

**GW-361**

ANNUAL GW REPORT

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**DATE:**

June 28 2010



ENTERPRISE PRODUCTS PARTNERS L.P.  
ENTERPRISE PRODUCTS GP, LLC  
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

RECEIVED OCD

December 7, 2010

2010 DEC 10 P 12:49

Return Receipt Requested  
7010 0290 0002 7763 9900

Mr. Jim Griswold, Senior Hydrologist  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

GW-361

**RE: Monitor Well Plugging and Abandonment Report  
Enterprise Crude Oil, LLC  
Hobbs Station, Lea County, New Mexico**

Attn: Leonard Lowe

Dear Mr. Griswold:

Enterprise Crude Oil LLC (Enterprise Crude), formerly TEPPCO Crude Oil, LLC, is submitting two copies of the enclosed letter report entitled: *Plugging and Abandonment of Monitoring Wells*, dated December 2, 2010, for our Hobbs Station. The crude oil storage facility covers approximately 35 acres, and is located south of Hobbs, NM, near County Road 61.

The enclosed letter report documents the proper plugging and abandonment of monitor wells MW-1, MW-1(ARCO), MW-2, MW-3, MW-3R, MW-4, MW-7 and MW-8 at the facility. As noted in previous reports, three wells present at the time of the acquisition of the station have been designated as MW-1(ARCO), MW-2(ARCO), and MW-3(ARCO). A final groundwater monitoring report and closure request entitled *Annual Groundwater Monitoring Report*, dated June 28, 2010 was submitted to the New Mexico Oil Conservation Division (OCD) on July 19, 2010. Our findings and recommendations were discussed with the local OCD District 1 Office before submittal. Note that monitor well MW-2(ARCO) could not be located during the plugging and abandonment activities. The well appears to have been destroyed during the recent construction of a storage tank at the facility. Groundwater constituent concentrations for MW-2(ARCO) were below analytical detection limits during the initial monitoring events for the well, and the monitored groundwater zone at the site exists under water table conditions. Therefore, this location does not represent a potential groundwater risk.

Since acquisition of the facility from ARCO, a total of nine (9) semi-annual groundwater monitoring events have been performed by Enterprise. No light non-aqueous phase liquids (LNAPLs) are present at the facility, and monitored groundwater constituent concentrations are below either analytical detection limits or applicable New Mexico Water Quality Commission (NMWQC) *Ground Water Standards*. Trace constituents remaining in groundwater are stable, or declining in concentration, and will naturally attenuate.

Please note that a crude oil recovery system is currently in operation at the station. This recovery system is operated by Holly/Navajo Pipeline to recover a release occurring on July 22, 2004 at the Holly Energy Partners (Holly) Tank 5201. This tank is owned by Holly, and is

Mr. Jim Griswold  
Re: Enterprise/TEPPCO Hobbs Station  
December 7, 2010  
Page 2

located on station property leased from Enterprise. Holly (Navajo Pipeline at the time) reported this release to the OCD on October 10, 2004. To our knowledge, the release has not been adequately delineated, and no further reporting has been provided to Enterprise.

Please do not hesitate to contact me at [drsmith@eprod.com](mailto:drsmith@eprod.com), or (713) 381-2286 or Rodney Sartor at 713-381-6629 if you have any questions.

Sincerely,



David R. Smith, P.G.  
Sr. Environmental Scientist



Rodney Sartor  
Manager, Remediation

/bjm  
Enclosure

cc: w/ Enclosure  
Leonard Lowe, NM Oil Conservation Division, Santa Fe  
Larry Johnson, NM Oil Conservation Division, District 1, 1625 N. French Drive, Hobbs, NM 88240  
Dickie Townley, Holly Energy Partners, 1602 W. Main, Artesia, NM 88210

w/o Enclosure  
Chris Mitchell – Southwest Geoscience, Dallas, TX

# Southwest GEOSCIENCE

2351 W. Northwest Hwy. Suite 3321  
Dallas, Texas 75220  
Ph: (214) 350-5469  
Fax: (214) 350-2914

December 2, 2010

Enterprise Crude Pipeline, L.L.C.  
1100 Louisiana Street, Suite 1000  
Houston, Texas 77002  
Attention: Mr. David R. Smith, P.G.

Re: Plugging and Abandonment of Monitoring Wells  
MW-1, MW-1 (ARCO), MW-2, MW-3 (ARCO), MW-3R, MW-4, MW-7, MW-8  
Enterprise Hobbs Station  
Off County Road 61  
Hobbs, Lea County, New Mexico  
Project No. 0105013

Dear Mr. Smith:

Southwest Geoscience (SWG) is pleased to submit this Letter Report regarding the plugging and abandonment (P&A) of monitoring wells MW-1, MW-1 (ARCO), MW-2, MW-3 (ARCO), MW-3R, MW-4, MW-7 and MW-8 at the above referenced site.

Eight (8) monitoring wells located at the Enterprise Hobbs Station, located off County Road 61 four (4) miles south of Hobbs, NM and one (1) mile west of Highway 18, were plugged and abandoned by Straub Corporation in accordance with the 19.27.4 NMAC *Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells*. SWG was unable to locate monitoring well MW-2 (ARCO) during the completion of plugging & abandonment activities. Based on SWG's review of file information (including photographic documentation and field notes), monitoring well MW-2 (ARCO) appears to have been destroyed and buried during the construction of the secondary containment berm associated with a 20,000-barrel storage tank recently constructed at the Site. Approval documentation from the New Mexico State Engineer office for P&A at the site is enclosed as Attachment 1.

The existing surface completions were removed and the wells were pulled utilizing a truck-mounted 6T Smeal drilling rig. The PVC well casings and

PVC well screens used to complete the wells were removed to the extent practical. The well bores with entire screens and casing removed were filled with bentonite holeplug (grout) using a tremmie pipe from the bottom of the borehole to the surface in accordance with 19.27.4.30 *WELL DRILLING - NON-ARTESIAN WELL REQUIREMENTS C. Well plugging (1) Methods and materials*. The wells with casing and screen not completely removed were filled with bentonite grout and capped with cement. The State of New Mexico Well Records & Logs for the monitoring wells are enclosed as Attachment 2.

We appreciate the opportunity to perform these services. Please contact either of the undersigned at (214) 350-5469 if you have questions regarding the enclosure.

Sincerely,

Southwest  
GEOSCIENCE



Jordan Dubuisson  
Project Scientist



Liz Seaggs P.G.  
Senior Project Manager

Attachments

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Attachment 1

Approval documentation  
New Mexico State Engineer's Office

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STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER  
District 2 Office, Roswell, NM

John R. D'Antonio, Jr., P.E.  
State Engineer

1900 West Second Street  
Roswell, New Mexico 88201  
(575) 622-6521  
FAX: (575) 623-8559

November 3, 2010

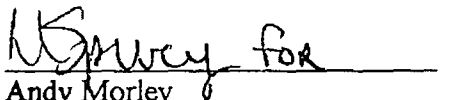
Southwest Geoscience  
2351 W. Northwest Highway  
Suite 3321  
Dallas, TX 75220

ATTN: Trish Moore  
RE: Well Plugging Plan of Operations for MW-1 (ARCO), MW-2 (ARCO), MW-3 (ARCO)  
MW-3R, MW-4, MW-7 and MW-8; Enterprise Crude Oil, LLC

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced wells. The proposed method of plugging for the subject well is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted August 31, 2005 by the State Engineer.

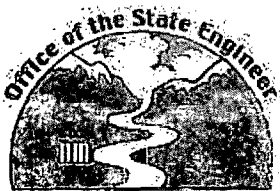
Sincerely,

Handwritten signature of Andy Morley.

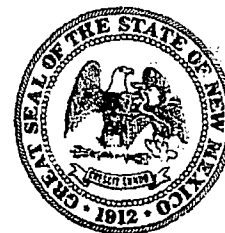
Andy Morley  
Staff Manager  
Water Resource Allocation Program  
Water Rights Division

Enclosure

cc Santa Fe  
File



## WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging.

**I. FILING FEE:** There is no filing fee for this form.

### **II. GENERAL / WELL OWNERSHIP:**

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: MW-1 (ARCO), MW-2 (ARCO), MW-3, MW-3R, MW-4, MR-7 and MW-8

Name of well owner: Enterprise Crude Oil, LLC (Mr. David R. Smith)

Mailing address: PO Box 2521

City: Houston

State: Texas

Zip code: 77252-2521

Phone number: 713-381-2286

E-mail: drsmith@eprod.com

### **III. WELL DRILLER INFORMATION:**

Well Driller contracted to provide plugging services: Straub Corporation

New Mexico Well Driller License No.: WD1478

Expiration Date: June 2011

### **IV. WELL INFORMATION:**

Note: A copy of the existing Well Record for the well to be plugged should be attached to this plan.

1) GPS Well Location: MW-8 Latitude: 32 deg, 39 min, 7.00N sec  
Longitude: 103 deg, 8 min, 25.00W sec, NAD 83

MW-7 Latitude: 32 deg, 39 min, 6.00N sec  
Longitude: 103 deg, 8 min, 23.00W sec, NAD 83

All other well GPS locations unknown at this time. GPS locations will be obtained prior to plugging MW-1 (ARCO), MW-2 (ARCO), MW-3, MW-3R, MW-4

2) Reason(s) for plugging well: Wells were utilized to monitor groundwater conditions however, they will not be utilized any longer by Enterprise. Please see the attached Groundwater Monitoring Report.

