



## SITE REMEDIATION SUMMARY

Southwest Royalties, Inc.  
Malaga A #002  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

January 18, 2011

*Prepared for:*

**Southwest Royalties, Inc.  
6 Desta Drive, Suite 2100  
Midland, TX 79705**

*Prepared by:*

**Sport Environmental Services, PLLC  
502 N. Big Spring Street  
Midland, Texas 79701  
Business (432) 683-1100  
Fax (888) 500-0622  
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**SPORT ENVIRONMENTAL SERVICES, PLLC**

502 N. Big Spring Street, Midland, Texas 79701  
Business: 432.683.1100 Fax: 888.500.0622

January 18, 2011

Mr. Mike Bratcher  
NMOCD District 2  
1301 W. Grand Avenue  
Artesia, NM 88210

Re: **Closure Report  
Southwest Royalties, Inc.  
Malaga A #002  
Section 2, T-24-S, R-28-E  
Eddy County, New Mexico**

Dear Mr. Bratcher:

On behalf of Southwest Royalties, Inc., Sport Environmental Services, PLLC is providing a summary overview of the activities that have taken place to remediate the Malaga A #002 location, according to NMOCD guidelines.

**Site History**

The wellhead at the site developed a slow stuffing box packing leak, which resulted in the pooling of hydrocarbons around the wellhead. The Release Notification and Corrective Action Report (Form C-141) dated November 16, 2009 was submitted and the clean-up proceeded. Approximately 30 yards of visually contaminated soil from around the wellhead cellar was excavated by Southwest Royalties, Inc., and was disposed of at CRI. Disposal manifests are maintained by Southwest Royalties, Inc.

On January 13, 2010 Sport Environmental Services, PLLC was contracted to perform excavation floor sampling of the subject area, at this time it was discovered that the excavated area had been inadvertently backfilled with clean gravel following removal and disposal of visually contaminated soil. On this same date it was observed that produced fluids were still leaking from the stuffing box at the wellhead. It was determined that the backfilled gravel would need to be removed in order to properly sample the affected area.

Sampling was postponed until the leak source could be repaired and the area could be excavated a second time. Visually contaminated soil and gravel were excavated from around the wellhead cellar and stockpiled on location. Floor sampling took place January 20, 2010 on the east, south and west sides (sample identification EAST1, SOUTH1, and WEST1) of the wellhead cellar (due to wellhead design North side could not be safely excavated at the time). These initial results indicated no TPH detected, however chloride levels were elevated.

## Site Delineation

On February 15-16, 2010, the release site was further delineated both horizontally and vertically as required by the NMOCD Artesia Office. The NMOCD Site Ranking Criteria Form was used to determine the degree of remediation required for the site. The acceptable concentrations resulting from the form are as follows: Benzene 10 ppm, BTEX 50 ppm, and TPH 100 ppm. Based on site-specific characteristics, the NMOCD is requiring a chloride concentration limit of 1,000 mg/kg. Attached please find the Excavation Sampling Events site plans denoting sample locations along with the associated analytical results. Soil samples were analyzed for one or more of the following: Total BTEX (Benzene; Toluene; Ethylbenzene; m,p-Xylene, o-Xylene, Total Xylenes, and total BTEX) using the Method 8021, Total Petroleum Hydrocarbons (C<sub>6</sub>-C<sub>12</sub> Gasoline Range Hydrocarbons or GRO; C<sub>12</sub>-C<sub>28</sub> Diesel Range Hydrocarbons or DRO; C<sub>28</sub>-C<sub>35</sub> Oil Range Hydrocarbons; and Total TPH) using Method SW8015, and Chlorides (Cl) using EPA Method 300.

The sampling locations are identified as North2, South2, South3, East2, East3, West2, BG (background) and BG2 (second background) and are positioned in relation to the wellhead. The goal while on location was to determine the extent of the on-site contamination by both horizontally and vertically delineating the site. Sampling to the north was limited to 10 feet from the wellhead due to rig weight not allowing for safe drilling in the relatively soft, wet soil resulting from recent rainfall.

Prior to delineating the site, thorough research was performed and it was determined based on limited information that depth to groundwater was approximately 45 ft bgs (below ground surface). Due to lack of available site-specific information, the plan was to sample to a depth of 20' bgs and assess chloride levels through field titrations in order to remain a safe distance from groundwater. Due to elevated chloride levels down to 20' bgs (sample EAST2, South2, North2), it was determined that additional groundwater depth information was necessary to proceed. Based on field titration readings, the NMOCD required further site delineation.

Since only limited groundwater (GW) depth information is available, the NMOCD required us to obtain site-specific groundwater depth data prior to proceeding with site clean-up. In order to establish a site-specific GW depth, the environmental air-rotary drilling rig was moved to an area considered to be a background location (BG-2), approximately 296 ft to the southwest of the wellhead and drilling to reach groundwater commenced. Samples were taken at 5-foot intervals in order to establish background chloride levels and determine depth to groundwater. After drilling to a depth of 67' bgs, moisture was encountered. The driller left the hole open over night to determine if it would fill with water. Since water did not accumulate in the hole, it was believed that perched water had been encountered and groundwater had not been impacted. After speaking with Mr. Bratcher of the NMOCD, he requested that site delineation continue but sampling should not exceed a depth of 60' bgs.

Drilling and sampling continued at East 3 location. At a depth of 30' bgs, chloride field-tested levels were below the allowable limit. Three confirmation samples were taken at depths of 35' bgs, 40' bgs and 45' bgs and all proved to be below the allowable limit. At this time, the horizontal and vertical extent of the contamination to the east side of the well had been determined. This was confirmed by the NMOCD.

Drilling and sampling continued on the south side of the well (see attached Sample Data Summary). Water was encountered at the SOUTH3 sample at a depth of 37' bgs. Drilling was halted at this point because water was not expected to be present at this shallow depth. Due to the fact that water was encountered at 37' bgs on the south side of the well it was determined that the final sample location,

West 2, would be drilled no more than 30' bgs. Based on the extensive hydrogeologic studies that had been performed as of this date there is no indication to the presence of underground rivers or pooled groundwater. Drilling was halted at 37' bgs and a sample of the liquid/soil mixture (South3-009) was collected. The suspicion was that this water was isolated or "perched" and not of high yield and reviewed via a telephone conversation with Mike Bratcher of the NMOCD.

Due to the unique nature of this site, it was decided that it would be best for an additional site visit to take place. On August 26, 2010, Nick Williams, Environmental Coordinator, and Sally Jones, Environmental Compliance Specialist, both with Sport Environmental Services, met with Mike Bratcher of the NMOCD Artesia office at the Malaga A #002 location. After lengthy discussions about the site, a plan of action was agreed upon. Mr. Bratcher was very willing to work with the client in order to reach satisfactory clean-up requirements for this site. In addition to meeting with Sport Environmental representatives, Mr. Bratcher was willing to meet with Harol Creech, Production Foreman for Southwest Royalties, Inc., and discuss the work plan as well.

After meeting with Mr. Bratcher, Harol Creech and Nick Williams met on location to begin remedial efforts. As agreed upon, all soils around the wellhead down to the cellar floor was excavated and placed on a liner. The heavily hydrocarbon stained soils have been disposed of at an approved off-site disposal facility. See attached waste disposal manifests. In addition to removing the soil around the wellhead, an area approximately 15 feet in length, 5 feet in width and 5 feet in depth was excavated on the east side of the wellhead. Similarly, an area 25 feet in length, approximately 7 feet in width and 5 feet in depth was excavated from the south side of the wellhead. These hydrocarbon-impacted soils were removed as a result of NMOCD site visits and analytical results.

There were also three additional locations that were excavated as required by Mike Bratcher, NMOCD. Locations denoted on the sample plan East3, South3 and West2 were excavated in a 5-foot by 5-foot area in order to remove hydrocarbon surface contamination. After these areas were excavated, chloride field-testing was performed and resulted in elevated chloride concentrations. A phone call was placed to Mike Bratcher of the NMOCD and after a discussion of the results and based on his multiple site visits he decided that due to the unique conditions on this location that it was not feasible to try and "chase chlorides." Mr. Bratcher requested sidewall and floor samples to confirm that TPH levels were reduced to below 100 ppm (parts per million) per the site ranking criteria form. The attached analytical report shows that the excavation performed achieved this.

In accordance with a request from Mike Bratcher of the NMOCD, the soil that was excavated from these areas and not heavily hydrocarbon impacted, was used to construct a diversionary structure between the location and the pit to the north side of the location. This was done in order to help prevent further migration of chlorides from the pit to the location. Pictures of the diversionary structure are included within the report.

Unimpacted, native soil was utilized to backfill excavations. Prior to wellhead excavation backfill, the client installed a liner from the cellar floor to the ground surface to minimize the extent of any further releases from the wellhead. In addition, general housekeeping around the wellhead and at the battery took place as required by the NMOCD. The attached site photographs clearly demonstrate compliance with this request. The secondary containment was also reinforced and out of service tanks have been removed.

For your convenience, attached please find the Final copy of the C-141 response form.

If you have any questions or comments with regard to this matter, please contact me at either my office (432.683.1100) or on my cell (432.553.1963). We would be more than happy to review these results with you.

Sincerely,

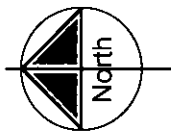
Handwritten signature of Debi S. Moore.

Debi S. Moore, M.E., R.E.P.A.  
Environmental Engineer

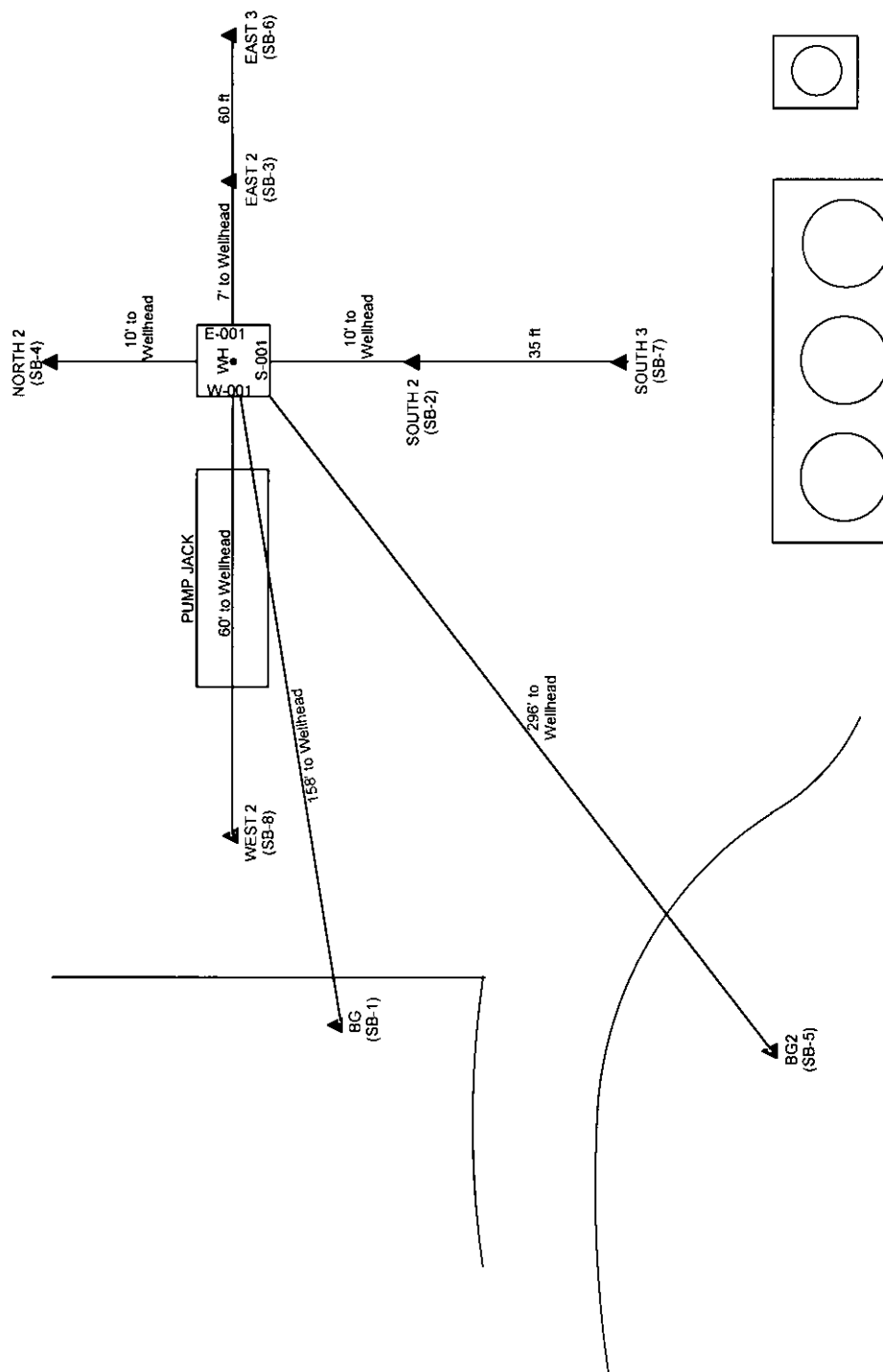
cc: Southwest Royalties, Inc.  
6 Desta Drive, Suite 2100  
Midland, TX 79705

Southwest Royalties, Inc.  
Malaga A #2  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

SITE PLAN DENOTING  
SAMPLING LOCATIONS



DRAWING NOT TO SCALE

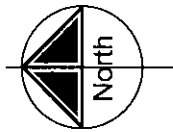


Southwest Royalties, Inc.  
Malaga A 002  
Section 2, T-24-S, R-28-E  
Eddy County, New Mexico

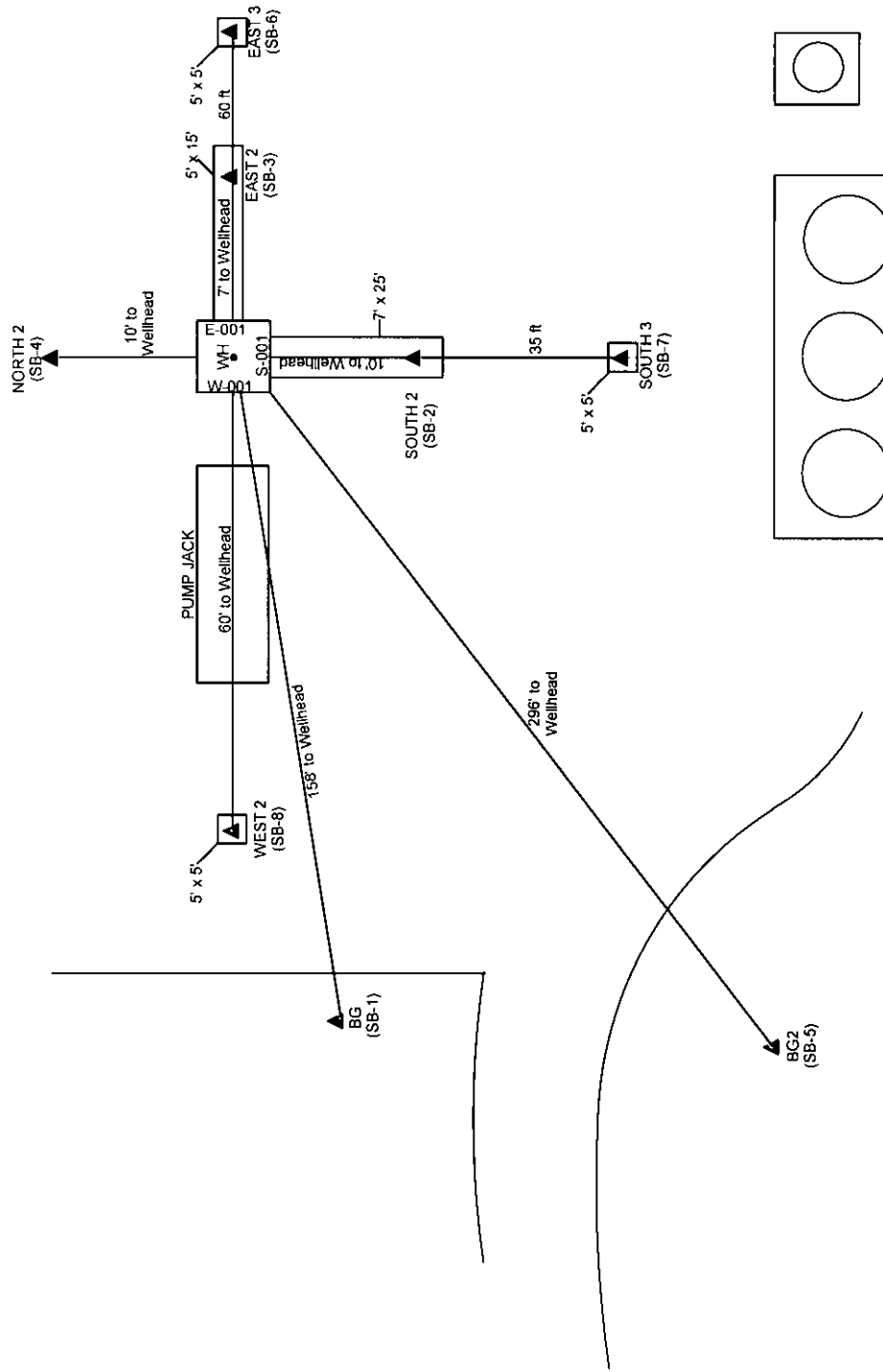
# Site Delineation Sampling Events

January 20, 2010  
February 15, 2010  
February 16, 2010





DRAWING NOT TO SCALE



Southwest Royalties, Inc.  
Malaga A 002  
Section 2, T-24-S, R-28-E  
Eddy County, New Mexico

Excavation  
Sampling Events

September 22, 2010





Southwest Royalties, Inc.  
Malaga A #2  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

SAMPLE DATA SUMMARIES  
&  
ANALYTICAL REPORTS

XENCO LABORATORIES

JANUARY 20, 2010 SAMPLING; ANALYTICAL REPORT 359288  
FEBRUARY 15-16, 2010 SAMPLING; ANALYTICAL REPORT 363035  
SEPTEMBER 22, 2010 SAMPLING; ANALYTICAL REPORT 391038



# SAMPLE DATA SUMMARY

Southwest Royalties, Inc.

