Gulf Coast ACCUTEST LABORATORIES

11/29/10

Technical Report for

Williams Production RMT Company

SG 34-28

Accutest Job Number: T63510

Sampling Date: 11/11/10

Report to:

Williams Production RMT Company
1058 County Road 215
Parachute, CO 81635
karolina.blaney@williams.com

ATTN: Karolina Blaney

Total number of pages in report: **57**

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 8 9 10 11

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Accutest Laboratories

Sample Summary

Williams Production RMT Company

Job No: T63510

SG 34-28

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T63510-1	11/11/10	14:15		11/12/10	SO	Soil	SG 34-28
T63510-1A	11/11/10	14:15		11/12/10	SO	Soil	SG 34-28

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

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	SG 34-28		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0044109.D	1	11/19/10	FI	n/a	n/a	VY2690
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.50 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	569	240	42	ug/kg	
108-88-3	Toluene	2510	240	57	ug/kg	
100-41-4	Ethylbenzene	221	240	54	ug/kg	J
1330-20-7	Xylene (total)	2940	720	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-121%
2037-26-5	Toluene-D8	94%		76-132%
460-00-4	4-Bromofluorobenzene	82%		73-165%
17060-07-0	1,2-Dichloroethane-D4	76%		57-122%

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:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
Method:	SW846 8270C BY SIM SW846 3550B	**Percent Solids:**	86.5
Project:	SG 34-28		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V2549.D	1	11/17/10	MK	11/13/10	OP16671	EV145
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	7.7	1.3	ug/kg	
208-96-8	Acenaphthylene	ND	7.7	2.7	ug/kg	
120-12-7	Anthracene	ND	7.7	1.5	ug/kg	
56-55-3	Benzo(a)anthracene	6.2	7.7	1.2	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	7.7	4.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	10.8	7.7	4.1	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	7.7	7.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	7.7	5.0	ug/kg	
218-01-9	Chrysene	19.8	7.7	1.9	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	7.7	7.4	ug/kg	
206-44-0	Fluoranthene	3.5	7.7	1.7	ug/kg	J
86-73-7	Fluorene	22.5	7.7	2.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	7.7	5.8	ug/kg	
90-12-0	1-Methylnaphthalene	116	7.7	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	346	7.7	1.3	ug/kg	
91-20-3	Naphthalene	148	7.7	1.2	ug/kg	
85-01-8	Phenanthrene	84.2	7.7	1.1	ug/kg	
129-00-0	Pyrene	18.3	7.7	2.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	10%		10-127%
321-60-8	2-Fluorobiphenyl	20%		11-133%
1718-51-0	Terphenyl-d14	45%		15-187%

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:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
Method:	SW846 8015	**Percent Solids:**	86.5
Project:	SG 34-28		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB0003696.D	1	11/18/10	AT	n/a	n/a	GBB195
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.50 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	18.1	6.0	0.36	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		46-127%
98-08-8	aaa-Trifluorotoluene	107%		44-120%

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:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	86.5
Project:	SG 34-28		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JJ8506.D	10	11/16/10	EM	11/13/10	OP16673	GJF91
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	182	38	31	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		33-115%

(a) Outside control limits due to dilution.

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:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
		Percent Solids:	86.5
Project:	SG 34-28		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	4.1	0.57	0.13	mg/kg	5	11/16/10	11/20/10	ANJ	SW846 6020A [4]	SW846 3050B [7]
Barium [b]	6890	67	0.46	mg/kg	5	11/18/10	11/20/10	TW	SW846 6010B [3]	SW846 3050B [6]
Cadmium	0.43	0.33	0.019	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Chromium	15.7	0.67	0.031	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Copper	24.4	1.7	0.074	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Lead	15.9	0.67	0.067	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Mercury	0.032	0.019	0.0074	mg/kg	1	11/18/10	11/18/10	CN	SW846 7471A [1]	SW846 7471A [5]
Nickel	17.4	2.7	0.076	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Selenium	0.19 U	0.67	0.19	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Silver	0.078 U	0.67	0.078	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]
Zinc	53.6	1.3	0.11	mg/kg	1	11/18/10	11/19/10	TW	SW846 6010B [2]	SW846 3050B [6]

(1) Instrument QC Batch: MA5260
(2) Instrument QC Batch: MA5264
(3) Instrument QC Batch: MA5266
(4) Instrument QC Batch: N:MA25400
(5) Prep QC Batch: MP13359
(6) Prep QC Batch: MP13363
(7) Prep QC Batch: N:MP55685

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Elevated reporting limit due to sample over calibration range.

