce M. Williams*      Date: March 4, 2008  
E-mail Address: bruce.williams@sug.com

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FIGURE 3:	Drainage Pathways from Adobe Compressor Station
FIGURE 4:	Schematic Site Map, Adobe Compressor Station
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FIGURE 6:	TK-3 Antifreeze Tank and TK-4 Engine Oil Tank

## LIST OF APPENDICES

A:	Material Safety Data Sheets
B:	Standard Operating Procedures for Wastewater Sampling at Compressor Stations
C:	Analytical Data and Documentation
D:	Proposed Notice of Application, Locations and Newspaper for Publication

## 1.0 TYPE OF OPERATION

The Adobe Compressor Station (Adobe Station) is a natural gas compressor station with 330 horsepower. It compresses field gas, removes excess liquids, measures gas volumes, and transports the gas to pipelines. The facility uses a single compressor with a capacity of approximately 10,000,000 standard cubic feet of gas per day.

## 2.0 OPERATOR AND LEGALLY RESPONSIBLE PARTY

The Operator is:

Southern Union Gas Services, Ltd. (SUGS)  
Contact: Mr. Randall Dunn  
P.O. Box 1226  
Jal, New Mexico 88252  
Telephone: (505)-395-2116

The Responsible Party is:

Southern Union Gas Services, Ltd.  
Contact: Mr. Bruce Williams  
301 Commerce St. Suite 700  
Fort Worth, Texas 76102  
Telephone: (817)-302-9421

## 3.0 LOCATION OF DISCHARGE/FACILITY

The Adobe Station is located in the Unit K (NE ¼ of the SW ¼) of Section 23, Township 20 South, Range 38 East in Lea County, New Mexico (32<sup>o</sup> 33.321' North, 103<sup>o</sup> 7.252' West). This location is at an elevation of 3560 feet, approximately 8 miles northeast of Eunice, New Mexico.

## 4.0 LANDOWNER

The land is owned by

McCasland Management, Inc.  
1600 Avenue O  
Eunice, NM 88231  
(505) 394-2553

## 5.0 SITE CHARACTERISTICS

### 5.1 GEOLOGICAL SETTING

The site lies in the Delaware Basin region of the Permian Basin, a thick and complex sequence of primarily marine carbonates which extends from southeastern New Mexico into west Texas. The stratigraphy of the Delaware Basin includes the basal Leonard series (Bone Springs Formation), the overlying Guadalupe series (Brushy Canyon, Cherry Canyon and Bell Canyon formations), and the uppermost Ochoan series, including the Castile and Salado evaporites and the clastic Rustler Formation.

The most recent Quaternary deposits are primarily unstabilized sand dunes, known as the Kermit soils and dune lands. These dunes range locally from zero to 20 feet, and are locally stabilized by vegetation such as mesquite bushes. The Kermit soils exhibit severe potential for blowing erosion, but good properties for road fill and foundations for lower structures (United States Department of Agriculture: *Soil Survey - Lea County, New Mexico*, January 1974, Plate 132, Tables 6, 7 and 8).

#### 5.1.1 Site Area Geology

The Adobe Compressor site is situated on a low, irregular ridge. Surficial deposits consist of sandy aeolian material overlying the Tertiary Ogallala Formation that lies unconformably over the Triassic Dockum Group and the Dewey Lake redbeds of the Permian Rustler Formation (Nicholson and Clebsch, 1961, Plate 1). These units are underlain by the Salado and Castile evaporites, containing salt (halite), potash, gypsum and anhydrite.

#### 5.1.2 Uppermost Aquifer

The three sources of potentially potable drinking water in this area are the sandy to silty Dockum and Dewey Lake beds, which overly the relatively impermeable evaporites of the Salado Formation, the irregular outcrops of the Tertiary Ogallala Formation, and in the local alluvium. Within the Dockum and Dewey Lake units, groundwater occurs in water-table conditions, interspersed with local perched and semi-confined hydrogeological units. These units may lie from 200 to 300 feet below the surface, although there are no well records from this unit in this Township.

The deposits of the Ogallala Formation irregularly crop out in this area, and the contact between the Ogallala and the Triassic beds are commonly obscured by the Quaternary aeolian deposits.

Groundwater also occurs in the local alluvium, at depths of 50 to 75 feet.

#### 5.1.3 Depth to Water, Direction of Groundwater Flow and Quality

Depth to water in the area of Adobe Station is estimated to be approximately 20 to 75 feet, in the local alluvium. According to maps published by Nicholson and Clebsch, (1961), the flow of groundwater in the underlying Ogallala aquifer in the area of Adobe is southwesterly at a gradient of 0.009 (approximately 50 feet per mile). There are no reported wells in the Ogallala Formation in the vicinity of the Adobe site. According to the New Mexico State Engineer's files, the nearest alluvium well with information regarding depth to water is the McCasland well in Section 24, T20S, R38E, approximately one mile northeast of the Adobe location (see Figure 3 and the accompanying Table below).

The nearest data on the total dissolved solids in the local alluvium is from two wells in Section 19, T20S, R38E, where the total dissolved solids ranges from 376 to 627 milligrams per liter (Nicholson and Clebsch, 1961, Table 8, p. 93).

#### 5.1.4 Nearest Potential Groundwater Receptors

According to the New Mexico State Engineer's Office, there are 2 water wells within approximately one mile of the Adobe Compressor Station (Figure 2). The available information on these wells is listed in the Table below.

Location of Water Wells Within One Mile of Adobe Station											
File#	Use	Owner	Tws	Rn	Sec	q	q	q	Date Comp.	Well Depth	Water Depth
L10044	EXP	DALLAS MCCASLAND	20S	38E	24	1	1	1	12/13/1988	53	30
L10055	EXP	DALLAS MCCASLAND	20S	38E	24	1	1	2	na	na	na

#### 5.2 SURFACE WATER

There are no permanent bodies of surface water within one mile of the Adobe Station (Figures 1 and 3). Local drainage is into unnamed, ephemeral arroyos, primarily to the east and northeast.

### 6.0 FACILITY DESCRIPTION

The Adobe Station is a self-contained facility. All wastes, including stormwater which may come in contact with the units, are properly contained for off-site recycling or disposal. The design and operation of the facility was developed to ensure that that no solid or liquid industrial wastes or discharges are released to the ground or the waters of the State of New Mexico.

A schematic map of the facility is included as Figure 4. Field gas passes through the Inlet Scrubber, a tank which allows liquids (hydrocarbon liquids and produced water) to settle and accumulate. These liquids are carried to storage tanks (tank TK-1) by internal piping. These liquids are separated by gravity in the tanks, after which the petroleum liquids are removed by tank truck for recycling and the produced water is removed by tank truck for permitted disposal facilities (see Section 7).

From the Inlet Scrubber, the gas is directed by piping to a second separator, the Suction Scrubber, attached to the inlet of the compressor. The Suction Scrubber is employed to remove any liquids which might have passed through the Inlet Scrubber. The liquids from the Suction Scrubber are piped to the same storage tanks as the liquids from the Inlet Scrubber.

After the final scrubbing, the gas is introduced into the compressor to raise its pressure and transport the gas to transmission pipes, which carry the gas either directly to natural gas process plants, or to additional compressor stations.

The compressor is powered by a natural-gas fueled reciprocating engine, attached directly to the compressor. The engine and compressor are placed on a concrete pad with a curb which contains any leaks and incidental storm water. The natural gas (in the case at the Adobe Station) is obtained from commercial gas pipelines, which supply processed, "sweet" gas from natural gas process plants.

The compressor engine is cooled by a liquid-cycle radiator, filled with a mixture of ethylene glycol antifreeze and water, and is sump-lubricated by conventional motor oil. Supplemental tanks of these fluids, which are automatically replenished as needed, are stored on site.

## 7.0 MATERIALS STORED AND USED AT FACILITY

The materials used at the facility are listed in Table 7-1 below. Photographs of the tanks are shown in Figures 5 through 6 on the following pages. Although not regularly or permanently stored on the site, other miscellaneous materials are used at the facility for maintenance and pipeline service. These include detergents for equipment cleaning, similar detergents for pipeline cleaning during pigging, and methanol for antifreeze operations in the pipelines during the winter months. Applicable MSDS are included in Appendix A.

**Table 7-1: Materials Stored at Adobe Compressor Station**

TYPE	ID	MATERIAL	FORM	VOLUME	LOCATION	CONTAINMENT
Subgrade RFG	TK-1	Scrubber Liquids	Liquid	500 bbl	Southeast Area	Earthen Berm
AGT Poly	TK-2	Scrubber Liquids	Liquid	10 gal	Southeast Area	Drip tank for drain from TK-1
AGT Steel	TK-3	Antifreeze	Liquid	200 gal	East Side of Compressor	Common with compressor pad curb
AGT Steel	TK-4	Compressor Oil	Liquid	200	North Area	Common with compressor pad curb

## 8.0 SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS

The sources and quantities of effluents and solid wastes generated from processes at the Adobe Compressor Station are summarized in Table 8-1 below.

Exempt wastes are generated from the production and processing of petroleum hydrocarbons and gasses and are exempted from hazardous waste regulations under Subtitle C. Non-exempt wastes must be characterized, either by chemical analysis or knowledge of process, to determine their status under all applicable and appropriate hazardous waste regulations. The Adobe Compressor Station facility's waste management system is designed to prevent the commingling of exempt and non-exempt wastes.

**Table 8-1: Waste Sources, Quantities and Regulatory at Adobe Compressor Station**

SOURCE	TYPE OF WASTE	VOLUME	REGULATORY STATUS	STATUS DETERMINATION
Compressor	Used Engine Oil	100-200 gal/month	Non-Exempt	Non-Hazardous per 40 CFR 279.11
	Used Filters	4 per month	Non-Exempt	Non-Hazardous per 40 CFR 261.4
	Wash and storm water from Compressor pad	Washdown 75 to 100 gal/month; stormwater varies	Non-Exempt	Chemical Analysis, knowledge of process
	Sorbent/Rags	Varies	Non-Exempt	Non-Hazardous per 40 CFR 279.11
Scrubbers	Gas Liquids	Varies; 50 to 100 bbl/month	Exempt	EPA Subtitle C
Misc. Trash	Solid Wastes	Varies	Non-Exempt	Knowledge of process

The quality and constituents of the washwater and stormwater from the compressor pad may vary if the types or brands of materials used on the pad (lube oil, antifreeze, and soaps) are changed. For this reason, an initial TCLP analysis of the wastewater has been performed, as a grab sample from the pad sump. The Sampling and Analysis Standard Operating Procedures are included in Appendix B.

The most recent analysis (May 26, 2007) is summarized below in Table 8-2. The complete laboratory analytical report for the May 27, 2006 sample analysis is included in Appendix C. If there are any significant changes in the materials used on the pad, an additional analysis will be performed; using the same collection and analytical methods, prior to the disposal of the wastewater, and the method(s) of disposal will be modified as necessary.

Table 8-2: Wastewater Analyses from Adobe Compressor Station

Date Sampled	3/26/2007		
location	Adobe Compressor Station		
Report #	7C27010		
Matrix	Waste water		
Destination:	unknown		
Volume transported:			
Date:			
Toxicity	Analytical mg/kg	Reg limit (TCLP) mg/kg	Determination
Benzene	0.00337	0.5	Non-hazardous
Mercury	ND	0.2	Non-hazardous
Arsenic	ND	5.0	Non-hazardous
Barium	0.0270	100.0	Non-hazardous
Cadmium	J(0.00140)	1.0	Non-hazardous
Chromium	J(0.00620)	5.0	Non-hazardous
Lead	0.0039	5.0	Non-hazardous
Selenium	0.0334	1.0	Non-hazardous
Silver	ND	5.0	Non-hazardous
<b>Reactive</b>			
Cyanide	ND	250.0	Non-hazardous
pH	6.92 pH units	<2 or >12.5 pH units	Non-hazardous
Sulfide	56.0	500.0	Non-hazardous
<b>Ignitability</b>	>85 deg. C	<60 deg C	Non-hazardous

## 9.0 LIQUID AND SOLID WASTES COLLECTION, STORAGE AND DISPOSAL

The collection, storage, removal and disposal of wastes generated at the Adobe Station are summarized in Table 9-1 below. As determined in Section 8.0 above, the facility does not generate any RCRA hazardous wastes; therefore all wastes are ultimately recycled or by disposed of, in licensed, permitted non-hazardous waste disposal or recycling facilities.

**Table 9-1: Collection, Storage, Removal and Disposal of Wastes at Adobe Compressor Station**

TYPE OF WASTE	COLLECTION	STORAGE	REMOVED BY	DISPOSAL
Scrubber Liquids	Piped to TK-1	TK-1 (500 bbl)	Varies <sup>1</sup>	SUGS Jal #4 for separation and sales.
Used Oils	Drained from Compressor pad or drained from engine sump	Removed during Service, Not stored on site	Quail Petroleum Services	Available Permitted Recycler
Used Filters/Sorbents	Filters drained to container on pad; rags and sorbents to dumpster.	Dumpster	Quail Petroleum Services	Available Permitted Recycler
Wash and Storm Water	Contained on pad	Removed during Service, Not stored on site	Varies <sup>1</sup>	Nearest Available Permitted Facility
Spent Antifreeze	Disposal Truck	Removed during Service, Not stored on site	Quail Petroleum Services	Available Permitted Recycler
Solid Wastes	Trash Barrel	Trash Barrel	SUGS	Lea County Solid Waste Authority

1: Scrubber liquids are transported by either (depending on availability) Quality Transports, Chaparral Services, Riverside Trucking, FULCO Services, or Rapid Transports.

## 10.0 INSPECTION, MAINTENCE AND REPORTING

In accordance with SUGS policy, the Adobe Station and all other active compressor stations are inspected each working day (Monday-Friday) by an appropriately trained technician. This individual visually inspects the waste management systems, including the levels in all tanks and the presence of any liquids in any containment structures.

Based on the knowledge of the operations at the Adobe Station, regular visits are scheduled for removal of wastes. Any apparent problems noted in daily inspections are notified immediately to the SUGS environmental director, who then dispatches the necessary employees, equipment and contractors to address the problem.

The compressor station is also monitored by telemetry (powered by solar batteries) to the SUGS control facility. This telemetry transmits operating parameters including system pressure, temperature, inlet and outlet flows, and other information. This provides an early warning in the event that any equipment is out of its operating parameters, allowing an immediate inspection if warranted.

Due to the non-discharge design of the system, no groundwater monitoring is required or employed at the Adobe Station.

Current TCLP analyses of wastewaters from the compressor pad indicate that the water is non-hazardous. Compressor pad wastewater will be reanalyzed for TCLP parameters if significantly different materials (e.g., oils, antifreeze, soaps) are used on the pad to reestablish the water's status.

## 11.0 SPILL AND LEAK PREVENTION AND REPORTING

As described in Section 10.0 above, the facility is inspected on a regular basis (Monday-Friday). Any spills will be addressed in accordance with NMOCD Rule 116 and 20.6.2.1203 NMAC.