Malaga A 002

Corresponding Analytical Reports:

359288 & 363035

Methods:				EPA 300 mg/kg	BTEX by EPA 8021 mg/kg						TPH by EPA 418.1 mg/kg						
NMOCD Recommended Concentration				1,000 mg/kg	Concentration Limits per NMOCD Site Ranking Criteria Form (Benzene 10 ppm and BTEX 50 ppm)						TPH Concentration Limit per NMOCD Site Ranking Criteria Form						
Lab Sample ID	Sample ID	Depth	Time Sampled	Chloride mg/kg	Benzene	Toluene	Ethyl- Benzene	m,p Xylenes	o Xylenes	Total Xylenes	Total BTEX	<div></div>	TPH				
													Percent Moisture	TPH C6-C12	TPH C12-C28	TPH C28-C35	Total TPH
East Soil Sample Collected January 20, 2010																	
359288-01	EAST1-001	10 ft	11:45	4,740	ND	ND	ND	ND	ND	ND	ND	18.3	ND	145	19.2	164	ND
South Soil Sample Collected January 20, 2010																	
359288-02	SOUTH1-001	7 ft	11:50	2,800	ND	ND	ND	ND	ND	ND	ND	18.5	ND	ND	ND	ND	ND
West Soil Sample Collected January 20, 2010																	
359288-02	WEST1-001	7 ft	11:55	2,640	ND	ND	ND	ND	ND	ND	ND	19.9	ND	ND	ND	ND	ND
Background Soil Sample (BG); (S81) Collected February 15, 2010 Latitude 32.251389, Longitude -104.065																	
363035-001	BG-001	0'-6"	10:00	4,71	ND	ND	ND	ND	ND	ND	ND	8.11	ND	17.3	ND	17.3	60.8
363035-002	BG-002	5 ft	10:08	619	ND	ND	ND	ND	ND	ND	ND	18.4	ND	ND	ND	ND	72.3
363035-003	BG-003	10 ft	10:11	512	ND	ND	ND	ND	ND	ND	ND	16.8	25.6	48.8	ND	74.4	45.5
363035-004	BG-004	15 ft	10:15	560	ND	ND	ND	ND	ND	ND	ND	17.5	ND	21.6	ND	21.6	48
363035-005	BG-005	20 ft	10:17	95.4	ND	ND	ND	ND	ND	ND	ND	18.4	ND	18.8	ND	18.8	43.6
Background Soil Sample 2(BG2); (S85) Collected February 15, 2010 Latitude 32.251667, Longitude -104.065																	
363035-006	BG2-001	0'-6"	14:45	5.52	ND	ND	ND	ND	ND	ND	ND	13.4	ND	17.8	ND	17.8	52.7
363035-007	BG2-002	5 ft	14:52	447	ND	ND	ND	ND	ND	ND	ND	16.7	ND	19.7	ND	19.7	68.5
363035-008	BG2-003	10 ft	14:58	256	ND	ND	ND	ND	ND	ND	ND	17.2	ND	18.2	ND	18.2	53.8
363035-009	BG2-004	15 ft	15:06	384	ND	ND	ND	ND	ND	ND	ND	14.5	ND	17.9	ND	17.9	52.1
363035-010	BG2-005	20 ft	15:11	277	ND	ND	ND	ND	ND	ND	ND	15.4	ND	ND	ND	ND	70.8
East Soil Sample 2 (EAST 2); (S83) Collected February 15, 2010 Latitude 32.2525, Longitude -104.064444																	
363035-011	EAST2-001	0'-6"	11:09	1,690	ND	ND	ND	ND	ND	ND	ND	4.01	94.9	16,400	1,330	17,825	7,050
363035-012	EAST2-002	5 ft	11:21	1,500	ND	ND	ND	ND	ND	ND	ND	17.8	ND	ND	ND	ND	576
363035-013	EAST2-003	10 ft	11:24	1,100	ND	ND	ND	ND	ND	ND	ND	16.9	ND	18.4	ND	18.4	81.7
363035-014	EAST2-004	15 ft	11:27	940	ND	ND	ND	ND	ND	ND	ND	15.7	ND	21.6	ND	21.6	62.5
363035-015	EAST2-005	20 ft	11:30	1,440	ND	ND	ND	ND	ND	ND	ND	15.9	ND	19.3	ND	19.3	64.8
East Soil Sample 3 (EAST 3); (S86) Collected February 16, 2010 Latitude 32.2525, Longitude -104.064167																	
363035-016	EAST3-001	0'-6"	10:13	342	ND	ND	ND	ND	ND	ND	ND	9.15	ND	59.5	ND	59.5	537
363035-017	EAST3-002	5 ft	10:20	682	ND	ND	ND	ND	ND	ND	ND	17.4	20.7	52	ND	72.7	67.4
363035-018	EAST3-003	10 ft	10:25	322	ND	ND	ND	ND	ND	ND	ND	10.4	ND	19.6	ND	19.6	58.5
363035-019	EAST3-004	15 ft	10:30	270	ND	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	54
363035-020	EAST3-005	20 ft	10:36	345	ND	ND	ND	ND	ND	ND	ND	14.4	ND	ND	ND	ND	55
363035-021	EAST3-006	25 ft	10:59	364	ND	ND	ND	ND	ND	ND	ND	13.7	ND	ND	ND	ND	70.9
363035-022	EAST3-007	30 ft	11:09	124	ND	ND	ND	ND	ND	ND	ND	15.3	ND	ND	ND	ND	40
363035-023	EAST3-008	35 ft	11:47	106	ND	ND	ND	ND	ND	ND	ND	11.3	ND	ND	ND	ND	46.2
363035-024	EAST3-009	40 ft	11:59	157	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	48
363035-025	EAST3-010	45 ft	12:02	44.9	ND	ND	ND	ND	ND	ND	ND	12.9	ND	17.5	ND	17.5	58.9

Methods:				EPA 300 mg/kg	BTEX by EPA 8021 mg/kg								TPH by SW8015 Mod mg/kg			TPH by EPA 418.1 mg/kg
NMOCD Recommended Concentration				1,000 mg/kg	Concentration Limits per NMOCD Site Ranking Criteria Form (Benzene 10 ppm and BTEX 50 ppm)								TPH Concentration Limit per NMOCD Site Ranking Criteria Form			100 ppm
Lab Sample ID	Sample ID	Depth	Time Sampled	Chloride	Benzene	Toluene	Ethyl- Benzene	m,p Xylenes	o Xylenes	Total Xylenes	Total BTEX	Percent Moisture	TPH C6-C12	TPH C12-C28	TPH C28-C35	Total TPH
South Soil Samples 2 (SOUTH 2); (SB2) Collected February 15, 2010 Latitude 32.2525, Longitude -104.064444																
363035-039	SOUTH2-001	0"-6"	10:40	3,730	ND	ND	ND	0.016	0.005	0.021	0.021	3.74	390	15,100	1,130	16,620
363035-040	SOUTH2-002	5 ft	10:48	657	ND	ND	ND	ND	ND	ND	ND	17.2	ND	31.5	ND	700
363035-041	SOUTH2-003	10 ft	10:51	574	ND	ND	ND	ND	ND	ND	ND	17.2	44.4	129	ND	582
363035-042	SOUTH2-004	15 ft	10:56	1,340	ND	ND	ND	ND	ND	ND	ND	16.3	ND	ND	ND	224
363035-043	SOUTH2-005	20 ft	11:00	1,580	ND	ND	ND	ND	ND	ND	ND	15.5	ND	ND	ND	106
South Soil Samples 3 (SOUTH 3); (SB7) Collected February 16, 2010 Latitude 32.252222, Longitude -104.064167																
363035-044	SOUTH3-001	0"-6"	14:14	2,750	ND	ND	ND	ND	ND	ND	ND	5.87	ND	1,200	145	1,345
363035-045	SOUTH3-002	5 ft	14:17	786	ND	ND	ND	ND	ND	ND	ND	14.9	ND	ND	ND	107
363035-046	SOUTH3-003	10 ft	14:24	373	ND	ND	ND	ND	ND	ND	ND	15.9	18.2	ND	ND	105
363035-047	SOUTH3-004	15 ft	14:27	107	ND	ND	ND	ND	ND	ND	ND	17.7	ND	ND	ND	87.6
363035-048	SOUTH3-005	20 ft	14:33	204	ND	ND	ND	ND	ND	ND	ND	16.9	ND	ND	ND	115
363035-049	SOUTH3-006	25 ft	14:40	331	ND	ND	ND	ND	ND	ND	ND	19.8	ND	ND	ND	106
363035-050	SOUTH3-007	30 ft	14:43	496	ND	ND	ND	ND	ND	ND	ND	18	ND	ND	ND	94.7
363035-051	SOUTH3-008	35 ft	14:47	531	ND	ND	ND	ND	ND	ND	ND	14.5	ND	ND	ND	87.3
363035-052	SOUTH3-009	37 ft	14:56	1,220	ND	ND	ND	ND	ND	ND	ND	26.7	ND	ND	ND	103
West Soil Sample 2 (WEST 2); (SB8) Collected February 16, 2010 Latitude 32.2525, Longitude -104.064444																
363035-026	WEST2-001	0"-6"	15:35	1,560	ND	ND	ND	ND	ND	ND	ND	13.5	ND	63.5	ND	1,360
363035-027	WEST2-002	5 ft	15:41	2,370	ND	ND	ND	ND	ND	ND	ND	20.2	ND	ND	ND	56.4
363035-028	WEST2-003	10 ft	15:47	732	ND	ND	ND	ND	ND	ND	ND	18.3	22.9	ND	ND	47.7
363035-029	WEST2-004	15 ft	15:51	913	ND	ND	ND	ND	ND	ND	ND	17.3	ND	ND	ND	28
363035-030	WEST2-005	20 ft	16:00	1,050	ND	ND	ND	ND	ND	ND	ND	17.2	ND	22.2	ND	58.2
363035-031	WEST2-006	25 ft	16:05	326	ND	ND	ND	ND	ND	ND	ND	16.3	ND	ND	ND	24.4
363035-032	WEST2-007	30 ft	16:10	67	ND	ND	ND	ND	ND	ND	ND	17.1	ND	ND	ND	39.3
North Soil Samples 2 (NORTH 2); (SB4) Collected February 15, 2010 Latitude 32.2525, Longitude -104.064167																
363035-034	NORTH2-001	0"-6"	12:03	611	ND	ND	ND	ND	ND	ND	ND	15.4	ND	539	138	677
363035-035	NORTH2-002	5 ft	12:07	764	ND	ND	ND	ND	ND	ND	ND	17.3	ND	25.6	ND	52.7
363035-036	NORTH2-003	10 ft	12:16	858	ND	ND	ND	ND	ND	ND	ND	17.1	ND	23.9	ND	44
363035-037	NORTH2-004	15 ft	12:20	1,210	ND	ND	ND	ND	ND	ND	ND	16.8	ND	27.3	ND	88.7
363035-038	NORTH2-005	20 ft	12:25	1,760	ND	ND	ND	ND	ND	ND	ND	16	ND	22	ND	81.3
Stock Pile Soil Sample (SP) Collected February 15, 2010																
363035-033	SP-1	xx	xx	454	ND	ND	ND	ND	ND	ND	ND	12.3	ND	883	123	1,006
8,400																

# Analytical Report 359288

for

## Sport Environmental Services, PLLC

Project Manager: Debi Moore

Southwest Royalties, Inc.

Malaga A 002

22-JAN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

South Carolina (96031001), Louisiana (04154), Georgia (917)



22-JAN-10

Project Manager: **Debi Moore**  
**Sport Environmental Services, PLLC**  
502 North Big Spring Street  
Midland, TX 79701

Reference: XENCO Report No: **359288**  
**Southwest Royalties, Inc.**  
Project Address:

**Debi Moore:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 359288. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 359288 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

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## Sample Cross Reference 359288



Sport Environmental Services, PLLC, Midland, TX  
Southwest Royalties, Inc.

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
East-001	S	Jan-20-10 11:45	10 ft	359288-001
South-001	S	Jan-20-10 11:50	7 ft	359288-002
West-001	S	Jan-20-10 11:55	7 ft	359288-003



## CASE NARRATIVE

*Client Name: Sport Environmental Services, PLLC*

*Project Name: Southwest Royalties, Inc.*

*Project ID: Malaga A 002*

*Work Order Number: 359288*

*Report Date: 22-JAN-10*

*Date Received: 01/20/2010*

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### **Sample receipt non conformances and Comments:**

None

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### **Sample receipt Non Conformances and Comments per Sample:**

None

### **Analytical Non Conformances and Comments:**

Batch: LBA-790333 Petroleum Hydrocarbons, Total Recoverable (Spectrophoto Ir)

None

Batch: LBA-790374 Percent Moisture

None

Batch: LBA-790386 Chloride in Soil by EPA 300

None

Batch: LBA-790403 BTEX by EPA 8021

SW8021BM

Batch 790403, Benzene, Ethylbenzene, Toluene, m,p-Xylene, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 359288-002, -001, -003.

The Laboratory Control Sample for m,p-Xylene, Toluene, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 790403, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 359210-002 S,359210-002 SD.

SW8021BM

Batch 790403, Benzene, Ethylbenzene, Toluene, m,p-Xylene RPD was outside QC limits.

Samples affected are: 359288-002, -001, -003

Batch: LBA-790498 TPH by SW8015 Mod

None

Project Id: Malaga A 002

Contact: Debi Moore

Project Location:

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Wed Jan-20-10 03:45 pm

Report Date: 22-JAN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		359288-001		359288-002		359288-003	
	Field Id:	Depth:	East-001	South-001	West-001	7- ft	SOIL	Jan-20-10 11:55
	Matrix:		SOIL	SOIL	SOIL			
	Sampled:		Jan-20-10 11:45	Jan-20-10 11:50	Jan-20-10 11:55			
BTEX by EPA 8021	Extracted:		Jan-21-10 14:00	Jan-21-10 14:00	Jan-21-10 14:00			
	Analyzed:		Jan-21-10 14:32	Jan-21-10 14:56	Jan-21-10 15:19			
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL			
			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Benzene			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Toluene			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Ethylbenzene			BRL 0.0012	BRL 0.0012	BRL 0.0012			
m,p-Xylene			BRL 0.0024	BRL 0.0024	BRL 0.0025			
o-Xylene			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Total Xylenes			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Total BTEX			BRL 0.0012	BRL 0.0012	BRL 0.0012			
Chloride in Soil by EPA 300								
Chloride	Extracted:		Jan-21-10 21:23	Jan-21-10 21:23	Jan-21-10 21:23			
	Analyzed:		mg/kg RL	mg/kg RL	mg/kg RL			
	Units/RL:		4740 206	2800 51.5	2640 52.4			
Percent Moisture								
Percent Moisture	Extracted:		Jan-21-10 12:25	Jan-21-10 12:25	Jan-21-10 12:25			
	Analyzed:		% RL	% RL	% RL			
	Units/RL:		18.3 1.00	18.5 1.00	19.9 1.00			
Petroleum Hydrocarbons, Total Recoverable (Spectrophoto Ir)								
Total Petroleum Hydrocarbons (TPH)	Extracted:		Jan-21-10 15:32	Jan-21-10 15:32	Jan-21-10 15:32			
	Analyzed:		mg/kg RL	mg/kg RL	mg/kg RL			
	Units/RL:		BRL 24.5	BRL 24.5	BRL 25.0			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II

Odessa Laboratory Manager



Project Id: Malaga A 002

Contact: Debi Moore

Project Location:

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Wed Jan-20-10 03:45 pm


Report Date: 22-JAN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	359288-001	359288-002	359288-003	
	<i>Field Id:</i>	East-001	South-001	West-001	
	<i>Depth:</i>	10- ft	7- ft	7- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jan-20-10 11:45	Jan-20-10 11:50	Jan-20-10 11:55	
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-21-10 11:30	Jan-21-10 11:30	Jan-21-10 11:30	
	<i>Analyzed:</i>	Jan-22-10 12:04	Jan-22-10 12:31	Jan-22-10 12:58	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	
	C6-C12 Gasoline Range Hydrocarbons	BRL 18.3	BRL 18.3	BRL 18.7	
	C12-C28 Diesel Range Hydrocarbons	145 18.3	BRL 18.3	BRL 18.7	
C28-C35 Oil Range Hydrocarbons		19.2 18.3	BRL 18.3	BRL 18.7	
	Total TPH	164 18.3	BRL 18.3	BRL 18.7	

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Brent Barron, II  
Odessa Laboratory Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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# Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 359288,

Project ID: Malaga A 002

Lab Batch #: 790403

Sample: 548205-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/21/10 12:37

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 790403

Sample: 548205-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/21/10 13:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 790403

Sample: 548205-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/21/10 14:09

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 790403

Sample: 359288-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/21/10 14:32

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0335	0.0300	112	80-120	

Lab Batch #: 790403

Sample: 359288-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/21/10 14:56

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 359288,

Project ID: Malaga A 002

Lab Batch #: 790403

Sample: 359288-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/21/10 15:19

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 790403

Sample: 359210-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/21/10 16:05

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0395	0.0300	132	80-120	*

Lab Batch #: 790403

Sample: 359210-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/21/10 16:28

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0387	0.0300	129	80-120	*

Lab Batch #: 790498

Sample: 548278-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/22/10 10:44

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	50.8	50.2	101	70-135	

Lab Batch #: 790498

Sample: 548278-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/22/10 11:11

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	99.8	105	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.

# Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 359288,

Project ID: Malaga A 002

Lab Batch #: 790498

Sample: 548278-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/22/10 11:37

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	99.9	91	70-135	
o-Terphenyl	50.2	50.0	100	70-135	

Lab Batch #: 790498

Sample: 359288-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/22/10 12:04

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 790498

Sample: 359288-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/22/10 12:31

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	99.6	92	70-135	
o-Terphenyl	50.3	49.8	101	70-135	

Lab Batch #: 790498

Sample: 359288-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/22/10 12:58

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.7	100	93	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Blank Spike Recovery



Project Name: Southwest Royalties, Inc.

