GW – 294

PERMITS, RENEWALS & MODS

2018

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO

County of Bernalillo SS

Bernadette Gonzales , the undersigned, on oath states that she is an authorized Representative of The Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

03/11/2018

OFFICIAL SEAL
Sandra B. Gutierrez
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 2-18-21

Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 11 day of March of 2018

PRICE $180.11

Statement to come at the end of month.

ACCOUNT NUMBER 1009556

APR 09 2018 AM09:26

NEW MEXICO

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3108 NMAC), the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division ("OCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3460:

(GW-294) – Plains Pipeline, L.P., Camille J. Bryant, 505 North Big Spring, Suite 600, Midland, Texas 79701, has submitted a discharge permit application renewal for remediation of contaminated ground water at the Plains Pipeline Townsend Site located in UL: P of Section 11, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico approximately 3-miles southwest of Lovington. The application addresses discharges to groundwater associated with the remediation of petroleum contaminated groundwater. Approximately 30 gallons per minute of contaminated groundwater is pumped and processed through Granular Activated Carbon system to remove organic contaminants and restore groundwater to WQCC groundwater standards prior to reinjection into an infiltration gallery where treated groundwater is percolated through sediment back into groundwater. Crude oil is separated, collected and temporarily stored in containment vessels prior to transport and disposal. Effluent groundwater is sampled monthly to ensure compliance with WQCC groundwater standards. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved sol-

WQCC groundwater standards. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 500 to 1,000 mg/L. The discharge permit addresses the operation, monitoring, associated surface units or infrastructure, and a contingency plan in the event of accidental spills, leaks and other accidental discharges to protect fresh water.

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

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

Para obtener más información sobre esta solicitud en español, sirvase comunicarse

Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the OCD web site ht tp://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the renewal application and draft renewal permit may contact the OCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that OCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

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Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-748-1283).

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 11th day of March 2018.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION

SEAL

Heather Riley, Director

Journal: March 11, 2018

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
March 11, 2018
and ending with the issue dated
March 11, 2018.

Publisher

Sworn and subscribed to before me this
11th day of March 2018.

Administrative Coordinator

My commission expires
February 09, 2021
(Seal)

OFFICIAL SEAL
Jennifer Warden
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires: 02-09-2021

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL LEGAL LEGAL

LEGAL NOTICE
March 11, 2018

NOTICE OF PUBLICATION

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

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(GW-294) – Plains Pipeline, L.P., Camille J. Bryant, 505 North Big Spring, Suite 600, Midland, Texas 79701, has submitted a discharge permit application renewal for remediation of contaminated ground water at the Plains Pipeline Townsend Site located in UL: P of Section 11, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico approximately 3-miles southwest of Lovington. The application addresses discharges to groundwater associated with the remediation of petroleum contaminated groundwater. Approximately 30 gallons per minute of contaminated groundwater is pumped and processed through Granular Activated Carbon system to remove organic contaminants and restore groundwater to WQCC groundwater standards prior to reinjection into an infiltration gallery where treated groundwater is percolated through sediment back into groundwater. Crude oil is separated, collected and temporarily stored in containment vessels prior to transport and disposal. Effluent groundwater is sampled monthly to ensure compliance with WQCC groundwater standards. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 500 to 1,000 mg/L. The discharge permit addresses the operation, monitoring, associated surface units or infrastructure, and a contingency plan in the event of accidental spills, leaks and other accidental discharges to protect fresh water.

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Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-748-1283).

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 11th day of March 2018.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Heather Riley, Director

SEAL
#32587

01101546 00208481

LEONARD LOWE
NEW MEXICO OIL CONSERVATION DIVISION, EMNRD
1220 S. SAINT FRANCIS DR.
SANTA FE, NM 87505

MAR 15 2018 PM02:34

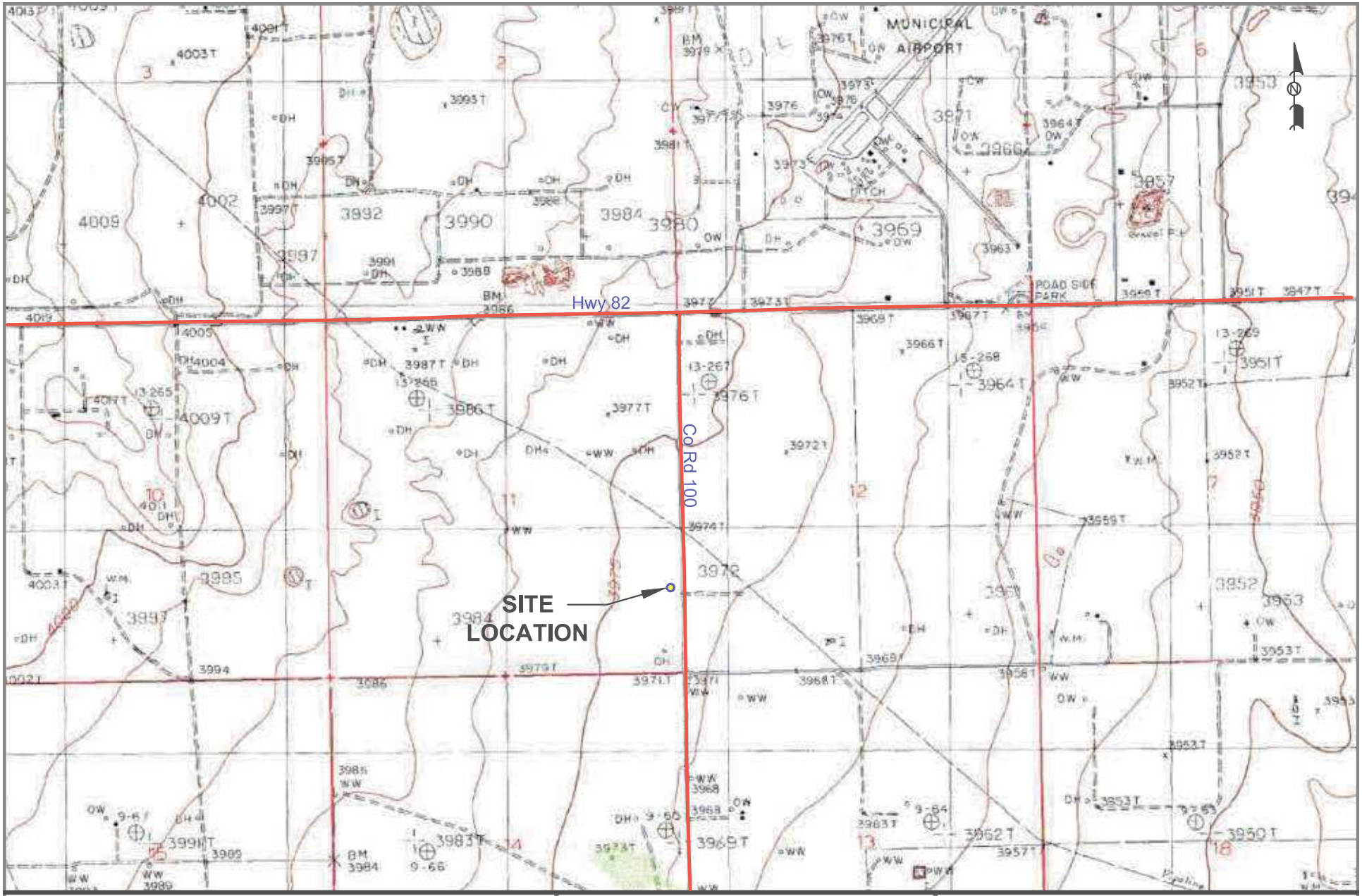
Description

The Underground Injection Control (UIC) Class V Remedial Injection Well (8) discharge permit renewal in Lea County was received on April 6, 2014 for the **Plains Pipeline Townsend Site (GW-294).**

UL: P, Section 11 Township 16 South, Range 35 East, NMPM, Lea County, New Mexico. GW-294 is located approximately three (3) miles southwest of Lovington, New Mexico. Injection is into an infiltration gallery with percolation through sediment back into the water table aquifer at approximately 53 ft. below ground level (bgl). The alluvium is composed of caliche and fine sand. The thickness of the saturated water table aquifer is greater than 12 ft.

The 8 injection or infiltration wells consists of: PVC pipe 4-inch (injection tubing) to approximately 25 ft. bgl and are connected to a horizontal PVC perforated pipeline (32 ft. horizontal) within a trench (infiltration gallery). The remedial system also consists of fifteen (15) monitor wells and four (4) recovery wells. Groundwater is transported to the surface utilizing six (6) total fluid groundwater pumps. The produced water undergoes treatment, i.e., separation, aeration and granular activated carbon) before injection. Also located on-site is a 500-barrel oil/water separation frac tank, a 500-gallon aeration tank, a trailer-mounted "pump and treat" system with an air blower used for a sparging system and aeration of the aeration tank. The frac tank, aeration tank and associated equipment are located within secondary containment. Treated water is gravity fed into injection wells and infiltration gallery located up gradient of the release site. Also located on site are eight (8) groundwater sparging wells (2-in. ID PVC pipe to a depth of 65 ft. with 60 ft. of bentonite seal and 2 ft. of well screen) located generally down gradient of the central hydrocarbon plume. An equipment building on site houses an air compressor used to operate the total fluid pumps and various equipment used for routine maintenance of the system. The "pump and treat" system utilizes two (2) fifteen-gallon drums of chemicals (antiscalant and microbicide) to control biologic growth and reduce mineral scale within the system.

The injection/infiltration wells inject a maximum total volume of about 30 gpm into the infiltration gallery or trench system. Treated effluent water quality is approximately 480 mg/L (ppm) total dissolved solids (TDS).



LEGEND:

2000 1000 0 1000 2000

Distance in Feet

NMOCD Reference #GW-0294

Figure 1
Site Location Map
TNM 97-04
Plains Marketing, L.P.
Lea County, NM

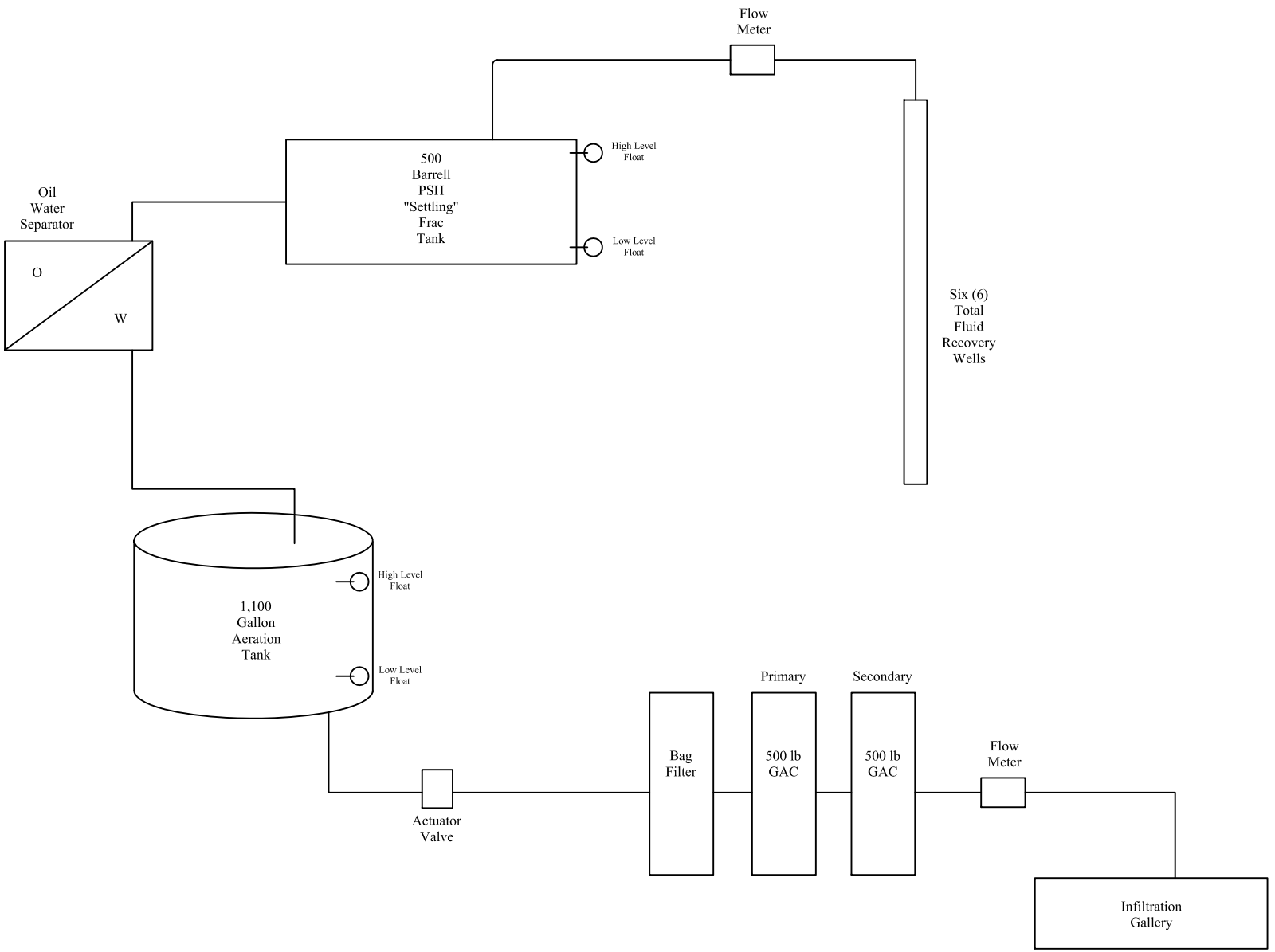
NOVA safety and environmental

2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

March 3, 2011	Scale: 1" = 2000'	CAD By: TA	Checked By: RKR

LATITUDE & LONGITUDE COORDINATES: N 32° 55' 57.1" W 103° 25' 12.3"



