Gulf Coast ACCUTEST LABORATORIES

12/12/12

Technical Report for

EarthCon Consultants

Quarterly Well Sampling, Parker County, Texas

3rd Quarter / WW7-Mer

Accutest Job Number: TC20871

Sampling Date: 11/30/12

Report to:

EarthCon Consultants
4800 Sugar Grove Suite 420
Stafford, TX 77477
gfloreslovo@earthcon.com; djackson@jacksonsjoberg.com;
mcpatton@rangeresources.com; escott@earthcon.com
ATTN: Gabriela Floreslovo

Total number of pages in report: **26**

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.

Richard Rodriguez
Laboratory Director

Client Service contact: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-8) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC20871

Quarterly Well Sampling, Parker County, Texas
Project No: 3rd Quarter / WW7-Mer

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC20871-1	11/30/12	10:30		12/04/12	AQ	Ground Water	WW7-MER-113012

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC20871
Site:	Quarterly Well Sampling, Parker County, Texas	**Report Date**	12/12/2012 12:05:56 P

1 Sample was collected on 11/30/2012 and received intact at Accutest on 12/04/2012 and properly preserved in 1 cooler at 2.4 Deg C. The sample received an Accutest job number of TC20871. A listing of the Laboratory Sample ID, Client Sample ID and date of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VX1673

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC20864-1MS, TC20864-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS232

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC20890-1DUP, TC20890-1MS were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Ethene, Propane are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Recovery(s) for Ethane, Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Butane, Isobutane, Propane are outside control limits for sample TC20890-1DUP.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TC20871
Account: EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas
Collected: 11/30/12

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TC20871-1	**WW7-MER-113012**					
Methane		1.63	0.0050	0.0030	mg/l	RSKSOP-147/175
Ethane		0.0629	0.0010	0.00050	mg/l	RSKSOP-147/175

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WW7-MER-113012		
Lab Sample ID:	TC20871-1	**Date Sampled:**	11/30/12
Matrix:	AQ - Ground Water	**Date Received:**	12/04/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0087068.D	1	12/06/12	CF	n/a	n/a	VX1673
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	MQL	SDL	Units	Q
71-43-2	Benzene	0.00034 U	0.0010	0.00034	mg/l	
108-88-3	Toluene	0.00033 U	0.0010	0.00033	mg/l	
100-41-4	Ethylbenzene	0.00032 U	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	0.00087 U	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	97%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

U = Not detected SDL - Sample Detection Limit
MQL = Method Quantitation 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

Report of Analysis

Client Sample ID:	WW7-MER-113012		
Lab Sample ID:	TC20871-1	**Date Sampled:**	11/30/12
Matrix:	AQ - Ground Water	**Date Received:**	12/04/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS005034.D	1	12/06/12	LT	n/a	n/a	GSS232
Run #2	SS005036.D	10	12/06/12	LT	n/a	n/a	GSS232

RSK147 Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.63 [a]	0.0050	0.0030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0629	0.0010	0.00050	mg/l	
74-98-6	Propane	0.00075 U	0.0015	0.00075	mg/l	
75-28-5	Isobutane	0.00075 U	0.0015	0.00075	mg/l	
106-97-8	Butane	0.00075 U	0.0015	0.00075	mg/l	

(a) Result is from Run# 2

U = Not detected SDL - Sample Detection Limit
MQL = Method Quantitation 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

Gulf Coast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

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 #: TC20871

Client / Reporting Information

Company Name: EarthCon Consultants, Inc.
Street Address: 4800 Sugar Grove Blvd., Suite 390
City: Stafford State: TX Zip: 77477
Project Contact: Gabriela Floreslovo E-mail:
Phone #: 281-201-3513 Fax #:
Sampler(s) Name(s): J Bruskewitz Phone #:

Project Information

Project Name: Third Quarterly Well Sampling, Parker County, Texas
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

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

Requested Analyses

BTEX 8260B
Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175

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

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	MW7-Mar-113012	11/30/12	1030	JB	GW	6	X												X	X	

Turnaround Time (Business days)

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

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

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

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

Comments / Special Instructions

12-4-12 0922

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:
	12/4/12 1602	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by:	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [ ] Cooler Temp.

