EARTHCON℠
Environmental Challenges
BUSINESS SOLUTIONS

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June 20, 2012

Ms. Mary C. Patton, P.E.
Director of Regulatory - NMSD
Range Production Company
100 Throckmorton Street, Suite 1200
Fort Worth, Texas 76102

Re: Implementation Report
First Quarterly Sampling Event – May 2012
Quarterly Residential Well Sampling Project
Parker County, Texas
EarthCon Project No. 212084.00

Dear Ms. Patton:

EarthCon Consultants, Inc. (EarthCon) is pleased to provide Range Production Company (Range) this report documenting implementation of the First Quarterly Sampling Event of the Quarterly Residential Well Sampling Project in Parker County, Texas.

All activities were conducted in accordance with EarthCon's April 25, 2012 *Revised Scope of Work and Cost Estimate (2nd Revision) for Environmental Consulting Services* (approved on April 27, 2012) and the *Final Quarterly Residential Well Sampling Work Plan*, dated May 7, 2012 (May 2012 Work Plan, see **Attachment 1**) submitted electronically to Range on May 8, 2012. This report specifically documents collection of water samples from residential wells and coordination with analytical laboratories; evaluation and interpretation of associated data were handled by other Range consultants, and hence, are not discussed in this report.

1.0 PREPARATORY ACTIVITIES

Upon receiving approval from Range, EarthCon contacted Accutest Laboratories (Accutest) and Milco Safety Rental to coordinate delivery to EarthCon's offices all needed sample containers, shipping materials and sampling equipment; coordination of delivery of sample containers and shipping materials from Isotech Laboratories (Isotech) was conducted through Mr. Alan Kornacki of Weatherford, a Range consultant.

Prior to initiating field activities, on May 9, 2012 EarthCon was provided by Mary Patton of Range a final schedule of visits for all wells/landowners listed in Table 1 of the May 2012 Work Plan that had provided authorization for sampling, except for well WW5 originally listed as owned by Mr. Brent A. Mauldin. As requested by Range, on May 12, 2012 EarthCon visited the Mauldin residence and determined that it had been recently purchased by Michael and Wendy Wells, who agreed to have

their well sampled; this information was communicated the same day via electronic mail to Ms. Patton (see **Attachment 2**).

2.0 FIELD ACTIVITIES

The EarthCon field crews mobilized to the project area on Thursday May 10, 2012, and commenced preparations for sampling, including acquiring sampling materials and calling the landowners to confirm the visits. Sampling occurred from Friday May 11, 2012 through Monday May 14, 2012 (including demobilization), and was performed in general accordance with protocols presented in detail in the May 2012 Work Plan; **Table 1** provides a summary of the samples collected.

The field work was conducted in Level D personal protective equipment (PPE), in accordance with a site-specific Health and Safety Plan (HASP), and after health and safety meetings were conducted at the start of each day. All ambient air readings demonstrated a safe environment with no health or safety concerns. No health or safety incidents occurred during EarthCon's sampling activities.

Well water samples were collected from existing sampling ports (e.g., spigots, tank inlet pipes, etc.) prior to softening or other modification/treatment of the water stream, using typical protocols presented in Appendix A of the May 2012 Work Plan. In a few instances, as noted in **Table 1**, pre-treatment water samples could not be obtained due to the manner in which the well and water treatment infrastructure was constructed (i.e., piping from the wellhead was hard-plumbed to a water treatment/softening tank, or there was no ready access to pre-treated water). In such cases, treated water was collected from existing post-treatment spigots, or samples were collected inside treatment tanks at the inlet. In addition, in the cases of wells WW10, WW18 and WW20, where samples were collected from a tank inlet, the sample for analysis at Isotech could not be obtained from these three locations as there was no room to install a hose so that the laboratory-prescribed sampling protocol could be implemented; further, piping modifications were not contemplated per the May 2012 Work Plan. Additional well water samples were collected for quality control purposes; these samples consisted of: a field duplicate (at WW9); a matrix spike/matrix spike duplicate pair (at WW7); and two trip blanks (one for each shipped cooler containing samples for analysis of volatile constituents).

All samples were labeled, packaged per laboratory instructions, and shipped to Accutest and Isotech via common courier under chain-of-custody documentation. The labels and chain-of-custody forms identified the analyses required for each sample, as established in the May 2012 Work Plan.

Pertinent field observations and measurements were recorded in well-specific field forms; photographs taken at each sampling location. The completed field forms and photographic records are grouped per well and presented in **Attachment 3**.

3.0 LABORATORY COORDINATION

EarthCon confirmed receipt of all samples at Accutest and Isotech; in addition, for samples submitted for analysis at Accutest, the sample receipt forms were reviewed to verify that samples were received in good condition and were correctly logged for the appropriate analyses.

EarthCon's laboratory coordination activities concluded by verifying that all samples were analyzed within holding time and that all analytical results were provided; analytical data packages and summary tables were directly submitted to Range via electronic mail by Accutest, and are included in **Attachment 4** for ease of reference.

4.0 CLOSING

EarthCon appreciates the opportunity to provide environmental consulting services to Range Production Company. Please do not hesitate to contact the undersigned at (281) 240-5200, if you have any questions regarding this report.

Sincerely,

for:
Earl H. Scott
Project Principal

Kathleen Buxton, P.G.
Sr. Geologist

Gabriela P. Floreslovo
Sr. Project Engineer

Enclosures:

Table 1 – Summary of Samples Collected – March 2012

Attachment 1 – Copy of April 2012 Work Plan

Attachment 2 – Message Documenting Verbal Agreement for Sampling WW5

Attachment 3 – Well-Specific Field Forms and Photographic Records

Attachment 4 – Well-Specific Data Packages and Summary Tables (as submitted by Accutest)

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249310	Job #:	18314
Sample Name/Number:	WWW11-AND-051112		
Company:	Oil Tracers, LLC		
Date Sampled:	5/11/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.049			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.84			
Oxygen	8.62			
Nitrogen	89.10			
Carbon Dioxide	0.33			
Methane	0.0602			
Ethane	0.0009			
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 1 Specific gravity, calculated: 0.988

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.79
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249311	Job #:	18314
Sample Name/Number:	WWW23-HUS-051112		
Company:	Oil Tracers, LLC		
Date Sampled:	5/11/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.046			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.90			
Oxygen	7.33			
Nitrogen	90.22			
Carbon Dioxide	0.24			
Methane	0.264			
Ethane	0.0038			
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 3 Specific gravity, calculated: 0.985

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.77
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249312	Job #:	18314
Sample Name/Number:	WWW02-PER-051112		
Company:	Oil Tracers, LLC		
Date Sampled:	5/11/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.072			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	0.675			
Oxygen	4.51			
Nitrogen	29.21			
Carbon Dioxide	0.30			
Methane	61.11	-49.93	-187.2	
Ethane	4.10	-32.03		
Ethylene	0.0003			
Propane	0.0183			
Propylene	nd			
Iso-butane	0.0046			
N-butane	0.0013			
Iso-pentane	0.0010			
N-pentane	nd			
Hexanes +	0.0010			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 693 Specific gravity, calculated: 0.728