Legend:

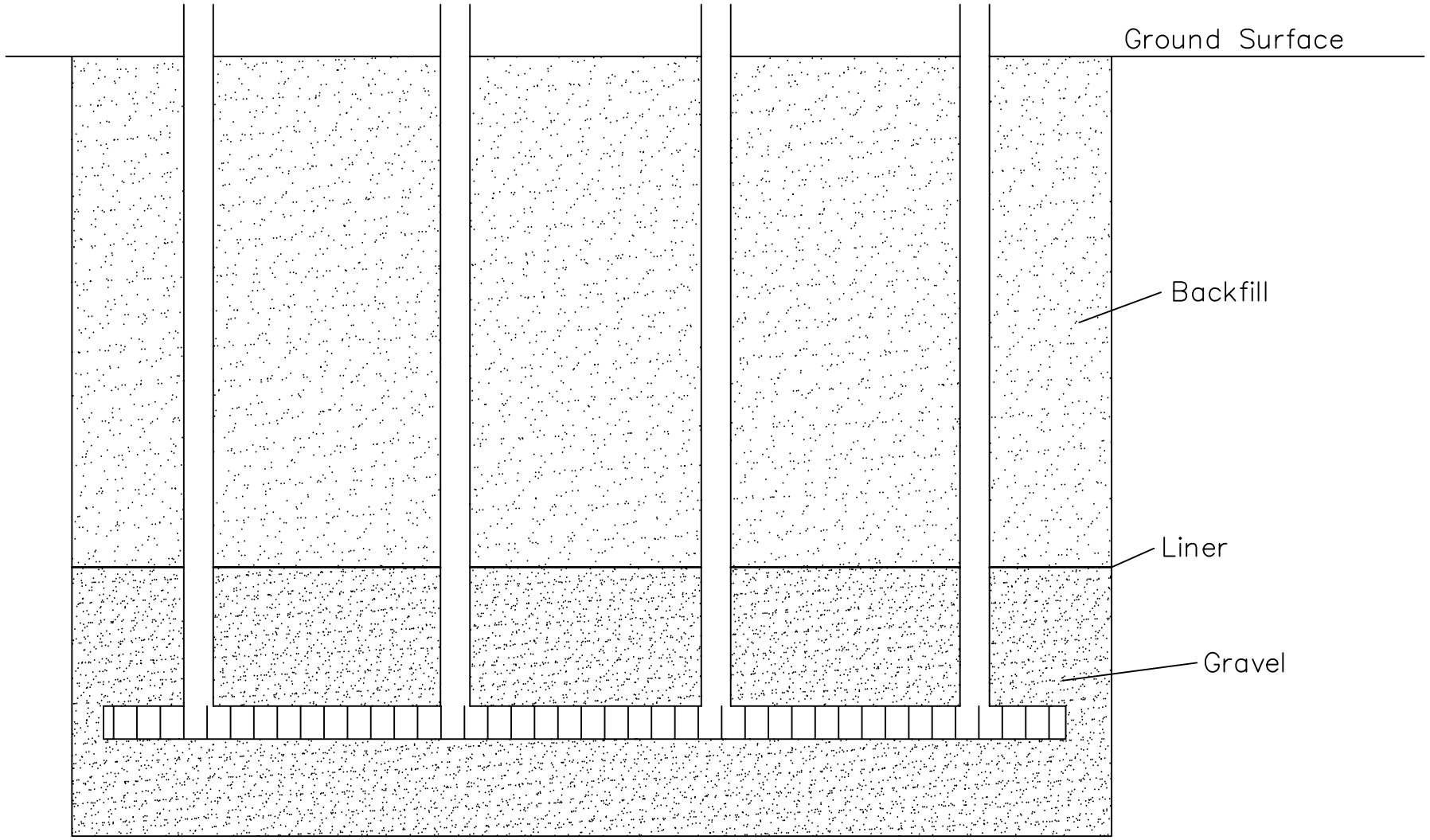
Figure 4

Enhanced Recovery System
Layout Diagram

Plains Pipeline, L.P.
Townsend 97-04
Lea County, NM

TRC
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

	CAD By: DGC	Checked By: BKB
November 26, 2008		



Legend:

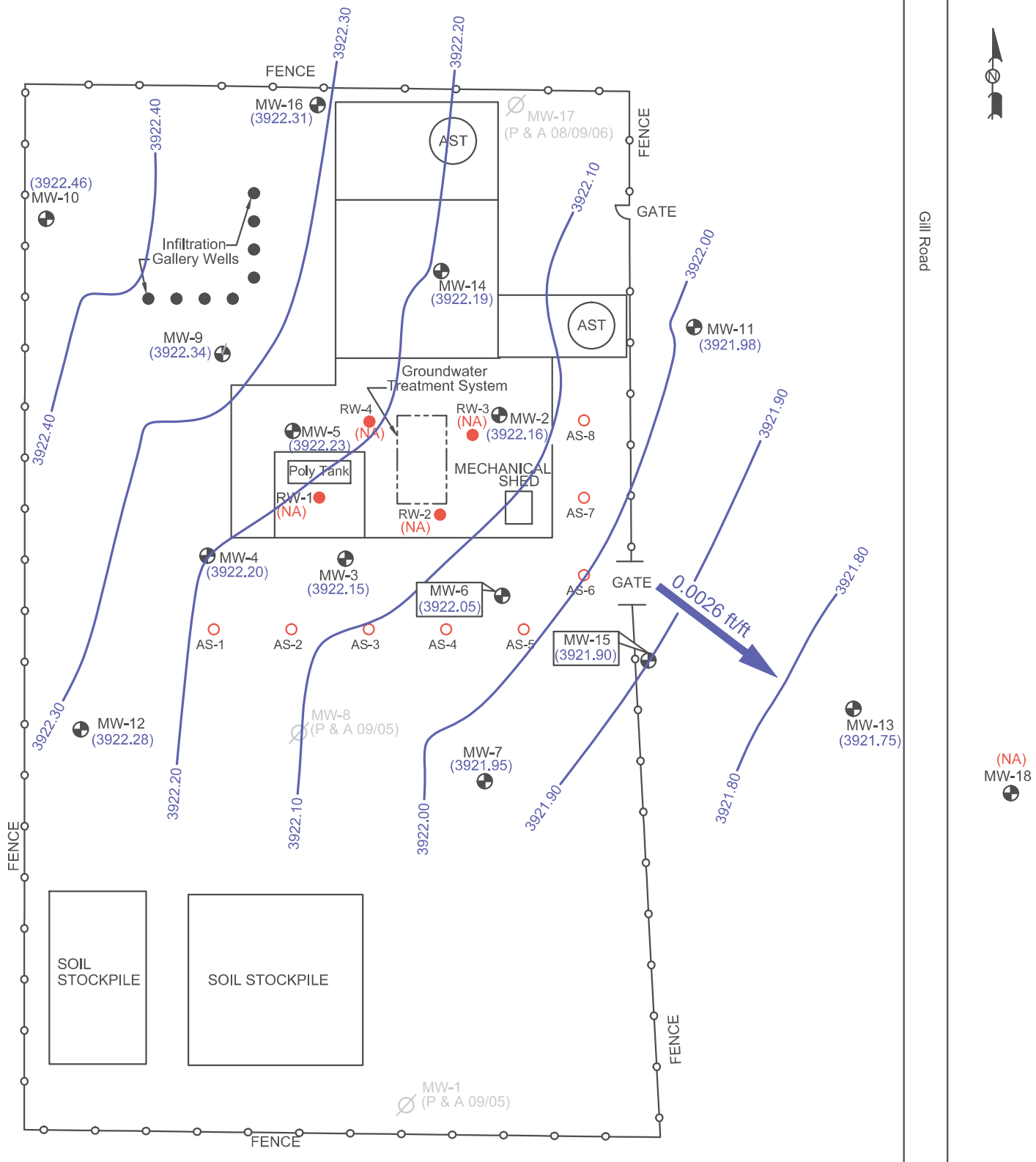
Figure 3

Infiltration Gallery Diagram

Plains Marketing, L.P.
Townsend 97-04
Lea County, NM

TRC
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

Scale: 1" = 6'	CAD By: DGC	Checked By: BKB
November 26, 2008		



NOTE:
MW-1 and MW-8 Were Plugged and Abandoned September 2005 Per NMOCD Approval
RW-1, RW-2, RW-3, & RW-4 were not used in the Construction of this Map
Gradient Measured Between MW-10 and MW-13.

LEGEND:

- Monitoring Well Location
- Recovery Well Location
- Air Sparging Well Location
- Infiltration Gallery Well Location
- Groundwater Elevation Contour
- (NA) Not Available

Figure 3
Inferred Groundwater Gradient Map
(11/18/2013-11/19/2013)
NMOCD Reference # GW-0294
Plains Marketing, L.P.
TNM 97-04
Lea County, NM

NOVA safety and environmental
2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

January 2, 2014	Scale: 1" = 40'	CAD By: TA	Checked By: CS
Lat. N 32° 44' 50.3" Long. W 103° 23' 38.5"	NW1/4 SE1/4 Sec 18 T18S R36E		

Chavez, Carl J, EMNRD

From: Stanley, Curtis D. <CDStanley@trcsolutions.com>
Sent: Friday, March 9, 2018 8:38 AM
To: Chavez, Carl J, EMNRD
Cc: 'Camille J Bryant'
Subject: Plains Pipeline Townsend Site (GW-294)
Attachments: Townsend public notice.pdf; 2018 97-04 Infiltration Gallery 3-22-07 Figure 6 (1).pdf; 2018 97-04 Enhanced Recovery System Diagram 3-22-07 Figure 6 (1).pdf

Mr. Chavez,

TRC Environmental Corporation (TRC), on behalf of Plains Pipeline, L.P. (Plains) is pleased to submit the attached revised "Public Notice" for the Plains Pipeline Townsend Site (GW-294) Discharge Permit renewal. In addition, I have attached a schematic flow diagram of the Townsend "Pump and Treat" system and a profile view of the infiltration gallery piping for your reference. If you have any questions or need additional information please contact me or Camille Bryant (Plains) at 575-441-1099.

