DOCUMENT #2215042

Page 1

FORM 4 Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

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

DE	ET	DE	ES

RECEIVED 6/29/2011

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.)

1. OGCC Operator Number: 96850
2. Name of Operator: Williams Production RMT
3. Address: 1058 County Road 215
City: Parachute State: CO Zip: 81635
4. Contact Name: Karolina Blaney
Phone: 970 683 2295
Fax: 970 285 9573

Complete the Attachment Checklist

	OP	OGCC
Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	X	
Other	X	

5. API Number 05- NA OGCC Facility ID Number 422267
6. Well/Facility Name: 7. Well/Facility Number STARKEY GULCH
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4 NW 1/4 SEC. 32, T6S, R96W, 6TH PM
9. County: Garfield 10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

General Notice

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

	FNL/FSL		FEL/FWL	
Change of **Surface** Footage **from** Exterior Section Lines:				
Change of **Surface** Footage **to** Exterior Section Lines:				
Change of **Bottomhole** Footage **from** Exterior Section Lines:				
Change of **Bottomhole** Footage **to** Exterior Section Lines:				attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer

Latitude
Longitude
Ground Elevation
Distance to nearest property line
Distance to nearest lease line
Distance to nearest well same formation
Distance to nearest bldg, public rd, utility or RR
Is location in a High Density Area (rule 603b)? Yes/No
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:

☒ Report of Work Done
Date Work Completed: 6/28/2011

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

☐ Intent to Recomplete (submit form 2)	☐ Request to Vent or Flare	☐ E&P Waste Disposal
☐ Change Drilling Plans	☐ Repair Well	☐ Beneficial Reuse of E&P Waste
☐ Gross Interval Changed?	☐ Rule 502 variance requested	☐ Status Update/Change of Remediation Plans for Spills and Releases
☐ Casing/Cementing Program Change	☒ Other: Form 15 COAs	

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

Signed: Karolina Blaney Date: 6/29/2011 Email: Karolina.Blaney@Williams.com
Print Name: Karolina Blaney Title: Environmental Specialist

COGCC Approved: Richard Allison Title: OGLA - EPS II Date: 11/17/2011

CONDITIONS OF APPROVAL, IF ANY:

Click here to reset form

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 96850 API Number: 05-045-14224
2. Name of Operator: Williams Production RMT OGCC Facility ID # 422267
3. Well/Facility Name: Well/Facility Number: STARKEY GUL
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4 NW 1/4 SEC. 32, T6S, R96W, 6TH PM

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**

In accordance with the Starkey Gulch Pit Permit Form 15 conditions of approval (see attached), Williams is submitting the following documents in order to stay in compliance:

- Hydrostatic test of pit liner
- List of source water - Form 26
- Analytical data of the grab water sample collected from pit

Form 15

FORM 15 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

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

FOR OGCC USE ONLY

EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

Complete the Attachment Checklist

	Oper	OGCC
Detailed Site Plan	✓	
Topo Map w/ Pit Location	✓	
Water Analysis (Form 25)	NA	
Source Wells (Form 26)	NA	
Pit Design/Plan & Cross Sect	✓	
Design Calculations	NA	
Sensitive Area Determ.	✓	
Mud Program	NA	
Form 2A	NA	

FORM SUBMITTED FOR: ☐ Pit Report ☑ Pit Permit

OGCC Operator Number: 96850
Name of Operator: Williams Production RMT
Address: 1058 County Road 215
City: Parachute State: CO Zip: 81635

Contact Name and Telephone:
Dave Cesark
No: 970 / 683-2281
Fax: 970 / 285-9573

API Number (of associated well): NA
OGCC Facility ID (of other associated facility): ~~NA~~ 383189
Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4 NW 1/4 Sec. 32, T6S, R96W, 6th P.M.
Latitude: N39.483887 Longitude: W108.132344 County: Garfield

Pit Use: ☐ Production ☐ Drilling (Attach mud program) ☑ Special Purpose (Describe Use): CFF (see attached description)
Pit Type: ☑ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☑ No
Offsite disposal of pit contents: ☐ Injection ☐ Commercial Pit/Facility Name: STARKEY GULCH Pit/Facility No:
Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

Existing Site Conditions

Is the location in a "Sensitive Area?" ☑ Yes ☐ No **Attach data used for determination.**
Distance (in feet) to nearest surface water: 400 ft. ground water: 35 ft. water wells: 4000

LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:
Crop Land: ☐ Irrigated ☐ Dry Land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP
Non-Crop Land: ☑ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe):
Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)
Soil map units form USNRCS survey: Sheet No: CO 683 Soil Complex/Series No: 47
Soils Series Name: Nihill Channery Horizon thickness (in inches): A: 0" - 60" ; B: ; C:
Soils Series Name: Horizon thickness (in inches): A: ; B: ; C:
Attach detailed site plan and topo map with pit location.

Pit Design and Construction

Size of pit (feet): Length: 160 ft. Width: 160 ft. Depth: 16 ft.
Calculated pit volume (bbls): ~~50,000~~ 44,555 Daily inflow rate (bbls/day): 1800
Daily disposal rates (attach calculations): Evaporation: NA bbls/day Percolation: NA bbls/day
Type of liner material: Reinforced Polypropylene Thickness: 45 mils
Attach description of proposed design and construction (include sketches and calculations).
Method of treatment of produced water prior to discharge into pit (separator, heater treater, other):
Is pit fenced? ☑ Yes ☐ No Is pit netted? ~~☐ Yes~~ NO ☑ No

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.
Print Name: DAVID R. CESARK Signed:
Title: ENVI & REG. AFFAIRS LEAD Date: 3/25/08

OGCC Approved: Title: OGLA SUPERVISOR Date: 3/22/11

CONDITIONS OF APPROVAL, IF ANY:
- OPERATOR WILL PROVIDE A LIST OF SOURCE WATER WITH A FORM 26
- OPERATOR WILL PROVIDE ANALYTICAL DATA FOR A GRAB SAMPLE COLLECTED FROM PIT WATER ON A FORM 4
- OPERATOR WILL CONDUCT & DOCUMENT TO COGCC A HYDROSTATIC TEST OF PIT LINER BY 6/30/2011.

FACILITY NUMBER:

Hydrostatic Test Results

Hydrostatic Pit Testing

Data Collection & Computation Form

Fox Engineering Solutions

Pit Owner:	Williams Production RMT
Pit Name:	Starkey Gulch Frac Pit
COGCC Facility No.	422267
Pit Location:	SE1/4 NW1/4 S32, T6S, R96W, 6th P.M.
	Latitude: N 39.483887° Longitude: W108.132344° NAD83
	Garfield County, Colorado
Approximate Elevation:	5630 ft. MSL
Test Conducted By:	David Fox, Fox Engineering Solutions

Test Initiation:

Date: June 20, 2011
Time: 1:30 PM
Total Duration: 72 hours

Test Termination:

Date: June 23, 2011
Time: 1:30 PM

	Length	Width	Area		Comments
Tributary Pit Liner Surface Area (ft^2):	-	-	26283	$ft.^2$	**Surveyed by Bookcliff Survey**
Initial Pit Water Surface Area:	-	-	24392	$ft.^2$	**Surveyed by Bookcliff Survey**
Final Pit Water Surface Area:	-	-	24331	$ft.^2$	**Surveyed by Bookcliff Survey**
Average Pit Surface Area:			24361.5	$ft.^2$	

Initial Pit Fluid Level:	**91.84 ft.**
Final Pit Fluid Level:	**91.76 ft**
Difference	**0.08 ft or**
Est. Fluid Depth: 14 ft.	**0.96 inches**

Pan located at 14-28-696 (OGCC Pit Facility 414554) to northeast

Evaporation Pan Installed: No **Location:** **Measured Pan Evaporation:** **1.2 inches**
Pan located at 14-28-596 Starkey Production pit 4000 ft NW. **during Test Duration**

Rain Gauge Installed: Yes **Location:** **Recorded Precipitation:** **0.00 inches**
Rain gauge located at 14-28-596 Starkey Production pit 4000 ft NW. **Equiv. 72-Hour Precip. Inflow:** **0.00 inches**

Other Inflow/Outflow:	**Inflow (gal)**	**0**	**Equivalent Inflow:**	**0.00 inches**
	Outflow (gal)	**0**	**Equivalent Outflow:**	**0.00 inches**

Calculated Change in Inches:
(Precipitation - Evaporation + Inflows - Outflows) **-1.20 inches**

Measure Change in Inches: (+ indicates storage increased) **-0.96 inches**

Difference between Calculated and Measured Pit Fluid Level: **0.24** inches

Summary: No observed loss of liner integrity. Evaporation exceeded measured fluid level drop in pit. Weather: Dry and hot 80 - 90° daytime temperatures.

Liner and Pit Condition: Fluid level at approximate 2' freeboard.
Visible portion of liner, approximately the top 2 ft., had no apparent tears, delamination or seam failures.