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.70
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249313	Job #:	18314
Sample Name/Number:	WWW09-STI-051112		
Company:	Oil Tracers, LLC		
Date Sampled:	5/11/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	0.714			
Oxygen	0.056			
Nitrogen	29.81			
Carbon Dioxide	0.35			
Methane	63.00	-46.65	-186.0	
Ethane	4.52	-33.51		
Ethylene	nd			
Propane	1.18	-29.71		
Propylene	nd			
Iso-butane	0.127			
N-butane	0.187			
Iso-pentane	0.0301			
N-pentane	0.0166			
Hexanes +	0.0095			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 761 Specific gravity, calculated: 0.726

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.66
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249314	Job #:	18314
Sample Name/Number:	WWW07-MER-051112		
Company:	Oil Tracers, LLC		
Date Sampled:	5/11/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.025			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.61			
Oxygen	0.083			
Nitrogen	82.97			
Carbon Dioxide	0.20			
Methane	14.90	-43.45	-143.0	
Ethane	0.210	-16.1		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0008			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	0.0008			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 155 Specific gravity, calculated: 0.914

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.76
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249315	Job #:	18314
Sample Name/Number:	WWW13-STR-051212		
Company:	Oil Tracers, LLC		
Date Sampled:	5/12/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.034			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.20			
Oxygen	0.038			
Nitrogen	59.94			
Carbon Dioxide	0.30			
Methane	36.60	-45.94	-178.3	
Ethane	1.89	-32.04		
Ethylene	nd			
Propane	0.0003			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0009			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	0.0006			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 404 Specific gravity, calculated: 0.824

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.68
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249316	Job #:	18314
Sample Name/Number:	WWW22-SIM-051212		
Company:	Oil Tracers, LLC		
Date Sampled:	5/12/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.54			
Oxygen	0.096			
Nitrogen	78.18			
Carbon Dioxide	0.19			
Methane	19.54	-44.24	-151.7	
Ethane	0.458	-23.4		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0003			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 206 Specific gravity, calculated: 0.894

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.71
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249317	Job #:	18314
Sample Name/Number:	WWW04-ABB-051212		
Company:	Oil Tracers, LLC		
Date Sampled:	5/12/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.73			
Oxygen	0.084			
Nitrogen	89.68			
Carbon Dioxide	0.16			
Methane	8.21	-44.40	-112.0	
Ethane	0.136	-23.6		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0011			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 86 Specific gravity, calculated: 0.942

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.73
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249318	Job #:	18314
Sample Name/Number:	WWW05-WEL-051212		
Company:	Oil Tracers, LLC		
Date Sampled:	5/12/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.87			
Oxygen	0.13			
Nitrogen	92.13			
Carbon Dioxide	0.22			
Methane	5.60	-44.28	-103.1	
Ethane	0.0542			
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0008			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 58 Specific gravity, calculated: 0.953

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.74
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249319	Job #:	18314
Sample Name/Number:	WWW25-MAT-051212		
Company:	Oil Tracers, LLC		
Date Sampled:	5/12/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.60			
Oxygen	0.11			
Nitrogen	84.13			
Carbon Dioxide	0.15			
Methane	13.71	-44.51	-133.0	
Ethane	0.263	-27.2		
Ethylene	nd			
Propane	0.0307			
Propylene	nd			
Iso-butane	0.0039			
N-butane	0.0053			
Iso-pentane	0.0007			
N-pentane	nd			
Hexanes +	0.0007			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 145 Specific gravity, calculated: 0.919

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.72
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249320	Job #:	18314
Sample Name/Number:	WWW06-THO-051312		
Company:	Oil Tracers, LLC		
Date Sampled:	5/13/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.73			
Oxygen	0.095			
Nitrogen	86.39			
Carbon Dioxide	0.28			
Methane	11.37	-42.16	-131.8	
Ethane	0.134	-16.0		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 117 Specific gravity, calculated: 0.929

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.77
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249321	Job #:	18314
Sample Name/Number:	WWW21-VAN-051312		
Company:	Oil Tracers, LLC		
Date Sampled:	5/13/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.83			
Oxygen	5.74			
Nitrogen	89.50			
Carbon Dioxide	1.05			
Methane	1.85	-17.4	90	
Ethane	0.0252			
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 19 Specific gravity, calculated: 0.981

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.79
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Isotopes obtained online via GC-C/P-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249322	Job #:	18314
Sample Name/Number:	WWW19-WIL-051312		
Company:	Oil Tracers, LLC		
Date Sampled:	5/13/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.41			
Oxygen	0.042			
Nitrogen	71.34			
Carbon Dioxide	0.23			
Methane	26.33	-43.85	-160.9	
Ethane	0.650	-20.5		
Ethylene	nd			
Propane	0.0004			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0008			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 278 Specific gravity, calculated: 0.866

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.74
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249323	Job #:	18314
Sample Name/Number:	WWW14A-HUR-051312		
Company:	Oil Tracers, LLC		
Date Sampled:	5/13/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.61			
Oxygen	0.086			
Nitrogen	80.47			
Carbon Dioxide	0.47			
Methane	16.89	-43.84	-150.6	
Ethane	0.479	-27.5		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 180 Specific gravity, calculated: 0.907

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.75
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249324	Job #:	18314
Sample Name/Number:	WWW15-HUR-051312		
Company:	Oil Tracers, LLC		
Date Sampled:	5/13/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.50			
Oxygen	0.076			
Nitrogen	73.86			
Carbon Dioxide	0.23			
Methane	23.50	-46.14	-156.8	
Ethane	0.834	-30.1		
Ethylene	nd			
Propane	0.0008			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0016			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 253 Specific gravity, calculated: 0.878

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.74
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249325	Job #:	18314
Sample Name/Number:	WWW01-WEL-051412		
Company:	Oil Tracers, LLC		
Date Sampled:	5/14/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.59			
Oxygen	0.069			
Nitrogen	79.00			
Carbon Dioxide	0.33			
Methane	18.47	-46.24	-178.2	
Ethane	0.541	-20.5		
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	0.0004			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 197 Specific gravity, calculated: 0.900

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.76
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

ISOTECH
ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	249326	Job #:	18314
Sample Name/Number:	WWW24-SMI-051412		
Company:	Oil Tracers, LLC		
Date Sampled:	5/14/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	First Quarterly Well Sampling		
Location:	Parker County, TX		
Formation/Depth:			
Sampling Point:			
Date Received:	5/25/2012	Date Reported:	7/02/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	0.13			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.68			
Oxygen	15.61			
Nitrogen	81.72			
Carbon Dioxide	0.39			
Methane	0.455			
Ethane	0.0143			
Ethylene	nd			
Propane	0.0004			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 5 Specific gravity, calculated: 0.996

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.78
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, TX

