

General Permit for
Discharges from Utility Vaults and Underground Structures
to Surface Waters
Order No. 2006-0008-DWQ
NPDES No. CAG990002

Pollution Prevention Plan



Wild Goose Storage Inc.
Wild Goose Gas Storage Project
2780 West Liberty Road
Gridley, CA 95948

Original Issuance – May 2000
Amendment 1 – August 2004
Amendment 2 – September 2008

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Introduction

Utility companies may have multiple discharges from utility vaults and other underground structures as a result of subterranean seepage and/or storm water inflow. These underground structures may have small quantities of oil and grease present due to the normal operation of equipment, as well as small quantities of other pollutants. The purpose of this permit is to facilitate regulation of discharges from these kinds of multiple discharges. The State Water Resources Control Board (SWRCB) has elected to issue a statewide general NPDES permit that may be applied to most discharges from utility companies. In September 1996 the State Water Resources Control Board approved a statewide National Pollutant Discharge Elimination System (NPDES) General Permit CAG99002 for discharges by utility companies to surface waters. To obtain authorization for continued and future discharges to waters of the United States, utility dischargers must submit a Notice of Intent (NOI) to Comply in order to be regulated under this general permit, as provided in 40 Code of Federal Regulations (CFR) Part 122.28 (b) (2).

Wild Goose Storage Inc. (WGSI) became a public natural gas utility upon certification of its natural gas storage project by the California Public Utilities Commission on June 25, 1997. WGSI is unique in that it does not have a defined 'service area', but can offer its natural gas storage services to any customer based on that customer's particular natural gas needs. On February 10, 2000, Wild Goose Storage Inc. filed its NOI and was subsequently issued Waste Discharge Identification (WDID) Number 9000U000059 for this General Permit. Copies of the NOI and acknowledgement response are provided in Appendix B. In 2006, EnCana, parent company of WGSI, sold its United States gas storage assets to Niska Gas Storage, whereupon the legal name for this facility became Wild Goose Storage LLC (WGS). With the 2006 reissue of the General Permit, WGS filed another NOI under its assigned WDID number on October 18, 2006 to continue coverage under the General Permit.

As a condition of the General Permit, utility companies' that propose to discharge at numerous points are required to prepare and implement a Pollution Prevention Plan (Plan) for all discharge locations. In compliance with the requirements of Appendix D to the General Permit, this Plan includes the 4 classes of discharges covered by the General Permit: Scheduled Discharges, Unscheduled Discharges, Reservoir Discharges (if any), and Emergency Operation Discharges. The Plan characterizes the pollutants discharged, identifies existing control measures to reduce pollutants, and describes the Pollution Prevention Practices (PPPs) to be implemented to further reduce or prevent pollutants from encountering storm water. In addition, the Plan includes appropriate scale maps showing the location of the discharges (Appendix A). Lastly, the Plan is intended to comply with Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) for the types of facilities and the anticipated discharges associated with those facilities.

WGS will amend this Plan whenever there is a change in construction, operation or maintenance, when such an amendment is necessary to ensure compliance with BAT or BCT and receiving

water limits. The Plan will also be amended if it is in violation of any conditions of the General Permit or has not achieved the objective of controlling pollutants in discharges to surface waters.

General Description of the Project

The construction of the existing Wild Goose Gas Storage Project in Butte County, California between April 1997 and April 1999 involved the development of a depleted and abandoned underground natural gas field for use in gas storage. The entire project area is located within the jurisdiction of the Redding Office of the Central Valley Regional Water Quality Control Board. As depicted on the attached map, the project components are:

Well Pad Site

The 1.5-acre Well Pad Site was created at the location of the abandoned original Wild Goose Gas Field production compression facility on the Wild Goose Club. The Club consists of over 1400 acres of wetland and riparian lands which are managed as habitat for waterfowl and other wetland/marsh species. As part of the Butte Sink, the entire area is subject to winter flooding when high flows from the Butte Creek watershed encounter Sacramento River flood flows in the Colusa Bypass via Moulton Weir, backing the water up into the Butte Sink. At the Well Pad Site, flood levels have been measured at depths of up to four feet, and the site may be at least partially inundated for up to several weeks. The Well Pad Site is surrounded by a 3- to 4-foot high landscaped berm, and contains 4 injection/withdrawal wells and 1 gas field monitoring well, associated piping, a pig launcher/receiver, and a small building which houses the monitoring and control equipment. The well head valves are in subsurface concrete vaults approximately 10 feet by 15 feet by 8 feet deep, and are normally covered by steel plates. All equipment and facilities are designed to withstand this periodic inundation, except the control building which is elevated above the flood water level. Hydraulic pressure provided by a pump in the control building is used to operate the valves. The site is covered with compacted aggregate road base providing a virtually impervious surface, and drainage is toward the southwest corner where a gate valve controls runoff releases into an adjacent wetland area. Storm water in the subsurface vaults at this site results from rain fall, surface runoff and the flood waters which may inundate the site.

Remote Facility Site

A 6.1-acre Remote Facility Site for metering, processing, and compressing the natural gas, including two 3,335 horsepower natural gas-engine-driven reciprocating compressors, is located on West Liberty Road approximately 4.5 miles east and north of the Well Pad Site. The site contains an office, produced water storage tanks with secondary containment, the compressor building, two arrays of cooling fans, glycol regeneration units with secondary containment, various vessels and piping runs, a compressed air and materials storage building, and a methanol storage tank with secondary containment. While such facilities are normally located at the same site as the wells, this location was chosen to avoid impacts to wetlands. The Remote Facility Site is outside the 100-year flood plain, surrounded on three sides by rice fields. Across the county road from the facility is the State of California's Gray Lodge Wildlife Management Area which provides extensive riparian and wetland acreage. The site is covered with aggregate providing a permeable surface, and drainage is generally southerly toward the ditch along the north edge of

the county road. This ditch drains toward the west, consistent with the very flat gradient in the vicinity.

Natural Gas Pipeline

A 4.5-mile, 18-inch-diameter bi-directional natural gas pipeline and 3-inch-diameter produced water pipeline, both installed underground with at least five feet of cover, connect the Well Pad Site with the Remote Facility Site. There are no storm water discharges associated with the pipeline.

Pollutants Potentially Subject to Contact With Storm Water

Potential pollutants which may mix with storm water either in the subsurface vaults at the Well Pad Site or in open secondary containment at the Remote Facility Site are hydraulic oil, oil and grease lubricants, glycol and methanol. In all cases, volumes subject to contact with storm water are limited only to residual surface films found on the valves, piping, flanges or other similar components, or small puddles where these pollutants might have dripped from the components. The systems/equipment and pollutants subject to storm water contact and discharges are listed below.

System/Facility	Pollutant	Trade Name	MSDS #
Gas well valve vaults	Hydraulic oil	Chevron Clarity	6691
Glycol Containment	Oil & Grease	N/A	
Glycol Containment	Glycol	Triethylene Glycol	DW24758
Produced water containment	Oil & Grease	N/A	
Methanol containment	Oil & Grease	N/A	
Methanol containment	Methanol	(aka methyl alcohol)	0001447-007.001

MSDS sheets for each pollutant are included in Appendix C.

Scheduled Discharges

Scheduled discharges are required from the gas well valve vaults at the Well Pad Site, and from the open secondary containment structures surrounding the produced water storage tanks, the glycol storage tank, and the methanol storage tank at the Remote Facility Site. This section identifies the types of discharges at each facility, the expected pollutant constituents in those discharges, the duration of the discharge, the existing control measures to reduce pollutants, and the proposed Pollution Prevention Practices designed to further reduce or eliminate pollutant contact with storm water. These practices are drawn from the California Storm Water Best Management Practice Handbook for Industrial/Commercial operations (Storm Water Quality Task Force – March, 1993) and from the Guidance Manual for Storm Water Discharges Associated With Industrial Activity (EPA – April, 1991).

Gas Well Valve Vaults

TYPES OF DISCHARGES: These subsurface vaults are pumped to remove storm water which collects in the vaults. The storm water is pumped onto the well pad surface, flowing to and ponding at the southwest corner where the gate valve is located.

POLLUTANT CONSTITUENTS: Based on samples taken in late-1999 and early-2000 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Petroleum Hydrocarbons (TPH)	ND* to 2600 ppb
Total Suspended Solids	10 to 40 mg/l
Oil & Grease	< 1.0 to 4.3 mg/l
pH	7.4 to 7.9

* ND = Not Detectable

DISCHARGE DURATION: Assuming all vaults are full, a 20 gallon-per-minute pump will take approximately 5 hours to empty each 5000 gallon vault, for a total discharge duration of approximately 25 hours. Frequency of vault pumping is dependent on rainfall amounts and intensity, but typically is required 4 times during the rainy season of October through April.

EXISTING CONTROL MEASURES: Following well head valve maintenance, all oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Vault storm water levels are monitored weekly during the rainy season.

POLLUTION PREVENTION PRACTICES: Prior to vault pumping, the collected storm water will be visually inspected for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed.

Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff.

Glycol Regeneration Unit Containment

TYPES OF DISCHARGES: The two regeneration units contain a total of approximately 11,000 gallons of glycol, and are situated in a basin providing 110 percent external containment. The open concrete-walled containment does not have a manually-operated drain valve to allow gravity flow, so storm water must be pumped onto adjacent land surfaces.

POLLUTANT CONSTITUENTS: Based on samples taken in late-1999 and early-2000 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Petroleum Hydrocarbons (TPH)	120 to 980 ppb
Total Suspended Solids	<5 to 9.0 mg/l
Oil & Grease	<1 mg/l
pH	6.5 to 8.0
Glycol-based constituents	Not tested

DISCHARGE DURATION: The containment is pumped following major storm events or when storm water depth reaches approximately 6 inches. Depending on the amount of storm water accumulated in the containment, the discharge typically lasts 30 to 60 minutes.

EXISTING CONTROL MEASURES: Following maintenance of the tank valves and other equipment, all spilled glycol and oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Between scheduled maintenance activities, visual inspections of valves and flanges are conducted daily for glycol leakage or seepage.

POLLUTION PREVENTION PRACTICES: Prior to pumping the storm water onto the ground surface, the operator will inspect the contained water for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed. Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff. Where practicable, overhead coverage will be provided/installed over specific facility or equipment components which are the source of pollutants to preclude direct contact with storm water.

Produced Water Tank Containment

TYPES OF DISCHARGES: The six storage tanks, representing 100,800 gallons, are situated in a basin providing 110 percent external containment. This open concrete-walled containment does not have a manually-operated drain valve to allow gravity flow, so storm water must be pumped onto adjacent land surfaces.

POLLUTANT CONSTITUENTS: Based on samples taken in late-1999 and early-2000 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Petroleum Hydrocarbons (TPH)	ND
Total Suspended Solids	<5.0 mg/l
Oil & Grease	<1.0 mg/l
pH	8.8 to 9.0

DISCHARGE DURATION: The containment is pumped following major storm events or when storm water depth reaches approximately 6 inches. Depending on the amount of storm water accumulated in the containment, the discharge typically lasts 30 to 60 minutes.

EXISTING CONTROL MEASURES: Following maintenance of the tank valves and other equipment, all oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Between scheduled maintenance activities, visual inspections of valves and flanges are conducted daily for produced water leakage or seepage. Prior to manually releasing the storm water to the ground, the operator inspects the contained water for evidence of an oil sheen. If a sheen is detected, absorbent pads are placed on the water surface to remove the visible sheen.

POLLUTION PREVENTION PRACTICES: Prior to pumping the storm water onto the ground surface, the operator will inspect the contained water for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed. Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff. Where practicable, overhead coverage will be provided/installed over specific facility or equipment components which are the source of pollutants to preclude direct contact with storm water.