Work Order #: 359288

Project ID:

Malaga A 002

Lab Batch #: 790386

Sample: 790386-1-BKS

Matrix: Solid

Date Analyzed: 01/21/2010

Date Prepared: 01/21/2010

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK/BLANK SPIKE RECOVERY STUDY

Chloride in Soil by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	9.36	94	75-125	

Blank Spike Recovery  $[D] = 100 * [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

**Project Name:** Southwest Royalties, Inc.

**Work Order #:** 359288

**Analyst:** ASA

**Lab Batch ID:** 790403

**Date Prepared:** 01/21/2010

**Sample:** 548205-1-BKS

**Batch #:** 1

**Project ID:** Malaga A 002

**Date Analyzed:** 01/21/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
'Analytes	BTEX by EPA 8021		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene		<0.0010	0.1000	0.1144	114	0.1	0.1111	111	3	70-130	35	
	Toluene		<0.0010	0.1000	0.1156	116	0.1	0.1127	113	3	70-130	35	
	Ethylbenzene		<0.0010	0.1000	0.1157	116	0.1	0.1124	112	3	71-129	35	
	m,p-Xylene		<0.0020	0.2000	0.2376	119	0.2	0.2314	116	3	70-135	35	
	o-Xylene		<0.0010	0.1000	0.1220	122	0.1	0.1194	119	2	71-133	35	

**Analyst:** ASA

**Date Prepared:** 01/21/2010

**Date Analyzed:** 01/21/2010

**Lab Batch ID:** 790333

**Sample:** 790333-1-BKS

**Batch #:** 1

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Petroleum Hydrocarbons, Total Recoverable (Spectrophoto Ir) Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Total Petroleum Hydrocarbons (TPH)	<20.0	2500	2430	97	2500	2520	101	4	65-135	35		

Relative Percent Difference RPD =  $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] =  $100 * (C)/(B)$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/(E)$

All results are based on MDL and Validated for QC Purposes

**Project Name: Southwest Royalties, Inc.**

**Work Order #: 359288**

**Analyst: BEV**

**Lab Batch ID: 790498**

**Sample: 548278-1-BKS**

**Units: mg/kg**

**Project ID: Malaga A 002**

**Date Analyzed: 01/22/2010**

**Date Prepared: 01/21/2010**

**Batch #: 1**

**Matrix: Solid**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
TPH by SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	993	99	998	908	91	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	786	79	998	881	88	11	70-135	35	

Relative Percent Difference RPD =  $200 * [(C-F) / (C+F)]$   
Blank Spike Recovery [D] =  $100 * (C) / [B]$   
Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$   
All results are based on MDL and Validated for QC Purposes





## Form 3 - MS Recoveries

Project Name: Southwest Royalties, Inc.



Work Order #: 359288

Lab Batch #: 790386

Date Analyzed: 01/21/2010

Date Prepared: 01/21/2010

Project ID: Malaga A 002

Analyst: LATCOR

QC- Sample ID: 359288-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	4740	4900	9690	101	75-125	

Matrix Spike Percent Recovery [D] =  $100 * (C - A) / B$

Relative Percent Difference [E] =  $200 * (C - A) / (C + B)$

Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Project Name: Southwest Royalties, Inc.

Work Order # : 359288

Lab Batch ID: 790403

Date Analyzed: 01/21/2010

Reporting Units: mg/kg

Project ID: Malaga A 002

QC- Sample ID: 359210-002 S

Date Prepared: 01/21/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg												
BTEX by EPA 8021		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene		<0.0012	0.1167	0.0348	30	0.1169	0.0656	56	61	70-130	35	XF
Toluene		<0.0023	0.1167	0.0370	32	0.1169	0.0685	59	60	70-130	35	XF
Ethylbenzene		0.0062	0.1167	0.0380	27	0.1169	0.0671	52	55	71-129	35	XF
m,p-Xylene		0.0886	0.2333	0.1157	12	0.2338	0.1664	33	36	70-135	35	XF
o-Xylene		0.0663	0.1167	0.0786	11	0.1169	0.1017	30	26	71-133	35	X

Lab Batch ID: 790333

Date Analyzed: 01/21/2010

Reporting Units: mg/kg

QC- Sample ID: 359288-001 S

Date Prepared: 01/21/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Petroleum Hydrocarbons, Total Recoverable (Spectrophotometer)	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Total Petroleum Hydrocarbons (TPH)	<24.5	3060	3080	101	3060	3090	101	0	65-135	35		

Matrix Spike Percent Recovery  $[D] = 100 \cdot (C-A)/B$   
Relative Percent Difference  $RPD = 200 \cdot |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery  $[G] = 100 \cdot (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



## Sample Duplicate Recovery



Project Name: Southwest Royalties, Inc.

Work Order #: 359288

Lab Batch #: 790386

Project ID: Malaga A 002

Date Analyzed: 01/21/2010

Date Prepared: 01/21/2010

Analyst: LATCOR

QC- Sample ID: 359288-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Chloride in Soil by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	4740	4790	1	20	

Lab Batch #: 790374

Date Analyzed: 01/21/2010

Date Prepared: 01/21/2010

Analyst: JLG

QC- Sample ID: 359350-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.74	9.51	2	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

A Xenco Laboratories Company

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West 1-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Debi S. Moore, M.E. REPA Environmental Consultant

Project Name: Southwest Royalties, Inc.

Company Name: Spont Environmental Services, PLLC

Project # Malaga A 002

Company Address: 602 N. Big Spring Street

Project Loc: \_\_\_\_\_

City/State/Zip: Midland, TX 79701

PO #: \_\_\_\_\_

Telephone No: (432) 683-1100

Fax No: (888) 500-0622

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Debi S. Moore

e-mail: debi@spontenvironmental.com

LAB # (lab use only)		FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field Filtered	Total # of Containers	Matrix	Preservation & # of Containers	Analyze For:	Standard TAT
01	EAST-001	10ft		1-20-10	11:45		1	1	SW	TPH 418, B015B, B015A, TX 1000	TPH 418, B015B, B015A, TX 1000	24, 72 hrs
02	SOUTH-001	7ft		1-20-10	11:50		1	1	SW	TPH 418, B015B, B015A, TX 1000	TPH 418, B015B, B015A, TX 1000	24, 72 hrs
03	West-001	7ft		1-20-10	11:55		1	1	SW	TPH 418, B015B, B015A, TX 1000	TPH 418, B015B, B015A, TX 1000	24, 72 hrs
<p>ORDER #: <u>359288</u></p> <p>Special Instructions: _____</p> <p>Relinquished by: <u>Nick Williams, EC</u> Date: <u>1-20-10</u> Time: <u>3:45</u></p> <p>Relinquished by: <u>Debi S. Moore</u> Date: <u>1-20-10</u> Time: <u>3:45</u></p> <p>Relinquished by: <u>Debi S. Moore</u> Date: <u>1-20-10</u> Time: <u>15:48</u></p> <p>Received by: <u>Debi S. Moore</u> Date: <u>1-20-10</u> Time: <u>15:48</u></p> <p>Received by: <u>Debi S. Moore</u> Date: <u>1-20-10</u> Time: <u>15:48</u></p> <p>Received by: <u>Debi S. Moore</u> Date: <u>1-20-10</u> Time: <u>15:48</u></p> <p>Temperature Upon Receipt: <u>7.1 °C</u></p>												

**Environmental Lab of Texas**  
Variance/ Corrective Action Report- Sample Log-In

Client: Sport Env.  
Date/ Time: 1-20-10 15:45  
Lab ID #: 359288  
Initials: AL

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>2.1</u> °C
#2	Shipping container in good condition?	<u>Yes</u>	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<u>Not Present</u>
#4	Custody Seals intact on sample bottles/ container?	Yes	No	<u>Not Present</u>
#5	Chain of Custody present?	<u>Yes</u>	No	
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No	
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No	
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No	
#11	Containers supplied by ELOT?	<u>Yes</u>	No	
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below
#13	Samples properly preserved?	<u>Yes</u>	No	See Below
#14	Sample bottles intact?	<u>Yes</u>	No	
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No	
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No	
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below
#19	Subcontract of sample(s)?	Yes	No	<u>Not Applicable</u>
#20	VOC samples have zero headspace?	<u>Yes</u>	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

# **Analytical Report 363035**

**for**

## **Sport Environmental Services, PLLC**

**Project Manager: Debi Moore**

**Southwest Royalties, Inc.**

**Malaga A 002**

**26-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)



26-FEB-10

Project Manager: **Debi Moore**  
**Sport Environmental Services, PLLC**  
502 North Big Spring Street  
Midland, TX 79701

Reference: XENCO Report No: **363035**  
**Southwest Royalties, Inc.**  
Project Address: Eddy County, New Mexico

**Debi Moore:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 363035. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 363035 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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**Brent Barron, II**  
Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



## Sample Cross Reference 363035



Sport Environmental Services, PLLC, Midland, TX  
Southwest Royalties, Inc.

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BG-001 (Background Sample)	S	Feb-15-10 10:00	0 - 6 In	363035-001
BG-002	S	Feb-15-10 10:08	5 ft	363035-002
BG-003	S	Feb-15-10 10:11	10 ft	363035-003
BG-004	S	Feb-15-10 10:15	15 ft	363035-004
BG-005	S	Feb-15-10 10:17	20 ft	363035-005
BG2-001 (Background Sample)	S	Feb-15-10 14:45	0 - 6 In	363035-006
BG2-002	S	Feb-15-10 14:52	5 ft	363035-007
BG2-003	S	Feb-15-10 14:58	10 ft	363035-008
BG2-004	S	Feb-15-10 15:06	15 ft	363035-009
BG2-005	S	Feb-15-10 15:11	20 ft	363035-010
EAST2-001	S	Feb-15-10 11:09	0 - 6 In	363035-011
EAST2-002	S	Feb-15-10 11:21	5 ft	363035-012
EAST2-003	S	Feb-15-10 11:24	10 ft	363035-013
EAST2-004	S	Feb-15-10 11:27	15 ft	363035-014
EAST2-005	S	Feb-15-10 11:30	20 ft	363035-015
EAST3-001	S	Feb-15-10 10:13	0 - 6 In	363035-016
EAST3-002	S	Feb-15-10 10:20	5 ft	363035-017
EAST3-003	S	Feb-15-10 10:25	10 ft	363035-018
EAST3-004	S	Feb-15-10 10:30	15 ft	363035-019
EAST3-005	S	Feb-15-10 10:36	20 ft	363035-020
EAST3-006	S	Feb-15-10 10:59	25 ft	363035-021
EAST3-007	S	Feb-15-10 11:09	30 ft	363035-022
EAST3-008	S	Feb-15-10 11:47	35 ft	363035-023
EAST3-009	S	Feb-15-10 11:59	40 ft	363035-024
EAST3-010	S	Feb-15-10 12:02	45 ft	363035-025
WEST2-001	S	Feb-15-10 15:35	0 - 6 In	363035-026
WEST2-002	S	Feb-15-10 15:41	5 ft	363035-027
WEST2-003	S	Feb-15-10 15:47	10 ft	363035-028
WEST2-004	S	Feb-15-10 15:51	15 ft	363035-029
WEST2-005	S	Feb-15-10 16:00	20 ft	363035-030
WEST2-006	S	Feb-15-10 16:05	25 ft	363035-031
WEST2-007	S	Feb-15-10 16:10	30 ft	363035-032
SP-1 (Stockpile Composite Samp	S	Feb-16-10 00:00		363035-033
NORTH2-001	S	Feb-15-10 12:03	0 - 6 In	363035-034
NORTH2-002	S	Feb-15-10 12:07	5 ft	363035-035
NORTH2-003	S	Feb-15-10 12:16	10 ft	363035-036
NORTH2-004	S	Feb-15-10 12:20	15 ft	363035-037
NORTH2-005	S	Feb-15-10 12:25	20 ft	363035-038
SOUTH2-001	S	Feb-15-10 10:40	0 - 6 In	363035-039
SOUTH2-002	S	Feb-15-10 10:48	5 ft	363035-040
SOUTH2-003	S	Feb-15-10 10:51	10 ft	363035-041
SOUTH2-004	S	Feb-15-10 10:56	15 ft	363035-042
SOUTH2-005	S	Feb-15-10 11:00	20 ft	363035-043

\* TRRP Tier I Comm/Indus Soils PCL's





## Sample Cross Reference 363035



**Sport Environmental Services, PLLC, Midland, TX**  
Southwest Royalties, Inc.

SOUTH3-001	S	Feb-16-10 14:14	0 - 6 In	363035-044
SOUTH3-002	S	Feb-16-10 14:17	5 ft	363035-045
SOUTH3-003	S	Feb-16-10 14:24	10 ft	363035-046
SOUTH3-004	S	Feb-16-10 14:27	15 ft	363035-047
SOUTH3-005	S	Feb-16-10 14:33	20 ft	363035-048
SOUTH3-006	S	Feb-16-10 14:40	25 ft	363035-049
SOUTH3-007	S	Feb-16-10 14:43	30 ft	363035-050
SOUTH3-008	S	Feb-16-10 14:47	35 ft	363035-051
SOUTH3-009	S	Feb-16-10 14:56	40 ft	363035-052

\* TRRP Tier I Comm/Indus Soils PCL's



## CASE NARRATIVE

*Client Name: Sport Environmental Services, PLLC*

*Project Name: Southwest Royalties, Inc.*

*Project ID: Malaga A 002*

*Work Order Number: 363035*

*Report Date: 26-FEB-10*

*Date Received: 02/19/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-794958 Percent Moisture

None

Batch: LBA-794959 Percent Moisture

None

Batch: LBA-794964 Percent Moisture

None

Batch: LBA-794973 Inorganic Anions by EPA 300

None

Batch: LBA-794998 BTEX by EPA 8021B

SW8021BM

Batch 794998, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 363035-004, -007, -008, -001, -005, -002, -006, -009, -003, -010.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-795077 TPH by EPA 418.1

None

Batch: LBA-795079 TPH by EPA 418.1

None



## CASE NARRATIVE

*Client Name: Sport Environmental Services, PLLC*

*Project Name: Southwest Royalties, Inc.*

*Project ID: Malaga A 002*  
*Work Order Number: 363035*

*Report Date: 26-FEB-10*  
*Date Received: 02/19/2010*

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*Batch: LBA-795184 BTEX by EPA 8021B*  
*SW8021BM*

*Batch 795184, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis*  
*Samples affected are: 363035-011 S,363035-011 SD,363035-011.*

*SW8021BM*

*Batch 795184, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*  
*Samples affected are: 363035-011, -012.*  
*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*SW8021BM*

*Batch 795184, Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene RPD was outside QC limits.*  
*Samples affected are: 363035-011, -012*

*Batch: LBA-795351 TPH By SW8015 Mod*  
*SW8015MOD\_NM*

*Batch 795351, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike.*  
*Samples affected are: 363035-004, -007, -011, -012, -018, -008, -001, -005, -013, -014, -017, -002, -006, -009, -019, -003, -016, -020, -010, -015.*  
*The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits*



## CASE NARRATIVE

*Client Name: Sport Environmental Services, PLLC*

*Project Name: Southwest Royalties, Inc.*

*Project ID: Malaga A 002*  
*Work Order Number: 363035*

*Report Date: 26-FEB-10*  
*Date Received: 02/19/2010*

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*Batch: LBA-795379 BTEX by EPA 8021B*  
*SW8021BM*

*Batch 795379, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 363035-049, -035, -045, -048, -038, -043, -036, -041, -051, -034, -039, -046, -044, -050, -033, -040, -037, -042, -047, -052.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-795407 BTEX by EPA 8021B*  
*SW8021BM*

*Batch 795407, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 363035-018, -022, -026, -032, -024, -025, -013, -014, -017, -029, -021, -028, -031, -019, -023, -027, -016, -020, -030, -015.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-795417 Anions by E300*  
*None*

*Batch: LBA-795425 Anions by E300*  
*E300MI*

*Batch 795425, Chloride RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 363035-032, -049, -035, -045, -048, -038, -043, -031, -036, -041, -034, -039, -046, -044, -050, -033, -040, -037, -042, -047.*

*Batch: LBA-795429 Anions by E300*  
*None*

*Batch: LBA-795443 TPH by EPA 418.1*  
*None*



## CASE NARRATIVE

*Client Name: Sport Environmental Services, PLLC*

*Project Name: Southwest Royalties, Inc.*

*Project ID: Malaga A 002*

*Work Order Number: 363035*

*Report Date: 26-FEB-10*

*Date Received: 02/19/2010*

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*Batch: LBA-795609 TPH By SW8015 Mod  
None*

*Batch: LBA-795612 TPH By SW8015 Mod  
SW8015MOD\_NM*

*Batch 795612, C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike Duplicate.*

*Samples affected are: 363035-049, -045, -048, -043, -041, -051, -046, -044, -050, -042, -047, -052.*

*The Laboratory Control Sample for C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits*

*SW8015MOD\_NM*

*Batch 795612, C6-C12 Gasoline Range Hydrocarbons RPD was outside QC limits.*

*Samples affected are: 363035-049, -045, -048, -043, -041, -051, -046, -044, -050, -042, -047, -052*

*SW8015MOD\_NM*

*Batch 795612, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 363035-041 SD.*

*o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 363035-041 SD, 363035-044.*



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002

Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm

Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	363035-001	363035-002	363035-003	363035-004	363035-005	363035-006
	Field Id:	BG-001 (Background Sample)	BG-002	BG-003	BG-004	BG-005	BG2-001 (Background Sample)
	Depth:	0-6 In	5- ft	10- ft	15- ft	20- ft	0-6 In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-15-10 10:00	Feb-15-10 10:08	Feb-15-10 10:11	Feb-15-10 10:15	Feb-15-10 10:17	Feb-15-10 14:45
Anions by E300	Extracted:						
	Analyzed:						
	Units/RL:	4.71 4.57	619 51.5	512 50.5	560 50.9	95.4 25.7	mg/kg RL 5.52 4.85
BTEX by EPA 8021B	Extracted:						
	Analyzed:						
	Units/RL:	ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	mg/kg RL ND 0.0011
Benzene		ND 0.0022	ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0023
Toluene		ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011
Ethylbenzene		ND 0.0022	ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0023
m,p-Xylenes		ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011
o-Xylene		ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011
Total Xylenes		ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011
Total BTEX		ND 0.0011	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011
Percent Moisture	Extracted:						
	Analyzed:						
	Units/RL:	8.11 1.00	18.4 1.00	16.8 1.00	17.5 1.00	18.4 1.00	Feb-22-10 17:00 % RL 13.4 1.00
TPH By SW8015 Mod	Extracted:						
	Analyzed:						
	Units/RL:	ND 16.3	ND 18.4	25.6 18.0	ND 18.2	ND 18.3	mg/kg RL ND 17.3
C6-C12 Gasoline Range Hydrocarbons		17.3 16.3	ND 18.4	48.8 18.0	21.6 18.2	18.8 18.3	17.8 17.3
C12-C28 Diesel Range Hydrocarbons		ND 16.3	ND 18.4	ND 18.0	ND 18.2	ND 18.3	ND 17.3
C28-C35 Oil Range Hydrocarbons		17.3 16.3	ND 18.4	74.4 18.0	21.6 18.2	18.8 18.3	17.8 17.3
Total TPH							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work, order unless otherwise agreed to in writing.