Comments: Bookcliff Survey utilized a Trimble Total Station for required area and elevation measurements.
Williams staff, Don Parker and Porter Cooley, notified about 72-hour hydrostatic testing.
Williams staff and security guards reported no inflows or outflows during testing period.
Williams place a security guard at the site during the duration of the test.

Hydrostatic Testing Procedures for COGCC Earthen Pits

Version 5.0

Fox Engineering Solutions

The purpose for hydrostatic testing earthen pits is to comply with COGCC approval conditions for verifying the fluid holding integrity of the pit lining system. These procedures are specific to existing or active earthen pits holding oil and gas related fluids including, but not limited to, produced water. During testing, the pit shall have fluid level as high as practical, without encroaching into the 2 ft. freeboard, and the test shall be conducted for a minimum of 72 hours, if practical. Visible portions of the liner, including the anchor trench and seams, shall be inspected for defects. The test shall be scheduled and coordinated with personnel to ensure that oil and gas activities do not interfere with the test. Testing procedures may be subject to changes as dictated by field and climatic factors. All personnel involved with testing, while onsite, shall comply with their respective EH&S requirements.

- If practical, a sign shall be placed in a conspicuous location during the test stating “Hydrostatic Testing in Progress, Pit Closed to All Water Hauling Activities”. Contact information shall also be placed on the sign.
- A semi-permanent datum elevation point shall be established at the pit location. The surface area of the water surface and the surface area of the liner area, tributary to the pit shall be measured. The date and time of each measurement shall be documented.
- The pit fluid level; fluid surface area; and the lined surface area, tributary to the pit, shall be measured and recorded at the beginning of the test. The pit fluid level shall be measured again at the end of the test. A survey grade total station shall be utilized for accuracy to capture this information. The date and time of measurements shall be documented.
- A 4” diameter official rain gauge with funnel inlet shall be installed at the pit site. Precipitation shall be recorded for the duration of the hydrostatic test.
- Pan Evaporation shall be measured during the duration of the test following the procedures established by the National Weather Service – NOAA in the document entitled “National Weather Service - Observing Handbook No. 2, dated July 1989. A Class A evaporation pan shall be placed at the site, or as near as practical, with evaporation measured per established procedures.
- For the duration of the test, all inflows and outflows, such as truck and piped transfers, shall cease. If the cessation of inflows and outflows is not practical, all pit inflows and outflows shall be accurately metered and documented during the test. 24-hour surveillance monitoring may be warranted.
- If no precipitation has occurred during the test, compare the change in the pit fluid level with the recorded pan evaporation.
- If precipitation has occurred during the test, precipitation falling onto tributary portions of the liner, outside of the fluid surface area, must be added as an inflow to the pit and converted into inches of depth over the fluid surface area.
- The calculated change in pit level during the test is: $\Delta S = P + I - O - E$ (all measurements converted to inches)

  Where: ΔS = Change in pit storage
  P = Precipitation Inflow
  I = Measured Inflows
  O = Measured Outflows
  E = Evaporation
- The measured change in the pit fluid level shall be compared to the calculated change, utilizing precipitation and evaporation data, in the pit fluid level during the test duration. The test procedures and results will be reviewed and analyzed for discrepancies. If the test results indicate integrity issues with the lining system, the test will be repeated.

Analytical Data

Gulf Coast ACCUTEST LABORATORIES

06/27/11

Technical Report for

Williams Production RMT Company

Starkey Pit

Accutest Job Number: T72557

Sampling Date: 04/01/11

Report to:

Williams Production RMT Company

karolina.blaney@williams.com

ATTN: Karolina Blaney

Total number of pages in report: **46**

ACCREDITED IN ACCORDANCE WITH nelac

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.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-10-3) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103)

Sections: 1 2 3 4 5 6 7

Table of Contents

-1-

Sample Summary

Williams Production RMT Company

Job No: T72557

Starkey Pit

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T72557-1	04/01/11	14:30	DP	04/02/11	AQ	Water	STARKEY
T72557-1F	04/01/11	14:30	DP	04/02/11	AQ	Water Filtered	STARKEY (DISSOLVED)

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Starkey Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F033253.D	5	04/07/11	AK	n/a	n/a	VF4205
Run #2	F033208.D	100	04/06/11	AK	n/a	n/a	VF4202

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	4770	250	24	ug/l	
71-43-2	Benzene	2070 [a]	200	50	ug/l	
108-86-1	Bromobenzene	ND	10	4.1	ug/l	
74-97-5	Bromochloromethane	ND	10	8.1	ug/l	
75-27-4	Bromodichloromethane	ND	10	2.4	ug/l	
75-25-2	Bromoform	ND	10	6.8	ug/l	
104-51-8	n-Butylbenzene	12.8	10	3.2	ug/l	
135-98-8	sec-Butylbenzene	38.7	10	2.6	ug/l	
98-06-6	tert-Butylbenzene	ND	10	6.7	ug/l	
108-90-7	Chlorobenzene	ND	10	2.8	ug/l	
75-00-3	Chloroethane	ND	10	4.6	ug/l	
67-66-3	Chloroform	8.2	10	3.2	ug/l	J
95-49-8	o-Chlorotoluene	ND	10	3.5	ug/l	
106-43-4	p-Chlorotoluene	ND	10	2.8	ug/l	
75-15-0	Carbon disulfide	ND	10	2.6	ug/l	
56-23-5	Carbon tetrachloride	ND	10	3.3	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	2.6	ug/l	
75-35-4	1,1-Dichloroethylene	ND	10	2.5	ug/l	
563-58-6	1,1-Dichloropropene	ND	10	3.9	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	9.4	ug/l	
106-93-4	1,2-Dibromoethane	ND	10	2.8	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	3.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	3.1	ug/l	
142-28-9	1,3-Dichloropropane	ND	10	2.7	ug/l	
594-20-7	2,2-Dichloropropane	ND	10	3.1	ug/l	
124-48-1	Dibromochloromethane	ND	10	3.1	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.7	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	10	2.8	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	2.4	ug/l	
541-73-1	m-Dichlorobenzene	ND	10	5.2	ug/l	
95-50-1	o-Dichlorobenzene	ND	10	3.5	ug/l	
106-46-7	p-Dichlorobenzene	ND	10	5.1	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Starkey Pit		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	10	2.2	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.4	ug/l	
100-41-4	Ethylbenzene	245	10	2.7	ug/l	
591-78-6	2-Hexanone	ND	50	16	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	6.7	ug/l	
98-82-8	Isopropylbenzene	24.8	10	2.6	ug/l	
99-87-6	p-Isopropyltoluene	7.9	10	3.2	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	50	50	ug/l	
74-83-9	Methyl bromide	ND	10	4.7	ug/l	
74-87-3	Methyl chloride	ND	10	4.2	ug/l	
74-95-3	Methylene bromide	15.1	10	3.2	ug/l	
75-09-2	Methylene chloride	7.4	25	2.0	ug/l	J
78-93-3	Methyl ethyl ketone	19.1	50	19	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	10	3.6	ug/l	
91-20-3	Naphthalene	173	25	3.3	ug/l	
103-65-1	n-Propylbenzene	23.7	10	2.8	ug/l	
100-42-5	Styrene	ND	10	2.8	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	4.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	3.1	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	5.8	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	4.9	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	10	5.3	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	6.7	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	10	4.1	ug/l	
95-63-6	1,2,4-Trimethylbenzene	351	10	3.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	290	10	3.5	ug/l	
127-18-4	Tetrachloroethylene	ND	10	4.6	ug/l	
108-88-3	Toluene	5830 [a]	200	43	ug/l	
79-01-6	Trichloroethylene	ND	10	2.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	6.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.1	ug/l	
1330-20-7	Xylene (total)	4120 [a]	600	170	ug/l	
	m,p-Xylene	3510 [a]	400	110	ug/l	
95-47-6	o-Xylene	591	10	2.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	89%	79-122%
17060-07-0	1,2-Dichloroethane-D4	84%	76%	75-121%
2037-26-5	Toluene-D8	103%	99%	87-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Starkey Pit		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%	93%	80-133%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Starkey Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W4789.D	1	04/08/11	AM	04/08/11	OP18079	EW251
Run #2	W4788.D	20	04/08/11	AM	04/08/11	OP18079	EW251

