Complaint # 200204739

ALS Paragon

Metals
Case Narrative

Colorado Oil & Gas Conservation Commission

Complaint 200204739

Work Order Number: 0903072

1. This report consists of 2 soil samples.

2. The samples were received intact at ambient temperature by ALS Paragon on 03/11/09.

3. The samples were prepared for analysis based on SW-846, 3rd Edition procedures.

   For analysis by Trace ICP, the samples were digested following method 3050B and SOP 806 Rev. 13.

4. The samples were analyzed following SW-846, 3rd Edition procedures.

   Analysis by Trace ICP followed method 6010B and SOP 834 Rev. 7.

   The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution.

   During sample analysis concentrations are computed by the software and the results are printed in mg/L. The instrument software does not provide a printout which gives both intensity and concentration. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2nd source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations at two times those in the ICV, and a readback of the highest calibration standard.

   These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in this digestion batch. There were not more than 20 samples in the digestion batch.
   - The preparation (method) blank associated with this digestion batch was below the practical quantitation limit for each requested analyte.
   - The laboratory control sample associated with this digestion batch was within the acceptance limits. This indicates complete digestion according to the method.
   - All initial and continuing calibration blanks associated with this analytical batch were below the practical quantitation limits for the requested analytes.
   - All initial and continuing calibration verifications associated with this analytical batch were within the acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.
   - The interference check samples and high standard readbacks associated with Method 6010B were within acceptance criteria.
8. Matrix specific quality control procedures.

   Per method requirements, matrix QC was performed for this analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

9. The samples required dilutions to bring iron into the analytical range of the Trace ICP. Accurate quantitation of iron is necessary to correct for spectral interferences on lead, selenium, thallium, and vanadium. The lead, selenium, thallium, and vanadium results were determined from the diluted samples.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS Paragon certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Megan Johnson — 3/20/09
Megan Johnson — Date
Inorganics Primary Data Reviewer

Inorganics Final Data Reviewer — 3/20/09
Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- If the analyte was analyzed for but not detected a "U" is entered.
- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

  S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

ALS Paragon

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0903072
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name:
Client Project Number: Complaint 200204739
Client PO Number: OE PHA 09000000004

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Sandoval 100309 B	0903072-1		SOIL	10-Mar-09	8:33
Sandoval 100309 S	0903072-2		SOIL	10-Mar-09	9:35

Paragon Analytics
LIMS Version: 6.252A

Date Printed: Friday, March 20, 2009

Paragon Analytics
A Division of DataChem Laboratories, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0903072

Chain-of-Custody Date 10 Mar 09 Page 1 of 1

Originator: Retain pink copy!

Project Name/No.: _____ **Sampler(s):** Gintautas Turnaround (circle one) **Standard** or **Rush (Due** 14 **)** **Dispose: Date** 30 day or **Return to Client**

Report To: Peter Gintautas
Phone: 719-846-3091
Fax:
E-mail:
Company:
Address:

Complaint 2002 04739

Circle method (right); provide additional information as needed (comments).

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (indicate type... HCl, etc.)	No. of Containers	VOCs SW8260B	BTEX (only) SW8021B	SVOCs SW8270C	OC Pesticides SW8081A	PCBs SW8082	Herbicides SW8151A	Explosives SW8330	TCLP Organics SW1311 SW8260B 8270C 8081A 8151A	TCLP Metals SW1311 Hg SW6010B 7470	Total Metals by ICP Hg SW6010B 7470 7471 E200.7	Dissolved Metals by ICP Hg SW6010B 7470 E200.7	Total Metals by ICP/MS SW6020A E200.8	Dissolved Metals by ICP/MS SW6020A E200.8	Hexavalent Chromium SW7196A Alkaline Digest? Y / N	Inorganic Anions SW9056 E300.0 (specify in comments)	Solids: Total E160.3 TDS E160.1 TSS E160.2	pH SW9040B SW9045C	TPH SW8015B GRO DRO (circle one or both)	Gross Alpha / Beta SW9310 E900.0	Actinides by Paragon SOP Pu / U / Am / Th / Cm / ___	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 E903.1	Radium 228 SW9320 E904.0	Strontium 90 (Total RadioSr) D5811-00	Gamma Isotopes E901.1	Radon 222 SM7510Rn
Sandoval 100309 B	10 Mar 09	08:33	(1)	S	none	2										X					X		X	X							
Sandoval 100309 S	10 Mar 09	08:35	(2)	S	none	2										X					X		X	X							