Methanol Tank Containment

TYPES OF DISCHARGES: The 400 gallon storage tank is situated in a basin providing 110 percent external containment. This open concrete-walled containment does not have a manually-operated drain valve to allow gravity flow, so storm water must be pumped onto adjacent land surfaces.

POLLUTANT CONSTITUENTS: Based on samples taken in late-1999 and early-2000 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Petroleum Hydrocarbons (TPH)	ND
Total Suspended Solids	<5.0 mg/l
Oil & Grease	<1 mg/l
pH	9.0
Methanol-based constituents	Not tested

DISCHARGE DURATION: The containment is pumped following major storm events or when storm water depth reaches approximately 6 inches. Depending on the amount of storm water accumulated in the containment, the discharge typically lasts 10 to 20 minutes.

EXISTING CONTROL MEASURES: Following maintenance of the tank valves and other equipment, all spilled methanol, oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Between scheduled maintenance activities, visual inspections of valves and flanges are conducted daily for methanol leakage or seepage.

POLLUTION PREVENTION PRACTICES: Prior to pumping the storm water onto the ground surface, the operator will inspect the contained water for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed. Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff. Where practicable, overhead coverage will be provided/installed on specific facility or equipment components which are the source of pollutants to preclude direct contact with storm water.

Other Discharges

Unscheduled Discharges

Since all discharges are directly controlled by the operators by activating manual valves or by using portable pumps, no unscheduled discharges can occur.

Reservoir Discharges

There are no reservoir discharges associated with the project.

Emergency Operations Discharges

The four facilities which produce storm water discharges are not affected by emergency operations of the natural gas storage project, so no emergency discharges can occur.

Monitoring and Reporting

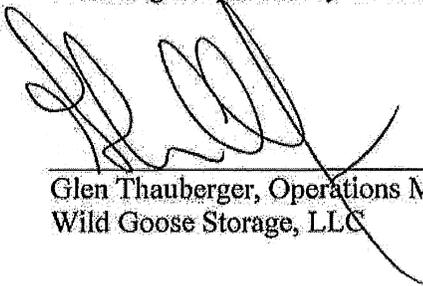
WGS has initiated a representative sampling and analysis program to characterize the typical types of discharges occurring from the four facilities/locations described above. Sampling will be representative of the monitored activities and facilities, and will be performed after implementation of the Pollution Prevention Practices outlined in this plan. These 'case studies' will be submitted with the first annual report in March 2001. Subsequent annual reports will include TPH and Oil & Grease results of representative samples from the four facilities. Concentrations of pollutant constituents which exceed the reporting limit will be included in the annual report. Concentrations of pollutant constituents which may cause a violation of any applicable water quality objective for the receiving waters, including prohibition of discharge, will be removed by a vacuum truck and disposed of in compliance with applicable regulations.

Alternatives to Discharge to Surface Waters

The four facilities/equipment covered by this Plan are located either at the Well Pad Site or at the Remote Facility Site. The pumped discharges from the gas well vaults at the Well Pad Site will necessarily flow into 'surface waters', since the entire site is surrounded by wetlands. As such, land disposal is not an option. The three facilities/equipment at the Remote Facility Site require pumped discharge of storm water collected in secondary containment structures. While storm water from all of these containments will be discharged directly to land within the gravel surfaced operations area, the discharged storm water may follow the site gradient and run off into the drainage ditch along the north side of West Liberty Road. As such, pollutants may be indirectly discharged to surface waters in this manner.

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

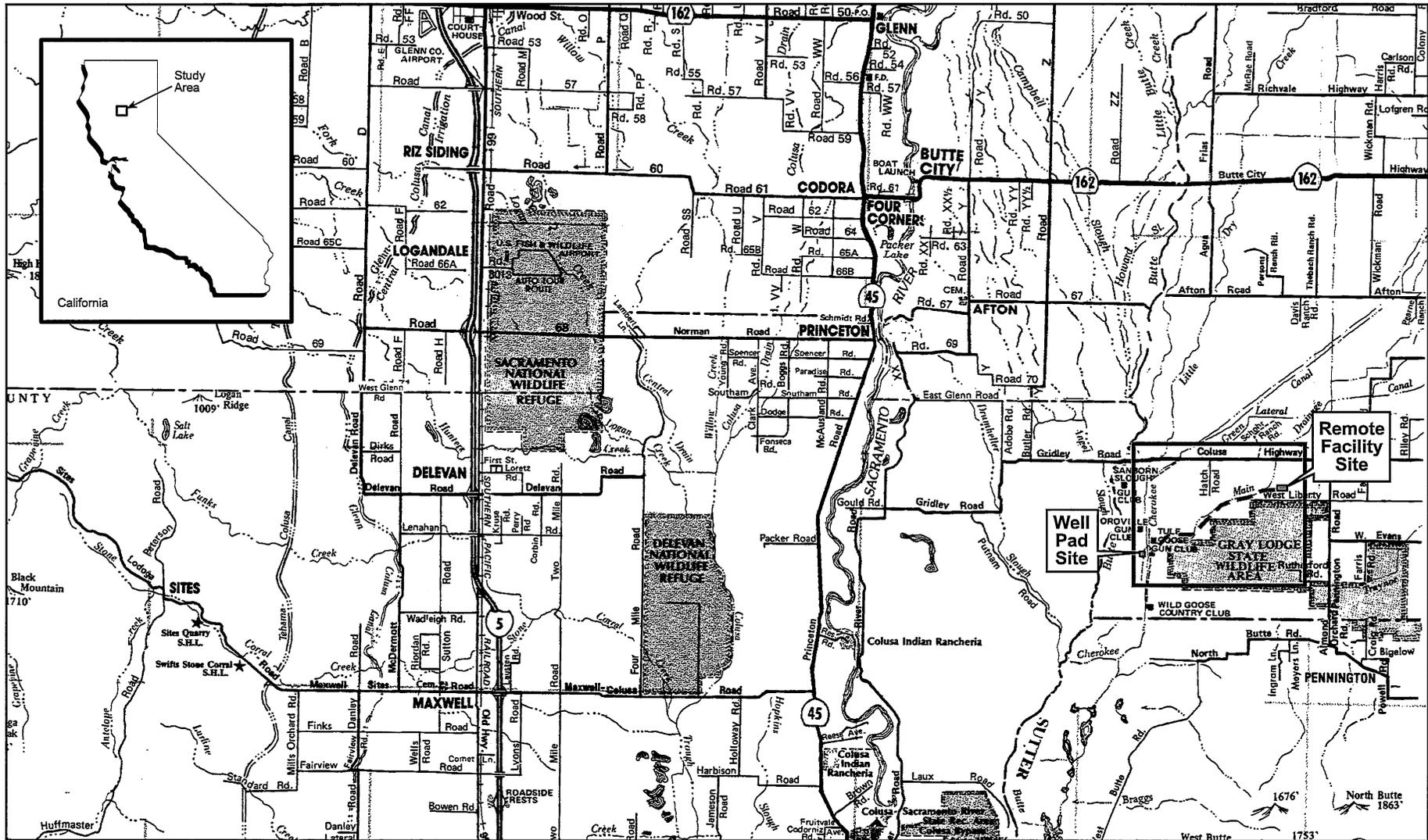


Glen Thauberger, Operations Manager
Wild Goose Storage, LLC

Sept. 12/08
Date

Appendix A

Project Maps



Facilities Location Map

Wild Goose Storage Inc. - Gas Storage Facilities Project

- LEGEND**
-  Existing Pipelines and Facilities
 -  Project Site



Figure 1

Matrix Environmental Planning, July 2001

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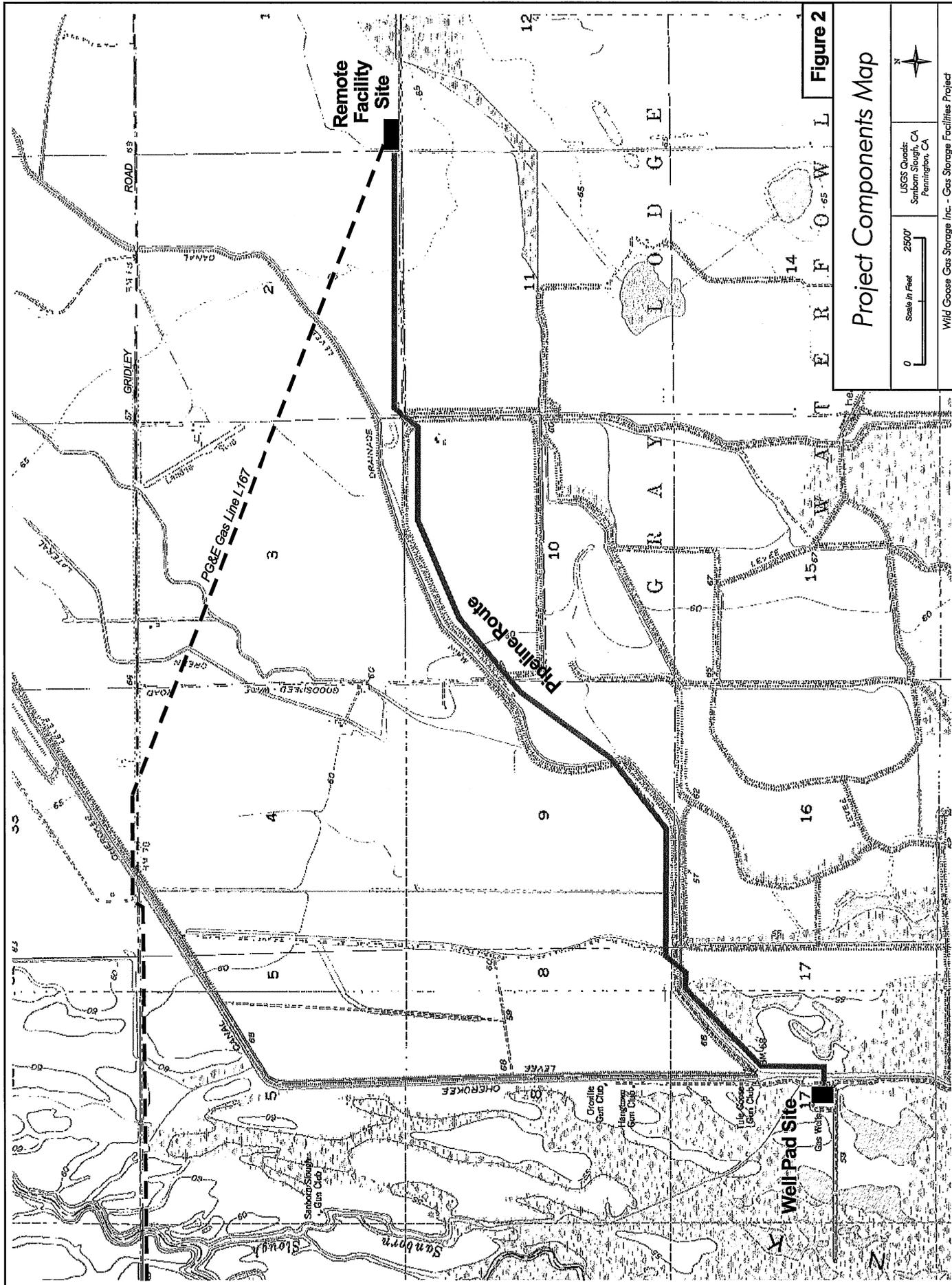