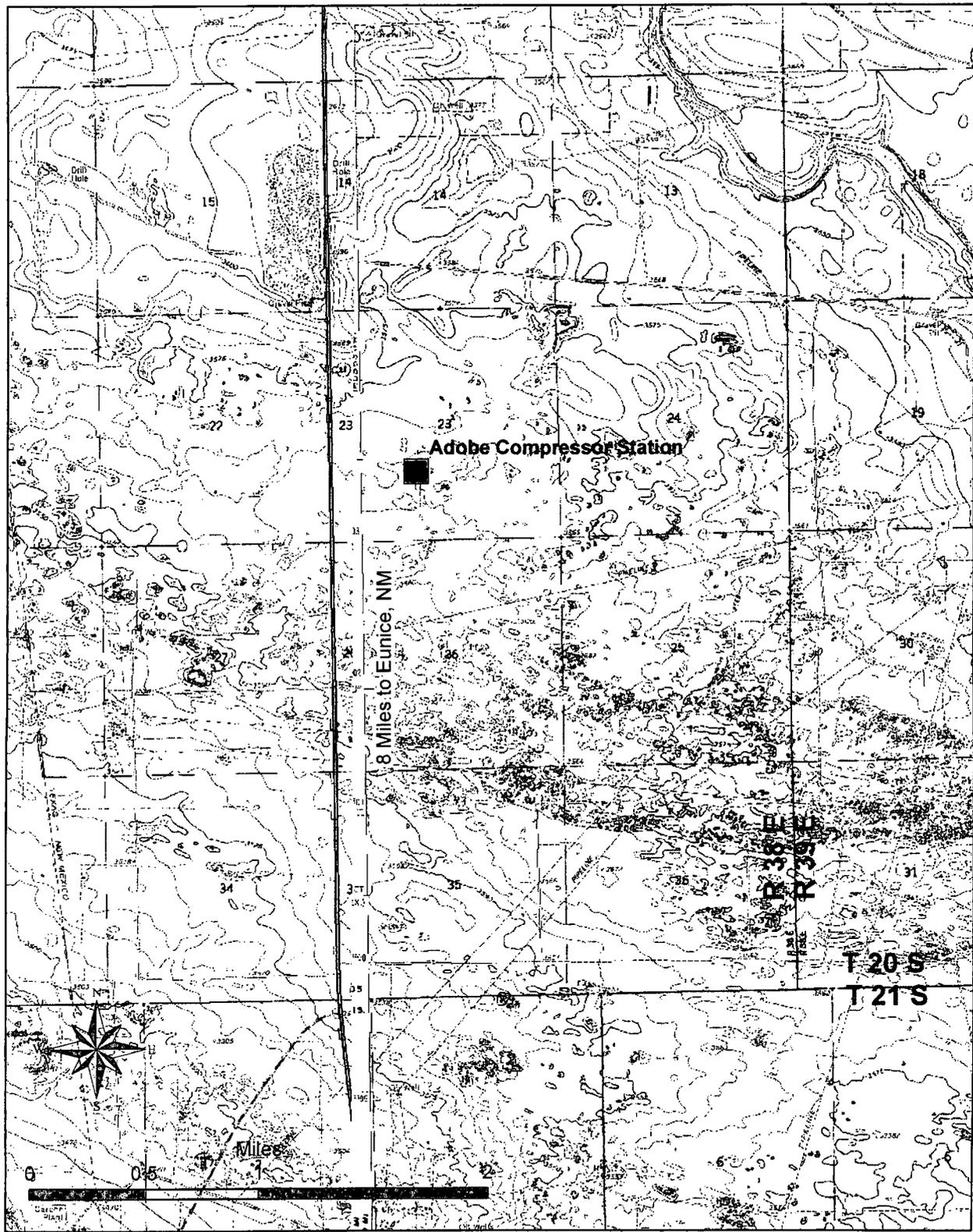
## 12.0 CLOSURE PLAN

Upon removal from service, the Adobe Station facility will be closed by:

- Disconnect and close all pipelines, gas, electrical and other utilities,
- Dismantle and remove all equipment,
- Collect and analyze an appropriate number of soil samples to verify that no contaminated soils exist,
- Regrade and revegetate the site in accordance with any applicable bonds and/or other regulations.

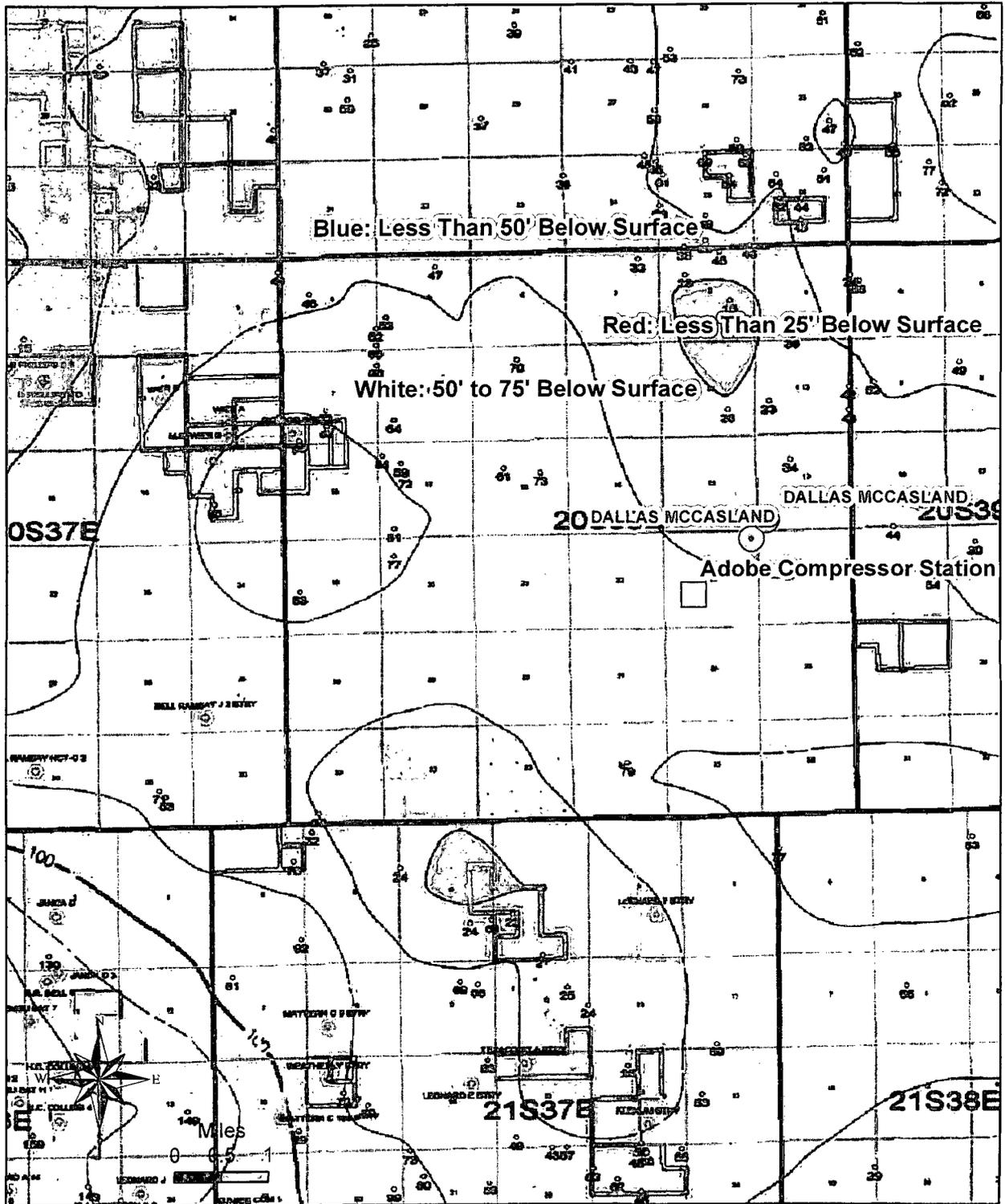
A report will be developed documenting the closure, and will be provided to NMOCD upon request.

**FIGURES**



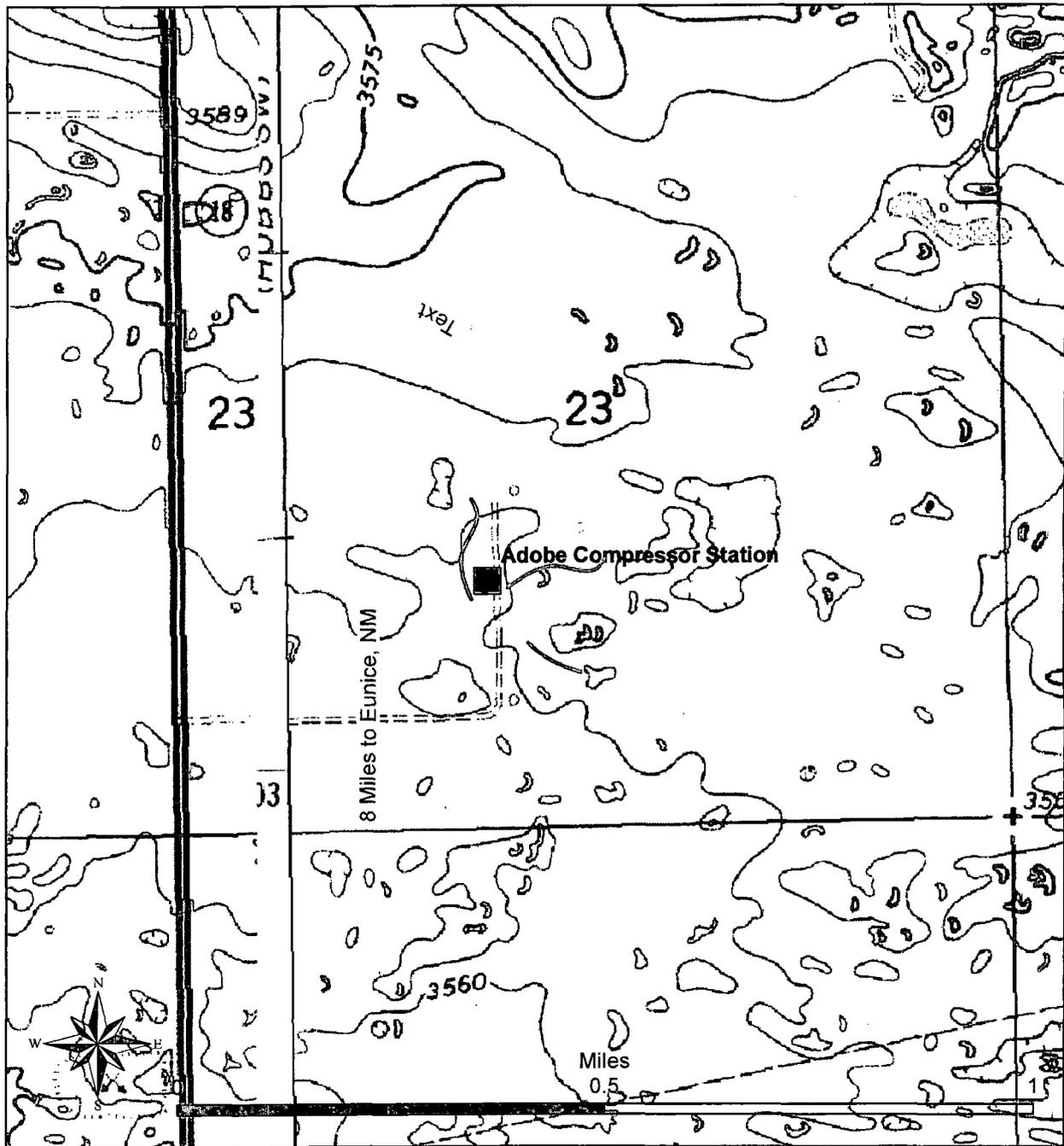
**Figure 1: Location of Southern Union Gas Services, Ltd.  
Adobe Compressor Station**

■ Adobe Compressor Station



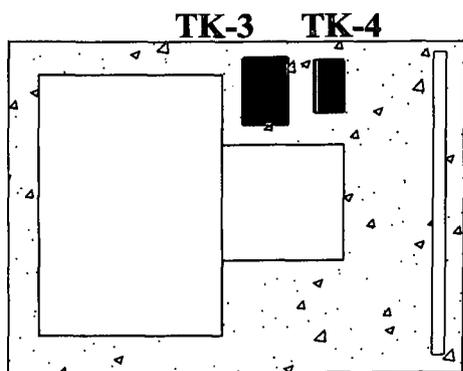
**Figure 2:**  
**Depth to Groundwater in and Water Wells**  
**in Vicinity of Adobe Compressor Station**

□ Adobe Compressor Station  
 ● Water Wells

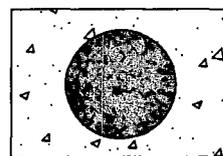


**Figure 3:**  
**Drainage Pathways Adjacent to Adobe Compressor Station**

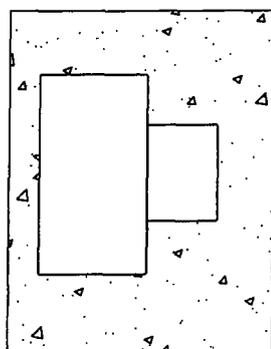
-  Drainage Path
-  Adobe Compressor Station