Respectfully submitted,

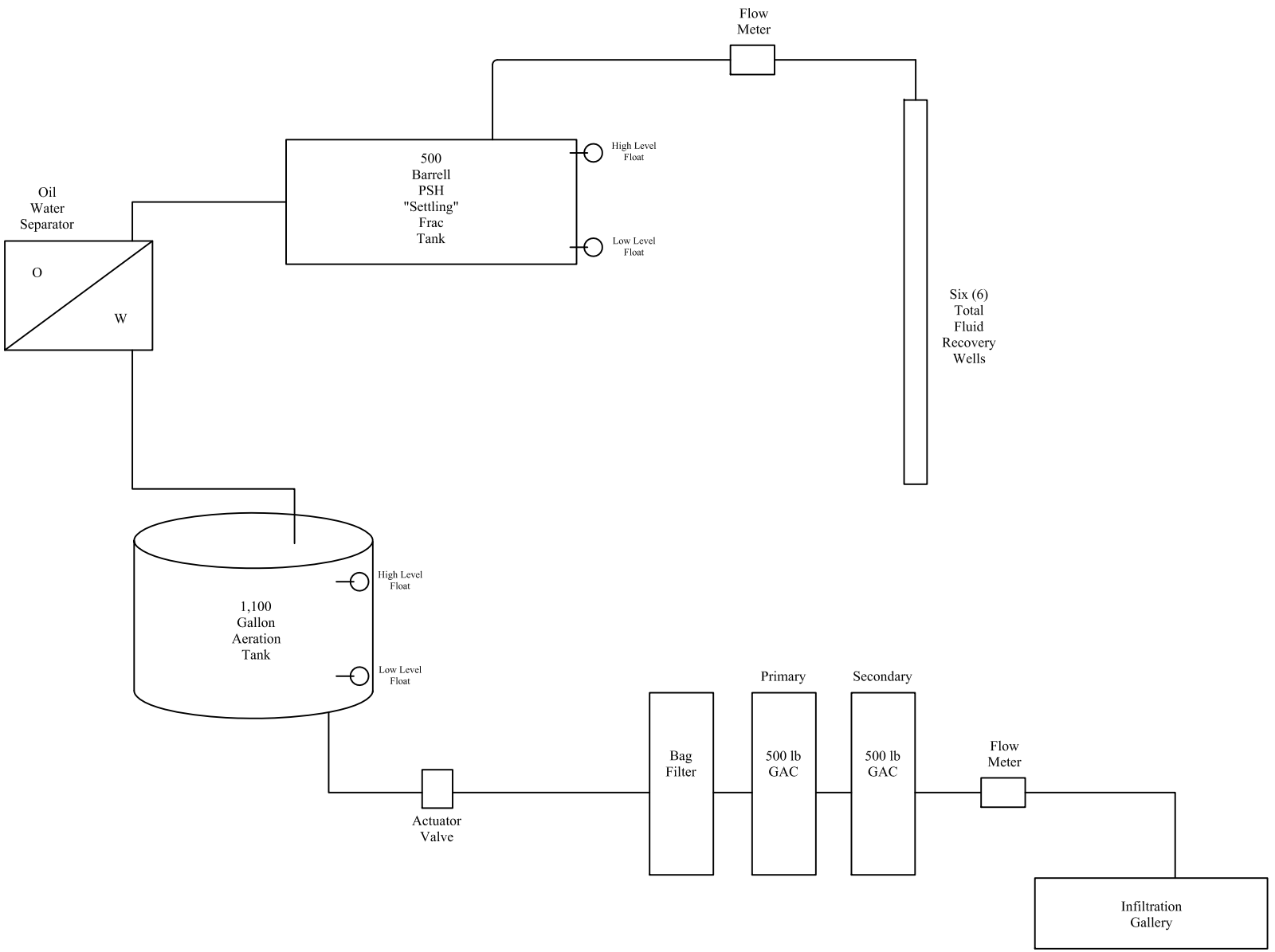
Curt D. Stanley
Senior Project Manager

Please note our address and phone numbers have changed.

TRC
Results you can rely on

10 Desta Drive, Suite 150E, Midland, TX 79705
T: 432.520.7720 | C: 432.559.3296 | D: 432.294.5193

LinkedIn | Twitter | Blog | www.trcsolutions.com



Legend:

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Plains Pipeline, L.P.
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TRC
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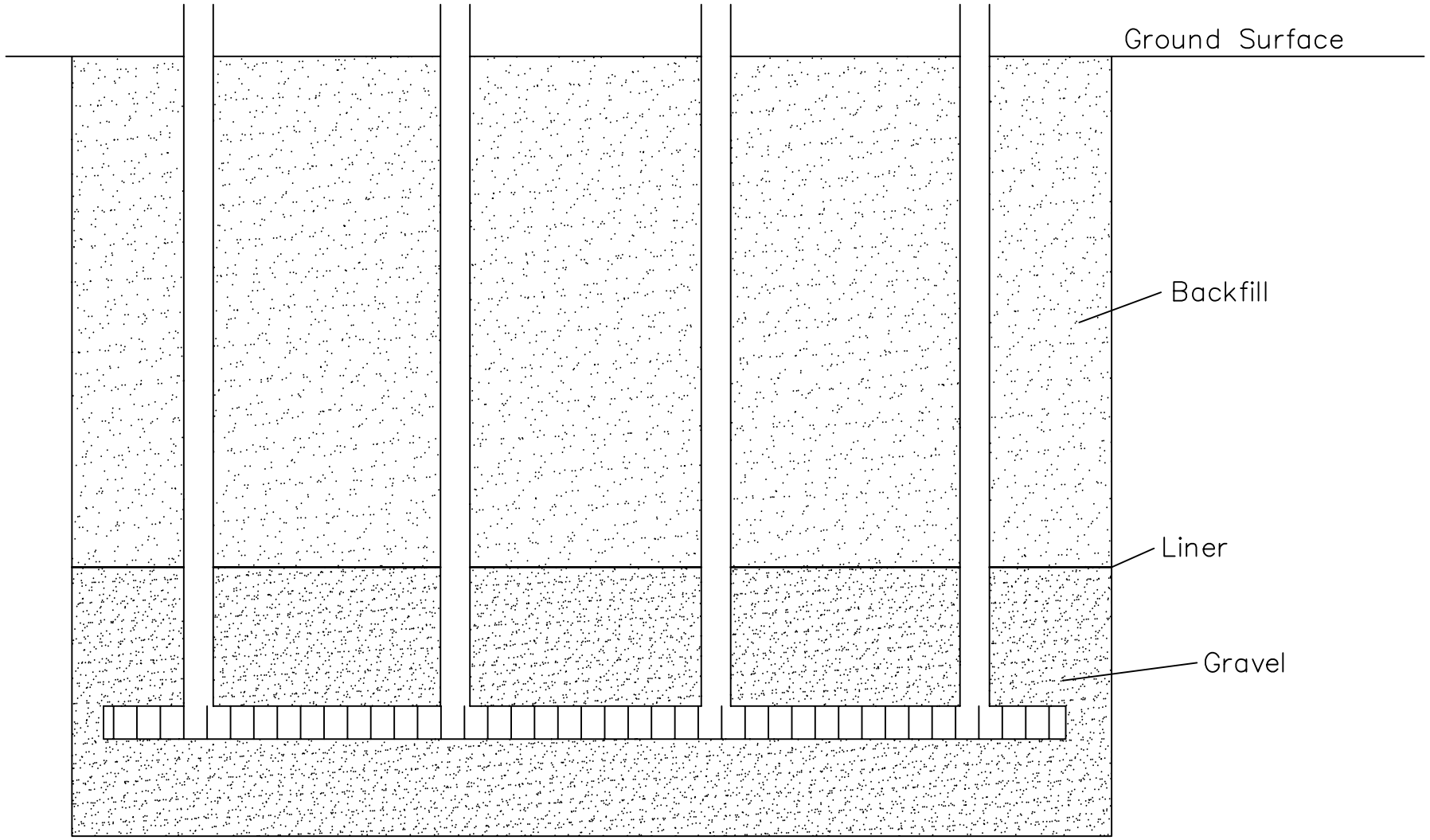
November 26, 2008		



Legend:

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Townsend 97-04
Lea County, NM

TRC
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

Scale: 1" = 6'	CAD By: DGC	Checked By: BKB
November 26, 2008		

From:	Lowe, Leonard, EMNRD
To:	"Camille J Bryant"
Cc:	Griswold, Jim, EMNRD
Subject:	Admistratively Complete; GW-294, Townsend Remediation Site
Date:	Wednesday, May 14, 2014 3:44:00 PM
Attachments:	GW-294 Admin Complete.pdf Applicant Public Notice.pdf
Importance:	High

Camille Bryant,

GW-294 Admin Complete Status has been met.
The Applicant Public Notice is approved for publishing in your stated Newspaper. Request an affidavit of publication, once received submit a copy to me.
Technical review of the Application has commenced.

Thank you,

Leonard Lowe
Environmental Engineer
Oil **C**onservation **D**ivision
1220 South St. Frances
Santa Fe, New Mexico 87004
Office: 505-476-3492 Fax: 505-476-3462
E-mail: leonard.lowe@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of Check No. 7034500 dated 4/17/14

or cash received on 4/24/14 in the amount of $ 100.00

from PLAINS PIPELINE, L.P.

for GW - 294

Submitted by: JIM GRISWOLD Date: 4/25/14

Submitted to ASD by: LUPE SHERMAN Date: 4/25/14

Received in ASD by: _____ Date: _____

Filing Fee _____ New Facility: _____ Renewal: _____

Modification _____ Other ✓ APPLICATION FEE / DISCHARGE PERMIT

Organization Code 521.07 Applicable FY 14

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

NEW MEXICO ENVIRONMENT DEPARTMENT - ALBUQUERQUE FIELD OFFICE DAILY CHECK RECEIPT LOG

DATE RECEIVED	WALK-IN	MAIL	NAME ON CHECK	DATE OF CHECK	CHECK/MONEY ORDER#	PROGRAM ACCOUNT CODE	AMOUNT OF CHECK	DATE DEPOSITED	DEPOSITED BY:
4/24/14		✓	PLAINS MARKETING, L.P	4/17/14	7034500		$100.00		
TOTAL							$100.00		

REVENUE TRANSMITTAL SHEET

Description	Fund	Dept.	Share Acct	Sub Acct	Amount
Liquid Waste	34000	Z3200	496402		
Water Recreation Facilities	40000	Z8501	496402		
Food Permit Fees	99100	Z2600	496402		
OTHER	34100	232900		2329029000	

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

State of New Mexico
Energy Minerals and Natural Resources

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

Revised June 10, 2003

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

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

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

☐ New ☒ Renewal ☐ Modification

1. Type: **GW Discharge Plan for Remediation Site**

2. Operator: **Plains Pipeline, L. P.**

   Address: **P. O. Box 4648, Houston, TX 77210-4648**

   Contact Person: **Camille J. Bryant, Remediation Coordinator; Phone: (575) 441-1099**

3. Location: **SE ¼, SE¼** Section **11** Township **16** Range **35E**

   Submit large-scale topographic map showing exact location.

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

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

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

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

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

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

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

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

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

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

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

Name: Camille J. Bryant Title: Remediation Coordinator

Signature: Camille J. Bryant Date: April 1, 2014

E-mail Address: cjbryant@paalp.com

New Mexico Discharge Plan

GW-294

Townsend Site

TNM 97-04-KNOWN

Lea County, New Mexico

Plains Pipeline, LP

333 Clay Street, Suite 1600

Houston, Texas 77002

April 2014

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 Introduction

Plains Pipeline, LP, is the responsible party for a crude oil release remediation site located near Lovington, New Mexico. The Townsend Site (TNM 97-04 Known) consists of fifteen (15) groundwater monitor wells and four (4) recovery wells. Groundwater is transported to the surface utilizing six (6) total fluid groundwater pumps. Also located on-site is a 500 gallon oil/water separation tank, a 500 gallon aeration tank, a trailer-mounted "pump and treat" system with an air blower used for a sparging system and aeration of the aeration tank. Treated water is gravity fed to an infiltration gallery located up gradient of the release site. Also located on site are eight (8) sparging wells located generally down gradient of the central hydrocarbon plume. An equipment building on site houses an air compressor used to operate the total fluid pumps and various equipment used for routine maintenance of the system. The "pump and treat" system utilizes two (2) fifteen gallon drums of chemicals (antiscalent and microbicide) to control biologic growth and reduce mineral scale within the system.

2.0 Operator Information

Owner/Operator: Plains Pipeline, LP
333 Clay Street, Suite 1600
Houston, Texas 77002
(713) 646-4100

Local Representative: Camille Bryant
Plains Pipeline, LP
2530 State Highway 214
Denver City, Texas 79323
(575) 441-1099

3.0 Facility Location

The Townsend Site is located south of New Mexico Highway 82, approximately two (2) miles southwest of Lovington, New Mexico. The Site is located in Unit Letter P ($SE^{1/4}$ $SE^{1/4}$), Section 11, Township 16 South, Range 35 East, in Lea County, New Mexico. A site location map is provided as Appendix A.

4.0 Landowner

The Landowner, according to the Lea County, New Mexico tax records is:

Mr. Mario Corral
6625 Megert Lane
Lovington, New Mexico 88260

5.0 Facility Description

The Townsend Site is a crude oil release remediation site. According to records from a previous responsible party, the release occurred or was discovered in 1997. There are currently fifteen (15) groundwater monitor wells, four (4) recovery wells, and eight (8) air sparing well on-site. During the past year (2013), five (5) of the on-site monitor wells and four (4) of the on-site recovery wells exhibited phase-separated hydrocarbons (PSH). Plains utilizes six (6) total fluid groundwater pumps installed in the monitor and recovery wells to transport recovered crude oil and impacted groundwater to the surface. The fluid is temporarily stored in a 500 gallon poly tank, this "settling tank" allows the hydrocarbons to separate from the groundwater. After this initial separation the water is pumped to a skid mounted "pump and treat" system, which allows for additional oil/water separation. Following separation, the water is gravity feed to a 500 gallon "aeration" poly tank. The aeration tank utilizes compressed air from the trailer mounted blower to volatize hydrocarbons from the water. Following aeration, the water is pumped through two (2) bag particulate filters and through two (2) 500 pound carbon canisters. On exit from the carbon canisters the water exits the skid mounted system and is gravity fed to the infiltration gallery wells. A Site Map is provided as Figure 2.

Monitor and recovery wells are sampled quarterly or as approved by the New Mexico Oil Conservation Division (NMOCD). The groundwater samples are analyzed for concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) and if warranted, for Polynuclear Aromatic Hydrocarbons (PAH).

Groundwater which has been treated on-site is sampled once per month from a sampling port located downstream of the carbon canisters. The water sample is analyzed for concentrations of BTEX and PAH, as directed by the NMOCD. Annually, the treated water is sampled for concentrations of NMWQCC metals. Analytical results are compared NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code.