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2	980 ml	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	430 [a]	200	100	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.1	1.2	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.1	2.3	ug/l	
105-67-9	2,4-Dimethylphenol	83.5	5.1	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	26	15	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.4	ug/l	
95-48-7	2-Methylphenol	112 [a]	100	17	ug/l	
	3&4-Methylphenol	123	5.1	1.6	ug/l	
88-75-5	2-Nitrophenol	ND	5.1	2.0	ug/l	
100-02-7	4-Nitrophenol	ND	26	6.8	ug/l	
87-86-5	Pentachlorophenol	ND	26	13	ug/l	
108-95-2	Phenol	115	5.1	0.77	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.1	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.1	1.2	ug/l	
83-32-9	Acenaphthene	ND	5.1	1.6	ug/l	
208-96-8	Acenaphthylene	ND	5.1	1.2	ug/l	
62-53-3	Aniline	ND	5.1	4.7	ug/l	
120-12-7	Anthracene	ND	5.1	1.1	ug/l	
92-87-5	Benzidine	ND	26	6.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	1.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	1.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	0.89	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	1.7	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	1.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	1.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	1.7	ug/l	
100-51-6	Benzyl Alcohol	208 [a]	100	27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	1.4	ug/l	
106-47-8	4-Chloroaniline	ND	5.1	4.3	ug/l	
86-74-8	Carbazole	ND	5.1	1.5	ug/l	
218-01-9	Chrysene	ND	5.1	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Starkey Pit		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	1.3	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	1.3	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	2.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	1.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.1	1.3	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	1.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	1.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	1.3	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.1	1.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.1	1.4	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	3.3	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	1.6	ug/l	
132-64-9	Dibenzofuran	ND	5.1	1.4	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	1.3	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	1.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	1.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.8	5.1	1.8	ug/l	J
206-44-0	Fluoranthene	ND	5.1	0.99	ug/l	
86-73-7	Fluorene	ND	5.1	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	1.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	1.1	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.99	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	1.8	ug/l	
78-59-1	Isophorone	ND	5.1	1.2	ug/l	
90-12-0	1-Methylnaphthalene	27.3	5.1	1.1	ug/l	
91-57-6	2-Methylnaphthalene	70.1	5.1	1.3	ug/l	
88-74-4	2-Nitroaniline	ND	5.1	1.4	ug/l	
99-09-2	3-Nitroaniline	ND	5.1	3.4	ug/l	
100-01-6	4-Nitroaniline	ND	5.1	2.4	ug/l	
91-20-3	Naphthalene	216 [a]	100	23	ug/l	
98-95-3	Nitrobenzene	ND	5.1	1.8	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.99	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	1.4	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	1.7	ug/l	
85-01-8	Phenanthrene	ND	5.1	0.99	ug/l	
129-00-0	Pyrene	ND	5.1	1.7	ug/l	
110-86-1	Pyridine	4.8	5.1	1.0	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	1.3	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	STARKEY		
Lab Sample ID:	T72557-1	**Date Sampled:**	04/01/11
Matrix:	AQ - Water	**Date Received:**	04/02/11
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Starkey Pit		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	11%	31%	10-66%
4165-62-2	Phenol-d5	33%	31%	10-53%
118-79-6	2,4,6-Tribromophenol	74%	49%	32-128%
4165-60-0	Nitrobenzene-d5	76%	63%	29-115%
321-60-8	2-Fluorobiphenyl	74%	67%	34-113%
1718-51-0	Terphenyl-d14	85%	64%	12-145%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: STARKEY
Lab Sample ID: T72557-1
Matrix: AQ - Water
Project: Starkey Pit

Date Sampled: 04/01/11
Date Received: 04/02/11
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	654	5.0	0.66	mg/l	1	04/12/11	MC	SM 4500 CO2 D
Alkalinity, Carbonate	1.7 J	5.0	0.66	mg/l	1	04/12/11	MC	SM18 2320B
Alkalinity, Total as CaCO3	656	5.0	1.7	mg/l	1	04/12/11	MC	SM 2320B
Bromide	53.6	0.50	0.10	mg/l	1	04/15/11 03:42	BF	EPA 300/SW846 9056
Chloride	4190	250	96	mg/l	500	04/12/11 06:49	BF	EPA 300/SW846 9056
Hydroxide Alkalinity	0.66 U	5.0	0.66	mg/l	1	04/12/11	MC	SM18 4500CO2D
Solids, Total Dissolved	14600	170	43	mg/l	1	04/05/11	BG	SM 2540C
Specific Conductivity	24300	1.0		umhos/cm	1	04/06/11 13:00	KD	EPA 120.1
Sulfate	155	13	3.7	mg/l	25	04/09/11 05:55	BF	EPA 300/SW846 9056
pH	7.90			su	1	04/02/11 12:45	CV	SM 4500H+ B/9040

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID: STARKEY (DISSOLVED)
Lab Sample ID: T72557-1F
Matrix: AQ - Water Filtered
Project: Starkey Pit

Date Sampled: 04/01/11
Date Received: 04/02/11
Percent Solids: n/a

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	177000	5000	25	ug/l	1	04/06/11	04/07/11	TW	SW846 6010B [1]	SW846 3010A [3]
Iron	417	100	23	ug/l	1	04/06/11	04/07/11	TW	SW846 6010B [1]	SW846 3010A [3]
Magnesium	38900	5000	7.9	ug/l	1	04/06/11	04/07/11	TW	SW846 6010B [1]	SW846 3010A [3]
Manganese	573	15	1.9	ug/l	1	04/06/11	04/07/11	TW	SW846 6010B [1]	SW846 3010A [3]
Potassium	87700	5000	45	ug/l	1	04/06/11	04/07/11	TW	SW846 6010B [1]	SW846 3010A [3]
Sodium	4220000	50000	1000	ug/l	10	04/06/11	04/07/11	TW	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA5618
(2) Instrument QC Batch: MA5620
(3) Prep QC Batch: MP14391

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

PAGE ___ OF ___

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # T72557

Client / Reporting Information

Company Name: Williams Production
Street Address: 1058 Cty Rd 215
City: Parachute State: CO Zip: 81635
Project Contact: Karolina.Blaney@Williams.com E-mail:
Phone #: 970 683 2295/970 285 9573 Fax #:
Sampler(s) Name(s): Don Parker Phone #:

Project Information

Project Name: Starkey Pit
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention: Karolina Blaney

Requested Analyses

See attached

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	See attached	LAB USE ONLY
1	Starkey	4/1/11	2:30	DP	Liq	9													X	

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Blaney	4/1/11	1	2 FedEx	4/2/11 1013	2
3			3	4		4
5			5			

Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice | Cooler Temp. 2.8°C

T72557: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T72557 Client: Williams Production Date/Time Received: 4-2-11 1010

# of Coolers Received: 1 Thermometer #: 110 Temperature Adjustment Factor: -.5°

Cooler Temperatures (initial/adjusted): #1: 3.3°C/2.8°C #2: _____ #3: _____ #4: _____ #5: _____

#6: _____ #7: _____ #8: _____ #9: _____ #10 _____ #11 _____ #12 _____

Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other

COOLER INFORMATION

- [ ] Custody seal missing or not intact
- [ ] Temperature criteria not met
- [ ] Wet ice received in cooler

CHAIN OF CUSTODY

- [ ] Chain of Custody not received
- [ ] Sample D/T unclear or missing
- [ ] Analyses unclear or missing
- [X] COC not properly executed

SAMPLE INFORMATION

- [ ] Sample containers received broken
- [ ] VOC vials have headspace
- [ ] Sample labels missing or illegible
- [ ] ID on COC does not match label(s)
- [ ] D/T on COC does not match label(s)
- [ ] Sample/Bottles rcvd but no analysis on COC
- [ ] Sample listed on COC, but not received
- [ ] Bottles missing for requested analysis
- [ ] Insufficient volume for analysis
- [ ] Sample received improperly preserved

TRIP BLANK INFORMATION

- [ ] Trip Blank on COC but not received
- [ ] Trip Blank received but not on COC
- [ ] Trip Blank not intact
- [ ] Received Water Trip Blank
- [ ] Received Soil TB

Number of Encores? _____
Number of 5035 kits? _____
Number of lab-filtered metals? _____

Summary of Discrepancies:

(1) Sub Sample from bottle #1 into a 250ml (HNO3 preserved) 2ml for total metals. HNO3 lot (M2010-007:192)

TECHNICIAN SIGNATURE/DATE: 4-2-11

INFORMATION AND SAMPLE LABELING VERIFIED BY: JR 4/2/11

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

T72557: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T72557 DATE/TIME RECEIVED: 4-2-11 1010

CLIENT: Williams Production INITIALS: SC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Starkey	4/1/11 230P	W	P1000	1-3	3-0	(1) 2 3 4 5 6 7 8	<2 >12
↓	↓	↓	↓	↓	500	4	1 LL	(1) 2 3 4 5 6 7 8	<2 >12
					LAG	5-6	1 LL	(1) 2 3 4 5 6 7 8	<2 >12
					40	7-9	VR	1 (2) 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

SC 4-2-11

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewp

3.1

3

Gulf Coast ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4202-MB	F033190.D	1	04/05/11	AK	n/a	n/a	VF4202

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	
	m,p-Xylene	ND	4.0	1.1	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	93%	75-121%
2037-26-5	Toluene-D8	106%	87-119%
460-00-4	4-Bromofluorobenzene	102%	80-133%

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4205-MB	F033243.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	4.7	ug/l	
108-86-1	Bromobenzene	ND	2.0	0.82	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.6	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.49	ug/l	
75-25-2	Bromoform	ND	2.0	1.4	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.63	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.52	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	1.3	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.56	ug/l	
75-00-3	Chloroethane	ND	2.0	0.92	ug/l	
67-66-3	Chloroform	ND	2.0	0.64	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.70	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.56	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.66	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.52	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.78	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.9	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.55	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.62	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.62	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.0	0.54	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.0	0.62	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.61	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.1	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.56	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.69	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.68	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
591-78-6	2-Hexanone	ND	10	3.2	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	1.3	ug/l	