3) Was well used for any type of monitoring program? Yes If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

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ROSWELL, NEW MEXICO  
2010 NOV 3 PM 9:51



- 4) Does the well tap brackish, saline, or otherwise poor quality water? No If yes, provide additional detail, including analytical results and/or laboratory report(s): Please see the attached Groundwater Monitoring Report.
- 5) Static water level: 44-47 feet below land surface / feet above land surface (circle one)
- 6) Depth of the well: 45-50' feet
- 7) Inside diameter of innermost casing: 2 inches.
- 8) Casing material: PVC
- 9) The well was constructed with:  
\_\_\_\_\_ an open-hole production interval, state the open interval: \_\_\_\_\_  
☒ a well screen or perforated pipe, state the screened interval(s): 30-45, 33-48, 35-50
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? 0-2
- 11) Was the well built with surface casing? No If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? \_\_\_\_\_ If yes, please describe: \_\_\_\_\_
- 12) Has all pumping equipment and associated piping been removed from the well? Yes If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

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#### **V. DESCRIPTION OF PLANNED WELL PLUGGING:**

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well: The wells will be plugged with pelletized sodium bentonite an attempt to pulled the casing will be made. In the event casing cannot be removed, the well will be plugged in place and the casing will be cut off below the ground surface.
- 2) Will well head be cut-off below land surface after plugging? Yes

#### **VI. PLUGGING AND SEALING MATERIALS:**

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant

- 1) For plugging intervals that employ cement grout, complete and attach Table A.
- 2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
- 3) Theoretical volume of grout required to plug the well to land surface: Approximately 1.5 cu ft or 11.2 gallons

- 4) Type of Cement proposed: Bentonite Hole Plug
- 5) Proposed cement grout mix: \_\_\_\_\_ gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: \_\_\_\_\_ batch-mixed and delivered to the site  
\_\_\_\_\_ mixed on site
- 7) Grout additives requested, and percent by dry weight relative to cement: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Additional notes and calculations: 
$$(((\text{diameter}^2 * .005454) * \text{TD})) / .69 = 50\# \text{ Bags dry Hole Plug}$$
  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


**VII. ADDITIONAL INFORMATION:** List additional information below, or on separate sheet(s):

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ROSELLE, NEW MEXICO  
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**VIII. SIGNATURE:**

I, Elizabeth Scaggs, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

ge and belief.



Signature

Signature of Applicant

11/02/10

Date \_\_\_\_\_

### IX. ACTION OF THE STATE ENGINEER:

**This Well Plugging Plan of Operations is:**

4 Approved subject to the attached conditions.

\_\_\_\_\_ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 3rd day of November, 2010

John R. D'Antonio, Jr., State Engineer

By: Ludely Morley

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ROSWELL, NEW MEXICO  
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**TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.**

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)			
Bottom of proposed interval of grout placement (ft bgl)			
Theoretical volume of grout required per interval (gallons)			
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			
Mixed on-site or batch-mixed and delivered?			
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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**TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.**

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)			Sealed to 2 ft bgs with a 2' concrete cap.
Bottom of proposed sealant or grout placement (ft bgl)			Sealed from the total depth of approximately 45 to 50 ft bgs.
Theoretical volume of sealant required per interval (gallons)			Approximately 1.5 cu ft or (11.2 gallons) each well
Proposed abandonment sealant (manufacturer and trade name)			Black Hills Bentonite, Mills, Wyoming.  Hole Plug

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Attachment 2

State of New Mexico Well Records & Logs

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) TEPPCO HOBBS STATION MW-1				OSE FILE NUMBER(S)				
	WELL OWNER NAME(S) ENTERPRISE CRUDE OIL, LLC				PHONE (OPTIONAL)				
	WELL OWNER MAILING ADDRESS PO BOX 2521				CITY HOUSTON		STATE TX	ZIP 77252-2521	
	WELL LOCATION (FROM OPS)	DEGREES LATITUDE 32	MINUTES 39	SECONDS 4.00 N	* ACCURACY REQUIRED ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84				
		LONGITUDE 103		8		20.00 W			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS 4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY									
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST		
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT		
	HYDROGRAPHIC SURVEY				MAP NUMBER		TRACT NUMBER		
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER MARTIN STRAUB			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION			
	DRILLING STARTED 11-11-10		DRILLING ENDED 11-11-10		DEPTH OF COMPLETED WELL (FT) 46	BORE HOLE DEPTH (FT) 46	DEPTH WATER FIRST ENCOUNTERED (FT)		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT)			
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:								
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:								
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)	
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)			

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FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

<b>1. GENERAL AND WELL LOCATION</b>	POD NUMBER (WELL NUMBER) <b>TEPPCO HOBBS STATION MW-1 (ARCO)</b>				OSE FILE NUMBER(S)				
	WELL OWNER NAME(S) <b>ENTERPRISE CRUDE OIL, LLC</b>				PHONE (OPTIONAL)				
	WELL OWNER MAILING ADDRESS <b>PO BOX 2521</b>				CITY <b>HOUSTON</b>		STATE <b>TX</b>		
					ZIP <b>77252-2521</b>				
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE <b>32</b>	MINUTES <b>39</b>	SECONDS <b>4.00 N</b>	* ACCURACY REQUIRED: ONE TENTH OF A SECOND				
		LONGITUDE <b>103</b>	<b>8</b>	<b>28.00 W</b>	* DATUM REQUIRED: WGS 84				
	DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY</b>								
<b>2. OPTIONAL</b>	(2.5 ACRE) <b>1/4</b>		(10 ACRE) <b>1/4</b>		(40 ACRE) <b>1/4</b>		(160 ACRE) <b>1/4</b>		
	SECTION		TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH		RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST				
	SUBDIVISION NAME				LOT NUMBER		BLOCK NUMBER		
	HYDROGRAPHIC SURVEY				MAP NUMBER		UNIT/TRACT		
<b>3. DRILLING INFORMATION</b>	LICENSE NUMBER <b>WD1478</b>		NAME OF LICENSED DRILLER <b>MARTIN STRAUB</b>			NAME OF WELL DRILLING COMPANY <b>STRAUB CORPORATION</b>			
	DRILLING STARTED <b>11-11-10</b>		DRILLING ENDED <b>11-11-10</b>		DEPTH OF COMPLETED WELL (FT) <b>43</b>		BORE HOLE DEPTH (FT) <b>43</b>		
					DEPTH WATER FIRST ENCOUNTERED (FT)				
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:								
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:								
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)		CASING MATERIAL		CONNECTION TYPE (CASING)		
<b>4. WATER BEARING STRATA</b>	DEPTH (FT) FROM TO		THICKNESS (FT)		FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)			YIELD (GPM)	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)			

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FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 1 OF 2





# WELL RECORD & LOG

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[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) TEPPCO HOBBS STATION MW-2				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) ENTERPRISE CRUDE OIL, LLC				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS PO BOX 2521				CITY HOUSTON		STATE TX	ZIP 77252-2521
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 39	SECONDS 4.00 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS 4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY								
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER MARTIN STRAUB			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 11-11-10		DRILLING ENDED 11-11-10		DEPTH OF COMPLETED WELL (FT) 46	BORE HOLE DEPTH (FT) 46	DEPTH WATER FIRST ENCOUNTERED (FT)	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

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WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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<b>1. GENERAL AND WELL LOCATION</b>	POD NUMBER (WELL NUMBER) <b>TEPPCO HOBBS STATION MW-3 (ARCO)</b>					OSE FILE NUMBER(S)		
	WELL OWNER NAME(S) <b>ENTERPRISE CRUDE OIL, LLC</b>					PHONE (OPTIONAL)		
	WELL OWNER MAILING ADDRESS <b>PO BOX 2521</b>					CITY <b>HOUSTON</b>	STATE <b>TX</b>	ZIP <b>77252-2521</b>
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE <b>32</b>	MINUTES <b>39</b>	SECONDS <b>9.00 N</b>	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
LONGITUDE <b>103</b> <b>8</b> <b>17.00 W</b>								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY</b>								
<b>2. OPTIONAL</b>	(2.5 ACRE) <b>1/4</b>	(10 ACRE) <b>1/4</b>	(40 ACRE) <b>1/4</b>	(160 ACRE) <b>1/4</b>	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
<b>3. DRILLING INFORMATION</b>	LICENSE NUMBER <b>WD1478</b>		NAME OF LICENSED DRILLER <b>MARTIN STRAUB</b>			NAME OF WELL DRILLING COMPANY <b>STRAUB CORPORATION</b>		
	DRILLING STARTED <b>11-11-10</b>		DRILLING ENDED <b>11-11-10</b>		DEPTH OF COMPLETED WELL (FT) <b>40</b>	BORE HOLE DEPTH (FT) <b>40</b>	DEPTH WATER FIRST ENCOUNTERED (FT)	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
<b>4. WATER BEARING STRATA</b>	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

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1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) TEPPCO HOBBS STATION MW-3R				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) ENTERPRISE CRUDE OIL, LLC				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS PO BOX 2521				CITY HOUSTON		STATE TX	ZIP 77252-2521
	WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
		LATITUDE	32	39				
	LONGITUDE	103	8	17:00 W				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS 4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY								
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER MARTIN STRAUB			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 11-11-10		DRILLING ENDED 11-11-10		DEPTH OF COMPLETED WELL (FT) 50	BORE HOLE DEPTH (FT) 50	DEPTH WATER FIRST ENCOUNTERED (FT)	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT)		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

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<b>1. GENERAL AND WELL LOCATION</b>	POD NUMBER (WELL NUMBER) <b>TEPPCO HOBBS STATION MW-4</b>				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) <b>ENTERPRISE CRUDE OIL, LLC</b>				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS <b>PO BOX 2521</b>				CITY <b>HOUSTON</b>		STATE <b>TX</b>	ZIP <b>77252-2521</b>
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE <b>32</b>	MINUTES <b>38</b>	SECONDS <b>58.00 N</b>	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
	LONGITUDE <b>103</b>	<b>8</b>	<b>19.00 W</b>					
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY</b>								
<b>2. OPTIONAL</b>	(2.5 ACRE) <b>1/4</b>	(10 ACRE) <b>1/4</b>	(40 ACRE) <b>1/4</b>	(160 ACRE) <b>1/4</b>	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
<b>3. DRILLING INFORMATION</b>	LICENSE NUMBER <b>WD1478</b>		NAME OF LICENSED DRILLER <b>MARTIN STRAUB</b>			NAME OF WELL DRILLING COMPANY <b>STRAUB CORPORATION</b>		
	DRILLING STARTED <b>11-11-10</b>		DRILLING ENDED <b>11-11-10</b>		DEPTH OF COMPLETED WELL (FT) <b>46</b>	BORE HOLE DEPTH (FT) <b>46</b>	DEPTH WATER FIRST ENCOUNTERED (FT)	
	COMPLETED WELL IS <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
<b>4. WATER BEARING STRATA</b>	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

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1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) TEPPCO HOBBS STATION MW-7				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) ENTERPRISE CRUDE OIL, LLC				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS PO BOX 2521				CITY HOUSTON		STATE TX	ZIP 77252-2521
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 39	SECONDS 6.00 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS 4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY								
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER MARTIN STRAUB			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 11-11-10		DRILLING ENDED 11-11-10		DEPTH OF COMPLETED WELL (FT) 51	BORE HOLE DEPTH (FT) 51		DEPTH WATER FIRST ENCOUNTERED (FT)
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

