



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109

DOCUMENT #2214720

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

RECEIVED
6/29/2011

1. OGCC Operator Number: 10310	4. Contact Name: Harold Mayland	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Fram Operating LLC	Phone: 303.550.1098	
3. Address: 30 E Pikes Peak Ave. Ste. 287 City: Colorado Springs State: CO Zip: 80903	Fax: NA	
5. API Number 05-077-09474	OGCC Facility ID Number 312744	Survey Plat
6. Well/Facility Name: Mansur #33-4-C	7. Well/Facility Number: Mansur #33-4-C	Directional Survey
8. Location (Qtr/Sec, Twp, Rng, Meridian): SENE, Sec. 33, T12S, R97W, 6PM		Surface Eqmpt Diagram
9. County: Mesa	10. Field Name: Wildcat - #99999	Technical Info Page
11. Federal, Indian or State Lease Number: NA		Other

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> attach directional survey

Bottomhole location Qtr/Sec, Twp, Rng, Mer: _____
 Latitude _____ Distance to nearest property line _____ Distance to nearest bldg, public rd, utility or RR _____
 Longitude _____ Distance to nearest lease line _____ Is location in a High Density Area (rule 603b)? Yes/No _____
 Ground Elevation _____ Distance to nearest well same formation _____ Surface owner consultation date: _____

GPS DATA:
 Date of Measurement _____ PDOP Reading _____ Instrument Operator's Name _____

CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

Remove from surface bond
 Signed surface use agreement attached

CHANGE OF OPERATOR (prior to drilling):
 Effective Date: _____
 Plugging Bond: Blanket Individual

CHANGE WELL NAME NUMBER
 From: _____
 To: _____
 Effective Date: _____

ABANDONED LOCATION:
 Was location ever built? Yes No
 Is site ready for inspection? Yes No
 Date Ready for Inspection: _____

NOTICE OF CONTINUED SHUT IN STATUS
 Date well shut in or temporarily abandoned: _____
 Has Production Equipment been removed from site? Yes No
 MIT required if shut in longer than two years. Date of last MIT _____

SPUD DATE: _____

REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
 Final reclamation will commence on approximately _____ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

Notice of Intent
 Approximate Start Date: Upon COGCC Approval

Report of Work Done
 Date Work Completed: _____

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input checked="" type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input checked="" type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Background Arsenic	for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed:  Date: 6/29/2011 Email: tdobransky@oaconsulting.com
 Print Name: Tim Dobransky Title: Project Manager

COGCC Approved: _____ Title: _____ Date: _____

CONDITIONS OF APPROVAL, IF ANY:

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

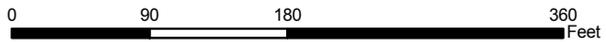
1. OGCC Operator Number: _____ API Number: _____
2. Name of Operator: _____ OGCC Facility ID # _____
3. Well/Facility Name: _____ Well/Facility Number: _____
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): _____

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

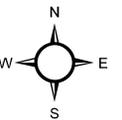
5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**



- ★ Mansur 33-4-C
- Sample Locations
- Approximate Pad Perimeter



1 inch = 125 feet



PROJECT NO:	010-2337	MANSUR 33-4-C PAD BACKGROUND SAMPLE LOCATION FRAM OPERATING LLC MESA COUNTY, COLORADO		826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800	FIGURE
DRAWN BY:	Brian Swedhin			1	
DATE:	6/29/2011				

Table 1
Mansur Wells Cuttings Sample
Data Summary

SAMPLE SUMMARY	
Location Description	Mansur Wells Cuttings Sample
Sample Type	Soil

LABORATORY DATA SUMMARY								
Sample ID	M-Cutt Smpl 1	M-BG1	BG2-M	BG3-M	BG4-M	BG5-M	ALLOWABLE LIMITS	UNITS
Sample Date	10/27/2010	10/27/2010	1/17/2011	1/17/2011	1/17/2011	1/17/2011		
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	<25.0	NT	NT	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	<25.0	NT	NT	NT	NT	NT		
BTEX								
Benzene	0.00240	NT	NT	NT	NT	NT	0.17	mg/kg
Toluene	0.00536	NT	NT	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.00200	NT	NT	NT	NT	NT	100	mg/kg
m,p-Xylene	0.00724	NT	NT	NT	NT	NT	175	mg/kg
o-Xylene	0.00656	NT	NT	NT	NT	NT	175	mg/kg
Metals								
Chromium, Hexavalent	<0.221	<0.117	NT	NT	NT	NT	23	mg/kg
Mercury	0.026	0.015	NT	NT	NT	NT	23	mg/kg
Arsenic	5.29	3.37	5.4	6.0	4.7	4.9	0.39	mg/kg
Barium	166	159	NT	NT	NT	NT	15,000	mg/kg
Boron	13.3	6.28	NT	NT	NT	NT	NA	mg/kg
Cadmium	0.505	0.223	NT	NT	NT	NT	70	mg/kg
Chromium	17.2	13.7	NT	NT	NT	NT	120,000	mg/kg
Copper	26.4	13.4	NT	NT	NT	NT	3,100	mg/kg
Lead	14.9	10.6	NT	NT	NT	NT	400	mg/kg
Nickel	23.3	23.1	NT	NT	NT	NT	1,600	mg/kg
Selenium	2.59	<0.725	NT	NT	NT	NT	390	mg/kg
Silver	<1.57	<0.83	NT	NT	NT	NT	390	mg/kg
Zinc	68.7	45.8	NT	NT	NT	NT	23,000	mg/kg
Polynuclear Aromatic Hydrocarbons								
Anthracene	<0.077	NT	NT	NT	NT	NT	1,000	mg/kg
Acenaphthene	<0.049	NT	NT	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.062	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.055	NT	NT	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.044	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.073	NT	NT	NT	NT	NT	2.2	mg/kg
Chrysene	<0.051	NT	NT	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.06	NT	NT	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.084	NT	NT	NT	NT	NT	1,000	mg/kg
Fluorene	<0.051	NT	NT	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.075	NT	NT	NT	NT	NT	0.22	mg/kg
Naphthalene	<0.046	NT	NT	NT	NT	NT	23	mg/kg
Pyrene	<0.073	NT	NT	NT	NT	NT	1,000	mg/kg
General Chemistry								
pH	8.93	8.29	NT	NT	NT	NT	6-9	su
Sodium Adsorption Ratio	8.43	0.136	NT	NT	NT	NT	<12	NA
Specific Conductance	6.59	0.219	NT	NT	NT	NT	4 or 2 x the background	mmhos/cm