6.0 Material Stored or Used at the Facility

Materials stored or used at the facility include crude oil, groundwater, and motor oil for use as a lubricant in the air compressor motor. An antiscalent (Analytix AN-310FG) and a microbicide (Glutaraldehyde – 15% mixture) are stored on site in fifteen (15) gallon drums. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) are provided in Appendix A.

7.0 Waste Generated and Procedures

Motor oil is used in the on-site compressor motor to lubricate the motor. The lubricating oil is changed once a month. Recovered crude oil is collected on-site in a 500 gallon poly tank.

8.0 Waste Collection, Storage, and Disposal Procedures

Used motor will is collected and transported off-site to be recycled by a commercial recycler. Recovered crude oil is re-injection into the Plains Pipeline transportation system or disposed of at an NMOCD approved disposal facility.

9.0 Proposed Modifications

No modifications are currently proposed at this site.

10.0 Inspections and Maintenance

10.1 Routine Inspections

The site is inspected a minimum of twice weekly by a third party contractor. The site is monitored for any change in conditions, including releases. Since the initial release occurred, no releases have occurred. In the unlikely event of a release at the site, the release would be promptly addressed.

10.2 Routine Maintenance

The site is inspected on a twice weekly and any necessary maintenance is addressed during the visits. All wells, piping, and storage containers are maintained in good condition to prevent releases and prevent any impact to stormwater.

11.0 Release Prevention and Reporting Procedures

The site is inspected on a twice weekly basis by a third party contractor. The Site is maintained to prevent accidental releases and any releases which might occur would immediately be reported to Plains by phone. All tanks are maintained in appropriately sized secondary containments and due to the total volume of the storage tanks (1,000 gallons) no Spill Prevention Control and Countermeasures (SPCC) Plan is required for this facility. Procedures for release response are as follows:

In the event of a minor release, the site contractors are trained in release response and the appropriate release response equipment is maintained in the contractor's vehicles. In the event a release occurs, which cannot be handled by the available personnel and equipment, additional trained and experienced local contractors are "on call" to respond to the release. The contractor's available equipment includes vacuum trucks, dump trucks, backhoes, hand tools, and absorbent materials. Additional release controls, such as curbing, diking and other acceptable measures may also be implemented to control potential releases and prevent additional impact to groundwater. During release response, all impacted material is collected in rainproof containers or stockpiled on a plastic sheeting in the event of a larger release, the impacted soil is characterized and disposed of in accordance with applicable State and Federal Law.

In the event of a reportable release, notification would be provided to the NMOCD in accordance with New Mexico Administrative Code (NMAC) Rule 116 and any other applicable regulations. The facility will follow methods set forth in the New Mexico Water Quality Control Commission (NMWQCC) Section 3107.A.11 and will utilize NMOCD accepted methods for remediation of releases. Plains maintains in-house reporting and response procedures for all release, regardless of the volume released.

12.0 Site Characteristics

12.1 Physical Setting

The facility is located at an elevation of approximately 3,200 feet above Mean Sea Level (MSL) and is located near the Townsend Oil Field. The surface topography slopes gently to the southeast.

12.2 Geology and Hydrogeology

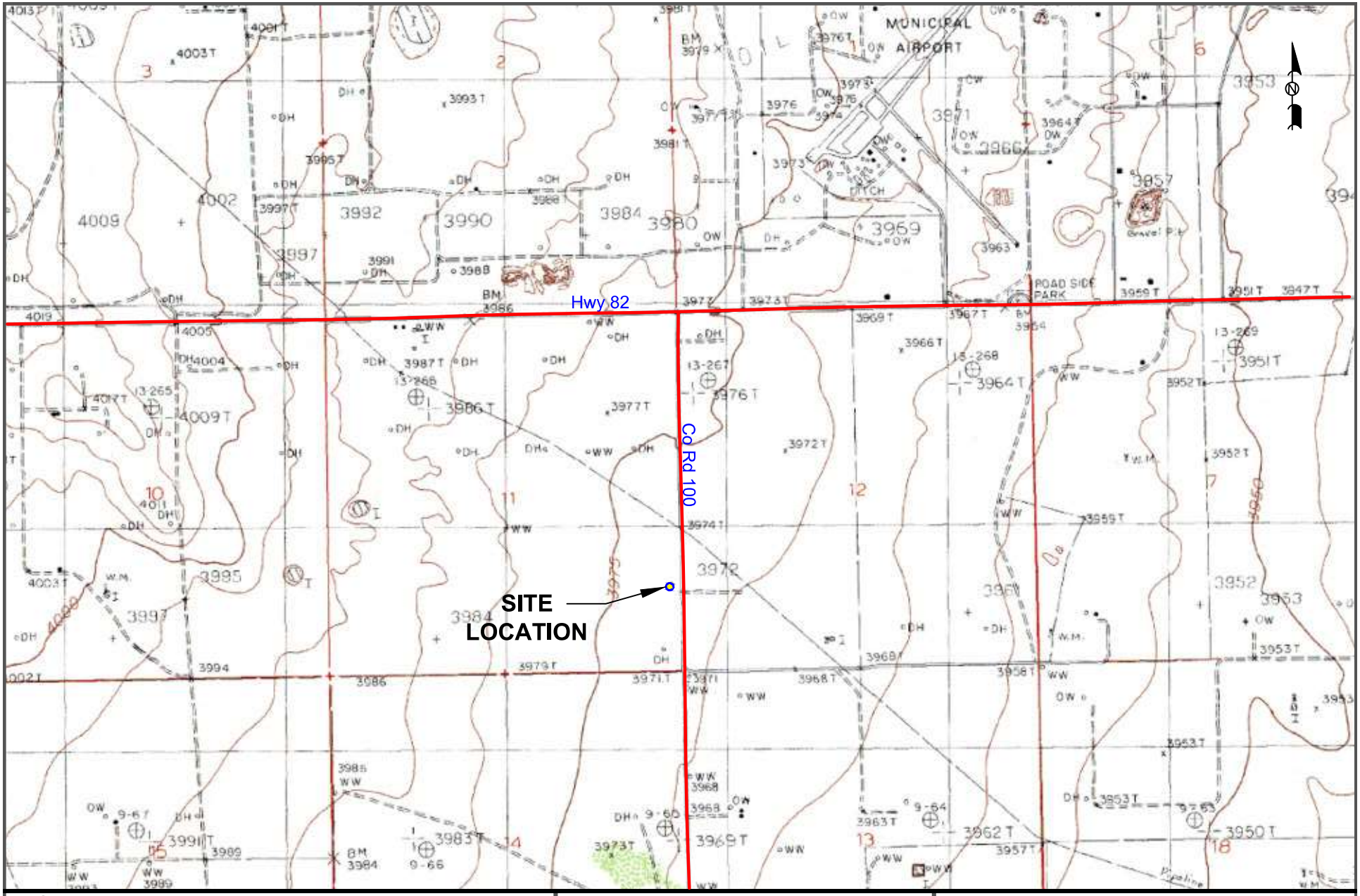
The surface geology at the site consists of the Tertiary Ogallala Formation, which consists of mostly eolian sediments, primarily sand and silt. The Ogallala Formation ranges in thickness from 0 to approximately 700 feet in southeastern New Mexico. The Ogallala Formation in New Mexico appears to have been deposited under arid subhumid climate conditions, under which alluvial sediments partially filled paleovalleys in the Pre-Ogallala erosional surface, while thick eolian sands and silts covered most of the paleo highs and the fluvial sections.

Calcic paleosols occur throughout the eolian sediments, generally near the top of the Ogallala Formation. These cemented zones are resistant to weathering and form ledges in outcrops within the Ogallala Formation. The Ogallala cap rock (caliche) is the most distinctive of these layers and generally marks the top of the Ogallala Formation. The cap rock maybe as thick as 60 feet in some locations.

The Ogallala Formation is the principal hydrogeologic unit in the High Plains aquifer, which consists of one (1) or more hydraulically geologic units of the late Tertiary or Quaternary Age. Depth to groundwater at the Site is approximately fifty (50) feet below ground surface (bgs). The inferred groundwater gradient is to the southeast in the vicinity of the site. A Inferred Groundwater Gradient Map is provided as Figure 3

13.0 Facility Closure Plan

Currently, groundwater remediation activities are in progress and ongoing. Groundwater remediation activities will continue until all phase-separated hydrocarbons have been recovered and analytical results indicate dissolved-phase BTEX constituents are below NMOCD regulatory guidelines. On completion of groundwater remediation activities, a Site Closure Request will be submitted to the NMOCD. No schedule for this Site Closure Request submittal is available at this time.



LEGEND:

2000 1000 0 1000 2000

Distance in Feet

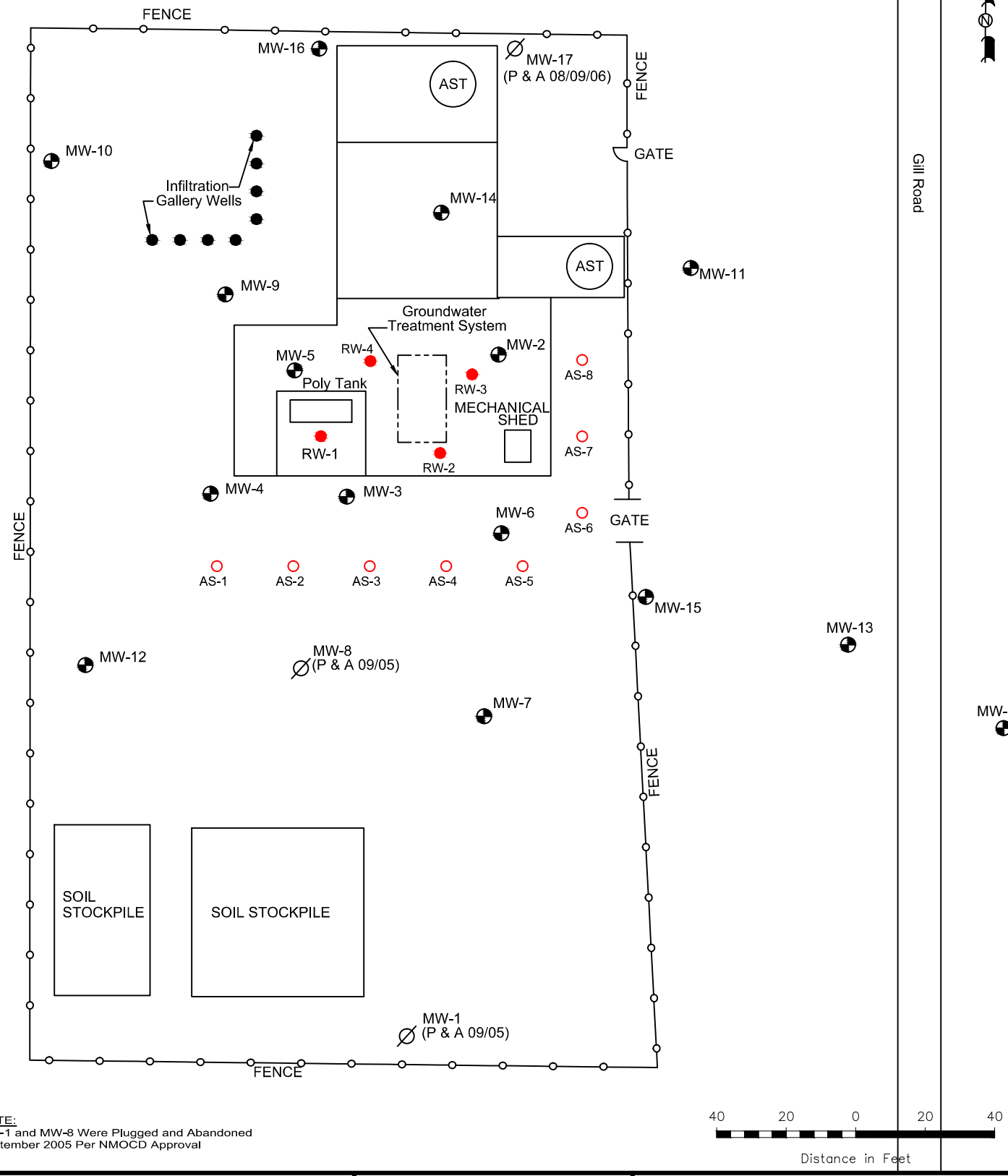
NMOCD Reference #GW-0294

Figure 1
Site Location Map
TNM 97-04
Plains Marketing, L.P.
Lea County, NM

NOVA safety and environmental
2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

March 3, 2011	Scale: 1" = 2000'	CAD By: TA	Checked By: RKR

LATITUDE & LONGITUDE COORDINATES: N 32° 55' 57.1" W 103° 25' 12.3"