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4205-MB	F033243.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.51	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.65	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	9.9	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.94	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.84	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.65	ug/l	
75-09-2	Methylene chloride	ND	5.0	0.41	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	3.9	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.73	ug/l	
91-20-3	Naphthalene	ND	5.0	0.65	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.57	ug/l	
100-42-5	Styrene	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.80	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.62	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.98	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.1	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.82	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.65	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.91	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.52	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	1.2	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.0	ug/l	
95-47-6	o-Xylene	ND	2.0	0.53	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	79-122%
17060-07-0	1,2-Dichloroethane-D4	87%	75-121%
2037-26-5	Toluene-D8	100%	87-119%
460-00-4	4-Bromofluorobenzene	100%	80-133%

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4202-BS	F033188.D	1	04/05/11	AK	n/a	n/a	VF4202

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.6	90	76-118
108-88-3	Toluene	25	21.6	86	77-114
1330-20-7	Xylene (total)	75	63.8	85	75-111
	m,p-Xylene	50	43.1	86	75-112

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	79-122%
17060-07-0	1,2-Dichloroethane-D4	90%	75-121%
2037-26-5	Toluene-D8	97%	87-119%
460-00-4	4-Bromofluorobenzene	92%	80-133%

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4205-BS	F033241.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	112	90	62-124
108-86-1	Bromobenzene	25	22.6	90	72-110
74-97-5	Bromochloromethane	25	23.9	96	69-110
75-27-4	Bromodichloromethane	25	24.2	97	68-107
75-25-2	Bromoform	25	20.9	84	64-103
104-51-8	n-Butylbenzene	25	25.7	103	74-114
135-98-8	sec-Butylbenzene	25	21.4	86	76-118
98-06-6	tert-Butylbenzene	25	24.9	100	72-116
108-90-7	Chlorobenzene	25	24.4	98	74-111
75-00-3	Chloroethane	25	27.3	109	75-135
67-66-3	Chloroform	25	23.9	96	75-117
95-49-8	o-Chlorotoluene	25	23.3	93	74-113
106-43-4	p-Chlorotoluene	25	24.6	98	72-114
75-15-0	Carbon disulfide	25	27.8	111	57-126
56-23-5	Carbon tetrachloride	25	26.9	108	75-125
75-34-3	1,1-Dichloroethane	25	25.6	102	76-121
75-35-4	1,1-Dichloroethylene	25	27.6	110	71-128
563-58-6	1,1-Dichloropropene	25	27.2	109	76-122
96-12-8	1,2-Dibromo-3-chloropropane	25	19.5	78	55-121
106-93-4	1,2-Dibromoethane	25	22.3	89	69-106
107-06-2	1,2-Dichloroethane	25	22.7	91	70-111
78-87-5	1,2-Dichloropropane	25	25.4	102	71-113
142-28-9	1,3-Dichloropropane	25	22.6	90	69-106
594-20-7	2,2-Dichloropropane	25	27.1	108	68-130
124-48-1	Dibromochloromethane	25	22.7	91	69-104
75-71-8	Dichlorodifluoromethane	25	26.9	108	28-120
156-59-2	cis-1,2-Dichloroethylene	25	26.8	107	68-113
10061-01-5	cis-1,3-Dichloropropene	25	24.6	98	71-111
541-73-1	m-Dichlorobenzene	25	23.7	95	74-110
95-50-1	o-Dichlorobenzene	25	23.7	95	72-108
106-46-7	p-Dichlorobenzene	25	23.9	96	74-110
156-60-5	trans-1,2-Dichloroethylene	25	26.3	105	70-125
10061-02-6	trans-1,3-Dichloropropene	25	24.7	99	75-111
100-41-4	Ethylbenzene	25	23.9	96	75-112
591-78-6	2-Hexanone	125	102	82	60-113
87-68-3	Hexachlorobutadiene	25	26.2	105	72-123

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4205-BS	F033241.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
98-82-8	Isopropylbenzene	25	28.7	115	75-123
99-87-6	p-Isopropyltoluene	25	24.9	100	76-116
108-10-1	4-Methyl-2-pentanone	125	100	80	63-115
74-83-9	Methyl bromide	25	26.3	105	59-132
74-87-3	Methyl chloride	25	26.2	105	56-150
74-95-3	Methylene bromide	25	23.2	93	68-114
75-09-2	Methylene chloride	25	24.7	99	70-113
78-93-3	Methyl ethyl ketone	125	102	82	62-117
1634-04-4	Methyl Tert Butyl Ether	25	21.2	85	65-113
91-20-3	Naphthalene	25	20.8	83	53-127
103-65-1	n-Propylbenzene	25	24.4	98	74-115
100-42-5	Styrene	25	24.5	98	66-100
630-20-6	1,1,1,2-Tetrachloroethane	25	23.3	93	72-108
71-55-6	1,1,1-Trichloroethane	25	25.2	101	76-125
79-34-5	1,1,2,2-Tetrachloroethane	25	22.6	90	67-110
79-00-5	1,1,2-Trichloroethane	25	23.7	95	69-107
87-61-6	1,2,3-Trichlorobenzene	25	20.3	81	51-128
96-18-4	1,2,3-Trichloropropane	25	21.1	84	55-116
120-82-1	1,2,4-Trichlorobenzene	25	21.5	86	63-114
95-63-6	1,2,4-Trimethylbenzene	25	23.7	95	73-111
108-67-8	1,3,5-Trimethylbenzene	25	23.9	96	74-115
127-18-4	Tetrachloroethylene	25	24.6	98	77-120
79-01-6	Trichloroethylene	25	25.2	101	74-117
75-69-4	Trichlorofluoromethane	25	26.7	107	64-132
75-01-4	Vinyl chloride	25	27.2	109	64-121
95-47-6	o-Xylene	25	23.8	95	74-110

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	79-122%
17060-07-0	1,2-Dichloroethane-D4	84%	75-121%
2037-26-5	Toluene-D8	98%	87-119%
460-00-4	4-Bromofluorobenzene	98%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T72226-14MS	F033193.D	1	04/05/11	AK	n/a	n/a	VF4202
T72226-14MSD	F033194.D	1	04/05/11	AK	n/a	n/a	VF4202
T72226-14	F033192.D	1	04/05/11	AK	n/a	n/a	VF4202

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	T72226-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2.0	U	25	24.1	96	24.2	97	0	76-118/16
108-88-3	Toluene	2.0	U	25	23.5	94	22.4	90	5	77-114/12
1330-20-7	Xylene (total)	6.0	U	75	69.4	93	68.8	92	1	75-111/12
	m,p-Xylene	4.0	U	50	46.6	93	46.5	93	0	75-112/12