mg/kg - milligrams per kilogram
 NT - parameter was not tested
 mmhos/cm - millimhos per centimeter
 su - standard units
 NA - not applicable

Over allowable limit but under BACKGROUND level.
 Over allowable limit and not within BACKGROUND level

11/11/2010

Olsson Associates

Tim Dobransky

826 21 1/2 Road

Grand Junction CO 81505

Project Name- Mansur Wells

Project Number- 010-2337

Attached are your analytical results for Mansur Wells received by Origins Laboratory, Inc. October 28, 2010 9:00 am. This project is associated with Origins project number X010243-01 .

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Olsson Associates
826 21 1/2 Road
Grand Junction CO 81505

Tim Dobransky
Project Number: 010-2337
Project: Mansur Wells

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
M-BG1	X010243-01	Soil	10/27/2010 1:30:00PM	10/28/2010 09:00
M-Cutt Smpl 1	X010243-02	Soil	10/27/2010 2:00:00PM	10/28/2010 09:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle.

Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

www.originslaboratory.com

X010243

page 1 of 1

ORIGINS
 LABORATORY, INC

Client: OLSSON ASSOCIATES
 Address: 826 21 1/2 RD
 GRAND JUNCTION, CO 81505
 Telephone Number: 970 263-7800 X 2002
 Email Address: tdobransky@olssonassociates.com

Project Manager: Tim Dobransky
 Project Name: MANSUR WELLS
 Project Number: 010-2337
 Samples Collected By: JESS VANN

1725 EIK Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			Other
M-1361	10-27-10	1330	2	X								TAKEN FROM Fw 910' SOILS LIST.	1
M-CUTT Smp 1	10-27-10	1400	5	X								910 LIST - SAR, ES, PH, METALS	2
												910 LIST - ALL	3
													4
													5
													6
													7
													8
													9
													10
Relinquished by: <i>Jess Vann</i>	Date: 10-27-10	Time: 1700	Received By: Fed Ex	Date: 10/28/10	Time: 9:00	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>							
Relinquished by: <i>Kevin [Signature]</i>	Date:	Time:	Received By:	Date:	Time:								

Date Results Needed

Origins Laboratory, Inc.



Noelle E Doyle,

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Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-BG1

10/27/2010 1:30:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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XENCO

X010243-01 (Soil)

Conductivity by E120.1

Conductivity	219	1	2	US/CM	1	829880	11/01/2010	11/01/2010	
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Metals by SW6010B

Lead	10.6	0.55	1.17	mg/kg	1	830512	11/01/2010	11/03/2010	
Zinc	45.8	1.75	3.51	"	"	"	"	"	
Sodium	126	2.69	58.5	"	"	"	"	"	
Silver	ND	0.83	2.34	"	"	"	"	"	
Selenium	ND	0.725	3.51	"	"	"	"	"	
Magnesium	8130	3.27	23.4	"	"	"	"	"	
Copper	13.4	0.503	2.34	"	"	"	"	"	
Chromium	13.7	0.257	1.17	"	"	"	"	"	
Calcium	51600	117	234	"	10	"	"	"	
Cadmium	0.223	0.199	0.585	"	1	"	"	"	
Barium	159	0.456	1.17	"	"	"	"	"	
Nickel	23.1	0.109	1.17	"	"	"	"	"	
Boron	6.28	1.06	5.85	"	"	"	"	"	

Metals by SW6020

Arsenic	3.37	0.151	0.468	mg/kg	1	831032	11/01/2010	11/08/2010	
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Metals by SW7196

Origins Laboratory, Inc.



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Noelle E Doyle,

Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-BG1

10/27/2010 1:30:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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XENCO

X010243-01 (Soil)

Metals by SW7196

Chromium, Hexavalent	ND	0.117	9.36	mg/kg	20	830779	11/05/2010	11/05/2010	
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Metals by SW7471A

Mercury	0.015	0.012	0.039	mg/kg	1	830147	11/01/2010	11/01/2010	i
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Percent Moisture by AD2216A

Percent Moisture	14.5	1	1	%	1	829906	11/01/2010	11/01/2010	
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pH by SW9045C

pH	8.29			SU	1	829723	10/29/2010	10/29/2010	q
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Sodium Absorption Ratio (SAR) by S29B08

Sodium absorption ratio	0.136				1	830834	11/08/2010	11/08/2010	
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Origins Laboratory, Inc.