NOTE:
MW-1 and MW-8 Were Plugged and Abandoned September 2005 Per NMOCD Approval

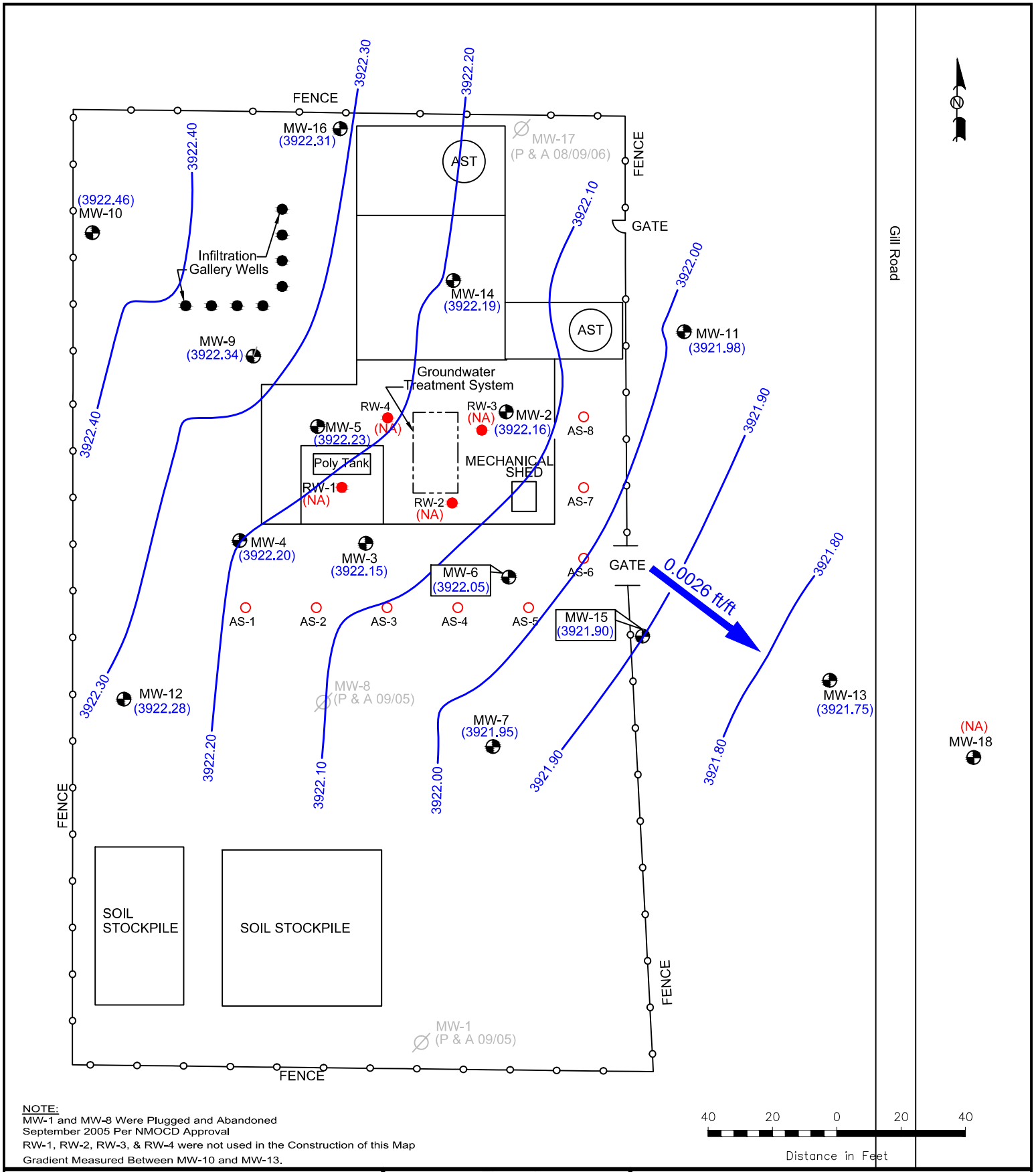
LEGEND:

- Monitoring Well Location
- Recovery Well Location
- Air Sparging Well Location
- Infiltration Gallery Well Location

Figure 2
Site Map and System
Well Locations Map
NMOCD Reference # GW-0294
Plains Marketing, L.P.
TNM 97-04
Lea County, NM

NOVA safety and environmental
2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

March 31, 2011	Scale: 1" = 40'	CAD By: TA	Checked By: RKR
Lat. N 32° 44' 50.3" Long. W 103° 23' 38.5"	NW1/4 SE1/4 Sec 18 T18S R36E		



NOTE:
MW-1 and MW-8 Were Plugged and Abandoned September 2005 Per NMOCD Approval
RW-1, RW-2, RW-3, & RW-4 were not used in the Construction of this Map
Gradient Measured Between MW-10 and MW-13.

LEGEND:

- Monitoring Well Location
- Recovery Well Location
- Air Sparging Well Location
- Infiltration Gallery Well Location
- Groundwater Elevation Contour
- (NA) Not Available

Figure 3
Inferred Groundwater Gradient Map
(11/18/2013-11/19/2013)
NMOCD Reference # GW-0294
Plains Marketing, L.P.
TNM 97-04
Lea County, NM

NOVA safety and environmental
2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

January 2, 2014	Scale: 1" = 40'	CAD By: TA	Checked By: CS
Lat. N 32° 44' 50.3" Long. W 103° 23' 38.5"	NW1/4 SE1/4 Sec 18 T18S R36E		

MATERIAL SAFETY DATA SHEET

Review Date: 04/17/2008

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: PENNZOIL™ Multi-Grade Motor Oil - All Grades

MSDS NUMBER: 612978LU - 3
PRODUCT CODE(S): 2010, 2011, 2012, 3560, 3600, 3606, 3610, 3616, 3650, 3656, 5041969, 5041970, 5041971, 5044482, 5044491, 5047954, 5060206, 5065725, 5069624, 5070239, 5076150, 5076175, 59751, 62569, 62710

PRODUCT USE: Motor Oil

MANUFACTURER
SOPUS Products
P.O. Box 4427
Houston, TX. 77210-4427

TELEPHONE NUMBERS
Spill Information: (877) 242-7400
Health Information: (877) 504-9351
MSDS Assistance Number: (877) 276-7285

SECTION 2 PRODUCT/INGREDIENTS

INGREDIENTS	CAS#	CONCENTRATION
Multigrade Motor Oil		
Highly refined petroleum oils	Mixture	90 - 99 %weight
Proprietary additives (<1% zinc)	Mixture	1 - 3 %weight

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Appearance & Odor: Amber liquid. Petroleum oil odor.
Health Hazards: No known immediate health hazards.
Physical Hazards: No known physical hazards.
NFPA Rating (Health, Fire, Reactivity): 0, 1, 0
Hazard Rating: Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

Route(s) of Exposure: Skin

Inhalation:
Inhalation of vapors (generated at high temperatures only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.

Eye Irritation:
Lubricating oils are generally considered no more than minimally irritating to the eyes.

Skin Contact:
Lubricating oils are generally considered no more than minimally irritating to the skin. Prolonged and repeated contact may result in defatting and drying of the skin that may cause various skin disorders such as dermatitis, folliculitis or oil acne.

Ingestion:
Lubricating oils are generally no more than slightly toxic if swallowed.

Other Health Effects:
The International Agency for Research on Cancer (IARC) has determined there is sufficient evidence for the carcinogenicity in experimental animals of used gasoline motor oils. Handling procedures and safety precautions in the MSDS should be followed to minimize exposure to the used product.

Signs and Symptoms:
Irritation as noted above.

Aggravated Medical Conditions:
Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

For additional health information, refer to section 11.

SECTION 4 FIRST AID MEASURES

Inhalation:
Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Skin:
Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

Eye:
Flush with water. If irritation occurs, get medical attention.

Ingestion:
Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

Note to Physician:
In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point [Method]: >430 ºF/>221.11 ºC [Cleveland Open Cup]
Upper Flammability Limit: Not Determined
Lower Flammability Limit: Not Determined

Extinguishing Media:
This material is non-flammable. Material will float and can be re-ignited on surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

Fire Fighting Instructions:
Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

Unusual Fire Hazards:
Material may ignite when preheated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures:
May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management:
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Reporting:
CERCLA: Product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Releases to air, land, or water are not reportable under CERCLA (Superfund).

CWA: This product is an oil as defined under Section 311 of EPA's Clean Water Act (CWA). Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 1-800-424-8802.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures:
Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be decontaminated. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking.

Storage:
Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings:
Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical	Limit	TWA	STEL	Ceiling	Notation
Oil mist, mineral	ACGIH TLV	5 mg/m3	10 mg/m3		
Oil mist, mineral	OSHA PEL	5 mg/m3			

Exposure Controls

Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Personal Protection

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

Eye Protection:
Chemical Goggles, or Safety glasses with side shields

Skin Protection:
Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take

into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:
Neoprene, or Nitrile Rubber

Respiratory Protection:
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:
For Mist: Air Purifying, R or P style NIOSH approved respirator.
For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Amber liquid. Petroleum oil odor.
Substance Chemical Family: Lubricants
Physical State: Liquid

Flash Point	> 430 ºF [Cleveland Open Cup]	**Odor**	Petroleum oil odor.
Specific Gravity	0.874	**Viscosity**	70 cSt - 90 cSt @ 40 ºC

Odor Threshold: Not Determined
Partition Coefficient: Not Determined
pH: Not Determined

SECTION 10 REACTIVITY AND STABILITY

Stability:
Material is stable under normal conditions.

Conditions to Avoid:
Avoid heat and open flames.

Materials to Avoid:
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Carbon Monoxide, Carbon Dioxide and other unidentified organic compounds may be formed upon combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

TEST	Result	OSHA Classification	Material Tested
Dermal LD50	>5.0 g/kg(Rabbit)	Non-Toxic	Based on components(s)

Oral LD50	>5.0 g/kg(Rat)	Non-Toxic	Based on components(s)

Carcinogenicity Classification

Chemical Name	NTP	IARC	ACGIH	OSHA
Multigrade Motor Oil	Not Reviewed	Not Reviewed	No	No

SECTION 12 ECOLOGICAL INFORMATION

Environmental Impact Summary:
There is no ecological data available for this product. However, this product is an oil. It is persistent and does not readily biodegrade. However, it does not bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

SECTION 14 TRANSPORT INFORMATION

US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

International Air Transport Association
Not regulated under IATA rules.

International Maritime Organization Classification
Not regulated under International Maritime Organization rules.

SECTION 15 REGULATORY INFORMATION

Federal Regulatory Status

OSHA Classification:
Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

WHMIS Classification: Not a controlled substance.

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

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:
There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):

Immediate Health	Delayed Health	Fire	Pressure	Reactivity
NO	NO	NO	NO	NO

SARA Toxic Release Inventory (TRI) (313):
There are no components in this product on the SARA 313 list.

Toxic Substances Control Act (TSCA) Status:
All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:
Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

State Regulation

This material is not regulated by California Prop 65, New Jersey Right-to-Know Chemical List or Pennsylvania Right-To-Know Chemical List. However for details on your regulation requirements you should contact the appropriate agency in your state.

SECTION 16 OTHER INFORMATION

Revision#: 3
Revision Date: 04/17/2008
Review Date: 04/17/2008
Revisions since last change (discussion): This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2003). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

SECTION 17 LABEL INFORMATION

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 2010, 2011, 2012, 3560, 3600, 3606, 3610, 3616, 3650, 3656, 5041969, 5041970, 5041971, 5044482, 5044491, 5047954, 5060206, 5065725, 5069624, 5070239, 5076150, 5076175, 59751, 62569, 62710

PENNZOIL™ Multi-Grade Motor Oil - All Grades

ATTENTION!

PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE OIL ACNE OR DERMATITIS. USED GASOLINE ENGINE OIL HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS.

Precautionary Measures:
Avoid prolonged or repeated contact with eyes, skin and clothing. Wash thoroughly after handling.

FIRST AID

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.
Skin Contact: Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.
Eye Contact: Flush with water. If irritation occurs, get medical attention.
Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

FIRE

In case of fire, Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Material will float and can be re-ignited on surface of water.

SPILL OR LEAK

Dike and contain spill.
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Highly refined petroleum oils, Mixture; Proprietary additives (<1% zinc), Mixture

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0

TRANSPORTATION

US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

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

Name and Address

SOPUS Products
P.O. Box 4427
Houston, TX 77210-4427

ADMINISTRATIVE INFORMATION	
MANUFACTURER ADDRESS:	SOPUS Products, P.O. Box 4427, Houston, TX. 77210-4427

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT : IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY

OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN AS A RESULT OF THAT DATA, IS THE PROPERTY OF SOPUS PRODUCTS AND IS NOT TO BE THE SUBJECT OF SALE OR EXCHANGE WITHOUT THE EXPRESS WRITTEN CONSENT OF SOPUS PRODUCTS.