Since 1990 Houston - Dallas - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm


Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		363035-001		363035-002		363035-003		363035-004		363035-005		363035-006	
	Field Id:	BG-001 (Background Sample)	0-6 In	SOIL	5- ft	SOIL	10- ft	SOIL	15- ft	SOIL	20- ft	SOIL	0-6 In	SOIL
TPH by EPA 418.1	Depth:	Feb-15-10 10:00	Feb-15-10 10:08	Feb-15-10 10:11	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-15-10 14:45	Feb-15-10 14:45
	Matrix:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Sampled:	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL
TPH, Total Petroleum Hydrocarbons		60.8	72.3	45.5	48.0	43.6	52.7	11.6						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility, and makes no warranty, to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

  
Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002

Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm


Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		363035-007		363035-008		363035-009		363035-010		363035-011		363035-012	
	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:
Anions by E300														
BTEX by EPA 8021B														
Chloride														
Benzene														
Toluene														
Ethylbenzene														
m,p-Xylenes														
o-Xylene														
Total Xylenes														
Total BTEX														
Percent Moisture														
TPH By SW8015 Mod														
C6-C12 Gasoline Range Hydrocarbons														
C12-C28 Diesel Range Hydrocarbons														
C28-C35 Oil Range Hydrocarbons														
Total TPH														

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Brent Barron, II  
Odessa Laboratory Manager





# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore  
Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.


Date Received in Lab: Fri Feb-19-10 05:30 pm  
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	363035-007	363035-008	363035-009	363035-010	363035-011	363035-012
	Field Id:	BG2-002	BG2-003	BG2-004	BG2-005	EAST2-001	EAST2-002
	Depth:	5- ft	10- ft	15- ft	20- ft	0-6 In	5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-15-10 14:52	Feb-15-10 14:58	Feb-15-10 15:06	Feb-15-10 15:11	Feb-15-10 11:09	Feb-15-10 11:21
TPH by EPA 418.1	Extracted:						
	Analyzed:	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49
	Units/RL:	mg/kg RL 68.5 12.0	mg/kg RL 53.8 12.1	mg/kg RL 52.1 11.7	mg/kg RL 70.8 11.8	mg/kg RL 7050 10.4	mg/kg RL 576 12.2
TPH, Total Petroleum Hydrocarbons							

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# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore  
Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm  
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	363035-013	363035-014	363035-015	363035-016	363035-017	363035-018
	Field Id:	EAST2-003	EAST2-004	EAST2-005	EAST3-001	EAST3-002	EAST3-003
	Depth:	10- ft	15- ft	20- ft	0-6 In	5- ft	10- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-15-10 11:24	Feb-15-10 11:27	Feb-15-10 11:30	Feb-15-10 10:13	Feb-15-10 10:20	Feb-15-10 10:25
Anions by E300	Extracted:						
	Analyzed:	Feb-23-10 14:55	Feb-23-10 14:55	Feb-23-10 14:55	Feb-23-10 14:55	Feb-23-10 14:55	Feb-23-10 14:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1100 50.5	940 49.8	1440 49.9	342 23.1	682 50.8	322 46.9
BTX by EPA 8021B	Extracted:						
	Analyzed:	Feb-23-10 15:30	Feb-23-10 15:30	Feb-23-10 15:30	Feb-23-10 15:30	Feb-23-10 15:30	Feb-23-10 15:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011	ND 0.0012	ND 0.0011
Toluene		ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0022	ND 0.0024	ND 0.0022
Ethylbenzene		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011	ND 0.0012	ND 0.0011
m,p-Xylenes		ND 0.0024	ND 0.0024	ND 0.0024	ND 0.0022	ND 0.0024	ND 0.0022
o-Xylene		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011	ND 0.0012	ND 0.0011
Total Xylenes		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011	ND 0.0012	ND 0.0011
Total BTX		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0011	ND 0.0012	ND 0.0011
Percent Moisture	Extracted:						
	Analyzed:	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		16.9 1.00	15.7 1.00	15.9 1.00	9.15 1.00	17.4 1.00	10.4 1.00
TPH By SW8015 Mod	Extracted:						
	Analyzed:	Feb-22-10 16:00	Feb-22-10 16:00	Feb-22-10 16:00	Feb-22-10 16:00	Feb-22-10 16:00	Feb-22-10 16:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 18.0	ND 17.8	ND 17.8	ND 16.5	20.7 18.1	ND 16.7
C12-C28 Diesel Range Hydrocarbons		18.4 18.0	21.6 17.8	19.3 17.8	59.5 16.5	52.0 18.1	19.6 16.7
C28-C35 Oil Range Hydrocarbons		ND 18.0	ND 17.8	ND 17.8	ND 16.5	ND 18.1	ND 16.7
Total TPH		18.4 18.0	21.6 17.8	19.3 17.8	59.5 16.5	72.7 18.1	19.6 16.7

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Name: Southwest Royalties, Inc.

Project Id: Malaga A 002

Contact: Debi Moore

Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Feb-19-10 05:30 pm


Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	363035-013	363035-014	363035-015	363035-016	363035-017	363035-018
	Field Id:	EAST2-003	EAST2-004	EAST2-005	EAST3-001	EAST3-002	EAST3-003
	Depth:	10- ft	15- ft	20- ft	0-6 In	5- ft	10- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-15-10 11:24	Feb-15-10 11:27	Feb-15-10 11:30	Feb-15-10 10:13	Feb-15-10 10:20	Feb-15-10 10:25
TPH by EPA 418.1	Extracted:						
	Analyzed:	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49	Feb-23-10 13:49
	Units/RL:	mg/kg RL 81.7 12.0	mg/kg RL 62.5 11.9	mg/kg RL 64.8 11.9	mg/kg RL 537 11.0	mg/kg RL 67.4 12.1	mg/kg RL 58.5 11.2
TPH, Total Petroleum Hydrocarbons							

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# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore  
Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm  
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	363035-019	363035-020	363035-021	363035-022	363035-023	363035-024
		EAST3-004 15- ft SOIL Feb-15-10 10:30	EAST3-005 20- ft SOIL Feb-15-10 10:36	EAST3-006 25- ft SOIL Feb-15-10 10:59	EAST3-007 30- ft SOIL Feb-15-10 11:09	EAST3-008 35- ft SOIL Feb-15-10 11:47	EAST3-009 40- ft SOIL Feb-15-10 11:59
Anions by E300	Extracted:						
	Analyzed:						
	Units/RL:	mg/kg RL 270 48.3	mg/kg RL 345 49.1	mg/kg RL 364 47.2	mg/kg RL 124 19.8	mg/kg RL 106 23.7	mg/kg RL 157 47.7
BTX by EPA 8021B	Extracted:						
	Analyzed:						
	Units/RL:	mg/kg RL Feb-23-10 15:30 Feb-24-10 05:47	mg/kg RL Feb-23-10 15:30 Feb-24-10 06:08	mg/kg RL Feb-23-10 15:30 Feb-24-10 06:30	mg/kg RL Feb-23-10 15:30 Feb-24-10 06:52	mg/kg RL Feb-23-10 15:30 Feb-24-10 08:40	mg/kg RL Feb-23-10 15:30 Feb-24-10 09:02
Percent Moisture	Extracted:						
	Analyzed:						
	Units/RL:	ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0011 ND 0.0011	ND 0.0012 ND 0.0023 ND 0.0012 ND 0.0023 ND 0.0012 ND 0.0012 ND 0.0012	ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0011 ND 0.0011	ND 0.0012 ND 0.0024 ND 0.0012 ND 0.0024 ND 0.0012 ND 0.0012 ND 0.0012	ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0011 ND 0.0011	ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0023 ND 0.0011 ND 0.0011 ND 0.0011
TPH By SW8015 Mod	Extracted:						
	Analyzed:						
	Units/RL:	% RL 13.0 1.00 Feb-22-10 17:00	% RL 14.4 1.00 Feb-22-10 17:00	% RL 13.7 1.00 Feb-22-10 17:00	% RL 15.3 1.00 Feb-22-10 17:00	% RL 11.3 1.00 Feb-22-10 17:00	% RL 12.0 1.00 Feb-22-10 17:00
C6-C12 Gasoline Range Hydrocarbons	Extracted:						
	Analyzed:						
	Units/RL:	mg/kg RL Feb-22-10 16:00 Feb-24-10 17:08	mg/kg RL Feb-22-10 16:00 Feb-24-10 17:35	mg/kg RL Feb-22-10 16:45 Feb-25-10 02:59	mg/kg RL Feb-22-10 16:45 Feb-25-10 03:26	mg/kg RL Feb-22-10 16:45 Feb-25-10 03:52	mg/kg RL Feb-22-10 16:45 Feb-25-10 04:19
C12-C28 Diesel Range Hydrocarbons	Extracted:						
	Analyzed:						
	Units/RL:	ND 17.2 ND 17.2 ND 17.2	ND 17.5 ND 17.5 ND 17.5	ND 16.9 ND 16.9 ND 16.9	ND 17.7 ND 17.7 ND 17.7	ND 16.9 ND 16.9 ND 16.9	ND 17.1 ND 17.1 ND 17.1
C28-C35 Oil Range Hydrocarbons	Extracted:						
	Analyzed:						
	Units/RL:	ND 17.2 ND 17.2 ND 17.2	ND 17.5 ND 17.5 ND 17.5	ND 16.9 ND 16.9 ND 16.9	ND 17.7 ND 17.7 ND 17.7	ND 16.9 ND 16.9 ND 16.9	ND 17.1 ND 17.1 ND 17.1
Total TPH	Extracted:						
	Analyzed:						
	Units/RL:	ND 17.2 ND 17.2 ND 17.2	ND 17.5 ND 17.5 ND 17.5	ND 16.9 ND 16.9 ND 16.9	ND 17.7 ND 17.7 ND 17.7	ND 16.9 ND 16.9 ND 16.9	ND 17.1 ND 17.1 ND 17.1

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002

Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm

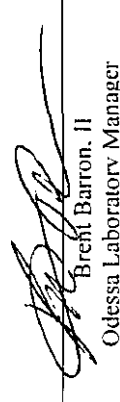
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	363035-031	363035-032	363035-033	363035-034	363035-035	363035-036
	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	SP-1 (Stockpile Composite S	0-6 In	5- ft	10- ft
Anions by E300											
BTEX by EPA 8021B											
Chloride											
Benzene											
Toluene											
Ethylbenzene											
m,p-Xylenes											
o-Xylene											
Total Xylenes											
Total BTEX											
Percent Moisture											
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons											
C12-C28 Diesel Range Hydrocarbons											
C28-C35 Oil Range Hydrocarbons											
Total TPH											

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Brent Barron, II  
Odessa Laboratory Manager



**Project Name: Southwest Royalties, Inc.**

Date Received in Lab: Fri Feb-19-10 05:30 pm

**Report Date:** 26-FEB-10

**Project Manager:** Brent Barron, II

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# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore  
Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

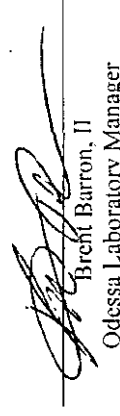
Date Received in Lab: Fri Feb-19-10 05:30 pm  
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested			Lab Id:		363035-037		363035-038		363035-039		363035-040		363035-041		363035-042	
			Field Id:		NORTH2-004		NORTH2-005		SOUTH2-001		SOUTH2-002		SOUTH2-003		SOUTH2-004	
			Depth:		15- ft		20- ft		0-6 In		5- ft		10- ft		15- ft	
			Matrix:		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
Sampled:			Feb-15-10 12:20		Feb-15-10 12:25		Feb-15-10 12:25		Feb-15-10 10:40		Feb-15-10 10:48		Feb-15-10 10:51		Feb-15-10 10:56	
Anions by E300			Extracted:													
			Analyzed:													
			Units/RL:		mg/kg		RL		mg/kg		RL		mg/kg		RL	
Chloride					1210		1760		3730		657		574		1340	
BTEX by EPA 8021B			Extracted:		Feb-24-10 10:28		Feb-24-10 10:28		Feb-24-10 10:28		Feb-24-10 10:28		Feb-24-10 10:28		Feb-24-10 10:28	
			Analyzed:		Feb-24-10 14:09		Feb-24-10 14:30		Feb-24-10 14:51		Feb-24-10 15:12		Feb-24-10 15:33		Feb-24-10 15:54	
			Units/RL:		mg/kg <td colspan="2">RL</td> <td colspan="2">mg/kg<td colspan="2">RL</td><td colspan="2">mg/kg<td colspan="2">RL</td><td colspan="2">mg/kg</td></td></td>		RL		mg/kg <td colspan="2">RL</td> <td colspan="2">mg/kg<td colspan="2">RL</td><td colspan="2">mg/kg</td></td>		RL		mg/kg <td colspan="2">RL</td> <td colspan="2">mg/kg</td>		RL	
Benzene					ND 0.0012		ND 0.0012		ND 0.0010		ND 0.0012		ND 0.0012		ND 0.0012	
Toluene					ND 0.0024		ND 0.0024		ND 0.0021		ND 0.0024		ND 0.0024		ND 0.0024	
Ethylbenzene					ND 0.0012		ND 0.0012		ND 0.0010		ND 0.0012		ND 0.0012		ND 0.0012	
m,p-Xylenes					ND 0.0024		ND 0.0024		0.0160 0.0021		ND 0.0024		ND 0.0024		ND 0.0024	
o-Xylene					ND 0.0012		ND 0.0012		0.0050 0.0010		ND 0.0012		ND 0.0012		ND 0.0012	
Total Xylenes					ND 0.0012		ND 0.0012		0.0210 0.0010		ND 0.0012		ND 0.0012		ND 0.0012	
Total BTEX					ND 0.0012		ND 0.0012		0.0210 0.0010		ND 0.0012		ND 0.0012		ND 0.0012	
Percent Moisture			Extracted:													
			Analyzed:		Feb-22-10 17:00		Feb-22-10 17:00		Feb-22-10 17:00		Feb-22-10 17:00		Feb-22-10 17:00		Feb-22-10 17:00	
			Units/RL:		% <td colspan="2">RL<td colspan="2">%<td colspan="2">RL<td colspan="2">%<td colspan="2">RL<td colspan="2">%</td></td></td></td></td></td>		RL <td colspan="2">%<td colspan="2">RL<td colspan="2">%<td colspan="2">RL<td colspan="2">%</td></td></td></td></td>		% <td colspan="2">RL<td colspan="2">%<td colspan="2">RL<td colspan="2">%</td></td></td></td>		RL <td colspan="2">%<td colspan="2">RL<td colspan="2">%</td></td></td>		% <td colspan="2">RL<td colspan="2">%</td></td>		RL <td colspan="2">%</td>	
Percent Moisture					16.8		16.0		3.74		17.2		17.2		16.3	
TPH By SW8015 Mod			Extracted:		Feb-22-10 16:45		Feb-22-10 16:45		Feb-22-10 16:45		Feb-22-10 16:45		Feb-24-10 10:00		Feb-24-10 10:00	
			Analyzed:		Feb-25-10 11:48		Feb-25-10 12:15		Feb-25-10 14:58		Feb-25-10 13:10		Feb-25-10 21:15		Feb-25-10 21:52	
			Units/RL:		mg/kg <td colspan="2">RL<td colspan="2">mg/kg<td colspan="2">RL<td colspan="2">mg/kg<td colspan="2">mg/kg<td colspan="2">mg/kg</td></td></td></td></td></td>		RL <td colspan="2">mg/kg<td colspan="2">RL<td colspan="2">mg/kg<td colspan="2">mg/kg<td colspan="2">mg/kg</td></td></td></td></td>		mg/kg <td colspan="2">RL<td colspan="2">mg/kg<td colspan="2">mg/kg<td colspan="2">mg/kg</td></td></td></td>		RL <td colspan="2">mg/kg<td colspan="2">mg/kg<td colspan="2">mg/kg</td></td></td>		mg/kg <td colspan="2">mg/kg<td colspan="2">mg/kg</td></td>		mg/kg <td colspan="2">mg/kg</td>	
C6-C12 Gasoline Range Hydrocarbons					ND 18.0		ND 17.9		390		ND 18.2		44.4		ND 18.0	
C12-C28 Diesel Range Hydrocarbons					27.3 18.0		22.0 17.9		15100		31.5 18.2		129		ND 18.0	
C28-C35 Oil Range Hydrocarbons					ND 18.0		ND 17.9		1130		ND 18.2		ND 18.1		ND 18.0	
Total TPH					27.3 18.0		22.0 17.9		16620		31.5 18.2		173		ND 18.0	

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm

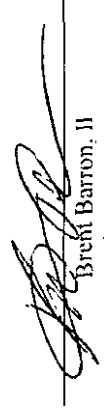
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	363035-037	363035-038	363035-039	363035-040	363035-041	363035-042
	<i>Field Id:</i>	NORTH2-004	NORTH2-005	SOUTH2-001	SOUTH2-002	SOUTH2-003	SOUTH2-004
	<i>Depth:</i>	15- ft	20- ft	0-6 In	5- ft	10- ft	15- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-15-10 12:20	Feb-15-10 12:25	Feb-15-10 10:40	Feb-15-10 10:48	Feb-15-10 10:51	Feb-15-10 10:56
TPH by EPA 418.1	<i>Extracted:</i>						
	<i>Analyzed:</i>	Feb-23-10 16:21	Feb-23-10 16:21	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56
	<i>Units/RL:</i>	mg/kg RL 88.7 24.0	mg/kg RL 81.3 23.8	mg/kg RL 62100 51.9	mg/kg RL 700 12.1	mg/kg RL 582 12.1	mg/kg RL 224 12.0
TPH, Total Petroleum Hydrocarbons							

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Brent Barron, II  
Odessa Laboratory Manager





# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore  
Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm  
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		363035-043		363035-044		363035-045		363035-046		363035-047		363035-048	
	Field Id:	Depth:	Matrix:	Sampled:	Field Id:	Depth:	Matrix:	Sampled:	Field Id:	Depth:	Matrix:	Sampled:	Field Id:	Depth:
		20- ft	SOIL	Feb-15-10 11:00		0-6 In	SOIL	Feb-16-10 14:14		10- ft	SOIL	Feb-16-10 14:24		20- ft
		mg/kg	RL	1580 99.4		mg/kg	RL	2750 178		mg/kg	RL	373 50.0		mg/kg
		Units/RL:				Units/RL:				Units/RL:				Units/RL:
Anions by E300	Extracted:				Extracted:				Extracted:				Extracted:	
	Analyzed:				Analyzed:				Analyzed:				Analyzed:	
	Units/RL:				Units/RL:				Units/RL:				Units/RL:	
BTX by EPA 8021B	Extracted:				Extracted:				Extracted:				Extracted:	
	Analyzed:				Analyzed:				Analyzed:				Analyzed:	
	Units/RL:				Units/RL:				Units/RL:				Units/RL:	
Benzene														
Toluene														
Ethylbenzene														
m,p-Xylenes														
o-Xylene														
Total Xylenes														
Total BTX														
Percent Moisture	Extracted:				Extracted:				Extracted:				Extracted:	
	Analyzed:				Analyzed:				Analyzed:				Analyzed:	
	Units/RL:				Units/RL:				Units/RL:				Units/RL:	
TPH By SW8015 Mod	Extracted:				Extracted:				Extracted:				Extracted:	
	Analyzed:				Analyzed:				Analyzed:				Analyzed:	
	Units/RL:				Units/RL:				Units/RL:				Units/RL:	
C6-C12 Gasoline Range Hydrocarbons														
C12-C28 Diesel Range Hydrocarbons														
C28-C35 Oil Range Hydrocarbons														
Total TPH														

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm

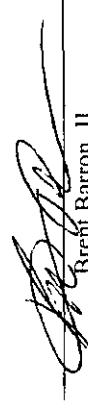
Report Date: 26-FEB-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	Lab Id:	363035-043	363035-044	363035-045	363035-046	363035-047	363035-048
	Field Id:	SOUTH2-005	SOUTH3-001	SOUTH3-002	SOUTH3-003	SOUTH3-004	SOUTH3-005
	Depth:	20- ft	0-6 In	5- ft	10- ft	15- ft	20- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-15-10 11:00	Feb-16-10 14:14	Feb-16-10 14:17	Feb-16-10 14:24	Feb-16-10 14:27	Feb-16-10 14:33
TPH by EPA 418.1	Extracted:	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56
	Analyzed:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Units/RL:	106 11.8	5320 10.6	107 11.7	105 11.9	87.6 12.1	115 12.0
TPH, Total Petroleum Hydrocarbons							

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002  
Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm


Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	363035-049	363035-050	363035-051	363035-052	
	Field Id:	SOUTH13-006	SOUTH13-007	SOUTH13-008	SOUTH13-009	
	Depth:	25- ft	30- ft	35- ft	40- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Feb-16-10 14:40	Feb-16-10 14:43	Feb-16-10 14:47	Feb-16-10 14:56	
Anions by E300	Extracted:					
	Analyzed:	Feb-23-10 11:25	Feb-23-10 11:25	Feb-23-10 16:55	Feb-23-10 16:55	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		331 52.4	496 51.2	531 49.1	1220 57.3	
BTEX by EPA 8021B	Extracted:					
	Analyzed:	Feb-24-10 10:28	Feb-24-10 10:28	Feb-24-10 10:28	Feb-24-10 10:28	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
Benzene		ND 0.0025	ND 0.0025	ND 0.0023	ND 0.0028	
Toluene		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
Ethylbenzene		ND 0.0025	ND 0.0025	ND 0.0023	ND 0.0028	
m,p-Xylenes		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
o-Xylene		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
Total Xylenes		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
Total BTEX		ND 0.0012	ND 0.0012	ND 0.0012	ND 0.0014	
Percent Moisture	Extracted:					
	Analyzed:	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00	Feb-22-10 17:00	
	Units/RL:	% RL	% RL	% RL	% RL	
		19.8 1.00	18.0 1.00	14.5 1.00	26.7 1.00	
TPH By SW8015 Mod	Extracted:					
	Analyzed:	Feb-24-10 10:00	Feb-24-10 10:00	Feb-24-10 10:00	Feb-24-10 10:00	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		ND 18.7	ND 18.2	ND 17.5	ND 20.5	
C6-C12 Gasoline Range Hydrocarbons		ND 18.7	ND 18.2	ND 17.5	ND 20.5	
C12-C28 Diesel Range Hydrocarbons		ND 18.7	ND 18.2	ND 17.5	ND 20.5	
C28-C35 Oil Range Hydrocarbons		ND 18.7	ND 18.2	ND 17.5	ND 20.5	
Total TPH		ND 18.7	ND 18.2	ND 17.5	ND 20.5	

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 363035

## Sport Environmental Services, PLLC, Midland, TX

Project Id: Malaga A 002

Contact: Debi Moore

Project Location: Eddy County, New Mexico

Project Name: Southwest Royalties, Inc.

Date Received in Lab: Fri Feb-19-10 05:30 pm

Report Date: 26-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		363035-049	363035-050	363035-051	363035-052	
	Field Id:	Depth:	SOUTH3-006	SOUTH3-007	SOUTH3-008	SOUTH3-009	
TPH by EPA 418.1	Matrix:	25- ft	SOIL	30- ft	35- ft	40- ft	
	Sampled:	Feb-16-10 14:40	Feb-16-10 14:43	Feb-16-10 14:47	Feb-16-10 14:56	Feb-16-10 14:56	
	Extracted:	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	Feb-25-10 13:56	
TPH, Total Petroleum Hydrocarbons	Analyzed:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	Units/RL:	106 12.5	94.7 12.2	87.3 11.7	103 13.6	103 13.6	

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Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 794998

Sample: 551117-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/22/10 21:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 794998

Sample: 551117-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/22/10 21:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 794998

Sample: 551117-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/22/10 22:42

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 794998

Sample: 363035-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/22/10 23:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 794998

Sample: 363035-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/22/10 23:26

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 794998

Sample: 363035-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/22/10 23:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 794998

Sample: 363035-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 00:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 794998

Sample: 363035-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 00:32

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 794998

Sample: 363035-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 00:55

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 794998

Sample: 363035-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 01:17

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 794998

Sample: 363035-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 01:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 794998

Sample: 363035-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 02:01

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Lab Batch #: 794998

Sample: 363035-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 02:23

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 794998

Sample: 363035-010 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 06:46

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 794998

Sample: 363035-010 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 07:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0346	0.0300	115	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795184

Sample: 551238-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 14:37

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 795184

Sample: 551238-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 14:59

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 795184

Sample: 551238-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 16:08

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 795184

Sample: 363035-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 17:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0169	0.0300	56	80-120	**

Lab Batch #: 795184

Sample: 363035-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 17:41

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795184

Sample: 363035-011 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 20:17

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0168	0.0300	56	80-120	**

Lab Batch #: 795184

Sample: 363035-011 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 20:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0179	0.0300	60	80-120	**

Lab Batch #: 795379

Sample: 551371-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 11:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 795379

Sample: 551371-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 11:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 795379

Sample: 551371-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 12:26

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795379

Sample: 363035-033 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:46

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 795379

Sample: 363035-034 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 13:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 795379

Sample: 363035-035 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 13:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0254	0.0300	85	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 795379

Sample: 363035-036 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 13:49

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 795379

Sample: 363035-037 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 14:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795379

Sample: 363035-033 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 16:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 795379

Sample: 363035-033 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 16:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 795379

Sample: 363035-043 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 17:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 795379

Sample: 363035-044 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 17:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 795379

Sample: 363035-045 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 18:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795379

Sample: 363035-046 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 18:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 795379

Sample: 363035-047 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 19:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 795379

Sample: 363035-048 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 19:21

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 795379

Sample: 363035-049 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 19:41

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 795379

Sample: 363035-050 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 20:02

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795379

Sample: 363035-051 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 20:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 795379

Sample: 363035-052 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 20:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 795407

Sample: 551385-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 01:47

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 795407

Sample: 551385-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 02:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 795407

Sample: 551385-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/24/10 03:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795407

Sample: 363035-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 03:36

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 795407

Sample: 363035-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 03:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 795407

Sample: 363035-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 04:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 795407

Sample: 363035-016 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 04:41

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 795407

Sample: 363035-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 05:03

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795407

Sample: 363035-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 05:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 795407

Sample: 363035-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 05:47

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 795407

Sample: 363035-020 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 06:08

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 795407

Sample: 363035-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 06:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 795407

Sample: 363035-022 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 06:52

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795407

Sample: 363035-013 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 07:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 795407

Sample: 363035-013 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 07:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 795407

Sample: 363035-023 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 08:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 795407

Sample: 363035-024 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 09:02

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 795407

Sample: 363035-025 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 10:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795407

Sample: 363035-026 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 10:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 795407

Sample: 363035-027 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 11:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 795407

Sample: 363035-028 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 11:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 795407

Sample: 363035-029 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 11:44

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 795407

Sample: 363035-030 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795407

Sample: 363035-031 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 795407

Sample: 363035-032 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:52

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 795351

Sample: 551355-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 17:37

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 795351

Sample: 551355-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 18:04

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	104	99.7	104	70-135	
o-Terphenyl	50.7	49.9	102	70-135	

Lab Batch #: 795351

Sample: 551355-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/23/10 18:31

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.0	99.5	95	70-135	
o-Terphenyl	55.6	49.8	112	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795351

Sample: 363035-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 18:58

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.1	99.7	88	70-135	
o-Terphenyl	51.9	49.9	104	70-135	

Lab Batch #: 795351

Sample: 363035-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/23/10 19:24

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	87.1	100	87	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 795351

Sample: 363035-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 08:13

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.2	100	79	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 795351

Sample: 363035-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 08:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.1	100	84	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 795351

Sample: 363035-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 09:11

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.5	99.5	87	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795351

Sample: 363035-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 09:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	47.2	50.0	94	70-135	

Lab Batch #: 795351

Sample: 363035-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 10:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.7	99.7	82	70-135	
o-Terphenyl	48.6	49.9	97	70-135	

Lab Batch #: 795351

Sample: 363035-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 10:34

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.2	99.9	81	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 795351

Sample: 363035-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 11:01

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.2	99.7	73	70-135	
o-Terphenyl	43.8	49.9	88	70-135	

Lab Batch #: 795351

Sample: 363035-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 11:29

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.3	99.7	82	70-135	
o-Terphenyl	48.4	49.9	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795351

Sample: 363035-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:24

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	99.7	88	70-135	
o-Terphenyl	58.8	49.9	118	70-135	

Lab Batch #: 795351

Sample: 363035-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 12:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.4	99.9	87	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 795351

Sample: 363035-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 13:46

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.3	99.7	82	70-135	
o-Terphenyl	48.0	49.9	96	70-135	

Lab Batch #: 795351

Sample: 363035-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 14:13

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-135	
o-Terphenyl	52.1	50.0	104	70-135	

Lab Batch #: 795351

Sample: 363035-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 14:40

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.0	100	90	70-135	
o-Terphenyl	52.7	50.1	105	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795351

Sample: 363035-016 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 15:07

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.6	99.9	82	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 795351

Sample: 363035-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 16:13

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.3	99.8	79	70-135	
o-Terphenyl	46.9	49.9	94	70-135	

Lab Batch #: 795351

Sample: 363035-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 16:41

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.0	99.8	79	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 795351

Sample: 363035-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 17:08

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.9	100	90	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 795351

Sample: 363035-020 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 17:35

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	77.2	100	77	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795351

Sample: 363035-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 22:31

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	116	99.9	116	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

Lab Batch #: 795351

Sample: 363035-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/24/10 22:58

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	99.7	117	70-135	
o-Terphenyl	56.5	49.9	113	70-135	

Lab Batch #: 795609

Sample: 551510-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 01:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	93.8	99.5	94	70-135	
o-Terphenyl	56.8	49.8	114	70-135	

Lab Batch #: 795609

Sample: 551510-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 02:05

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	51.9	49.9	104	70-135	

Lab Batch #: 795609

Sample: 551510-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 02:32

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	52.3	50.0	105	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795609

Sample: 363035-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 02:59

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	53.8	50.1	107	70-135	

Lab Batch #: 795609

Sample: 363035-022 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 03:26

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.7	100	90	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 795609

Sample: 363035-023 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 03:52

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	48.7	50.1	97	70-135	

Lab Batch #: 795609

Sample: 363035-024 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 04:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	92.7	100	93	70-135	
o-Terphenyl	52.7	50.2	105	70-135	

Lab Batch #: 795609

Sample: 363035-025 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 04:46

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	52.1	50.0	104	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795609

Sample: 363035-026 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 05:12

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.5	100	91	70-135	
o-Terphenyl	52.3	50.1	104	70-135	

Lab Batch #: 795609

Sample: 363035-027 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 05:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 795609

Sample: 363035-028 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 06:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.4	100	85	70-135	
o-Terphenyl	50.5	50.1	101	70-135	

Lab Batch #: 795609

Sample: 363035-029 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 06:33

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.7	99.7	87	70-135	
o-Terphenyl	50.4	49.9	101	70-135	

Lab Batch #: 795609

Sample: 363035-030 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 08:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	78.3	100	78	70-135	
o-Terphenyl	42.7	50.1	85	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795609

Sample: 363035-031 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 09:05

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.1	99.9	88	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 795609

Sample: 363035-032 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 09:32

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	100	89	70-135	
o-Terphenyl	51.7	50.1	103	70-135	

Lab Batch #: 795609

Sample: 363035-033 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 09:59

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.8	99.5	84	70-135	
o-Terphenyl	49.6	49.8	100	70-135	

Lab Batch #: 795609

Sample: 363035-034 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 10:27

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.0	99.8	85	70-135	
o-Terphenyl	49.8	49.9	100	70-135	

Lab Batch #: 795609

Sample: 363035-035 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 10:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	91.0	99.8	91	70-135	
o-Terphenyl	53.5	49.9	107	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795609

Sample: 363035-036 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 11:20

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.5	99.5	87	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 795609

Sample: 363035-037 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 11:48

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.5	100	85	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 795609

Sample: 363035-038 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 12:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	100	89	70-135	
o-Terphenyl	53.3	50.0	107	70-135	

Lab Batch #: 795609

Sample: 363035-040 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 13:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.7	100	96	70-135	
o-Terphenyl	56.1	50.2	112	70-135	

Lab Batch #: 795609

Sample: 363035-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 13:37

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	55.2	49.9	111	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795609

Sample: 363035-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 14:04

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.5	113	70-135	
o-Terphenyl	64.2	49.8	129	70-135	

Lab Batch #: 795609

Sample: 363035-039 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 14:58

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	82.1	100	82	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 795612

Sample: 551517-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 17:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.7	100	96	70-135	
o-Terphenyl	47.9	50.1	96	70-135	

Lab Batch #: 795612

Sample: 551517-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 20:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	51.1	50.1	102	70-135	

Lab Batch #: 795612

Sample: 551517-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/25/10 20:46

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.2	99.5	84	70-135	
o-Terphenyl	48.9	49.8	98	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795612

Sample: 363035-041 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 21:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	100	89	70-135	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 795612

Sample: 363035-042 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 21:52

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	101	80	70-135	
o-Terphenyl	47.7	50.3	95	70-135	

Lab Batch #: 795612

Sample: 363035-043 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 22:29

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.9	100	90	70-135	
o-Terphenyl	54.0	50.0	108	70-135	

Lab Batch #: 795612

Sample: 363035-044 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 22:56

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	72.0	50.2	143	70-135	*

Lab Batch #: 795612

Sample: 363035-045 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 23:23

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.7	101	87	70-135	
o-Terphenyl	53.5	50.3	106	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795612

Sample: 363035-046 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/25/10 23:50

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.1	100	90	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 795612

Sample: 363035-047 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 00:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.8	100	73	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 795612

Sample: 363035-048 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 00:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.6	99.5	98	70-135	
o-Terphenyl	59.3	49.8	119	70-135	

Lab Batch #: 795612

Sample: 363035-049 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 01:11

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.7	100	97	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 795612

Sample: 363035-050 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 01:38

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.5	99.6	95	70-135	
o-Terphenyl	57.8	49.8	116	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Southwest Royalties, Inc.

Work Orders : 363035,

Project ID: Malaga A 002

Lab Batch #: 795612

Sample: 363035-051 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 02:33

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.2	99.5	86	70-135	
o-Terphenyl	52.1	49.8	105	70-135	

Lab Batch #: 795612

Sample: 363035-052 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 03:00

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.9	100	82	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 795612

Sample: 363035-041 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 04:21

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	100	99	70-135	
o-Terphenyl	47.7	50.1	95	70-135	

Lab Batch #: 795612

Sample: 363035-041 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/26/10 04:48

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	149	99.7	149	70-135	*
o-Terphenyl	80.0	49.9	160	70-135	*

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.



Project Name: Southwest Royalties, Inc.