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Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-Cutt Smpl 1
10/27/2010 2:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X010243-02 (Soil)

BTEX by EPA 8260B

Benzene	0.00240	0.00200	0.00400	mg/kg	1	OJ29003	10/29/2010	10/30/2010	
Toluene	0.00536	0.00200	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00200	0.00400	"	"	"	"	"	
m,p-Xylene	0.00724	0.00400	0.00800	"	"	"	"	"	
o-Xylene	0.00656	0.00200	0.00400	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	114 %		77.6-134			"	"	"	
Surrogate: Toluene-d8	104 %		81.4-121			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.4 %		74.7-123			"	"	"	

Conductivity by E120.1

Conductivity	6590	1	2	US/CM	1	829880	11/01/2010	11/01/2010	
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Metals by SW6010B

Cadmium	0.505	0.375	1.1	mg/kg	1	830512	11/01/2010	11/03/2010	
Chromium	17.2	0.486	2.21	"	"	"	"	"	
Boron	13.3	2.01	11	"	"	"	"	"	
Calcium	22800	22.1	44.2	"	"	"	"	"	
Lead	14.9	1.04	2.21	"	"	"	"	"	
Barium	166	0.861	2.21	"	"	"	"	"	

Origins Laboratory, Inc.



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Noelle E Doyle,

Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-Cutt Smp1 1
10/27/2010 2:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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XENCO
X010243-02 (Soil)

Metals by SW6010B

Magnesium	7120	6.18	44.2	mg/kg	1	830512	11/01/2010	11/03/2010	
Nickel	23.3	0.205	2.21	"	"	"	"	"	
Selenium	2.59	1.37	6.62	"	"	"	"	"	I
Silver	ND	1.57	4.42	"	"	"	"	"	
Sodium	5690	5.08	110	"	"	"	"	"	
Zinc	68.7	3.31	6.62	"	"	"	"	"	
Copper	26.4	0.949	4.42	"	"	"	"	"	

Metals by SW6020

Arsenic	5.29	0.285	0.883	mg/kg	1	831032	11/01/2010	11/08/2010	
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Metals by SW7196

Chromium, Hexavalent	ND	0.221	17.7	mg/kg	20	830779	11/05/2010	11/05/2010	
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Metals by SW7471A

Mercury	0.026	0.023	0.074	mg/kg	1	830147	11/01/2010	11/01/2010	I
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Percent Moisture by AD2216A

Percent Moisture	54.7	1	1	%	1	829906	11/01/2010	11/01/2010	
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Noelle E Doyle,

Olsson Associates
 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-Cutt Smp1 1
10/27/2010 2:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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XENCO
X010243-02 (Soil)

pH by SW9045C

pH	8.93			SU	1	829723	10/29/2010	10/29/2010	Q
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Polyaromatic Hydrocarbons (PaHs) by SW8270C

Dibenz(a,h)anthracene	ND	0.06	0.145	mg/kg	1	830032	10/29/2010	10/30/2010	
Pyrene	ND	0.073	0.22	"	"	"	"	"	
Naphthalene	ND	0.046	0.22	"	"	"	"	"	
Anthracene	ND	0.077	0.22	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.075	0.22	"	"	"	"	"	
Fluorene	ND	0.051	0.22	"	"	"	"	"	
Fluoranthene	ND	0.084	0.22	"	"	"	"	"	
Chrysene	ND	0.051	0.22	"	"	"	"	"	J
Benzo(k)fluoranthene	ND	0.073	0.22	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.044	0.22	"	"	"	"	"	
Benzo(a)anthracene	ND	0.062	0.22	"	"	"	"	"	
Acenaphthene	ND	0.049	0.22	"	"	"	"	"	
Benzo(a)pyrene	ND	0.055	0.145	"	"	"	"	"	

Surrogate: Phenol-d6	87 %	60-102	"	"	"
Surrogate: Nitrobenzene-d5	86 %	63-105	"	"	"
Surrogate: Terphenyl-D14	81 %	57-122	"	"	"

Origins Laboratory, Inc.



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 826 21 1/2 Road
 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

M-Cutt Smp1 1
10/27/2010 2:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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XENCO
X010243-02 (Soil)

Polyaromatic Hydrocarbons (PaHs) by SW8270C

Surrogate: 2-Fluorophenol	99 %		60-102			830032	10/29/2010	10/30/2010	
Surrogate: 2-Fluorobiphenyl	83 %		64-104			"	"	"	
Surrogate: 2,4,6-Tribromophenol	96 %		58-119			"	"	"	

Sodium Absorption Ratio (SAR) by S29B08

Sodium absorption ratio	8.43				1	830834	11/08/2010	11/08/2010	
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TPH-Carbon Chain by EPA Method 8015M

Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0J29004	10/29/2010	10/31/2010	
Diesel (C10-C28)	ND	25.0	50.0	"	"	"	"	"	
Residual Range Organics (C28-C36)	ND	100	200	"	"	"	"	"	
TPH - Carbon Chain Total	ND	25.0	50.0	"	"	"	"	"	

Surrogate: o-Terphenyl	92.1 %		65-140			"	"	"	
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 Grand Junction CO 81505