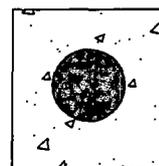
**Engine and Active Compressor**



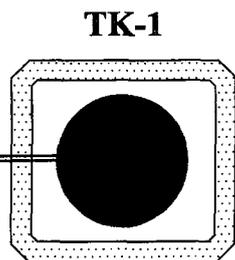
**Scrubber**



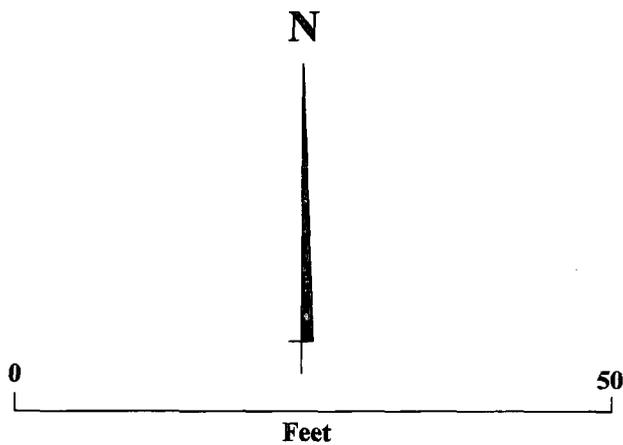
**Unused Compressor**



**Sweetner**



**Earthen Berm**



**Electrical Controls**



**Figure 4:  
Plan Schematic, Adobe Compressor Station**

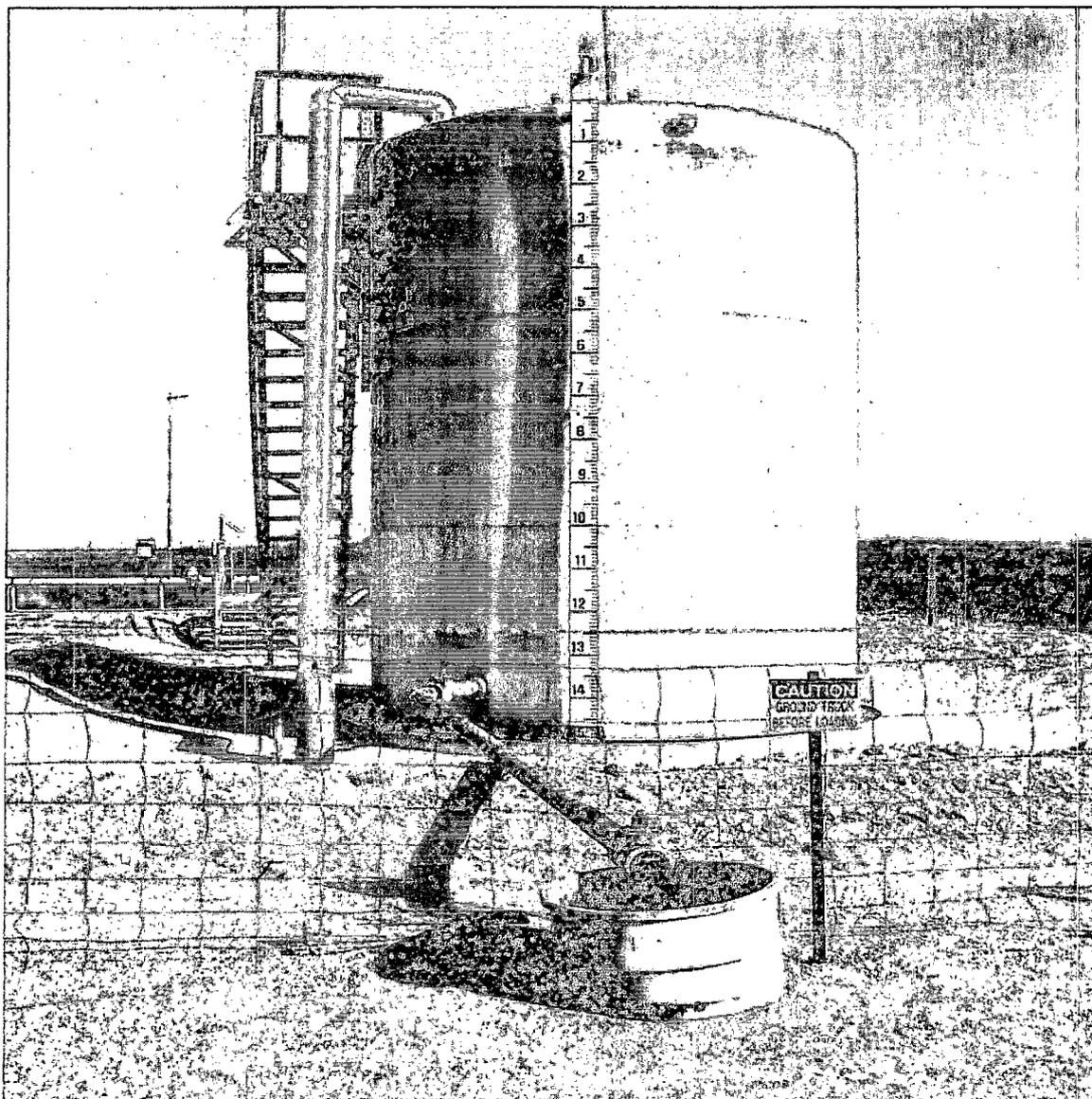


Figure 5: Tanks TK-1 and TK-2

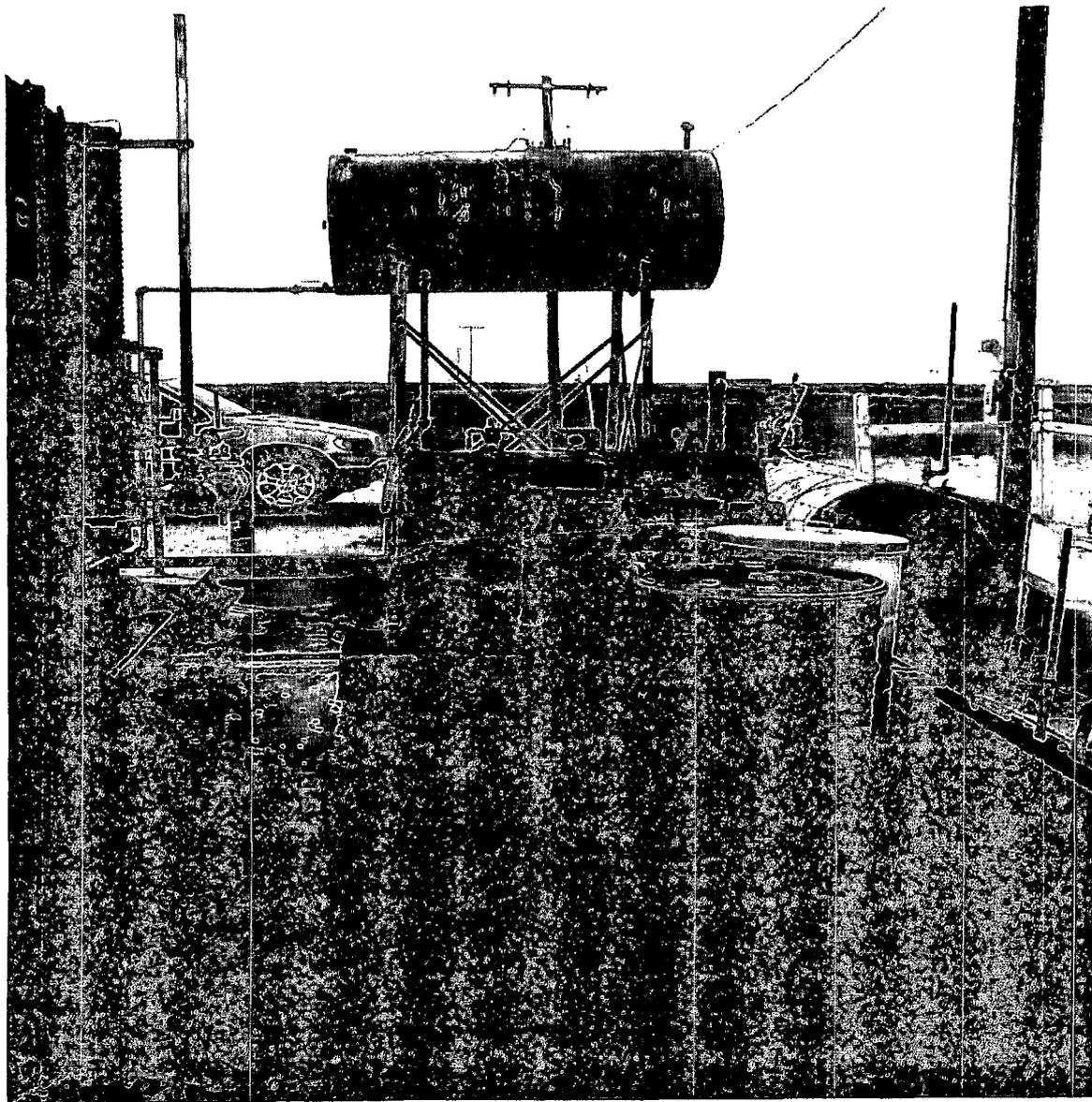


Figure 6: Tanks TK-3 and TK-4 in concrete containment with active compressor

APPENDIX A:  
MATERIAL SAFETY DATA SHEETS

## Praxair Material Safety Data Sheet

## I. Chemical Product and Company Identification

Product Name: Natural gas	Trade Name: Natural gas
Product Use: Heating fuel.	
Chemical Name: Natural Gas, compressed	Synonym: Methane natural gas
Chemical Formula: Mixture of CH <sub>4</sub> , C <sub>2</sub> H <sub>6</sub> , C <sub>3</sub> H <sub>8</sub> , & C <sub>4</sub> H <sub>10</sub>	Chemical Family: Hydrocarbons
Telephone: Emergencies: * 1-800-363-0042	Supplier: Praxair Canada Inc. /Manufacture: 1 City Centre Drive Suite 1200 Mississauga, ON L5B 1M2 Phone: 905-803-1600 Fax: 905-803-1682

*\*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier or Praxair sales representative.*

## 2. Composition and Information on Ingredients

INGREDIENTS	% (VOL)	CAS NUMBER	LD <sub>50</sub> (Species & Routes)	LC <sub>50</sub> (Rat, 4 hrs.)	TLV-TWA (ACGIH)
Natural gas (predominantly methane)	100	8006-14-2	Not applicable.	Not available.	None established.

## 3. Hazards Identification

## Emergency Overview

**DANGER!** Flammable, high-pressure gas. May form explosive mixture with air. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers.

ROUTES OF EXPOSURE: Inhalation. Eye contact.

THRESHOLD LIMIT VALUE: TLV-TWA Data from 2004 Guide to Occupational Exposure Values (ACGIH). TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

## EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

**INHALATION:** Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting and unconsciousness. Lack of oxygen can kill.

**SKIN CONTACT:** No harmful effects expected from vapour.

**SKIN ABSORPTION:** No evidence of adverse effects from available information.

**SWALLOWING:** An unlikely route of exposure. This product is a gas at normal temperature and pressure.

**EYE CONTACT:**

Vapour may cause irritation.

**EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:**

None.

**OTHER EFFECTS OF OVEREXPOSURE:**

None known.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:**

None known.

**SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:**

None.

**CARCINOGENICITY:**

Not listed as carcinogen by OSHA, NTP or IARC.

**4. First Aid Measures**

**INHALATION:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**SKIN CONTACT:**

Abrasions: clean with soap and water then bandage.

Burns: seek medical attention.

**SWALLOWING:**

Not applicable (gas).

**EYE CONTACT:**

Flush with water. If irritation persists, call a physician.

**NOTES TO PHYSICIAN:**

*There is no specific antidote. Treatment of over-exposure should be directed at the control of symptoms and the clinical condition.*

**5. Fire Fighting Measures**

<b>FLAMMABLE :</b> Yes.	<b>IF YES, UNDER WHAT CONDITIONS?</b>	Forms explosive mixtures with air and oxidizing agents.
-------------------------	---------------------------------------	---

<b>FLASH POINT (test method)</b> Not applicable.	<b>AUTOIGNITION TEMPERATURE</b> 482°C (899.6°F)
--	---

<b>FLAMMABLE LIMITS IN AIR, % by volume:</b>	<b>LOWER:</b> 3.8	<b>UPPER:</b> 17
--	-------------------	------------------

**EXTINGUISHING MEDIA:**

CO2, dry chemical, water spray or fog.

**SPECIAL FIRE FIGHTING PROCEDURES:**

**DANGER!** Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance taking care not to extinguish flames. Remove ignition source if without risk. If flames are accidentally extinguished. Explosive re-ignition may occur; therefore, appropriate measures should be taken; e.g., total evacuation. Re-approach with extreme caution. Use self-contained breathing apparatus. Stop flow of gas if without risk while continuing cooling water spray. Remove all containers from area if without risk. Allow fire to burn out.

**UNUSUAL FIRE AND EXPLOSION HAZARD:**

Extremely flammable gas in presence of open flame and sparks. Slightly flammable in presence of heat.

**HAZARDOUS COMBUSTION PRODUCTS:**

These products are carbon oxides (CO, CO<sub>2</sub>).

**SENSITIVITY TO IMPACT:**

Avoid impact against container.

**SENSITIVITY TO STATIC DISCHARGE:**

Possible.

## 6. Accidental Release Measures

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

**DANGER!** Flammable, high-pressure gas. Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce gas with fog or fine water spray. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device.

**WASTE DISPOSAL METHOD:**

Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard and product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, provincial, and local regulations. If necessary, call your local supplier for assistance.

## 7. Handling and Storage

**PRECAUTIONS TO BE TAKEN IN STORAGE:**

Store and use with adequate ventilation. Separate flammable cylinders from oxygen, chlorine, and other oxidizers by at least 6 m or use a barricade of non-combustible material. This barricade should be at least 1.5 m high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 52 C. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

**PRECAUTIONS TO BE TAKEN IN HANDLING:**

Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. For other precautions, see Section 16.

For additional information on storage and handling, refer to Compressed Gas Association (CGA) pamphlet P-1, *Safe Handling of Compressed Gases in Containers*, available from the CGA. Refer to Section 16 for the address and phone number along with a list of other available publications.

**OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:**

**Flammable high-pressure gas.** Use only in a closed system. Use piping and equipment adequately designed to withstand pressures to be encountered. Use only spark-proof tools and explosion-proof equipment. Keep away from heat, sparks, and open flame. **May form explosive mixtures with air.** Ground all equipment. **Gas can cause rapid suffocation due to oxygen deficiency.** Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. **Prevent reverse flow.** Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. **When returning cylinder to supplier,** be sure valve is closed, then install valve outlet plug tightly. **Never work on a pressurized system.** If there is a leak, close the cylinder valve. Vent the system down in a safe and environmentally sound manner in compliance with all federal, provincial, and local laws; then repair the leak. **Never place a compressed gas cylinder where it may become part of an electrical circuit.**

**8. Exposure Controls/Personal Protection**

**VENTILATION/ENGINEERING CONTROLS:**

**LOCAL EXHAUST:** An explosion-proof local exhaust system is acceptable. See SPECIAL.

**MECHANICAL (general):** Inadequate. See SPECIAL.

**SPECIAL:** Use only in a closed system.

**OTHER:** None.

**PERSONAL PROTECTION:**

**RESPIRATORY PROTECTION:** 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 in accordance with the provincial regulations or guidelines. Selection should also be based on the current CSA standards Z94.4, "Selection, care and use of respirators". Respirators should be approved by NIOSH and MSHA.

**SKIN PROTECTION:** Wear work gloves when handling cylinders.

**EYE PROTECTION:** Wear safety glasses when handling cylinders.

Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

**OTHER PROTECTIVE EQUIPMENT:** Metatarsal shoes for cylinder handling. Protective clothing where needed. Cuffless trousers should be worn outside the shoes. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines.

**9. Physical and Chemical Properties**

<b>PHYSICAL STATE:</b> Gas. (Compressed Gas.)	<b>FREEZING POINT:</b> Not available.	<b>pH:</b>	Not applicable.
<b>BOILING POINT</b> -164°C (-263.2°F)	<b>VAPOUR PRESSURE</b> Not applicable.	<b>MOLECULAR WEIGHT:</b>	17.66 g/mole
<b>SPECIFIC GRAVITY: LIQUID ( Water = 1)</b> Not applicable.	<b>SOLUBILITY IN WATER,</b> Very slightly soluble in cold water.		
<b>SPECIFIC GRAVITY: VAPOUR (air = 1)</b> 0.55	<b>EVAPORATION RATE (Butyl Acetate=1):</b> Not available.	<b>COEFFICIENT OF WATER/OIL DISTRIBUTION:</b>	Not applicable.
<b>VAPOUR DENSITY:</b> 0.615	<b>% VOLATILES BY VOLUME:</b> 100% (w/v).	<b>ODOUR THRESHOLD:</b>	0.001 ppm
<b>APPEARANCE &amp; ODOUR:</b> Colourless.		Odour: Faint, disagreeable. (Slight.)	

**10. Stability and Reactivity**

STABILITY:	The product is stable.
CONDITIONS OF CHEMICAL INSTABILITY:	Not available.
INCOMPATIBILITY (materials to avoid):	Oxidizing agents in the presence of ignition source.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition or burning may produce carbon monoxide/carbon dioxide and possible trace amounts of sulphur dioxide and oxides of nitrogen.
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS OF REACTIVITY:	None known.

**11. Toxicological Information**

See section 3.

**12. Ecological Information**

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. The components of this mixture are not listed as marine pollutants by TDG Regulations.

**13. Disposal Considerations**

**WASTE DISPOSAL METHOD:** Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

**14. Transport Information**

**TDG/IMO SHIPPING NAME:** Natural Gas, Compressed

HAZARD CLASS:	IDENTIFICATION #:	PRODUCT RQ:
C L A S S 2 . 1 : Flammable gas.	1971	100 L

**SHIPPING LABEL(s):** Flammable gas

**PLACARD (when required):** Flammable gas

**SPECIAL SHIPPING INFORMATION:**

Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of vehicle can present serious safety hazards.

**15. Regulatory Information**

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, provincial, and local regulations.

Product Name: Natural gas

MSDS# E-4550-B

Date: 10/15/2004

WHMIS (Canada) CLASS A: Compressed gas.  
CLASS B-1: Flammable gas.

**International Regulations**

EINECS Not available.

DSCL (EEC) This product is not classified according to the EU regulations.

International Lists No products were found.

**16. Other Information**

**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.

**HAZARD RATING SYSTEM:**

**HMIS RATINGS:**

HEALTH 0

FLAMMABILITY 4

PHYSICAL HAZARD 0

**STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:**

THREADED: 0 - 3000 psig: CGA-350

PIN-INDEXED YOKE: Not applicable.

ULTRA-HIGH-INTEGRITY Not applicable.

**CONNECTION:**

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlets V-1 and V-7 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, Fax (703) 961-1831, website: [www.cganet.com](http://www.cganet.com).

- AV-1 Safe Handling and Storage of Compressed Gas
- P-1 Safe Handling of Compressed Gases in Containers
- P-14 Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres
- SB-2 Oxygen-Deficient Atmospheres
- V-1 Compressed Gas Cylinder Valve Inlet and Outlet Connections
- V-7 Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures
- Handbook of Compressed Gases, Fourth Edition

**PREPARATION INFORMATION:**

DATE: 10/15/2004

DEPARTMENT: Safety and Environmental Services

TELEPHONE: 905-803-1600

Product Name: Natural gas

MSDS# E-4550-B

Date: 10/15/2004

The opinions expressed herein are those of qualified experts within Praxair Canada Inc. 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 the conditions of use of the product are not within the control of Praxair Canada Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair Canada Inc. requests the users of this product to study this Material 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.