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:	SG 34-28		
Lab Sample ID:	T63510-1	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
		Percent Solids:	86.5
Project:	SG 34-28		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chloride	133	5.6	2.2	mg/kg	2	11/17/10 15:55	BF	SW846 9056
Chromium, Hexavalent	1.1 J	2.3		mg/kg	1	11/19/10 11:00	KD	SW846 3060/7196A
Chromium, Trivalent [a]	14.6	2.9		mg/kg	1	11/19/10 21:33	TW	SW846 6010/7196A M
Solids, Percent	86.5			%	1	11/12/10	ID	SM 2540 G
Specific Conductivity	5410	1.0		umhos/cm	1	11/19/10 14:00	KD	EPA 120.1
pH	9.30			su	1	11/16/10 15:10	LA	SW846 9045C

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)

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: SG 34-28
Lab Sample ID: T63510-1A
Matrix: SO - Soil
Project: SG 34-28

Date Sampled: 11/11/10
Date Received: 11/12/10
Percent Solids: 86.5

SAR Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	476	25	0.12	mg/l	5	11/22/10	11/23/10	TW	SW846 6010B [1]	LADNR 29B [2]
Magnesium	17.1 J	25	0.040	mg/l	5	11/22/10	11/23/10	TW	SW846 6010B [1]	LADNR 29B [2]
Sodium	2090	25	0.52	mg/l	5	11/22/10	11/23/10	TW	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA5273
(2) Prep QC Batch: MP13382

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:	SG 34-28		
Lab Sample ID:	T63510-1A	**Date Sampled:**	11/11/10
Matrix:	SO - Soil	**Date Received:**	11/12/10
		Percent Solids:	86.5
Project:	SG 34-28		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	25.6		ratio	1	11/23/10 14:20	TW	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

PAGE ___ OF ___

ACCUTEST Laboratories

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 #: T63510

Client / Reporting Information

Company Name: Williams Production
Street Address: 058 Cty Rd 215
City: Parachute State: CO Zip: 81635
Project Contact: Karolina.Blaney@Williams.com E-mail:
Phone #: 970 683 2295 Fax #: 970 285 9573
Sampler(s) Name(s): FM Phone #:

Project Information

Project Name: SG 34-28
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

910-1 (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	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	910-1 (See attached)	LAB USE ONLY
1	SG 34-28	11-11-10	2:15pm	FM	SO	2													X	

Number of preserved bottles

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:
Fernando Manamas	11-11-10	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
		3	4		4
Relinquished by: FedEX	Date Time: 11/12/10 0920	Received By: 5 ACAS	Custody Seal #	Intact / Not Intact	Preserved where applicable

On Ice: ☐ Cooler Temp: 4.8c

T63510: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T63510 Client: Williams Production Date/Time Received: 11/12/10 0920

# of Coolers Received: 1 Thermometer #: IR Gun 04 Temperature Adjustment Factor: 0

Cooler Temperatures (initial/adjusted): #1: 4.8°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
- [ ] 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:

TECHNICIAN SIGNATURE/DATE: 11/12/10

INFORMATION AND SAMPLE LABELING VERIFIED BY: 11.12.10

CORRECTIVE ACTIONS

Client Representative Notified: **Date:**

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

Client Instructions:

i:\mwalker\forms\samplemanagement SM023 Revised 8/11/10

T63510: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T63510 DATE/TIME RECEIVED: 11/12/10 0920

CLIENT: Williams Production INITIALS: DRH

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	SG34-28	11-11-10 215pm	Soil	32oz	1	2-75	(1) 2 3 4 5 6 7 8	<2 >12
1	1	↓ ↓ ↓	↓ ↓	↓	16oz	2	VR	(1) 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

DRH 11/12/10

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

T63510: Chain of Custody
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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: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2690-MB	Y0044104.D	1	11/19/10	FI	n/a	n/a	VY2690