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<b>1. GENERAL AND WELL LOCATION</b>	POD NUMBER (WELL NUMBER) <b>TEPPCO HOBBS STATION MW-8</b>				OSE FILE NUMBER(S)				
	WELL OWNER NAME(S) <b>ENTERPRISE CRUDE OIL, LLC</b>				PHONE (OPTIONAL)				
	WELL OWNER MAILING ADDRESS <b>PO BOX 2521</b>				CITY <b>HOUSTON</b>		STATE <b>TX</b>		
					ZIP <b>77252-2521</b>				
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 32	SECONDS 39	7.00 N	* ACCURACY REQUIRED. ONE TENTH OF A SECOND * DATUM REQUIRED. WGS 84			
		LONGITUDE	103	8	25.00 W				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS <b>4 MILES S HOBBS NM, 1 MILE WEST OF HWY 18. LEA COUNTY</b>									
<b>2. OPTIONAL</b>	(2.5 ACRE) 1/4		(10 ACRE) 1/4		(40 ACRE) 1/4		(160 ACRE) 1/4		
	SECTION		TOWNSHIP		RANGE		<input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH		
	SUBDIVISION NAME		LOT NUMBER		BLOCK NUMBER		UNIT/TRACT		
	HYDROGRAPHIC SURVEY		MAP NUMBER		TRACT NUMBER				
<b>3. DRILLING INFORMATION</b>	LICENSE NUMBER <b>WD1478</b>		NAME OF LICENSED DRILLER <b>MARTIN STRAUB</b>				NAME OF WELL DRILLING COMPANY <b>STRAUB CORPORATION</b>		
	DRILLING STARTED <b>11-11-10</b>		DRILLING ENDED <b>11-11-10</b>		DEPTH OF COMPLETED WELL (FT) <b>51</b>		BORE HOLE DEPTH (FT) <b>51</b>		
							DEPTH WATER FIRST ENCOUNTERED (FT)		
	COMPLETED WELL IS <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:								
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:								
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)	
	FROM	TO							
<b>4. WATER BEARING STRATA</b>	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)	
	FROM	TO							
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)			

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Enterprise Products™

ENTERPRISE PRODUCTS PARTNERS LP  
ENTERPRISE PRODUCTS OPERATING LLC

ENTERPRISE PRODUCTS GP, LLC, GENERAL PARTNER  
ENTERPRISE PRODUCTS OLP GP, INC., SOLE MANAGER

July 19, 2010

**Return Receipt Requested**  
**7009 1680 0001 0290 2001**

Mr. Jim Griswold, Senior Hydrologist  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**RE: Groundwater Monitoring Report and Closure Request**  
**Enterprise Hobbs Station, Lea County, New Mexico**

Dear Mr. Griswold:

Enterprise Crude Oil, LLC (Enterprise), formerly TEPPCO Crude Oil, LLC, is submitting two copies of the enclosed *Annual Groundwater Monitoring Report*, dated June 28, 2010, for our Hobbs Station located near County Road 61, south of Hobbs, NM. This facility covers approximately 35 acres, and is utilized for crude oil storage. This report documents the results for two semi-annual monitoring events conducted during September 2009 and February 2010. Current site conditions at Hobbs Station are documented in the October 11, 2005 report entitled: *Supplemental Environmental Site Investigation Report*. This report describes the soil and groundwater monitoring results obtained during investigation of the station during 2007 following acquisition of the station from ARCO. Enterprise is currently monitoring four monitor wells at the station, and has performed a total of nine (9) semi-annual groundwater monitoring events. No light non-aqueous phase liquids (LNAPLs) are present at the facility, and monitored groundwater constituent concentrations are below applicable New Mexico Water Quality Commission (NMWQC) *Ground Water Standards*. Trace constituents remaining in groundwater are stable, or declining in concentration, and will naturally attenuate.

Please note that a crude oil recovery system is currently in operation at the station. This recovery system is operated by Holly/Navajo Pipeline to recover a release occurring on July 22, 2004 at the Holly Energy Partners (Holly) Tank 5201. This tank is owned by Holly, and is located on station property leased from Enterprise. Holly (Navajo Pipeline at the time) reported this release to the New Mexico Oil Conservation Division (OCD) on October 10, 2004. To our knowledge, the release has not been adequately delineated, and no further reporting has been provided.

Enterprise requests that the OCD approve the proper plugging and abandonment (P&A) of the existing monitor wells, and grant site closure for the historical groundwater conditions which are unrelated to the Holly remedial action at Tank 5201. Due to lack of any monitored constituents exceeding either laboratory detection limits, or NMWQC Groundwater Standards, we wish proceed with abandonment of the monitor wells within the next 90-days. The OCD will be

Mr. Jim Griswold  
Re: Enterprise/TEPPCO Hobbs Station  
July 19, 2010  
Page 2

provided a summary report of this activity. Please do not hesitate to contact me at [drsmith@eprod.com](mailto:drsmith@eprod.com), or (713) 381-2286, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "David R. Smith".

David R. Smith, P.G.  
Sr. Environmental Scientist

/bjm

Enclosure

cc: w/ Enclosure  
Dickie Townley, Holly Energy Partners, 1602 W. Main, Artesia, NM 88210  
Larry Johnson, NM Oil Conservation Division, District 1, 1625 N. French Drive, Hobbs, NM 88240

w/o Enclosure  
Chris Mitchell – Southwest Geoscience, Dallas, TX



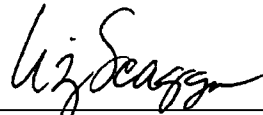
CW-361

ANNUAL GROUNDWATER MONITORING REPORT  
Enterprise Hobbs Station  
Off County Road 61  
Hobbs, Lea County, New Mexico

SWG Project No. 0105013  
June 28, 2010

Prepared for:  
Enterprise Crude Oil, LLC  
PO Box 2521  
Houston, Texas 77252-2521  
Attn: Mr. David Smith, P.G.

PREPARED BY:

  
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Senior Project Manager

  
B. Chris Mitchell, P.G.  
Senior Technical Review

Southwest  
GEOSCIENCE

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Fax: (214) 350-2914

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APPENDIX B	Table 1: Groundwater Analytical Results Table 2: Natural Attenuation Parameters Table 3: Fluid Level Gauging Data
APPENDIX C	Laboratory Analytical Data & Chain-of-Custody Documentation

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ANNUAL GROUNDWATER MONITORING REPORT  
Enterprise Hobbs Station  
Off County Road 61  
Hobbs, Lea County, New Mexico

1.0 INTRODUCTION

1.1 Site Description & History

Southwest Geoscience (SWG) has conducted nine (9) semi-annual groundwater monitoring events since 2005 at the Enterprise Crude Oil, LLC (Enterprise) Hobbs Station, referred to hereinafter as the "Site" or "subject Site". The Site is located off County Road 61, Hobbs, Lea County, New Mexico. The site consists of approximately 35 acres developed as a crude oil storage facility associated with crude oil pipeline operations located to the south of Hobbs, New Mexico.

A topographic map is included as Figure 1, a site vicinity map is included as Figure 2, and a site plan is included as Figure 3 of Appendix A.

During the completion of due diligence activities in the course of the acquisition of select ARCO assets by Enterprise, soil borings MW-1, MW-2, MW-4 and B-5 were advanced at the Site by Alpha Testing, Inc. (ALPHA) in March, 2003. Soil borings MW-1, MW-2 and MW-4 were subsequently converted to permanent groundwater monitoring wells. The objective of the due diligence activities was to evaluate the presence of petroleum hydrocarbons in the on-site soil and groundwater as a result of the operations historically associated with the site.

In addition, an existing monitoring well previously installed under the direction of ARCO, labeled MW-3, was identified on the north-northeast portion of the site during the completion of the due diligence activities. No other existing monitoring wells were observed during the 2003 investigation activities.

A groundwater monitoring event was subsequently conducted by ALPHA in May, 2004 to further evaluate the magnitude of petroleum hydrocarbon constituents in the on-site groundwater. During the completion of sampling activities, on-site personnel indicated the location of two (2) additional groundwater monitoring wells previously installed under the direction of ARCO, labeled MW-1 and MW-2. ALPHA sampled monitoring wells MW-1(ARCO), MW-2(ARCO), MW-1, MW-2 and MW-4. However, the groundwater table appeared to have dropped below the total depth of monitoring well MW-3(ARCO); therefore, no groundwater sample was collected.

Due to the absence of chemicals of concern (COCs) above the laboratory method detection limits (MDLs) in groundwater samples collected from MW-1(ARCO) and MW-2(ARCO), these monitoring wells were removed from the semi-annual groundwater monitoring sample program.

Due to the elevation of the groundwater table below the total depth of monitoring well MW-3(ARCO), monitoring well MW-3R was installed adjacent to monitoring well MW-3(ARCO) on

July 25, 2005 by SWG.

Analytical tables which include the historical groundwater analytical data are provided in Appendix B.

In addition, according to the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division *Release Notification and Correction Action Form* (Form C-141) prepared by Navajo Pipeline (now Holly Energy Corporation) and dated October 11, 2004, an unknown volume of crude oil was released on July 22, 2004 as a result of an external corrosion hole in the pipeline which extends from the Navajo truck unloading rack to storage tank No. 5201, which is owned by Enterprise and leased to Navajo.

Subsequent to the discovery of the leak, the pipeline was isolated, depressurized and clamped to repair the leak. An area approximately 4 feet wide, 20 feet long and 18 feet deep was subsequently excavated, and the excavated soil was disposed off-site.

Based on SWG's review of the Navajo file information, seven (7) soil borings were advanced at the Site in the vicinity of the Navajo pipeline release. Three (3) of the soil borings were subsequently converted to monitoring wells. The soil and groundwater samples collected on behalf of Navajo from the borings/monitoring wells were analyzed for total petroleum hydrocarbons (TPH) Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) using EPA method SW-846 #8015, benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA SW-846 #8021, chlorides utilizing EPA method 300 and/or total dissolved solids (TDS) utilizing EPA method 160.1.

Based on SWG's observations in the field, Navajo is currently utilizing a pneumatic recovery system to recover the phase-separated hydrocarbons (PSH) from the initial groundwater-bearing unit. SWG is not aware of the total volume of PSH recovered by the Navajo recovery system to date.

## **1.2 Scope of Work**

The objective of the semi-annual groundwater monitoring events was to evaluate the concentrations of COCs in the on-site groundwater in the vicinity of monitoring wells MW-1, MW-2, MW-3R and MW-4 over time.

## **1.3 Standard of Care**

SWG's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. SWG makes no warranties, express or implied, as to the services performed hereunder. Additionally, SWG does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client, as detailed in our proposal.

## **1.4 Additional Limitations**

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents

may have been latent, inaccessible, unobservable, or not present during these services, and SWG cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this Groundwater Monitoring Event. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. SWG's findings, and recommendations are based solely upon data available to SWG at the time of these services.

