

Paragon Analytics

Dissolved Gases Case Narrative

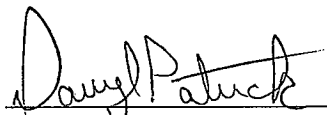
Colorado Oil & Gas Conservation Commission

Complaint 200192774

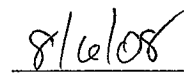
Order Number - 0807199

1. This report consists of 1 water sample. The sample was received cool and intact by Paragon on 07/25/2008.
The sample was free of headspace prior to analysis.
The sample had a pH > 2 at the time of analysis.
2. The sample was prepared and analyzed according to method RSK-175 procedures and PA SOP449R0.
3. The preparation batch included a method blank, laboratory control sample, and laboratory control sample duplicate. 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.
4. All preparation QC results were within the acceptance criteria.
5. All samples are associated with one or more of the following analytical QC: initial calibrations, initial calibration verifications (ICV), and continuing calibration verifications (CCV).
6. All analytical QC were within the acceptance criteria.
7. Sample dilutions were not required for the requested analyses.
8. The samples were prepared and analyzed within the established holding times.
9. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in Paragon Analytics Standard Operating Procedure 939 Revision 3.

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



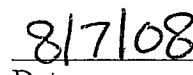
Darryl Patrick
Organics Primary Data Reviewer



Date



Dan Sherneman
Organics Final Data Reviewer



Date

Paragon Analytics, Inc.
Data Qualifier Flags
Chromatography and Mass Spectrometry

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the data indicate the presence of a compound that meets the identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- *:** This flag indicates that a spike recovery is outside the control criteria.
- +:** This flag indicates that the relative percent difference (RPD) exceeds the control criteria.

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0807199

Client Name: Colorado Oil & Gas Conservation Commission

Client Project Name: Complaint 200192774

Client Project Number:

Client PO Number: OE PHA 09000000004

| Client Sample Number | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|----------------------|-------------------|------------|--------|----------------|----------------|
| Meadows WW | 0807199-1 | | WATER | 22-Jul-08 | 8:59 |
| Homestead 14-5 | 0807199-2 | | WATER | 23-Jul-08 | 13:44 |



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) 0807195 Page 1 of 1

Chain-of-Custody Date 24 July 2018

Originator: Retain pink copy!

[illegible]

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: CogccWorkorder No: 0807199Project Manager: AvrInitials: SL Date: 7.25.08

| | | | |
|---|--|--------------------------------------|---|
| 1. Does this project require any special handling in addition to standard Paragon procedures? | | YES | <input checked="" type="radio"/> NO |
| 2. Are custody seals on shipping containers intact? | NONE | <input checked="" type="radio"/> YES | NO |
| 3. Are Custody seals on sample containers intact? | <input checked="" type="radio"/> NONE | YES | NO |
| 4. Is there a COC (Chain-of-Custody) present or other representative documents? | | <input checked="" type="radio"/> YES | NO |
| 5. Are the COC and bottle labels complete and legible? | | <input checked="" type="radio"/> YES | NO |
| 6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.) | | <input checked="" type="radio"/> YES | NO |
| 7. Were airbills / shipping documents present and/or removable? | DROP OFF | <input checked="" type="radio"/> YES | NO |
| 8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) | <u>aw</u> <input checked="" type="radio"/> N/A | YES | <input checked="" type="radio"/> NO |
| 9. Are all aqueous non-preserved samples pH 4-9? | <u>7/25/08</u> N/A | <input checked="" type="radio"/> YES | NO |
| 10. Is there sufficient sample for the requested analyses? | | <input checked="" type="radio"/> YES | NO |
| 11. Were all samples placed in the proper containers for the requested analyses? | | <input checked="" type="radio"/> YES | NO |
| 12. Are all samples within holding times for the requested analyses? | | <input checked="" type="radio"/> YES | NO |
| 13. Were all sample containers received intact ? (not broken or leaking, etc.) | | <input checked="" type="radio"/> YES | NO |
| 14. Are all samples requiring no headspace (VOC, GRO, Rx CN/S, radon), headspace free? Size of bubble: ____ < green pea ____ > green pea | N/A | <input checked="" type="radio"/> YES | NO |
| 15. 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.) | <input checked="" type="radio"/> N/A | YES | NO |
| 16. Were the samples shipped on ice ? | | <input checked="" type="radio"/> YES | NO |
| 17. Were cooler temperatures measured at 0.1-6.0°C? | IR gun used*: <input checked="" type="radio"/> #2 #4 | RAD ONLY | <input checked="" type="radio"/> YES NO |
| Cooler #: <u>1</u> | | | |
| Temperature (°C): <u>1.8</u> | | | |
| No. of custody seals on cooler: <u>1</u> | | | |
| DOT Survey/Acceptance Information | External µR/hr reading: <u>11</u> | | |
| | Background µR/hr reading: <u>11</u> | | |
| Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> NA (If no, see Form 008.) | | | |