Tim Dobransky
 Project Number: 010-2337
 Project: Mansur Wells

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch OJ29004 - Default Prep GC-Semi

Blank (OJ29004-BLK1)

Prepared: 10/29/2010 Analyzed: 10/31/2010

Gasoline (C6-C10)	ND	50.0	mg/kg							
Diesel (C10-C28)	ND	50.0	"							
Residual Range Organics (C28-C36)	ND	200	"							
TPH - Carbon Chain Total	ND	50.0	"							

Surrogate: o-Terphenyl 46.5 g 50.0 93.0 65-140

LCS (OJ29004-BSI)

Prepared: 10/29/2010 Analyzed: 10/31/2010

Gasoline (C6-C10)	62.8	50.0	mg/kg				65-140			
Diesel (C10-C28)	398	50.0	"	500		79.6	60-140			

Surrogate: o-Terphenyl 47.0 g 50.0 94.1 65-140

Matrix Spike (OJ29004-MSI)

Source: X010237-01

Prepared: 10/29/2010 Analyzed: 10/31/2010

Gasoline (C6-C10)	75.2	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	433	50.0	"	500	ND	86.6	60-140			

Surrogate: o-Terphenyl 48.0 g 50.0 96.0 65-140

Matrix Spike Dup (OJ29004-MSD1)

Source: X010237-01

Prepared: 10/29/2010 Analyzed: 10/31/2010

Gasoline (C6-C10)	64.1	50.0	mg/kg		ND		65-130	15.9	20	
Diesel (C10-C28)	413	50.0	"	500	ND	82.6	60-140	4.73	25	

Surrogate: o-Terphenyl 47.5 g 50.0 95.0 65-140

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 Project Number: 010-2337
 Project: Mansur Wells

Volatile Organic Compounds by EPA Method 8260B - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch OJ29003 - EPA 5030B

Blank (OJ29003-BLK1)

Prepared: 10/29/2010 Analyzed: 10/29/2010

Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
o-Xylene	ND	0.004	"							
Surrogate: 1,2-Dichloroethane-d4	66.2		ug/L	62.5		106	77.6-134			
Surrogate: Toluene-d8	64.4		"	62.5		103	81.4-121			
Surrogate: 4-Bromofluorobenzene	63.4		"	62.5		101	74.7-123			

LCS (OJ29003-BS1)

Prepared: 10/29/2010 Analyzed: 10/29/2010

Benzene	0.19	0.004	mg/kg	0.200		93.4	75.2-128			
Toluene	0.18	0.004	"	0.200		90.6	76.3-130			
Surrogate: 1,2-Dichloroethane-d4	67.3		ug/L	62.5		108	77.6-134			
Surrogate: Toluene-d8	64.6		"	62.5		103	81.4-121			
Surrogate: 4-Bromofluorobenzene	61.3		"	62.5		98.1	74.7-123			

Matrix Spike (OJ29003-MS1)

Source: X010208-01

Prepared: 10/29/2010 Analyzed: 10/29/2010

Benzene	0.21	0.004	mg/kg	0.200	ND	103	77.6-132			
Toluene	0.20	0.004	"	0.200	ND	97.3	74-136			
Surrogate: 1,2-Dichloroethane-d4	67.6		ug/L	62.5		108	77.6-134			
Surrogate: Toluene-d8	64.0		"	62.5		102	81.4-121			
Surrogate: 4-Bromofluorobenzene	62.0		"	62.5		99.1	74.7-123			

Matrix Spike Dup (OJ29003-MSD1)

Source: X010208-01

Prepared: 10/29/2010 Analyzed: 10/29/2010

Benzene	0.21	0.004	mg/kg	0.200	ND	105	77.6-132	2.19	13.1	
Toluene	0.20	0.004	"	0.200	ND	98.3	74-136	1.06	20.9	
Surrogate: 1,2-Dichloroethane-d4	67.5		ug/L	62.5		108	77.6-134			
Surrogate: Toluene-d8	64.4		"	62.5		103	81.4-121			
Surrogate: 4-Bromofluorobenzene	61.0		"	62.5		97.7	74.7-123			

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 Project: Mansur Wells

Conductivity by E120.1 - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 829880 - NONE										
LCS (829880-1-BKS)		Source: 829880-1-BKS			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Conductivity	1350	2	US/CM	1410	±1.00	96	80-120	0	20	
BLANK (829880-1-BLK)		Source: 829880-1-BLK			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Conductivity	ND	2	US/CM	1410			-	0	20	

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 Project Number: 010-2337
 Project: Mansur Wells

Metals by SW6010B - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 830512 - SW3050B

MS (395134-001 S)		Source: 395134-001 S			Prepared: 11/01/2010 Analyzed: 11/03/2010					
Boron	110	5.6	mg/kg	112	4.31	94	75-125	0	20	
Cadmium	115	0.56	"	112	←0.560	103	75-125	0	20	
Calcium	24600	22.4	"	2800	16500	289	75-125	0	20	J
Nickel	116	1.12	"	112	5.23	99	75-125	0	20	
Sodium	3320	56	"	2800	404	104	75-125	0	20	
Silver	54.6	2.24	"	56	←2.24	98	75-125	0	20	
Chromium	119	1.12	"	112	6.23	101	75-125	0	20	
Copper	126	2.24	"	112	7.63	106	75-125	0	20	
Lead	132	1.12	"	112	6.59	112	75-125	0	20	
Barium	4150	1.12	"	112	2500	NR	75-125	0	20	J
Magnesium	6790	22.4	"	2800	2710	146	75-125	0	20	J
Zinc	141	3.36	"	112	21.7	107	75-125	0	20	
Selenium	111	3.36	"	112	←3.36	99	75-125	0	20	