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

T63510-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.0	0.70	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	0.90	ug/kg	
108-88-3	Toluene	ND	4.0	0.95	ug/kg	
1330-20-7	Xylene (total)	ND	12	2.1	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	90%	70-121%
2037-26-5	Toluene-D8	94%	76-132%
460-00-4	4-Bromofluorobenzene	79%	73-165%
17060-07-0	1,2-Dichloroethane-D4	79%	57-122%

Blank Spike Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2690-BS	Y0044102.D	1	11/19/10	FI	n/a	n/a	VY2690

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

T63510-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	39.9	80	70-114
100-41-4	Ethylbenzene	50	43.5	87	60-119
108-88-3	Toluene	50	41.3	83	68-115
1330-20-7	Xylene (total)	150	132	88	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	88%	70-121%
2037-26-5	Toluene-D8	92%	76-132%
460-00-4	4-Bromofluorobenzene	81%	73-165%
17060-07-0	1,2-Dichloroethane-D4	82%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T63727-10MS	Y0044107.D	1	11/19/10	FI	n/a	n/a	VY2690
T63727-10MSD	Y0044108.D	1	11/19/10	FI	n/a	n/a	VY2690
T63727-10	Y0044106.D	1	11/19/10	FI	n/a	n/a	VY2690

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

T63510-1

CAS No.	Compound	T63727-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		52.6	34.0	65*	43.3	77	24	70-114/38
100-41-4	Ethylbenzene	ND		52.6	38.5	73	49.7	88	25	60-119/40
108-88-3	Toluene	ND		52.6	37.4	71	47.9	85	25	68-115/38
1330-20-7	Xylene (total)	ND		158	115	73	149	88	26	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T63727-10	Limits
1868-53-7	Dibromofluoromethane	87%	85%	87%	70-121%
2037-26-5	Toluene-D8	95%	95%	91%	76-132%
460-00-4	4-Bromofluorobenzene	82%	81%	76%	73-165%
17060-07-0	1,2-Dichloroethane-D4	81%	76%	80%	57-122%

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: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16671-MB	V2482.D	1	11/15/10	MK	11/13/10	OP16671	EV142

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

T63510-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	1.1	ug/kg	
208-96-8	Acenaphthylene	ND	6.7	2.3	ug/kg	
120-12-7	Anthracene	ND	6.7	1.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	3.6	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	3.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	6.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.3	ug/kg	
218-01-9	Chrysene	ND	6.7	1.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	6.4	ug/kg	
206-44-0	Fluoranthene	ND	6.7	1.5	ug/kg	
86-73-7	Fluorene	ND	6.7	2.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	5.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-20-3	Naphthalene	ND	6.7	1.0	ug/kg	
85-01-8	Phenanthrene	ND	6.7	0.93	ug/kg	
129-00-0	Pyrene	ND	6.7	2.3	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	59%	10-127%
321-60-8	2-Fluorobiphenyl	65%	11-133%
1718-51-0	Terphenyl-d14	98%	15-187%

Blank Spike Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16671-BS	V2483.D	1	11/15/10	MK	11/13/10	OP16671	EV142

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

T63510-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	167	104	62	18-118
208-96-8	Acenaphthylene	167	107	64	35-125
120-12-7	Anthracene	167	119	71	24-116
56-55-3	Benzo(a)anthracene	167	142	85	32-132
50-32-8	Benzo(a)pyrene	167	100	60	36-130
205-99-2	Benzo(b)fluoranthene	167	155	93	35-134
191-24-2	Benzo(g,h,i)perylene	167	126	76	18-149
207-08-9	Benzo(k)fluoranthene	167	149	89	30-131
218-01-9	Chrysene	167	145	87	37-124
53-70-3	Dibenzo(a,h)anthracene	167	128	77	23-150
206-44-0	Fluoranthene	167	126	76	28-118
86-73-7	Fluorene	167	115	69	32-106
193-39-5	Indeno(1,2,3-cd)pyrene	167	139	83	18-150
90-12-0	1-Methylnaphthalene	167	123	74	10-128
91-57-6	2-Methylnaphthalene	167	115	69	28-113
91-20-3	Naphthalene	167	114	68	31-106
85-01-8	Phenanthrene	167	135	81	37-112
129-00-0	Pyrene	167	125	75	24-132