Figure 2

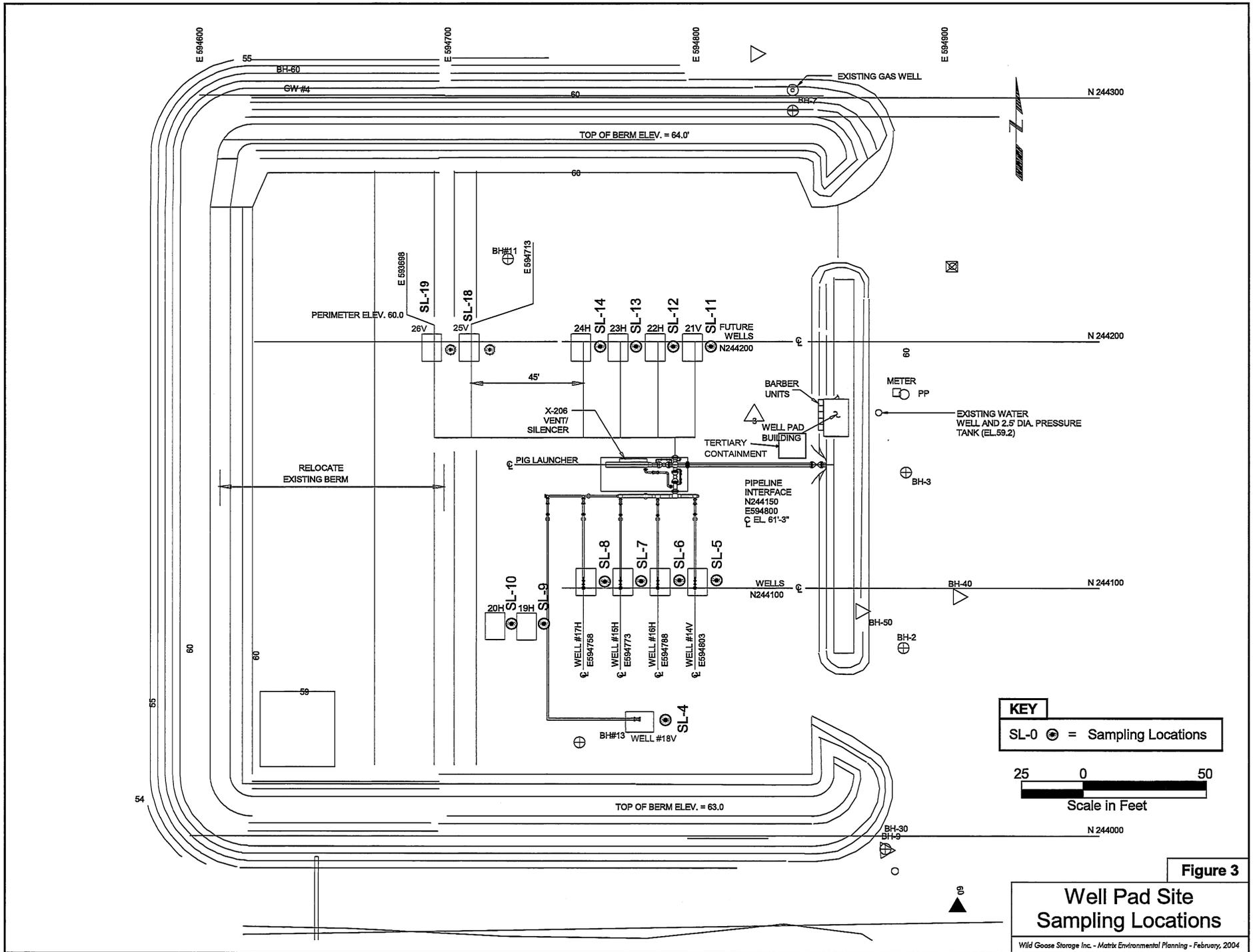
Project Components Map

Scale in Feet 2500'

USGS Quads: Sanborn Slough, CA Penningsen, CA

North Arrow

Wild Goose Gas Storage Inc. - Gas Storage Facilities Project

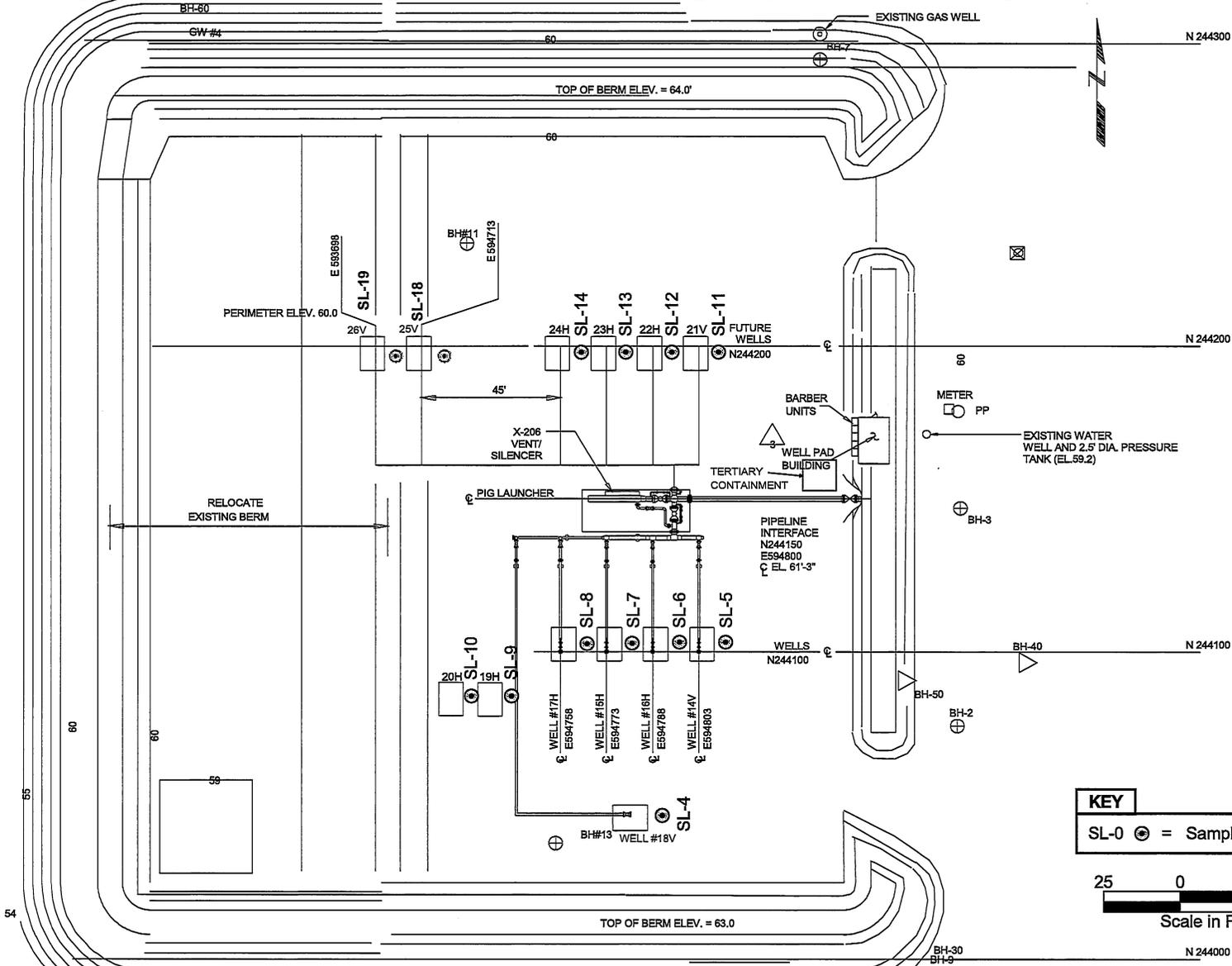


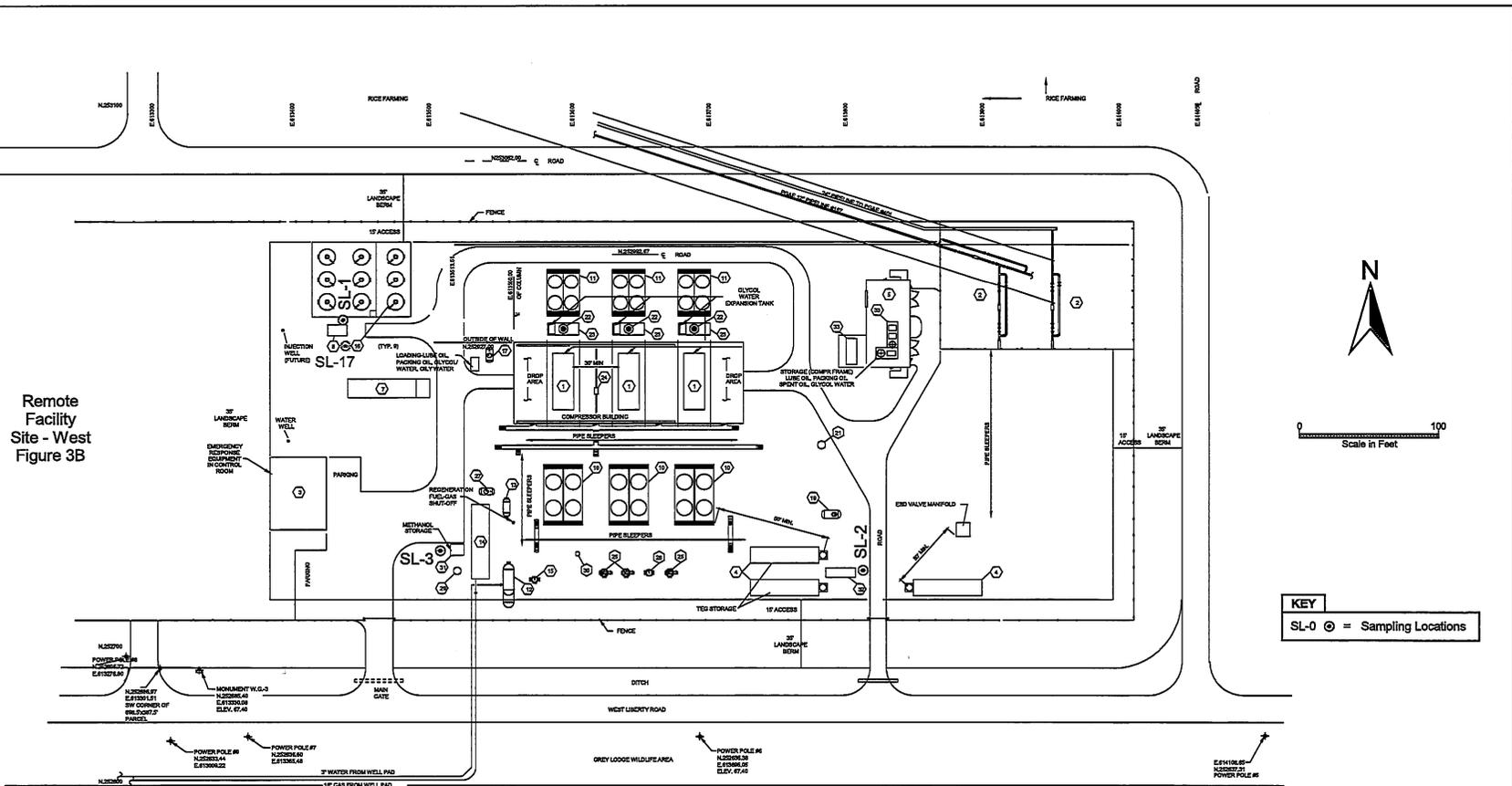
E 594600

E 594700

E 594800

E 594900





Remote Facility Site - West
Figure 3B

KEY
SL-0 ⊙ = Sampling Locations

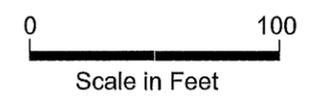
LEGEND

- | | | | |
|--|---|---|-----------------------------------|
| ① COMPRESSOR UNITS | ⑪ COMPRESSOR JACKET WATER COOLERS | ⑲ GLYCOL DRAIN TANK WITH SECONDARY CONTAINMENT | ⑳ GLYCOL CONTACTOR AFTER SCRUBBER |
| ② PG&E INTERCONNECTS (METER, INSTRUMENT BUILDING & ODORIZER) | ⑫ INLET SEPARATOR | ⑳ BLOWDOWN VENT SILENCER | ㉑ BLOWDOWN VENT SILENCER |
| ③ CONTROL ROOM / OFFICE BLDG. | ⑬ DISCHARGE SCRUBBER | ㉒ ENGINE EXHAUSTS | ⑳ BLOWDOWN VENT SILENCER |
| ④ GLYCOL REGENERATION | ⑭ PIG RECEIVER | ㉓ COMBUSTION AIR INTAKES | ㉔ METHANOL INJECTION SYSTEM |
| ⑤ MECHANICAL BUILDING | ⑮ PROCESS WATER TANKS | ㉔ OVERHEAD BRIDGE CRANE | ㉕ THERMAL OXIDIZER |
| ⑦ PDC / STAND-BY GENERATOR | ⑯ PRODUCED WATER TANKS | ㉖ GLYCOL CONTACTOR TOWERS | ㉗ INSTRUMENT AIR COMPRESSOR |
| ⑩ COMPRESSOR GAS COOLERS | ⑰ OILY WATER DRAIN WITH SECONDARY CONTAINMENT | ㉗ PROCESS DRAIN TANK WITH SECONDARY CONTAINMENT | |