CAS No.	Surrogate Recoveries	MS	MSD	T72226-14	Limits
1868-53-7	Dibromofluoromethane	102%	101%	102%	79-122%
17060-07-0	1,2-Dichloroethane-D4	97%	90%	96%	75-121%
2037-26-5	Toluene-D8	102%	100%	103%	87-119%
460-00-4	4-Bromofluorobenzene	97%	99%	100%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T72440-3MS	F033250.D	1	04/07/11	AK	n/a	n/a	VF4205
T72440-3MSD	F033251.D	1	04/07/11	AK	n/a	n/a	VF4205
T72440-3	F033245.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	T72440-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50 U		125	110	88	101	81	9	62-124/21
108-86-1	Bromobenzene	2.0 U		25	22.1	88	23.2	93	5	72-110/12
74-97-5	Bromochloromethane	2.0 U		25	23.3	93	23.7	95	2	69-110/12
75-27-4	Bromodichloromethane	2.0 U		25	23.2	93	23.7	95	2	68-107/12
75-25-2	Bromoform	2.0 U		25	20.7	83	20.4	82	1	64-103/14
104-51-8	n-Butylbenzene	2.0 U		25	24.4	98	25.0	100	2	74-114/12
135-98-8	sec-Butylbenzene	2.0 U		25	20.4	82	20.9	84	2	76-118/12
98-06-6	tert-Butylbenzene	2.0 U		25	24.0	96	25.2	101	5	72-116/14
108-90-7	Chlorobenzene	2.0 U		25	24.2	97	24.3	97	0	74-111/11
75-00-3	Chloroethane	2.0 U		25	26.9	108	27.0	108	0	75-135/15
67-66-3	Chloroform	2.0 U		25	23.0	92	23.4	94	2	75-117/12
95-49-8	o-Chlorotoluene	2.0 U		25	22.4	90	23.1	92	3	74-113/12
106-43-4	p-Chlorotoluene	2.0 U		25	23.9	96	24.3	97	2	72-114/12
75-15-0	Carbon disulfide	2.0 U		25	26.5	106	26.7	107	1	57-126/13
56-23-5	Carbon tetrachloride	2.0 U		25	26.3	105	26.0	104	1	75-125/12
75-34-3	1,1-Dichloroethane	12.7		25	37.3	98	37.6	100	1	76-121/13
75-35-4	1,1-Dichloroethylene	8.7		25	34.6	104	34.8	104	1	71-128/19
563-58-6	1,1-Dichloropropene	2.0 U		25	26.1	104	26.6	106	2	76-122/12
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U		25	19.4	78	18.0	72	7	55-121/33
106-93-4	1,2-Dibromoethane	2.0 U		25	22.2	89	22.0	88	1	69-106/13
107-06-2	1,2-Dichloroethane	2.0 U		25	21.9	88	22.3	89	2	70-111/14
78-87-5	1,2-Dichloropropane	2.0 U		25	25.2	101	25.5	102	1	71-113/12
142-28-9	1,3-Dichloropropane	2.0 U		25	22.9	92	23.0	92	0	69-106/12
594-20-7	2,2-Dichloropropane	2.0 U		25	24.7	99	25.0	100	1	68-130/14
124-48-1	Dibromochloromethane	2.0 U		25	22.1	88	22.3	89	1	69-104/12
75-71-8	Dichlorodifluoromethane	2.0 U		25	25.6	102	25.9	104	1	28-120/21
156-59-2	cis-1,2-Dichloroethylene	9.9		25	35.5	102	36.1	105	2	68-113/13
10061-01-5	cis-1,3-Dichloropropene	2.0 U		25	24.2	97	23.9	96	1	71-111/12
541-73-1	m-Dichlorobenzene	2.0 U		25	23.5	94	23.7	95	1	74-110/12
95-50-1	o-Dichlorobenzene	2.0 U		25	23.2	93	23.6	94	2	72-108/12
106-46-7	p-Dichlorobenzene	2.0 U		25	23.0	92	23.7	95	3	74-110/12
156-60-5	trans-1,2-Dichloroethylene	2.0 U		25	25.2	101	24.9	100	1	70-125/14
10061-02-6	trans-1,3-Dichloropropene	2.0 U		25	24.3	97	24.3	97	0	75-111/12
100-41-4	Ethylbenzene	2.0 U		25	23.8	95	23.7	95	0	75-112/12
591-78-6	2-Hexanone	10 U		125	108	86	98.5	79	9	60-113/18
87-68-3	Hexachlorobutadiene	2.0 U		25	25.1	100	25.8	103	3	72-123/17

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T72440-3MS	F033250.D	1	04/07/11	AK	n/a	n/a	VF4205
T72440-3MSD	F033251.D	1	04/07/11	AK	n/a	n/a	VF4205
T72440-3	F033245.D	1	04/07/11	AK	n/a	n/a	VF4205

The QC reported here applies to the following samples: **Method:** SW846 8260B

T72557-1

CAS No.	Compound	T72440-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
98-82-8	Isopropylbenzene	2.0 U		25	28.0	112	28.5	114	2	75-123/12
99-87-6	p-Isopropyltoluene	2.0 U		25	23.9	96	24.4	98	2	76-116/12
108-10-1	4-Methyl-2-pentanone	10 U		125	110	88	102	82	8	63-115/21
74-83-9	Methyl bromide	2.0 U		25	25.6	102	26.5	106	3	59-132/15
74-87-3	Methyl chloride	2.0 U		25	25.6	102	25.9	104	1	56-150/17
74-95-3	Methylene bromide	2.0 U		25	22.8	91	23.0	92	1	68-114/13
75-09-2	Methylene chloride	5.0 U		25	23.0	92	23.1	92	0	70-113/13
78-93-3	Methyl ethyl ketone	10 U		125	112	90	94.9	76	17	62-117/21
1634-04-4	Methyl Tert Butyl Ether	2.0 U		25	21.0	84	20.7	83	1	65-113/13
91-20-3	Naphthalene	5.0 U		25	21.1	84	20.1	80	5	53-127/34
103-65-1	n-Propylbenzene	2.0 U		25	23.6	94	24.1	96	2	74-115/12
100-42-5	Styrene	2.0 U		25	3.1	12*	3.1	12*	0	66-100/11
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U		25	23.1	92	23.4	94	1	72-108/11
71-55-6	1,1,1-Trichloroethane	1.8	J	25	26.1	97	26.2	98	0	76-125/11
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U		25	22.6	90	22.3	89	1	67-110/20
79-00-5	1,1,2-Trichloroethane	2.0 U		25	23.6	94	23.6	94	0	69-107/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		25	20.4	82	19.9	80	2	51-128/31
96-18-4	1,2,3-Trichloropropane	2.0 U		25	21.2	85	20.6	82	3	55-116/27
120-82-1	1,2,4-Trichlorobenzene	2.0 U		25	20.9	84	20.9	84	0	63-114/21
95-63-6	1,2,4-Trimethylbenzene	2.0 U		25	22.9	92	23.4	94	2	73-111/13
108-67-8	1,3,5-Trimethylbenzene	2.0 U		25	23.1	92	23.3	93	1	74-115/12
127-18-4	Tetrachloroethylene	2.0 U		25	24.6	98	24.6	98	0	77-120/13
79-01-6	Trichloroethylene	4.4		25	28.3	96	29.1	99	3	74-117/12
75-69-4	Trichlorofluoromethane	2.0 U		25	24.7	99	24.7	99	0	64-132/18
75-01-4	Vinyl chloride	4.2		25	30.2	104	31.2	108	3	64-121/19
95-47-6	o-Xylene	2.0 U		25	23.1	92	23.5	94	2	74-110/11

CAS No.	Surrogate Recoveries	MS	MSD	T72440-3	Limits
1868-53-7	Dibromofluoromethane	90%	94%	98%	79-122%
17060-07-0	1,2-Dichloroethane-D4	81%	83%	89%	75-121%
2037-26-5	Toluene-D8	96%	98%	100%	87-119%
460-00-4	4-Bromofluorobenzene	94%	99%	99%	80-133%

Gulf Coast ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MB	J158685.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	5.0	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.2	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	2.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	15	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.4	ug/l	
95-48-7	2-Methylphenol	ND	5.0	0.83	ug/l	
	3&4-Methylphenol	ND	5.0	1.6	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	2.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	6.7	ug/l	
87-86-5	Pentachlorophenol	ND	25	13	ug/l	
108-95-2	Phenol	ND	5.0	0.75	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.1	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.6	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.2	ug/l	
62-53-3	Aniline	ND	5.0	4.6	ug/l	
120-12-7	Anthracene	ND	5.0	1.1	ug/l	
92-87-5	Benzidine	ND	25	6.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	0.87	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.7	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.6	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.3	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.4	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	4.3	ug/l	
86-74-8	Carbazole	ND	5.0	1.5	ug/l	
218-01-9	Chrysene	ND	5.0	0.98	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.3	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.3	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	2.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.3	ug/l	

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MB	J158685.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.3	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	1.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.3	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.4	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.3	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	3.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.6	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.3	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.3	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	1.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	1.8	ug/l	
206-44-0	Fluoranthene	ND	5.0	0.97	ug/l	
86-73-7	Fluorene	ND	5.0	1.3	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.1	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.97	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.8	ug/l	
78-59-1	Isophorone	ND	5.0	1.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	1.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.3	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	1.4	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	3.3	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	2.3	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.7	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.97	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.4	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	1.7	ug/l	
85-01-8	Phenanthrene	ND	5.0	0.97	ug/l	
129-00-0	Pyrene	ND	5.0	1.7	ug/l	
110-86-1	Pyridine	ND	5.0	0.99	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	

Method Blank Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MB	J158685.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	10-66%
4165-62-2	Phenol-d5	25%	10-53%
118-79-6	2,4,6-Tribromophenol	59%	32-128%
4165-60-0	Nitrobenzene-d5	56%	29-115%
321-60-8	2-Fluorobiphenyl	61%	34-113%
1718-51-0	Terphenyl-d14	97%	12-145%