Accutest Job Number: TC8198

Sampling Date: 05/11/12

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: **27**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8198-1: WWW09-STI-051112 6
3.2: TC8198-2: DUP-051112 8
Section 4: Misc. Forms **10**
4.1: Chain of Custody 11
4.2: LRC Form 15
Section 5: GC/MS Volatiles - QC Data Summaries **19**
5.1: Method Blank Summary 20
5.2: Blank Spike Summary 21
5.3: Matrix Spike/Matrix Spike Duplicate Summary 22
Section 6: GC Volatiles - QC Data Summaries **23**
6.1: Method Blank Summary 24
6.2: Blank Spike Summary 25
6.3: Matrix Spike Summary 26
6.4: Duplicate Summary 27

Sample Summary

EarthCon Consultants

Job No: TC8198

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, TX

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8198-1	05/11/12	13:42		05/12/12	AQ	Ground Water	WWW09-STI-051112
TC8198-2	05/11/12	00:00		05/12/12	AQ	Ground Water	DUP-051112

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8198
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 11:56:44 AM

2 Samples were collected on 05/11/2012 and received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. These samples received an Accutest job number of TC8198. A listing of the Laboratory Sample ID, Client Sample ID and dates 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW09-STI-051112		
Lab Sample ID:	TC8198-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07136.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	109%		87-119%
460-00-4	4-Bromofluorobenzene	102%		80-133%

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: WWW09-STI-051112
Lab Sample ID: TC8198-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/11/12
Date Received: 05/12/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002581.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2	SS002582.D	50	05/21/12	FI	n/a	n/a	GSS131

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	2.44 [a]	0.025	0.015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.463 [a]	0.050	0.025	mg/l	J
74-98-6	Propane	0.186	0.0015	0.00075	mg/l	
75-28-5	Isobutane	0.0204	0.0015	0.00075	mg/l	
106-97-8	Butane	0.0387	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

Report of Analysis

Client Sample ID:	DUP-051112		
Lab Sample ID:	TC8198-2	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07137.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-122%
17060-07-0	1,2-Dichloroethane-D4	107%		75-121%
2037-26-5	Toluene-D8	108%		87-119%
460-00-4	4-Bromofluorobenzene	102%		80-133%

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: DUP-051112
Lab Sample ID: TC8198-2
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/11/12
Date Received: 05/12/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002589.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2	SS002590.D	100	05/21/12	FI	n/a	n/a	GSS131

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	3.42 [a]	0.050	0.030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.050 U [a]	0.10	0.050	mg/l	
74-98-6	Propane	0.461	0.0015	0.00075	mg/l	
75-28-5	Isobutane	0.0524	0.0015	0.00075	mg/l	
106-97-8	Butane	0.0961	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 ___ 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 # TC8198

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	H2SO4	ZnAc/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	MW09-STI-051112	051112	1342	KB	W	6	X												X	X	
2	DUP-051112	051112		KB	W	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*

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"
- [X] 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: 1	Date Time: 5.11.12 500	Received By: 1	Relinquished By: 2	Date Time: 5-11-12 15:00	Received By: 2 FedEx
Relinquished by Sampler: 3	Date Time: 5/12/12 1030	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [ ] Cooler Temp. 5.2/4.7

TC8198: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8198 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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 Preservatio	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:	Broken / Leaking	

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 1 VIAL BROKEN IN LAB FOR SAMPLE "WWW09-STI-051112".
Trip blank reported in job TC8203.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC8198: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8198

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Sufficient number of vials remain to perform the requested analysis. Trip blank reported in job TC8203.

TC8198: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8198 **Date / Time Received:** 5/12/2012 **Initials:** ians

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8198-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8198-2	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8198: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8198 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8198**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8198**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8198**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8198-1, TC8198-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8198-1, TC8198-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8198-1, TC8198-2

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

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: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8198-1, TC8198-2

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: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8198-1, TC8198-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8198-1, TC8198-2

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8198
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8198-1, TC8198-2

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8199

Sampling Date: 05/11/12

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: **25**

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 Canevaro
Laboratory Director

Client Service contact: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8199-1: WWW02-PER-051112 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8199

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8199-1	05/11/12	12:50		05/12/12	AQ	Ground Water	WWW02-PER-051112

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8199
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 12:24:15 PM

1 Sample was collected on 05/11/2012 and received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. The sample received an Accutest job number of TC8199. 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW02-PER-051112		
Lab Sample ID:	TC8199-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07132.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00036	0.0010	0.00025	mg/l	J
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	109%		87-119%
460-00-4	4-Bromofluorobenzene	105%		80-133%

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:	WWW02-PER-051112		
Lab Sample ID:	TC8199-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002583.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2	SS002584.D	50	05/21/12	FI	n/a	n/a	GSS131

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.41 [a]	0.025	0.015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.025 U [a]	0.050	0.025	mg/l	
74-98-6	Propane	0.0027	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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 # TC8199

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

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	Na2SO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	WWW2-PER-051112	051112	1258	KB	W	6	X												X	X	

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

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

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		5.11.12 500	1	2	5/11/12 1700	2 FedEx
3		5/12/12 13:	3	4		4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp. 5.2/4.7

TC8199: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8199 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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 Preservatio	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 Trip blank reported in job TC8203.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www/accutest.com

TC8199: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8199

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Trip blank reported in job TC8203.

Sample Receipt Log

Job #: TC8199 **Date / Time Received:** 5/12/2012 **Initials:** ians

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8199-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8199-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8199-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8199-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8199-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8199-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8199: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8199 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8199**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8199**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8199**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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

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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: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8199-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8199-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8199-1

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

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: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8199-1

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: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8199-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8199-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8199
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8199-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8200

Sampling Date: 05/11/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8200-1: WWW07-MER-051112 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8200

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8200-1	05/11/12	15:20		05/12/12	AQ	Ground Water	WWW07-MER-051112
TC8200-1D	05/11/12	15:20		05/12/12	AQ	Water Dup/MSD	WWW07-MER-051112 MSD
TC8200-1S	05/11/12	15:20		05/12/12	AQ	Water Matrix Spike	WWW07-MER-051112 MS

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8200
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 1:37:01 PM

1 Sample was collected on 05/11/2012 and received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. The sample received an Accutest job number of TC8200. 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW07-MER-051112		
Lab Sample ID:	TC8200-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		79-122%
17060-07-0	1,2-Dichloroethane-D4	104%		75-121%
2037-26-5	Toluene-D8	108%		87-119%
460-00-4	4-Bromofluorobenzene	101%		80-133%

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: WWW07-MER-051112
Lab Sample ID: TC8200-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/11/12
Date Received: 05/12/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.491 [a]	0.0025	0.0015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0204	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

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 # TC8200

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc/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	WWW07-MEL-051112	051112	1520	KB	W	18	X												X	X	

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

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"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

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

Comments / Special Instructions

extra quantity for MS/MSD

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		5.11.12 500	1	2	5/11/12 1700	2 FedEx
3	Relinquished by Sampler:	Date Time: 5/11/12 1354	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp. 5.2/4.7

4.1 4

TC8200: Chain of Custody
Page 1 of 25

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8200 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 6 VIALS BROKEN IN LAB FOR SAMPLE "WWW07-MER-051112"
Trip blank reported in job TC8203.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

ACCUTEST LABORATORIES

Problem Resolution

Accutest Job Number: TC8200

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Sufficient sample volume remains for requested analysis. Trip blank reported in job TC8203.