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Suite 1200  
Mississauga, ON L5B 1M2

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# Material Safety Data Sheet

## NATURAL GAS CONDENSATE

April 28, 1995

PHILLIPS PETROLEUM COMPANY  
Bartlesville, Oklahoma 74004

PHONE NUMBERS  
Emergency: (918) 661-8118  
General MSDS Information: (918) 661-8327  
For Additional MSDSs: (918) 661-5952

### A. Product Identification

Synonyms: Drip; Hydrocarbon gas drip; Gas drip  
Chemical Name: Natural gas condensate  
Chemical Family: Mixture  
Chemical Formula: Mixture  
CAS Reg. No.: 68919-39-1  
Product No.: Not Established

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

### B. Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Hydrogen sulfide	7783-06-4	0-20	10 ppm	10 ppm
C2 Hydrocarbons (As ethane)	Various	0-5	NE	Simple
Asphyxiant				
C3 Hydrocarbons (As propane)	Various	0-15	1000 ppm	Simple
Asphyxiant				
C4 Hydrocarbons (As butane)	Various	0-45	800 ppm	800 ppm
C5 Hydrocarbons (As pentane)	Various	5-70	600 ppm	600 ppm
C6 Hydrocarbons (As n-hexane)	Various	25-95	50 ppm(1)	50 ppm(1)
may include: Cyclohexane	110-82-7	NE	300 ppm	300 ppm
C7 Hydrocarbons (As heptane)	Various	25-95	400 ppm	400 ppm
C8 Hydrocarbons (As octane)	Various	25-95	300 ppm	300 ppm
Aromatic Hydrocarbons	Various	0-10	NE	NE
may include: Benzene	71-43-2	NE	1 ppm(2)	10 ppm
Toluene	108-88-3	NE	100 ppm	100 ppm
Mixed xylene	1330-20-7	NE	100 ppm	100 ppm
Ethylbenzene	100-41-4	NE	100 ppm	100 ppm

(1) As n-Hexane. As Hexane isomers 500 ppm.

(2) Areas exempted by the Benzene Standard, 29 CFR 1910.1028, will have a 10 ppm 8 hour TWA.

## C. Personal Protection Information

Ventilation: Use adequate ventilation to control exposure below recommended levels.

Respiratory Protection: For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air supplied respirator. In case of spill or leak resulting in unknown concentrations, use NIOSH/MSHA approved supplied air respirator.

Eye Protection: Use chemical goggles.

Skin Protection: Use full-body, long-sleeved garments. Use polyvinyl alcohol or Buna-N gloves.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

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## D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapor, mist, fume or dust. May be harmful. Proper personal protective equipment must be used when handling this chemical. Launder contaminated clothing before reuse. Wash thoroughly after handling. Use only with adequate ventilation. Do not swallow. May be aspirated into lungs.

Store in a well-ventilated area. Store in tightly closed container. Keep away from heat, sparks, and flames. Bond and ground during transfer.

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## E. Reactivity Data

Stability: Stable  
Conditions to Avoid: Not Applicable  
Incompatibility (Materials to Avoid): Oxygen and strong oxidizing materials

Hazardous Polymerization: Will Not Occur  
Conditions to Avoid: Not Applicable  
Hazardous Decomposition Products: Carbon oxides and various hydrocarbons formed when burned. Sulfur oxides may be formed if hydrogen sulfide is present.

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## F. Health Hazard Data

### Recommended Exposure Limits:

See Section B.

### Acute Effects of Overexposure:

Eye: May cause irritation including pain, blurred vision,

redness, tearing and superficial corneal turbidity.

Skin: May cause slight irritation. Extreme exposure may produce discoloration, muscle weakness, breathing difficulties and other central nervous system effects.

Inhalation: Toxic by this route of exposure. May cause nausea, diarrhea, loss of appetite, dizziness, disorientation, headache, excitation, rapid respiration, drowsiness, labored breathing, anesthesia and other central nervous system effects. Hydrogen sulfide may cause lung paralysis and asphyxiation. Extreme overexposure may cause rapid unconsciousness and respiratory arrest.

Ingestion: May be mildly irritating to intestines. If swallowed, may be aspirated resulting in inflammation and possible fluid accumulation in the lungs.

**Subchronic and Chronic Effects of Overexposure:**

Benzene has been designated as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), and the Occupational Safety and Health Administration (OSHA). Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphocytic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms.

Chronic high level n-hexane exposure damages the nervous system initially producing a lack of feeling in the extremities and possibly progressing to a more severe nerve damage.

Inhalation of high levels (1000 and 5000 ppm) of n-hexane has produced testicular damage in rats. Mice exposed to the same dose levels showed no testicular effects.

**Other Health Effects:**

The odor of hydrogen sulfide may not be recognized after prolonged inhalation due to paralysis of the sense of smell. Effects from inhaling the fume may lead to chronic bronchitis, respiratory irritation, increased loss of pulmonary function, and tearing of the eyes.

Some isoparaffins have produced kidney damage in male rats only. No comparable kidney disease is known to occur in humans.

**Health Hazard Categories:**

	Animal	Human		Animal	Human
Known Carcinogen	<u>  X  </u>	<u>  X  </u>	Toxic	<u>  X  </u>	<u>    </u>
Suspect Carcinogen	<u>    </u>	<u>    </u>	Corrosive	<u>    </u>	<u>    </u>
Mutagen	<u>  X  </u>	<u>    </u>	Irritant	<u>    </u>	<u>    </u>
Teratogen	<u>    </u>	<u>    </u>	Target Organ Toxin	<u>  X  </u>	<u>  X  </u>
Allergic Sensitizer	<u>    </u>	<u>    </u>	Specify - Nerve Toxin; Liver and Kidney		
Highly Toxic	<u>    </u>	<u>    </u>	Toxin; Lung-Aspiration Hazard		

**First Aid and Emergency Procedures:**

Eye: Flush eyes with running water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Immediately remove from exposure. If breathing is difficult, give oxygen. If breathing ceases, administer artificial respiration followed by oxygen. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

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## G. Physical Data

Appearance: Colorless to dark liquid  
Odor: Rotten egg odor if hydrogen sulfide is present.  
Boiling Point: Not Established  
Vapor Pressure: < 40 psia @ 70F (21C) (Estimated)  
Vapor Density (Air = 1): >1  
Solubility in Water: Negligible  
Specific Gravity (H2O = 1): 0.5-0.7 (Estimated)  
Percent Volatile by Volume: 100  
Evaporation Rate (Butyl Acetate = 1): >1  
Viscosity: < 40 SUS @ 68F (20C)

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## H. Fire and Explosion Data

Flash Point (Method Used): <-100F (<-73C) (Estimated)  
Flammable Limits (% by Volume in Air): LEL - Not Established  
UEL - Not Established

Fire Extinguishing Media: Dry chemical, foam or carbon dioxide (CO2)

Special Fire Fighting Procedures: Evacuate area of all unnecessary personnel. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Shut off source, if possible. Water fog or spray may be used to cool exposed equipment and containers. Allow fire to burn until gas flow is shut off, if possible.

Fire and Explosion Hazards: Carbon oxides and possibly sulfur oxides formed when burned. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site.

## I. Spill, Leak and Disposal Procedures

### Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible. Protect from ignition. Ventilate area thoroughly.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):  
Incinerate or otherwise manage at a RCRA permitted waste management facility.

## J. DOT Transportation

For Natural Gas Condensate with an IBP < 68F

Shipping Name: Hydrocarbon gases mixtures, liquefied, n.o.s.  
(contains Propanes and Butanes)  
Hazard Class: 2.1 (Flammable gas)  
ID Number: UN 1965  
Packing Group: Not applicable  
Marking: Hydrocarbon gases mixtures, liquefied,, n.o.s.  
(contains Propanes and Butanes), UN 1965, RQ\*  
Label: Flammable gas  
Placard: Flammable gas/1965  
Hazardous Substance/RQ: Benzene/10#; Toluene/1000#; Cyclohexane/1000#;  
Xylene/1000#; Ethylbenzene/1000#  
Shipping Description: Hydrocarbon gases mixtures, liquefied, n.o.s.  
(contains Propanes and Butanes), 2.1  
(Flammable gas), UN 1965, RQ\*  
Packaging References: 49 CFR 173.304, 173.306, 173.314, 173.315

\*Enter the letters "RQ" and the name of the hazardous substance as shown only if the hazardous substance is present in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) shown for the hazardous substance.

For Natural Gas Condensate with an IBP > 68F

Shipping Name: Natural gasoline  
Hazard Class: 3 (Flammable liquid)  
ID Number: UN 1257  
Packing Group: I (if IBP < 95F) or II (if IBP > 95F)  
Marking: Natural gasoline, Un 1257, RQ\*  
Label: Flammable liquid  
Placard: Flammable liquid/1257  
Hazardous Substance/RQ: Benzene/10#; Toluene/1000#; Cyclohexane/1000#;  
Xylene/1000#; Ethylbenzene/1000#  
Shipping Description: Natural gasoline, 3 (Flammable liquid),  
UN 1257, PG I or II, RQ\*  
Packaging References: 49 CFR 173.150, 173.201, 173.202, 173.242, 173.243

\*Enter the letters "RQ" and the name of the hazardous substance as shown only if the hazardous substance is present in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) shown for the hazardous substance.

## K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

Prior to disposal, consult your environmental contact to determine if TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

## L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

## M. Hazard Classification

This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Section F)	<input type="checkbox"/> Unstable
<input checked="" type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

## N. Additional Comments

SARA 313

This product contains the following chemical or 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. (See Section B).

Hexane  
Benzene  
Toluene  
Mixed xylene  
Ethylbenzene  
Cyclohexane

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## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

Product Name: ESSOLUBE XDI 5W-30 PROPANE/CNG ENGINE OIL  
Product Description: Base Oil and Additives  
Product Code: 15036  
Intended Use: Engine oil

#### COMPANY IDENTIFICATION

Supplier: Canada Imperial Oil Limited, An Affiliate of Exxon Mobil Corporation  
P.O. Box 4029, Station A  
Calgary, ALBERTA. T2P 3M9 Canada  
24 Hour Health Emergency 519-339-2145  
Transportation Emergency Phone 519-339-2145  
Supplier General Contact 1-800-567-3776

### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

### SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0
HMIS Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

### SECTION 4 FIRST AID MEASURES

#### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

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## SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

## SECTION 5

### FIRE FIGHTING MEASURES

#### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

#### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Sulfur oxides, Incomplete combustion products, Oxides of carbon, Aldehydes, Smoke, Fume

#### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** 200C (392F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** 315°C (599°F)

## SECTION 6

### ACCIDENTAL RELEASE MEASURES

#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

#### SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other

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shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:** When mists / aerosols can occur, the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV, 10 mg/m<sup>3</sup> - ACGIH STEL, 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

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

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

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

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For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

### GENERAL INFORMATION

**Physical State:** Liquid

**Form:** Clear

**Color:** Amber

**Odor:** Characteristic

**Odor Threshold:** N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 C):** 0.86

**Flash Point [Method]:** 200C (392F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** 315°C (599°F)

**Boiling Point / Range:** 340C (644F) - 600C (1112F)

**Vapor Density (Air = 1):** > 2 at 101 kPa

**Vapor Pressure:** [N/D at 20 °C] | < 1 kPa (7.5 mm Hg) at 38C

**Evaporation Rate (n-butyl acetate = 1):** < 0.1

**pH:** N/A

**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5

**Solubility in Water:** Negligible

**Viscosity:** >20 cSt (20 mm<sup>2</sup>/sec) at 40 C | 10.7 cSt (10.7 mm<sup>2</sup>/sec) at 100C

**Oxidizing Properties:** See Sections 3, 15, 16.

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**OTHER INFORMATION**

Freezing Point: N/D  
 Melting Point: N/A  
 Pour Point: -30°C (-22°F)  
 DMSO Extract (mineral oil only), IP-346: < 3 %wt

**SECTION 10 STABILITY AND REACTIVITY**

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY**

Route of Exposure	Conclusion / Remarks
<b>Inhalation</b>	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
<b>Ingestion</b>	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
<b>Skin</b>	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
<b>Eye</b>	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

**CHRONIC/OTHER EFFECTS**

**For the product itself:**

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

**Contains:**



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Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC  
2 = NTP SUS

3 = IARC 1  
4 = IARC 2A

5 = IARC 2B  
6 = OSHA CARC

**SECTION 12 ECOLOGICAL INFORMATION**

The information given is based on data available for the material, the components of the material, and similar materials.

**ECOTOXICITY**

Material -- Not expected to be harmful to aquatic organisms.

**MOBILITY**

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

**PERSISTENCE AND DEGRADABILITY**

**Biodegradation:**

Base oil component -- Expected to be inherently biodegradable

**BIOACCUMULATION POTENTIAL**

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**DISPOSAL RECOMMENDATIONS**

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration.

**REGULATORY DISPOSAL INFORMATION**

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous



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waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning** PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

**SECTION 14 TRANSPORT INFORMATION**

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

**SECTION 15 REGULATORY INFORMATION**

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** DSL, TSCA

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 9, 18
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

- |               |              |                   |             |
|---------------|--------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1  | 7 = TSCA 5e  | 12 = CA RTK       | 17 = NJ RTK |
| 3 = ACGIH A2  | 8 = TSCA 6   | 13 = IL RTK       | 18 = PA RTK |



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4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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N/D = Not determined, N/A = Not applicable

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

No revision information is available.

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Internal Use Only

MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 5013285 (1002629)

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USED OIL



**MATERIAL SAFETY INFORMATION SHEET**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** USED OIL

**SYNONYMS:** Waste oil; Used lubricating oil; Oil and water mixture

**PRODUCT PART NUMBER(S):** Not applicable.

**PRODUCT USE:** Oil or water mixture for re-refining or reprocessing.  
If this product is used in combination with other products, refer to the Material Safety Data Sheets for those products.

These numbers are for emergency use only. If you desire non-emergency product information, please call a phone number listed below.	24-HOUR EMERGENCY PHONE NUMBERS	
	MEDICAL:	TRANSPORTATION (SPILL):
	1-800-752-7869	1-800-468-1760

**MANUFACTURER/ SUPPLIER:** Safety-Kleen Systems, Inc.  
5400 Legacy Drive  
Cluster II, Building 3  
Plano, Texas 75024  
USA  
1-800-669-5740  
[www.Safety-Kleen.com](http://www.Safety-Kleen.com)

**TECHNICAL INFORMATION:** 1-800-669-5740 Press 1 then 1 then Extension 7500

**MSDS FORM NUMBER:** 81451

**ISSUE:** May 12, 2004

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**SUPERSEDES:** February 6, 2003

**PREPARED BY:** Product MSDS Coordinator

**APPROVED BY:** MSDS Task Force

# USED OIL MATERIAL SAFETY INFORMATION SHEET

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

WT%	NAME	SYNONYM	CAS NO.	OSHA PEL		ACGIH TLV®		LD <sup>a</sup>	LC <sup>b</sup>
				TWA	STEL	TWA	STEL		
80 to 100	Lubricating oils, used	Used oil	70514-12-4	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 20*	Water/solids	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 10*	Hydrocarbon solvents. May include gasoline, diesel fuel, jet fuel, mineral spirits, etc.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.5*	Metals. May include lead, iron, zinc, copper, chromium, arsenic, nickel, and others: each below 1.0 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.0*	Polynuclear aromatics. May include naphthalene, fluoranthene, phenanthrene, pyrene, and others: each below 0.3 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 0.5*	Chlorinated solvents.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.

N.Av. = Not Available

\*Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

<sup>a</sup>Oral-Rat LD<sub>50</sub> (mg/kg)

<sup>b</sup>Inhalation-Rat LC<sub>50</sub>

## SECTION 3: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### APPEARANCE

Liquid, black and viscous (thick), petroleum odor.

#### WARNING!

#### PHYSICAL HAZARDS

Combustible liquid.

#### HEALTH HAZARDS

May be harmful if inhaled.

May be harmful if absorbed through skin.

May be harmful or fatal if swallowed.

May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.

Suspect cancer hazard. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Contains material which can cause birth defects.

Contains material which can cause lung, liver, kidney, skin, and/or central nervous system damage.

#### ENVIRONMENTAL HAZARDS

Product may be toxic to fish, plants, wildlife, and/or domestic animals.

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

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**POTENTIAL HEALTH EFFECTS**

Effects may vary depending on material composition. Typical effects may include:

**INHALATION (BREATHING):** High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

**EYES:** May cause irritation.

**SKIN:** May cause irritation. Product may be absorbed through the skin and cause harm as noted under **INHALATION (BREATHING)**.

**INGESTION (SWALLOWING):** May be harmful or fatal if swallowed. May cause throat irritation, nausea, vomiting, and central nervous system effects as noted under **INHALATION (BREATHING)**. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with pre-existing cardiovascular, liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**CHRONIC:** Prolonged or repeated inhalation may cause oil pneumonia, lung tissue inflammation, fibrous tissue formation, and/or toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

**CANCER INFORMATION:** This product contains mineral oils, untreated or mildly treated, which can cause cancer. This product may contain hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics which can cause cancer. Risk of cancer depends on duration and level of exposure. For more information, see **SECTION 11: CARCINOGENICITY**.