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-BS	J158686.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	10.4	21	10-68
95-57-8	2-Chlorophenol	50	30.9	62	39-93
59-50-7	4-Chloro-3-methyl phenol	50	37.9	76	43-109
120-83-2	2,4-Dichlorophenol	50	34.0	68	42-106
105-67-9	2,4-Dimethylphenol	50	27.0	54	27-87
51-28-5	2,4-Dinitrophenol	50	24.1	48	43-107
534-52-1	4,6-Dinitro-o-cresol	50	32.2	64	47-112
95-48-7	2-Methylphenol	50	28.3	57	25-84
	3&4-Methylphenol	100	50.5	51	25-77
88-75-5	2-Nitrophenol	50	33.2	66	38-96
100-02-7	4-Nitrophenol	50	13.3	27	13-70
87-86-5	Pentachlorophenol	50	30.8	62	46-153
108-95-2	Phenol	50	15.9	32	10-53
95-95-4	2,4,5-Trichlorophenol	50	36.4	73	40-101
88-06-2	2,4,6-Trichlorophenol	50	35.8	72	41-102
83-32-9	Acenaphthene	50	38.1	76	41-110
208-96-8	Acenaphthylene	50	38.1	76	49-113
62-53-3	Aniline	50	29.4	59	24-132
120-12-7	Anthracene	50	38.9	78	59-105
56-55-3	Benzo(a)anthracene	50	39.9	80	64-112
50-32-8	Benzo(a)pyrene	50	40.7	81	62-116
205-99-2	Benzo(b)fluoranthene	50	42.6	85	62-114
191-24-2	Benzo(g,h,i)perylene	50	30.8	62	55-124
207-08-9	Benzo(k)fluoranthene	50	52.2	104	62-119
101-55-3	4-Bromophenyl phenyl ether	50	37.4	75	56-99
85-68-7	Butyl benzyl phthalate	50	47.3	95	52-125
100-51-6	Benzyl Alcohol	50	31.0	62	28-83
91-58-7	2-Chloronaphthalene	50	31.9	64	42-97
106-47-8	4-Chloroaniline	50	32.4	65	37-128
86-74-8	Carbazole	50	38.8	78	59-142
218-01-9	Chrysene	50	43.5	87	67-112
111-91-1	bis(2-Chloroethoxy)methane	50	25.6	51	38-96
111-44-4	bis(2-Chloroethyl)ether	50	32.8	66	37-91
108-60-1	bis(2-Chloroisopropyl)ether	50	35.0	70	36-102
7005-72-3	4-Chlorophenyl phenyl ether	50	38.4	77	48-101
95-50-1	1,2-Dichlorobenzene	50	31.3	63	33-86

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-BS	J158686.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
122-66-7	1,2-Diphenylhydrazine	50	35.2	70	39-118
541-73-1	1,3-Dichlorobenzene	50	30.2	60	21-88
106-46-7	1,4-Dichlorobenzene	50	30.4	61	31-86
121-14-2	2,4-Dinitrotoluene	50	43.7	87	55-112
606-20-2	2,6-Dinitrotoluene	50	42.1	84	57-105
91-94-1	3,3'-Dichlorobenzidine	50	24.8	50	50-142
53-70-3	Dibenzo(a,h)anthracene	50	28.7	57	55-123
132-64-9	Dibenzofuran	50	38.6	77	45-99
84-74-2	Di-n-butyl phthalate	50	45.0	90	64-114
117-84-0	Di-n-octyl phthalate	50	43.3	87	55-118
84-66-2	Diethyl phthalate	50	45.8	92	52-113
131-11-3	Dimethyl phthalate	50	42.9	86	38-112
117-81-7	bis(2-Ethylhexyl)phthalate	50	48.7	97	56-131
206-44-0	Fluoranthene	50	41.2	82	62-116
86-73-7	Fluorene	50	39.6	79	47-99
118-74-1	Hexachlorobenzene	50	39.6	79	62-102
87-68-3	Hexachlorobutadiene	50	33.6	67	37-91
77-47-4	Hexachlorocyclopentadiene	50	13.7	27	23-102
67-72-1	Hexachloroethane	50	30.3	61	33-86
193-39-5	Indeno(1,2,3-cd)pyrene	50	32.9	66	52-126
78-59-1	Isophorone	50	37.0	74	42-105
90-12-0	1-Methylnaphthalene	50	35.8	72	35-89
91-57-6	2-Methylnaphthalene	50	33.9	68	36-91
88-74-4	2-Nitroaniline	50	32.7	65	49-109
99-09-2	3-Nitroaniline	50	34.3	69	46-139
100-01-6	4-Nitroaniline	50	36.7	73	73-174
91-20-3	Naphthalene	50	33.4	67	37-89
98-95-3	Nitrobenzene	50	36.2	72	42-97
62-75-9	n-Nitrosodimethylamine	50	25.9	52	16-63
621-64-7	N-Nitroso-di-n-propylamine	50	36.4	73	42-102
86-30-6	N-Nitrosodiphenylamine	50	32.6	65	64-119
85-01-8	Phenanthrene	50	40.4	81	59-103
129-00-0	Pyrene	50	48.9	98	58-110
110-86-1	Pyridine	50	16.7	33	10-63
120-82-1	1,2,4-Trichlorobenzene	50	30.3	61	37-88

Blank Spike Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-BS	J158686.D	1	04/08/11	SC	04/08/11	OP18079	EJ1115

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	41%	10-66%
4165-62-2	Phenol-d5	30%	10-53%
118-79-6	2,4,6-Tribromophenol	79%	32-128%
4165-60-0	Nitrobenzene-d5	75%	29-115%
321-60-8	2-Fluorobiphenyl	77%	34-113%
1718-51-0	Terphenyl-d14	98%	12-145%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MS	W4790.D	1	04/08/11	AM	04/08/11	OP18079	EW251
OP18079-MSD	W4791.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4789.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4788.D	20	04/08/11	AM	04/08/11	OP18079	EW251

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	T72557-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	430	b	102	934	494*	a 777	340*	a 18	10-68/27
95-57-8	2-Chlorophenol	ND		102	55.8	55	49.5	49	12	39-93/28
59-50-7	4-Chloro-3-methyl phenol	ND		102	120	118*	105	103	13	43-109/28
120-83-2	2,4-Dichlorophenol	ND		102	100	98	84.6	83	17	42-106/25
105-67-9	2,4-Dimethylphenol	83.5		102	179	94*	151	66	17	27-87/26
51-28-5	2,4-Dinitrophenol	ND		102	91.6	90	87.4	86	5	43-107/44
534-52-1	4,6-Dinitro-o-cresol	ND		102	77.1	76	73.9	72	4	47-112/24
95-48-7	2-Methylphenol	112	b	102	237	122*	198	84	18	25-84/31
	3&4-Methylphenol	123		204	320	97*	271	73	17	25-77/25
88-75-5	2-Nitrophenol	ND		102	89.2	87	73.8	72	19	38-96/26
100-02-7	4-Nitrophenol	ND		102	56.7	56	59.6	58	5	13-70/25
87-86-5	Pentachlorophenol	ND		102	104	102	101	99	3	46-153/18
108-95-2	Phenol	115		102	259	141*	215	98*	19	10-53/35
95-95-4	2,4,5-Trichlorophenol	ND		102	95.0	93	93.9	92	1	40-101/22
88-06-2	2,4,6-Trichlorophenol	ND		102	92.1	90	87.7	86	5	41-102/22
83-32-9	Acenaphthene	ND		102	83.7	82	77.4	76	8	41-110/21
208-96-8	Acenaphthylene	ND		102	86.5	85	80.1	78	8	49-113/23
62-53-3	Aniline	ND		102	48.7	48	49.8	49	2	24-132/44
120-12-7	Anthracene	ND		102	89.2	87	87.8	86	2	59-105/18
56-55-3	Benzo(a)anthracene	ND		102	87.8	86	84.8	83	3	64-112/20
50-32-8	Benzo(a)pyrene	ND		102	81.2	80	79.0	77	3	62-116/23
205-99-2	Benzo(b)fluoranthene	ND		102	81.9	80	78.9	77	4	62-114/22
191-24-2	Benzo(g,h,i)perylene	ND		102	84.6	83	82.4	81	3	55-124/36
207-08-9	Benzo(k)fluoranthene	ND		102	91.2	89	90.0	88	1	62-119/30
101-55-3	4-Bromophenyl phenyl ether	ND		102	86.3	85	82.8	81	4	56-99/20
85-68-7	Butyl benzyl phthalate	ND		102	97.0	95	94.9	93	2	52-125/25
100-51-6	Benzyl Alcohol	208	b	102	359	148*	a 300	90*	a 18	28-83/32
91-58-7	2-Chloronaphthalene	ND		102	63.6	62	58.5	57	8	42-97/27
106-47-8	4-Chloroaniline	ND		102	49.1	48	45.0	44	9	37-128/29
86-74-8	Carbazole	ND		102	87.5	86	85.9	84	2	59-142/19
218-01-9	Chrysene	ND		102	87.3	86	86.3	85	1	67-112/19
111-91-1	bis(2-Chloroethoxy)methane	ND		102	83.0	81	70.9	69	16	38-96/30
111-44-4	bis(2-Chloroethyl)ether	ND		102	99.2	97*	77.7	76	24	37-91/33
108-60-1	bis(2-Chloroisopropyl)ether	ND		102	47.5	47	42.0	41	12	36-102/32
7005-72-3	4-Chlorophenyl phenyl ether	ND		102	90.0	88	84.8	83	6	48-101/21
95-50-1	1,2-Dichlorobenzene	ND		102	65.0	64	56.9	56	13	33-86/29

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MS	W4790.D	1	04/08/11	AM	04/08/11	OP18079	EW251
OP18079-MSD	W4791.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4789.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4788.D	20	04/08/11	AM	04/08/11	OP18079	EW251