TC8200: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8200 **Date / Time Received:** 5/12/2012 **Initials:** IANS

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8200-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	13	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	14	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	16	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	17	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8200-1	40ml	18	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8200: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8200 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8200**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8200**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8200**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8200-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8200-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8200-1

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

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: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8200-1

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: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8200-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8200-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8200
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8200-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8201

Sampling Date: 05/11/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8201-1: WWW23-HUS-051112 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8201

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8201-1	05/11/12	11:25		05/12/12	AQ	Ground Water	WWW23-HUS-051112

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8201
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 1:49:46 PM

1 Sample was collected on 05/11/2012 and received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. The sample received an Accutest job number of TC8201. 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW23-HUS-051112		
Lab Sample ID:	TC8201-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07133.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	109%		87-119%
460-00-4	4-Bromofluorobenzene	103%		80-133%

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:	WWW23-HUS-051112		
Lab Sample ID:	TC8201-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.00516	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00050 U	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	

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 # TC8201

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): Kathleen Buxton Phone #: 281-240-5220

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	H2SO4	ZnAcNaOH	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	MW03-HUS-051112	051112	1125	KB	W	6	X												X	X	

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

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

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		5/11/12 500	1	2	5/11/12 1700	2 FedEx
3		5/12/12 1030	3	4	Date Time:	4
5	Relinquished by:	Date Time:	5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp: 5.2/4.7

TC8201: Chain of Custody
Page 1 of 25

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8201 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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 Preservatio	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 Trip blank reported in job TC8203.

Accutest Laboratories
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10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

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Problem Resolution

Accutest Job Number: TC8201

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Trip blank reported in job TC8203.

TC8201: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8201 **Date / Time Received:** 5/12/2012 **Initials:** ians

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8201-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8201-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8201-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8201-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8201-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8201-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8201: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8201 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8201**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8201**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8201**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8201-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8201-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8201-1

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

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: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8201-1

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: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8201-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8201-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8201
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8201-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8202

Sampling Date: 05/11/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8202-1: WWW11-AND-051112 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8202

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8202-1	05/11/12	09:45		05/12/12	AQ	Ground Water	WWW11-AND-051112

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8202
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 2:20:53 PM

1 Sample was collected on 05/11/2012 and received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. The sample received an Accutest job number of TC8202. 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW11-AND-051112		
Lab Sample ID:	TC8202-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07134.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	108%		87-119%
460-00-4	4-Bromofluorobenzene	101%		80-133%

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:	WWW11-AND-051112		
Lab Sample ID:	TC8202-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Ground Water	**Date Received:**	05/12/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002593.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.00189	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00050 U	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	

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 # TC8202

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): Kathleen Buxton 281-240-5000 Phone #:

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	Zn/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
15 5/11/12	WWW11-AND-051112	051112	945	ICB	W	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*

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"
- [X] 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: 1	Date Time: 5/11/12 500	Received By: 1	Relinquished By: 2	Date Time: 5-11-12 17:00	Received By: 2 FedEx
Relinquished by Sampler: 3 Fx	Date Time: 5/14/12 1030	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp. 5.2/4.7

TC8202: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8202 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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 Preservatio	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 Trip blank reported in job TC8203.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC8202: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8202

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Trip blank reported in job TC8203.

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8202 **Date / Time Received:** 5/12/2012 **Initials:** ians

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8202-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8202-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8202-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8202-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8202-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8202-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8202: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8202 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
Paul Canevaro		Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8202**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8202**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8202**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VK328**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8202-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8202-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8202-1

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

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: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8202-1

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: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8202-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8202-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8202
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8202-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/18/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8203

Sampling Date: 05/11/12

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: **19**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8203-1: TRIPBLANK-051112 6
Section 4: Misc. Forms **7**
4.1: Chain of Custody 8
4.2: LRC Form 12
Section 5: GC/MS Volatiles - QC Data Summaries **16**
5.1: Method Blank Summary 17
5.2: Blank Spike Summary 18
5.3: Matrix Spike/Matrix Spike Duplicate Summary 19

Sample Summary

EarthCon Consultants

Job No: TC8203

First Quarterly Well Sampling, Parker County, Texas
Project No: First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8203-1	05/11/12	09:45		05/12/12	AQ	Trip Blank Water	TRIPBLANK-051112

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8203
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/18/2012 3:01:19 PM

1 Trip Blank was received intact at Accutest on 05/12/2012 and properly preserved in 1 cooler at 4.7 Deg C. The sample received an Accutest job number of TC8203. 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:** VK328

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8200-1MSD were used as the QC samples indicated.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TRIPBLANK-051112		
Lab Sample ID:	TC8203-1	**Date Sampled:**	05/11/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/12/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K07135.D	1	05/17/12	EM	n/a	n/a	VK328
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-122%
17060-07-0	1,2-Dichloroethane-D4	107%		75-121%
2037-26-5	Toluene-D8	110%		87-119%
460-00-4	4-Bromofluorobenzene	104%		80-133%

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 # TC8203

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): Kathleen Buxton Phone #: 281-240-3200

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved 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	TripblanK-051112	051112	945		3	3	X												X		

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

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"
- [X] 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		5/11/12 500	1	2	5-11-12 17:00	2 FedEx
3	Fax	5/11/12 1000	3	4	Date Time:	4
5	Relinquished by:	Date Time:	5 Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp. 5.2/4.7

4.1 4

TC8203: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8203 **Client:** EARTHCON CONSULTANTS **Project:** FIRST QUARTERLY WELL SAMPLING

Date / Time Received: 5/12/2012 **Delivery Method:** FedEx **Airbill #'s:** 524976292500

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (5.2/4.7)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Tripblank - 051112, Date: 05/11/12, Time: 09:45 listed on chain-of-custody; 3 vials for Trip Blank have Date: 05/04/12, Time: 16:30, 2 vials.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC8203: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8203

CSR: Elessa Sommers **Response Date:** 5/15/2012

Response: Chain-of-custody lists the date of the sampling event for the samples associated with the trip blank. The date on the labels on the trip blank is its preparation date.

TC8203: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8203 **Date / Time Received:** 5/12/2012 **Initials:** IANS

Client: EARTHCON CONSULTANTS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8203-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7
1	TC8203-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.2	-0.5	4.7

TC8203: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8203 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
Paul Canevaro		Laboratory Director	5/18/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/18/2012**					
Project Name:		**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8203**					
Reviewer Name:		**Elessa Sommers**	Prep Batch Number(s):	**VK328**					
#[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					
		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					
		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			
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			**1**	
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					

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/18/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8203**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**VK328**				
#[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				
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:	**5/18/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8203**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**VK328**

ER#[1]	Description
1	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.
2	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/MDL is defined in the report as the MDL.