MSD (395134-001 SD)		Source: 395134-001 SD			Prepared: 11/01/2010 Analyzed: 11/03/2010					
Boron	103	5.6	mg/kg	112	4.31	88	75-125	7	20	
Copper	114	2.24	"	112	7.63	95	75-125	10	20	
Chromium	110	1.12	"	112	6.23	93	75-125	8	20	
Cadmium	108	0.56	"	112	←0.560	96	75-125	6	20	
Lead	114	1.12	"	112	6.59	96	75-125	15	20	
Barium	3770	1.12	"	112	2500	NR	75-125	10	20	J
Magnesium	5960	22.4	"	2800	2710	116	75-125	13	20	J
Zinc	130	3.36	"	112	21.7	97	75-125	8	20	
Sodium	3140	56	"	2800	404	98	75-125	6	20	
Silver	52.6	2.24	"	56	←2.24	94	75-125	4	20	
Selenium	102	3.36	"	112	←3.36	91	75-125	8	20	

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 Project: Mansur Wells

Metals by SW6010B - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 830512 - SW3050B										
MSD (395134-001 SD)			Source: 395134-001 SD		Prepared: 11/01/2010 Analyzed: 11/03/2010					
Nickel	108	1.12	mg/kg	112	5.23	92	75-125	7	20	
Calcium	23500	22.4	"	2800	16500	250	75-125	5	20	J
LCS (577477-1-BKS)			Source: 577477-1-BKS		Prepared: 11/01/2010 Analyzed: 11/03/2010					
Calcium	2450	20	mg/kg	2500	+10.0	98	75-125	0	20	
Barium	102	1	"	100	+0.390	102	75-125	0	20	
Boron	99	5	"	100	+0.910	99	75-125	0	20	
Cadmium	105	0.5	"	100	+0.170	105	75-125	0	20	
Chromium	102	1	"	100	+0.220	102	75-125	0	20	
Copper	104	2	"	100	+0.430	104	75-125	0	20	
Lead	104	1	"	100	+0.470	104	75-125	0	20	
Nickel	102	1	"	100	+0.093	102	75-125	0	20	
Selenium	99.8	3	"	100	+0.620	100	75-125	0	20	
Silver	50.4	2	"	50	+0.710	101	75-125	0	20	
Sodium	2480	50	"	2500	3.55	99	75-125	0	20	
Zinc	101	3	"	100	+1.50	101	75-125	0	20	
Magnesium	2420	20	"	2500	7.85	97	75-125	0	20	
BLANK (577477-1-BLK)			Source: 577477-1-BLK		Prepared: 11/01/2010 Analyzed: 11/03/2010					
Selenium	ND	3	mg/kg	100			-	0	20	
Zinc	ND	3	"	100			-	0	20	
Silver	ND	2	"	50			-	0	20	
Nickel	ND	1	"	100			-	0	20	
Magnesium	7.85	20	"	2500			-	0	20	I, V
Lead	ND	1	"	100			-	0	20	
Copper	ND	2	"	100			-	0	20	

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Project: Mansur Wells

**Metals by SW6010B - Quality Control
XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 830512 - SW3050B

BLANK (577477-1-BLK)		Source: 577477-1-BLK			Prepared: 11/01/2010 Analyzed: 11/03/2010					
Chromium	ND	1	mg/kg	100			-	0	20	
Calcium	ND	20	"	2500			-	0	20	
Cadmium	ND	0.5	"	100			-	0	20	
Boron	ND	5	"	100			-	0	20	
Barium	ND	1	"	100			-	0	20	
Sodium	3.55	50	"	2500			-	0	20	I, V

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Project: Mansur Wells

**Metals by SW6020 - Quality Control
XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 831032 - SW3050B

BLANK (577475-1-BLK)

Source: 577475-1-BLK

Prepared: 11/01/2010 Analyzed: 11/08/2010

Arsenic	ND	0.4	mg/kg	20			-	0	30	
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 Project: Mansur Wells

Metals by SW7196 - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 830779 - SW3060A										
MS (395134-001 S) Source: 395134-001 S Prepared: 11/05/2010 Analyzed: 11/05/2010										
Chromium, Hexavalent	2.52	4.48	mg/kg	2.8	4.48	90	80-120	0	20	I
LCS (830779-1-BKS) Source: 830779-1-BKS Prepared: 11/05/2010 Analyzed: 11/05/2010										
Chromium, Hexavalent	2.45	4	mg/kg	2.5	0.005	98	80-120	0	20	I
BLANK (830779-1-BLK) Source: 830779-1-BLK Prepared: 11/05/2010 Analyzed: 11/05/2010										
Chromium, Hexavalent	ND	0.4	mg/kg	0.25			-	0	20	