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	80%	10-127%
321-60-8	2-Fluorobiphenyl	70%	11-133%
1718-51-0	Terphenyl-d14	102%	15-187%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16671-MS	V2484.D	1	11/15/10	MK	11/13/10	OP16671	EV142
OP16671-MSD	V2485.D	1	11/15/10	MK	11/13/10	OP16671	EV142
T63512-1	V2477.D	1	11/15/10	MK	11/13/10	OP16671	EV142

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

T63510-1

CAS No.	Compound	T63512-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		204	91.0	45	143	72	44	10-153/80
208-96-8	Acenaphthylene	ND		204	84.6	42	136	68	47	10-144/71
120-12-7	Anthracene	ND		204	103	51	147	74	35	10-176/57
56-55-3	Benzo(a)anthracene	ND		204	111	54	158	79	35	10-174/73
50-32-8	Benzo(a)pyrene	ND		204	90.5	44	128	64	34	10-182/74
205-99-2	Benzo(b)fluoranthene	6.6	J	204	109	50	161	77	39	10-188/86
191-24-2	Benzo(g,h,i)perylene	ND		204	87.8	43	126	63	36	10-150/62
207-08-9	Benzo(k)fluoranthene	ND		204	122	60	156	78	24	10-170/94
218-01-9	Chrysene	2.6	J	204	112	54	149	73	28	10-165/73
53-70-3	Dibenzo(a,h)anthracene	ND		204	91.0	45	133	67	38	10-192/74
206-44-0	Fluoranthene	ND		204	98.6	48	134	67	30	10-141/73
86-73-7	Fluorene	4.3	J	204	81.8	38	114	55	33	10-164/72
193-39-5	Indeno(1,2,3-cd)pyrene	ND		204	97.0	48	139	70	36	10-150/73
90-12-0	1-Methylnaphthalene	8.4		204	97.4	44	144	68	39	10-154/82
91-57-6	2-Methylnaphthalene	33.5		204	97.3	31	148	57	41	10-171/75
91-20-3	Naphthalene	17.8		204	83.2	32	133	58	46	10-138/82
85-01-8	Phenanthrene	11.4		204	111	49	157	73	34	10-191/77
129-00-0	Pyrene	3.1	J	204	105	50	144	70	31	10-150/66

CAS No.	Surrogate Recoveries	MS	MSD	T63512-1	Limits
4165-60-0	Nitrobenzene-d5	68%	55%	70%	10-127%
321-60-8	2-Fluorobiphenyl	49%	48%	50%	11-133%
1718-51-0	Terphenyl-d14	98%	93%	80%	15-187%

Gulf Coast ACCUTEST LABORATORIES

GC 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: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBB195-MB	BB0003683.D	1	11/18/10	AT	n/a	n/a	GBB195

The QC reported here applies to the following samples: **Method:** SW846 8015

T63510-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	0.30	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	99%	46-127%
98-08-8	aaa-Trifluorotoluene	108%	44-120%

Blank Spike Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBB195-BS	BB0003680.D	1	11/18/10	AT	n/a	n/a	GBB195

The QC reported here applies to the following samples: **Method:** SW846 8015

T63510-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.416	104	78-115

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	103%	46-127%
98-08-8	aaa-Trifluorotoluene	114%	44-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T63884-2MS	BB0003692.D	100	11/18/10	AT	n/a	n/a	GBB195
T63884-2MSD	BB0003693.D	100	11/18/10	AT	n/a	n/a	GBB195
T63884-2	BB0003691.D	100	11/18/10	AT	n/a	n/a	GBB195

The QC reported here applies to the following samples: **Method:** SW846 8015

T63510-1

CAS No.	Compound	T63884-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	43200		54400	92600	91	95000	95	3	78-115/14

CAS No.	Surrogate Recoveries	MS	MSD	T63884-2	Limits
460-00-4	4-Bromofluorobenzene	107%	108%	101%	46-127%
98-08-8	aaa-Trifluorotoluene	113%	113%	112%	44-120%