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: TC8203
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-MB	K07127.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8203-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

Blank Spike Summary

Job Number: TC8203
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK328-BS	K07125.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8203-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.9	96	76-118
100-41-4	Ethylbenzene	25	25.1	100	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	74.7	100	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	104%	87-119%
460-00-4	4-Bromofluorobenzene	101%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8203
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	K07129.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1MSD	K07130.D	1	05/17/12	EM	n/a	n/a	VK328
TC8200-1	K07128.D	1	05/17/12	EM	n/a	n/a	VK328

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

TC8203-1

CAS No.	Compound	TC8200-1 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	25.2	101	24.1	96	4	76-118/16
100-41-4	Ethylbenzene	1.0	U	25	26.3	105	25.3	101	4	75-112/12
108-88-3	Toluene	1.0	U	25	26.5	106	25.3	101	5	77-114/12
1330-20-7	Xylene (total)	3.0	U	75	78.7	105	76.1	101	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8200-1	Limits
1868-53-7	Dibromofluoromethane	115%	112%	113%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	104%	75-121%
2037-26-5	Toluene-D8	111%	109%	108%	87-119%
460-00-4	4-Bromofluorobenzene	103%	103%	101%	80-133%

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8537

Sampling Date: 05/13/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8537-1: WWW19-WIL-051312 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8537

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8537-1	05/13/12	15:05		05/15/12	AQ	Ground Water	WWW19-WIL-051312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8537
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 2:46:08 PM

1 Sample was collected on 05/13/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8537. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW19-WIL-051312		
Lab Sample ID:	TC8537-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017767.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	100%		75-121%
2037-26-5	Toluene-D8	99%		87-119%
460-00-4	4-Bromofluorobenzene	95%		80-133%

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: WWW19-WIL-051312
Lab Sample ID: TC8537-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/13/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002594.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2	SS002595.D	10	05/21/12	FI	n/a	n/a	GSS131

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.09 [a]	0.0050	0.0030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0762	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 ___ 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 #: TC8537

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): KATHLEEN BURTON Phone #: 281-240-5200

Project Information

Project Name: First 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

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	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	WWW19-WIL-051312	5/13/12	15:05	KB	W	6	X												X	X	

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

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"
- [X] 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:
	5.14.12 1300	1 Fedex	2	5/14/12	2
3		3	4		4
5		5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp: 2.8

TC8537: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8537 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC8537: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8537

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8537: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8537 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8537-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8537-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8537-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8537-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8537-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8537-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8537: Chain of Custody

Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8537 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
Paul Canevaro		Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8537**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8537**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8537**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8537-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8537-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8537-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8537-1

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: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8537-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8537-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8537
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8537-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8538

Sampling Date: 05/13/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366)
LA (85695/04004) OK (211-035)

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Test results relate only to samples analyzed.

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8538-1: WWW21-VAN-051312 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8538

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8538-1	05/13/12	13:40		05/15/12	AQ	Ground Water	WWW21-VAN-051312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8538
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 3:00:28 PM

1 Sample was collected on 05/13/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8538. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS131

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8200-1MS, TC8201-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW21-VAN-051312		
Lab Sample ID:	TC8538-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017768.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-122%
17060-07-0	1,2-Dichloroethane-D4	101%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	95%		80-133%

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:	WWW21-VAN-051312		
Lab Sample ID:	TC8538-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002596.D	1	05/21/12	FI	n/a	n/a	GSS131
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0796	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00361	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	

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE ___ OF ___

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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 #: TC8538

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): KATHLEEN ELIXTON 281-240-5200 Phone #:

Project Information

Project Name: First 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

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	BTEX 8260B	Butane, Ethane, Isobutane, Methane, Propane by RSK-175	Matrix Codes / LAB USE ONLY
1	WWW21-VAN-051312	5/13/12	1340	KB	W	6	X												X	X	

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

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

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		5/14/12 1300	1 FedEx	2 FedEx	5/15/12 9:45	2
2	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5			5					2.8

TC8538: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8538 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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 Preservatio	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 Trip blank is reported in job TC8536.

Accutest Laboratories
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10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

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Problem Resolution

Accutest Job Number: TC8538

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8538: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8538 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8538-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8538-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8538-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8538-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8538-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8538-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8538: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8538 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
Paul Canevaro		Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8538**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8538**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8538**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS131, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8538-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8538-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8538-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-MB	SS002579.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8538-1

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: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS131-BS	SS002580.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8538-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.2	113	70-130
74-85-1	Ethene	57.4	64.7	113	70-130
74-84-0	Ethane	43.3	46.9	108	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.9	98	70-130
106-97-8	Butane	76.6	71.2	93	70-130

Matrix Spike Summary

Job Number: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8200-1MS	SS002587.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002585.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8200-1	SS002586.D	5	05/21/12	FI	n/a	n/a	GSS131

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

TC8538-1

CAS No.	Compound	TC8200-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	491 [b]		21.5	661	787* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	52.6	92	60-140
74-84-0	Ethane	20.4		43.3	71.6	118	60-140
74-98-6	Propane	1.5 U		60.6	58.2	96	60-140
75-28-5	Isobutane	1.5 U		72.5	66.0	91	60-140
106-97-8	Butane	1.5 U		76.6	64.8	85	60-140

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

Duplicate Summary

Job Number: TC8538
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8201-1DUP	SS002592.D	1	05/21/12	FI	n/a	n/a	GSS131
TC8201-1	SS002591.D	1	05/21/12	FI	n/a	n/a	GSS131

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

TC8538-1

CAS No.	Compound	TC8201-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	5.16		5.50		6	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	1.0 U		ND		nc	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8539

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8539-1: WWW18-STR-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8539

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8539-1	05/12/12	09:10		05/15/12	AQ	Ground Water	WWW18-STR-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8539
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 3:21:01 PM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8539. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW18-STR-051212		
Lab Sample ID:	TC8539-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017769.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	100%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	98%		80-133%

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:	WWW18-STR-051212		
Lab Sample ID:	TC8539-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002612.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002613.D	5	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.586 [a]	0.0025	0.0015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0268	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 ___ 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 #: T8539
Accutest Quote #: | Accutest Job #:

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175
1	WWW18-STR-051212	5/12/12	0910	KB	W	6	X												X	X

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

LAB USE ONLY

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"
- [X] 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		5/14/12 1300	Fedex			
2				Fedex	5/11 94	
3	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.
						2.8

TC8539: Chain of Custody
Page 1 of 4

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8539 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8539: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8539

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8539: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8539 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8539-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8539-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8539-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8539-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8539-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8539-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8539: Chain of Custody

Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8539 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8539**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8539**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8539**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8539-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8539-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8539-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8539-1

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: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8539-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8539-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8539
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8539-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8540

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8540-1: WWW10-HAY-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8540