Work Order #: 363035

Project ID:

Malaga A 002

Lab Batch #: 794973

Sample: 794973-1-BKS

Matrix: Solid

Date Analyzed: 02/22/2010

Date Prepared: 02/22/2010

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	8.00	8.34	104	75-125	

Lab Batch #: 795417

Sample: 795417-1-BKS

Matrix: Solid

Date Analyzed: 02/23/2010

Date Prepared: 02/23/2010

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	10.4	104	75-125	

Lab Batch #: 795425

Sample: 795425-1-BKS

Matrix: Solid

Date Analyzed: 02/23/2010

Date Prepared: 02/23/2010

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.86	99	75-125	

Lab Batch #: 795429

Sample: 795429-1-BKS

Matrix: Solid

Date Analyzed: 02/23/2010

Date Prepared: 02/23/2010

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	7.00	6.35	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

**Project Name: Southwest Royalties, Inc.**

Work Order #: 363035

Analyst: ASA

Lab Batch ID: 794998

Sample: 55117-1-BKS

Date Prepared: 02/22/2010

Batch #: 1

Project ID: Malaga A 002

Date Analyzed: 02/22/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.1044	104	0.1	0.0927	93	12	70-130	35	
Toluene		ND	0.1000	0.1016	102	0.1	0.0897	90	12	70-130	35	
Ethylbenzene		ND	0.1000	0.1034	103	0.1	0.0907	91	13	71-129	35	
m,p-Xylenes		ND	0.2000	0.2050	103	0.2	0.1792	90	13	70-135	35	
o-Xylene		ND	0.1000	0.1031	103	0.1	0.0909	91	13	71-133	35	

Analyst: ASA

Lab Batch ID: 795184

Sample: 551238-1-BKS

Date Prepared: 02/23/2010

Batch #: 1

Date Analyzed: 02/23/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.0973	97	0.1	0.0979	98	1	70-130	35	
Toluene		ND	0.1000	0.0959	96	0.1	0.0963	96	0	70-130	35	
Ethylbenzene		ND	0.1000	0.0981	98	0.1	0.0991	99	1	71-129	35	
m,p-Xylenes		ND	0.2000	0.1942	97	0.2	0.1966	98	1	70-135	35	
o-Xylene		ND	0.1000	0.0979	98	0.1	0.0997	100	2	71-133	35	

Relative Percent Difference RPD =  $200 * [(C-F) / (C+F)]$

Blank Spike Recovery [D] =  $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes

**Project Name: Southwest Royalties, Inc.**
**Work Order #: 363035**
**Analyst: BEV**
**Lab Batch ID: 795351**
**Sample: 551355-1-BKS**
**Date Prepared: 02/22/2010**
**Batch #: 1**
**Project ID: Malaga A 002**
**Date Analyzed: 02/23/2010**
**Matrix: Solid**
**Units: mg/kg**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes		C6-C12 Gasoline Range Hydrocarbons	ND	1000	894	89	997	880	88	2	70-135	35	
		C12-C28 Diesel Range Hydrocarbons	ND	1000	773	77	997	757	76	2	70-135	35	

**Analyst: BEV**
**Date Prepared: 02/22/2010**
**Date Analyzed: 02/25/2010**
**Lab Batch ID: 795609**
**Sample: 551510-1-BKS**
**Batch #: 1**
**Matrix: Solid**
**Units: mg/kg**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	Units: mg/kg											
	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons		ND	1000	885	89	997	894	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	788	79	997	791	79	0	70-135	35	

 Relative Percent Difference RPD =  $200 * [(C-F) / (C+F)]$ 

 Blank Spike Recovery [D] =  $100 * (C/[B])$ 

 Blank Spike Duplicate Recovery [G] =  $100 * (F/[E])$ 

All results are based on MDL and Validated for QC Purposes

**Project Name: Southwest Royalties, Inc.**

**Work Order #: 363035**

**Analyst: BEV**

**Lab Batch ID: 795612**

**Sample: 551517-1-BKS**

**Date Prepared: 02/24/2010**

**Batch #: 1**

**Project ID: Malaga A 002**

**Date Analyzed: 02/25/2010**

**Matrix: Solid**

**Units: mg/kg**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	814	81	1000	878	88	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	720	72	1000	750	75	4	70-135	35	

Relative Percent Difference RPD =  $200 * (C-F) / (C+F)$   
Blank Spike Recovery [D] =  $100 * (C) / [B]$   
Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$   
All results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries

Project Name: Southwest Royalties, Inc.



Work Order #: 363035

Lab Batch ID: 795609

Date Analyzed: 02/25/2010

Reporting Units: mg/kg

Project ID: Malaga A 002

QC- Sample ID: 363035-021 S Batch #: 1 Matrix: Soil

Date Prepared: 02/22/2010 Analyst: BEV

Reporting Units: mg/kg											
TPH By SW8015 Mod  Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	NID	1120	1030	92	1120	1260	113	20	70-135	35	
C12-C28 Diesel Range Hydrocarbons	NID	1120	1070	96	1120	1240	111	15	70-135	35	

Lab Batch ID: 795612

Date Analyzed: 02/26/2010

Reporting Units: mg/kg

QC- Sample ID: 363035-041 S Batch #: 1 Matrix: Soil

Date Prepared: 02/24/2010 Analyst: BEV

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	44.4	1210	1120	89	1200	1960	160	55	70-135	35	XF
C12-C28 Diesel Range Hydrocarbons	129	1210	1120	82	1200	1350	102	19	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100 \times (C-A)/B$   
Relative Percent Difference  $RPD = 200 \times (C-F)/(C+F)$

Matrix Spike Duplicate Percent Recovery  $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable, N = See Narrative, EQL = Estimated Quantitation Limit



## Sample Duplicate Recovery

Project Name: Southwest Royalties, Inc.

Work Order #: 363035

Lab Batch #: 794973

Date Analyzed: 02/22/2010

QC- Sample ID: 362836-001 D

Reporting Units: mg/kg

Date Prepared: 02/22/2010

Batch #: 1

Project ID: Malaga A 002

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	1970	1980	1	20	

Lab Batch #: 795417

Date Analyzed: 02/23/2010

QC- Sample ID: 363035-011 D

Reporting Units: mg/kg

Date Prepared: 02/23/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	1690	1790	6	20	

Lab Batch #: 795425

Date Analyzed: 02/23/2010

QC- Sample ID: 363035-031 D

Reporting Units: mg/kg

Date Prepared: 02/23/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	326	216	41	20	F

Lab Batch #: 795429

Date Analyzed: 02/23/2010

QC- Sample ID: 363035-051 D

Reporting Units: mg/kg

Date Prepared: 02/23/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	531	439	19	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



## Sample Duplicate Recovery

Project Name: Southwest Royalties, Inc.

Work Order #: 363035

Lab Batch #: 794958

Date Analyzed: 02/22/2010

QC- Sample ID: 363035-001 D

Reporting Units: %

Date Prepared: 02/22/2010

Batch #: 1

Project ID: Malaga A 002

Analyst: WRU

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.11	8.23	1	20	

Lab Batch #: 794959

Date Analyzed: 02/22/2010

QC- Sample ID: 363035-021 D

Reporting Units: %

Date Prepared: 02/22/2010

Batch #: 1

Analyst: WRU

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	13.7	14.3	4	20	

Lab Batch #: 794964

Date Analyzed: 02/22/2010

QC- Sample ID: 363035-041 D

Reporting Units: %

Date Prepared: 02/22/2010

Batch #: 1

Analyst: WRU

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	17.2	16.5	4	20	

Lab Batch #: 795443

Date Analyzed: 02/25/2010

QC- Sample ID: 363035-039 D

Reporting Units: mg/kg

Date Prepared: 02/25/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
TPH by EPA 418.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
TPH, Total Petroleum Hydrocarbons	62100	59100	5	35	

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

A Xenco Laboratories Company

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12800 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager:

Debi S. Moore, M.E. REPA Environmental Consultant

Company Name

Sport Environmental Services, PLLC

Company Address:

502 N. Big Spring Street

City/State/Zip:

Midland, TX 79701

Telephone No:

(432) 883-1100

Sampler Signature:

*[Signature]* Debi S. Moore

Fax No:

(888) 500-0622

e-mail:

dabi@sporenvironmental.com

Project Name: Southwest Royalties, Inc.

Project # Mataga A 002

Project Loc: Eddy County, New Mexico

PO #:

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

(lab use only)

ORDER #:

363035

Lab # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field Filtered	Total # of Containers	Matrix	Preservation & # of Containers	Analyze For:
-011	EAST2 - 001	0'	6"	2/15/10	11:09 AM		1	X	None	Other (Specify)
-012	EAST2 - 002	5'		2/16/10	11:21 AM		1	X	None	Other (Specify)
-013	EAST2 - 003	10'		2/15/10	11:24 AM		1	X	None	Other (Specify)
-014	EAST2 - 004	15'		2/15/10	11:27 AM		1	X	None	Other (Specify)
-015	EAST2 - 005	20'		2/15/10	11:30 AM		1	X	None	Other (Specify)
-016	EAST3 - 001	0'	6"	2/15/10	10:13 AM		1	X	None	Other (Specify)
-017	EAST3 - 002	5'		2/15/10	10:20 AM		1	X	None	Other (Specify)
-018	EAST3 - 003	10'		2/15/10	10:25 AM		1	X	None	Other (Specify)
-019	EAST3 - 004	15'		2/15/10	10:30 AM		1	X	None	Other (Specify)
-020	EAST3 - 005	20'		2/15/10	10:36 AM		1	X	None	Other (Specify)
Special Instructions:										

Lab # (lab use only) **363035**

Field Filtered ☐ Total # of Containers **1**

Matrix **S**

Preservation & # of Containers **1**

Analyze For:

TCLP:	Asbestos	Barium	Benzene	Bismuth	Boron	Bromine	Cadmium	Calcium	Chlorine	Cobalt	Copper	Fluoride	Iron	Lead	Manganese	Mercury	Nickel	Phosphorus	Potassium	Selenium	Silver	Sulfate	Titanium	Zinc
Other:																								

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Southwest Royalties, Inc.

Project # Mataga A 002

Project Loc: Eddy County, New Mexico

PO #:

Sampler Signature: *[Signature]* Debi S. Moore

Telephone No: (432) 883-1100

Fax No: (888) 500-0622

e-mail: dabi@sporenvironmental.com

Project Manager: Debi S. Moore, M.E. REPA Environmental Consultant

Company Name: Sport Environmental Services, PLLC

Company Address: 502 N. Big Spring Street

City/State/Zip: Midland, TX 79701

Chain of Custody:

Relinquished by:	Date	Time	Received by:	Date	Time
T. F. N. [Signature]	2/19/10	17:30	Nick Williams, EC	2/19/10	17:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Temperature Upon Receipt: **0** °C

Other Comments:

VOCs Free of Headspace? **Y**

Custody seals on container(s) **Y**

Sample Hand Delivered **Y**

by Sampler/Client Rep. **Y**

by Counter? **Y**

DHL **Y**

UPS **Y**

FeedEx **Y**

Lone Star **Y**

page 3 of 6

# Environmental Lab of Texas

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Debi S. Moore, ME, REPA Environmental Consultant

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Midland, TX 79701

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(432) 683-1100

Sampler Signature:

Debi S. Moore

e-mail:

debi@sportenvironmental.com

Fax No:

(888) 500-0622

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

Project Name: Southwest Royalties, Inc.

Project # Malaga A 002

Project Loc: Eddy County, New Mexico

PO #:

(lab use only)

ORDER #: 363035

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Total # of Containers	Field Filtered	Preservation & # of Containers	Matrix	Analyze For:
-021	EAST3 - 008	25'		2/15/10	10:59 AM	1	X	Li	S	TPH: TX 1005 TX 1006 TPH: 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Special Instructions:

Relinquished by:

Nick Williams, EC

Date 2-19-10

Time 1730

Relinquished by:

Nick Williams, EC

Date 2-19-10

Time 1730

Relinquished by:

Nick Williams, EC

Date 2-19-10

Time 1730

Laboratory Comments:

VOCs Free of Headspace?	Y	N
Custody seals on container(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep.?	Y	N
by Courier?	Y	N
UPS	Y	N
DHL	Y	N
FedEx	Y	N
Lone Star	Y	N
Temperature Upon Receipt:	0	°C

page 9 of 16

# Environmental Lab of Texas

A Xenco Laboratories Company

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Debi S. Moore, M.E. REPA Environmental Consultant

Company Name: Sport Environmental Services, PLLC

Company Address: 502 N. Big Spring Street

City/State/Zip: Midland, TX 79701

Telephone No: (432) 683-1100

Sampler Signature: [Signature]

Project Name: Southwest Royalties, Inc.

Project # Malaga A 002

Project Loc: Eddy County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail: debi@sporenvironmental.com

Fax No: (888) 600-0622

Field Filtered

Time Sampled (TX)

Date Sampled

Beginning Depth

Ending Depth

Field Code

LAB # (lab use only)

ORDER #: 363035

Field Filtered

Time Sampled (TX)

Date Sampled

Beginning Depth

Ending Depth

Field Code

LAB # (lab use only)

ORDER #: 363035

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ORDER #: 363035

Field Filtered

Time Sampled (TX)

Date Sampled



page 6 of 6

# Environmental Lab of Texas

A Xenco Laboratories Company

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765  
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Fax: 432-563-1713

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Company Name: Sport Environmental Services, PLLC

Company Address: 502 N. Big Spring Street

City/State/Zip: Midland, TX 79701

Telephone No: (432) 683-1100

Sampler Signature: Debi S. Moore

Project Name: Southwest Royalties, Inc.

Project # Malaga A 002

Project Loc: Eddy County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail: debi@sportenvironmental.com

(lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field Filtered	Total # of Containers	Matrix	Preservation & # of Containers										Analyze For:															
LAB # (lab use only)	ORDER #	36035									HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> SO <sub>4</sub>	None	Other (Specify)	GW - Drinking Water, Sludge	GM - Groundwater, S-Sol/Solid	NP-Non-Portable, Specch, Other	TPH	TPH	TX 1005	Carbon (Ca, Mg, Na, K)	Amonia (NH <sub>3</sub> , Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatile SVW R46, R200B	Semivolatile R46, R200B	BTEX R021 R46 R030 or BTEX R260	RCI	NORM	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT		
051		SOUTH3 - 008		35'		2/16/10	2:47 PM	1	1	X												X	X		X											
052		SOUTH3 - 009		40'		2/16/10	2:56 PM	1	1	X												X	X		X											

Special Instructions:

Relinquished by: Nick Williams, EC Date: 2-19-10 Time: 1730

Relinquished by: [Signature] Date: 2-19-10 Time: 1730

Relinquished by: [Signature] Date: 2-19-10 Time: 1730

Received by: [Signature] Date: 2-19-10 Time: 1730

Received by: [Signature] Date: 2-19-10 Time: 1730

Received by: [Signature] Date: 2-19-10 Time: 1730

Temperature Upon Receipt: 0 °C

VOCs Free of Headspace? Y N

Custody seals on container(s) Y N

Sample Hand Delivered Y N

by Sampler/Client Rep. ? Y N

by Courier? Y N

DHL Y N

FedEx Y N

Lone Star Y N

# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: SPORT ENV  
 Date/ Time: 2-19-10 17:30  
 Lab ID #: 363035  
 Initials: BB / AL

### Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>0</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	<u>Not Present</u>	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	<u>Not Applicable</u>	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELOT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	<u>See Below</u>	
#13	Samples properly preserved?	<u>Yes</u>	No	<u>See Below</u>	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for Indicated test(s)?	<u>Yes</u>	No	<u>See Below</u>	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	<u>See Below</u>	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<u>Yes</u>	No	<u>Not Applicable</u>	

### 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



# SAMPLE DATA SUMMARY

Southwest Royalties, Inc.  
Malaga A 002

Corresponding Analytical Report: 391038

Methods:				TPH by SW8015 Mod mg/kg			
NMOCD Recommended Concentration				TPH Concentration Limit per NMOCD Site Ranking Criteria Form			
Lab Sample ID	Sample ID	Depth	Percent Moisture	TPH C6-C12	TPH C12-C28	TPH C28-C35	Total TPH
<b>WEST EXCAVATION Collected September 22, 2010</b>							
391038-001	West WW-1	5 ft	16.3	ND	ND	ND	ND
391038-002	West EW-1	5 ft	15.1	ND	55.4	ND	55.4
391038-003	West NW-1	5 ft	17.2	ND	ND	ND	ND
391038-004	West SW-1	5 ft	15.3	ND	ND	ND	ND
391038-005	West F-1	5 ft	17.4	ND	ND	ND	ND
<b>EAST EXCAVATION Collected September 22, 2010</b>							
391038-006	East WW-1	3 ft	12.8	ND	ND	ND	ND
391038-007	East EW-1	3 ft	16.2	ND	ND	ND	ND
391038-008	East NW-1	3 ft	11.7	ND	43.4	ND	43.4
391038-009	East SW-1	3 ft	16.5	ND	ND	ND	ND
391038-010	East F-1	3 ft	16.3	ND	ND	ND	ND
<b>SOUTH EXCAVATION Collected September 22, 2010</b>							
391038-011	South WW-1	9 ft	16.4	ND	ND	ND	ND
391038-012	South EW-1	9 ft	16.7	ND	ND	ND	ND
391038-013	South NW-1	9 ft	13.9	ND	ND	ND	ND
391038-014	South SW-1	9 ft	15.8	ND	ND	ND	ND
391038-015	South F-1	9 ft	17.1	ND	ND	ND	ND

# Analytical Report 391038

for  
Southwest Royalties

Project Manager: Harol Creech

Malaga A # 2

28-SEP-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-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 (AAL11), 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: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





28-SEP-10

Project Manager: **Harol Creech**  
**Southwest Royalties**  
6 Desta Dr Suite 1100  
Midland, TX 79705

Reference: XENCO Report No: **391038**  
**Malaga A # 2**  
Project Address: Malaga, NM

**Harol Creech:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 391038. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 391038 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 391038



Southwest Royalties, Midland, TX

Malaga A # 2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
West WW-1	S	Sep-22-10 00:00	5 ft	391038-001
West EW-1	S	Sep-22-10 00:00	5 ft	391038-002
West NW-1	S	Sep-22-10 00:00	5 ft	391038-003
West SW-1	S	Sep-22-10 00:00	5 ft	391038-004
West F-1	S	Sep-22-10 00:00	5 ft	391038-005
East WW-1	S	Sep-22-10 00:00	3 ft	391038-006
East EW-1	S	Sep-22-10 00:00	3 ft	391038-007
East NW-1	S	Sep-22-10 00:00	3 ft	391038-008
East SW-1	S	Sep-22-10 00:00	3 ft	391038-009
East F-1	S	Sep-22-10 00:00	3 ft	391038-010
South WW-1	S	Sep-22-10 00:00	9 ft	391038-011
South EW-1	S	Sep-22-10 00:00	9 ft	391038-012
South NW-1	S	Sep-22-10 00:00	9 ft	391038-013
South SW-1	S	Sep-22-10 00:00	9 ft	391038-014
South F-1	S	Sep-22-10 00:00	9 ft	391038-015



## CASE NARRATIVE

*Client Name: Southwest Royalties*

*Project Name: Malaga A # 2*



*Project ID:*

*Work Order Number: 391038*

*Report Date: 28-SEP-10*

*Date Received: 09/23/2010*

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**Sample receipt non conformances and Comments:**

*None*

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**Sample receipt Non Conformances and Comments per Sample:**

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-824500 TPH By SW8015 Mod*

*None*

*Batch: LBA-824578 Percent Moisture*

*None*



**Certificate of Analysis Summary 391038**  
**Southwest Royalties, Midland, TX**  
**Project Name: Malaga A # 2**



**Project Id:**  
**Contact:** Harol Creech  
**Project Location:** Malaga, NM

**Date Received in Lab:** Thu Sep-23-10 11:35 am  
**Report Date:** 28-SEP-10  
**Project Manager:** Brent Barron, II

<b>Analysis Requested</b>	<b>Lab Id:</b>	391038-001	391038-002	391038-003	391038-004	391038-005	391038-006
	<b>Field Id:</b>	West WW-1	West EW-1	West NW-1	West SW-1	West F-1	East WW-1
	<b>Depth:</b>	5 ft	5 ft	5 ft	5 ft	5 ft	3 ft
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
<b>Percent Moisture</b>	<b>Sampled:</b>	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00
	<b>Extracted:</b>						
	<b>Analyzed:</b>	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54
	<b>Units/RL:</b>	% 16.3 1.00	% 15.1 1.00	% 17.2 1.00	% 15.3 1.00	% 17.4 1.00	% 12.8 1.00
<b>TPH By SW8015 Mod</b>	<b>Extracted:</b>	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30
	<b>Analyzed:</b>	Sep-24-10 01:47	Sep-24-10 02:06	Sep-24-10 02:25	Sep-24-10 02:44	Sep-24-10 03:03	Sep-24-10 03:23
	<b>Units/RL:</b>	mg/kg ND 17.9	mg/kg ND 17.6	mg/kg ND 18.2	mg/kg ND 17.7	mg/kg ND 18.1	mg/kg ND 17.3
			55.4 17.6	ND 18.2	ND 17.7	ND 18.1	ND 17.3
<b>C12-C28 Diesel Range Hydrocarbons</b>		ND 17.9	ND 17.6	ND 18.2	ND 17.7	ND 18.1	ND 17.3
			55.4 17.6	ND 18.2	ND 17.7	ND 18.1	ND 17.3
<b>C28-C35 Oil Range Hydrocarbons</b>		ND 17.9	ND 17.6	ND 18.2	ND 17.7	ND 18.1	ND 17.3
			55.4 17.6	ND 18.2	ND 17.7	ND 18.1	ND 17.3
<b>Total TPH</b>							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The information and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed in writing.