Gulf Coast ACCUTEST LABORATORIES

GC 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: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16673-MB	JJ8483.D	1	11/16/10	EM	11/13/10	OP16673	GJB91

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T63510-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	2.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	68%	33-115%

Blank Spike Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16673-BS	JJ8484.D	1	11/16/10	EM	11/13/10	OP16673	GJF91

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T63510-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	32.9	25.7	78	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	79%	33-115%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T63510
Account: WPRMTCOP Williams Production RMT Company
Project: SG 34-28

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16673-MS	JJ8485.D	1	11/16/10	EM	11/13/10	OP16673	GJB91
OP16673-MSD	JJ8486.D	1	11/16/10	EM	11/13/10	OP16673	GJF91
T63364-3	JJ8526.D	1	11/16/10	EM	11/13/10	OP16673	GJF91

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T63510-1

CAS No.	Compound	T63364-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	5.66		41.1	173	408*	147	341*	16	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T63364-3	Limits
84-15-1	o-Terphenyl	85%	62%	46%	33-115%

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13359 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 11/18/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.017	.00083	.0067	-0.0026	<0.017

Associated samples MP13359: T63510-1

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13359
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/18/10 11/18/10

Metal	T63459-1 Original	DUP	RPD	QC Limits	T63459-1 Original	MS	Spikelot HGTXWS1	% Rec	QC Limits
Mercury	0.040	0.038	5.1	0-20	0.040	0.34	0.254	118.1	75-125

Associated samples MP13359: T63510-1

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13359 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 11/18/10

Metal	T63459-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
Mercury	0.040	0.33	0.262	110.6	3.0	

Associated samples MP13359: T63510-1

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13359
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 11/18/10

Metal	LCS Result	Spikelot HGLCD054	% Rec	QC Limits
Mercury	7.2	7.34	98.1	72-128

Associated samples MP13359: T63510-1

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13363 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 11/18/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.41	.73		
Antimony	0.50	.05	.085		
Arsenic	0.50	.085	.085		
Barium	10	.049	.069	0.063	<10
Beryllium	0.25	.0028	.0055		
Boron	5.0	.07	.17		
Cadmium	0.25	.0055	.014	0.0010	<0.25
Calcium	250	.37	1.3		
Chromium	0.50	.012	.023	-0.018	<0.50
Cobalt	2.5	.0075	.03		
Copper	1.3	.056	.056	0.044	<1.3
Iron	5.0	.057	1.1		
Lead	0.50	.05	.05	-0.017	<0.50
Lithium	15	.1			
Magnesium	250	.38	1.3		
Manganese	0.75	.0027	.037		
Molybdenum	0.50	.02	.025		
Nickel	2.0	.035	.057	0.0060	<2.0
Potassium	250	2	10		
Selenium	0.50	.077	.14	0.049	<0.50
Silver	0.50	.058	.058	0.023	<0.50
Sodium	250	.46	1.6		
Strontium	1.0	.0031	.059		
Thallium	0.50	.034	.04		
Tin	1.0	.035	.035		
Titanium	1.0	.015	.029		
Vanadium	2.5	.015	.034		
Zinc	1.0	.026	.084	0.14	<1.0

Associated samples MP13363: T63510-1

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13363
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			11/18/10					11/18/10	
Metal	T63510-1 Original	DUP	RPD	QC Limits	T63510-1 Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	anr								
Barium	6890	6750	2.1	0-20	6890	7480	26.7	2212.4(b	80-120
Beryllium									
Boron									
Cadmium	0.43	0.41	4.8	0-20	0.43	24.1	26.7	88.8	80-120
Calcium									
Chromium	15.7	16.4	4.4	0-20	15.7	41.9	26.7	98.2	80-120
Cobalt									
Copper	24.4	25.1	2.8	0-20	24.4	50.6	26.7	98.2	80-120
Iron									
Lead	15.9	14.9	6.5	0-20	15.9	43.9	26.7	105.0	80-120
Lithium									
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	17.4	15.1	14.2	0-20	17.4	44.1	26.7	100.1	80-120
Potassium	anr								
Selenium	0.0	0.0	NC	0-20	0.0	23.1	26.7	86.6	80-120
Silver	0.0	0.0	NC	0-20	0.0	23.9	26.7	89.6	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc	53.6	67.0	22.2*(a)	0-20	53.6	74.6	26.7	78.7N(c)	80-120