5.1

5

TC20871: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC20871 **Client:** EARTHCON CONSULTANTS **Project:** 3RD QTR WELL SAMPLING,PARKER COUNTY,T

Date / Time Received: 12/4/2012 **Delivery Method:** Client **Airbill #'s:**

No. Coolers: 1 **Therm ID:** IR6 **Temp Adjustment Factor:** 0.2

Cooler Temps (Initial/Adjusted): #1: (2.2/2.4)

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared Gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments - Received trip blank not listed on COC.

5.1

5

TC20871: Chain of Custody

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Problem Resolution

Accutest Job Number: TC20871

CSR: Elessa Sommers

Response Date: 12/5/2012

Response: Trip blank is on separate report.

TC20871: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC20871 **Date / Time Received:** 12/4/2012 9:22:00 AM **Initials:** CH

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC20871-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4
1	TC20871-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4
1	TC20871-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4
1	TC20871-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4
1	TC20871-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4
1	TC20871-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	2.2	0.2	2.4

TC20871: Chain of Custody
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Appendix A Laboratory Data Package Cover Page

TC20871 This data package consists of

- ☐ This signature page, the laboratory review checklist, and the following reportable data:
- ☐ R1 Field chain-of-custody documentation;
- ☐ R2 Sample identification cross-reference;
- ☐ R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☐ R5 Test reports/summary forms for blank samples;
- ☐ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) The amount of analyte measured in the duplicate,
  - b) The calculated RPD, and
  - c) The laboratory's QC limits for analytical duplicates.
- ☐ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each
- ☐ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Richard Rodriguez		Laboratory Director	12/12/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**12/12/2012**
Project Name:	**Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC20871**
Reviewer Name:	**Anita Patel**	Prep Batch Number(s):	**GSS232, VX1673**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				**5**
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X			**4**
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			**4**
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:	Accutest Gulf Coast	LRC Date:	12/12/2012
Project Name:	Quarterly Well Sampling, Parker	Laboratory Project Number:	TC20871
Reviewer Name:	Anita Patel	Prep Batch Number(s):	GSS232, VX1673

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
S1	**OI**	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	**OI**	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?			X		
S3	**O**	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	**O**	**Internal standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	**OI**	**Raw data (NELAC Section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	**O**	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	**O**	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	**I**	**Interference Check Sample (ICS) results**					
		Were percent recoveries within method QC limits?			X		
S9	**I**	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	**OI**	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				**5**
S11	**OI**	**Proficiency test reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	**OI**	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?	X				
S13	**OI**	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	**OI**	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	**OI**	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?	X				
S16	**OI**	**Laboratory standard operating procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**12/12/2012**
Project Name:	**Quarterly Well Sampling, Parker**	Laboratory Project Number:	**TC20871**
Reviewer Name:	**Anita Patel**	Prep Batch Number(s):	**GSS232, VX1673**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.
5	The laboratory does not perform DCS analysis for Method RSKSOP-147/175. The components reported are not listed or do not have values in the Texas TRRP PCL tables.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on

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: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX1673-MB	X0087062.D	1	12/06/12	CF	n/a	n/a	VX1673

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

TC20871-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.34	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.33	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.87	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	72-122%
17060-07-0	1,2-Dichloroethane-D4	95%	68-124%
2037-26-5	Toluene-D8	99%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

Blank Spike Summary

Job Number: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX1673-BS	X0087060.D	1	12/06/12	CF	n/a	n/a	VX1673