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**Brent Barron, II**  
Odessa Laboratory Manager



# Certificate of Analysis Summary 391038

## Southwest Royalties, Midland, TX



Project Id:

Contact: Harol Creech

Project Location: Malaga, NM

Project Name: Malaga A # 2

Date Received in Lab: Thu Sep-23-10 11:35 am

Report Date: 28-SEP-10

Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	391038-007	391038-008	391038-009	391038-010	391038-011	391038-012
		Field Id:	East EW-1	East NW-1	East SW-1	East F-1	South WW-1	South EW-1
		Depth:	3 ft	3 ft	3 ft	3 ft	9 ft	9 ft
		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled:	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00
Percent Moisture		Extracted:	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54
		Analyzed:	%	%	%	%	%	%
		Units/RL:	RL	RL	RL	RL	RL	RL
Percent Moisture			16.2	11.7	16.5	16.3	16.4	16.7
			1.00	1.00	1.00	1.00	1.00	1.00
TPH By SW8015 Mod		Extracted:	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30
		Analyzed:	Sep-24-10 03:42	Sep-24-10 04:01	Sep-24-10 04:20	Sep-24-10 04:39	Sep-24-10 05:17	Sep-24-10 05:36
		Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C6-C12 Gasoline Range Hydrocarbons			ND	ND	ND	ND	ND	ND
C12-C28 Diesel Range Hydrocarbons			ND	43.4	ND	ND	ND	ND
C28-C35 Oil Range Hydrocarbons			ND	ND	ND	ND	ND	ND
Total TPH			ND	43.4	ND	ND	ND	ND

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Brent Barron, II  
Odessa Laboratory Manager



**Certificate of Analysis Summary 391038**  
**Southwest Royalties, Midland, TX**  
**Project Name: Malaga A # 2**



Project Id:

Contact: Yarol Creech

Project Location: Malaga, NM

Date Received in Lab: Thu Sep-23-10 11:35 am

Report Date: 28-SEP-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	391038-013	391038-014	391038-015		
	Field Id:	South NW-1	South SW-1	South F-1		
	Depth:	9 ft	9 ft	9 ft		
	Matrix:	SOIL	SOIL	SOIL		
	Sampled:	Sep-22-10 00:00	Sep-22-10 00:00	Sep-22-10 00:00		
Percent Moisture	Extracted:	Sep-24-10 13:54	Sep-24-10 13:54	Sep-24-10 13:54		
	Analyzed:	%	%	%		
	Units/RL:	13.9 1.00	15.8 1.00	17.1 1.00		
TPH By SW8015 Mod	Extracted:	Sep-23-10 14:30	Sep-23-10 14:30	Sep-23-10 14:30		
	Analyzed:	Sep-24-10 05:56	Sep-24-10 06:15	Sep-24-10 06:35		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		ND 17.4	ND 17.8	ND 18.0		
C12-C28 Diesel Range Hydrocarbons		ND 17.4	ND 17.8	ND 18.0		
C28-C35 Oil Range Hydrocarbons		ND 17.4	ND 17.8	ND 18.0		
Total TPH		ND 17.4	ND 17.8	ND 18.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty in the use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brett Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Malaga A # 2

Work Orders : 391038,

Project ID:

Lab Batch #: 824500

Sample: 574216-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/24/10 00:50

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.7	99.9	89	70-135	
o-Terphenyl	45.8	50.0	92	70-135	

Lab Batch #: 824500

Sample: 574216-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/24/10 01:09

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	87.7	100	88	70-135	
o-Terphenyl	44.8	50.2	89	70-135	

Lab Batch #: 824500

Sample: 574216-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/24/10 01:28

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	92.2	99.5	93	70-135	
o-Terphenyl	50.6	49.8	102	70-135	

Lab Batch #: 824500

Sample: 391038-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 01:47

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	82.6	99.8	83	70-135	
o-Terphenyl	44.4	49.9	89	70-135	

Lab Batch #: 824500

Sample: 391038-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 02:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.3	99.5	77	70-135	
o-Terphenyl	40.4	49.8	81	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: Malaga A # 2

Work Orders : 391038,

Project ID:

Lab Batch #: 824500

Sample: 391038-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 02:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.6	100	77	70-135	
o-Terphenyl	40.5	50.2	81	70-135	

Lab Batch #: 824500

Sample: 391038-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 02:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	77.8	99.8	78	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 824500

Sample: 391038-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 03:03

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	77.7	99.5	78	70-135	
o-Terphenyl	41.2	49.8	83	70-135	

Lab Batch #: 824500

Sample: 391038-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 03:23

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	77.6	100	78	70-135	
o-Terphenyl	41.1	50.2	82	70-135	

Lab Batch #: 824500

Sample: 391038-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 03:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.7	99.6	77	70-135	
o-Terphenyl	40.7	49.8	82	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Malaga A # 2

Work Orders : 391038,

Project ID:

Lab Batch #: 824500

Sample: 391038-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:01

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.3	99.5	79	70-135	
o-Terphenyl	41.3	49.8	83	70-135	

Lab Batch #: 824500

Sample: 391038-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:20

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.5	100	78	70-135	
o-Terphenyl	40.9	50.0	82	70-135	

Lab Batch #: 824500

Sample: 391038-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	99.9	77	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 824500

Sample: 391038-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 05:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.3	99.5	79	70-135	
o-Terphenyl	41.5	49.8	83	70-135	

Lab Batch #: 824500

Sample: 391038-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 05:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	100	80	70-135	
o-Terphenyl	42.2	50.1	84	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.

# Environmental Lab of Texas

A Xanco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
 12500 West 1-20 East  
 Odessa, Texas 79365  
 Phone: 432-563-1800  
 Fax: 432-563-1713

Project Manager: Harol Greesh, Foreman  
 Company Name: Southwest Royalties  
 Company Address: 6 Pasta Dr Suite 1100  
 City/State/Zip: Midland TX 79705  
 Telephone No: (432) 651-1100  
 Sample Signature: [Signature]  
 Fax No:   
 e-mail: hgreesh@claytonwilliams.com  
 Project Name: Malaga A #2  
 Project #   
 Project Loc: Malaga, NM  
 PO #:   
 Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)  
 ORDER #: 31036

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field # (if used)	Total # of Containers	Preservation # of Containers	Matrix	TPH	TX 1005	TX 1006	Caltech (Ca, Mg, Na, K)	Anions (Cl, SO4, Arsenic)	SAR / ESP / CEC	Metals: Ar, Ag, Ba, Cd, Cr, Pb, Hg, Se	Volatiles: SW 448, 8250B	Semivolatiles: 8270C	BTEX: 8021B/5030 or BTEX 8280	RCI	NORM	RUSH TAT (Pre-Schedule) 16, 48, 72 hrs	Standard TAT
11	South WW - 1	9'	9'222010				1	1	X													48	
12	South EW - 1	9'	9'222010				1	1	X													48	
13	South NW - 1	9'	9'222010				1	1	X													48	
14	South SW - 1	9'	9'222010				1	1	X													48	
15	South F - 1	9'	9'222010				1	1	X													48	

Special Instructions:  
 Laboratory Comments:  
 Sample Containers Intact?  
 VOCs Free of Headspace?  
 Labels on containers (1)  
 Labels on lids (1)  
 Quality seals on containers (1)  
 Sample Hand Delivered?  
 by Carrier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lovers Ship  
 Temperature Upon Receipt: 7.1 °C



XENCO Laboratories  
Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
Document No.: SY5-SRC  
Revision/Date: No 01, 5/27/2010  
Effective Date: 5/1/2010 Page 1 of 1

### Prelogin / Nonconformance Report - Sample Log-In

Client: Southwest Fisheries  
Date/Time: 4-23-10 11:55  
Lab ID #: 391038  
Initials: AE

#### Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 2.1 °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis



## Form 2 - Surrogate Recoveries

Project Name: Malaga A # 2

Work Orders : 391038,

Project ID:

Lab Batch #: 824500

Sample: 391038-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:01

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.3	99.5	79	70-135	
o-Terphenyl	41.3	49.8	83	70-135	

Lab Batch #: 824500

Sample: 391038-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:20

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.5	100	78	70-135	
o-Terphenyl	40.9	50.0	82	70-135	

Lab Batch #: 824500

Sample: 391038-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 04:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	99.9	77	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 824500

Sample: 391038-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 05:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.3	99.5	79	70-135	
o-Terphenyl	41.5	49.8	83	70-135	

Lab Batch #: 824500

Sample: 391038-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 05:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	100	80	70-135	
o-Terphenyl	42.2	50.1	84	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Malaga A # 2

Work Orders : 391038,

Project ID:

Lab Batch #: 824500

Sample: 391038-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 05:56

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.1	99.7	78	70-135	
o-Terphenyl	41.6	49.9	83	70-135	

Lab Batch #: 824500

Sample: 391038-014 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 06:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.5	99.9	78	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

Lab Batch #: 824500

Sample: 391038-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 06:35

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.6	99.5	77	70-135	
o-Terphenyl	40.9	49.8	82	70-135	

Lab Batch #: 824500

Sample: 391038-015 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 08:31

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.7	100	81	70-135	
o-Terphenyl	41.1	50.1	82	70-135	

Lab Batch #: 824500

Sample: 391038-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/24/10 08:50

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.1	99.5	76	70-135	
o-Terphenyl	42.5	49.8	85	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

All results are based on MDL and validated for QC purposes.



## BS / BSD Recoveries

Project Name: Malaga A # 2

Work Order #: 391038

Analyst: BEV

Lab Batch ID: 824500

Sample: 574216-1-BKS

Date Prepared: 09/23/2010

Batch #: 1

Project ID:

Date Analyzed: 09/24/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	C6-C12 Gasoline Range Hydrocarbons	ND	999	1010	101	1000	1010	101	0	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	999	930	93	1000	967	97	4	70-135	35	

Relative Percent Difference RPD =  $200 \cdot [(C-F)/(C+F)]$

Blank Spike Recovery [D] =  $100 \cdot (C)/(B)$

Blank Spike Duplicate Recovery [G] =  $100 \cdot (F)/(E)$

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS / MSD Recoveries



Project Name: Malaga A # 2

Work Order #: 391038

Lab Batch ID: 824500

Date Analyzed: 09/24/2010

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 391038-015 S Batch #: 1 Matrix: Soil

Date Prepared: 09/23/2010 Analyst: BEV

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY									
TPH By SW8015 Mod  Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1210	1260	104	1200	1200	100	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1210	1010	83	1200	966	81	4	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100 \cdot (C-A)/B$   
Relative Percent Difference  $RPD = 200 \cdot |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery  $[G] = 100 \cdot (F-A)/E$





## Sample Duplicate Recovery



Project Name: Malaga A # 2

Work Order #: 391038

Lab Batch #: 824578

Date Analyzed: 09/24/2010

QC- Sample ID: 391051-008 D

Reporting Units: %

Date Prepared: 09/24/2010

Batch #: 1

Project ID:

Analyst: JLG

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.67	4.81	3	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

A Xanco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12500 West 120 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Harold Creech, Foreman

Company Name: Summit Royalties

Company Address: 6 Data Dr Suite 1100

City/State/Zip: Midland, TX 79705

Telephone No: (432) 563-1800

Sample Signature: [Signature]

Fax No:

e-mail:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Major A #2

Project #:

Project Loc: Major, NM

PO #:

(lab use only)

ORDER #: 591038

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field Filtered	Total # of Containers	Preparation & # of Containers	Matrix	Analysis For:	Notes
01	West WW-1	5'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
02	West EW-1	5'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
03	West NW-1	5'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
04	West SW-1	5'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
05	West F-1	5'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
06	East WW-1	3'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
07	East EW-1	3'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
08	East NW-1	3'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
09	East SW-1	3'	9/22/2010				1	Ice		TPH: 1005 TX 1005	
10	East F-1	3'	9/22/2010				1	Ice		TPH: 1005 TX 1005	

Analysis For:	Result	Notes
TPH	1005	
TPH TX 1005	1005	
Cations (Ca, Mg, Na, K)		
Anions (Cl, SO <sub>4</sub> , Alkalinity)		
SAR / LSP / CEC		
Metals As Ag Ba Cd Cr Pb Hg Se		
Volatile SV Rat #280B		
Semivolatiles #270C		
BTEX #021/IN-5030 or BTEX #260		
RCH		
NORM		
RUSH TAT (per Schedule) 24, 48, 72 hrs		
Standard TAT		

Remanufactured by	Date	Time	Received by	Date	Time
Remanufactured by	9/23	11:35	Received by		
Remanufactured by			Received by		
Remanufactured by			Received by		

Remanufactured by	Date	Time	Received by	Date	Time
Remanufactured by	9/23	11:35	Received by		
Remanufactured by			Received by		
Remanufactured by			Received by		

Environmental Lab of Texas  
A Xenco Laboratories Company

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12600 West 1-20 East  
Odessa, Texas 79765  
Phone: 432-663-1800  
Fax: 432-663-1713

Project Manager: Nardi Creech, Foreman  
Company Name: Southeast Royalties  
Company Address: 4 Data Dr Suite 1100  
City/State/Zip: Midland TX 79705  
Telephone No: (432) 663-1100  
Fax No: (432) 663-1100  
Sample Signature: [Signature]  
e-mail: hcreech@claytonwilliams.com  
Project Name: Malaga A 22  
Project #                       
Project Loc: Malaga, NM  
PO #:                       
Report Format: ☐ Standard ☐ TRGP ☐ NPDES

(Lab use only)  
ORDER #: 391036

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (TX)	Field Notes	Total # of Containers	Preservation # of Containers	Matrix	TPH	TX 1005	TX 1006	Caltech (Cu, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles: SW 846, 8250R	Semivolatiles 8270C	ETX 8021B/5030 or BTE-X 8280	RCI	NORM	RUSH TAT (pre-schedule) 24, 48, 72 hrs	Standard TAT	
11	South WW-1	9'	92222010				1	X		X													48	
12	South EW-1	9'	92222010				1	X		X													48	
13	South NW-1	9'	92222010				1	X		X													48	
14	South SW-1	9'	92222010				1	X		X													48	
15	South F-1	9'	92222010				1	X		X													48	

Special Instructions:

Revised by: Nick Williams Date: 9/23/10 Time: 11:35 Received by: [Signature] Date:            Time:           

Requested by: [Signature] Date:            Time:            Received by:            Date:            Time:           

Requisitioned by:            Date:            Time:            Requested by:            Date:            Time:

Laboratory Comments:

Sample Containers Intact?           

VOCS Free of Headspaces?           

Labels on containers?           

Labels inside containers?           

Sample Hand Delivered?           

by Courier?            UPS            DHL           

Temperature Upon Receipt: 2.1 °C

Southwest Royalties, Inc.  
Malaga A #2  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

FORM C-141

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company	Southwest Royalties, Inc.	Contact	Dawn M. Howard
Address	6 Desta Drive, Ste 2100, Midland, Texas 79705	Telephone No.	432-688-3267
Facility Name	Malaga A #2	Facility Type	Oil lease - battery
Surface Owner	Mineral Owner	Lease No.	10642/POD/2436630

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	2	24S	28E	660	N	660	W	Eddy

Latitude 32.25256 Longitude -104.06332

**NATURE OF RELEASE**

Type of Release hydrocarbons pooled around wellhead	Volume of Release 5BF	Volume Recovered BF
Source of Release slow packer leak around wellhead	Date and Hour of Occurrence 11/4/09	Date and Hour of Discovery 11/09/09 -Letter of Violation
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Letter of Violation rec, Inspection #iREH0930858117	Date and Hour	LOV NO. 09-02-106
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

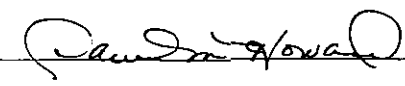
A slow packer leak formed a pooling of fluid around the wellhead contained within the cellar at the Malaga A #2 site. Working in conjunction with Mike Bratcher, NMOCD Artesia, heavily hydrocarbon contaminated soil was excavated and removed to an approved offsite disposal facility.

