AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pPAC0801757837

1RP - 1739

PURVIS OPERATING CO

7/22/2016

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

February 16, 2010

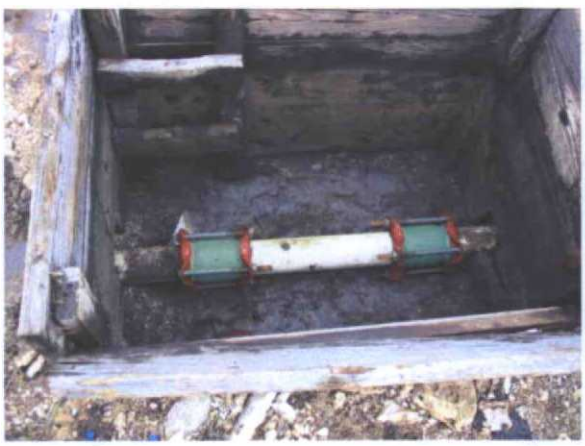
Mr. Geoffrey Leking
Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240
Via E-Mail and US Mail

RE: Gladiola SWD No. 2 Release Site T-12-S R-38-E Section 30 Unit Letter D
NMOCD # Not Assigned

Mr. Leking:

On February 4, 2010, Purvis Operating Company (Purvis) retained R T Hicks Consultants Ltd to investigate a release of produced water from the Gladiola SWD pipeline identified and repaired February 3, 2010. The location of the release is approximately 10 miles east of Tatum, New Mexico, 600 feet south of Highway 380 (33.25505, -103.14498) and approximately 500 feet east of the "Gladiola" spill site (1R-1739), as shown on Figure 1. The land is presently used for cattle ranching although oil production occurs less than one mile to the north and exploration and production activities have occurred historically within 300 feet of the spill.

The main release occurred from a valve box (see photo on left below) on the Gladiola SWD pipeline and flowed out to and along a dirt road that is located adjacent to the north side of the pipeline. Soil in this area exists as a thin (1 to 1.5-foot thick) clay loam over the caliche bedrock. The pipeline rests on top of, or just within the caliche. A perched ground water zone is believed to be present at a depth of approximately 24 feet.



Repair operations occurred during a significant rainfall event. As a result, a second pipeline break occurred approximately 240 feet to the east when the wheel of one of the vehicles slid off the dirt road and likely pushed a rock through the shallow soil and into the PVC pipeline.

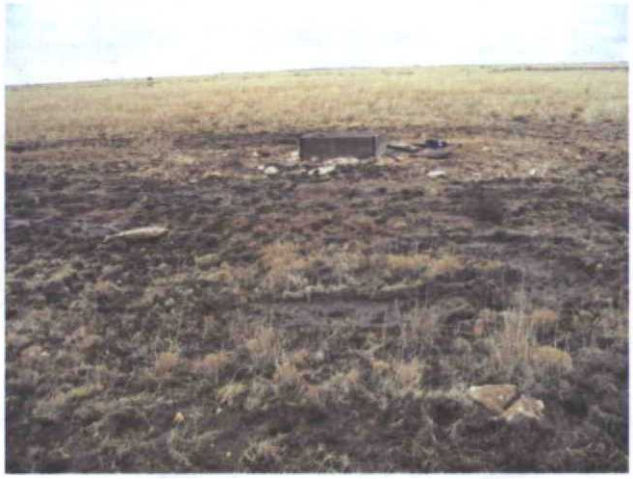
1739

The pipeline was shut off when this occurred and the release was believed to be contained within a few feet of the damaged line (see photo on right above).

On February 8, 2010 Hicks Consultants

1. measured and photographed the site
2. collected a composite sample from the surface of the main release area (1,930 mg/kg chloride)
3. collected a composite soil sample from the floor of a small excavation 0 to 1 foot bgs (5,830 mg/kg chloride)

Figure 1 is a site overview map that indicates the locations of the release areas, soil sample laboratory results, proposed monitoring well and soil boring locations, and the proximity to the June 2007 Gladiola SWD spill site (1R-1739).



The horizontal extent of the spill (approximately 4,000 ft^2) is not well defined due the saturated and highly disturbed condition of the shallow soil. Once the soil has completely dried the horizontal extent of the chloride impact should be more apparent.

Hicks Consultants proposes that one 4-inch monitoring well be installed to the shallow perched ground water zone within the spill footprint and at least four 20-foot soil borings installed adjacent to the footprint in order to delineate the vertical and horizontal extent of the chloride-impacted soil at the main spill. In addition, a 20-foot soil boring will be installed adjacent to the excavation at the secondary spill area.