**POTENTIAL ENVIRONMENTAL EFFECTS**

Product may be toxic to fish, plants, wildlife, and/or domestic animals.

Also see **SECTION 12: ECOLOGICAL INFORMATION**.

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

**SECTION 4: FIRST AID MEASURES**

**INHALATION:  
(BREATHING)** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

**EYES:** If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

**SKIN:** Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.

**INGESTION:  
(SWALLOWING)** Do NOT induce vomiting. Immediately get medical attention. Call 1-800-752-7869 for additional information.  
If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.

**NOTE TO  
PHYSICIANS:** Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-752-7869 for additional information.

**SECTION 5: FIRE FIGHTING MEASURES**

**FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup

**FLAMMABLE LIMITS IN AIR:** Not available.

**AUTOIGNITION  
TEMPERATURE:** Not available.

**HAZARDOUS COMBUSTION  
PRODUCTS:** Decomposition and combustion materials may be toxic. Burning may produce phosgene gas, nitrogen oxides, carbon monoxide, and unidentified organic compounds.

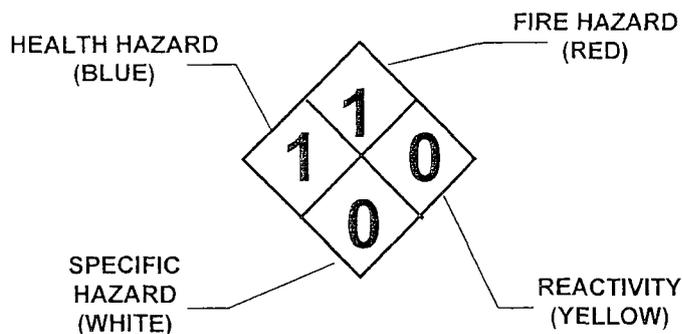
**CONDITIONS OF  
FLAMMABILITY:** Heat, sparks, or flame. Product may burn but does not ignite readily.

**EXTINGUISHING MEDIA:** Use carbon dioxide, regular foam, dry chemical, water spray, or water fog.

# USED OIL MATERIAL SAFETY INFORMATION SHEET

## NFPA 704 HAZARD IDENTIFICATION:

This information is intended solely for the use by individuals trained in this system.



## FIRE FIGHTING INSTRUCTIONS:

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

## FIRE AND EXPLOSION HAZARDS:

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact. Product may be sensitive to static discharge, which could result in fire or explosion.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface waters and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION**.

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

**SECTION 7: HANDLING AND STORAGE**

**HANDLING:** Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, storage tanks, tanker trucks, and rail tank cars should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke while using this product.

**SHIPPING AND STORING:** Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORT INFORMATION** for Packing Group information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Use general ventilation, process enclosures, local exhaust ventilation, or other engineering controls to control air-borne levels. Where explosive mixtures may be present, equipment safe for such locations should be used.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

**EYE PROTECTION:** Wearing chemical goggles is recommended. Contact lens may be worn with eye protection.

**SKIN PROTECTION:** Where prolonged or repeated skin contact is likely, wear neoprene, nitrile (4 mil minimum), PVC (polyvinyl chloride), or equivalent protective gloves; wearing natural rubber or equivalent gloves is not recommended.

When product is heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing.

To avoid prolonged or repeated contact with product where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

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**PERSONAL HYGIENE:** Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with the product.

**OTHER PROTECTIVE EQUIPMENT:** Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE, APPEARANCE, AND ODOR:** Liquid, black and viscous (thick), petroleum odor.

**ODOR THRESHOLD:** Not available.

**MOLECULAR WEIGHT:** Not applicable.

**SPECIFIC GRAVITY:** 0.8 to 1.0 at 60°F (15.6°C) (water = 1)

**DENSITY:** 6.7 to 8.3 LB/US gal (800 to 1000 g/l) (approximately)

**VAPOR DENSITY:** greater than 1 (air = 1) (based on kerosene)

**VAPOR PRESSURE:** Not available.

**BOILING POINT:** Not available.

**FREEZING/MELTING POINT:** Not available.

**pH:** Not applicable.

**EVAPORATION RATE:** less than 1 (butyl acetate = 1)

**SOLUBILITY IN WATER:** Slight.

**FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup

**FLAMMABLE LIMITS IN AIR:** Not available.

**AUTOIGNITION TEMPERATURE:** Not available.

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

**SECTION 10: STABILITY AND REACTIVITY**

- STABILITY:** Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.
- INCOMPATIBILITY:** Avoid acids, alkalis, oxidizing agents, reducing agents, reactive halogens, or reactive metals.
- REACTIVITY:** Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.
- HAZARDOUS DECOMPOSITION PRODUCTS:** None under normal temperatures and pressures. Also see **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

**SECTION 11: TOXICOLOGICAL INFORMATION**

- SENSITIZATION:** Based on best current information, there may be known human sensitization associated with this product.
- MUTAGENICITY:** Based on best current information, there may be mutagenicity associated with this product.
- CARCINOGENICITY:** Mineral oils, untreated or mildly treated are listed by IARC as a known carcinogen. Mineral oils, untreated or mildly treated are classified by NTP as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.
- There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by OSHA as known carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by IARC as known, probable, or possible carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are classified by NTP as known carcinogens or as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are recognized by ACGIH as confirmed or suspected human carcinogens.

Also see **SECTION 3: CANCER INFORMATION.**

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**REPRODUCTIVE TOXICITY:** Based on best current information, there may be reproductive toxicity associated with this product.

**TERATOGENICITY:** Based on best current information, there may be teratogenicity associated with this product.

**TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):** Based on best current information, there may be toxicologically synergistic products associated with this product.

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOTOXICITY:** Not available.

**OCTANOL/WATER PARTITION COEFFICIENT:** Not available.

**VOLATILE ORGANIC COMPOUNDS:** Not available.  
As per 40 CFR Part 51.100(s).

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**SECTION 14: TRANSPORT INFORMATION**

**DOT:** Not regulated.

**TDG:** Not regulated.

**EMERGENCY RESPONSE** Not applicable.

**GUIDE NUMBER:** Reference *North American Emergency Response Guidebook*

**SECTION 15: REGULATORY INFORMATION**

**USA REGULATIONS SARA SECTIONS 302 AND 304:** Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA SECTIONS** This product poses the following physical and health hazards as

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**311 AND 312:** defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):  
Immediate (Acute) Health Hazard  
Delayed (Chronic) Health Hazard

**SARA SECTION 313:** This product may contain "toxic" chemicals subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

**CERCLA:** This product may contain "hazardous substances" listed pursuant to Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.

**TSCA:** Not available.

**CALIFORNIA:** This product is not for sale or use in the State of California.

**CANADIAN REGULATIONS**

**WHMIS:** Not regulated

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):**

Not available.

**SECTION 16: OTHER INFORMATION**

**REVISION INFORMATION:** Update to Section 2.

**LABEL/OTHER INFORMATION:** Not available.

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product as supplied to the user.



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MSDS Number: E5125 \* \* \* \* \* Effective Date: 11/09/06 \* \* \* \* \* Supersedes: 03/15/04

<b>MSDS</b>	<b>Material Safety Data Sheet</b>	24 Hour Emergency Telephone: 800-455-2111
		OSHA HAZARD: 49 CFR 157.100
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		Medical/First Aid Contact HAZARDOUS: 610-588-5248
Mallinckrodt CHEMICALS		Outside U.S. and Canada Chemical: 795-529-0887
JT Baker		NOTE: THIS SHEET IS VALID FOR USE ONLY FOR THE PRODUCT AND CONCENTRATION SPECIFIED HEREIN. IT IS NOT VALID FOR OTHER PRODUCTS OR CONCENTRATIONS. ALWAYS REFER TO THE SAFETY DATA SHEET FOR THE SPECIFIC PRODUCT AND CONCENTRATION.
MSDS# E5125 is a summary of the information on the product. It is not intended to be used as a substitute for the actual product label.		

## ETHYLENE GLYCOL

### 1. Product Identification

Synonyms: 1,2-Ethanediol; glycol; 1,2-Dihydroxyethane; Ethylene Alcohol; Ethylene Dihydrate  
 CAS No.: 107-21-1  
 Molecular Weight: 62.07  
 Chemical Formula: CH<sub>2</sub>OHCH<sub>2</sub>OH  
 Product Codes:  
 J.T. Baker: 5387, 5845, 9140, 9298, 9300, 9346, 9356, L715  
 Mallinckrodt: 5001, 5037

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ethylene Glycol	107-21-1	99 - 100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**WARNING: HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.**

SAF-T-DATA<sup>(TM)</sup> Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)  
 Flammability Rating: 1 - Slight  
 Reactivity Rating: 1 - Slight  
 Contact Rating: 3 - Severe (Life)  
 Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES  
 Storage Color Code: Green (General Storage)

#### Potential Health Effects

##### Inhalation:

Vapor inhalation is generally not a problem unless heated or misted. Exposure to vapors over an extended time period has caused throat irritation and headache. May cause nausea, vomiting, dizziness and drowsiness. Pulmonary edema and central nervous system depression may also develop. When heated or misted, has produced rapid, involuntary eye movement and coma.

##### Ingestion:

Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse, and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. Lethal dose in humans: 100 ml (3-4 ounces).

##### Skin Contact:

Minor skin irritation and penetration may occur.

##### Eye Contact:

Splashes may cause irritation, pain, eye damage.

##### Chronic Exposure:

Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

##### Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, eye problems, or impaired liver, kidney, or respiratory function may be more susceptible to the effects of this substance.

### 4. First Aid Measures

#### Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

#### Skin Contact:

Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

#### Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### Note to Physician:

Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

## 5. Fire Fighting Measures

### Fire:

Flash point: 111C (232F) CC  
Autoignition temperature: 398C (748F)  
Flammable limits in air % by volume:  
lcl: 3.2; ucl: 15.3

Slight to moderate fire hazard when exposed to heat or flame.

### Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.

### Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

### Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Toxic gases and vapors may be released if involved in a fire.

## 6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and oxidizing materials. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

## 8. Exposure Controls/Personal Protection

### Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):  
50 ppm Ceiling

### -ACGIH Threshold Limit Value (TLV):

50 ppm Ceiling (vapor)

### Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### Skin Protection:

Wear protective gloves and clean body-covering clothing.

### Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. Physical and Chemical Properties

### Appearance:

Clear oily liquid.

### Odor:

Odorless.

### Solubility:

Miscible in water.

### Specific Gravity:

1.1 @20C/4C

### pH:

No information found.

### % Volatiles by volume @ 21C (70F):

100

### Boiling Point:

197.6C (388F)

### Melting Point:

-13C (9F)

### Vapor Density (Air=1):

2.14

### Vapor Pressure (mm Hg):

0.06 @ 20C (68F)

### Evaporation Rate (BuAc=1):

No information found.

**10. Stability and Reactivity****Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition. May produce acrid smoke and irritating fumes when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong oxidizing agents. Reacts violently with chlorosulfonic acid, oleum, sulfuric acid, perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide; causes ignition at 212F(100C) with ammonium dichromate, silver chlorate, sodium chloride and uranyl nitrate.

**Conditions to Avoid:**

Heat, flames, ignition sources, water (absorbs readily) and incompatibles.

**11. Toxicological Information****Toxicological Data:**

Oral rat LD50: 4700 mg/kg; skin rabbit LD50: 9530 mg/kg.

Irritation - skin rabbit: 555mg(open), mild; eye rabbit: 500mg/24H, mild.

Investigated as a tumorigen, mutagen, reproductive effector.

**Reproductive Toxicity:**

Has shown teratogenic effects in laboratory animals.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Ethylene Glycol (107-21-1)	No	No	None

**12. Ecological Information****Environmental Fate:**

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate. This material has a log octanol-water partition coefficient of less than 3.0. When released into water, this material is not expected to evaporate significantly. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

**Environmental Toxicity:**

The LC50/96-hour values for fish are over 100 mg/l.

**13. Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**14. Transport Information**

Not regulated.

**15. Regulatory Information**

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Ethylene Glycol (107-21-1)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
Ethylene Glycol (107-21-1)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-SARA 311-	
	RQ	TPQ	List	Chemical Catg.
Ethylene Glycol (107-21-1)	No	No	Yes	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	
		261.33	-TSCA- 8(d)
Ethylene Glycol (107-21-1)	5000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**16. Other Information**

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

**Label Hazard Warning:**

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

**Label Precautions:**

Do not breathe vapor or mist.

Use only with adequate ventilation.

Keep container closed.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

**Label First Aid:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists. If swallowed, give water or milk to drink and induce vomiting. Never give anything by mouth to an unconscious person. In all cases call a physician.

**Product Use:**

Laboratory Reagent.

Revision Information:

No Information Found.

**Disclaimer:**

\*\*\*\*\*  
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\*\*\*\*\*

Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND**  
**CANADA**



**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** USED ANTIFREEZE

**SYNONYMS:** 1,2-Ethanediol; 1,2-Ethylene glycol; 2-Hydroxyethanol; Ethylene alcohol

**PRODUCT CODE:** Prefix 95P

**PRODUCT USE:** Used automotive coolant.  
If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.

**24-HOUR EMERGENCY PHONE NUMBERS**

These numbers are for emergency use only. If you desire non-emergency product information, please call a phone number listed below.

	<b>MEDICAL:</b>	<b>TRANSPORTATION (SPILL):</b>
	<b>1-800-752-7869</b>	<b>1-800-468-1760</b>

**SUPPLIER:** Safety-Kleen  
5400 Legacy Drive  
Cluster II, Building 3  
Plano, Texas 75024  
USA  
**1-800-669-5740**

**TECHNICAL INFORMATION:** 1-800-669-5740 Press 1 then Enter 7500

<b>MSDS FORM NUMBER:</b> 82912	<b>ISSUE:</b> February 20, 2003
<b>ORIGINAL ISSUE:</b> February 20, 2003	<b>SUPERSEDES:</b> Not applicable.
<b>PREPARED BY:</b> Product MSDS Coordinator	<b>APPROVED BY:</b> MSDS Task Force

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**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

WT%	NAME	SYNONYM	CAS NO.	OSHA PEL**		ACGIH TLV®		LD <sup>a</sup>	LC <sup>b</sup>
				TWA	STEL	TWA	STEL		
30-87	Water	N.Av.	7732-18-5	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.
2-68	Ethylene glycol	1,2-Ethanediol; 1,2-Dihydroxyethane	107-21-1	N.Av.	N.Av.	N.Av.	N.Av.	4700 mg/kg (9530 µL/kg) <sup>c</sup>	10876 mg/kg
4-44	1,2-Propylene glycol	N.Av.	57-55-6	N.Av. <sup>d</sup>	N.Av.	N.Av.	N.Av.	20 gm/kg (20800 mg/kg) <sup>c</sup>	N.Av.
1-2	Diethylene glycol	2,2'-oxybis-ethanol	111-46-6	N.Av. <sup>e</sup>	N.Av.	N.Av.	N.Av.	12565 mg/kg (11890 mg/kg) <sup>c</sup>	N.Av.

\*\*OSHA Final PEL value (enforceable). Some States have adopted more stringent values.

N.Av. = Not Available

<sup>b</sup>Inhalation-Rat LC<sub>50</sub>

<sup>a</sup>Oral-Rat LD<sub>50</sub>

<sup>c</sup>Skin-Rabbit LD<sub>50</sub>

<sup>d</sup>AIHA recommended TWA 50 ppm

<sup>e</sup>AIHA recommended TWA 10mg/m<sup>3</sup>

**SECTION 3: HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**APPEARANCE**

Liquid, green, sweet odor. Syrupy.

**DANGER!**

**HEALTH HAZARDS**

May be harmful if inhaled.

May be fatal if swallowed.

May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin. Contains material which may cause birth defects. Contains material which may cause lung, kidney, liver, central nervous system, and eye damage.

**POTENTIAL HEALTH EFFECTS**

**INHALATION  
(BREATHING):**

This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may cause liver, lung, and kidney damage. High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

**EYES:**

May cause irritation. May cause inflammation of the iris, ciliary body, and the membrane lining the eyelids and covering the eyeball (conjunctivitis). May cause corneal damage.

**USED ANTIFREEZE**  
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**SKIN:** May cause irritation. Not likely to be absorbed through the skin in harmful amounts.