44419-11418-100R-04/17/2008

Material Safety Data Sheet
The Dow Chemical Company

Product Name: AQUCAR(TM) GA 15 Water Treatment Microbiocide

Issue Date: 08/16/2013

Print Date: 16 Aug 2013

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name
AQUCAR™ GA 15 Water Treatment Microbiocide

COMPANY IDENTIFICATION
The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
United States

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview
Color: Clear
Physical State: Liquid.
Odor: Fruity
Hazards of product:

DANGER! Keep out of reach of children. Causes severe eye burns. Causes skin burns. May cause allergic skin reaction. Harmful if inhaled; heated material produces harmful vapors. Causes respiratory tract irritation. May be harmful if swallowed. Aspiration hazard. Can enter lungs and cause damage. Evacuate area. Keep upwind of spill. Highly toxic to fish and/or other aquatic organisms.

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor may cause eye irritation experienced as mild discomfort and redness.
Skin Contact: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Sensitization: Skin contact may cause an allergic skin reaction in a small proportion of individuals. Contains component(s) which have caused allergic skin sensitization in guinea pigs. Contains component(s) which have demonstrated the potential for contact allergy in mice.
Inhalation: Vapor may cause severe irritation of the upper respiratory tract (nose and throat). Vapor from heated material may cause serious adverse effects, even death. Case reports and medical surveys link asthma and respiratory irritation to glutaraldehyde exposure, primarily in medical personnel. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Asthma-like symptoms may occur in people prone to respiratory disorders or other allergies.
Respiratory Sensitization: May cause allergic respiratory response in a small proportion of individuals.
Ingestion: Low toxicity if swallowed. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Swallowing may result in gastrointestinal irritation or ulceration. Excessive exposure may cause: Headache. Dizziness. Anesthetic effects. Drowsiness. Unconsciousness. Other central nervous system effects.
Aspiration hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.
Effects of Repeated Exposure: Repeated skin contact may result in absorption of amounts which could cause death. May cause nausea and vomiting.
Birth Defects/Developmental Effects: For glutaraldehyde: Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3. Composition Information

Component	CAS #	Amount
Glutaraldehyde	111-30-8	15.0 %
Water	7732-18-5	<= 85.0 %

4. First-aid measures

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.
Skin Contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be immediately available.
Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
Ingestion: If the person is fully alert and cooperative, have the person rinse mouth with plenty of water. In cases of ingestion have the person drink 4 to 10 ounces (120-300 mL) of water. Do not induce vomiting. Do not attempt mouth rinse if the person has respiratory distress, altered mental

status, or nausea and vomiting. Call a physician and/or transport to emergency facility immediately. See "Indication of immediate medical attention and special treatment needed".

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Glutaraldehyde may transiently worsen reversible airways obstruction including asthma or reactive airways disease. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire Fighting Measures

Suitable extinguishing media

To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Spills or discharge to natural waterways is likely to kill aquatic organisms. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up: Avoid making contact with spilled material, glutaraldehyde will be absorbed by most shoes. Always wear the correct protective equipment, consisting of splashproof monogoggles, or both safety glasses with side shields and a wraparound full-face shield, appropriate gloves and protective clothing. A self-contained breathing apparatus or respirator and absorbents may be necessary, depending on the size of the spill and the adequacy of ventilation. Small spills: Wear the correct protective equipment and cover the liquid with absorbent material. Collect and seal the material and the dirt that has absorbed the spilled material in polyethylene bags and place in a drum for transit to an approved disposal site. Rinse away the remaining spilled material with water to reduce odor, and discharge the rinsate into a municipal or industrial sewer. Large spills: In case of nasal and respiratory irritation, vacate the room immediately. Personnel cleaning up should be trained and equipped with a self-contained breathing apparatus, or an officially approved or certified full-face respirator equipped with an organic vapor cartridge, gloves, and clothing impervious to glutaraldehyde, including rubber boots or shoe protection. Deactivate with sodium bisulfite (2-3 parts (by weight) per part of active substance glutaraldehyde), collect the neutralized liquid and place in a drum for transit to an approved disposal site.

7. Handling and Storage

Handling
General Handling: Keep out of reach of children. Do not get in eyes, on skin, on clothing. Do not swallow. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wear goggles, protective clothing and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.
Other Precautions: Do not spray or aerosolize the undiluted form of the product. Full personal protective equipment (including skin covering and full-face SCBA respirator) is required for dilutions or mixtures of the product used in a spray application.

Storage
Do not store in: Aluminum. Carbon steel. Copper. Mild steel. Iron. Please refer to Dow publication: GLUTARALDEHYDE. Safe Handling and Storage Guide; Form No. 253-01338.
Shelf life: Use within 18 Months

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Glutaraldehyde	ACGIH	Ceiling	0.05 ppm SEN

A "SEN" notation following the exposure guideline refers to the potential to produce sensitization, as confirmed by human or animal data.

Personal Protection
Eye/Face Protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator. Use a full-face respirator when material is heated or when aerosols/mists are generated. Eye wash fountain should be located in immediate work area.
Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Use chemical protective clothing resistant to this material, when there is any possibility of skin contact. Remove contaminated clothing immediately, wash skin area

with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. This product is a respiratory irritant. If discomfort is experienced ventilation is not adequate and an approved full face air-purifying respirator is recommended. If vapors are strong enough to be irritating to the nose, or eyes, the OEL is probably being exceeded. Special ventilation or respiratory protection may be required. For operations such as spraying and other conditions such as emergencies where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus. For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: Full-face Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Appearance	
Physical State	Liquid.
Color	Clear
Odor	Fruity
Odor Threshold	< 1 ppb *Literature*
pH	3.1 - 4.5 *ASTM E70*
Melting Point	Not applicable to liquids
Freezing Point	-7 °C (19 °F) *OECD 102*
Boiling Point (760 mmHg)	100.7 °C (213.3 °F) *OECD 103* .
Flash Point - Closed Cup	*ASTM D56* None
Evaporation Rate (Butyl Acetate = 1)	0.8 *Calculated*
Flammability (solid, gas)	Not applicable to liquids
Flammable Limits In Air	**Lower**: No test data available **Upper**: No test data available
Vapor Pressure	0.3 mmHg @ 20 °C *OECD 104* Active ingredient
Vapor Density (air = 1)	0.7 *Calculated*
Specific Gravity (H2O = 1)	1.042 *OECD 109*
Solubility in water (by weight)	100 % @ 20 °C *Calculated*
Partition coefficient, n-octanol/water (log Pow)	No data available for this product. See Section 12 for individual component data.
Autoignition Temperature	No test data available
Decomposition Temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	Not explosive
Oxidizing properties	No
Molecular Weight	No test data available

10. Stability and Reactivity

Reactivity
No dangerous reaction known under conditions of normal use.
Chemical stability
Thermally stable at typical use temperatures.

Possibility of hazardous reactions
Polymerization will not occur.
Conditions to Avoid: Active ingredient decomposes at elevated temperatures.

Incompatible Materials: Avoid contact with: Amines. Ammonia. Strong acids. Strong bases. Strong oxidizers. Avoid contact with metals such as: Aluminum. Carbon steel. Copper. Iron. Mild steel.
Hazardous decomposition products
Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

Acute Toxicity
Ingestion
Single dose oral LD50 has not been determined. Typical for this family of materials. LD50, rat > 900 mg/kg
Dermal
The dermal LD50 has not been determined. Typical for this family of materials. LD50, rabbit > 16,000 mg/kg
Inhalation
As product: The LC50 has not been determined.
Eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor may cause eye irritation experienced as mild discomfort and redness.
Skin corrosion/irritation
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
Sensitization
Skin
Skin contact may cause an allergic skin reaction in a small proportion of individuals. Contains component(s) which have caused allergic skin sensitization in guinea pigs. Contains component(s) which have demonstrated the potential for contact allergy in mice.
Respiratory
May cause allergic respiratory response in a small proportion of individuals.
Repeated Dose Toxicity
Repeated skin contact may result in absorption of amounts which could cause death. May cause nausea and vomiting.
Chronic Toxicity and Carcinogenicity
In a NTP chronic 2-year inhalation study on glutaraldehyde, no carcinogenicity was seen in rats or in mice. An increase in large granular lymphocytes in Fischer rats dosed with glutaraldehyde for two years was random or a secondary carcinogenic effect due to a modifying influence on the occurrence of this common neoplasm in this rat strain.
Developmental Toxicity
For glutaraldehyde: Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For glutaraldehyde: Did not cause birth defects in laboratory animals.
Reproductive Toxicity
For glutaraldehyde: In animal studies, did not interfere with reproduction.
Genetic Toxicology

For glutaraldehyde: In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were predominantly negative.

12. Ecological Information

Toxicity

Data for Component: **Glutaraldehyde**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested). Material is moderately toxic to birds on an acute basis (LD50 between 51 and 500 mg/kg). Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

Fish Acute & Prolonged Toxicity
For the active ingredient(s): LC50, Pimephales promelas (fathead minnow), 96 h: 5.4 mg/l
Aquatic Invertebrate Acute Toxicity
For the active ingredient(s): LC50, Daphnia magna (Water flea), 48 h, immobilization: 0.345 mg/l
Aquatic Plant Toxicity
For the active ingredient(s): ErC50, Pseudokirchneriella subcapitata (green algae), Growth rate inhibition, 72 h: 1.32 mg/l
Toxicity to Micro-organisms
EC50, OECD 209 Test; activated sludge: > 50 mg/l
EC50; Bacteria, 16 h: 17 - 25 mg/l
Aquatic Invertebrates Chronic Toxicity Value
water flea Daphnia magna, flow-through test, 21 d, number of offspring, For the active ingredient(s):, NOEC: 0.12 mg/l
Toxicity to Above Ground Organisms
oral LD50, Anas platyrhynchos (Mallard duck): 408 - 466 mg/kg
dietary LC50, Colinus virginianus (Bobwhite quail): > 5,000 ppm
dietary LC50, Anas platyrhynchos (Mallard duck): > 5,000 ppm

Persistence and Degradability

Data for Component: **Glutaraldehyde**

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
83 %	28 d	OECD 301A Test	pass
73 %	28 d	OECD 306 Test	Not applicable

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
4.69E-11 cm3/s	2.74 h	Estimated.

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
28 %	57 - 63 %	72 - 74 %	

Theoretical Oxygen Demand: 1.92 mg/mg

Bioaccumulative potential

Data for Component: **Glutaraldehyde**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient, n-octanol/water (log Pow): -0.333 Measured

Mobility in soil

Data for Component: **Glutaraldehyde**

Mobility in soil: Potential for mobility in soil is high (Koc between 50 and 150)., Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient, soil organic carbon/water (Koc): 120 - 500 Estimated.
Henry's Law Constant (H): 3.3E-08 atm*m3/mole; 25 °C Measured

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. Transport Information

DOT Non-Bulk
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, NOS
Technical Name: GLUTARALDEHYDE
Hazard Class: 8 **ID Number:** UN3265 **Packing Group:** PG III

DOT Bulk
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, NOS
Technical Name: GLUTARALDEHYDE
Hazard Class: 8 **ID Number:** UN3265 **Packing Group:** PG III

IMDG
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, NOS
Technical Name: GLUTARALDEHYDE
Hazard Class: 8 **ID Number:** UN3265 **Packing Group:** PG III
EMS Number: F-A,S-B

ICAO/IATA
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, NOS
Technical Name: GLUTARALDEHYDE
Hazard Class: 8 **ID Number:** UN3265 **Packing Group:** PG III
Cargo Packing Instruction: 856
Passenger Packing Instruction: 852

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Crude Oil, Sweet
SYNONYMS:	Sweet Crude
CHEMICAL NAME:	Petroleum
CHEMICAL FAMILY:	Petroleum Hydrocarbon
PRODUCT USE:	Refinery feedstock
SUPPLIER:	Plains Midstream Canada Suite 1400, 607 – 8th Avenue S.W. Calgary, AB, T2P 0A7
Emergency Telephone:	1-866-875-2554 Canutec (613) 996-6666 or *666 Cellular

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!!

EXTREMELY FLAMMABLE- MAY EVOLVE TOXIC AND FLAMMABLE HYDROGEN SULPHIDE GAS - EYE, SKIN AND MUCOUS MEMBRANE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED - ASPIRATION HAZARD.

High fire hazard. Keep away from heat, spark, open flame, and other ignition sources.

HYDROGEN SULPHIDE (toxic gas) may be released. High concentration may cause immediate unconsciousness - death may result unless victim is promptly and successfully resuscitated.

Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, anesthetic effects (dizziness, nausea, headache, intoxication), and respiratory system effects. Contains benzene, which can cause blood disease, including leukemia. Benzene and Toluene is readily absorbed through intact skin.

POTENTIAL HEALTH EFFECTS

ROUTE(S) OF ENTRY

Eyes: Yes Skin: Yes Inhalation: Yes Ingestion: Yes

EYES

MODERATE TO SEVERE IRRITANT. Liquids and vapors may cause irritation to the eyes, conjunctiva, and mucous membranes, causing redness and tearing. Splashing of liquid into the eyes will cause smarting and pain.