* **Time Zone:** EST CST (MST) PST **Matrix Key:** O = oil, S = soil, NS = non-soil solid, W = water, L = liquid, E = extract, F = filter

Comments:

Anions = Br, Cl, SO4

6010 = Sb, Ag, Ba, Be, B, Cd, Ca, Cr, Cu, Fe, Pb, Li, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Th, U, Zn

Relinquished By: (1)	Relinquished By: (2)
Signature [signature]	Signature
Printed Name Peter Gint	Printed Name
Date 10 Mar 09 Time 11:00	Date Time
Company CGS	Company

Received By: (1)	Received By: (2)
Signature [signature]	Signature
Printed Name C. Overturf	Printed Name
Date 3-11-09 Time 0935	Date Time
Company HLS	Company

Form 202r6.xls (6/16/06)

CONDITION OF SAMPLE UPON RECEIPT FORM **Paragon Analytics**

Client: COCG Workorder No: 0903072

Project Manager: AW Initials: AW Date: 3-11-09

1.	Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2.	Are custody **seals** on **shipping containers** intact?	NONE	YES	NO
3.	Are Custody seals on **sample containers** intact?	NONE	YES	NO
4.	Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
5.	Are the **COC and bottle labels complete and legible**?		YES	NO
6.	Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7.	Were **airbills / shipping documents** present and/or removable?	DROP OFF	YES	NO
8.	Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	YES	NO
9.	Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	NO
10.	Is there **sufficient sample** for the requested analyses?		YES	NO
11.	Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
12.	Are all samples within **holding times** for the requested analyses?		YES	NO
13.	Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
14.	Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	NO
15.	Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	N/A	YES	NO
16.	Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17.	Were the samples **shipped on ice**?		YES	NO
18.	Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 #4	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	Amb							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	12							
Background µR/hr reading:	11							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: 3/11/09

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0903072
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200204739

Field ID: Sandoval 100309 B
Lab ID: 0903072-1

Sample Matrix: SOIL
% Moisture: 6.8
Date Collected: 10-Mar-09
Date Extracted: 12-Mar-09
Date Analyzed: 13-Mar-09
Prep Method: SW3050 Rev B

Prep Batch: IP090312-2
QCBatchID: IP090312-2-4
Run ID: IT090313-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 090313A.

Sample Aliquot: 1.01 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	14	1.1		
7440-39-3	BARIUM	1	93	11		
7440-41-7	BERYLLIUM	1	0.77	0.53		
7440-42-8	BORON	1	11	11	U	
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	28000	110		
7440-47-3	CHROMIUM	1	11	1.1		
7440-50-8	COPPER	1	28	1.1		
7439-89-6	IRON	2	33000	21		
7439-92-1	LEAD	2	22	0.64		
7439-93-2	LITHIUM	1	9.7	1.1		
7439-95-4	MAGNESIUM	1	6200	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	24	2.1		
7440-09-7	POTASSIUM	1	1600	110		
7782-49-2	SELENIUM	2	1.1	1.1	U	
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	230	110		
7440-24-6	STRONTIUM	1	100	1.1		
7440-28-0	THALLIUM	2	2.1	2.1	U	
7440-61-1	URANIUM	2	42	42	U	
7440-66-6	ZINC	1	90	2.1		

Data Package ID: *it0903072-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0903072
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200204739

Field ID: Sandoval 100309 S
Lab ID: 0903072-2

Sample Matrix: SOIL
% Moisture: 3.1
Date Collected: 10-Mar-09
Date Extracted: 12-Mar-09
Date Analyzed: 13-Mar-09
Prep Method: SW3050 Rev B

Prep Batch: IP090312-2
QCBatchID: IP090312-2-4
Run ID: IT090313-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 090313A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	7.1	1		
7440-39-3	BARIUM	1	150	10		
7440-41-7	BERYLLIUM	1	0.57	0.52		
7440-42-8	BORON	1	10	10	U	
7440-43-9	CADMIUM	1	0.52	0.52	U	
7440-70-2	CALCIUM	1	21000	100		
7440-47-3	CHROMIUM	1	11	1		
7440-50-8	COPPER	1	21	1		
7439-89-6	IRON	2	24000	21		
7439-92-1	LEAD	2	15	0.62		
7439-93-2	LITHIUM	1	11	1		
7439-95-4	MAGNESIUM	1	5200	100		
7439-96-5	MANGANESE	1	290	1		
7439-98-7	MOLYBDENUM	1	1	1	U	
7440-02-0	NICKEL	1	19	2.1		
7440-09-7	POTASSIUM	1	1400	100		
7782-49-2	SELENIUM	2	1	1	U	
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	280	100		
7440-24-6	STRONTIUM	1	110	1		
7440-28-0	THALLIUM	2	2.1	2.1	U	
7440-61-1	URANIUM	2	41	41	U	
7440-66-6	ZINC	1	61	2.1		