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8540-1	05/12/12	16:40		05/15/12	AQ	Ground Water	WWW10-HAY-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8540
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 4:35:36 PM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8540. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW10-HAY-051212		
Lab Sample ID:	TC8540-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017770.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00049	0.0010	0.00025	mg/l	J
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	99%		75-121%
2037-26-5	Toluene-D8	98%		87-119%
460-00-4	4-Bromofluorobenzene	97%		80-133%

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: WWW10-HAY-051212
Lab Sample ID: TC8540-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/12/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002614.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002615.D	5	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.486 [a]	0.0025	0.0015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0938	0.0010	0.00050	mg/l	
74-98-6	Propane	0.0340	0.0015	0.00075	mg/l	
75-28-5	Isobutane	0.0033	0.0015	0.00075	mg/l	
106-97-8	Butane	0.00713	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 ___ 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 # TC8540

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	Zn/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO3	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	WWW10-HAY-051212	5/12/12	16:40	KB	W	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*

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"
- [X] 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		5/14/12 1300	1 Fedex	2	5/15/12	2
2	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp
			5					2.8

TC8540: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8540 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

Accutest Laboratories
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10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC8540: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8540

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8540: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8540 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8540-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8540-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8540-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8540-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8540-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8540-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8540: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8540 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8540**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8540**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8540**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8540-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8540-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8540-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8540-1

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: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8540-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8540-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8540
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8540-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8541

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8541-1: WWW20-HUF-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8541

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8541-1	05/12/12	13:30		05/15/12	AQ	Ground Water	WWW20-HUF-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8541
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 5:22:33 PM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8541. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW20-HUF-051212		
Lab Sample ID:	TC8541-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017771.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	96%		87-119%
460-00-4	4-Bromofluorobenzene	95%		80-133%

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: WWW20-HUF-051212
Lab Sample ID: TC8541-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/12/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.357 [a]	0.0025	0.0015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00327	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

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 #: TC8541

Accutest Quote #

Accutest Job #

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): KATHLEEN BUXTON 281-240-5200 Phone #:

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	MWW20-HUF-051212	5/12/12	13:30	KB	W	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*

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"
- [X] 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	5.14.12 1300	1 Fedex	2	5-15-12 9:15	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp
5		5				✓	2.8

TC8541: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8541 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8541: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8541

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8541: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8541 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8541-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8541-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8541-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8541-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8541-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8541-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8541: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8541 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8541**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:	Accutest Gulf Coast	LRC Date:	5/23/2012				
Project Name:	First Quarterly Well Sampling, Pa	Laboratory Project Number:	TC8541				
Reviewer Name:	Elessa Sommers	Prep Batch Number(s):	GSS132, VE812				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8541**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8541-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8541-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8541-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8541-1

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: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8541-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8541-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8541
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8541-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/23/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8542

Sampling Date: 05/13/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366)
LA (85695/04004) OK (211-035)

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Test results relate only to samples analyzed.

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8542-1: WWW15-HUR-051312 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC8542

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
TC8542-1	05/13/12	18:40		05/15/12	AQ	Ground Water	WWW15-HUR-051312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8542
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/23/2012 5:44:07 PM

1 Sample was collected on 05/13/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8542. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW15-HUR-051312		
Lab Sample ID:	TC8542-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017772.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	100%		75-121%
2037-26-5	Toluene-D8	99%		87-119%
460-00-4	4-Bromofluorobenzene	101%		80-133%

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:	WWW15-HUR-051312		
Lab Sample ID:	TC8542-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002620.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002621.D	10	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.44 [a]	0.0050	0.0030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.136	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 ___ OF ___

ACCUTEST LABORATORIES
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TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #: TC8542
Accutest Quote #:
Accutest Job #:

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): Kathleen Buxton Phone #: 2824052000

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	Zn/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	MW15-HMR-051312	5/3/12	1840	KB	W	6	X												X	X	

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

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"
- [X] 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	5/4/12 1300	1 Fedex	2	5/7/12	2
3		3	4		4
5		5	Custody Seal #	Intact / Not intact	Preserved where applicable: On Ice / Cooler Temp

TC8542: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8542 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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 Preservatio	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 Trip blank is reported in job TC8536.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

Problem Resolution

Accutest Job Number: TC8542

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8542: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8542 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8542-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8542-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8542-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8542-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8542-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8542-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8542: Chain of Custody

Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8542 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/23/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8542**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/23/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8542**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/23/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8542**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8542-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8542-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8542-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8542-1

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: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8542-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8542-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8542
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8542-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8543

Sampling Date: 05/13/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8543-1: WWW14A-HUR-051312 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC8543

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
TC8543-1	05/13/12	17:30		05/15/12	AQ	Ground Water	WWW14A-HUR-051312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8543
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 9:47:45 AM

1 Sample was collected on 05/13/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8543. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW14A-HUR-051312		
Lab Sample ID:	TC8543-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017773.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	94%		87-119%
460-00-4	4-Bromofluorobenzene	99%		80-133%

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: WWW14A-HUR-051312
Lab Sample ID: TC8543-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/13/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002622.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002623.D	10	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.15 [a]	0.0050	0.0030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0963	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 ___ 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 #: TC8543

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): KATHLEEN BUXTON Phone #: 281-240-5200

Project Information

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

Billing Information (if different from Report to)

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

Requested Analyses

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	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	Matrix Codes / LAB USE ONLY
1	NWW14A-HLR-051312	5/13/12	1730	KB	W	6	V												X	X	

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

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 Labilnk

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"
- [X] 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:
	5/14/12 1300	1 FedEx	2 FEDEX	5/15/12 9:45	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					2.8

TC8543: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8543 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8543: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8543

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8543: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8543 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8543-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8543-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8543-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8543-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8543-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8543-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8543: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8543 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
Paul Canevaro		Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8543**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8543**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8543**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8543-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8543-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8543-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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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: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8543-1

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: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8543-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8543-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8543
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8543-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8544

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8544-1: WWW05-WEL-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC8544

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8544-1	05/12/12	14:50		05/15/12	AQ	Ground Water	WWW05-WEL-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8544
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 9:56:57 AM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8544. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW05-WEL-051212		
Lab Sample ID:	TC8544-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017774.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		79-122%
17060-07-0	1,2-Dichloroethane-D4	97%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	96%		80-133%

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:	WWW05-WEL-051212		
Lab Sample ID:	TC8544-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002624.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.200	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00655	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	

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 #: TC8544
Accutest Quote #: | Accutest Job #:

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175
1	WWW05-WEL-051212	5/12/12	14:50	KB	W	6	X												X	X

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

LAB USE ONLY

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

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	Kathleen Buxton	5/14/2012	Fedex	2	5/17/12	2
3			3	4		4
5			5	Custody Seal #	Intact / Not intact	Preserved where applicable: ☐ On Ice: ☐ Cooler Temp. 2.8

TC8544: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8544 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8544: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8544

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8544: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8544 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8544-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8544-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8544-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8544-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8544-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8544-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8544: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8544 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8544**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8544**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8544**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8544-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8544-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8544-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8544-1