Figure 3A

**Remote Facility Site - East
Sampling Locations**

Wild Geese Storage Inc. - Matrix Environmental Planning - February 2005

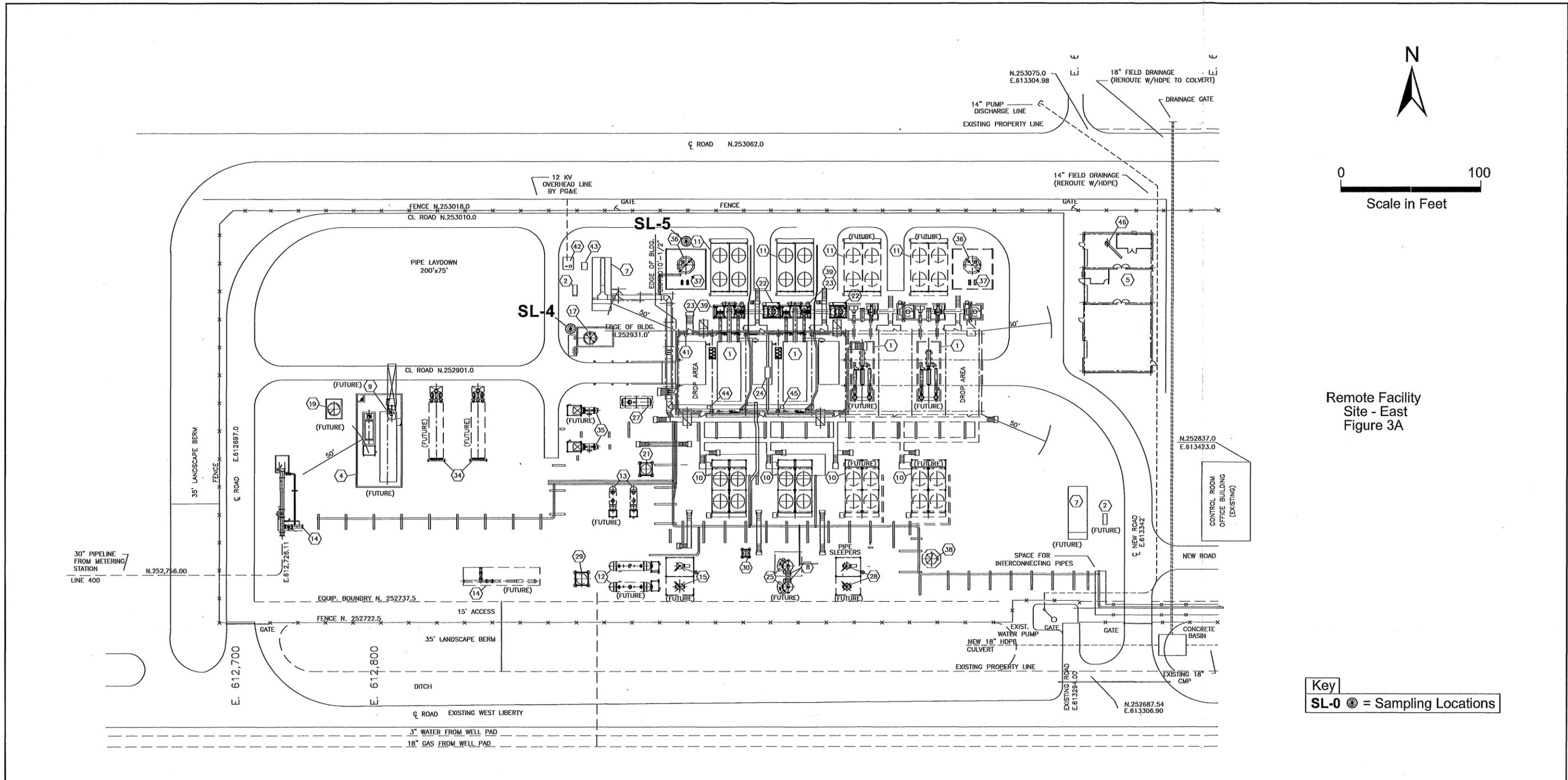


Remote Facility Site - East
Figure 3A

Key
SL-0 = Sampling Locations

Figure - 3B

Remote Facility Site - West
Sample Locations



- | | | |
|--|---|--|
| 1 INJECTION COMPRESSOR PACKAGE
C-101A/B-2 | 15 PROCESS GAS FILTER
V-204-2/3 | 34 LINE HEATERS
H-200/1-3 |
| 2 EMERGENCY GENERATOR
G1-2 | 17 BUILDING DRAIN TANK
T-301-2 | 35 INLET FILTER / SEPARATOR
V-101-2/3 |
| 4 DEHY REGENERATION PACKAGE
U-201B-3 | 19 GLYCOL DRAIN TANK
T-303-3 (TEG STORAGE DURING SHUTDOWN) | 36 AQUEOUS UREA STORAGE TANK
T-101-2 |
| 5 SHOPS / WAREHOUSE BUILDING | 21 COMPRESSOR AREA
BLOWDOWN VENT/SILENCER X-201-2 | 37 AQUEOUS UREA TRANSFER PUMP
P-101-2 |
| 7 PDC | 22 SCR / EXHAUST | 38 INSTRUMENT AIR RECEIVER
V-301-2 |
| 8 TEG GLYCOL/GAS EXCHANGER
U-201A-2/3-E1 | 23 COMBUSTION AIR INTAKES | 39 UREA SKID |
| 9 GLYCOL DRAIN PUMP
P-303-3 | 24 COMPRESSOR BUILDING BRIDGE CRANE
CR-101-2 | 41 COMPRESSOR BLDG. SUMP/PUMP
P-301-2 |
| 10 DISCHARGE GAS COOLER
C-101A/B-2 A1 | 25 TEG CONTACTORS
U-201A-2/3-V1 | 42 POWER TRANSFORMER
(BY PG&E) |
| 11 COMPRESSOR JACKET WATER COOLERS | 27 PROCESS DRAIN TANK
T-302-2 (BURIED) | 43 POWER METER PEDESTAL
(BY PG&E) |
| 12 INLET SEPARATOR
V-103-2/3 | 28 GLYCOL CONTACTOR AFTER SCRUBBER
V-205-2/3 | 44 START GAS VENT SILENCER
X-204-2 |
| 13 DISCHARGE SCRUBBER
V-103-2/3 | 29 INLET AREA
BLOWDOWN VENT / SILENCER X-202-2 | 45 START GAS VENT SILENCER
X-205-2 |
| 14 PIG RECEIVER (BY REI)
V-203-2 | 30 IDEHYDRATION AREA
BLOWDOWN VENT / SILENCER X-203-2 | 46 SHOPS / WAREHOUSE JIB CRANE
CR-102-2 |

Appendix B

Notice of Intent

NOTICE OF INTENT (NOI)
WATER QUALITY ORDER NO. 2006-0008-DWQ
STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT FOR DISCHARGES FROM UTILITY VAULTS AND UNDERGROUND STRUCTURES TO
SURFACE WATERS OF THE UNITED STATES
GENERAL PERMIT NO. CAG990002

I. NOTICE OF INTENT STATUS (See Instructions)

MARK ONLY ONE ITEM	1. <input checked="" type="checkbox"/> New Discharger	2. <input type="checkbox"/> Change of Information – WDID #
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II. OWNER/OPERATOR (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name Wild Goose Storage Inc.		Owner/Operator Type (Check One) 1. <input type="checkbox"/> City 2. <input type="checkbox"/> County 3. <input type="checkbox"/> State 4. <input type="checkbox"/> Gov. Combo 5. <input checked="" type="checkbox"/> Private		
B. Mailing Address 2780 West Liberty Road				
C. City Gridley	D. County Butte	E. State CA	F. Zip Code 95948	
G. Contact Person Wayne Mardian	H. Title Superintendent, US Gas Storage		I. Phone 530.846.7350	

ADDITIONAL OWNERS

III. BILLING ADDRESS (Enter information only if different from above)

Send to: <input checked="" type="checkbox"/> Owner/Operator <input type="checkbox"/> Other	A. Name	B. Title		
	C. Mailing Address			
D. City	E. County	F. State	G. Zip Code	

IV. RECEIVING WATER INFORMATION

A. Receiving water(s): Butte Creek	B. Describe the types of receiving waters affected: Irrigation/drainage canals & wetland management waterways draining eventually to Butte Creek
C. Regional Water Quality Control Board(s) where discharge sites are located: List all regions where discharge of wastewater is proposed, i.e. Region(s) 1, 2, 3, 4, 5, 6, 7, 8, and/or 9	

Region 5N

V. LAND DISPOSAL/RECLAMATION

The State Water Resources Control Board's water rights authority encourages the disposal of wastewater on land or re-use of wastewater where practical. You must evaluate and rule out this alternative prior to any discharge to surface water under this Order.

Is land disposal/reclamation feasible? Yes No

If Yes, you should contact the Regional Water Board. This Order does not apply if there is no discharge to surface waters. If No, explain:

VI. VERIFICATION

Have you contacted the appropriate Regional Water Board or verified in the appropriate Basin Plan that the proposed discharge will not violate prohibitions or orders of that Regional Water Board? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

VII. TYPE (Check All That Apply)

<input type="checkbox"/> Electric	<input checked="" type="checkbox"/> Natural Gas	<input type="checkbox"/> Telephone	<input type="checkbox"/> Other:
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VIII. POLLUTION PREVENTION PRACTICES PLAN INFORMATION

A. Company Name Wild Goose Gas Storage Inc.			B. Contact Person Wayne Mardian	
C. Street Address Where PLAN is Located 2780 West Liberty Road			D. Title of Contact Person Superintendent, US Gas Storage	
E. City Gridley	F. County Butte	G. State CA	F. Zip Code 95948	I. Phone 530.846.7350

IX. DESCRIPTION OF DISCHARGE

Describe the discharge(s) proposed. List any potential pollutants in the discharge. Attach additional sheets if needed.
Discharges of storm water from subsurface gas valve vaults and from secondary containment basins of liquid above-ground tanks.

X. VICINITY MAP AND FEE

A. Have you included vicinity map(s) with this submittal?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Separate vicinity maps must be submitted for each Region where a proposed discharge will occur.		
B. Have you included payment of the filing fee (for first-time enrollees only) with this submittal?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C. Have you included your PLAN?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

XI. CERTIFICATION

" I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility and the development and implementation of Pollution Prevention Practices, if required, will be complied with."