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 Project: Mansur Wells

Metals by SW7471A - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 830147 - SW7471P										
MS (395134-001 S)		Source: 395134-001 S			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Mercury	0.182	0.037	mg/kg	0.149	+0.037	122	75-125	0	20	
MSD (395134-001 SD)		Source: 395134-001 SD			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Mercury	0.184	0.037	mg/kg	0.149	+0.037	123	75-125	1	20	
LCS (577469-1-BKS)		Source: 577469-1-BKS			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Mercury	0.149	0.033	mg/kg	0.133	+0.011	112	75-125	0	20	
BLANK (577469-1-BLK)		Source: 577469-1-BLK			Prepared: 11/01/2010 Analyzed: 11/01/2010					
Mercury	ND	0.033	mg/kg	0.133			-	0	20	

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**Percent Moisture by AD2216A - Quality Control
XENCO**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 829906 - NONE

BLANK (829906-1-BLK)

Source: 829906-1-BLK

Prepared: 11/01/2010 Analyzed: 11/01/2010

Percent Moisture	ND	1	%	0		-	0	20		
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 Project: Mansur Wells

Polyaromatic Hydrocarbons (PAHs) by SW8270C - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 830032 - SW3550

MS (394987-001 S)	Source: 394987-001 S			Prepared: 10/29/2010 Analyzed: 10/30/2010						
Dibenz(a,h)anthracene	1.73	0.068	mg/kg	1.71	↔0.068	101	47-120	0	20	
Fluoranthene	1.73	0.103	"	1.71	↔0.103	101	59-106	0	20	
Fluorene	1.65	0.103	"	1.71	↔0.103	96	54-115	0	20	
Naphthalene	1.52	0.103	"	1.71	↔0.103	89	50-105	0	20	
Chrysene	1.96	0.103	"	1.71	↔0.103	115	61-106	0	20	
Pyrene	1.58	0.103	"	1.71	↔0.103	92	49-125	0	20	
Benzo(k)fluoranthene	1.75	0.103	"	1.71	↔0.103	102	60-112	0	20	
Benzo(b)fluoranthene	1.6	0.103	"	1.71	↔0.103	94	61-108	0	20	
Benzo(a)anthracene	1.68	0.103	"	1.71	↔0.103	98	51-119	0	20	
Anthracene	1.64	0.103	"	1.71	↔0.103	96	59-104	0	20	
Acenaphthene	1.51	0.103	"	1.71	↔0.103	88	48-119	0	20	
Benzo(a)pyrene	1.65	0.068	"	1.71	↔0.068	96	62-104	0	20	
<i>Surrogate: Nitrobenzene-d5</i>	<i>1.41</i>		<i>PERCENT</i>	<i>1.67</i>		<i>84</i>	<i>63-105</i>			
<i>Surrogate: Phenol-d6</i>	<i>2.89</i>		<i>"</i>	<i>3.33</i>		<i>87</i>	<i>60-102</i>			
<i>Surrogate: Terphenyl-D14</i>	<i>1.56</i>		<i>"</i>	<i>1.67</i>		<i>93</i>	<i>57-122</i>			
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>1.47</i>		<i>"</i>	<i>1.67</i>		<i>88</i>	<i>64-104</i>			
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>3.41</i>		<i>"</i>	<i>3.33</i>		<i>102</i>	<i>58-119</i>			
<i>Surrogate: 2-Fluorophenol</i>	<i>3.26</i>		<i>"</i>	<i>3.33</i>		<i>98</i>	<i>60-102</i>			

MSD (394987-001 SD)	Source: 394987-001 SD			Prepared: 10/29/2010 Analyzed: 10/30/2010						
Indeno(1,2,3-c,d)Pyrene	1.68	0.103	mg/kg	1.71	↔0.103	98	70-130	3	30	
Naphthalene	1.48	0.103	"	1.71	↔0.103	87	50-105	3	20	
Fluorene	1.58	0.103	"	1.71	↔0.103	92	54-115	4	20	
Fluoranthene	1.69	0.103	"	1.71	↔0.103	99	59-106	2	20	
Dibenz(a,h)anthracene	1.7	0.068	"	1.71	↔0.068	99	47-120	2	20	
Benzo(k)fluoranthene	1.67	0.103	"	1.71	↔0.103	98	60-112	5	20	
Benzo(b)fluoranthene	1.65	0.103	"	1.71	↔0.103	96	61-108	3	20	

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 Project Number: 010-2337
 Project: Mansur Wells

Polyaromatic Hydrocarbons (PAHs) by SW8270C - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 830032 - SW3550

MSD (394987-001 SD)		Source: 394987-001 SD			Prepared: 10/29/2010 Analyzed: 10/30/2010					
Benzo(a)pyrene	1.64	0.068	mg/kg	1.71	±0.068	96	62-104	1	20	
Benzo(a)anthracene	1.68	0.103	"	1.71	±0.103	98	51-119	0	20	
Anthracene	1.61	0.103	"	1.71	±0.103	94	59-104	2	20	
Acenaphthene	1.49	0.103	"	1.71	±0.103	87	48-119	1	20	
Chrysene	1.99	0.103	"	1.71	±0.103	116	61-106	2	20	
Surrogate: Terphenyl-D14	1.47		PERCENT	1.67		88	57-122			
Surrogate: Phenol-d6	2.71		"	3.33		81	60-102			
Surrogate: 2-Fluorobiphenyl	1.43		"	1.67		86	64-104			
Surrogate: 2-Fluorophenol	3.1		"	3.33		93	60-102			
Surrogate: 2,4,6-Tribromophenol	3.29		"	3.33		99	58-119			
Surrogate: Nitrobenzene-d5	1.36		"	1.67		81	63-105			