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: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8544-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8544-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8544
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8544-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8545

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8545-1: WWW25-MAT-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8545

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8545-1	05/12/12	16:20		05/15/12	AQ	Ground Water	WWW25-MAT-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8545
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 10:20:09 AM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8545. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW25-MAT-051212		
Lab Sample ID:	TC8545-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017775.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	101%		87-119%
460-00-4	4-Bromofluorobenzene	98%		80-133%

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: WWW25-MAT-051212
Lab Sample ID: TC8545-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/12/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002625.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002626.D	5	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.460 [a]	0.0025	0.0015	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0273	0.0010	0.00050	mg/l	
74-98-6	Propane	0.00375	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 ___ OF ___

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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 # TC8545

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): Kathleen Buxton Phone #: 281-240-5200

Project Information

Project Name: First 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

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	WWW25-MAT-051212	5/12/12	16:20	KB	W	6	X												X	X	

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

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"
- [X] 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 Kathleen Buxton	5/14/12 1300	1 Fedex	2 Fed Ex	5/15/12 9:15	2
3		3	4		4
5		5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 7.8

TC8545: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8545 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8545: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8545

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8545: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8545 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8545-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8545-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8545-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8545-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8545-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8545-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8545: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8545 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8545**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8545**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8545**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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

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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: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8545-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8545-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8545-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8545-1

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: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8545-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8545-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8545
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8545-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8546

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8546-1: WWW04-ABB-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC8546

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8546-1	05/12/12	13:05		05/15/12	AQ	Ground Water	WWW04-ABB-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8546
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 10:31:16 AM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8546. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW04-ABB-051212		
Lab Sample ID:	TC8546-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017776.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-122%
17060-07-0	1,2-Dichloroethane-D4	99%		75-121%
2037-26-5	Toluene-D8	98%		87-119%
460-00-4	4-Bromofluorobenzene	97%		80-133%

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:	WWW04-ABB-051212		
Lab Sample ID:	TC8546-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.140	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00804	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	

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 ___ 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 # TC8546

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): KATHLEEN BUXTON Phone #: 281-240-5200

Project Information

Project Name: First Quarterly Well Sampling, Parker County, Texas

Street:

City: State:

Project #:

Client Purchase Order #:

Project Manager:

Attention:

Billing Information (If different from Report to)

Company Name:

Street Address:

City: State: Zip:

Requested Analyses

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcOH	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	MWW04-ABB-051212	5/12/12	13:05	KB	W	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*

Emergency & Rush T/A data available VIA Labtrack

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"
- [X] 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	5.14.12 1300	1 Fedex	2	5.17.12	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					2.8

TC8546: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8546 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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 Preservatio	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 Trip blank is reported in job TC8536.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

Problem Resolution

Accutest Job Number: TC8546

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8546: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8546 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8546-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8546-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8546-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8546-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8546-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8546-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8546: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8546 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8546**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8546**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8546**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8546-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8546-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8546-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8546-1

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: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8546-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8546-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8546
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8546-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8547

Sampling Date: 05/13/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8547-1: WWW06-THO-051312 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8547

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8547-1	05/13/12	11:55		05/15/12	AQ	Ground Water	WWW06-THO-051312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8547
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 11:45:02 AM

1 Sample was collected on 05/13/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8547. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW06-THO-051312		
Lab Sample ID:	TC8547-1	**Date Sampled:**	05/13/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017777.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00032	0.0010	0.00026	mg/l	J
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	96%		87-119%
460-00-4	4-Bromofluorobenzene	97%		80-133%

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: WWW06-THO-051312
Lab Sample ID: TC8547-1
Matrix: AQ - Ground Water
Method: RSKSOP-147/175
Project: First Quarterly Well Sampling, Parker County, Texas

Date Sampled: 05/13/12
Date Received: 05/15/12
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002629.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002631.D	2	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.293 [a]	0.0010	0.00060	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0889	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 ___ 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 # TC8547

Client / Reporting Information	Project Information	Requested Analyses	Matrix Codes
Company Name: EarthCon Consultants, Inc.	Project Name: First Quarterly Well Sampling, Parker County, Texas		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
Street Address: 4800 Sugar Grove Blvd., Suite 390	Street	Billing Information (if different from Report to)	
City: Stafford State: TX Zip: 77477	City State	Company Name	
Project Contact: Gabriela Floreslovo E-mail	Project #	Street Address	
Phone #: 281-201-3513 Fax #	Client Purchase Order #	City State Zip	
Sampler(s) Name(s): KATHLEEN BUXTON Phone #: 281-240-5200	Project Manager	Attention:	

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	1/2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175	LAB USE ONLY
1	WWW06-THO-051312	5/13/12	1155	KB	W	6	X												X	X	

Number of preserved Bottles

Turnaround Time (Business days)	Approved By (Accutest PM): / Date:	Data Deliverable Information	Comments / Special Instructions
[X] Standard		[ ] Commercial "A" (Level 1)	[X] TRRP
[ ] 5 Day *RUSH*		[ ] Commercial "B" (Level 2)	[ ] EDD Format
[ ] 4 Day *RUSH*		[ ] FULT1 (Level 3+4)	[ ] Other _____
[ ] 3 Day *RUSH*		[ ] REDT1 (Level 3+4)	
[ ] 2 Day *RUSH*		[ ] Commercial "C"	
[ ] 1 Day *EMERGENCY*		Commercial "A" = Results Only	
Emergency & Rush T/A data available VIA Lablink		Commercial "B" = Results + QC Summary	
		Commercial "C" = Results + QC & Surrogate Summary	

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 [signature]	5/14/12 1300	1 Fedex	2 FEDEX	9+5 5/15/12	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 2.8

TC8547: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8547 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

Problem Resolution

Accutest Job Number: TC8547

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8547: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8547 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8547-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8547-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8547-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8547-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8547-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8547-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8547: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8547 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8547**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8547**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8547**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8547-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8547-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8547-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8547-1

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: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8547-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8547-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8547
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8547-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8548

Sampling Date: 05/14/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8548-1: WWW01-WEL-051412 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8548

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8548-1	05/14/12	09:40		05/15/12	AQ	Ground Water	WWW01-WEL-051412

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8548
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 11:59:38 AM

1 Sample was collected on 05/14/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8548. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW01-WEL-051412		
Lab Sample ID:	TC8548-1	**Date Sampled:**	05/14/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017778.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	99%		80-133%

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:	WWW01-WEL-051412		
Lab Sample ID:	TC8548-1	**Date Sampled:**	05/14/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002632.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002633.D	10	05/22/12	FI	n/a	n/a	GSS132

RSK147 Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.36 [a]	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.120	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 ___ 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 #: TC8548

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): KATHLEEN BUXTON Phone #: 281-240-5200

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	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	WWW01-WEL-051412	5/14/12	9:40	KB	W	10	X												X	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"
- [X] 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		5.14.12 1300	1 Fedex	2	5/15/12	2
3			3	4		4
5			5	Custody Seal #	Intact / Not Intact	Preserved where applicable: On Ice / Cooler Temp: 2, 8