Associated samples MP13363: T63510-1

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) High RPD due to possible sample nonhomogeneity or matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13363 Methods: SW846 6010B
Matrix Type: SOLID Units: mg/kg

Prep Date: 11/18/10

Metal	T63510-1 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	6890	7120	26.6	864.4(a)	4.9	20
Beryllium						
Boron						
Cadmium	0.43	24.2	26.6	89.3	0.4	20
Calcium						
Chromium	15.7	40.4	26.6	92.8	3.6	20
Cobalt						
Copper	24.4	48.7	26.6	91.3	3.8	20
Iron						
Lead	15.9	45.4	26.6	110.9	3.4	20
Lithium						
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	17.4	44.4	26.6	101.5	0.7	20
Potassium	anr					
Selenium	0.0	23.2	26.6	87.2	0.4	20
Silver	0.0	23.7	26.6	89.1	0.8	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	53.6	84.1	26.6	114.6	12.0	20

Associated samples MP13363: T63510-1

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13363
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 11/18/10

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	364	348	104.6	81-119
Beryllium				
Boron				
Cadmium	173	187	92.5	82-118
Calcium				
Chromium	92.0	89.5	102.8	79-121
Cobalt				
Copper	126	129	97.7	84-117
Iron				
Lead	191	172	111.0	79-120
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	109	99	110.1	81-119
Potassium	anr			
Selenium	139	148	93.9	78-121
Silver	60.6	66	91.8	66-134
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	363	394	92.1	80-119

Associated samples MP13363: T63510-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13363 Methods: SW846 6010B
Matrix Type: SOLID Units: ug/l

Prep Date: 11/18/10

Metal	T63510-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	103000	111000	7.7	0-10
Beryllium				
Boron				
Cadmium	6.40	6.43	0.5	0-10
Calcium				
Chromium	235	261	11.0*(a)	0-10
Cobalt				
Copper	365	392	7.4	0-10
Iron				
Lead	238	212	10.6*(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	260	229	12.2*(a)	0-10
Potassium	anr			
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	803	871	8.6	0-10

Associated samples MP13363: T63510-1

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13382
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/22/10

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	-0.86	<5000
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23		
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9	-7.5	<5000
Manganese	15	.054	1.9		
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100	1.5	<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 MP13382: T63510-1A

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13382
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/22/10

Metal	T63510-1A Original	DUP	RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	476000	479000	0.6	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	17100	17200	0.6	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	2090000	2090000	0.0	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP13382: T63510-1A

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

QC Batch ID: MP13382
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 11/22/10

Metal	T63510-1A Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	476000	484000	1.7	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	17100	17300	0.8	0-10
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	2090000	2180000	4.5	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP13382: T63510-1A

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

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: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP10847/GN26886	2.5	0.0	mg/kg	50	48.6	97.2	90-110%
Chromium, Hexavalent	GN26859	2.0	<2.0	mg/kg	40	39.4	98.6	80-120%
Specific Conductivity	GN26885	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN26859: T63510-1
Batch GN26885: T63510-1
Batch GP10847: T63510-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP10847/GN26886	T63259-1	mg/kg	1080	1100	1.8	0-20%
Chromium, Hexavalent	GN26859	T63510-1	mg/kg	1.1	<2.2	2.6	0-20%
Solids, Percent	GN26712	T63431-22	%	76.3	75.7	0.8	0-5%
Specific Conductivity	GN26885	T63510-1	umhos/cm	5410	5410	0.0	0-20%
pH	GN26787	T63510-1	su	9.30	9.30	0.0	0-20%

Associated Samples:
Batch GN26712: T63510-1
Batch GN26787: T63510-1
Batch GN26859: T63510-1
Batch GN26885: T63510-1
Batch GP10847: T63510-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T63510
Account: WPRMTCOP - Williams Production RMT Company
Project: SG 34-28

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP10847/GN26886	T63259-1	mg/kg	1080	1100	2390	118.9	80-120%
Chromium, Hexavalent	GN26859	T63510-1	mg/kg	1.1	46.24mg/kg	46.4	98.0	75-125%