Soil samples will be recovered at 5-foot intervals with the first sample at 1-foot below ground surface. Samples will be field screened for hydrocarbon vapors (PID) and chloride (field titration). Laboratory analysis of TPH and BTEX will be performed on all soil samples that contain hydrocarbon concentrations of 100 ppm PID or more. Laboratory chloride analysis will be performed on a representative number of soil samples to verify the field screening results.

The perched zone 4-inch monitoring well will be completed with five feet of PVC screen to a depth not to exceed 30 feet below the ground surface such that the confining layer underlying the "perched" ground water zone is not compromised.

We anticipate that the field activities can be performed in concert with the proposed actions associated with June 2007 Gladiola (1R-1739) site.

Please contact me if you have any questions, comments or require additional information.

Sincerely,
R.T. Hicks Consultants, Ltd.

Dale T Littlejohn

Dale T Littlejohn
Project Manager
(432) 528-3878

cc: Purvis Operating Company
Mr. Tommy Burrus
Mr. Robert Lang, Chaparral Energy LLC

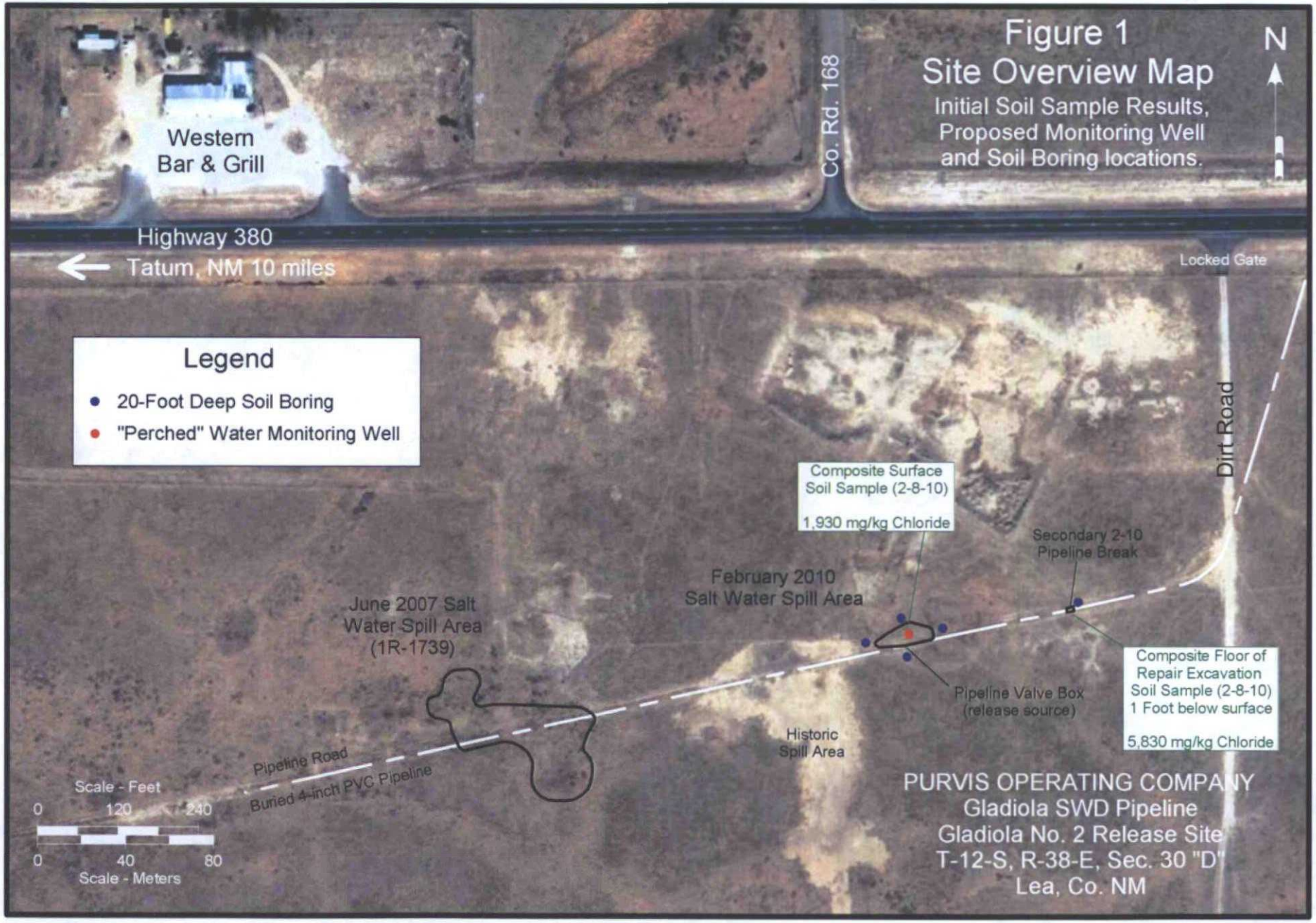


Figure 1
Site Overview Map
Initial Soil Sample Results,
Proposed Monitoring Well
and Soil Boring locations.
N
Western
Bar & Grill
Co. Rd. 168
Highway 380
Tatum, NM 10 miles
Locked Gate
Dirt Road
Legend
20-Foot Deep Soil Boring
"Perched" Water Monitoring Well
Composite Surface
Soil Sample (2-8-10)
1,930 mg/kg Chloride
Secondary 2-10
Pipeline Break
February 2010
Salt Water Spill Area
June 2007 Salt
Water Spill Area
(1R-1739)
Composite Floor of
Repair Excavation
Soil Sample (2-8-10)
1 Foot below surface
5,830 mg/kg Chloride
Pipeline Valve Box
(release source)
Historic
Spill Area
Pipeline Road
Buried 4-inch PVC Pipeline
Scale - Feet
0
120
240
0
40
80
Scale - Meters
PURVIS OPERATING COMPANY
Gladiola SWD Pipeline
Gladiola No. 2 Release Site
T-12-S, R-38-E, Sec. 30 "D"
Lea, Co. NM

Analytical Report 361621

for

R.T. Hicks Consultants, LTD

Project Manager: Dale Littlejohn

Burrus # 2 Spill

L-141-0210

11-FEB-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

XENCO Laboratories

Sample Cross Reference 361621

R.T. Hicks Consultants, LTD, Albuquerque, NM

Burrus # 2 Spill

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Comp. Surface Sample Near Valv	S	Feb-08-10 13:15		361621-001