Describe Area Affected and Cleanup Action Taken.\*

Affected areas were excavated and heavily hydrocarbon stained soil was removed to offsite disposal facility. Excavated chloride impacted soils were used to create a diversionary structure on north side of location as approved by Mike Bratcher, NMOCD Artesia. Clean soil was brought in to backfill excavated areas.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**OIL CONSERVATION DIVISION**

Signature: 

Printed Name: Dawn M. Howard

Title: Operations Assistant

E-mail Address: dhoward@claytonwilliams.com

Date: 1/24/11

Phone: 432/688-3267

Approved by District Supervisor:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

Attach Additional Sheets If Necessary

Southwest Royalties, Inc.  
Malaga A #2  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

## SITE PHOTOGRAPHS

JANUARY 20, 2010

FEBRUARY 15-16, 2010

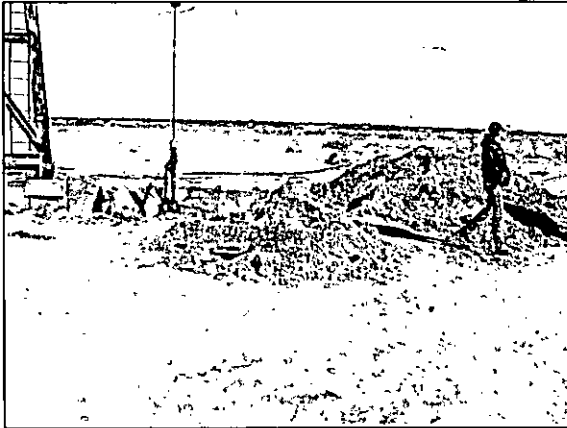
SEPTEMBER 22, 2010

NOVEMBER 2010 (provided by SWR)

**Southwest Royalties, Inc. – Malaga A #002**

**January 20, 2010**

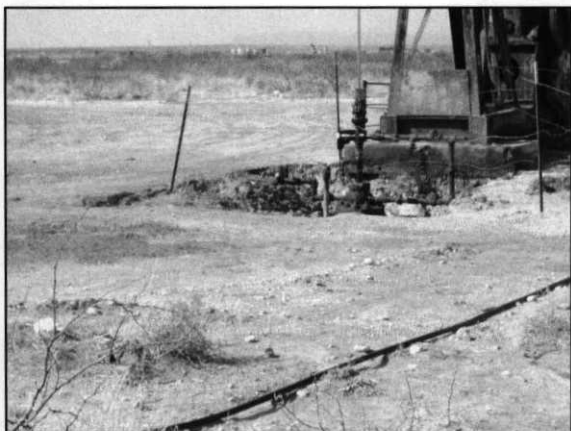
(page 1 of 1)



**Southwest Royalties, Inc. – Malaga A #002**

**February 15-16, 2010**

(page 1 of 1)

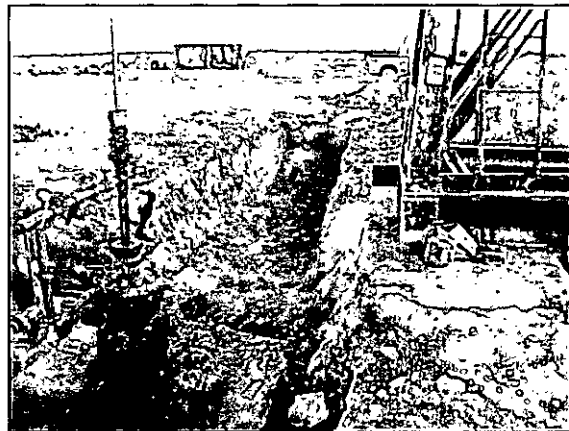
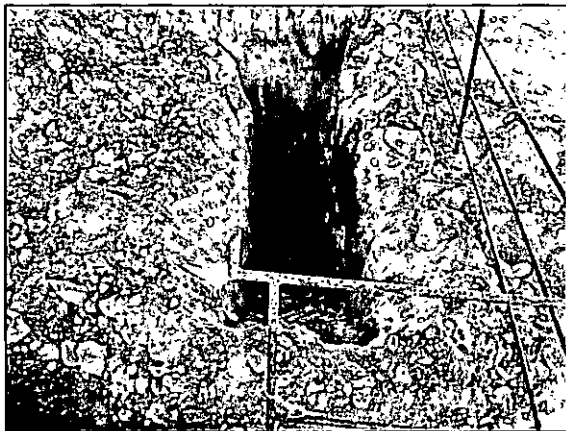
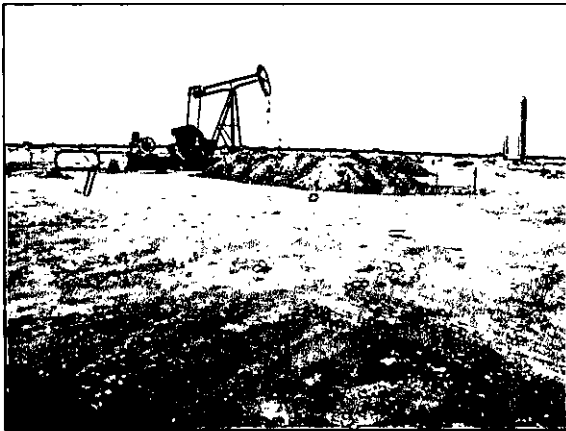




**Southwest Royalties, Inc. – Malaga A #002**

**September 22, 2010**

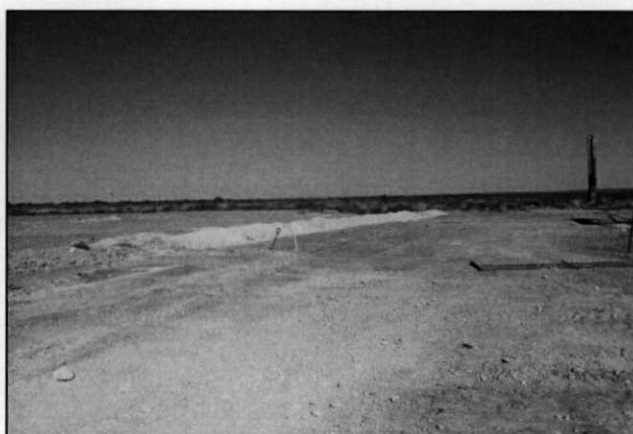
(page 1 of 1)



**Southwest Royalties, Inc. – Malaga A #002**

**November 2010 (provided by SWR)**

(page 1 of 1)



Southwest Royalties, Inc.  
Malaga A #2  
Section 2, Township 24S, Range 28E  
Eddy County, New Mexico

WASTE TICKETS  
&  
INVOICES

4507 W. Carlsbad Hwy  
Hobbs, New Mexico 88240



CONTROLLED RECOVERY, INC  
NMOCD Order R9166

(575)393-1079  
www.crihobbs.com

Ticket: 95178

Bill To: SOUTHWEST ROYALTIES, INC.  
Company/Generator: SOUTHWEST ROYALTIES  
Company Man: HARLOD CREECH  
Trucking: S & B  
Date/Time: 10/20/2010 11:26:55 AM  
3rd Party Ticket: NA

Lease: MALAGA  
Well: A BATTERY  
Rig: NA  
PO:  
Driver: DAVID  
Vehicle: 7962

## Comments

## Type of Materials

Product	Quantity	Area	Description
Contaminated Soil	12 Yards	50-51	

## Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- ☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  
☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):  
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

Driver/Agent (signature)

CRI Rep (signature)

Tank Bottoms

	Feet	Inches		
1st Gauge			BS & W/BBLs Received	BS & W
2nd Gauge			Free Water	
Received			Total Received	

4507 W. Carlsbad Hwy  
Hobbs, New Mexico 88240



an R360 company

(575)393-1079  
WWW.CRIHOBBBS.COM

**TICKET: 228257**

Bill To:	SOUTHWEST ROYALTIES, INC.	Lease:	MALAGA
Company/Generator:	SOUTHWEST ROYALTIES, INC.	Well:	B BATTERY
Company Man:	HARLOD CREECH	Rig:	
Trucking:	SB WEED CONTROL	PO:	
Date:	11/3/2010	Driver:	DAVIS
3rd Party Ticket:	NA	Vehicle:	2704

**Comments:****Type of Materials**

Product	Quantity	Area	Description
Cont Soil	12.00 yards	50/51	

**Generator Certification Statement of RCRA Status**

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

**Driver/Agent (signature):****GPI Representative (signature):****Tank Bottoms**

	Feet	Inches		
1st Gauge			BS & W/BLS Received	BS & W
2nd Gauge			Free Water	
Received			Total Received	

4507 W. Carlsbad Hwy  
Hobbs, New Mexico 88240



(575)393-1079  
WWW.CRIHOBBBS.COM

**TICKET: 228330**

Bill To:	SOUTHWEST ROYALTIES, INC.	Lease:	MALAGA
Company/Generator:	SOUTHWEST ROYALTIES, INC.	Well:	B BATTERY
Company Man:	HAROLD CREECH	Rig:	NA
Trucking:	S & B	PO:	
Date:	11/3/2010	Driver:	DAVID
3rd Party Ticket:	NA	Vehicle:	2704

**Comments****Type of Material**

Product	Quantity	Area	Description
Cont Soil	12.00 yards	50/51	

**Generator Certification Statement of RCRA Status**

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description above)

**Driver/Agent (signature)****Tank Bottoms**

	Feet	Inches		
1st Gauge			BS & W/BBLS Received	BS & W
2nd Gauge			Free Water	
Received			Total Received	



P.O. Box 1502  
 Carlsbad, NM 88221-1502  
 Phone: (575) 885-2066  
 Lic. # 50641

# Invoice

Date	Invoice #
10/26/2010	73332

62809

<b>Bill To</b>
Southwest Royalties Inc. #6 Desta Drive Suite 3000 Midland, Tx 79705

<b>Service To</b>
Malaga A Battery

P.O. No.	Ticket No.	Terms	Rep
	Various	Net Due	tsm

Item	Qty	Description	Rate	Amount
Back Hoe / Operator Material	14	10/20 TK# 71336 Back Hoe/Operator/Dump Truck 2 loads driveway chat Filled in holes around well head. Hauled 1 load contaminated dirt to CRI. Hauled 2 loads driveway chat to location.	95.00 733.58	1,330.00T 733.58T
Back Hoe / Operator Material Material	14	10/21 TK# 71337 Hack Hoe/Operator/Dump Truck 3 loads caliche 1 load dirt Cover with plastic. Fill in hole. Repair road.	95.00 189.00 140.00	1,330.00T 189.00T 140.00T
Back Hoe / Operator Material Material Material	10	10/22 TK# 71338 Back Hoe/Operator/Dump Truck 3 loads dirt 1 load caliche 1 load 3/8 crushed Hauled 3 loads dirt, 1 load caliche and 1 load 3/8 crushed to location. Fill in holes on road.	95.00 420.00 49.00 325.82	950.00T 420.00T 49.00T 325.82T
Roustabout /3	4	10/23 TK# 78347 3 man crew / truck Spread gravel around tanks.	90.00	360.00T
Belly Dump Truck Material	6	10/23 TK# 61989 Belly Dump Truck per hr 2 loads caliche Hauled 2 loads caliche to location.	80.00 98.00	480.00T 98.00T
Belly Dump Truck Material	3	10/23 TK# 63140 Belly Dump Truck per hr 1 load caliche Hauled 1 load caliche to location.	80.00 49.00	240.00T 49.00T
Thanks for your Business			Total	



P.O. Box 1502  
 Carlsbad, NM 88221-1502  
 Phone: (575) 885-2066  
 Lic. # 50641

# Invoice

Date	Invoice #
10/26/2010	73332

<b>Bill To</b>
Southwest Royalties Inc. #6 Desta Drive Suite 3000 Midland, Tx 79705

<b>Service To</b>
Mulaga A Battery

P.O. No.	Ticket No.	Terms	Rep
	Various	Net Due	tsm

Item	Qty	Description	Rate	Amount
Back Hoe / Operator Material)	14	10/24 TK# 71342 Back Hoe/Operator/Dump Truck 2 loads caliche Backfill road. Made 150 ft bench wall. Assist crew in work. Hauled 2 loads caliche to location.	95.00 98.00	1,330.00T 98.00T
		10/26 TK# 71343 Back Hoe/Operator/Dump Truck 1 load caliche Clean up pad and backdrag. Resurface road. Hauled 1 load caliche to location. Sales Tax 7.4375%	95.00 49.00  7.4375%	1,140.00T 49.00T  692.54
Thanks for your Business			Total	\$10,003.94



dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date 10/20/10

INVOICE N<sup>o</sup> 71336

To Southwest Royalties

Address \_\_\_\_\_

Location Malaga - A Battery

Start Time 6 AM ~~AM/PM~~ Stop Time 8 ~~AM/PM~~ 14 Hours 8

Your Order No. \_\_\_\_\_

Contract No. \_\_\_\_\_

Fill in Holes - Around well  
head, Take a load of debris  
1 contained/dated dirt - pickup  
#2-LDS - Driveway - Chat -  
Fill well head with chat.

TAX

TOTAL

Signature [Signature]

Pusher David Nava

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

**(S.B. Weed Control, LLC)**

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

**INVOICE N° 71337**

Address \_\_\_\_\_

Start Time 6:00 AM/PM AM Stop Time 7:00 AM/PM AM Hours 1

Contract No.

Haul Dirt - 3-LDS. Caliche  
from Thomson pit.  
LDS = Plain dirt - Thomson Pit.

TAX

TOTAL

**Signature**

## Pusher

**Crew Member**

**Crew Member**

**Crew Member**

dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date 10-22-2010

INVOICE N<sup>o</sup> 71338

To Southwest Royalties

Address \_\_\_\_\_

Location Malaga A Battery

Start Time 6 AM PM Stop Time 4 PM 10 Hours 3m

Your Order No. \_\_\_\_\_

Contract No. \_\_\_\_\_

Picked up 3-LD of Dirt -  
1-LD of Caliche

1-LD- 3/8 crush  
from - Redding  
Fill in craters - on roadway

TAX

TOTAL

Signature [Signature]

Pusher David Nantz

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

**dba S.B. Oilfield Services**

**(S.B. Weed Control, LLC)**

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date SUN-Oct-23 INVOICE No 78347

To South west Royies

Address \_\_\_\_\_

Location MALASA BAT

Start Time 10:00 AM/PM Stop Time 2:00 AM/PM 4 Hours

**Your Order No.**

**Contract No.**

Drove to Location & spread gravel around tanks.	
TAX	
TOTAL	

Signature \_\_\_\_\_

Pusher MARZO

Crew Member OSTIA

Crew Member MC/OS

Crew Member

# S.B. Oilfield Services

(DBA S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date 10-23-10

INVOICE No 61989

To Southwest Royalties

Address \_\_\_\_\_

Location Malaga A Battery

Start Time \_\_\_\_\_ AM/PM Stop Time \_\_\_\_\_ AM/PM 6 Hours *2m*

Your Order No.

Contract No.

hauled 2 loads of Caliche  
Belly Dump

TAX

TOTAL

Signature \_\_\_\_\_

Pusher

Lorenzo Trevino

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

**(DBA S.B. Weed Control, LLC)**

Date 10-23-10

To Southwest Kentucky

Address \_\_\_\_\_

Location Mokaa Station

Start Time \_\_\_\_\_ AM/PM Stop Time \_\_\_\_\_ AM/PM 3 Hours 2

**Contract No.**

Haul capsule to location  
Load

# Belly Pump

TAX

TOTAL

Signature \_\_\_\_\_

## Pusher

Antonio Vega

Crew Member

Crew Member

Crew Member

dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date 10-24-10

INVOICE N<sup>o</sup> 71342

To Southwest Royalties

Address \_\_\_\_\_

Location Malaga. A Battery

Start Time 8 AM AM/PM Stop Time 11 AM PM 14 Hours *DM*

Your Order No. \_\_\_\_\_

Contract No. \_\_\_\_\_

Back filled Rd way -  
Made 150 ft Bench wall  
Back dredge -  
Assist Gang crew -  
in work - Haul Away  
de brec -  
brought dirt 2 - LDS.

TAX

TOTAL

Signature 

Pusher David Neve

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date 10-26-10

INVOICE Nº **71343**

To Southwest Royalties.

Address \_\_\_\_\_

Location Malaga Battery A-

Start Time 7 ~~AM~~/PM Stop Time 7 ~~AM~~/PM 12 Hours <sup>PM</sup>

Your Order No.

Contract No.

Clean up Pool of  
debris back drag-

Pick-1 LD caliche

Haulaway debris-

Re surface d Rd way-

Pick out Rocks

TAX

TOTAL

Signature

Pusher

Daniel Nave

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_





P.O. Box 1502  
Carlsbad, NM 88221-1502  
Phone:(575) 885-2066  
Lic. # 50641

62814

# Invoice

Date	Invoice #
11/3/2010	73891

<b>Bill To</b>
Southwest Royalties Inc. #6 Desta Drive Suite 3000 Midland,Tx 79705

<b>Service To</b>
Malaga A Battery

P.O. No.	Ticket No.	Terms	Rep
	67629	Net Due	tsm

Item	Qty	Description	Rate	Amount
Back Hoe / Operator	6	Back Hoe/Operator/Dump Truck Hauled away 2 loads contaminated dirt. Sales Tax 7.4375%	85.00 7.4375%	510.00T 37.93
Thanks for your Business			<b>Total</b>	\$547.93

dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date Nov. 3. 2010 INVOICE Nº 67629

To Southwest Royalties.

Address \_\_\_\_\_

Location Malaga - A-Battery.

Start Time 12 AM/PM Stop Time 6:00 AM/PM 6 Hours 30

Your Order No. \_\_\_\_\_

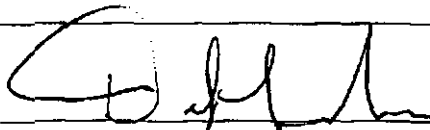
Contract No. \_\_\_\_\_

Hauled away-  
2 Loads of Contaminated  
dirt -  
total of 24 yds -  
with rear dump

TAX

TOTAL

Signature



Pusher

David Namy

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_



P.O. Box 1502  
Carlsbad, NM 88221-1502  
Phone:(575) 885-2066  
Lic. # 50641

62809

# Invoice

Date	Invoice #
11/3/2010	73891

<b>Bill To</b>
Southwest Royalties Inc. #6 Desta Drive Suite 3000 Midland,Tx 79705

<b>Service To</b>
Malaga A Battery

P.O. No.	Ticket No.	Terms	Rep
	67629	Net Due	tsm

Item	Qty	Description	Rate	Amount
Back Hoe / Operator	6	Back Hoe/Operator/Dump Truck Hauled away 2 loads contaminated dirt. Sales Tax 7.4375%	85.00 7.4375%	510.00T 37.93
Thanks for your Business			<b>Total</b>	\$547.93

dba **S.B. Oilfield Services**

(S.B. Weed Control, LLC)

P.O. Box 1502 • Carlsbad, NM 88221-1502 • (575) 885-2066

Date Nov. 3. 2010 INVOICE N° 67629

To Southwest Royalties.

Address \_\_\_\_\_

Location Malaga - A-Battery.

Start Time 12 AM ☒ PM Stop Time 6:00 AM ☒ PM 6 Hours 30

Your Order No. \_\_\_\_\_

Contract No. \_\_\_\_\_

Hauled away -  
2-Loads of Contaminated  
dirt -  
total of 24 yds -  
with rear dump

TAX

TOTAL

Signature

Pusher

David Nava

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_

Crew Member \_\_\_\_\_