### **1.5 Reliance**

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Enterprise and SWG. Any unauthorized distribution or reuse is at the client's sole risk.

## **2.0 SAMPLING PROGRAM**

A groundwater sampling event was conducted on February 12, 2010. SWG's groundwater sampling program consisted of the following:

### **Monitoring Wells MW-1, MW-3R and MW-4**

- Collection of one groundwater sample from each monitoring well utilizing low-flow sampling techniques.

Please note, a groundwater sample was not collected from monitoring well MW-2 during the February 12, 2010 sampling event due maintenance operations being performed by Navajo personnel.

Prior to sample collection, SWG gauged the depth to fluids in each monitoring well utilizing an interface probe capable of detecting the presence of PSH. PSH was not observed in monitoring wells MW-1, MW-3R or MW-4 during the February 2010 sampling activities. Due to technical issues with field equipment, SWG was unable to gauge the depth to fluids in the monitoring wells during the August 2009 sampling event. The site was revisited on September 23, 2009 to gauge the monitoring wells. PSH was not observed in monitoring wells MW-1, MW-2, MW-3R or MW-4 during the September 2009 gauging activities.

Groundwater samples were collected utilizing low-flow minimal drawdown techniques. Samples were collected utilizing dedicated sampling materials subsequent to the stabilization of Dissolved Oxygen, Conductivity, pH and Temperature.

Low-flow refers to the velocity with which water enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective is to pump in a manner that minimizes stress (drawdown) to the system to the extent practical taking into account established site sampling objectives. Flow rates on the order of 0.1 to 0.5 L/min were maintained during the sampling activities using dedicated sampling equipment.

The utilization of low-flow minimal drawdown techniques enables the isolation of the screened interval groundwater from the overlying stagnant casing water. The pump intake is placed

within the screened interval such that the groundwater pumped is drawn in directly from the formation with little mixing of casing water or disturbance to the sampling zone.

Groundwater samples were collected in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to ERM Environmental Laboratories, Inc in Allen, Texas.

### **3.0 LABORATORY ANALYTICAL PROGRAM AND RESULTS**

The groundwater samples collected from the monitoring wells were analyzed for TPH GRO/DRO using EPA method SW-846 #8015, and BTEX using EPA SW-846 #8021.

Laboratory results are summarized in Table 1, Appendix B. The executed chain-of-custody documentation and laboratory data sheets are provided in Appendix C.

### **4.0 LIMITED NATURAL ATTENUATION EVALUATION**

Limited natural attenuation screening has been conducted to evaluate the Site for monitored natural attenuation. The New Mexico Environment Department (NMED) has approved the American Society for Testing and Materials (ASTM) *Guide for Remediation by Natural Attenuation at Petroleum Release Sites (E1943-9)* as its preferred method for assessing and monitoring sites for remediation by natural attenuation.

Natural attenuation is the process by which contaminants in the environment are degraded, or reduced in concentrations by various means including volatilization, adsorption, desorption, dispersion, dilution, diffusion, biodegradation, and abiotic degradation. Natural attenuation is achieved when one or more of these processes brings about a reduction in the total mass, toxicity, mobility, volume, or concentration of a contaminant. The presence or absence of key indicator parameters will determine the degree to which (if any) natural attenuation will occur. Monitored natural attenuation is the measurement or analysis of these key indicator parameters over time to establish trends that document that a reduction in total mass, toxicity, mobility, volume, or concentration of a contaminant is taking place. Several of the indicator parameters such as Oxygen, Conductivity, pH, Temperature, and Oxidation-Reduction Potential can be measured in the field.

For the purposes of the limited natural attenuation screening, each of the parameters listed above were measured from the on-site monitoring wells while collected groundwater samples utilizing low flow sampling techniques during each sampling event.

SWG has completed a preliminary evaluation based on the historic groundwater data. This preliminary evaluation included the review of the "*Primary Lines of Evidence*" as well as the "*Secondary Lines of Evidence*".

#### ***Primary Lines of Evidence***

Primary lines of evidence consist of historical groundwater data that demonstrate a clear trend of stable or decreasing COC concentrations in groundwater over time and with distance away from the source at appropriate monitoring or sampling points.

- Based on SWG's review of the historical groundwater data, COC concentrations have been stable or declining in each of the monitoring wells (MW-1, MW-2, MW-3R and MW-4).

#### **Secondary Lines of Evidence**

Secondary lines of evidence consist of geochemical indicators to document certain geochemical signatures or "footprints" in the groundwater that demonstrate (indirectly) the type of natural attenuation process(es) occurring at the affected property and the destruction of COCs; or uses distance-based/time-based biodegradation rate calculation to demonstrate attenuation.

- **Temperature:** At  $>20^{\circ}\text{C}$ , biochemical processes are accelerated. The average temperature of associated with the on-site groundwater is  $22.2^{\circ}\text{C}$ .
- **pH:** pH in groundwater can limit natural attenuation by inhibiting microbes from performing bioremedial processes if it drifts substantially from a neutral value of 7. A pH range of 5-9 is generally amenable to bioremediation. The pH associated with the on-site groundwater ranges from 6.72 to 7.37.
- **Dissolved Oxygen:** Microbes can utilize dissolved oxygen (DO) in groundwater as an electron acceptor while undergoing aerobic respiration. Elevated DO levels suggest bioremediation has not occurred whereas depressed levels indicate that it has. Based on SWG's evaluation of the DO concentrations identified in each of the monitoring wells, dissolved oxygen in the on-site groundwater is significantly lower compared to non-impacted groundwater, indicating the occurrence of biodegradation/natural attenuation.
- **Redox Potential:** Redox potential provides an indication of which bioremediation process is being utilized. More strongly positive redox potentials correlate to more efficient bioremediation processes.

Natural attenuation parameter analytical results are provided in Table 2 in Appendix B.

## **5.0 GROUNDWATER FLOW DIRECTION**

The monitoring wells were surveyed for top-of-casing (TOC) elevations relative to an arbitrary on-site benchmark of 100.0 feet. Groundwater measurements collected during each gauging event are presented with TOC elevations in Table 3, Appendix B.

Prior to sample collection, SWG gauges the depth to fluids in each monitoring well. PSH was not observed in monitoring wells MW-1, MW-3R or MW-4 during the February 2010 gauging activities.

Based on the groundwater elevations associated with each of the monitoring wells installed on behalf of Enterprise, groundwater generally flows to the east-southeast at an average hydraulic gradient of 0.0012 ft./ft.

## 6.0 FINDINGS

The findings of this investigation are presented as follows:

- The laboratory analyses of the groundwater samples collected from monitoring wells MW-1 and MW-4 did not exhibit TPH GRO concentrations above the sample reporting limits (SRLs).
- The laboratory analyses of the groundwater sample collected from monitoring well MW-4 did not exhibit TPH DRO concentrations above the SRL.
- The laboratory analyses of the groundwater samples collected from monitoring wells MW-1 and MW-4 did not exhibit benzene, toluene, ethylbenzene or xylenes concentrations above the SRLs.
- The laboratory analyses of the groundwater samples collected from monitoring well MW-3R exhibited a TPH GRO concentration of 0.118 mg/L in February 2010.
- The laboratory analyses of the groundwater samples collected from monitoring wells MW-1 and MW-3R in February 2010 exhibited TPH DRO concentrations of 0.129 mg/L and 2.95, respectively.
- The laboratory analyses of the groundwater samples collected from monitoring well MW-3R exhibited a toluene concentration of 1.08 µg/L and an ethylbenzene concentration of 1.55 µg/L during the February 2010 sampling event. However, these reported concentrations are below the New Mexico Water Quality Commission (NMWQC) Ground Water Standards of 750 µg/L.
- Based on SWG's review of the Primary and Secondary Lines of Evidence, natural attenuation of COCs does appear to be occurring at the Site.
- SWG gauged the depth to fluids in each monitoring well during each of the nine (9) groundwater sampling events conducted since 2006. PSH has not been observed in monitoring wells MW-1, MW-2, MW-3R or MW-4.
- Based on SWG's evaluation of the historic trends in groundwater analytical data, the COC concentrations identified in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-3R and MW-4 are below the New Mexico Water Quality Commission (NMWQC) Ground Water Standards and appear to be stable or declining.



## 7.0 RECOMMENDATIONS

Based on the geochemistry and subsurface conditions identified at the site, the COC concentrations which have been identified in the on-site groundwater will likely continue to naturally attenuate over time.

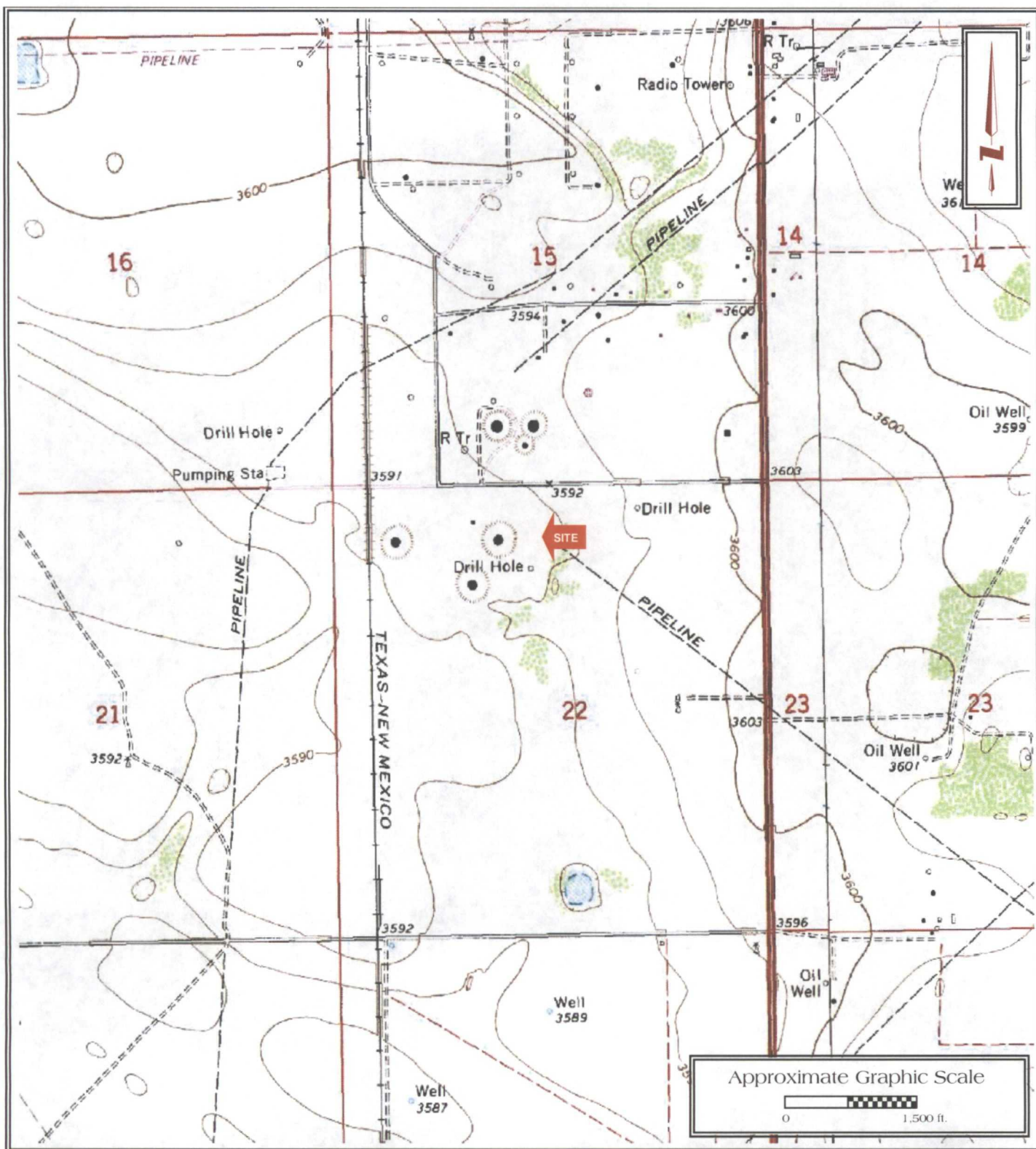
Based on the results of the semiannual groundwater monitoring activities and review of the historic groundwater sampling data, SWG recommends Enterprise request regulatory closure from the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division for the historical petroleum hydrocarbon impact to soil and groundwater.