A. Printed Name: Wayne Mardian	
B. Signature:	C. Date:
D. Title: Superintendent, US Gas Storage	

PLEASE SUBMIT THE NOI, FIRST ANNUAL FEE, PLAN AND MAP TO THE FOLLOWING ADDRESS:

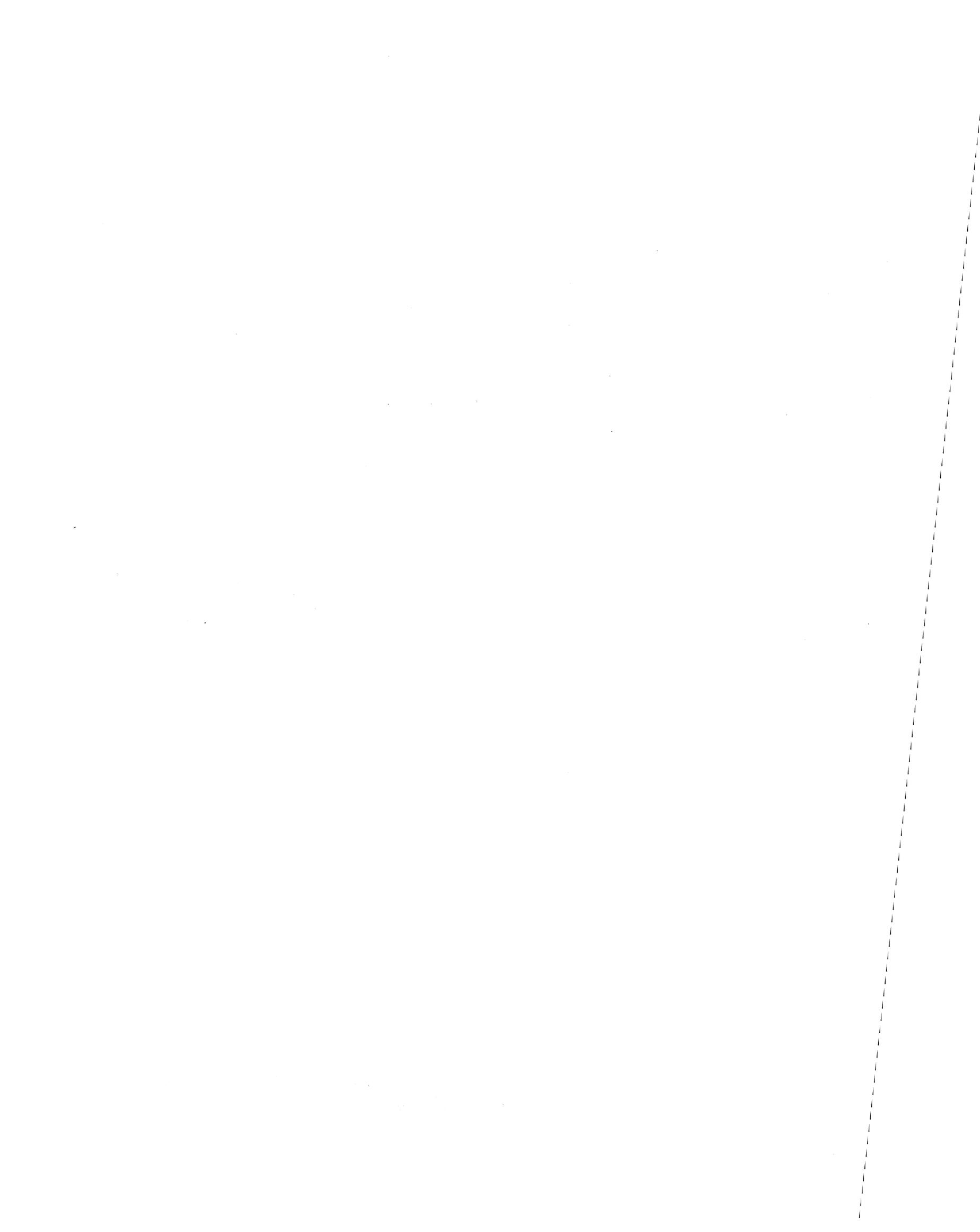
**UTILITIES NOI
 NPDES UNIT
 DIVISION OF WATER QUALITY
 STATE WATER RESOURCES CONTROL BOARD
 P.O. BOX 100
 SACRAMENTO, CA 95812-0100**

STATE USE ONLY

WDID:	Regional Board Office	Date NOI Received:	Date NOI Processed:
		Fee Amount Received: \$	Check #:

Appendix C

MSDS Sheets



MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 001
Date Prepared: 01/05/96
Date Printed: 09/28/96
MSDS No: 0001447-007.001

METHANOL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: METHANOL
General or Generic ID: ALCOHOL

Company
Ashland Chemical Co.
P.O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
METHYL ALCOHOL	67-56-1	100.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Exposure may cause mild eye irritation. Symptoms may include stinging, tearing, and redness.

Skin

Exposure may cause mild skin irritation. Prolonged or repeated exposure may dry the skin. Symptoms may include redness, burning, drying and cracking, and skin burns. Skin absorption is possible, and may contribute to symptoms of toxicity from other routes of exposure.

Swallowing

Single dose oral toxicity is moderate. Swallowing may be harmful.

Inhalation

Exposure to vapor or mist is possible. Short-term inhalation toxicity is low. Breathing small amounts during normal handling is not likely to cause harmful effects; breathing large amounts may be harmful. Symptoms are more typically seen at air concentrations exceeding the recommended exposure limits.

Symptoms of Exposure

gastrointestinal irritation (nausea, vomiting, diarrhea), irritation (nose, throat, respiratory tract), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), leg cramps, abdominal and low back pain, blurred vision, shortness of breath, cyanosis (characterized by bluish discoloration of the skin and nails), visual impairment (including blindness), coma, and death.

Target Organ Effects

Exposure to lethal concentrations of methanol has been shown to cause damage to organs including liver, kidneys, pancreas, heart, lungs and brain. Although this rarely occurs, survivors of severe intoxication may suffer from permanent neurological damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate pre-existing disorders of these organs in humans: central nervous system damage. Overexposure to this material (or its components) has

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

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Date Prepared: 01/05/96
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MSDS No: 0001447-007.001

METHANOL

been suggested as a cause of the following effects in humans, and may aggravate pre-existing disorders of these organs: Visual impairment.

Developmental Information

While there is sufficient evidence that methanol causes birth defects in experimental animals, the relevance of these findings to humans is uncertain because of differences in metabolism and toxicity of methanol between humans and non-primates.

Cancer Information

No data

Other Health Effects

No data

Primary Route(s) of Entry

Inhalation, Skin absorption, Skin contact, Eye contact.

4. FIRST AID MEASURES

Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing

If swallowed, seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If individual is conscious and alert, induce vomiting by giving syrup of ipecac or by gently placing two fingers at the back of the throat. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Note to Physicians

This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis.

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 003
Date Prepared: 01/05/96
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MSDS No: 0001447-007.001

METHANOL

5. FIRE FIGHTING MEASURES

Flash Point

54.0 F (12.2 C) TCC

Explosive Limit

(for product) Lower 6.0 % Upper 36.0 %

Autoignition Temperature

725.0 F

Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide.

Fire and Explosion Hazards

Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

alcohol foam, carbon dioxide, dry chemical.

Fire Fighting Instructions

Water may be ineffective. Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 1, Flammability - 3, Reactivity - 0

6. ACCIDENTAL RELEASE MEASURES

Small Spill

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five gallon pails
Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 004
Date Prepared: 01/05/96
Date Printed: 09/28/96
MSDS No: 0001447-007.001

METHANOL

and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection

Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots..

Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

METHYL ALCOHOL (67-56-1)
OSHA VPEL 200.000 ppm - TWA (Skin)
OSHA VPEL 250.000 ppm - STEL (Skin)
ACGIH TLV 200.000 ppm - TWA (Skin)
ACGIH TLV 250.000 ppm - STEL (Skin)

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point.

(for product) 147.0 F (63.8 C) @ 760 mmHg

Vapor Pressure

(for product) 41.600 mmHg @ 68.00 F

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 005
Date Prepared: 01/05/96
Date Printed: 09/28/96
MSDS No: 0001447-007.001

METHANOL

Specific Vapor Density
1.110 @ AIR=1

Specific Gravity
.795 @ 68.00 F

Liquid Density
6.630 lbs/gal @ 60.00 F
.795 kg/l @ 15.60 C

Percent Volatiles
100.0 %

Volatile Organic Compounds (VOC)
100.000 %
795.000 g/l
6.630 lbs/gal

Evaporation Rate
2.10 (N-BUTYL ACETATE)

Appearance
CLEAR, COLORLESS MOBILE LIQUID

State
LIQUID

Physical Form
NEAT

Color
CLEAR, APHA COLOR 5 MAX

Odor
MILD ALCOHOL

pH
No data

Viscosity
.6 cps

Freezing Point
-144.0 F (-97.7 C)

Molecular Weight
32.0

Solubility in Water
COMPLETE

Bulk Density
.890 lbs/ft³

10. STABILITY AND REACTIVITY

Hazardous Polymerization
Product will not undergo hazardous polymerization.

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 006

Date Prepared: 01/05/96

Date Printed: 09/28/96

MSDS No: 0001447-007.001

METHANOL

Hazardous Decomposition

May form: carbon dioxide and carbon monoxide.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: reactive metals such as aluminum and magnesium, strong acids, strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

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

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

METHANOL, 3 (FLAMMABLE LIQUID), UN1230, II

Container/Mode:

55 GAL DRUM/TRUCK PACKAGE

NOS Component:

None

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs) Component

5000

METHANOL

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland Chemical Co.

Page 007
 Date Prepared: 01/05/96
 Date Printed: 09/28/96
 MSDS No: 0001447-007.001

METHANOL

CERCLA RQ - 40 CFR 302.4

Component	RQ (lbs)
METHYL ALCOHOL	5000

SARA 302 Components - 40 CFR 355 Appendix A
 None

Section 311/312 Hazard Class - 40 CFR 370.2
 Immediate(X) Delayed(X) Fire(X) Reactive() Sudden Release of Pressure()

SARA 313 Components - 40 CFR 372.65

Section 313 Component(s)	CAS Number	Max %
METHANOL	67-56-1	100.00

International Regulations

Inventory Status

DSL (CANADA) The intentional ingredients of this product are listed.
 EINECS (EUROPE) The intentional ingredients of this product are listed.
 TCCL (KOREA) The intentional ingredients of this product are listed.

State and Local Regulations

California Proposition 65

None

New Jersey RTK Label Information

METHYL ALCOHOL 67-56-1

Pennsylvania RTK Label Information

METHANOL 67-56-1

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Post-It™ brand fax transmittal memo 7671		# of pages >
To	Wayne Marshall	From Dave Taylor
Co.	Wild Goose Gas	Co.
Dept.		Phone # 530-846-7350
Fax #		Fax #

Last page

PRODUCT NAME:
TRIETHYLENE GLYCOL TECHNICAL - E

MSDS #: DW24758

2. COMPOSITION/INFORMATION ON INGREDIENTS

TRIETHYLENE GLYCOL	CAS# 000112-27-6	98% (MIN)
DIETHYLENE GLYCOL	CAS# 000111-46-6	1% (MAX)

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* COLORLESS LIQUID. SLIGHT ODOR. NO SIGNIFICANT IMMEDIATE HAZARDS FOR *
* EMERGENCY RESPONSE ARE KNOWN. *
* *

POTENTIAL HEALTH EFFECTS (SEE SECTION 11 FOR TOXICOLOGICAL DATA.)

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION.
MISTS MAY CAUSE EYE IRRITATION.

SKIN CONTACT: PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN
IRRITATION. MAY CAUSE MORE SEVERE RESPONSE IF SKIN IS ABRADED
(SCRATCHED OR CUT).

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO
RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL
AMOUNTS. MASSIVE CONTACT WITH DAMAGED SKIN OR OF MATERIAL
SUFFICIENTLY HOT TO BURN SKIN MAY RESULT IN ABSORPTION OF
POTENTIALLY LETHAL AMOUNTS.