LCS (577237-1-BKS)		Source: 577237-1-BKS			Prepared: 10/29/2010 Analyzed: 10/30/2010					
Naphthalene	1.51	0.1	mg/kg	1.67	±0.021	90	50-105	0	20	
Pyrene	1.64	0.1	"	1.67	±0.033	98	49-125	0	20	
Acenaphthene	1.49	0.1	"	1.67	±0.022	89	48-119	0	20	
Indeno(1,2,3-c,d)Pyrene	1.69	0.1	"	1.67	±0.034	101	70-130	0	30	
Benzo(a)pyrene	1.62	0.066	"	1.67	±0.025	97	62-104	0	20	
Fluorene	1.57	0.1	"	1.67	±0.023	94	54-115	0	20	
Benzo(b)fluoranthene	1.68	0.1	"	1.67	±0.020	101	61-108	0	20	
Anthracene	1.58	0.1	"	1.67	±0.035	95	59-104	0	20	
Benzo(a)anthracene	1.64	0.1	"	1.67	±0.028	98	51-119	0	20	
Benzo(k)fluoranthene	1.65	0.1	"	1.67	±0.033	99	60-112	0	20	
Chrysene	1.96	0.1	"	1.67	±0.023	117	61-106	0	20	
Dibenz(a,h)anthracene	1.69	0.066	"	1.67	±0.027	101	47-120	0	20	
Fluoranthene	1.63	0.1	"	1.67	±0.038	98	59-106	0	20	
Surrogate: Phenol-d6	2.84		PERCENT	3.33		85	60-102			
Surrogate: Terphenyl-D14	1.62		"	1.67		97	57-122			

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 Project: Mansur Wells

Polyaromatic Hydrocarbons (PaHs) by SW8270C - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 830032 - SW3550

LCS (577237-1-BKS)		Source: 577237-1-BKS			Prepared: 10/29/2010 Analyzed: 10/30/2010					
Surrogate: 2-Fluorophenol	3.22		PERCENT	3.33		97	60-102			
Surrogate: 2,4,6-Tribromophenol	3.19		"	3.33		96	58-119			
Surrogate: 2-Fluorobiphenyl	1.47		"	1.67		88	64-104			
Surrogate: Nitrobenzene-d5	1.42		"	1.67		85	63-105			

BLANK (577237-1-BLK)		Source: 577237-1-BLK			Prepared: 10/29/2010 Analyzed: 10/30/2010					
Benzo(k)fluoranthene	ND	0.1	mg/kg	1.67		-	0	20		
Indeno(1,2,3-c,d)Pyrene	ND	0.1	"	1.67		-	0	30		
Pyrene	ND	0.1	"	1.67		-	0	20		
Naphthalene	ND	0.1	"	1.67		-	0	20		
Fluorene	ND	0.1	"	1.67		-	0	20		
Fluoranthene	ND	0.1	"	1.67		-	0	20		
Chrysene	ND	0.1	"	1.67		-	0	20		
Benzo(b)fluoranthene	ND	0.1	"	1.67		-	0	20		
Benzo(a)pyrene	ND	0.066	"	1.67		-	0	20		
Benzo(a)anthracene	ND	0.1	"	1.67		-	0	20		
Anthracene	ND	0.1	"	1.67		-	0	20		
Acenaphthene	ND	0.1	"	1.67		-	0	20		
Dibenz(a,h)anthracene	ND	0.066	"	1.67		-	0	20		

Surrogate: Phenol-d6	2.85		PERCENT	3.33		86	60-102			
Surrogate: Nitrobenzene-d5	1.38		"	1.67		83	63-105			
Surrogate: Terphenyl-D14	1.55		"	1.67		93	57-122			
Surrogate: 2-Fluorophenol	3.15		"	3.33		95	60-102			
Surrogate: 2-Fluorobiphenyl	1.5		"	1.67		90	64-104			
Surrogate: 2,4,6-Tribromophenol	3.05		"	3.33		92	58-119			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle,

Olsson Associates
826 21 1/2 Road
Grand Junction CO 81505

Tim Dobransky
Project Number: 010-2337
Project: Mansur Wells

Notes and Definitions

- V Detected in the sample and blank
- Q Sample held beyond the accepted holding time.
- J Spike recovery in the LCS failed high outside method recovery limits. Analytes are BDL. No affect on data
- I Sample result was found between MDL and RL
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

Origins Laboratory, Inc.



Noelle E Doyle.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



01/26/11

Technical Report for

Olsson Associates

Mansur Wells Cuttings Sampling

Project 010-2337_100_100001

Accutest Job Number: D20463

Sampling Date: 01/17/11

Report to:

**Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com**

ATTN: Tim Dobransky

Total number of pages in report: 17



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "John Hamilton".