Subsequent to approval from the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, monitoring wells MW-1, MW-3, MW-3R, MW-4 and MW-2(ARCO), , should be plugged and abandoned in accordance with NMAC 19.27.4.30 *RULES AND REGULATIONS GOVERNING WELL DRILLER LICENSING; CONSTRUCTION, REPAIR AND PLUGGING OF WELLS.*

APPENDIX A

Figures

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Groundwater Monitoring  
Enterprise Hobbs Station  
Off County Road 61  
N 32° 39.135'; W 103° 8.373'  
Hobbs, Lea County, New Mexico  
  
SWG Project No. 0105013

**Southwest**  
GEOSCIENCE

**FIGURE 1**  
Topographic Map  
Hobbs, NM Quadrangle  
Contour Interval - 10 Feet  
1979

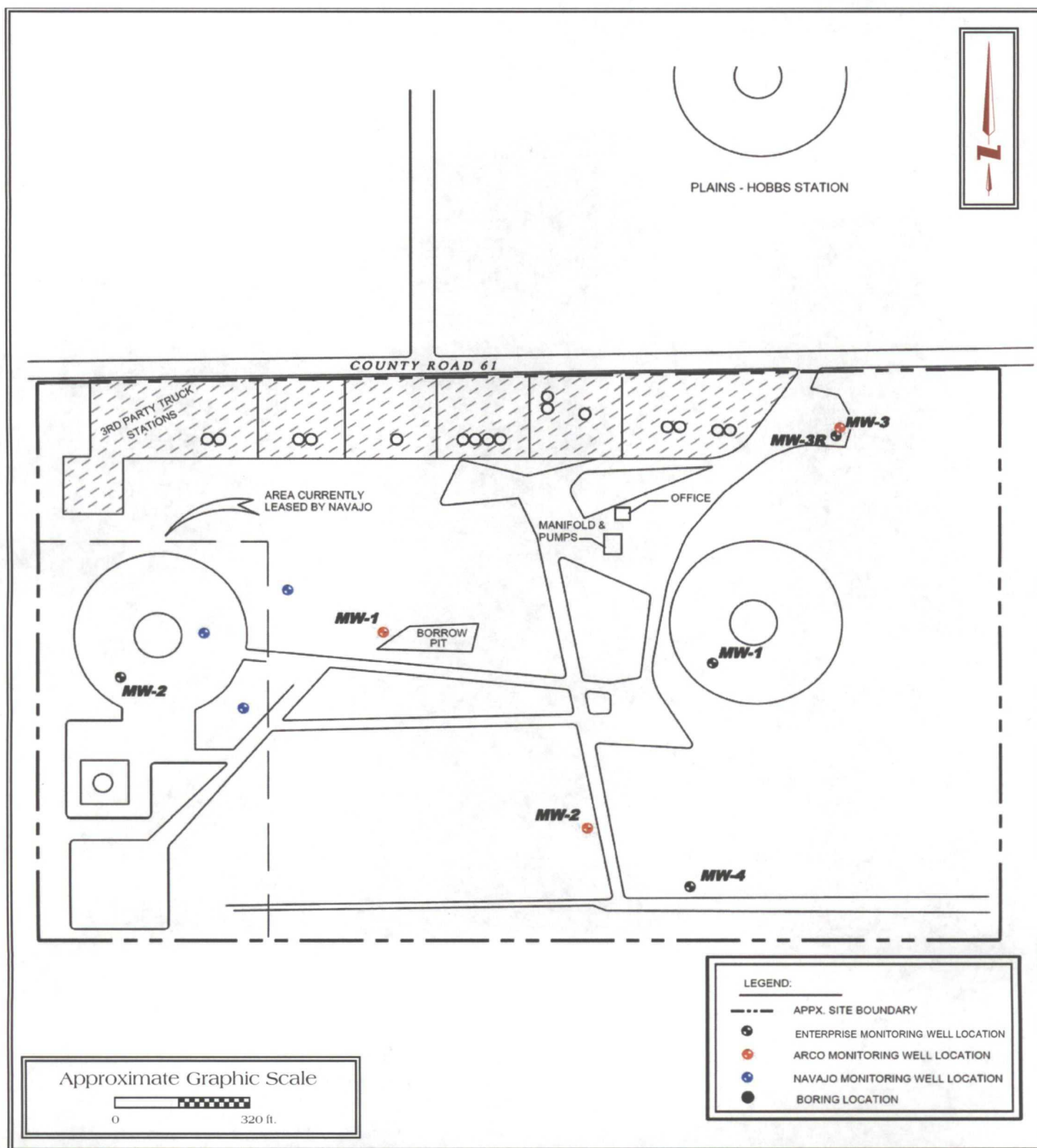




Groundwater Monitoring  
Enterprise Hobbs Station  
Off County Road 61  
N 32° 39.135'; W 103° 8.373'  
Hobbs, Lea County, New Mexico  
  
SWG Project No. 0105013

Southwest  
GEOSCIENCE

**FIGURE 2**  
Site Vicinity Map  
2002 Aerial Photograph  
Source: USGS



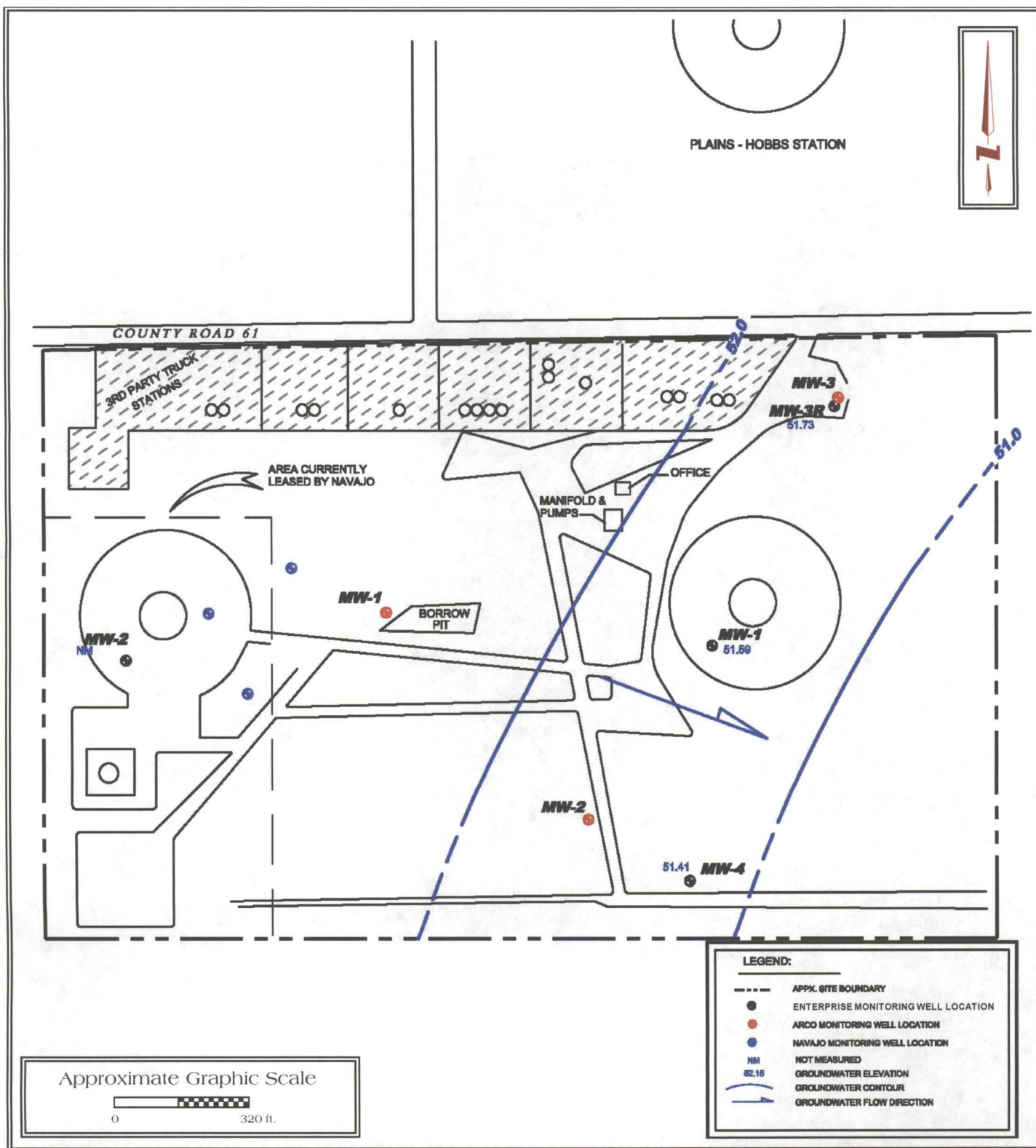
Groundwater Monitoring  
Enterprise Hobbs Station  
Off County Road 61  
N 32° 39.135'; W 103° 8.373'  
Hobbs, Lea County, New Mexico