INGESTION: SINGLE DOSE ORAL TOXICITY IS LOW. INGESTION OF LARGE
AMOUNTS MAY CAUSE INJURY. THE ORAL LD50 FOR RATS IS 16,800 -
22,060 MG/KG.

INHALATION: AT ROOM TEMPERATURE, VAPORS ARE MINIMAL DUE TO
PHYSICAL PROPERTIES. MISTS MAY CAUSE IRRITATION OF UPPER
RESPIRATORY TRACT. THE LC50 FOR RATS IS GREATER THAN 4.5
MG/LITER AS AN AEROSOL.

SYSTEMIC & OTHER EFFECTS: BASED ON AVAILABLE DATA, REPEATED
EXPOSURES ARE NOT EXPECTED TO CAUSE SIGNIFICANT ADVERSE
EFFECTS EXCEPT AT VERY HIGH AEROSOL CONCENTRATIONS. REPEATED
EXCESSIVE EXPOSURES MAY CAUSE RESPIRATORY TRACT IRRITATION AND
EVEN DEATH.

CANCER INFORMATION: DID NOT CAUSE CANCER IN LONG-TERM ANIMAL
STUDIES.

TERATOLOGY (BIRTH DEFECTS): BIRTH DEFECTS ARE UNLIKELY. IN
LABORATORY ANIMALS HOWEVER, EXPOSURES HAVING NO ADVERSE EFFECTS
ON THE MOTHER HAD OTHER HARMFUL EFFECTS ON THE FETUS. HAS BEEN
TOXIC TO THE FETUS IN LABORATORY ANIMALS AT DOSES NONTOXIC TO
THE MOTHER. (ORAL GAVAGE ROUTE IN MICE). HAS BEEN TOXIC TO THE
FETUS IN LABORATORY ANIMALS AT DOSES TOXIC TO THE MOTHER. (ORAL
GAVAGE ROUTE IN RATS). DOSE LEVELS PRODUCING THESE EFFECTS
WERE MANY TIMES HIGHER THAN ANY DOSE LEVELS EXPECTED FROM
EXPOSURE DUE TO USE.

REPRODUCTIVE EFFECTS: IN ANIMAL STUDIES, HAS BEEN SHOWN NOT TO
INTERFERE WITH REPRODUCTION.

4. FIRST AID

EYES: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: INDUCE VOMITING IF LARGE AMOUNTS ARE INGESTED.
CONSULT MEDICAL PERSONNEL.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A
PHYSICIAN.

NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE.
TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO
THE PATIENT.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 350F; 177C

METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: NOT AVAILABLE

FLAMMABILITY LIMITS

LFL: 0.9%

UFL: 9.2%

HAZARDOUS COMBUSTION PRODUCT:

EXTINGUISHING MEDIA: WATER FOG, ALCOHOL RESISTANT FOAM, CO2, DRY
CHEMICAL.

FIRE FIGHTING INSTRUCTIONS: NO FIRE AND EXPLOSION HAZARDS
EXPECTED UNDER NORMAL STORAGE AND HANDLING CONDITIONS (I.E.
AMBIENT TEMPERATURES) HOWEVER, TRIETHYLENE GLYCOL OR SOLUTIONS
OF TRIETHYLENE GLYCOL AND WATER CAN FORM FLAMMABLE VAPORS WITH
AIR IF HEATED SUFFICIENTLY.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: WEAR POSITIVE PRESSURE
SELF-CONTAINED BREATHING APPARATUS.

6. ACCIDENTAL RELEASE MEASURES (SEE SECTION 15 FOR REGULATORY
INFORMATION)

PROTECT PEOPLE: CLEAR NON-EMERGENCY PERSONNEL FROM AREA.

PROTECT THE ENVIRONMENT: DO NOT DISCHARGE INTO SEWERS AND/OR
NATURAL WATER.

CLEANUP: SMALL SPILLS: SOAK UP WITH ABSORBENT MATERIAL AND
COLLECT FOR DISPOSAL. LARGE SPILLS: DIKE TO PREVENT
CONTAMINATION OF WATERWAYS, THEN PUMP INTO SUITABLE CONTAINERS
FOR DISPOSAL.

7. HANDLING AND STORAGE

HANDLING: PRACTICE REASONABLE CARE TO AVOID EXPOSURE.

STORAGE: THIS PRODUCT HAS A SHELF LIFE OF APPROXIMATELY 6 MONTHS
IN AN UNLINED BULK STEEL TANK AT AMBIENT CONDITIONS. THE SHELF
LIFE CAN BE UP TO 12 MONTHS IF THE BULK TANK OR DRUM IS LINED.
HIGH COLOR AND A DROP IN PH ARE SIGNS THAT THE PRODUCT IS
STARTING TO DETERIORATE. IF SIGNS OF DETERIORATION ARE STARTING
TO OCCUR, THE CUSTOMER NEEDS TO VERIFY THAT THE MATERIAL STILL

MEETS SPECIFICATIONS PRIOR TO USE. SEE DOW'S "A GUIDE TO GLYCOLS" FOR FURTHER INFORMATION ON STORAGE OF GLYCOLS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST CONDITIONS. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: USE SIDE SHIELD SAFETY GLASSES OR MONOGOGGLES AS MINIMUM EYE PROTECTION.

SKIN PROTECTION: WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION. IF HANDS ARE CUT OR SCRATCHED, USE GLOVES IMPERVIOUS TO THIS MATERIAL EVEN FOR BRIEF EXPOSURES. WHEN HANDLING HOT MATERIAL, PROTECT SKIN FROM THERMAL BURNS AS WELL AS FROM SKIN ABSORPTION. SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA. REMOVE CONTAMINATED CLOTHING IMMEDIATELY, WASH SKIN AREA WITH SOAP AND WATER, AND LAUNDRER CLOTHING BEFORE REUSE.

RESPIRATORY PROTECTION: IN MISTY ATMOSPHERES, USE AN APPROVED MIST RESPIRATOR.

EXPOSURE GUIDELINE: NONE ESTABLISHED.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: COLORLESS LIQUID.

ODOR: SLIGHT

VAPOR PRESSURE: < 1.0 MMHG @ 20C

VAPOR DENSITY: 5.18

BOILING POINT: 54° 9F, 700° C

SOLUBILITY IN WATER: COMPLETELY MISCIBLE

SPECIFIC GRAVITY: 1.1225 @ 25/25C

FREEZE POINT: -7.2C (19F)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: WILL IGNITE IN AIR AT 700F.

CONDITIONS TO AVOID: NONE KNOWN.

INCOMPATIBILITY WITH OTHER MATERIALS: OXIDIZING MATERIAL. AVOID CONTAMINATION WITH STRONG OXIDIZERS AND MATERIALS THAT WILL REACT WITH HYDROXYL COMPOUNDS. AVOID STRONG ACIDS AND BASES AT ELEVATED TEMPERATURES SINCE THIS MAY RESULT IN EXPLOSIVE DECOMPOSITION.

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING PRODUCES NORMAL PRODUCTS OF COMBUSTION, INCLUDING CARBON MONOXIDE, CARBON DIOXIDE, AND WATER.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION (SEE SECTION 3 FOR POTENTIAL HEALTH

EFFECTS. FOR DETAILED TOXICOLOGICAL DATA, WRITE OR CALL THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

SKIN: THE LD50 FOR SKIN ABSORPTION IN RABBITS IS GREATER THAN 5000 MG/KG.

INGESTION: THE ORAL LD50 FOR RATS IS 16,800-22,060 MG/KG.

INHALATION: THE LC50 FOR RATS IS GREATER THAN 4.5 MG/LITER AS AN AEROSOL.

MUTAGENICITY: IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE.

12. ECOLOGICAL INFORMATION (FOR DETAILED ECOLOGICAL DATA, WRITE OR CALL THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

13. DISPOSAL CONSIDERATIONS (SEE SECTION 15 FOR REGULATORY INFORMATION)

DISPOSAL METHOD: BURN IN AN APPROVED INCINERATOR IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.

14. TRANSPORT INFORMATION

FOR TDG REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR YOUR DOW REPRESENTATIVE.

FOR DOT REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR YOUR DOW REPRESENTATIVE.

15. REGULATORY INFORMATION (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED)

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE OTHER SECTIONS FOR HEALTH AND SAFETY INFORMATION.

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

NOT TO HAVE MET ANY HAZARD CATEGORY

TOXIC SUBSTANCES CONTROL ACT (TSCA):

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

STATE RIGHT-TO-KNOW: THE FOLLOWING PRODUCT COMPONENTS ARE CITED ON CERTAIN STATE LISTS AS MENTIONED. NON-LISTED COMPONENTS MAY BE SHOWN IN THE COMPOSITION SECTION OF THE MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
DIETHYLENE GLYCOL	000111-46-6	PA1
TRIETHYLENE GLYCOL	000112-27-6	PA1

PA1=PENNSYLVANIA HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

THIS PRODUCT IS NOT A "HAZARDOUS CHEMICAL" AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200.

CANADIAN REGULATIONS
=====

WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

D2A - MATERIAL IS TERATOGENIC, EMBRYOTOXIC, OR FETOTOXIC
REFER ELSEWHERE IN THE MSDS FOR SPECIFIC WARNINGS AND
SAFE HANDLING INFORMATION. REFER TO THE EMPLOYER'S
WORKPLACE EDUCATION PROGRAM.

CPR STATEMENT: THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS WHICH ARE CONTROLLED PRODUCTS AND/OR ON THE INGREDIENT DISCLOSURE LIST (CANADIAN HPA SECTION 13 AND 14):

COMPONENTS:	CAS #	AMOUNT (%W/W)
TRIETHYLENE GLYCOL	CAS# 112-27-4	98%

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

CATEGORY	RATING
HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

MSDS STATUS: REVISED SECTIONS 3, 7, , 11

----- NOTICE -----

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IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE,

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CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR

SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND TO ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

* * * E N D O F M S D S * * *



Material Safety Data Sheet

- Click on the product name to go to the Salesfax description sheet.
- Click on the grade to go to the Salesfax typical test data sheet.

Chevron Clarity® Hydraulic Oil AW ISO 32, 46, 68

MSDS: 6691 Revision #: 0 Revision Date: 04/18/97

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEVRON Clarity Hydraulic Oil AW

PRODUCT NUMBER(S): CPS230340 CPS230341 CPS230342

SYNONYM: CHEVRON Clarity Hydraulic Oil AW ISO 32

CHEVRON Clarity Hydraulic Oil AW ISO 46

CHEVRON Clarity Hydraulic Oil AW ISO 68

COMPANY IDENTIFICATION

Chevron Products Company
Global Lubricants
555 Market St.
Room 803
San Francisco, CA 94105-2870

EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or
(510)231-0623 (International)
TRANSPORTATION (24 hr): CHEMTREC
(800)424-9300 or (703)527-3887
Int'l collect calls accepted

PRODUCT INFORMATION: MSDS Requests: (800) 228-3500

Environmental, Safety, & Health Info: (415) 894-0703

Product Information: (800) 582-3835

SPECIAL NOTES: This MSDS is for the entire line of CHEVRON Clarity Hydraulic Oil AW products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % CHEVRON Clarity Hydraulic Oil AW

CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
HYDROTREATED DIST., HVY PARA			
Chemical Name: DISTILLATES, HYDROTREATED HEAVY PARAFFINIC			
CAS64742547	> 99.00%	5 mg/m3 (mist)	ACGIH TWA
		10 mg/m3 (mist)	ACGIH STEL
		5 mg/m3 (mist)	OSHA PEL
ADDITIVES	< 1.00%		

COMPOSITION COMMENT:

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

This product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5 mg/m³, the OSHA PEL is 5 mg/m³.