SKIN

SLIGHT TO MODERATE IRRITANT. Contact may cause irritation to the skin and mucous membranes upon prolonged and/or repeated skin contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed. Prolonged or repeated contact to petroleum oil with skin may cause defatting of the skin leading to redness, itching, inflammation, cracking, dermatitis (rash), and possible secondary infection. High-pressure skin injections are serious medical emergencies. The appearance of injury may be delayed for a few hours, but may cause tissue to become swollen, discolored and extremely painful.

INGESTION

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluids in the lungs), severe lung damage, respiratory failure and even death. Ingestion may cause gastrointestinal disturbances, such as irritation, nausea, vomiting and diarrhea, and central nervous system effects. Acute symptoms of ingestion are most common, including excitation, restlessness, euphoria, nausea, headache, dizziness, drowsiness, blurred vision, reduced coordination, and fatigue. In more severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Vapors may cause nose and throat irritation, anesthetic effects and central nervous system (CNS) depression. Inhalation may result in nausea, dizziness, drowsiness, headaches, and other symptoms similar to those listed under "Ingestion". Certain ingredients may produce systemic effects to the blood, liver, kidneys, central nervous system and cardiovascular system. Inhalation of high concentrations can cause rapid CNS depression, cardiac arrhythmia, unconsciousness, coma, and possibly death resulting from respiratory failure.

WARNING: Irritating and toxic hydrogen sulphide gas may be released. At high concentrations (500 - 1000 ppm), hydrogen sulphide acts as a systemic poison, causing unconsciousness and death. In lower concentrations (50 - 500 ppm), hydrogen sulphide acts as a respiratory irritant, and may cause fluid in the lungs or bronchial pneumonia. The rotten egg odor of hydrogen sulphide is not a reliable indicator for warning of exposure, since olfactory fatigue (loss of smell) readily occurs, especially at concentrations above 50 ppm.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS/CARCINOGENICITY
Contains carcinogens according to IARC, NTP, ACGIH and OSHA. Contains benzene; a regulated human carcinogen. Benzene is recognized as having the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash) conditions. Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	%	CAS #
Crude Oil	100	8002-05-9
Benzene	0.1 to1.5	71-43-2
Toluene	0.1 to 5	108-88-3
Ethylbenzene	0.1 to 5	100-41-4
Xylene, Mixed isomers	0.1 to 5	1330-20-7
Hydrogen Sulphide	0.1 to 5	7783-06-4

Crude oil is a mixture of naturally occurring paraffins; napthenes; aromatic hydrocarbons and small amounts of sulphur and nitrogen compounds. The composition and properties will vary significantly according to the source of the crude. Crude oil with sulphur content greater than 0.5 weight percent is considered sour. This product is a commingled stream from multiple petroleum facilities and is a complex mixture consistent with the definition within WHMIS regulation CPR section 2. The listed components are provided as guidance based on the available knowledge of the commingled stream.

4. FIRST AID MEASURES

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. High-pressure injections are serious medical emergencies - seek immediate medical attention.

INGESTION
DO NOT INDUCE VOMITING BECAUSE OF DANGER OF BREATHING LIQUID INTO LUNGS. Seek immediate medical attention. Rinse mouth with water. Administer 1 to 2 glasses of water or milk to drink. Never administer liquids to an unconscious person. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Seek medical attention. Monitor for breathing difficulty.

INHALATION
Remove person to fresh air. If person is not breathing, ensure an open airway and administer CPR. If necessary, provide additional air or oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FIRE AND EXPLOSION HAZARDS
EXTREMELY FLAMMABLE. This is a commingled petroleum stream from various locations and producers the actual flammable characteristics are difficult to predict but this product should be considered as an extremely flammable liquid. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard. Liquids will float on water. Liquid may accumulate static charge.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires - dry chemical, CO_2, water spray, fire foam, or Halon.

LARGE FIRES: Water spray, fog or fire foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS
Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Fire fighting activities that may result in potential exposure to high heat, smoke or toxic byproducts of combustion should require approved self-contained breathing apparatus (SCBA) with full-facepiece and full protective firefighting clothing.

Isolate area around container if involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. If leak or spill has not ignited, ventilate area and determine if water spray would assist in dispersing gas or vapor to protect personnel attempting to stop leak. Water may be useful in flushing spills away from ignition sources; however, do NOT flush petroleum products down public sewers or other drainage systems.

For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam. Refer to NAERG Guide 128.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE YOUR FACILITY'S SITE SPECIFIC EMERGENCY RESPONSE PLAN if available.

Evacuate nonessential personnel and remove or secure all ignition sources for 300m (1000ft). Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Hydrogen sulphide may be evolved during a release, ensure response personnel are adequately protected - see Section 8 for personal protection.

Carefully contain and stop the source of the spill, if safe to do so. Do not flush down sewer or drainage systems. Protect bodies of water by diking, if possible. The use of fire fighting foam may be useful in certain situations to reduce vapors.

SMALL SPILLS: Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Cleanup crews must be properly trained and must utilize proper protective equipment.

LARGE SPILLS: Dike far ahead of the spill. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas /equipment that require protection. Consideration should be given to environmental clean-up and waste material generation when determining if the use

of large volumes of water is appropriate for non-fire emergency situations. Cleanup crews must be properly trained and must utilize proper protective equipment. Notify regulatory authorities. Refer to NAERG Guide 128.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS

Handle as a flammable liquid. Keep away from heat, sparks, and open flame. No smoking or open flame in storage, use of handling areas. Keep containers closed and clearly labeled. Ground all drums and transfer vessels when handling. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Use only with adequate ventilation. Avoid breathing vapors. Wash thoroughly after handling. Electrical equipment should be approved for classified area. DO NOT siphon by mouth.

STORAGE PRECAUTIONS

Store in a well ventilated area. This storage area should comply with NFPA 30. Avoid storage near incompatible materials.

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the vicinity of any potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not eat, drink or smoke in areas of use or storage. Do not use gasoline or solvents (naphtha, kerosene, etc) for washing this product from exposed skin areas. Waterless hand cleansers are effective.

Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Ingredient Name	CAS #	Exposure Limit
Benzene	71-43-2	ACGIH TWA= 0.5 ppm (skin) ACGIH TLV-STEL= 2.5 ppm
Toluene	108-88-3	ACGIH TWA= 50 ppm (skin)
Ethylbenzene	100-41-4	ACGIH TWA= 100 ppm ACGIH STEL = 125 ppm
Xylene, mixed isomers	1330-20-7	ACGIH TWA= 100 ppm
Hydrogen Sulphide	7783-06-4	ACGIH TWA= 1 ppm ACGIH STEL= 5 ppm

ENGINEERING CONTROLS

Use adequate ventilation to keep vapor and mist concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use explosion-proof equipment and lighting in classified/controlled areas.

EYE/FACE PROTECTION

Faceshield or chemical splash goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION

Avoid repeated or prolonged skin contact. Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as of poly-coated or equivalent recommended based on degree of exposure.

Note: The resistance of specific materials may vary from product to product as well as degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION
For hydrogen sulphide hazard (above H_2S permissible exposure limits): SCBA or a supplied air respirator must be used.

If exposure assessment indicates NO reduced oxygen content or hydrogen sulphide hazard (below H_2S exposure limit): NIOSH/MSHA - approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited and should not be considered especially when odor cannot be used to determine respirator effectiveness. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Refer to CSA Standard "Selection, Use and Care of Respirators" (Z94.4-02) and NIOSH Respirator Decision Logic for additional guidance on respiratory protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL PROPERTIES

APPEARANCE:	Generally a thick, dark yellow to brown or greenish black liquid.
ODOR:	A hydrocarbon odor. If present Hydrogen Sulphide (H_2S) has a rotten egg odor, but should not be used as warning property of toxic levels because H_2S can overwhelm and deaden the sense of smell. Therefore the smell of H_2S should not be used as an indicator of a hazardous condition - a calibrated H_2S meter can be used to determine the concentration of H_2S.
PHYSICAL STATE:	Liquid
FLASH POINT:	-20^{o}C to 93.3 ^{o}C (Flash point are in the flammable range but are highly dependent on crude oil source. This is a commingled stream of crude oils from various producers.
BOILING POINT:	-20 to 1100 ^{o}C
VAPOR PRESSURE:	varies
VAPOR DENSITY (Air = 1):	3 to 5
SPECIFIC GRAVITY	0.70 to 0.95 (water - 1.0):
SOLUBILITY (H_2O):	Insoluble to slightly soluble
PARTITION COEFFICIENT:	2 to 6

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID (STABILITY)
Material is stable under normal conditions. Avoid high temperatures, open flames, sparks, welding, smoking and other ignitions sources.

INCOMPATIBLE MATERIALS
Keep away from strong oxidizers, ignition sources and heat.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

HAZARDOUS POLYMERIZATION: Will Not Occur.

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS
Potential short-term effects of exposure are: irritation eyes, skin, nose, mucous membrane, and respiratory system.

Repeated or prolonged skin exposure to petroleum oils may cause various skin disorders, such as contact or eczematous dermatitis, folliculitis, oil acne, lipid granuloma, melanosis, and rarely precancerous warts on the

forearms, backs of hands or scrotum. Contains Benzene and Toluene, which are readily absorbed through intact skin and have Skin Notations by ACGIH.

ACUTE ORAL EFFECTS

Ingredient	CAS No	LD50	LC50
Crude Oil	8002-05-9	Rat oral >5000mg/kg Dermal Toxicity > 2000 mg/kg	Not available
Toluene	108-88-3	Rat oral 5000 mg/kg Rat oral 3500 mg/kg	400 ppm/4hr
Ethyl benzene	100-41-4	Rabbit skin 17,800 mg/kg	Not available
Xylene, mixed isomers	1330-20-7	Mouse oral 1590 mg/kg	Rat inhalation: 6,350 ppm/4 hr
Benzene	71-43-2	Rat oral 3306 mg/kg	Rat ihl 10,000 ppm/7 hr Rat inhalation 380 mg/ cu m > 960 min
Hydrogen Sulphide	7783-06-4	Not applicable	

CHRONIC EFFECTS/CARCINOGENICITY

Product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood forming system (particularly bone marrow), and serious blood disorders, such as leukemia. Benzene is listed by the National Toxicology Program (NTP), International Agency For Research on Cancer (IARC), and ACGIH as carcinogenic in humans.

Product contains polynuclear aromatic hydrocarbons (PAHs). Animal studies have shown that prolonged and/or repeated exposure to certain PAHs may cause cancer of the skin, lung and other organs.

Other potential chronic effects of exposure are: irritation eyes, skin, nose, mucous membrane, respiratory system; dizziness, anorexia, vomiting, abdominal pain; dermatitis, excitement, confusion, euphoria, drowsiness, incoordination, staggered gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis; lassitude (weakness, exhaustion), headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; liver, kidney damage, bone marrow depression; [potential occupational carcinogen], narcosis, coma.

Similar products produced skin cancer and skin tumors in laboratory animals following repeated applications. Crude oils may contain some PAH's, which have been shown to be carcinogenic after repeated or prolonged skin contact in laboratory animals. Studies by API and others have shown that some crude oils produced skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal between applications. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation. Potential risks to humans can be minimized by observing good work practices and personal hygiene procedures.

MUTAGENICITY (GENETIC EFFECTS)

Some crude oils and crude oil fractions have been positive in mutagenic assay tests.

REPRODUCTIVE EFFECTS

Contains ingredients identified as embryotoxic with the potential of fetal loss.

12. ECOLOGICAL INFORMATION

Keep out of sewage, drainage and waterways. Report spills and releases, as applicable, under federal, provincial and local regulations.

13. DISPOSAL CONSIDERATIONS

Maximize product recovery for reuse or recycling. Contaminated materials may be classified as a hazardous waste due to the low flash point and benzene. Empty containers can have residues that are subject to hazardous waste disposal requirements. Dispose of waste in accordance with all applicable federal, provincial, and/or local regulations.

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME:	Petroleum Crude Oil
TDG CLASS:	3
TDG IDENTIFICATION NUMBER:	UN1267
TDG SHIPPING LABEL:	Flammable Liquid
SHIPPING DESCRIPTION:	Petroleum Crude Oil, 3, UN1267, PGII

15. REGULATORY INFORMATION

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

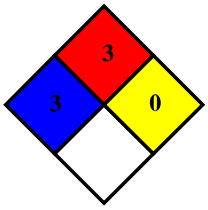
Workplace Hazardous Materials Information Systems (WHMIS): This product has been classified in accordance with the hazard criteria of the CPR (Controlled Product Regulations), and the MSDS contains all of the information required by the CPR.
Class B, Division 2 (Flammable Liquid)
D1A - Very Toxic Material Causing Immediate and Serious Toxic Effects
Class D, Division 2, Subdivision A (Very toxic by other means)
Class D, Division 2, Subdivision B(Toxic by other means)

This substance is listed on the Canadian Domestic Substances List (DSL).