SWG Project No. 0105013

Southwest  
GEOSCIENCE

FIGURE 3  
Site Plan





Groundwater Monitoring  
Enterprise Hobbs Station  
Off County Road 61  
N 32° 39.135'; W 103° 8.373'  
Hobbs, Lea County, New Mexico  
SWG Project No. 0105013

**Southwest**  
GEOSCIENCE

**FIGURE 4**  
Groundwater Gradient Map  
Gauging Date: February 12, 2010

APPENDIX B

Tables

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**TABLE 1**  
**GROUNDWATER ANALYTICAL RESULTS**

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Commission (NMWQC) Ground Water Standards		10	750	750	620	NE	NE
Monitoring Wells Installed by ARCO							
MW-1	5.11.04	<1.0	<1.0	<1.0	<3.0	NA	0.124
MW-2	5.11.04	<1.0	<1.0	<1.0	<3.0	NA	<0.10
MW-3	3.20.03	63.7	2.49	197	6.23	1.95	18
	5.11.04	Insufficient Water Volume for Sample Collection					
Monitoring Wells Installed by Enterprise							
MW-1	3.20.03	<1.0	<1.0	<1.0	<3.0	<0.05	2.44
	5.11.04	<1.0	<1.0	<1.0	<3.0	<0.05	1.31
	2.03.06	<2.0	<2.0	<2.0	<6.0	<0.05	<0.5
	8.19.06	<2.0	<2.0	<2.0	<6.0	<0.05	<0.5
	1.31.07	<2.0	<2.0	<2.0	<6.0	<0.15	<0.5
	8.01.07	<1.0	<1.0	<1.0	<3.0	<0.05	0.262
	2.29.08	<1.0	<1.0	<1.0	<3.0	<0.05	0.333
	8.13.08	<1.0	<1.0	<1.0	<3.0	<0.05	**
	2.25.09	<1.0	<1.0	<1.0	<3.0	<0.05	0.226
MW-2	8.20.09	<1.0	<1.0	<1.0	<3.0	<0.05	0.135
	2.12.10	<1.0	<1.0	<1.0	<3.0	<0.05	0.129
	3.20.03	<1.0	<1.0	<1.0	<3.0	<0.05	0.493
	5.11.04	<1.0	<1.0	<1.0	<3.0	<0.05	<0.10
	2.03.06	<2.0	<2.0	<2.0	<6.0	<0.05	<0.5
	8.19.06	2.0	<2.0	<2.0	<6.0	<0.05	<0.5
	1.31.07	<2.0	<2.0	<2.0	<6.0	<0.15	<0.5
	8.01.07	<1.0	<1.0	<1.0	<3.0	<0.05	0.393
	2.29.08	<1.0	<1.0	<1.0	<3.0	<0.05	0.247
MW-3R	8.13.08	<1.0	<1.0	<1.0	<3.0	0.065	0.848
	2.25.09	<1.0	<1.0	<1.0	<3.0	<0.05	1.08
	8.20.09	<1.0	<1.0	<1.0	<3.0	<0.05	0.809
	2.12.10	NS	NS	NS	NS	NS	NS
	7.25.05	<2.0	<2.0	<2.0	<6.0	0.074	2.4
	2.03.06	<2.0	<2.0	4.0	<6.0	0.175	1.94
	8.19.06	2.0	<2.0	<2.0	<6.0	0.323	1.97
	1.31.07	<2.0	<2.0	3.1	<6.0	0.209	2.5
	8.01.07	<1.0	<1.0	<1.0	<3.0	0.101	4.06
MW-4	2.29.08	<1.0	<1.0	<1.0	<3.0	0.0504	3.75
	8.13.08	1.96	1.53	1.79	<3.0	0.161	4.21
	2.25.09	<1.0	1.43	4.45	<3.0	0.197	3.42
	8.20.09	<1.0	<1.0	5.63	<3.0	0.231	2.63
	2.12.10	<1.0	1.08	1.55	<3.0	0.118	2.95
	3.20.03	<1.0	<1.0	<1.0	<3.0	<0.05	0.829
	5.11.04	<1.0	<1.0	<1.0	<3.0	<0.05	<0.10
	2.03.06	<2.0	<2.0	<2.0	<6.0	<0.05	<0.5
	8.19.06	4.0	5.0	<2.0	<6.0	<0.05	<0.5
MW-4	1.31.07	<2.0	<2.0	<2.0	<6.0	<0.15	<0.5
	8.01.07	<1.0	<1.0	<1.0	<3.0	<0.05	0.129
	2.29.08	<1.0	<1.0	<1.0	<3.0	<0.05	0.219
	8.13.08	<1.0	<1.0	<1.0	<3.0	<0.05	0.201
	2.25.09	<1.0	<1.0	<1.0	<3.0	<0.05	0.16
	8.20.09	<1.0	<1.0	<1.0	<3.0	<0.05	0.212
	2.12.10	<1.0	<1.0	<1.0	<3.0	<0.05	<0.110

NE = Not Established

NS = Not Sampled



**TABLE 2**  
**NATURAL ATTENUATION PARAMETERS**

Sample ID	Date Collected	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Conductivity (mS/cm)
MW-1	2/29/2008	18.29	6.77	2.41	104.2	1.181
	8/13/2008	28.00	6.72	1.87	19.1	1.391
	2/25/2009	25.48	NA	2.16	192.7	1.300
	8/20/2009	24.42	7.37	7.41	-49.2	0.881
	2/12/2010	19.12	7.23	2.09	107.3	1.136
MW-2	2/29/2008	18.41	6.87	4.87	163.6	0.817
	8/13/2008	29.11	6.53	3.19	10.6	1.529
	2/25/2009	20.25	NA	2.24	96.9	1.623
	8/20/2009	22.40	6.67	1.71	-37.0	1.676
	2/12/2010	NS	NS	NS	NS	NS
MW-3R	8/13/2008	22.26	6.65	0.23	-115.5	1.172
	2/25/2009	20.56	NA	0.64	19.1	1.180
	8/20/2009	22.25	6.85	0.270	-200.5	1.372
	2/12/2010	19.81	6.32	2.95	-90.8	1.146
MW-4	8/13/2008	24.49	7.21	4.07	-7.6	0.865
	2/25/2009	20.00	NA	2.64	183.1	0.769
	8/20/2009	24.66	7.36	3.29	-50.1	0.882
	2/12/2010	17.89	6.72	2.85	99.3	1.169

°C - degrees Celsius

mg/L - milligrams per Liter

NS - Not Sampled

mV - millivolts

mS/cm - milliseconds per centimeter

**TABLE 3**  
FLUID LEVEL GAUGING DATA

Well ID	Measurement Date	Ground Surface Elevation (feet)	Top-of-Casing Elevation (feet)	Depth to PSH (feet)	Depth to Water (feet)	PSH Thickness (feet)	Corrected Groundwater Elevation
Monitoring Wells Installed by Enterprise							
MW-1	2.3.06	93.5	97.08	None Detected	Not Recorded	0	Not Determined
	8.19.06		97.08	None Detected	44.19	0	52.89
	1.31.07		97.08	None Detected	44.31	0	52.77
	8.01.07		97.08	None Detected	44.91	0	52.17
	2.29.08		97.08	None Detected	44.71	0	52.37
	8.13.08		97.08	None Detected	45.01	0	52.07
	2.25.09		97.08	None Detected	45.32	0	51.76
	9.23.09		97.08	None Detected	45.82	0	51.26
	2.12.10		97.08	None Detected	45.49	0	51.59
MW-2	2.3.06	95.58	99.36	None Detected	44.89	0	54.47
	8.19.06		99.36	None Detected	45.24	0	54.12
	1.31.07		99.36	None Detected	45.35	0	54.01
	8.01.07		99.36	None Detected	45.65	0	53.71
	2.29.08		99.36	None Detected	45.79	0	53.57
	8.13.08		99.36	None Detected	46.06	0	53.30
	2.25.09		99.36	None Detected	46.36	0	53.00
	9.23.09		99.36	None Detected	46.84	0	52.52
	2.12.10		99.36	None Detected	Not Recorded	0	Not Determined
MW-3R	2.3.06	95.26	98.66	None Detected	45.31	0	53.35
	8.19.06		98.66	None Detected	45.78	0	52.88
	1.31.07		98.66	None Detected	45.82	0	52.84
	8.01.07		98.66	None Detected	46.07	0	52.59
	2.29.08		98.66	None Detected	46.25	0	52.41
	8.13.08		98.66	None Detected	46.6	0	52.06
	2.25.09		98.66	None Detected	Not Recorded	0	Not Determined
	9.23.09		98.66	None Detected	47.46	0	51.20
	2.12.10		98.66	None Detected	46.93	0	51.73
MW-4	2.3.06	93.63	97.15	None Detected	44.1	0	53.05
	8.19.06		97.15	None Detected	44.52	0	52.63
	1.31.07		97.15	None Detected	44.55	0	52.60
	8.01.07		97.15	None Detected	44.91	0	52.24
	2.29.08		97.15	None Detected	45	0	52.15
	8.13.08		97.15	None Detected	45.3	0	51.85
	2.25.09		97.15	None Detected	45.57	0	51.58
	9.23.09		97.15	None Detected	46.06	0	51.09
	2.12.10		97.15	None Detected	45.74	0	51.41
Navajo Monitoring Wells							
RW	1.31.07	94.21	98.9	44.74	47.59	2.85	53.82
	8.01.07		98.9	44.88	48.36	3.48	53.60
	2.29.08		98.9	45.31	47.71	2.4	53.30
	8.13.08		98.9	45.71	47.1	1.39	53.02
	2.25.09		98.9	45.91	47.23	1.32	52.83

APPENDIX C

Laboratory Data Reports  
& Chain-of-Custody Documentation

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**Environmental Laboratories**  
Bethany Tech Center ♦ Suite 190  
400 W. Bethany Rd. ♦ Allen, Texas 75013

State Certifications  
Arkansas: 88-0647  
Oklahoma: 8727



Louisiana: 02007  
Kansas: E-10388  
Texas: T104704232-09-TX

## Report of Sample Analysis

Southwest Geoscience  
8620 N. New Braunfels Ave, Suite 531  
San Antonio, TX 78217  
ATTN: Chris Mitchell

Page: Page 1 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

### Sample Identification

<u>Laboratory ID #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
1002321-01	MW-4	Aqueous	02/12/10 09:50	02/13/10 09:48
1002321-02	MW-1	Aqueous	02/12/10 10:50	02/13/10 09:48
1002321-03	MW-3R	Aqueous	02/12/10 12:00	02/13/10 09:48

### Case Narrative

This project does not require TRRP specifications.