**INGESTION (SWALLOWING):** May be fatal if swallowed. The estimated lethal dose is 100 ml (3.4 ounces). May damage lung, liver, and kidneys. May cause throat irritation, nausea, vomiting, central nervous system effects as noted under **INHALATION (BREATHING)**, unconsciousness, coma, and death. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with pre-existing liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**CHRONIC:** Prolonged or repeated inhalation may cause toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause blindness. Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis). Prolonged or repeated exposure may have reproductive toxicity, teratogenic, or mutagenic effects.

**CANCER INFORMATION:** No known carcinogenicity. For more information, see **SECTION 11: CARCINOGENICITY**.

**POTENTIAL ENVIRONMENTAL EFFECTS**

Not available. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

**SECTION 4: FIRST AID MEASURES**

**INHALATION (BREATHING):** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

**EYES:** If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

**SKIN:** Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.

**INGESTION (SWALLOWING):** Do NOT induce vomiting. Immediately get medical attention. Call 1-800-752-7869 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.

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**NOTE TO  
PHYSICIANS:**

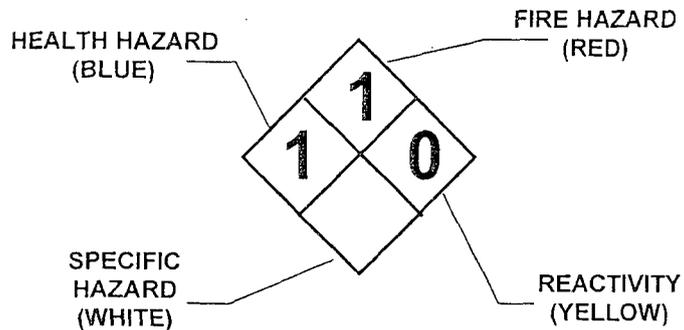
Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Treatment may vary with condition of victim and specifics of incident. Call 1-800-752-7869 for additional information.

Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression, and kidney damage. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal when given in the early stages of intoxication because it blocks the formation of nephrotoxic metabolites. A more effective intravenous antidote is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenase, which effectively blocks the formation of toxic metabolites. Pulmonary edema with hypoxia has been described in a number of patients following ethylene glycol poisoning. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the later stages of toxicity from swallowing ethylene glycol. Effects have been reported presenting bilateral facial paralysis, diminished hearing, and dysphagia.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>FLASH POINT:</b>	>200°F (>93.3°C)	
<b>FLAMMABLE LIMITS IN AIR:</b>	<b>LOWER:</b> 3.2 VOL% (ethylene glycol)	<b>UPPER:</b> 15.3 VOL% (ethylene glycol)
<b>AUTOIGNITION TEMPERATURE:</b>	748°F (398°C) (ethylene glycol)	
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.	
<b>CONDITIONS OF FLAMMABILITY:</b>	Heat, sparks, or flame. Products may burn, but do not ignite readily.	
<b>EXTINGUISHING MEDIA:</b>	Carbon dioxide, alcohol-resistant foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.	
<b>NFPA 704 HAZARD IDENTIFICATION:</b>	This information is intended solely for the use by individuals trained in this system.	

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**FIRE FIGHTING INSTRUCTIONS:**

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

**FIRE AND EXPLOSION HAZARDS:**

Vapors will spread along the ground and collect in low or confined areas. Heated containers may rupture or be thrown into the air. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

**SECTION 7: HANDLING AND STORAGE**

**HANDLING:**

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools and explosion-proof equipment. When transferring large volumes of product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes.

**SHIPPING AND STORING:**

Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources or ignition. Empty product containers may retain product residue and can be

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dangerous. See **SECTION 14: TRANSPORTATION INFORMATION** for Packing Group information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** Use NIOSH-certified, full-face, air-purifying respirators with P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1920.134; or in Canada with CSA Standard Z94.4.

**EYE PROTECTION:** Where eye contact is likely, wear chemical goggles; contact lens use is not recommended.

**SKIN PROTECTION:** Where skin contact is likely, wear Polyvinyl Chloride (PVC), neoprene, butyl rubber, nitrile, or equivalent protective gloves; use of polyvinyl alcohol (PVA) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

**PERSONAL HYGIENE:** Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with this product.

**OTHER PROTECTIVE EQUIPMENT:** Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE, APPEARANCE, AND ODOR:	Liquid, green, sweet odor. Syrupy.
ODOR THRESHOLD:	Not available.
MOLECULAR WEIGHT:	106.
SPECIFIC GRAVITY:	>1 (water = 1)
DENSITY:	Not available.
VAPOR DENSITY:	>1 (air = 1)
VAPOR PRESSURE:	<0.1 mmHg at 68°F (20°C)
BOILING POINT:	>300°F (148.9°C)
FREEZING/MELTING POINT:	Not available.
pH:	6-10
EVAPORATION RATE:	Not available.
SOLUBILITY IN WATER:	Complete
FLASH POINT:	>200°F (>93.3°C)
FLAMMABLE LIMITS IN AIR:	<b>LOWER:</b> 3.2 VOL% (ethylene glycol) <b>UPPER:</b> 15.3 VOL% (ethylene glycol)
AUTOIGNITION TEMPERATURE:	748°F (398°C) (ethylene glycol)

**SECTION 10: STABILITY AND REACTIVITY**

STABILITY:	Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.
INCOMPATIBILITY:	Avoid acids, alkalies, oxidizing agents, or reactive metals.
REACTIVITY:	Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.
HAZARDOUS DECOMPOSITION PRODUCTS:	None under normal temperatures and pressures. See also <b>SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.</b>

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**SECTION 11: TOXICOLOGICAL INFORMATION**

- SENSITIZATION:** Ethylene glycol has demonstrated human effects of skin sensitization.  
Based on best current information, the other components listed in **SECTION 2** are not sensitizers.
- MUTAGENICITY:** Ethylene glycol and diethylene glycol have demonstrated human effects of mutagenicity.
- CARCINOGENICITY:** Based on best current information, there is no known carcinogenicity as categorized by ACGIH A1 or A2 substances; as categorized by IARC Group 1, Group 2A, or Group 2B agents; or as listed by NTP as either known carcinogens or substances for which there is limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.
- REPRODUCTIVE TOXICITY:** Ethylene glycol and diethylene glycol have demonstrated animal effects of reproductive toxicity.
- TERATOGENICITY:** Ethylene glycol and diethylene glycol have demonstrated animal effects of teratogenicity.
- TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):** Based on best current information, there are no known toxicologically synergistic products associated with this product.

**SECTION 12: ECOLOGICAL INFORMATION**

<b>ECOTOXICITY:</b>	<b>Ethylene glycol (107-21-1)</b>	<b>Conditions</b>
	<b>Test &amp; Species</b>	
	96 Hr LC50 rainbow trout	41000 mg/L
	96 Hr LC50 bluegill	27500 mg/L
	96 Hr LC50 goldfish	27500 mg/L
	<b>1,2-Propylene glycol (57-55-6)</b>	
	24 Hr LC50 goldfish	5000 mg/L
	48 Hr LC50 guppy	10000 mg/L
	<b>Diethylene glycol (111-46-6)</b>	
	96 Hr LC50 fathead minnow	75200 mg/L flow-through

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OCTANOL/WATER Not available.  
PARTITION COEFFICIENT:  
VOLATILE ORGANIC Not available.  
COMPOUNDS:

**SECTION 13: DISPOSAL CONSIDERATIONS**

**DISPOSAL:** Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**USEPA WASTE CODE(S):** This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

**SECTION 14: TRANSPORT INFORMATION**

**DOT:** **Shipping Name:** Not regulated as a hazardous material for transportation.

**TDG:** **Shipping Name:** Not regulated as a dangerous good for transportation.

**EMERGENCY RESPONSE GUIDE NUMBER:** Not applicable.  
Reference *North American Emergency Response Guidebook*

**SECTION 15: REGULATORY INFORMATION**

**USA REGULATIONS**

**SARA SECTIONS 302 AND 304:** Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA SECTIONS 311 AND 312:** This product poses the following health hazard(s) as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):  
Immediate (Acute) Health Hazard  
Delayed (Chronic) Health Hazard

**SARA SECTION 313:** The following component is subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

**USED ANTIFREEZE**  
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**Ethylene glycol (107-21-1)** 1.0 percent de minimis concentration

**CERCLA:** Based on the ingredient(s) listed in SECTION 2, this product contains the following "hazardous substance(s)" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4 with the following reportable quantities (RQ):

**Ethylene glycol (107-21-1)** 5000 lb final RQ; 2270 kg final RQ

**TSCA:** All the components of this product are listed on, or are automatically included as "naturally occurring chemical substances" on, or are exempted from the requirement to be listed on, the TSCA Inventory.

**CALIFORNIA:** This product does not contain detectable amounts of any chemical known to the State of California to cause cancer.

This product does not contain detectable amounts of any chemical known to the State of California to cause birth defects or other reproductive harm.

**CANADIAN REGULATIONS**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

**WHMIS:** Class D2A - Contains component that may cause cancer.  
Class D2B - Irritating to eyes and skin.

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):** All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

**SECTION 16. OTHER INFORMATION**

**REVISION INFORMATION:** New product.

**LABEL/OTHER INFORMATION:** Not available.

User assumes all risks incident to the use of this(these) product(s). To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product(s) as supplied to the user.

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# Material Safety Data Sheet

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Chevron HDAX® NG Screw Compressor Oil

**Product Number(s):** CPS255204, CPS255205, CPS259135

**Synonyms:** Chevron HDAX® NG Screw Compressor Oil ISO 100, Chevron HDAX® NG Screw Compressor Oil ISO 150, Chevron HDAX® NG Screw Compressor Oil ISO 68

**Company Identification**

ChevronTexaco Global Lubricants  
 A Division of Texaco Products Inc.  
 6975-A Pacific Circle  
 Mississauga, ONT L5T 2H3  
 Canada  
 www.chevronlubricants.com

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@Chevron.com  
 Product Information: (800) LUBE TEK  
 MSDS Requests: (800) 414-6737

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	80 - 100 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

## SECTION 3 HAZARDS IDENTIFICATION

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

**SECTION 4 FIRST AID MEASURES**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

**SECTION 5 FIRE FIGHTING MEASURES**

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

**FLAMMABLE PROPERTIES:**

**Flashpoint:** (Cleveland Open Cup) 210 °C (410 °F) (Min)

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities as appropriate or required.

**SECTION 7 HANDLING AND STORAGE**

**Precautionary Measures:** DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106; 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of

Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Special note: Do not use in breathing air apparatus or medical equipment.

### ENGINEERING CONTROLS:

Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

### Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Attention: the data below are typical values and do not constitute a specification.**

**Color:** Amber

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** >315°C (599°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Specific Gravity:** 0.87 - 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** 61.2 cSt @ 40°C (104°F) (Min)

**Odor Threshold:** No Data Available

**Coefficient of Water/Oil Distribution:** No Data Available

**TC Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**Additional Information:** NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

#### SECTION 15 REGULATORY INFORMATION

##### REGULATORY LISTS SEARCHED:

01-1=IARC Group 1  
01-2A=IARC Group 2A  
01-2B=IARC Group 2B  
35=WHMIS IDL

No components of this material were found on the regulatory lists above.

##### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: PICCS (Philippines).

##### WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

##### MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

**Revision Date:** 03/08/2006

#### SECTION 16 OTHER INFORMATION

**HMS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0

##### LABEL RECOMMENDATION:

Label Category : INDUSTRIAL OIL 1

**REVISION STATEMENT:** This revision updates the following sections of this Material Safety Data Sheet:  
2,8,14,15,16

##### ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Sensitivity to Mechanical Impact:** No.

**SECTION 11 TOXICOLOGICAL INFORMATION****IMMEDIATE HEALTH EFFECTS**

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** No product toxicology data available.

**Acute Dermal Toxicity:** LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** LD50: >5 g/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components. For additional information on the acute toxicity of the components, call the technical information center.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION****ECOTOXICITY**

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

**ENVIRONMENTAL FATE**

This material is not expected to be readily biodegradable.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

# Material Safety Data Sheet

## Methyl Alcohol, Reagent ACS, 99.8% (GC)

ACC# 95294

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Methyl Alcohol, Reagent ACS, 99.8% (GC)**Catalog Numbers:** AC423950000, AC423950010, AC423950020, AC423955000, AC9541632, AC423952**Synonyms:** Carbinol; Methanol; Methyl hydroxide; Monohydroxymethane; Pyroxylic spirit; Wood alcohol; Wood naptha; Wood spirit; Monohydroxymethane; Methyl hydrate.**Company Identification:**

Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-56-1	Methyl alcohol	99+	200-659-6

**Hazard Symbols:** T F**Risk Phrases:** 11 23/24/25 39/23/24/25

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless. Flash Point: 11 deg C. Poison! Cannot be made non-poisonous. Causes eye and skin irritation. May be absorbed through intact skin. This substance has caused adverse reproductive and fetal effects in animals.

**Danger! Flammable liquid and vapor.** Harmful if inhaled. May be fatal or cause blindness if swallowed. May cause central nervous system depression. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Causes respiratory tract irritation. May cause liver, kidney and heart damage.

**Target Organs:** Kidneys, heart, central nervous system, liver, eyes.

**Potential Health Effects**

**Eye:** Produces irritation, characterized by a burning sensation, redness, tearing,

inflammation, and possible corneal injury. May cause painful sensitization to light.

**Skin:** Causes moderate skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

**Ingestion:** May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause cardiopulmonary system effects.

**Inhalation:** Harmful if inhaled. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause visual impairment and possible permanent blindness. Causes irritation of the mucous membrane.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause reproductive disorders and teratogenic effects. Laboratory experiments have resulted in mutagenic effects. Prolonged exposure may cause liver, kidney, and heart damage.

#### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Effects may be delayed. Ethanol may inhibit methanol metabolism.

#### Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly

toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed. Do not store in aluminum or lead containers.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities

storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use only under a chemical fume hood.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyl alcohol	200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m <sup>3</sup> TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Methyl alcohol: 200 ppm TWA; 260 mg/m<sup>3</sup> TWA; 250 ppm STEL; 325 mg/m<sup>3</sup> STEL

### Personal Protective Equipment

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR

□1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** alcohol-like - weak odor

**pH:** Not available.

**Vapor Pressure:** 128 mm Hg @ 20 deg C

**Vapor Density:** 1.11 (Air=1)

**Evaporation Rate:**5.2 (Ether=1)

**Viscosity:** 0.55 cP 20 deg C

**Boiling Point:** 64.7 deg C @ 760.00mm Hg

**Freezing/Melting Point:**-98 deg C

**Autoignition Temperature:** 464 deg C ( 867.20 deg F)

**Flash Point:** 11 deg C ( 51.80 deg F)

**Decomposition Temperature:**Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 3; Reactivity: 0

**Explosion Limits, Lower:**6.0 vol %

**Upper:** 36.00 vol %

**Solubility:** miscible

**Specific Gravity/Density:**.7910g/cm<sup>3</sup>

**Molecular Formula:**CH<sub>4</sub>O

**Molecular Weight:**32.04

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** High temperatures, incompatible materials, ignition sources, oxidizers.

**Incompatibilities with Other Materials:** Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), isocyanates (e.g. methyl isocyanate), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), epoxides (e.g. butyl glycidyl ether), Oxidants (such as barium perchlorate, bromine, chlorine, hydrogen peroxide, lead perchlorate, perchloric acid, sodium hypochlorite), Active metals (such as potassium and magnesium), acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbontetrachloride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, nitric acid, potassium-tert-butoxide, chloroform + hydroxide, water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, formaldehyde.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS# 67-56-1:** PC1400000

**LD50/LC50:**

CAS# 67-56-1:

Draize test, rabbit, eye: 40 mg Moderate;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, rat: LC50 = 64000 ppm/4H;

Oral, mouse: LD50 = 7300 mg/kg;

Oral, rabbit: LD50 = 14200 mg/kg;

Oral, rat: LD50 = 5628 mg/kg;

Skin, rabbit: LD50 = 15800 mg/kg;

**Carcinogenicity:**

CAS# 67-56-1: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems.

**Teratogenicity:** Effects on Newborn: Behavioral, Oral, rat: TDLo=7500 mg/kg (female 17-19 days after conception). Effects on Embryo or Fetus: Fetotoxicity, Inhalation, rat: TCLo=10000 ppm/7H (female 7-15 days after conception). Specific Developmental Abnormalities: Cardiovascular, Musculoskeletal, Urogenital, Inhalation, rat: TCLo=20000 ppm/7H (7-14 days after conception).