Associated Samples:
Batch GN26859: T63510-1
Batch GP10847: T63510-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Gulf Coast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

SUBCONTRACT COC

ACCUTEST Laboratories
10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking # 7964-4700-4748 | Bottle Order Control # 3
Accutest Quote # | Accutest Job #

Client Information	Subcontract Information
Company Name: Accutest Gulf Coast	Subcontract Laboratory: ACCUTEST **NEW JERSEY**
Project Contact: Sylvia Garza	Email: sylviag@accutest.com
Laboratory Contact: Sample Receiving	Email:
Address: 10165 Harwin Dr, Suite 150	Address:
City: Houston	State: TX	Zip: 77036
City:	State:	Zip:
Phone No.: 713-271-4700	Phone No.:

Requested Analyses: As (6020)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Wastewater; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Liquid; SOL Other Solid

Accutest Sample Number	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH	HNO3	H2SO4	CH3OH	TSP	NONE	OTHER	As (6020)	LAB USE ONLY
T63510-1	11/11/2010		SO	1									X	ME14

Turnaround Time (Business days)

- [ ] STANDARD
- [ ] 7 Day
- [ ] 4 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

STD

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other_NARR

Commercial "A" = Results Only
Commercial "B" = Results & Standard QC

Comments / Remarks

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	ALG	1615 11/12/10	FEDEX	FEDEX	1000 11/13/10	
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp
	2A					0.7°C

10.1 10

T63510: Chain of Custody
Page 1 of 1
Accutest New Jersey

Gulf Coast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

(Accutest New Jersey)

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: T63510
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: WPRMTCOP: SG 34-28

QC Batch ID: MP55685
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 11/16/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.35	.52		
Antimony	0.25	.035	.022		
Arsenic	0.50	.045	.11	0.025	<0.50
Barium	0.50	.028	.038		
Beryllium	0.25	.0075	.03		
Boron	2.5	.26	.25		
Cadmium	0.25	.029	.016		
Calcium	130	2.4	3.1		
Chromium	2.0	.029	.29		
Cobalt	0.25	.001	.016		
Copper	2.0	.054	.036		
Iron	25	.41	1.9		
Lead	0.25	.0095	.012		
Magnesium	130	.2	1.4		
Manganese	0.25	.008	.02		
Molybdenum	0.50	.097	.096		
Nickel	2.0	.021	.026		
Potassium	130	1.5	3.9		
Selenium	0.50	.029	.058		
Silver	1.0	.004	.022		
Sodium	130	.48	1.3		
Strontium	0.50	.004	.0082		
Thallium	0.25	.0075	.0051		
Tin	0.50	.035			
Titanium	0.50	.023	.27		
Uranium	0.50				
Vanadium	2.0	.23	.79		
Zinc	2.0	.36	.91		

Associated samples MP55685: T63510-1

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: T63510
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: WPRMTCOP: SG 34-28

QC Batch ID: MP55685
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 11/16/10

Metal	JA60742-1 Original	MS	Spikelot MPIRS1	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	1050	1710	398	165.8N(a	75-125
Barium					
Beryllium	anr				
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper	anr				
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	anr				

Associated samples MP55685: T63510-1

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 recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T63510
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: WPRMTCOP: SG 34-28

QC Batch ID: MP55685
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 11/16/10

Metal	JA60742-1 Original	MSD	Spikelot MPIRS1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	1050	1260	398	52.8N(a)	30.3 (b)	20
Barium						
Beryllium	anr					
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper	anr					
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	anr					

Associated samples MP55685: T63510-1

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 recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) High rpd due to possible sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T63510
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: WPRMTCOP: SG 34-28

QC Batch ID: MP55685
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 11/16/10

Metal	BSP Result	Spikelot MPIRS1	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	438	400	109.5	80-120
Barium				
Beryllium	anr			
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper	anr			
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP55685: T63510-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: T63510
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: WPRMTCOP: SG 34-28

QC Batch ID: MP55685
Matrix Type: SOLID

Methods: SW846 6020A
Units: ug/l

Prep Date: 11/16/10

Metal	JA60742-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	10400	10400	0.2	0-10
Barium				
Beryllium	anr			
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper	anr			
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP55685: T63510-1

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