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

TC20871-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.2	89	68-119
100-41-4	Ethylbenzene	25	22.1	88	71-117
108-88-3	Toluene	25	22.4	90	73-119
1330-20-7	Xylene (total)	75	67.7	90	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	92%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC20864-1MS	X0087064.D	1	12/06/12	CF	n/a	n/a	VX1673
TC20864-1MSD	X0087065.D	1	12/06/12	CF	n/a	n/a	VX1673
TC20864-1	X0087063.D	1	12/06/12	CF	n/a	n/a	VX1673

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

TC20871-1

CAS No.	Compound	TC20864-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U		25	23.0	92	22.4	90	3	68-119/12
100-41-4	Ethylbenzene	1.0 U		25	22.7	91	22.4	90	1	71-117/12
108-88-3	Toluene	1.0 U		25	22.9	92	22.5	90	2	73-119/13
1330-20-7	Xylene (total)	3.0 U		75	69.8	93	68.4	91	2	74-119/13

CAS No.	Surrogate Recoveries	MS	MSD	TC20864-1	Limits
1868-53-7	Dibromofluoromethane	103%	101%	105%	72-122%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	96%	68-124%
2037-26-5	Toluene-D8	100%	100%	100%	80-119%
460-00-4	4-Bromofluorobenzene	91%	92%	98%	72-126%

* = Outside of Control Limits.

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: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS232-MB	SS005026.D	1	12/06/12	LT	n/a	n/a	GSS232

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

TC20871-1

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-85-1	Ethene	ND	1.0	0.50	ug/l	
74-84-0	Ethane	ND	1.0	0.50	ug/l	
74-98-6	Propane	ND	1.5	0.75	ug/l	
75-28-5	Isobutane	ND	1.5	0.75	ug/l	
106-97-8	Butane	ND	1.5	0.75	ug/l	

Blank Spike Summary

Job Number: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS232-BS	SS005023.D	1	12/06/12	LT	n/a	n/a	GSS232

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

TC20871-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	21.0	98	68-139
74-85-1	Ethene	57.4	54.7	95	52-145
74-84-0	Ethane	43.3	56.7	131	68-131
74-98-6	Propane	60.6	68.2	113	69-131
75-28-5	Isobutane	72.5	77.3	107	72-131
106-97-8	Butane	76.6	82.4	108	66-128

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC20890-1MS	SS005029.D	1	12/06/12	LT	n/a	n/a	GSS232
TC20890-1	SS005027.D	1	12/06/12	LT	n/a	n/a	GSS232
TC20890-1	SS005030.D	250	12/06/12	LT	n/a	n/a	GSS232

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

TC20871-1

CAS No.	Compound	TC20890-1 ug/l	Q	Spike ug/l	MS ug/l	MS %		Limits
74-82-8	Methane	20100	b	21.5	17100	-13815*		68-139
74-85-1	Ethene	1.0	U	57.4	5540	9654*		52-145
74-84-0	Ethane	3500	b	43.3	4120	1431*	a	68-131
74-98-6	Propane	66.8		60.6	172	174*		69-131
75-28-5	Isobutane	8.41		72.5	93.3	117		72-131
106-97-8	Butane	10.3		76.6	101	119		66-128

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

* = Outside of Control Limits.

Duplicate Summary

Job Number: TC20871
Account: PESTXST EarthCon Consultants
Project: Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC20890-1DUP	SS005028.D	1	12/06/12	LT	n/a	n/a	GSS232
TC20890-1	SS005027.D	1	12/06/12	LT	n/a	n/a	GSS232
TC20890-1	SS005030.D	250	12/06/12	LT	n/a	n/a	GSS232

The QC reported here applies to the following samples: **Method:** RSKSOP-147/175

TC20871-1

CAS No.	Compound	TC20890-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	20100 [a]		16400	E	21	53
74-85-1	Ethene	1.0 U		ND		nc	27
74-84-0	Ethane	3500 [a]		4020	E	14	43
74-98-6	Propane	66.8		99.1		39*	21
75-28-5	Isobutane	8.41		12.1		36*	35
106-97-8	Butane	10.3		15.1		38*	33

(a) Result is from Run #2.

* = Outside of Control Limits.