**Environmental Laboratories**  
Bethany Tech Center ♦ Suite 190  
400 W. Bethany Rd. ♦ Allen, Texas 75013

State Certifications

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Oklahoma: 8727



Louisiana: 02007  
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## Report of Sample Analysis

Southwest Geoscience  
8620 N. New Braunfels Ave, Suite 531  
San Antonio, TX 78217  
ATTN: Chris Mitchell

Page: Page 2 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown  
President



**Environmental Laboratories**  
Bethany Tech Center ♦ Suite 190  
400 W. Bethany Rd. ♦ Allen, Texas 75013

State Certifications  
Arkansas: 88-0647  
Oklahoma: 8727



Louisiana: 02007  
Kansas: E-10388  
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## Report of Sample Analysis

Southwest Geoscience  
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ATTN: Chris Mitchell

Page: Page 3 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

Laboratory ID #:	Sample Type	Matrix	Sample Collected By	Customer
1002321-01	Grab	Aqueous	Russell Howard	
Sample Description	Sample Date/Time			
MW-4	02/12/10 0950			

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										Q-16
Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A	N/A	1.10	EPA 3510C	0B15023	02/15/10 1817	TA	
TPH Diesel	ND	0.110	0.1	mg/l	1.10	EPA.8015B mod	0B15023	02/17/10 1959	PMS	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
a-Pinene (EPA 8015B mod)			0.0399 mg/l		0.123 mg/l		32 %		10-140	
Triacotane (EPA 8015B mod)			0.0626 mg/l		0.127 mg/l		49 %		10-140	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	ND	0.050	0.05	mg/l	1.00	EPA 8015B mod	0B16015	02/16/10 1635	ZT	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
4-Bromofluorobenzene (EPA 8015B mod)			0.0509 mg/l		0.0500 mg/l		102 %		64-130	
BTEX										
Benzene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1635	ZT	
Ethyl Benzene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1635	ZT	
Toluene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1635	ZT	
Xylenes (total)	ND	3.00	3	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1635	ZT	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
4-Bromofluorobenzene (EPA 8021B)			56.0 ug/l		50.0 ug/l		112 %		30-156	



**Environmental Laboratories**  
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400 W. Bethany Rd. ♦ Allen, Texas 75013

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Arkansas: 88-0647  
Oklahoma: 8727



Louisiana: 02007  
Kansas: E-10388  
Texas: T104704232-09-TX

## Report of Sample Analysis

Southwest Geoscience  
8620 N. New Braunfels Ave, Suite 531  
San Antonio, TX 78217  
ATTN: Chris Mitchell

Page: Page 4 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

Laboratory ID #:	Sample Type	Matrix	Sample Collected By	Customer
1002321-02	Grab	Aqueous	Russell Howard	
Sample Description	Sample Date/Time			
MW-1	02/12/10 1050			

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
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### Total Petroleum Hydrocarbons - DRO

Q-16

Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3510C	0B15023	02/15/10 1817	TA	
TPH Diesel	0.129	0.100	0.1	mg/l	1.00	EPA 8015B mod	0B15023	02/17/10 2005	PMS	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
a-Pinene (EPA 8015B mod)	0.0530 mg/l	0.112 mg/l	47 %	10-140
Triacontane (EPA 8015B mod)	0.0772 mg/l	0.116 mg/l	67 %	10-140

### Total Petroleum Hydrocarbons - GRO

TPH Gasoline	ND	0.050	0.05	mg/l	1.00	EPA 8015B mod	0B16015	02/16/10 1701	ZT	
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Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
4-Bromofluorobenzene (EPA 8015B mod)	0.0540 mg/l	0.0500 mg/l	108 %	64-130

### BTEX

Benzene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B22013	02/22/10 1226	ZT	
Ethyl Benzene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B22013	02/22/10 1226	ZT	
Toluene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B22013	02/22/10 1226	ZT	
Xylenes (total)	ND	3.00	3	ug/l	1.00	EPA 8021B	0B22013	02/22/10 1226	ZT	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
4-Bromofluorobenzene (EPA 8021B)	54.7 ug/l	50.0 ug/l	109 %	30-156



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## Report of Sample Analysis

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Page: Page 5 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

Laboratory ID #:	Sample Type	Matrix	Sample Collected By	Customer
1002321-03	Grab	Aqueous	Russell Howard	
Sample Description	Sample Date/Time			
MW-3R	02/12/10 1200			

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										Q-16
Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A	N/A	1.05	EPA 3510C	0B15023	02/15/10 1817	TA	
TPH Diesel	2.95	0.105	0.1	mg/l	1.05	EPA 8015B mod	0B15023	02/17/10 2012	PMS	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
a-Pinene (EPA 8015B mod)			0.0540 mg/l		0.118 mg/l		46 %		10-140	
Triacontane (EPA 8015B mod)			0.0798 mg/l		0.122 mg/l		65 %		10-140	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	0.118	0.050	0.05	mg/l	1.00	EPA 8015B mod	0B16015	02/16/10 1727	ZT	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
4-Bromofluorobenzene (EPA 8015B mod)			0.0588 mg/l		0.0500 mg/l		118 %		64-130	
BTEX										
Benzene	ND	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1727	ZT	
Ethyl Benzene	1.55	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1727	ZT	
Toluene	1.08	1.00	1	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1727	ZT	
Xylenes (total)	ND	3.00	3	ug/l	1.00	EPA 8021B	0B16015	02/16/10 1727	ZT	
Surrogate			Result		Spike Conc.		Recovery		Rec. Limits	
4-Bromofluorobenzene (EPA 8021B)			55.0 ug/l		50.0 ug/l		110 %		30-156	





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Page: Page 6 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### Total Petroleum Hydrocarbons - DRO - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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#### Batch 0B15023 - EPA 3510C Separatory Funnel Extraction

##### Blank (0B15023-BLK1)

Prepared & Analyzed: 02/15/10 11:00

Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A							
TPH Diesel	ND	0.100	mg/l							
Surrogate: <i>a</i> -Pinene	0.0526		mg/l	0.112		47	10-140			
Surrogate: Triacontane	0.0679		mg/l	0.116		59	10-140			

##### Laboratory Control Sample (0B15023-BS1)

Prepared & Analyzed: 02/15/10 11:00

Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A				0-0			
TPH Diesel	0.655	0.100	mg/l	1.00		66	50-144			
Surrogate: <i>a</i> -Pinene	0.0509		mg/l	0.112		45	10-140			
Surrogate: Triacontane	0.0673		mg/l	0.116		58	10-140			

##### Laboratory Control Sample Duplicate (0B15023-BSD1)

Prepared & Analyzed: 02/15/10 11:00

Separatory Funnel Liquid-Liquid Extraction	Completed	N/A	N/A				0-0		0	
TPH Diesel	0.824	0.100	mg/l	1.00		82	50-144	23	31	
Surrogate: <i>a</i> -Pinene	0.0639		mg/l	0.112		57	10-140			
Surrogate: Triacontane	0.0854		mg/l	0.116		74	10-140			



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Page: Page 7 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### Total Petroleum Hydrocarbons - GRO - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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#### Batch 0B16015 - EPA 5030B Purge-and-Trap for Aqueous Samples

##### Blank (0B16015-BLK1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 16:09

TPH Gasoline	ND	0.050	mg/l							
Surrogate: 4-Bromofluorobenzene	0.0493		mg/l	0.0500		99	64-130			

##### Laboratory Control Sample (0B16015-BS1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 14:26

TPH Gasoline	0.480	0.050	mg/l	0.500		96	61-133			
Surrogate: 4-Bromofluorobenzene	0.0527		mg/l	0.0500		105	64-130			

##### Laboratory Control Sample Duplicate (0B16015-BS1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 14:52

TPH Gasoline	0.457	0.050	mg/l	0.500		91	61-133	5	18	
Surrogate: 4-Bromofluorobenzene	0.0530		mg/l	0.0500		106	64-130			

##### Matrix Spike (0B16015-MS1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 15:18

Source: 1002321-01

TPH Gasoline	0.466	0.050	mg/l	0.500	ND	93	0-197			
Surrogate: 4-Bromofluorobenzene	0.0531		mg/l	0.0500		106	64-130			

##### Matrix Spike Duplicate (0B16015-MS1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 15:43

Source: 1002321-01

TPH Gasoline	0.454	0.050	mg/l	0.500	ND	91	0-197	3	12	
Surrogate: 4-Bromofluorobenzene	0.0532		mg/l	0.0500		106	64-130			



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Page: Page 8 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### BTEX - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
<b>Batch 0B16015 - EPA 5030B Purge-and-Trap for Aqueous Samples</b>										
<b>Blank (0B16015-BLK1)</b>										
Prepared: 02/16/10 13:24 Analyzed: 02/16/10 16:09										
Benzene	ND	1.00	ug/l							
Ethyl Benzene	ND	1.00	ug/l							
Toluene	ND	1.00	ug/l							
Xylenes (total)	ND	3.00	ug/l							
Surrogate: 4-Bromofluorobenzene	52.6		ug/l	50.0		105	30-156			
<b>Laboratory Control Sample (0B16015-BS1)</b>										
Prepared: 02/16/10 13:24 Analyzed: 02/16/10 14:26										
Benzene	49.1	1.00	ug/l	50.0		98	85-119			
Ethyl Benzene	48.6	1.00	ug/l	50.0		97	82-129			
Toluene	48.6	1.00	ug/l	50.0		97	86-119			
Xylenes (total)	146	3.00	ug/l	150		98	72-133			
Surrogate: 4-Bromofluorobenzene	54.7		ug/l	50.0		109	30-156			
<b>Laboratory Control Sample Duplicate (0B16015-BSD1)</b>										
Prepared: 02/16/10 13:24 Analyzed: 02/16/10 14:52										
Benzene	47.1	1.00	ug/l	50.0		94	85-119	4	4	
Ethyl Benzene	48.8	1.00	ug/l	50.0		98	82-129	0.3	9	
Toluene	46.8	1.00	ug/l	50.0		94	86-119	4	6	
Xylenes (total)	136	3.00	ug/l	150		91	72-133	7	8	
Surrogate: 4-Bromofluorobenzene	53.0		ug/l	50.0		106	30-156			
<b>Matrix Spike (0B16015-MS1)</b>										
Prepared: 02/16/10 13:24 Analyzed: 02/16/10 15:18										
Source: 1002321-01										
Benzene	48.7	1.00	ug/l	50.0	ND	97	52-150			
Ethyl Benzene	48.2	1.00	ug/l	50.0	ND	96	41-158			
Toluene	48.3	1.00	ug/l	50.0	ND	97	59-142			
Xylenes (total)	146	3.00	ug/l	150	ND	98	40-162			
Surrogate: 4-Bromofluorobenzene	54.4		ug/l	50.0		109	30-156			