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Compound	T72557-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
122-66-7	1,2-Diphenylhydrazine	ND		102	82.9	81	79.4	78	4	30-122/34
541-73-1	1,3-Dichlorobenzene	ND		102	74.1	73	61.6	60	18	32-88/32
106-46-7	1,4-Dichlorobenzene	ND		102	74.6	73	63.1	62	17	31-86/36
121-14-2	2,4-Dinitrotoluene	ND		102	95.8	94	93.2	91	3	55-112/23
606-20-2	2,6-Dinitrotoluene	ND		102	91.8	90	87.3	86	5	57-105/23
91-94-1	3,3'-Dichlorobenzidine	ND		102	5.7	6*	9.6	9*	51*	50-142/21
53-70-3	Dibenzo(a,h)anthracene	ND		102	85.0	83	82.9	81	3	55-123/37
132-64-9	Dibenzofuran	ND		102	88.6	87	82.6	81	7	45-99/20
84-74-2	Di-n-butyl phthalate	ND		102	92.8	91	91.0	89	2	64-114/16
117-84-0	Di-n-octyl phthalate	ND		102	100	98	99.2	97	1	55-118/25
84-66-2	Diethyl phthalate	ND		102	91.2	89	88.2	86	3	52-113/20
131-11-3	Dimethyl phthalate	ND		102	87.6	86	83.5	82	5	38-112/19
117-81-7	bis(2-Ethylhexyl)phthalate	2.8	J	102	103	98	101	96	2	56-131/19
206-44-0	Fluoranthene	ND		102	91.6	90	89.9	88	2	62-116/24
86-73-7	Fluorene	ND		102	92.0	90	87.5	86	5	47-99/22
118-74-1	Hexachlorobenzene	ND		102	86.9	85	82.6	81	5	62-102/21
87-68-3	Hexachlorobutadiene	ND		102	90.0	88	72.2	71	22	37-91/28
77-47-4	Hexachlorocyclopentadiene	ND		102	47.3	46	38.0	37	22	23-102/34
67-72-1	Hexachloroethane	ND		102	120	118*	95.4	93*	23	33-86/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		102	85.7	84	83.6	82	2	52-126/30
78-59-1	Isophorone	ND		102	93.2	91	76.2	75	20	42-105/28
90-12-0	1-Methylnaphthalene	27.3		102	121	92*	100	71	19	35-89/25
91-57-6	2-Methylnaphthalene	70.1		102	159	87	130	59	20	36-91/29
88-74-4	2-Nitroaniline	ND		102	76.7	75	75.0	73	2	49-109/22
99-09-2	3-Nitroaniline	ND		102	63.2	62	64.6	63	2	46-139/23
100-01-6	4-Nitroaniline	ND		102	65.6	64*	71.4	70*	8	73-174/24
91-20-3	Naphthalene	216 [b]		102	291	73	240	24* [a]	19	37-89/24
98-95-3	Nitrobenzene	ND		102	55.4	54	49.2	48	12	42-97/26
62-75-9	n-Nitrosodimethylamine	ND		102	85.3	84*	66.3	65*	25	16-63/28
621-64-7	N-Nitroso-di-n-propylamine	ND		102	94.5	93	79.7	78	17	42-102/27
86-30-6	N-Nitrosodiphenylamine	ND		102	76.4	75	74.3	73	3	64-119/27
85-01-8	Phenanthrene	ND		102	93.8	92	91.0	89	3	59-103/19
129-00-0	Pyrene	ND		102	102	100	98.7	97	3	58-110/25
110-86-1	Pyridine	4.8	J	102	58.1	52	48.6	43	18	10-63/48
120-82-1	1,2,4-Trichlorobenzene	ND		102	77.7	76	63.7	62	20	37-88/23

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T72557
Account: WPRMTCOP Williams Production RMT Company
Project: Starkey Pit

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18079-MS	W4790.D	1	04/08/11	AM	04/08/11	OP18079	EW251
OP18079-MSD	W4791.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4789.D	1	04/08/11	AM	04/08/11	OP18079	EW251
T72557-1	W4788.D	20	04/08/11	AM	04/08/11	OP18079	EW251

The QC reported here applies to the following samples: **Method:** SW846 8270C

T72557-1

CAS No.	Surrogate Recoveries	MS	MSD	T72557-1	T72557-1	Limits
367-12-4	2-Fluorophenol	22%	20%	11%	31%	10-66%
4165-62-2	Phenol-d5	62%*	53%	33%	31%	10-53%
118-79-6	2,4,6-Tribromophenol	80%	78%	74%	49%	32-128%
4165-60-0	Nitrobenzene-d5	78%	66%	76%	63%	29-115%
321-60-8	2-Fluorobiphenyl	83%	76%	74%	67%	34-113%
1718-51-0	Terphenyl-d14	97%	95%	85%	64%	12-145%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

Gulf Coast ACCUTEST LABORATORIES

Metals Analysis

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: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

QC Batch ID: MP14391
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/06/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	5.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25	14.2	<5000
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23	2.5	<100
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9	9.0	<5000
Manganese	15	.054	1.9	0.45	<15
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45	29.9	<5000
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100	26.3	<5000
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP14391: T72557-1F

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: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

QC Batch ID: MP14391
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:		04/06/11					04/06/11	
Metal	T72557-1F Original	DUP	RPD	QC Limits	T72557-1F Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Boron									
Cadmium									
Calcium	177000	177000	0.0	0-20	177000	225000	50000	96.0	80-120
Chromium									
Cobalt									
Copper									
Iron	417	411	1.4	0-20	417	51300	50000	101.8	80-120
Lead									
Lithium									
Magnesium	38900	38700	0.5	0-20	38900	86200	50000	94.6	80-120
Manganese	573	576	0.5	0-20	573	974	400	100.3	80-120
Molybdenum									
Nickel									
Potassium	87700	88100	0.5	0-20	87700	142000	50000	108.6	80-120
Selenium									
Silver									
Sodium	2260000	4310000	2.1	0-20	2260000	4320000	50000	200.0(a)	80-120
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP14391: T72557-1F

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
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

QC Batch ID: MP14391 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/06/11

Metal	T72557-1F Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	177000	228000	50000	102.0	1.3	20
Chromium						
Cobalt						
Copper						
Iron	417	51900	50000	103.0	1.2	20
Lead						
Lithium						
Magnesium	38900	86600	50000	95.4	0.5	20
Manganese	573	984	400	102.8	1.0	20
Molybdenum						
Nickel						
Potassium	87700	143000	50000	110.6	0.7	20
Selenium						
Silver						
Sodium	2260000	4250000	50000	60.0 (a)	1.6	20
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP14391: T72557-1F

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
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

QC Batch ID: MP14391
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/06/11

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	53400	50000	106.8	80-120
Chromium				
Cobalt				
Copper				
Iron	53200	50000	106.4	80-120
Lead				
Lithium				
Magnesium	50900	50000	101.8	80-120
Manganese	438	400	109.5	80-120
Molybdenum				
Nickel				
Potassium	50300	50000	100.6	80-120
Selenium				
Silver				
Sodium	49100	50000	98.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP14391: T72557-1F

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

QC Batch ID: MP14391
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/06/11

Metal	T72557-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	177000	176000	0.2	0-10
Chromium				
Cobalt				
Copper				
Iron	417	444	6.5	0-10
Lead				
Lithium				
Magnesium	38900	39500	1.3	0-10
Manganese	573	564	1.7	0-10
Molybdenum				
Nickel				
Potassium	87700	79100	9.9	0-10
Selenium				
Silver				
Sodium	2260000	2440000	42.2*(a)	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP14391: T72557-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

Gulf Coast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate	GN30222	5.0	2.0	mg/l				
Alkalinity, Carbonate	GN30221	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN30060	5.0	2.0	mg/l	2500	2320	93.0	80-120%
Bromide	GP12530/GN30325	0.50	0.0	mg/l	10	9.28	92.8	90-110%
Chloride	GP12460/GN30163	0.50	0.0	mg/l	10	10.1	101.0	90-110%
Chloride	GP12489/GN30211	0.50	0.0	mg/l	10	9.84	98.4	90-110%
Hydroxide Alkalinity	GN30224	5.0	0.0	mg/l				
Solids, Total Dissolved	GN30006	10	0.0	mg/l	500	484	96.8	80-120%
Specific Conductivity	GN29937	1.0	<1.0	umhos/cm				
Sulfate	GP12460/GN30163	0.50	0.0	mg/l	10	9.96	99.6	90-110%

Associated Samples:
Batch GN29937: T72557-1
Batch GN30006: T72557-1
Batch GN30060: T72557-1
Batch GN30221: T72557-1
Batch GN30222: T72557-1
Batch GN30224: T72557-1
Batch GP12460: T72557-1
Batch GP12489: T72557-1
Batch GP12530: T72557-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Bicarbonate	GN30222	T72557-1	mg/l	654	654	0.0	0-20%
Alkalinity, Carbonate	GN30221	T72557-1	mg/l	1.7	1.7	0.0	0-20%
Alkalinity, Total as CaCO3	GN30060	T72557-1	mg/l	656	656	0.0	0-10%
Bromide	GP12530/GN30325	T72557-1	mg/l	53.6	53.4	0.4	0-20%
Chloride	GP12460/GN30163	T72274-1	mg/l	6.2	6.2	0.0	0-20%
Chloride	GP12489/GN30211	T72304-1	mg/l	21.1	21.0	0.5	0-20%
Hydroxide Alkalinity	GN30224	T72557-1	mg/l	0.66 U	0.0		0-%
Solids, Total Dissolved	GN30006	T72150-1	mg/l	636	630	0.9	0-5%
Specific Conductivity	GN29937	T72285-1	umhos/cm	321	320	0.3	0-20%
Sulfate	GP12460/GN30163	T72274-1	mg/l	8.4	8.6	2.4	0-20%
pH	GN30075	T72557-1	su	7.90	7.89	0.1	0-6.8%