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

Sample #2 for TR Metals received unpreserved -
 Sample for Metals received unpreserved @ pH 7
 added 2ml HNO3 Lot E26035 7.25.08 @ 1515 final pH 1.3 *SL*

If applicable, was the client contacted? YES / NO ☒ NO Contact: _____ Date/Time: _____Project Manager Signature / Date: *Avr* 7/25/08

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

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

Dissolved Gasses

Method RSK175

Method Blank

Lab Name: Paragon Analytics

Work Order Number: 0807199

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200192774

Lab ID: HC080805-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05-Aug-08

Date Analyzed: 05-Aug-08

Prep Method: METHOD

Prep Batch: HC080805-1

QCBatchID: HC080805-1-1

Run ID: HC080805-1A

Cleanup: NONE

Basis: N/A

File Name: 00430.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

| CASNO | Target Analyte | DF | Result | Reporting Limit | Result Qualifier | EPA Qualifier |
|---------|----------------|----|--------|-----------------|------------------|---------------|
| 74-82-8 | METHANE | 1 | 1 | 1 | U | |
| 74-85-1 | ETHENE | 1 | 1 | 1 | U | |
| 74-84-0 | ETHANE | 1 | 2 | 2 | U | |

Data Package ID: HC0807199-1

Date Printed: Wednesday, August 06, 2008

Paragon Analytics

LIMS Version: 6.178A

Page 1 of 1

Dissolved Gasses

Method RSK175

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0807199

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200192774

| | |
|-----------|------------|
| Field ID: | Meadows WW |
| Lab ID: | 0807199-1 |

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 22-Jul-08

Date Extracted: 05-Aug-08

Date Analyzed: 05-Aug-08

Prep Method: METHOD

Prep Batch: HC080805-1

QCBatchID: HC080805-1-1

Run ID: HC080805-1A

Cleanup: NONE

Basis: As Received

File Name: 00437.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

| CASNO | Target Analyte | Dilution Factor | Result | Reporting Limit | Result Qualifier | EPA Qualifier |
|---------|----------------|-----------------|--------|-----------------|------------------|---------------|
| 74-82-8 | METHANE | 1 | 1900 | 1 | | |
| 74-85-1 | ETHENE | 1 | 1 | 1 | U | |
| 74-84-0 | ETHANE | 1 | 7 | 2 | | |

Data Package ID: HC0807199-1

Date Printed: Wednesday, August 06, 2008

Paragon Analytics

LIMS Version: 6.178A

Page 1 of 1

Dissolved Gasses

Method RSK175

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0807199

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200192774

Lab ID: HC080805-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/05/2008

Date Analyzed: 08/05/2008

Prep Method: METHOD

Prep Batch: HC080805-1

QCBatchID: HC080805-1-1

Run ID: HC080805-1A

Cleanup: NONE

Basis: N/A

File Name: 00429.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

| CASNO | Target Analyte | Spike Added | LCS Result | Reporting Limit | Result Qualifier | LCS % Rec. | Control Limits |
|---------|----------------|-------------|------------|-----------------|------------------|------------|----------------|
| 74-82-8 | METHANE | 140 | 131 | 1 | | 94 | 80 - 120% |
| 74-85-1 | ETHENE | 245 | 231 | 1 | | 94 | 80 - 120% |
| 74-84-0 | ETHANE | 262 | 245 | 2 | | 93 | 80 - 120% |

Lab ID: HC080805-1LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/05/2008

Date Analyzed: 08/05/2008

Prep Method: METHOD

Prep Batch: HC080805-1

QCBatchID: HC080805-1-1

Run ID: HC080805-1A

Cleanup: NONE

Basis: N/A

File Name: 00438.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

| CASNO | Target Analyte | Spike Added | LCSD Result | Reporting Limit | Result Qualifier | LCSD % Rec. | RPD Limit | RPD |
|---------|----------------|-------------|-------------|-----------------|------------------|-------------|-----------|-----|
| 74-82-8 | METHANE | 140 | 136 | 1 | | 97 | 25 | 4 |
| 74-85-1 | ETHENE | 245 | 238 | 1 | | 97 | 25 | 3 |
| 74-84-0 | ETHANE | 262 | 254 | 2 | | 97 | 25 | 4 |

Data Package ID: HC0807199-1

Date Printed: Wednesday, August 06, 2008

Paragon Analytics

LIMS Version: 6.178A

Page 1 of 1