16. OTHER INFORMATION

Issued by: Health and Safety Department, Plains Midstream Canada Telephone 403-261-7466
Technical Development by Deerfoot Consulting Inc. Telephone 403-720-3700

NFPA HAZARD RATING -	HEALTH:	3	High
	FIRE:	3	High
	REACTIVITY:	0	Negligible



Acronyms:

ANSI	=	American National Standards Institute
ACGIH	=	American Conference of Governmental Industrial Hygienists
API	=	American Petroleum Institute
CSA	=	Canadian Standards Association
HMIS	=	Hazardous Materials Information System
MSHA	=	Mine Safety and Health Administration
NAERG	=	North American Emergency Response Guide
NFPA	=	National Fire Protection Association
NIOSH	=	National Institute of Occupational Safety and Health
NTP	=	National Toxicology Program
OSHA	=	U.S. Occupational Safety & Health Administration
PAH	=	Poly-Aromatic Hydrocarbons
ppm	=	parts per million (volume/volume)
SCBA	=	Self-Contained Breathing Apparatus
STEL	=	Short Term Exposure Limit
TLV	=	Threshold Limit Value
TWA	=	Time Weighted Average
WHMIS	=	Workplace Hazardous Materials Information System - Canadian

Disclaimer of Expressed and Implied Warranties

The information presented in the Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. However, neither Plains Midstream Canada Deerfoot Consulting Inc nor any of their subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use.

Analytix Technologies, LLC.

P.O. Box 590466, Houston, TX 77259-0466, Tel: (281) 286-7562

Date Prepared: 2/3/2003
Last Revision 11/29/2010

1. CHEMICAL IDENTIFICATION

Trade Name AN-310FG
Product Use ..... Scale Control in Remediation of Groundwater
Emergency Number ..... Infotrac 1-800-535-5053
Customer Service Hotline ..... 281-286-7562 (8 AM to 5 PM CST)

2. COMPOSITION INFORMATION ON INGREDIENTS

Chemical Name	CAS No.
Copolymer	Not Hazardous
Organic Phosphorus Compound	2809-21-4
Water	7732-18-5

3. HAZARD IDENTIFICATION

Appearance: Light straw color with slight odor
Primary Routes of Exposure: Eye, Skin
Potential Health Effects – Direct eye contact can cause eye burns. The product is slightly irritating to skin, and irritating to respiratory and gastrointestinal membranes.

4. FIRST AID

Eyes ..... Immediately flush with water for at least 15 minutes, lifting the upper and lower ..... eyelids intermittently. See a medical doctor or ophthalmologist immediately.

Skin ..... Immediate first aid is not likely to be required. Wash with plenty of soap and water. ..... Get medical attention if irritation occurs and persists.

Ingestion ..... Immediate first aid is not likely to be required. Rinse mouth with water. Dilute by ..... giving 2 glasses of water. Do not induce vomiting. Never give anything by ..... mouth to an unconscious person. A physician can be contacted for advice.

Inhalation ..... Immediate first aid is not likely to be required. Remove to fresh air. If breathing ..... difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: The product is corrosive to the eyes and is expected to be irritating to the mucous membranes of the respiratory and gastrointestinal tracts. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

Flash Point and Method Not applicable
Flammable Limits ..... Not applicable
Autoignition Temperature ..... Not applicable
Extinguishing Media ..... Not applicable (aqueous solution)
Sensitivity to Static Discharge ..... No data available
Sensitivity to Impact ..... No data available

6. ACCIDENTAL RELEASE MEASURES

Release Notes - Keep spilled concentrated material out of drains and water courses. Absorb with sand or other absorbent material. Dispose of as solid waste in accordance with local regulations (e.g. incinerate). Flush the spill area with plenty of water.

7. HANDLING AND STORAGE

Handling – Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist and use approved splash goggles and vapor respirator fitted with approved organic cartridge if vaporization or misting occurs. Use with adequate ventilation.

Storage: Store at > 32 °F, away from nitrites, sulfites and alkaline materials. Do not store in mild steel, carbon steel or Aluminum. Suitable materials are: glass lining; PVC; polypropylene; polyethylene and glass-reinforced plastics. Keep containers tightly closed when not in use and when in transit.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION EQUIPMENT

Eye Protection: Wear safety glasses or chemical splash goggles meeting ANSI Z87.1 or approved equivalent.
Hand & Body Protection: Minimize skin contact by wearing protective PVC or Neoprene gloves, overalls or apron is also recommended.
Respiratory Protection: None required under normal handling and transfer conditions. An approved respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant use of a respirator. Where vapors or mist may occur, wear a properly fitted NIOSH-approved or equivalent half-mask, air-purifying respirator fitted with NIOSH-approved organic vapor cartridges.

Facilities storing or utilizing this material should be equipped adequate ventilation, eyewash and shower facility.

9. PHYSICAL AND CHEMICAL PROPERTIES

Odor	Slight
pH	~ 2.65
Vapor Density	Not applicable
Freezing Point	0° C
Specific Gravity	~ 1.1 @ 20°C
Appearance	Clear
Vapor Pressure	17.5 mm Hg @ 20°C
Boiling Point	101°C to 103°C
Solubility in Water	Complete

Note: The above physical data are typical values. They should not be construed as specification for the product.

10. STABILITY AND REACTIVITY

Stability	Stable
Polymerization	Will not occur
Hazardous Decomposition Products	None

11. TOXICOLOGICAL INFORMATION

This is a blended product. No data on the neat product is available. The following data is available for the active components, which have been diluted to make this product.

Organic Phosphorus Component:

Eye Irritation.....Irritant (rabbit)	Dermal LD_{50}.....> 7940 mg/kg (rabbit)
Skin Irritation.....Non-irritant (rabbit)	Oral LD_{50} .....> 2350 mg/kg (rat)

Copolymer:

Eye Irritation.....Slight Irritant (rabbit)	Dermal LD_{50}.....> 5000 mg/kg (rabbit)
Skin Irritation.....Non-irritant (rabbit)	Oral LD_{50} .....> 5000 mg/kg (rat)

12. ECOLOGICAL INFORMATION

This is a blended product. No ecological information on the neat product is available. The following data is available for the active components, which have been diluted to make this product.

Organic Phosphorus Compound:

Algae (Selenastrum capricornutum), 96 Hour EC50:	=	3 mg/l
Daphnia magna, 48 Hour EC50:	>	500 mg/l
NOEC:	=	400 mg/l
Grass Shrimp (Palaemonetes Pugio), 96 Hour EC50:	>	1,700 mg/l
NOEC:	>	100 mg/l
Rainbow trout (Salmo gairdneri), 96 Hour LC50 Static:	>	300 mg/l
Bluegill sunfish (Lepomis macrochirus), 96 Hour LC50 Static:	>	800 mg/l

This component has low avian toxicity, is slightly toxic to oysters and is practically non-toxic to fish and invertebrates. Algal growth inhibition is due to ability of the product to complex materials and not to toxicity per se.

Copolymer:

Daphnia magna, 48 Hour EC50:	>	2,750 mg/l
NOEC:	=	2,200 mg/l
Rainbow trout (Salmo gairdneri), 96 Hour LC50:	>	4,850 mg/l
NOEC:	=	1,300 mg/l
Bluegill sunfish (Lepomis macrochirus), 96 Hour LC50:	>	10,000 mg/l
NOEC:	=	10,000 mg/l

13. DISPOSAL CONSIDERATION

Disposal Method : Absorb spillage onto sand or other absorbent material and dispose of as solid waste as per local regulations (e.g. incineration). Surplus product can be incinerated.

If the product was supplied in a single use container, care should be taken to dispose of the container in a responsible manner and in accordance with applicable regulations. Label precautions should be followed for any residual material in the container. Whenever possible, our company encourages recycling of containers.

14. TRANSPORT INFORMATION

U.S. DOT (Department of Transportation) Hazard Class: Nonregulated

Other Shipping Information – DOT Marking – Not applicable
Hazardous Substance/RQ – Not applicable
49 STCC Number – Not applicable

Keep container tightly closed. Protect against physical damage.

15. REGULATORY INFORMATION

Following information pertains to each active component in the product, when applicable.
UNITED STATES

SARA TITLE 3 (Superfund Amendments and Reauthorization Act) – Not listed
Section 302 Extremely Hazardous Substances (40 CFR 355) – Not listed
Section 311 Hazard Category (40 CFR 370) – Immediate (Acute) Health Hazard
Section 312 Threshold Planning Quantity (40 CFR 370) – 10,000 lbs
Section 313 Reportable Ingredients (40 CFR 372) – Not listed

CERCLA (Comprehensive Environmental Response Compensation and Liability Act) (40 CFR 302.4)-Not listed.

TSCA (Toxic Substance Control Act) (40 CFR 710) – Listed

16. OTHER INFORMATION

Suggested HMIS Ratings -	Health - 3	Flammability - 0	Reactivity - 0	Protection - C
NFPA Rating	Health - 3	Flammability - 0	Reactivity - 0	Special - None

HMIS Rating notes - Protection C = Safety goggles, gloves, synthetic apron

The information contained herein is to the best of our knowledge and belief, accurate, but any recommendations or suggestions made are without warranty or guarantee of results, expressed or implied. We therefore, assume no liability for loss or damage incurred by following these suggestions. Any determination of fitness for a particular purpose is the buyer's responsibility. Analytix Technologies urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application. Analytix Technologies' only obligation will be to replace such quantity of product proved to be defective. User assumes all risks and liability whatsoever in connection with the suitability of the product for the users intended application. Analytix Technologies shall not be responsible in tort, contract or under any theory for any loss or damage, incidental or consequential, arising out of the use of or the inability to use the products.

86061

R&L ONLY

Shipper (from)	Subject to BOL terms	Consignee (to)

Analytix Technologies LLC
17647 Foltz Industrial PKWY
Strongville, OH 44149
281/286.7562

NOVA Safety and Environmental, Inc.
2057 Commerce Drive
Midland, TX 79703

Attn: Curt Stanley 432.520.7720

Freight Terms:

Prepaid Bill to 3rd Party as shown on right

Sec. 7 Signed ? No
Single Shipment ? No

Bill To

Priority 1 Inc.
Accounts Payable (50110459201Q)
P.O. Box 398
North Little Rock, AR 72115
Tel: 501.371.9814 Fax: 501.374.5960

# of Packages	HM X	Kind of packaging, Description of Articles (as described in NMFC), NMFC Item #; Special Marks & Exceptions	Weight	Class
1 Drum		**NON-Hazardous Liquid** **One (1) 15-GAL, AN-310FG, NMFC # 48580-3**	**160**	**55**
		LIFTGATE		
Special Instructions: LIFTGATE				

Section 7 Conditions - The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
Signature of Consignor_____

IN CASE OF CHEMICAL EMERGENCY CONTACT INFOTRAC (800) 535-5035

This is to certify that the above-named materials are properly classified, described, package, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature: _____ Carrier Signature_____ Date_____

Place
Pro Number Sticker
Here

TRUCK #	LOOSE PCS	TOTAL HANDLING UNITS
START	STOP	DATE

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

May 14, 2014

Ms. Camille J. Bryant
Plains All American Pipeline, L.P.
2530 State Highway 214
Denver City, Texas 79323

Re: Discharge Plan Renewal Permit GW-294
Plain's Pipeline Townsend Remediation Site
Lea County, New Mexico

Dear Ms. Bryant:

The Oil Conservation Division (OCD) has received Plain's Pipeline request and initial fee to renew GW-294 for their Townsend Remediation Site located in the SE/4 of the SE/4 of Section 11, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico. The initial submittal provided the required information in order to deem the application "administratively" complete.

Therefore, the Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to OCD. OCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

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

Sincerely,

Leonard Lowe
Environmental Engineer

LRL/lrl
xc: OCD District I Office, Hobbs

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3108 NMAC), the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division ("OCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3460:

(GW-294) – Plains Pipeline, L.P., Camille J. Bryant, 505 North Big Spring, Suite 600, Midland, Texas 79701, has submitted a discharge permit application renewal for remediation of contaminated ground water at the Plains Pipeline Townsend Site located in UL: P of Section 11, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico approximately 3-miles southwest of Lovington. The application addresses discharges to groundwater associated with the remediation of petroleum contaminated groundwater. Approximately 30 gallons per minute of contaminated groundwater is pumped and processed through Granular Activated Carbon system to remove organic contaminants and restore groundwater to WQCC groundwater standards prior to reinjection into an infiltration gallery where treated groundwater is percolated through sediment back into groundwater. Crude oil is separated, collected and temporarily stored in containment vessels prior to transport and disposal. Effluent groundwater is sampled monthly to ensure compliance with WQCC groundwater standards. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 500 to 1,000 mg/L. The discharge permit addresses the operation, monitoring, associated surface units or infrastructure, and a contingency plan in the event of accidental spills, leaks and other accidental discharges to protect fresh water.

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

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

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive,

Santa Fe, New México (Contacto: Laura Tulk, 575-748-1283).

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 11th day of March 2018.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Heather Riley, Director