**John Hamilton
Laboratory Director**

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

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Sample Summary

Olsson Associates

Job No: D20463

Mansur Wells Cuttings Sampling
 Project No: Project 010-2337_100_100001

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D20463-1	01/17/11	12:50 JS	01/18/11	SO	Soil	BG2-M
D20463-2	01/17/11	13:00 JS	01/18/11	SO	Soil	BG3-M
D20463-3	01/17/11	13:10 JS	01/18/11	SO	Soil	BG4-M
D20463-4	01/17/11	13:20 JS	01/18/11	SO	Soil	BG5-M

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates

Job No D20463

Site: Mansur Wells Cuttings Sampling

Report Dat 1/26/2011 9:06:38 AM

On 01/18/2011, four (4) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 2.8°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D20463 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6020

Matrix SO	Batch ID: MP3862
------------------	-------------------------

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20530-2MS, D20530-2MSD, and D20530-2SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD for Arsenic are outside control limits for sample MP3862-SD1. The percent difference acceptable is due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN7922
------------------	-------------------------

- The data for SM19 2540B M meets quality control requirements.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: BG2-M	Date Sampled: 01/17/11
Lab Sample ID: D20463-1	Date Received: 01/18/11
Matrix: SO - Soil	Percent Solids: 79.7
Project: Mansur Wells Cuttings Sampling	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.4	0.39	mg/kg	5	01/21/11	01/24/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1269

(2) Prep QC Batch: MP3862

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG3-M	Date Sampled: 01/17/11
Lab Sample ID: D20463-2	Date Received: 01/18/11
Matrix: SO - Soil	Percent Solids: 83.0
Project: Mansur Wells Cuttings Sampling	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.0	0.37	mg/kg	5	01/21/11	01/24/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1269

(2) Prep QC Batch: MP3862

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG4-M	Date Sampled: 01/17/11
Lab Sample ID: D20463-3	Date Received: 01/18/11
Matrix: SO - Soil	Percent Solids: 79.1
Project: Mansur Wells Cuttings Sampling	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.7	0.42	mg/kg	5	01/21/11	01/24/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1269

(2) Prep QC Batch: MP3862

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG5-M	Date Sampled: 01/17/11
Lab Sample ID: D20463-4	Date Received: 01/18/11
Matrix: SO - Soil	Percent Solids: 88.9
Project: Mansur Wells Cuttings Sampling	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.9	0.35	mg/kg	5	01/21/11	01/24/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1269

(2) Prep QC Batch: MP3862

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, Colorado 80033
TEL. 303-425-6021; 877-737-4521 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #
Bottle Order Control #
Accutest Quote #
Accutest Job # D20463

Client / Reporting Information Project Information Requested Analysis (see TEST CODE sheet) Matrix Codes

Company Name: Olsson Associates
Project Name: Mansur Wells Cuttings Sampling
Street Address: 8200 21 1/2 Road
City: Grand Jct. CO 81505
Project Contact: Tim Dobransky
Phone: 970-263-7800
Project Manager: Jessica Estina

Table with columns: Accutest Sample #, Field ID / Point of Collection, MEOH/VDI Vial #, Date, Time, Sampled by, Matrix, # of bottles, and various chemical analysis columns (HCl, NiOH, HNO3, H2SO4, NONE, DI Water, MECH, ENCORE). Rows include BG2-m, BG3-m, BG4-m, BG5-m.

Turnaround Time (Business days)
Data Deliverable Information
Level 1
Level 2
Level 3
Level 4
Level 1 = Results Only
Level 2 = Results + QC Summary + Case Narrative
Level 3 = Results + QC Summary + Partial Raw data
Level 4 = Full Deliverable

Relinquished by: [Signature] Date Time: 11/17/11 1530
Received By: [Signature] Date Time: 11/17/11 0845
Relinquished By: [Signature] Date Time:
Received By: [Signature] Date Time:
Custody Seal #
Intact
Not Intact
Preserved when applicable
On Ice
Cooler Temp: 2.88

4.1
4



Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D20463
Account: CORCCOGJ - Olsson Associates
Project: Mansur Wells Cuttings Sampling

QC Batch ID: MP3862
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 01/21/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.058	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP3862: D20463-1, D20463-2, D20463-3, D20463-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20463
 Account: CORCCOGJ - Olsson Associates
 Project: Mansur Wells Cuttings Sampling

QC Batch ID: MP3862
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 01/21/11

Metal	D20530-2 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	4.7	213	199	104.8	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3862: D20463-1, D20463-2, D20463-3, D20463-4

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20463
 Account: CORCCOGJ - Olsson Associates
 Project: Mansur Wells Cuttings Sampling

QC Batch ID: MP3862
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 01/21/11

Metal	D20530-2 Original MSD		SpikeLot MPICPAL % Rec	MSD RPD	QC Limit	
Aluminum						
Antimony						
Arsenic	4.7	202	205	96.2	5.3	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3862: D20463-1, D20463-2, D20463-3, D20463-4

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20463
 Account: CORCCOGJ - Olsson Associates
 Project: Mansur Wells Cuttings Sampling

QC Batch ID: MP3862
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 01/21/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	96.7	100	96.7	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3862: D20463-1, D20463-2, D20463-3, D20463-4

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

5.1.3
5

SERIAL DILUTION RESULTS SUMMARY

Login Number: D20463
 Account: CORCCOGJ - Olsson Associates
 Project: Mansur Wells Cuttings Sampling

QC Batch ID: MP3862
 Matrix Type: SOLID

Methods: SW846 6020
 Units: ug/l

Prep Date: 01/21/11

Metal	D20530-2 Original	SDL 5:25	%DIF	QC Limits
-------	----------------------	----------	------	--------------

Aluminum				
Antimony				
Arsenic	23.2	4.20	81.9 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3862: D20463-1, D20463-2, D20463-3, D20463-4

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).