3. HAZARDS IDENTIFICATION

POTENTIAL 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:

Contains a petroleum-based mineral oil that may cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of airborne levels above the recommended exposure limit.

4. FIRST AID MEASURES

EYE:

No specific first aid measures are required because this material is not expected to cause eye irritation. As a precaution remove contact lenses, if worn, and flush eyes with water.

SKIN:

No specific first aid measures are required because this material is not expected to be harmful if it contacts the skin. As a precaution, remove clothing and shoes if contaminated. Use a waterless hand cleaner, mineral oil, or petroleum jelly to remove the material. Then wash skin with soap and water. Wash or clean contaminated clothing and shoes before reuse.

INGESTION:

No specific first aid measures are required because this material is not expected to be harmful if swallowed. Do not induce vomiting. As a precaution, give the person a glass of water or milk to drink and get medical advice. Never give anything by mouth to an unconscious person.

INHALATION:

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.

5. FIRE FIGHTING MEASURES

* SPECIAL NOTES: 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).

FIRE CLASSIFICATION:

Classification (29 CFR 1910.1200): Not flammable or combustible.

FLAMMABLE PROPERTIES:

FLASH POINT: (COC) 374-428F (190-220C) Min.

AUTOIGNITION: NDA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA:

CO₂, Dry Chemical, Foam, Water Fog

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0.

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:

Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (703)527-3887

International Collect Calls Accepted

ACCIDENTAL RELEASE MEASURES:

Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

This material does not contain any CERCLA Hazardous Substances.

This material does not contain any SARA Title III Section 302 - Extremely Hazardous Substances.

This material does not contain any SARA Title III Section 313 - Toxic Chemicals.

7. HANDLING AND STORAGE

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. Do not use pressure to empty drum or drum 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 drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

Use in a well-ventilated area. If user operations generate an oil mist, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

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. Suggested materials for protective gloves include: <Viton> <Nitrile> <Silver Shield> <4H>

RESPIRATORY PROTECTION:

No special respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the recommended exposure limits. If not, select a NIOSH/MSHA approved respirator that provides adequate protection from concentrations of this material. Use the following elements for air-purifying respirators: particulate.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:

Pale yellow liquid.

pH:	NDA
VAPOR PRESSURE:	NA
VAPOR DENSITY (AIR=1):	NA
BOILING POINT:	NA
FREEZING POINT:	NDA
MELTING POINT:	NA
SOLUBILITY:	Soluble in hydrocarbon solvents; insoluble in water.
SPECIFIC GRAVITY:	0.86 - 0.88 @ 15.6/15.6C
EVAPORATION RATE:	NA
VISCOSITY:	32.0 - 61.2 cSt @ 40C
PERCENT VOLATILE (VOL):	NA

10. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

No data available.

CHEMICAL STABILITY:

Stable.

CONDITIONS TO AVOID:

No Data Available.

INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

* The mean 24-hour Draize eye irritation score in rabbits is 2/110.

SKIN EFFECTS:

For a 4-hour exposure, the Primary Irritation Index (PII) in rabbits is: 0.7/8. The acute dermal LD50 in female rabbits is >2.0 g/kg.

ACUTE ORAL EFFECTS:

The acute oral LD50 in female rats is >5 g/l.

ACUTE INHALATION EFFECTS:

Based on animal data for similar materials, the inhalation LD50 (4-hour) is expected to be greater than 5 mg/l.

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).

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

The 96-hour LC50 for rainbow trout (*Oncorhynchus mykiss*) is >5000 mg/l WAF. The 96-hour LC50 for mysid shrimp (*Mysidopsis bahia*) is >5000 mg/l WAF.

ENVIRONMENTAL FATE:

This material is considered inherently biodegradable. Small accidental leaks or releases of this material are not expected to present an environmental problem. See Section 6 for Accidental Release Measures.

13. DISPOSAL CONSIDERATIONS

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.

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.

DOT SHIPPING NAME: NOT DESIGNATED AS A HAZARDOUS MATERIAL BY THE
FEDERAL DOT

DOT HAZARD CLASS: NOT APPLICABLE

DOT IDENTIFICATION NUMBER: NOT APPLICABLE

DOT PACKING GROUP: NOT APPLICABLE

15. REGULATORY INFORMATION

SARA 311 CATEGORIES: 1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a)(2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12(b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSCA Sect 8(a)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8(d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4(a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

DISTILLATES, HYDROTREATED HEAVY PARAFFINIC
is found on lists: 14,15,17,

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows:

PETROLEUM OIL

WHMIS CLASSIFICATION:

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

16. OTHER INFORMATION

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0;
HMIS RATINGS: Health 0; Flammability 1; Reactivity 0;
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:

This is a new Material Safety Data Sheet.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	PEL - Permissible Exposure Limit
C - Ceiling Limit	CAS - Chemical Abstract Service Number
A1-5 - Appendix A Categories	() - Change Has Been Proposed
NDA - No Data Available	NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTS, P.O. Box 4054, Richmond, CA 94804

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 modification 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.

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MATERIAL SAFETY DATA SHEET

PRODUCT
NO_xOUT® SCR 3200

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 1 - PRODUCT IDENTIFICATION

Trade Name: NO_xOUT® SCR 3200

Description: An aqueous solution of an amide

NFPA 704M/HMIS Rating: 1/1 Health 0/0 Flammability 0/0 Reactivity 0 Other

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 - COMPOSITION/INGREDIENT INFORMATION

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

Caution: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

Primary Route(s) of Exposure: Eye, Skin, Inhalation

Eye Contact: Can cause mild, short-lasting irritation.

Skin Contact: May cause irritation with prolonged contact.

Inhalation: May cause irritation to the respiratory tract and lungs.

SYMPTOMS OF EXPOSURE:

A review of available data does not identify any symptoms from exposure not previously mentioned.

Aggravation of Existing Conditions: A review of available data does not identify any worsening of existing conditions.

SECTION 4 - FIRST AID INFORMATION

Eyes: Immediately flush with water for 15 minutes while holding eyelids open. Call a physician.

Skin: Wash thoroughly with soap and rinse with water. Call a physician.

Ingestion: Do not induce vomiting. Give water. Call a physician.

Inhalation: Remove to fresh air. Treat symptoms. Call a physician.

Note To Physician: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

Caution: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 - FIRE FIGHTING

Flash Point: None

Extinguishing Media: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

Unusual Fire and Explosion Hazard: May evolve CO, CO₂, NO_x, ammonia, and cyanuric acid under fire conditions.



MATERIAL SAFETY DATA SHEET

PRODUCT
NO_xOUT® SCR 3200

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

In case of transportation accidents, call the following 24-hour telephone number 1.800.424.9300 (CHEMTREC).

SPILL CONTROL AND RECOVERY:

Small Liquid Spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.

Large Liquid Spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

SECTION 7 - HANDLING AND STORAGE

Storage: Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection not normally needed. If significant dusting occurs, wear a NIOSH approved or equivalent dust respirator.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Protective Equipment: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed).

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear, colorless	
Form:	Liquid	
Density:	9.09 lbs/gal.	
Specific Gravity:	1.090 @ 68 Degrees F	ASTM D-1298
Ph NEAT:	9.0	ASTM E-70
Flash Point:	None	
Freeze Point:	12 Degrees F	ASTM D-1177

Note: These physical properties are typical values for this product.

SECTION 10 - STABILITY AND REACTIVITY

Incompatibility: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.



MATERIAL SAFETY DATA SHEET

PRODUCT
NOxOUT® SCR 3200

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

Thermal Decomposition Products: In the event of combustion CO, CO₂, NO_x, ammonia, and cyanuric acid may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Studies: No toxicity studies have been conducted on this product.

SECTION 12 - ECOLOGICAL INFORMATION

If released into the environment, see CERCLA in Section 15.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state and federal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

Proper shipping name/hazard class may vary by packaging, properties, and mode of transportation. Typical proper shipping names for this product are:

All Transportation Modes: Product is not regulated during transportation

SECTION 15 - REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA Hazard Communication Rule, 29 CFR 1910.1200:

Based on our hazard evaluation, none of the ingredients in this product are hazardous.

CERCLA/Superfund, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/Superfund Amendments and Reauthorization Act of 1986 (Title III) - Sections 302, 311, 312 and 313:

Section 302 - Extremely Hazardous Substances (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

Sections 311 and 312 - Material Safety Data Sheet Requirements (40 CFR 370):

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

Section 313 - List of Toxic Chemicals (40 CFR 372):

This product does not contain ingredients on the List of Toxic Chemicals.

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MATERIAL SAFETY DATA SHEET

PRODUCT
NO_xOUT[®] SCR 3200

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

Toxic Substances Control Act (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

Resource Conservation and Recovery Act (RCRA), 40 CFR 261 Subpart C & D:

Consult Section 13 for RCRA classification.

Federal Water Pollution Control Act, Clean Water Act, 40 CFR 401.15/ Formerly Sec. 307, 40 CFR 116/Formerly Sec. 311:

None of the ingredients are specifically listed.

Clean Air Act, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, Class I and II Ozone Depleting Substances):

This product contains the following ingredients covered by the Clean Air Act:

Urea - Section 111

STATE REGULATIONS:

California Proposition 65:

This product does not contain any chemicals which require warning under California Proposition 65.

Michigan Critical Materials:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

State Right To Know Laws:

This product does not contain ingredients listed by State Right To Know Laws.

INTERNATIONAL REGULATIONS:

This is not a WHMIS controlled product under The House of Commons of Canada Bill C-70.

SECTION 16 - RISK CHARACTERIZATION

Our Risk Characterization is being determined.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

Fuel Tech, Inc. provides the above information in good faith. Fuel Tech, Inc. provides the above information "AS IS" and makes no representations or warranties of any kind, express or implied, by fact or by law. FUEL TECH, INC. SPECIFICALLY DISCLAIMS ALL WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

SECTION 17 - REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (CD-ROM version), Micromedex, Inc., Englewood, CO.



MATERIAL SAFETY DATA SHEET

PRODUCT
NOxOUT® SCR 3200

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (CD-ROM version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, Ohio (CD-ROM version), Micromedex, Inc., Englewood, CO.

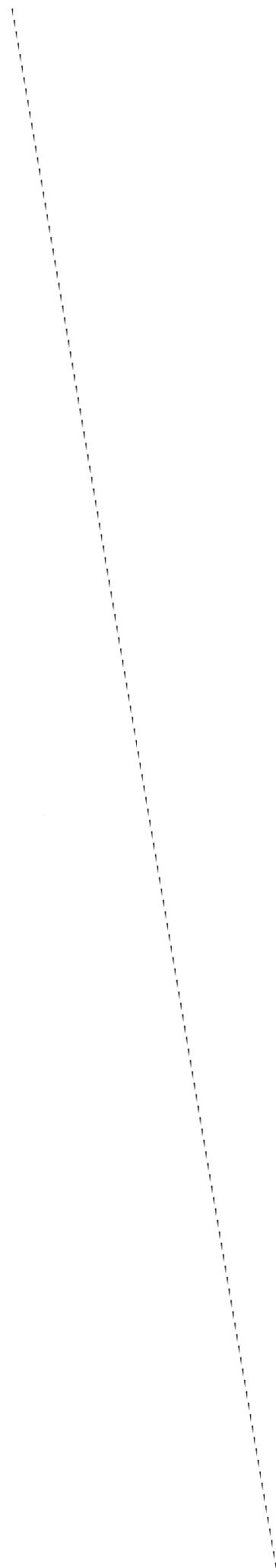
Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood, CO.

Suspect Chemicals Sourcebook (a guide to industrial chemicals covered under major regulatory and advisory programs), Roytech Publications (a Division of Ariel Corporation), Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM version), Micromedex, Inc., Englewood, CO.