**Reproductive Effects:** Paternal Effects: Spermatogenesis: Intraperitoneal, mouse TDLo=5 g/kg ( male 5 days pre-mating). Fertility: Oral, rat: TDLo = 35295 mg/kg (female 1-15 days after conception). Paternal Effects: Testes, Epididymis, Sperm duct: Oral, rat: TDLo = 200 ppm/20H (male 78 weeks pre-mating).

**Neurotoxicity:** No information available.

**Mutagenicity:** DNA inhibition: Human Lymphocyte = 300 mmol/L. DNA damage: Oral, rat = 10 umol/kg. Mutation in microorganisms: Mouse Lymphocyte = 7900 mg/L. Cytogenetic analysis: Oral, mouse = 1 gm/kg.

**Other Studies:** Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) S tandard Draize Test: Administration into the eye (rabbit) = 40 mg (Moderate). Standard Draize test: Administration int o the eye (rabbit) = 100 mg/24H (Moderate).

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: 29.4 g/L; 96 Hr; LC50 (unspecified) Goldfish: 250 ppm; 11 Hr; resulted in death Rainbow trout: 8000 mg/L; 48 Hr; LC50 (unspecified) Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees C Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63 Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; Unspecified ria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test No data available.

**Environmental:** Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 96>1000 ppm. May be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.

**Physical:** No information available.

**Other:** None.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** CAS# 67-56-1: waste number U154; (Ignitable waste).

### Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	METHANOL				METHANOL
<b>Hazard Class:</b>	3				3(6.1)
<b>UN Number:</b>	UN1230				UN1230
<b>Packing Group:</b>	II				II
<b>Additional Info:</b>					FLASHPOINT 11 C

### Section 15 - Regulatory Information

#### US FEDERAL

##### TSCA

CAS# 67-56-1 is listed on the TSCA inventory.

##### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

##### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

##### Section 12b

None of the chemicals are listed under TSCA Section 12b.

##### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

##### SARA

##### Section 302 (RQ)

CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)

##### Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

##### SARA Codes

CAS # 67-56-1: acute, flammable.

##### Section 313

This material contains Methyl alcohol (CAS# 67-56-1, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

##### Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

##### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants

under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed. **European/International Regulations**

**European Labeling in Accordance with EC Directives****Hazard Symbols:**

T F

**Risk Phrases:**

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 7 Keep container tightly closed.

**WGK (Water Danger/Protection)**

CAS# 67-56-1: 1

**Canada**

CAS# 67-56-1 is listed on Canada's DSL List. CAS# 67-56-1 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D1A, D2B.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

**Exposure Limits**

CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin n OEL-AUSTRALIA:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-BELGIUM:TWA 200 ppm (262 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-CZECHOSLOVAKIA:TWA 10

0 mg/m<sup>3</sup>;STEL 500 mg/m<sup>3</sup> OEL-DENMARK:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin OEL-FINLAND:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-FRANCE:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 1000 ppm (1300 mg/m<sup>3</sup>) OEL-GERMANY:TWA 200 ppm (2

60 mg/m<sup>3</sup>);Skin OEL-HUNGARY:TWA 50 mg/m<sup>3</sup>;STEL 100 mg/m<sup>3</sup>;Skin JAN9 OEL  
-JAPAN:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin OEL-THE NETHERLANDS:TWA 200 ppm  
(  
260 mg/m<sup>3</sup>);Skin OEL-THE PHILIPPINES:TWA 200 ppm (260 mg/m<sup>3</sup>) OEL-POLA  
ND:TWA 100 mg/m<sup>3</sup> OEL-RUSSIA:TWA 200 ppm;STEL 5 mg/m<sup>3</sup>;Skin OEL-  
SWEDEN  
:TWA 200 ppm (250 mg/m<sup>3</sup>);STEL 250 ppm (350 mg/m<sup>3</sup>);Skin OEL-SWITZERLAN  
D:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 400 ppm;Skin OEL-THAILAND:TWA 200 ppm  
(260 mg/m<sup>3</sup>) OEL-TURKEY:TWA 200 ppm (260 mg/m<sup>3</sup>) OEL-UNITED  
KINGDOM:TW  
A 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL IN BULGARIA, COLOMBIA, JO  
RDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM ch  
eck ACGI TLV

### Section 16 - Additional Information

**MSDS Creation Date:** 7/21/1999

**Revision #4 Date:** 3/14/2001

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*

APPENDIX B:

STANDARD OPERATING PROCEDURES  
FOR WASTEWATER SAMPLING  
AT COMPRESSOR STATIONS

**APPENDIX B****SOUTHERN UNION GAS SERVICES  
STANDARD OPERATING PROCEDURE****WASTEWATER SAMPLING AND ANALYSIS FOR SE NM GAS  
COMPRESSOR STATIONS****1.0 Scope**

This procedure is designed to direct the sampling and analytical methods used to determine the applicable RCRA characteristics of wastewater (wash water and/or storm water) collected at Southern Union Gas Services (SUGS) compressor stations located in SE New Mexico. These procedures are to be used when changes in materials and/or processes at compressor stations are modified to any degree which might significantly alter the chemical or physical characteristics of wastewaters generated at the facility.

**2.0 Equipment**

Sampling of wastewater will require:

1. Sample containers (prepreserved, from laboratory)
2. Chain of Custody forms
3. Shipping Cooler
4. Shipping labels
5. Packing Tape
6. Ice or "blue ice"
7. Poly or latex gloves
8. Small plastic sheet or tarp
9. Site-specific safety equipment (e.g., hard hat, coveralls, safety glasses)
10. Paper towels
11. Ziplock bags
12. Hand washer or towelettes
13. Trash bags
14. Notebook
15. Camera

**3.0 Laboratory**

The selected laboratory is:

Environmental Laboratory of Texas  
12600 W. I-20 E  
Odessa, Texas 79765  
(432) 563-1800

Contact the laboratory at least 24 hours before the sampling date and arrange to have shipped the appropriate sample containers (pre-preserved), chain of custody forms, sample labels, and shipping labels shipped to the appropriate location.

#### 4.0 Analytes, Containers and Preservatives

The analytes and their containers, preservatives, and handling are summarized in Table 1 below.

Toxicity	Regulatory Limit (TCLP) mg/kg	Analytical Method	Container	Preservation	Holding Time
Benzene	0.5	8240A (GC/MS)	2x 40 ml VOA	Cool to 4 <sup>0</sup> C.	14 Days
Mercury	0.2	7471 (Cold Vapor)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Arsenic	5.0	7060 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Barium	100.0	7080 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Cadmium	1.0	7130 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Chromium	5.0	7190 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Lead	5.0	7420 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Selenium	1.0	7740 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
Silver	5.0	7760A (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>0</sup> C.	6 Months
<b>Reactive</b>					
Cyanide	250.0	9010A	1 L HDPE	Cool to 4 <sup>0</sup> C.	14 Days
pH	<2 or >12.5 pH units	9040	250 ml HDPE	Cool to 4 <sup>0</sup> C.	24 Hours
Sulfide	500.0	9031	250 ml HDPE	Cool to 4 <sup>0</sup> C.	6 Months
<b>Ignitability</b>	<60 deg C	1010	250 ml Glass	Cool to 4 <sup>0</sup> C.	6 Months

VOA - Volatile Organic Analysis vial

HDPE - High Density Polyethylene

Two identical samples are collected for Benzene in the two 40 milliliter VOAs. One 1-liter HDPE container is used for all of the metals (mercury, arsenic, barium, cadmium, chromium, lead, selenium and silver). Individual containers are used for cyanide, pH and sulfide.

## 5.0 Methods

After obtaining the sample materials from the laboratory and the field equipment listed in Section 2.0, schedule the site visit and proceed to the facility.

Upon reaching the site, document the location, date, time, personnel involved and the purpose of the sampling visit. Also note any environmental conditions (weather, condition of equipment, adjacent activities) which might influence the sampling. Photograph the site and areas where samples will be taken.

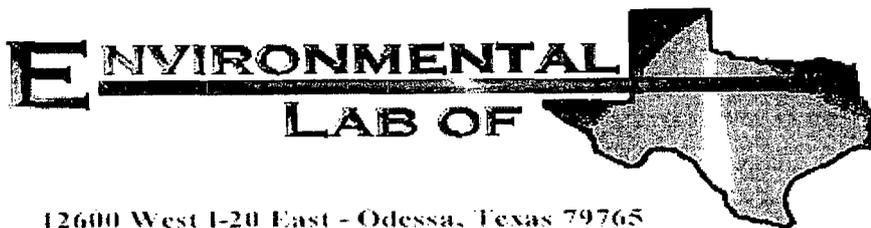
Unpack and review the completeness and condition of the sampling equipment.

After selecting the points for sample collection, proceed as follows:

1. Put on a clean pair of gloves
2. Spread the plastic sheet on a flat, level surface near the sampling point and lay out the cooler and containers
3. Fill out the appropriate labels, and place them in a location secure from weather
4. If two phases (e.g., oil and water) are present, collect separate containers (VOAs) of each phase for each organic analysis sample.
5. Begin by filling the VOAs, making sure that the vials are completely full and that no air bubbles are present.
6. Then collect the other parameters, filling them to within ¼" of the top and securely closing the containers.
7. Clean the containers with paper towels and apply the labels
8. Place the labeled containers in zipped bags and place in the cooler with bagged ice or "blue ice"
9. Clean up the area to remove paper trash and towels, etc.
10. Remove your gloves, wash your hands, and put the gloves in the trash bag
11. Complete the information required on the Chain of Custody form, sign the form, and remove the sampler's copy.
12. Place the Chain of Custody form in a sealed plastic bag and place it in the cooler
13. Fill and attach the shipping label, and secure the cooler with packing tape
14. Keep the cooler in your custody until it is shipped to the laboratory
15. Contact the laboratory to notify them that the samples are en route, and request that you be notified when the samples are received. Arrange for e-mail notification directly from the shipper (i.e., Federal Express) to the laboratory contact and the sampler.
16. After returning from the sampling site, appropriately file your notes, photographs and Chain of Custody forms.
17. Copy all notes, photographs and chain of custody forms and attach to results when received and forward to:

Mr. Tony Savoie  
Southern Union Gas Services, LLP  
610 Commerce Street  
Jal NM 88252

APENDIX C:  
ANALYTICAL DATA AND DOCUMENTATION



12600 West I-20 East - Odessa, Texas 79765

A Xenco Laboratories Company

## Analytical Report

**Prepared for:**

Tony Savoie  
Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal, NM 88252

Project: Adobe Compressor  
Project Number: None Given  
Location: North of Eunice

Lab Order Number: 7C27010

Report Date: 04/06/07

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Adobe	7C27010-01	Water	03/26/07 09:31	03-27-2007 10:30

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Adobe (7C27010-01) Water</b>									
Ignitability by Flashpoint	[>85.0]		°C	1	ED70614	04/06/07	04/06/07	EPA 1010A / ASTM D93-80	
pH	6.92		pH Units	"	EC72904	03/28/07	03/28/07	EPA 150.1	O-04

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Metals 1311 by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Reporting		Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
	Result	Limit								
<b>Adobe (7C27010-01) Water</b>										
Mercury	ND	0.000250	mg/L	1	EC73019	tcp 3-28-07	03/29/07	03/30/07	EPA 7470A	
Chromium	J [0.00620]	0.00975	"	10	EC73020	"	03/29/07	03/30/07	EPA 6020A	J
Arsenic	ND	0.0170	"	"	"	"	"	"	"	
Selenium	0.0334	0.0300	"	"	"	"	"	"	"	
Silver	ND	0.00405	"	"	"	"	"	"	"	
Cadmium	J [0.00140]	0.00692	"	"	"	"	"	"	"	J
Barium	0.0270	0.00489	"	"	"	"	"	"	"	
Lead	0.00388	0.00296	"	"	"	"	"	"	"	

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Volatile Halocarbons by EPA Method 1311/8021B**

**Environmental Lab of Texas**

Analyte	Reporting		Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
	Result	Limit								
<b>Adobe (7C27010-01) Water</b>										
Benzene	0.00337	0.00100	mg/L	1	EC73101	03/28/07 TCLP	03/31/07	03/31/07	EPA 8021B	
Toluene	0.00673	0.00100	"	"	"	"	"	"	"	
Ethylbenzene	0.00261	0.00100	"	"	"	"	"	"	"	
Xylene (p/m)	0.00659	0.00100	"	"	"	"	"	"	"	
Xylene (o)	0.00248	0.00100	"	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		89.2 %	80-120		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.2 %	80-120		"	"	"	"	"	

Environmental Lab of Texas

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EC72904 - General Preparation (WetChem)</b>										
<b>Calibration Check (EC72904-CCV1)</b> Prepared & Analyzed: 03/28/07										
pH	9.96		pH Units	10.00		99.6	97.5-102.5			
<b>Calibration Check (EC72904-CCV2)</b> Prepared & Analyzed: 03/28/07										
pH	6.98		pH Units	7.00		99.7	97.5-102.5			
<b>Duplicate (EC72904-DUP1)</b> Source: 7C26010-01 Prepared & Analyzed: 03/28/07										
pH	8.12		pH Units		8.08			0.494	20	
<b>Duplicate (EC72904-DUP2)</b> Source: 7C27011-01 Prepared & Analyzed: 03/28/07										
pH	7.59		pH Units		7.58			0.132	20	
<b>Batch ED70614 - General Preparation (WetChem)</b>										
<b>LCS (ED70614-BS1)</b> Prepared & Analyzed: 04/06/07										
Ignitability by Flashpoint	29.0		°C	29.0		100	96-104			
<b>Duplicate (ED70614-DUP1)</b> Source: 7C27008-01 Prepared & Analyzed: 04/06/07										
Ignitability by Flashpoint	[>85.0]		°C		0.00				20	

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Metals 1311 by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC73019 - EPA 1311/7470A**

**Blank (EC73019-BLK1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Mercury ND 0.000250 mg/L

**LCS (EC73019-BS1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Mercury 0.000850 0.000250 mg/L 0.00100 85.0 85-115

**LCS Dup (EC73019-BSD1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Mercury 0.000980 0.000250 mg/L 0.00100 98.0 85-115 14.2 20

**Calibration Check (EC73019-CCV1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Mercury 0.000900 mg/L 0.00100 90.0 90-110

**Matrix Spike (EC73019-MS1)**

Source: 7C22001-02

Prepared: 03/29/07 Analyzed: 03/30/07

Mercury 0.00106 0.000250 mg/L 0.00100 ND 106 75-125

**Batch EC73020 - EPA 1311/3005**

**Blank (EC73020-BLK1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium ND 0.000975 mg/L

Arsenic ND 0.00170 "

Selenium ND 0.00300 "

Silver ND 0.000405 "

Cadmium ND 0.000692 "

Barium ND 0.000489 "

Lead ND 0.000296 "

**LCS (EC73020-BS1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium 0.190 0.000975 mg/L 0.200 95.0 85-115

Arsenic 0.737 0.00170 " 0.800 92.1 85-115

Selenium 0.396 0.00300 " 0.400 99.0 85-115

Silver 0.104 0.000405 " 0.100 104 85-115

Cadmium 0.198 0.000692 " 0.200 99.0 85-115

Barium 0.200 0.000489 " 0.200 100 85-115

Lead 1.05 0.000296 " 1.10 95.5 85-115

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Metals 1311 by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch EC73020 - EPA 1311/3005**

**LCS Dup (EC73020-BSD1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium	0.189	0.000975	mg/L	0.200		94.5	85-115	0.528	20	
Arsenic	0.732	0.00170	"	0.800		91.5	85-115	0.681	20	
Selenium	0.394	0.00300	"	0.400		98.5	85-115	0.506	20	
Silver	0.103	0.000405	"	0.100		103	85-115	0.966	20	
Cadmium	0.200	0.000692	"	0.200		100	85-115	1.01	20	
Barium	0.207	0.000489	"	0.200		104	85-115	3.44	20	
Lead	1.06	0.000296	"	1.10		96.4	85-115	0.948	20	

**Calibration Check (EC73020-CCV1)**

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium	0.0498		mg/L	0.0500		99.6	90-110			
Arsenic	0.0491		"	0.0500		98.2	90-110			
Selenium	0.0489		"	0.0500		97.8	90-110			
Silver	0.0495		"	0.0500		99.0	90-110			
Cadmium	0.0509		"	0.0500		102	90-110			
Barium	0.0488		"	0.0500		97.6	90-110			
Lead	0.0480		"	0.0500		96.0	90-110			