Data Package ID: *it0903072-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0903072

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200204739

Lab ID: IP090312-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Mar-09
Date Analyzed: 13-Mar-09
Prep Method: SW3050 Rev B

Prep Batch: IP090312-2
QCBatchID: IP090312-2-4
Run ID: IT090313-2A1
Cleanup: NONE
Basis: N/A
File Name: 090313A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	2	2	U	
7440-38-2	ARSENIC	1	1	1	U	
7440-39-3	BARIUM	1	10	10	U	
7440-41-7	BERYLLIUM	1	0.5	0.5	U	
7440-42-8	BORON	1	10	10	U	
7440-43-9	CADMIUM	1	0.5	0.5	U	
7440-70-2	CALCIUM	1	100	100	U	
7440-47-3	CHROMIUM	1	1	1	U	
7440-50-8	COPPER	1	1	1	U	
7439-89-6	IRON	1	10	10	U	
7439-92-1	LEAD	1	0.3	0.3	U	
7439-93-2	LITHIUM	1	1	1	U	
7439-95-4	MAGNESIUM	1	100	100	U	
7439-96-5	MANGANESE	1	1	1	U	
7439-98-7	MOLYBDENUM	1	1	1	U	
7440-02-0	NICKEL	1	2	2	U	
7440-09-7	POTASSIUM	1	100	100	U	
7782-49-2	SELENIUM	1	0.5	0.5	U	
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	U	
7440-24-6	STRONTIUM	1	1	1	U	
7440-28-0	THALLIUM	1	1	1	U	
7440-61-1	URANIUM	1	20	20	U	
7440-66-6	ZINC	1	2	2	U	

Data Package ID: *it0903072-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0903072

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200204739

Lab ID: IP090312-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 03/12/2009
Date Analyzed: 03/13/2009
Prep Method: SW3050B

Prep Batch: IP090312-2
QCBatchID: IP090312-2-4
Run ID: IT090313-2A1
Cleanup: NONE
Basis: N/A
File Name: 090313A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-36-0	ANTIMONY	50	48.6	2		97	80 - 120%
7440-38-2	ARSENIC	200	190	1		95	80 - 120%
7440-39-3	BARIUM	200	189	10		94	80 - 120%
7440-41-7	BERYLLIUM	5	4.85	0.5		97	80 - 120%
7440-42-8	BORON	100	95.5	10		96	80 - 120%
7440-43-9	CADMIUM	5	4.97	0.5		99	80 - 120%
7440-70-2	CALCIUM	4000	3970	100		99	80 - 120%
7440-47-3	CHROMIUM	20	19.7	1		99	80 - 120%
7440-50-8	COPPER	25	24	1		96	80 - 120%
7439-89-6	IRON	100	98.1	10		98	80 - 120%
7439-92-1	LEAD	50	48.5	0.3		97	80 - 120%
7439-93-2	LITHIUM	50	49.3	1		99	80 - 120%
7439-95-4	MAGNESIUM	4000	4000	100		100	80 - 120%
7439-96-5	MANGANESE	50	48.1	1		96	80 - 120%
7439-98-7	MOLYBDENUM	100	97.1	1		97	80 - 120%
7440-02-0	NICKEL	50	48.8	2		98	80 - 120%
7440-09-7	POTASSIUM	4000	3850	100		96	80 - 120%
7782-49-2	SELENIUM	200	190	0.5		95	80 - 120%
7440-22-4	SILVER	10	9.71	1		97	80 - 120%
7440-23-5	SODIUM	4000	3810	100		95	80 - 120%
7440-24-6	STRONTIUM	50	49.9	1		100	80 - 120%
7440-28-0	THALLIUM	200	199	1		100	80 - 120%
7440-61-1	URANIUM	1000	938	20		94	80 - 120%
7440-66-6	ZINC	50	50.8	2		102	80 - 120%

Data Package ID: *it0903072-1*