REVISED: 02/01/01

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Appendix D

Amendment 1



Introduction

In November 2003, Wild Goose Storage, LLC (WGS), formerly Wild Goose Storage, Inc., completed an expansion of its existing facilities at the Wild Goose Gas Storage Project. The expansion included a doubling of the Well Pad Site and Remote Facility Site, and a 25-mile pipeline connecting the Remote Facility Site to PG&E's backbone gas transmission lines east of Delevan in Colusa County. The purpose of this amendment is to identify the additional facilities where discharges will occur and characterize those discharges as was done in the original Plan. The new facilities are illustrated on the attached Project Components Map.

New Facilities

Well Pad Site

The existing well pad area was expanded approximately 195 feet to the west in the Butte Sink. A landscape earthen berm was also installed around the expansion area. Up to 19 additional gas wells (for a site total of 24 wells) in concrete vaults may be drilled on this expanded pad area. Six wells were drilled as part of the expansion project and their discharges were included in the 2003 Annual Monitoring Report. The remaining 13 wells will be drilled as demand for natural gas storage warrants. Each of these concrete well head vaults will collect storm water which will be discharged in the same manner as the existing vaults, as described on page 4 of the Plan.

Remote Facility Site

The existing facility area was effectively doubled by extending 700 feet to the west. The design provides for up to four additional compressors. Two compressors have been installed and the other two units will be installed as demand warrants. New facilities from which storm water will be discharged include aqueous urea storage tank containment and compressor building interior drain tank containment.

Natural Gas Pipeline

A 25-mile long, 30-inch diameter underground pipeline connecting the Remote Facility Site and PG&E's backbone gas transmission pipeline system west of Delevan in Colusa County was installed as part of the expansion. Ancillary facilities include a mainline block valve lot just west of the Sacramento River and the Interconnect Site adjacent to PG&E's Delevan Compressor Station. Both locations are fenced, graveled lots with above-ground equipment and piping. There are no regulated discharges associated with the pipeline or ancillary facilities.

Scheduled Discharges

Facility development in the Remote Facility Site expansion area includes two new storage tanks with secondary containment that will require discharges: the aqueous urea storage tank and the building interior drain storage tank. Aqueous urea is used in the exhaust emission control system

on the new compressor engines. The following identifies the types of discharges associated with these two tanks, the expected pollutant constituents in those discharges, the duration of the discharge, the existing control measures to reduce pollutants, and the proposed Pollution Prevention Practices designed to further reduce or eliminate pollutant contact with storm water. These practices are drawn from the California Storm Water Best Management Practice Handbook for Industrial/Commercial operations (Storm Water Quality Task Force – March, 1993) and the Guidance Manual for Storm Water Discharges Associated With Industrial Activity (EPA – April, 1991). The MSDS sheets for aqueous urea have been included in Appendix C.

Aqueous Urea Storage Secondary Containment

TYPES OF DISCHARGES: The 8000 gallon storage tank is situated in a basin providing 110 percent external containment. This open concrete-walled containment has a manually-operated drain valve to allow gravity flow, so storm water is released onto adjacent land surfaces.

POLLUTANT CONSTITUENTS: Based on samples taken in February 2004 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Suspended Solids	4.4 mg/l
Oil & Grease	<1.0 mg/l
pH	8.7

DISCHARGE DURATION: The containment will be released following major storm events or when storm water depth reaches approximately 6 inches. Depending on the amount of storm water accumulated in the containment, the discharge typically lasts less than ten minutes.

EXISTING CONTROL MEASURES: Following maintenance of the tank valves and other equipment, all spilled urea, oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Between scheduled maintenance activities, visual inspections of valves and flanges are conducted daily for urea leakage or seepage.

POLLUTION PREVENTION PRACTICES: Prior to releasing the storm water onto the ground surface, the operator will inspect the contained water for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed. Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff. Where practicable, overhead coverage will be provided/installed on specific facility or equipment components which are the source of pollutants to preclude direct contact with storm water. The MSDS sheet for this material has been included in Appendix C.

Building Interior Drain Storage Secondary Containment

TYPES OF DISCHARGES: The 3200 gallon storage tank is situated in a basin providing 110 percent external containment. This open concrete-walled containment has a manually-operated drain valve to allow gravity flow, so storm water may be released onto adjacent land surfaces.

POLLUTANT CONSTITUENTS: Based on samples taken in February 2004 prior to implementation of pollution prevention practices, pollutant constituents and the range of concentrations are expected to be as follows:

Parameter	Results
Total Suspended Solids	<1.0 mg/l
Oil & Grease	<1.0 mg/l
pH	8.9

DISCHARGE DURATION: The containment is released following major storm events or when storm water depth reaches approximately 6 inches. Depending on the amount of storm water accumulated in the containment, the discharge typically lasts less than ten minutes.

EXISTING CONTROL MEASURES: Following maintenance of the tank valves and other equipment, all oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Between scheduled maintenance activities, visual inspections of valves and flanges are conducted daily for methanol leakage or seepage.

POLLUTION PREVENTION PRACTICES: Prior to releasing the storm water onto the ground surface, the operator will inspect the contained water for evidence of an oil sheen. If a sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed. Employee training will be conducted to provide information on inspection procedures, sampling and visual observations techniques, and performing visual inspections for sheen on collected storm water. This training will be incorporated into the existing operational training module provided to staff. Where practicable, overhead coverage will be provided/installed on specific facility or equipment components which are the source of pollutants to preclude direct contact with storm water.

Monitoring and Reporting

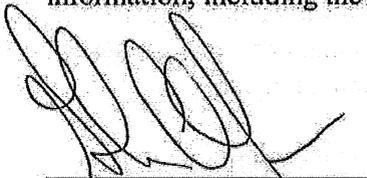
WGS has initiated a representative sampling and analysis program to characterize the typical types of discharges occurring from the two new facilities/locations described above. Sampling will be representative of the monitored activities and facilities, and will be performed after implementation of the Pollution Prevention Practices outlined in the Plan. These 'case studies' will be submitted with the 2004 annual report in March 2005. Concentrations of pollutant constituents which exceed the reporting limit will continue to be included in the annual report.

Wild Goose Gas Storage Project

Concentrations of pollutant constituents which may cause a violation of any applicable water quality objective for the receiving waters, including prohibition of discharge, will be removed by a vacuum truck and disposed of in compliance with applicable regulations.

Certification

"I certify under penalty of law that this document and all attachments [Amendment 1] were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



Glen Thauberger, Operations Manager
Wild Goose Storage, LLC

Sept. 12 / 08
Date

Appendix E

Amendment 2



Introduction

In July 2007, Wild Goose Storage LLC (WGS) completed an expansion of its existing facilities at the Wild Goose Gas Storage Project. The expansion consisted of the addition of two gas wells (for a site total of 13 wells) in vaults and a concrete tertiary containment within the Well Pad Site in Butte Sink. The purpose of this amendment is to identify the additional facilities where discharges will occur and characterize those discharges as was done in the original Plan. The new facilities are illustrated on Figure 3 in Appendix A of the Well Pad Site Sampling Locations.

New Facilities

Well Pad Site

The expansion of the existing Well Pad Area consisted of the addition of two injection/withdrawal wells, Well 25V Vault and Well 26V Vault. The well heads are located in subsurface vaults approximately 10 feet by 15 feet by 8 feet deep, and are normally covered by steel grates. Each of these well head vaults will collect storm water which will be discharged in the same manner as the existing vaults, as described on page 4 of the Plan. Both wells were drilled in January of 2008, and their discharges will be included in the 2008 Annual Monitoring Report.

In addition, the expansion integrated the addition of a concrete tertiary containment structure. The structure is approximately 20 ft by 10 feet by 4 feet high, and when used may be covered by a tarp or canopy. The containment structure is currently not being used but in the future will be used to maintain a steel biocide tank with built-in secondary containment.

Scheduled Discharges

Scheduled discharges are required from the gas well vaults. The following identifies the types of discharges associated with the additional wells, the expected pollutant constituents in those discharges, the duration of the discharge, the existing control measures to reduce pollutants, and the proposed Pollution Prevention Practices designed to further reduce or eliminate pollutant contact with storm water.

There will be no scheduled discharges designated for the tertiary concrete containment because it will be limited to containment of biocide tanks already incorporating secondary containment; and subsequently, there will be no impact to surface waters.

Gas Well Vaults

TYPES OF DISCHARGES: As with the existing subsurface vaults, these vaults will be pumped to remove storm water which collects in the vaults. The storm water is pumped onto the well pad surface, flowing to and ponding at the southwest corner where the valve gate is located.

POLLUTANT CONSTITUENTS: Based on samples taken in January 2008, pollutant constituents and the range of concentrations are expected to be as follows:

Well 25V Vault [2008]

Parameter	Results
Total Petroleum Hydrocarbons Gasoline (TPHC-g)	ND ¹
Total Petroleum Hydrocarbons Diesel (TPHC-d)	ND
Total Petroleum Hydrocarbons Waste-Oil (TPHC-wo)	ND
Total Suspended Solids (TSS)	ND
Oil & Grease	ND
pH	N/A ²

Well 26V Vault [2008]

Parameter	Results
Total Petroleum Hydrocarbons Gasoline (TPHC-g)	ND
Total Petroleum Hydrocarbons Diesel (TPHC-d)	ND
Total Petroleum Hydrocarbons Waste-Oil (TPHC-wo)	ND
Total Suspended Solids (TSS)	23.0 mg/l
Oil & Grease	ND
pH	N/A

DISCHARGE DURATION: Assuming all vaults are full, a 20 gallon-per-minute pump will take approximately 5 hours to empty each 5000 gallon vault, for additional discharge duration of 10 hours. Frequency of vault pumping is dependant on rainfall amounts and intensity, but typically is required 4 times during the rainy season of October through April.

EXISTING CONTROL MEASURES: Following well head maintenance, all oils and greases are manually cleaned as well as possible from affected surfaces with conventional methods such as rags and solvents. Vault storm water levels are monitored weekly during the rainy season.

POLLUTION PREVENTION PRACTICES: Prior to vault pumping, the collection storm water will be visually inspected for evidence of oil sheen. If sheen is detected, oil absorption pads will be placed on the water surface to remove the visible sheen. During the non-rainy season, the facility and equipment will be inspected and preventative maintenance will be performed as needed.

Monitoring and Reporting

¹ ND = Not Detected

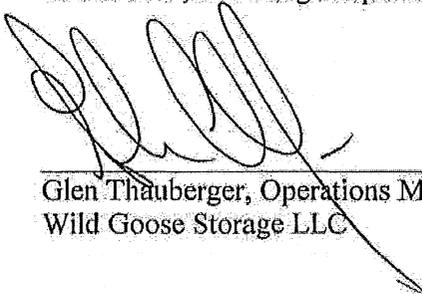
² In accordance with the USEPA Methods Update Rule (MUR) effective April 11, 2007 specified in 40 CFR sections 136, hydrogen ion (pH) must be analyzed within a 15 minute holding time. WGS was unaware of the MUR and subsequently, pH results for Well 25V and Well 26V Vaults are not available. Hydrogen ion testing will be carried out according to test procedures specified in 40 CFR section 136 for the 2008 Annual Monitoring Report.

Wild Goose Gas Storage Project

WGS has initiated a representative sampling and analysis program to characterize the typical types of discharges occurring from the new well vaults described above. Sampling will be representative of the monitored activities and facilities, and will be performed after implementation of the Pollution Prevention Practices outlined in the Plan. Case studies will be submitted with the 2008 annual report in March 2009. Concentrations of pollutant constituents which exceed the reporting limit will continue to be included in the annual report. Concentrations of pollutant constituents which may cause a violation of any applicable water quality objective for the receiving waters, including prohibition of discharge, will be removed by a vacuum truck and disposed of in compliance with applicable regulations.

Certification

"I certify under penalty of law that this document and all attachments [Amendment 2] were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



Glen Thauberger, Operations Manager
Wild Goose Storage LLC

Sept. 12/08
Date