Associated Samples:
Batch GN29937: T72557-1
Batch GN30006: T72557-1
Batch GN30060: T72557-1
Batch GN30075: T72557-1
Batch GN30221: T72557-1
Batch GN30222: T72557-1
Batch GN30224: T72557-1
Batch GP12460: T72557-1
Batch GP12489: T72557-1
Batch GP12530: T72557-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T72557
Account: WPRMTCOP - Williams Production RMT Company
Project: Starkey Pit

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN30060	T72557-1	mg/l	656	25	680	96.0	79-122%
Bromide	GP12530/GN30325	T72557-1	mg/l	53.6	10	58.2	46.0(a)	80-120%
Chloride	GP12460/GN30163	T72274-1	mg/l	6.2	10	15.5	93.0	80-120%
Chloride	GP12489/GN30211	T72304-1	mg/l	21.1	20	39.9	94.0	80-120%
Sulfate	GP12460/GN30163	T72274-1	mg/l	8.4	10	18.4	100.0	80-120%

Associated Samples:
Batch GN30060: T72557-1
Batch GP12460: T72557-1
Batch GP12489: T72557-1
Batch GP12530: T72557-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Form 26

FORM
26
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

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

FOR OGCC USE ONLY

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

Complete the Attachment Checklist

	Oper	OGCC
Chemical Analysis of fluid		

OGCC Operator Number: 96850
Name of Operator: Williams Production RMT Co.
Address: 1058 County Road 215
City: Parachute State: CO Zip: 81635

Contact Name and Telephone: Karolina Blaney
No: (970) 683-2295
Fax: (970) 285-9573

OGCC Disposal Facility Number: 422267
Operator's Disposal Facility Name: STARKEY GULCH Operator's Disposal Facility Number: ______
Location (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4 NW 1/4 SEC. 32, T6S, R96W, 6TH PM
Address: ______
City: ______ State: CO Zip: ______ County: Garfield

If more space is required, attach additional sheet.

Add Source: ☑ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: See attached list of wells Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

Add Source: ☐ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: ______ Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

Add Source: ☐ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: ______ Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

Add Source: ☐ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: ______ Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

Add Source: ☐ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: ______ Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

Add Source: ☐ OGCC Lease No: ______ API No: ______ Well Name & No: ______
Operator Name: ______ Operator No: ______
Delete Source: ☐ Location: QtrQtr: ______ Section: ______ Township: ______ Range: ______ Producing Formation: ______
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS: ______

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.
Print Name: Karolina Blaney Signed: Karolina Blaney
Title: Environmental Specialist Date: 6/28/2011

OGCC Approved: Richard Allison Title: OGLA - EPS II Date: 11/17/2011

CONDITIONS OF APPROVAL, IF ANY:

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 214-33	0504507686	Mesaverde	NWNW	33	6	S	96	W	Pipeline
GM 312-33	0504517485	Mesaverde	NWNW	33	6	S	96	W	Pipeline
GM 412-33	0504517484	Mesaverde	NWNW	33	6	S	96	W	Pipeline
GM 421-33	0504517483	Mesaverde	NWNW	33	6	S	96	W	Pipeline
GM 521-33	0504517486	Mesaverde	NWNW	33	6	S	96	W	Pipeline
GM 14-32	0504519436	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 333-31	0504519441	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 334-31	0504519439	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 34-31	0504519445	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 344-31	0504519435	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 414-32	0504519443	Mesaverde	NWSE	32	6	S	96	W	Pipeline
GM 43-31	0504519438	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 433-31	0504519442	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 434-31	0504519440	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 44-31	0504519434	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 443-31	0504519444	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 444-31	0504519433	Mesaverde	NWSE	31	6	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 514-32	0504519437	Mesaverde	NWSE	31	6	S	96	W	Pipeline
GM 334-32	0504517823	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 34-32	0504517829	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 343-32	0504517821	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 344-32	0504517831	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 434-32	0504517830	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 44-32	0504517825	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 443-32	0504517819	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 444-32	0504517824	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 523-32	0504517822	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 544-32	0504517820	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 644-32	0504517818	Mesaverde	SENE	32	6	S	96	W	Pipeline
GM 332-32	0504517543	Mesaverde	SWNE	32	6	S	96	W	Pipeline
GM 342-32	0504517542	Mesaverde	SWNE	32	6	S	96	W	Pipeline
GM 42-32	0504517541	Mesaverde	SWNE	32	6	S	96	W	Pipeline
GR 32-32	0504506836	Mesaverde	SWNE	32	6	S	96	W	Pipeline
GM 14-29	0504517094	Mesaverde	NENW	32	6	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 21-32	0504512615	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 24-29	0504512616	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 311-32	0504517095	Mesaverde	NENW	32	6	S	96	W	Pipeline
GM 314-29	0504517093	Mesaverde	NENW	32	6	S	96	W	Pipeline
GM 321-32	0504517087	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 322-32	0504517089	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 324-29	0504512617	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 414-29	0504517092	Mesaverde	NENW	32	6	S	96	W	Pipeline
GM 421-32	0504517090	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 424-29	0504512618	Mesaverde	NENW	32	6	S	96	W	Pipeline
GM 513-29	0504517088	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GM 514-29	0504517091	Mesaverde	NWNE	32	6	S	96	W	Pipeline
GV 17-32	0504506629	Mesaverde	NENW	32	6	S	96	W	Pipeline
GM 312-32	0504517515	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 31-31	0504517511	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 32-31	0504517508	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 331-31	0504517510	Mesaverde	SENE	31	6	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 332-31	0504517507	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 341-31	0504517503	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 342-31	0504510315	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 411-32	0504517512	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 412-32	0504517513	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 41-31	0504517504	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 432-31	0504517506	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 442-31	0504510316	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 512-32	0504517514	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 532-31	0504517505	Mesaverde	SENE	31	6	S	96	W	Pipeline
GM 542-31	0504510317	Mesaverde	SENE	31	6	S	96	W	Pipeline
GV 2-31	0504506610	Mesaverde	SENE	31	6	S	96	W	Pipeline
TW 5-31	0504506706	Mesaverde	SENE	31	7	S	96	W	Pipeline
GM 11-6	0504516348	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 12-6	0504516345	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 21-6	0504516347	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 22-6	0504516344	Mesaverde	SWNW	6	7	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 311-6	0504516350	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 312-6	0504516346	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 321-6	0504516339	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 322-6	0504516342	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 411-6	0504516349	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 412-6	0504516340	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 421-6	0504516343	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 422-6	0504516338	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 511-6	0504516351	Mesaverde	SWNW	6	7	S	96	W	Pipeline
GM 522-6	0504516341	Mesaverde	SWNW	6	7	S	96	W	Pipeline
MV 17-6	0504506755	Mesaverde	NWNW	6	7	S	96	W	Pipeline
GM 213-32	0504511272	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 314-32	0504516928	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 323-32	0504511275	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 324-32	0504516926	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 422-32	0504511273	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 423-32	0504511274	Mesaverde	NESW	32	6	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 424-32	0504516924	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 524-32	0504516925	Mesaverde	NESW	32	6	S	96	W	Pipeline
GM 623-32	0504516927	Mesaverde	NESW	32	6	S	96	W	Pipeline
MV 9-32	0504506517	Mesaverde	SENW	32	6	S	96	W	Pipeline
GV 22-29	0504506622	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 634-29	0504513146	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 543-29	0504513150	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 534-29	0504513148	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 444-29	0504513152	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 443-29	0504513151	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 434-29	0504513155	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 423-29	0504513145	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 343-29	0504513153	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 34-29	0504513143	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 33-29	0504513147	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 323-29	0504513154	Mesaverde	NESE	29	6	S	96	W	Pipeline
GM 333-29	0504513149	Mesaverde	NESE	29	6	S	96	W	Pipeline

List of Existing and Proposed Wells

Well Name	API Number	Reservoir	Location						Transport Method
			Qtr/Qtr	Section	Town.		Range		
GM 334-29	0504513144	Mesaverde	NESE	29	6	S	96	W	Pipeline
MV 18-32	0504506766	Mesaverde	NESE	32	6	S	96	W	Pipeline
GM 433-32	0504513363	Mesaverde	NESE	32	6	S	96	W	Pipeline
GM 33-32	0504513369	Mesaverde	NESE	32	6	S	96	W	Pipeline
GM 333-32	0504513362	Mesaverde	NESE	32	6	S	96	W	Pipeline
GV 7-31	0504506618	Mesaverde	NWSE	31	6	S	96	W	Pipeline