Comp. Excavation Floor (1.0 Fo	S	Feb-08-10 13:40		361621-002

Certificate of Analysis Summary 361621

R.T. Hicks Consultants, LTD, Albuquerque, NM

Project Name: Burrus # 2 Spill

Project Id: L-141-0210
Contact: Dale Littlejohn
Project Location: Lea Co., NM

Date Received in Lab: Tue Feb-09-10 11:30 am
Report Date: 11-FEB-10
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	361621-001		361621-002					
	Field Id:	Comp. Surface Sample Near		Comp. Excavation Floor (1.0					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Feb-08-10 13:15		Feb-08-10 13:40					
Anions by E300	*Extracted:*								
	Analyzed:	Feb-10-10 10:02		Feb-10-10 10:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1930	54.5	5830	110				
Percent Moisture	*Extracted:*								
	Analyzed:	Feb-09-10 17:00		Feb-09-10 17:00					
	Units/RL:	%	RL	%	RL				
Percent Moisture		23.0	1.00	23.8	1.00				

Brent Barron, II
Odessa Laboratory Manager

Blank Spike Recovery

Project Name: Burrus # 2 Spill

Work Order #: 361621 **Project ID:** L-141-0210

Lab Batch #: 793298 **Sample:** 793298-1-BKS **Matrix:** Solid

Date Analyzed: 02/10/2010 **Date Prepared:** 02/10/2010 **Analyst:** LATCOR

Reporting Units: mg/kg **Batch #:** 1

	BLANK /BLANK SPIKE RECOVERY STUDY					
Anions by E300 **Analytes**	**Blank Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Control Limits %R**	**Flags**
Chloride	ND	10.0	9.05	91	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

Project Name: Burrus # 2 Spill

Work Order #: 361621

Lab Batch #: 793298 **Project ID:** L-141-0210

Date Analyzed: 02/10/2010 **Date Prepared:** 02/10/2010 **Analyst:** LATCOR

QC- Sample ID: 361672-003 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	402	326	21	20	F

Lab Batch #: 793119

Date Analyzed: 02/09/2010 **Date Prepared:** 02/09/2010 **Analyst:** WRU

QC- Sample ID: 361527-001 D **Batch #:** 1 **Matrix:** Solid

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	ND	ND	NC	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: RT Hicks Consultants

Date/ Time: 02-09-10 @1130

Lab ID # : 36162

Initials: JMF

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	2.6 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	Yes	No	(Not Applicable)	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event