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Page: Page 9 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### BTEX - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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#### Batch 0B16015 - EPA 5030B Purge-and-Trap for Aqueous Samples (continued)

##### Matrix Spike Duplicate (0B16015-MSD1)

Prepared: 02/16/10 13:24 Analyzed: 02/16/10 15:43

Source: 1002321-01

Benzene	48.5	1.00	ug/l	50.0	ND	97	52-150	0.4	5	
Ethyl Benzene	47.5	1.00	ug/l	50.0	ND	95	41-158	2	14	
Toluene	47.9	1.00	ug/l	50.0	ND	96	59-142	0.8	6	
Xylenes (total)	140	3.00	ug/l	150	ND	93	40-162	4	5	
Surrogate: 4-Bromofluorobenzene	53.2		ug/l	50.0		106	30-156			

#### Batch 0B22013 - EPA 5030B Purge-and-Trap for Aqueous Samples

##### Blank (0B22013-BLK1)

Prepared: 02/22/10 09:35 Analyzed: 02/22/10 10:58

Benzene	ND	1.00	ug/l							
Ethyl Benzene	ND	1.00	ug/l							
Toluene	ND	1.00	ug/l							
Xylenes (total)	ND	3.00	ug/l							
Surrogate: 4-Bromofluorobenzene	55.3		ug/l	50.0		111	30-156			

##### Laboratory Control Sample (0B22013-BS1)

Prepared: 02/22/10 09:35 Analyzed: 02/22/10 14:11

Benzene	48.6	1.00	ug/l	50.0		97	85-119			
Ethyl Benzene	46.5	1.00	ug/l	50.0		93	82-129			
Toluene	47.4	1.00	ug/l	50.0		95	86-119			
Xylenes (total)	138	3.00	ug/l	150		92	72-133			
Surrogate: 4-Bromofluorobenzene	53.2		ug/l	50.0		106	30-156			

##### Laboratory Control Sample Duplicate (0B22013-BSD1)

Prepared: 02/22/10 09:35 Analyzed: 02/22/10 14:38

Benzene	48.7	1.00	ug/l	50.0		97	85-119	0.2	4	
Ethyl Benzene	47.8	1.00	ug/l	50.0		96	82-129	3	9	
Toluene	47.8	1.00	ug/l	50.0		96	86-119	0.7	6	
Xylenes (total)	141	3.00	ug/l	150		94	72-133	2	8	
Surrogate: 4-Bromofluorobenzene	55.0		ug/l	50.0		110	30-156			



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Page: Page 10 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### BTEX - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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#### Batch 0B22013 - EPA 5030B Purge-and-Trap for Aqueous Samples (continued)

##### Matrix Spike (0B22013-MS1)

Prepared: 02/22/10 09:35 Analyzed: 02/22/10 15:03

Source: 1002490-01RE2

R-01

Benzene	335	5.00	ug/l	250	149	75	52-150			
Ethyl Benzene	197	5.00	ug/l	250	6.28	76	41-158			
Toluene	268	5.00	ug/l	250	72.1	78	59-142			
Xylenes (total)	664	15.0	ug/l	750	82.9	77	40-162			
Surrogate: 4-Bromofluorobenzene	47.5		ug/l	50.0		95	30-156			

##### Matrix Spike Duplicate (0B22013-MSD1)

Prepared: 02/22/10 09:35 Analyzed: 02/22/10 15:30

Source: 1002490-01RE2

R-01

Benzene	344	5.00	ug/l	250	149	78	52-150	3	5	
Ethyl Benzene	240	5.00	ug/l	250	6.28	93	41-158	20	14	Q-04
Toluene	276	5.00	ug/l	250	72.1	82	59-142	3	6	
Xylenes (total)	732	15.0	ug/l	750	82.9	87	40-162	10	5	Q-04
Surrogate: 4-Bromofluorobenzene	47.9		ug/l	50.0		96	30-156			



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Page: Page 11 of 11  
Project: Hobbs Station  
Project #: 0105013  
Print Date/Time: 02/22/10 16:49

### Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

Q-04	The RPD of the target analyte(s) in the MS/MSD is outside of established limits. The RPD of this same analyte(s) in the LCS/LCSD is within acceptable limits. Therefore, the data were reported and are acceptable.
Q-16	An insufficient volume or mass of sample was available for matrix spikes.
R-01	The higher reporting limit(s) is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit
MRL	Method Reporting Limit
naa	This analysis/parameter is not accreditable under the current NELAP program

# CHAIN OF CUSTODY RECORD

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants Office Location: <u>Dallas, TX</u> Project Manager: <u>B. Chris M. Howard</u> Sampler's Name: <u>Russell Howard</u>				Laboratory: <u>ELM I</u> Address: <u>Allen, TX</u> Contact: _____ Phone: _____ PO/SO #: _____ Sampler's Signature: _____				ANALYSIS REQUESTED <div style="transform: rotate(-45deg); font-weight: bold; font-size: 1.2em;">           BTEX            TPH            GAO/DRO         </div>				Lab use only Due Date: _____ Temp. of coolers when received: <u>0.4</u> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>3</span><span>4</span><span>5</span> </div> Page <u>1</u> of <u>1</u>					
Project Name <u>7665 Station</u>		No/Type of Containers		Identifying Marks of Sample(s)		Start Depth		End Depth		VOA		A/G 1 Lt.		250 ml		P/O	
Matrix	Date	Time	C o m p	G r a b													
U	2/12/10	950	X		MW-4						6	1					1002321-01
L	↓	1000	↓		MW-1						↓	↓					1002321-02
U	2/12/10	1200	Y		MW-3R						6	1					1002321-03
<del>No Further Entry</del> Entry 2/12/10																	
Turn around time		<input checked="" type="checkbox"/> Normal		<input type="checkbox"/> 25% Rush		<input type="checkbox"/> 50% Rush		<input type="checkbox"/> 100% Rush									
Relinquished by (Signature)		Date: <u>2/13/10</u>		Time: <u>9:12</u>		Received by (Signature)		Date: <u>2/13/10</u>		Time: <u>8:10</u>		NOTES:					
Relinquished by (Signature)		Date: <u>2/13/10</u>		Time: <u>9:48</u>		Received by (Signature)		Date: <u>2/13/10</u>		Time: <u>9:48</u>							
Relinquished by (Signature)		Date: _____		Time: _____		Received by (Signature)		Date: _____		Time: _____							
Relinquished by (Signature)		Date: _____		Time: _____		Received by (Signature)		Date: _____		Time: _____							
Matrix Container		WW - Wastewater VOA - 40 ml vial		W - Water A/G - Amber / Or Glass 1 Liter		S - Soil SD - Solid		L - Liquid 250 ml - Glass wide mouth		A - Air Bag		C - Charcoal tube P/O - Plastic or other		SL - sludge		O - Oil	

1002 321



P.O. BOX 940303  
PLANO, TX 75094-0303  
(972) 881-7577

## NOTARY SERVICE AVAILABLE

No.

SHIPPER	NAME	SW 600	DATE	2/13/10
	ADDRESS	5000 E. TRAIL	SUITE	
	CITY	IRVING		
	REFERENCE NO.			
CONSIGNEE	NAME	ERMI		
	ADDRESS		SUITE	
	CITY			
	ATTN:			

Falcon Charges		Type of Delivery	
<input type="checkbox"/> PREPAID	<input type="checkbox"/> COLLECT	<input type="checkbox"/> <del>XX</del> PREP	<input type="checkbox"/> 2 HOUR
<input type="checkbox"/> ROUND TRIP	<input type="checkbox"/> NIGHT WEEKEND	<input type="checkbox"/> 4 HOUR	<input type="checkbox"/> NEXT DAY

NO. PCS.	DESCRIPTION AND REMARKS	WEIGHT	CHARGES	
			WEIGHT CHARGE	
			WAITING TIME CHG	
			DELIVERY CHARGE	
TOTAL CHARGES				

WAITING TIME: \_\_\_\_\_

NOT RESPONSIBLE FOR FREIGHT CLAIMS AFTER 72 HRS. NOT RESPONSIBLE FOR CONCEALED DAMAGE. DUE AND PAYABLE PLANO, COLLIN COUNTY, TEXAS

\$50 DECLARED VALUE UNLESS SPECIFIED HERE \$

DRIVER NAME & NO. 7.48 DRIVER NAME & NO. 7.48 RECEIVED BY McCall RECEIVED BY McCall

ERMI

Sample I.D. No. 0105013 Custody Seal Date 4/12/10

Signature [Signature]

ERMI

X-484



Lab Number(s): 1002321

ERMI

## Sample Preservation Documentation\*

On Ice (Circle One): YES OR NO (check if on Dry Ice \_\_\_\_\_)

Parameters	Containers #	Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals			pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine <input type="checkbox"/> yes <input type="checkbox"/> no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)	18	40 ml	Cool, pH < 2 Zero Head Space	40 ml VOA vial	
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials	40 ml VOA vial	
Phos., NO <sub>3</sub> /NO <sub>2</sub> , NH <sub>3</sub> N, COD, TKN, TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO <sub>4</sub> , Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, (TPH-DRO)	3	114	Cool, pH < 2	Glass only Teflon lid <input checked="" type="checkbox"/> Foil lid _____	pH < 2
Oil & Grease, TPH (by 1664a)			Cool, pH < 2	Glass only Teflon lid _____ Foil lid _____	
Cyanide			Cool, pH > 12	Glass or Plastic	pH > 12 Chlorine <input type="checkbox"/> yes <input type="checkbox"/> no Sulfide <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> na
Sulfide			Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
Soil, Sludge, Solid, Oil, Liquid			Cool Note: please check if collected in pre-weighed vials		

Metals Preserved By Login ☐yes ☐noTrip Blanks Received ☐yes ☒no

COMMENTS: \_\_\_\_\_

\*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

\*\*Cool means cooled to ≤6°C but not frozen.

Preservation Checked By Melissa McAlisterDate 2-15-10Time 1105

1000.0-3.2

kdy 7/10/08

Q:\Form Masters\1000.0-3.2 Sample Preservation Form