**Matrix Spike (EC73020-MS1)**

Source: 7C22001-02

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium	0.176	0.00975	mg/L	0.200	ND	88.0	75-125			
Arsenic	0.748	0.0170	"	0.800	ND	93.5	75-125			
Selenium	0.368	0.0300	"	0.400	0.0282	85.0	75-125			
Silver	0.0979	0.00405	"	0.100	0.00110	96.8	75-125			
Cadmium	0.190	0.00692	"	0.200	ND	95.0	75-125			
Barium	0.253	0.00489	"	0.200	0.0804	86.3	75-125			
Lead	0.830	0.00296	"	1.10	ND	75.5	75-125			

**Matrix Spike Dup (EC73020-MSD1)**

Source: 7C22001-02

Prepared: 03/29/07 Analyzed: 03/30/07

Chromium	0.177	0.00975	mg/L	0.200	ND	88.5	75-125	0.567	20	
Arsenic	0.743	0.0170	"	0.800	ND	92.9	75-125	0.671	20	
Selenium	0.375	0.0300	"	0.400	0.0282	86.7	75-125	1.88	20	
Silver	0.0802	0.00405	"	0.100	0.00110	79.1	75-125	19.9	20	
Cadmium	0.191	0.00692	"	0.200	ND	95.5	75-125	0.525	20	
Barium	0.253	0.00489	"	0.200	0.0804	86.3	75-125	0.00	20	
Lead	0.835	0.00296	"	1.10	ND	75.9	75-125	0.601	20	

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Volatile Halocarbons by EPA Method 1311/8021B - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC73101 - EPA GC 1311**

**Blank (EC73101-BLK1)**

Prepared & Analyzed: 03/31/07

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	43.1		ug/l	50.0		86.2	80-120			
Surrogate: 4-Bromofluorobenzene	43.2		"	50.0		86.4	80-120			

**LCS (EC73101-BS1)**

Prepared & Analyzed: 03/31/07

Benzene	0.0452	0.00100	mg/L	0.0500		90.4	80-120			
Toluene	0.0435	0.00100	"	0.0500		87.0	80-120			
Ethylbenzene	0.0452	0.00100	"	0.0500		90.4	80-120			
Xylene (p/m)	0.0861	0.00100	"	0.100		86.1	80-120			
Xylene (o)	0.0458	0.00100	"	0.0500		91.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	45.1		ug/l	50.0		90.2	80-120			
Surrogate: 4-Bromofluorobenzene	41.2		"	50.0		82.4	80-120			

**Calibration Check (EC73101-CCV1)**

Prepared: 03/31/07 Analyzed: 04/02/07

Benzene	50.6		ug/l	50.0		101	80-120			
Toluene	47.8		"	50.0		95.6	80-120			
Ethylbenzene	48.0		"	50.0		96.0	80-120			
Xylene (p/m)	91.0		"	100		91.0	80-120			
Xylene (o)	49.0		"	50.0		98.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	52.0		"	50.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	45.0		"	50.0		90.0	80-120			

**Duplicate (EC73101-DUP1)**

Source: 7C26001-01

Prepared: 03/31/07 Analyzed: 04/02/07

Benzene	0.000631	0.00100	mg/L		0.000608			3.71	20	J
Toluene	ND	0.00100	"		ND				20	
Ethylbenzene	ND	0.00100	"		ND				20	
Xylene (p/m)	0.00138	0.00100	"		0.00143			3.56	20	
Xylene (o)	ND	0.00100	"		ND				20	
Surrogate: a,a,a-Trifluorotoluene	59.2		ug/l	50.0		118	80-120			
Surrogate: 4-Bromofluorobenzene	42.8		"	50.0		85.6	80-120			

Environmental Lab of Texas

A Xenco Laboratories Company

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

**TCLP Volatile Halocarbons by EPA Method 1311/8021B - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC73101 - EPA GC 1311**

Matrix Spike (EC73101-MS1)	Source: 7C26001-01			Prepared: 03/31/07 Analyzed: 04/02/07						
Benzene	0.0509	0.00100	mg/L	0.0500	0.000608	101	80-120			
Toluene	0.0490	0.00100	"	0.0500	ND	98.0	80-120			
Ethylbenzene	0.0495	0.00100	"	0.0500	ND	99.0	80-120			
Xylene (p/m)	0.0957	0.00100	"	0.100	0.00143	94.3	80-120			
Xylene (o)	0.0514	0.00100	"	0.0500	ND	103	80-120			
Surrogate: a,a,a-Trifluorotoluene	63.0		ug/l	50.0		126	80-120			S-04
Surrogate: 4-Bromofluorobenzene	47.5		"	50.0		95.0	80-120			

Environmental Lab of Texas

A Xenco Laboratories Company

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Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: Adobe Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

### Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

O-04 This sample was analyzed outside the EPA recommended holding time.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: \_\_\_\_\_



Date: 4/6/2007

Brent Barron, Laboratory Director/Corp. Technical Director  
Celey D. Keene, Org. Tech Director  
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer  
Jeanne Mc Murrey, Inorg. Tech Director

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 10 of 10

# **Analytical Report 279743**

**for**

## **Southern Union Gas Services-Jal**

**Project Manager: Tony Savoie**

**Adobe Compressor**

**04-APR-07**



**12600 West I-20 East Odessa, Texas 79765**

**NELAC certification numbers:**

**Houston, TX E87603 - Miami, FL E86678 - Tampa, FL E86675**

**Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America**



04-APR-07

Project Manager: **Tony Savoie**  
**Southern Union Gas Services-Jal**  
610 Commerce  
Jal, NM 88252

Reference: XENCO Report No: **279743**  
**Adobe Compressor**  
Project Address: North of Eunice

**Tony Savoie:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 279743. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 279743 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Brent Barron**

Odessa Laboratory Director

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*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

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# Certificate of Analysis Summary 279743

## Southern Union Gas Services-Jal, Jal, NM



**Project Name:** Adobe Compressor

**Date Received in Lab:** Tue Mar-27-07 10:30 am

**Report Date:** 04-APR-07

**Project Manager:** Brent Barron, II

**Project Id:**

**Contact:** Tony Savoie

**Project Location:** North of Eunice

<i>Analysis Requested</i>	<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>
<b>Reactive Cyanide by EPA 9010</b>	279743-001	Adobe		WATER	Mar-26-07 09:31		Mar-29-07 17:28	mg/L RL
Cyanide							ND	0.200
<b>Reactive Sulfide by SW 9030B</b>							Mar-27-07 18:00	mg/L RL
Sulfide							56.0	50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America



**Brent Barron**  
Odessa Laboratory Director



## Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

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11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd, Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
3016 U.S. HWY 301 North - Suite 900, Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(201) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555



# Blank Spike Recovery



**Project Name: Adobe Compressor**

**Work Order #: 279743**

**Project ID:**

**Lab Batch #: 694179**

**Sample: 694179-1-BKS**

**Matrix: Water**

**Date Analyzed: 03/29/2007**

**Date Prepared: 03/29/2007**

**Analyst: MAB**

**Reporting Units: mg/L**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Reactive Cyanide by EPA 9010  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Cyanide	ND	0.400	0.342	86	80-120	

Blank Spike Recovery [D] = 100\*[C]/[B]  
All results are based on MDL and validated for QC purposes.



# BS / BSD Recoveries

Project Name: Adobe Compressor

Work Order #: 279743

Analyst: MAB

Lab Batch ID: 694181

Units: mg/L

Date Prepared: 03/27/2007

Batch #: 1

Sample: 694181-1-BKS

Project ID:

Date Analyzed: 03/27/2007

Matrix: Water

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
ND	7910	7770	98	7910.0	7370	93	5	60-120	20	

Reactive Sulfide by SW 9030B

Analytes

Sulfide

Relative Percent Difference RPD =  $200 * |(D-F)/(D+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Sample Duplicate Recovery



Project Name: Adobe Compressor

Work Order # 279743

Lab Batch #: 694179

Date Analyzed: 03/29/2007

QC- Sample ID: 279744-001 D

Reporting Units: mg/L

Date Prepared: 03/29/2007

Batch #: 1

Project ID:

Analyst: MAB

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Reactive Cyanide by EPA 9010	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Cyanide	ND	ND	NC	20	

Lab Batch #: 694181

Date Analyzed: 03/27/2007

QC- Sample ID: 279744-001 D

Reporting Units: mg/L

Date Prepared: 03/27/2007

Batch #: 1

Analyst: MAB

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Reactive Sulfide by SW 9030B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Sulfide	56.0	ND	NC	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
All Results are based on MDL and validated for QC purposes.



**Environmental Lab of Texas**  
Variance/ Corrective Action Report- Sample Log-In

Client: Southern Union Gas  
 Date/ Time: 03-27-07 @ 1030  
 Lab ID #: 7127010  
 Initials: JMM

**Sample Receipt Checklist**

	Yes	No	Temperature	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>		-3.0 °C <i>not frozen</i>	
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>			
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>		<input type="checkbox"/> Not Present	
#4 Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/>		<input type="checkbox"/> Not Present	
#5 Chain of Custody present?	<input checked="" type="checkbox"/>			
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>			
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>			
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>		<input type="checkbox"/> ID written on Cont / Lid	
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>		<input type="checkbox"/> Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>			
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>			
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>		* See Below	
#13 Samples properly preserved?	<input checked="" type="checkbox"/>		* See Below	
#14 Sample bottles intact?	<input checked="" type="checkbox"/>			
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>			
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>			
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>		See Below	
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>		See Below	
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>		<input type="checkbox"/> Not Applicable	
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>		Not Applicable	

**Variance Documentation**

Contact: Tony Savio Contacted by: Jeanne McMurray Date/ Time: 03-27-07  
 Regarding: TCLP BTEX preservation (should be next and not w/HCl)

Corrective Action Taken:

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Check all that Apply:

- See attached e-mail/ fax
- Client understands and would like to proceed with analysis
- Cooling process had begun shortly after sampling event

APENDIX D:  
NOTICE OF APPLICATION

## APPENDIX D

### PROPOSED NOTICE OF APPLICATION, AND LOCATIONS & NEWSPAPERS FOR PUBLICATION

**Notice of Application by Southern Union Gas Services for Approval of a Discharge Plan for the Adobe Natural Gas Compressor Station:** Southern Union Gas Services, whose offices are located at 301 N. Commerce St., Suite 700, Fort Worth, Texas (76102) seeks approval from the New Mexico Oil Conservation for a Discharge Plan for the Adobe Compressor Station, located in Unit K (NE ¼ of the SW ¼) of Section 23, Township 20 South, Range 38 East in Lea County, New Mexico (32° 33.321' North, 103° 7.252' West). This location is at an elevation of 3560 feet, approximately 8 miles northeast of Eunice, New Mexico. The shallowest groundwater potentially impacted by this facility is at a depth of approximately 30 feet and has a total dissolved solids content of approximately 376 to 678 milligrams per liter. Additional information, comments or statements should be addressed Mr. James C. Hunter, R.G. of Geolex, Inc., 500 Marquette NW, Suite 1350, Albuquerque, NM 87102, Tel. (505-842-8000).

**Aviso de Aplicación por parte de Southern Union Gas Services para la aprobación de un plan de la descarga para la estación del compresor del gas natural de Adobe:**

Southern Union Gas Services, con oficinas que están situadas en 301 N. Commerce St., Suite 700, Fort Worth, Texas (76102) busca la aprobación de New México Oil Conservation Division para un plan de la descarga para la estación del compresor de Adobe, situada en la unidad K del cuarto nordestal del cuarto suroeste de la sección 23, Township 20 South, Range 38 East en el condado de Lea, Nuevo México (32° 33.321' norte, 103° 7.252' oeste). Esta localización está a una elevación de 3560 pies, aproximadamente 8 millas al noreste de Eunice, Nuevo México. Esta estación del compresor se diseña para no tener ninguna descarga líquida intencional. El agua subterránea menos profunda potencialmente afectada por esta facilidad está a una profundidad de aproximadamente 30 pies y tiene un contenido de sólidos disuelto total de aproximadamente 376 a 678 miligramos por litro. Cualquier información, comentario o declaración adicional deben ser dirigidos al Sr. James C. Hunter, R.G. de Geolex, Inc., 500 Marquette Av. NW, habitación 1350, Albuquerque, NM 87102, tel. (505-842-8000).

### PROPOSED POSTINGS, NOTIFICATIONS, AND PUBLICATION

Following NMOCD review and acceptance, we propose to post this notice using a 2'x3' sign, in English and Spanish, at the gate of the above-named facility and to post the 2<sup>nd</sup> sign outside the SUGS office in Jal.

Identified owners of all properties within a 1/3-mile distance from the boundary of the property where the discharge site is located will be provided with copies of this notice by mail. If there are no properties other than properties owned by SUGS within a 1/3-mile distance from the boundary of property where the discharge site is located, notice will be provided to owners of record of the next nearest adjacent properties not owned by the discharger.

Any owners of the lands upon which the proposed discharge site is located not owned by SUGS will be notified by certified, receipt-requested mailing.

The notice will also be advertised, in English and Spanish, in a 3" by 4" display advertisement in the local newspaper, the Hobbs Sun.

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No.  dated 3/5/08

or cash received on \_\_\_\_\_ in the amount of \$ 500<sup>00</sup>

from Southern Union Gas Services

for GW-377

Submitted by: Lawrence Romero Date: 3/12/08

Submitted to ASD by: Lawrence Romero Date: 3/12/08

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee \_\_\_\_\_ New Facility \_\_\_\_\_ Renewal \_\_\_\_\_

Modification \_\_\_\_\_ Other \_\_\_\_\_

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

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

**DETACH AND DESTROY THE ADDRESS STUB BEFORE DEPOSITING THE CHECK**

(Provided vendor a valid Texas Direct Pay Certificate in lieu of getting billed sales tax)

NEW MEXICO OIL CONSERVATION DIVISIO  
1220 SOUTH ST FRANCIS DR  
SANTA FE, NM 87505

**Southern Union Gas Services, Ltd.**  
301 Commerce Street Suite 700  
Fort Worth, TX 76102  
817-302-9400

Check No: 7100007944

INVOICE NUMBER DESCRIPTION	INVOICE DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
030408 Adobe Compres (GW-377) Adobe Compressor Per	03/04/2008	\$500.00 \$0.00		\$500.00

RECEIVED

2008 MAR 7 PM 1 25

Alberto A. Gutiérrez, C.P.G.

February 26, 2008

Mr. Carl Chavez  
Environmental Engineer  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

RE: APPLICATION BY SOUTHERN UNION GAS SERVICES FOR APPROVAL OF A  
DISCHARGE PLAN FOR ADOBE NATURAL GAS COMPRESSOR STATION (GW-377)

Dear Mr. Chavez:

On the behalf of Southern Union Gas Services, Ltd. (SUGS), Geolex, Inc. is submitting the enclosed Discharge Plan Application for the Adobe gas compressor station, located in Unit K (NE ¼ of the SW ¼) of Section 23, Township 20 South, Range 38 East in Lea County, New Mexico (32<sup>0</sup> 33.321' North, 103<sup>0</sup> 7.252' West). This location is at an elevation of 3560 feet, approximately 8 miles northeast of Eunice, New Mexico.

The Adobe Compressor Station has a rated horsepower of 330 HP. Enclosed is a check in the amount of \$500.00 for the permit fee of \$400.00 and the filing fee of \$100.00, as listed in Table 1, Section 20.6.2.3144 of the NMWQCC regulations.

Also included for your review is a draft of the public notice required in NMWQCC section 20.6.2.3108. Following NMOCD review and acceptance, we propose to post this notice using a 2'x3' sign, in English and Spanish, at the gate of the above-named facility. Identified adjacent land owners will be provided with copies of this notice by mail, and any owners of any lands the proposed discharge site not owned by SUGS will be notified by certified, receipt-requested mailing. The notice will also be advertised, in English and Spanish, in a 3" by 4" display advertisement in the Hobbs Sun.

Please contact me at (505) 842-8000 if you have any questions or require additional information regarding this submittal.

Sincerely,  
Geolex, Inc.



James C. Hunter, R.G.

Attachments

G:\06-012\CompressorStationDischargePlans\Adobe\Reports\AdobeDraftOCDCover.doc