TC8548: Chain of Custody
Page 1 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8548 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

Problem Resolution

Accutest Job Number: TC8548

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8548: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8548 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8548-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8548-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8548-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8548-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8548-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8548-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8548: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8548 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
Paul Canevaro		Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8548**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

#[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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8548**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8548**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8548-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8548-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8548-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8548-1

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: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8548-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8548-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8548
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8548-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8549

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8549-1: WWW13-STR-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Accutest Laboratories

Sample Summary

EarthCon Consultants

Job No: TC8549

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
TC8549-1	05/12/12	11:05		05/15/12	AQ	Ground Water	WWW13-STR-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8549
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 12:12:53 PM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8549. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS132

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8541-1MS, TC8546-1DUP were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for Duplicate for Ethane, Methane are outside control limits for sample TC8546-1DUP.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW13-STR-051212		
Lab Sample ID:	TC8549-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017779.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00028	0.0010	0.00026	mg/l	J
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	99%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	95%		80-133%

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:	WWW13-STR-051212		
Lab Sample ID:	TC8549-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002634.D	1	05/22/12	FI	n/a	n/a	GSS132
Run #2	SS002635.D	20	05/22/12	FI	n/a	n/a	GSS132

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	2.65 [a]	0.010	0.0060	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.419	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 ___ 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 #: T8549

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): Kathleen Buxton | Phone #: 281-240-5200

Project Information

Project Name: First 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

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	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	WWW13-STR-051212	5/12/12	11:05	KB	W	6	X												X	X	

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [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

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

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	5/14/12 1300	1 Fedex	2 Ice Dry	9:45 / 1512	2
3		3	4		4
5		5	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp: 2.8

TC8549: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8549 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

Accutest Laboratories
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Houston, TX 77036
www.accutest.com

TC8549: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8549

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8549: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8549 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8549-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8549-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8549-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8549-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8549-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8549-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8549: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8549 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
Paul Canevaro		Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8549**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

# [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				**2**
		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			**1**
		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			**1**
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8549**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8549**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS132, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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

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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: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8549-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8549-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8549-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-MB	SS002610.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8549-1

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: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS132-BS	SS002611.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8549-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.9	97	70-130
74-85-1	Ethene	57.4	60.1	105	70-130
74-84-0	Ethane	43.3	43.5	100	70-130
74-98-6	Propane	60.6	60.3	100	70-130
75-28-5	Isobutane	72.5	70.2	97	70-130
106-97-8	Butane	76.6	69.0	90	70-130

Matrix Spike Summary

Job Number: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8541-1MS	SS002618.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002616.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8541-1	SS002617.D	5	05/22/12	FI	n/a	n/a	GSS132

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

TC8549-1

CAS No.	Compound	TC8541-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	357 [b]		21.5	487	605* [a]	60-140
74-85-1	Ethene	1.0 U		57.4	46.1	80	60-140
74-84-0	Ethane	3.27		43.3	42.8	91	60-140
74-98-6	Propane	1.5 U		60.6	54.6	90	60-140
75-28-5	Isobutane	1.5 U		72.5	64.2	88	60-140
106-97-8	Butane	1.5 U		76.6	62.0	81	60-140

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

Duplicate Summary

Job Number: TC8549
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8546-1DUP	SS002628.D	1	05/22/12	FI	n/a	n/a	GSS132
TC8546-1	SS002627.D	1	05/22/12	FI	n/a	n/a	GSS132

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

TC8549-1

CAS No.	Compound	TC8546-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	140		0.184		199*	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	8.04		0.0100		200*	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8550

Sampling Date: 05/12/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8550-1: WWW22-SIM-051212 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8550

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8550-1	05/12/12	11:20		05/15/12	AQ	Ground Water	WWW22-SIM-051212

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8550
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 3:33:34 PM

1 Sample was collected on 05/12/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8550. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS134

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8551-1DUP, TC8767-2MS were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW22-SIM-051212		
Lab Sample ID:	TC8550-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017780.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		79-122%
17060-07-0	1,2-Dichloroethane-D4	100%		75-121%
2037-26-5	Toluene-D8	96%		87-119%
460-00-4	4-Bromofluorobenzene	97%		80-133%

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:	WWW22-SIM-051212		
Lab Sample ID:	TC8550-1	**Date Sampled:**	05/12/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002672.D	1	05/24/12	FI	n/a	n/a	GSS134
Run #2	SS002674.D	10	05/24/12	FI	n/a	n/a	GSS134

RSK147 Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.612 [a]	0.0050	0.0030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.0433	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 ___ 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 # TC8550

Accutest Quote #

Accutest Job #

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): KATHLEEN BUXTON Phone #: 281-240-5200

Project Information

Project Name: First 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

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	BTEX 8260B	Butane, Ethane, Ethene, Isobutane, Methane, Propane by RSK-175
1	WWW22-SIM-051212	5/12/12	11:20	KB	W	6	X												X	X

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

LAB USE ONLY

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"
- [X] 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		5.14.12 1300	1 Fedex	2	5-15-12	2
3	Relinquished by Sampler:	Date Time:	Received By: 3	Relinquished By 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp 2.8

TC8550: Chain of Custody
Page 1 of 25

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8550 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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

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

Quality Control Preservatio	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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 Trip blank is reported in job TC8536.

TC8550: Chain of Custody
Page 2 of 4

Problem Resolution

Accutest Job Number: TC8550

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: Trip blank is reported in job TC8536.

TC8550: Chain of Custody
Page 3 of 4

Sample Receipt Log

Job #: TC8550 **Date / Time Received:** 5/15/2012 **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8550-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8550-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8550-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8550-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8550-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8550-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8550: Chain of Custody

Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8550 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
Paul Canevaro	Paul K Canevaro	Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8550**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**

#[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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8550**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8550**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8550-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8550-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8550-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS134-MB	SS002670.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8550-1

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: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS134-BS	SS002671.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8550-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.6	96	70-130
74-85-1	Ethene	57.4	63.5	111	70-130
74-84-0	Ethane	43.3	45.2	104	70-130
74-98-6	Propane	60.6	61.0	101	70-130
75-28-5	Isobutane	72.5	73.1	101	70-130
106-97-8	Butane	76.6	79.2	103	70-130

Matrix Spike Summary

Job Number: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8767-2MS	SS002679.D	1	05/24/12	FI	n/a	n/a	GSS134
TC8767-2	SS002678.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8550-1

CAS No.	Compound	TC8767-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	65.5		21.5	42.1	-109* [a]	60-140
74-85-1	Ethene	ND		57.4	45.4	79	60-140
74-84-0	Ethane	ND		43.3	34.8	80	60-140
74-98-6	Propane	ND		60.6	49.4	81	60-140
75-28-5	Isobutane	ND		72.5	54.6	75	60-140
106-97-8	Butane	ND		76.6	58.7	77	60-140

(a) Outside control limits due to high level in sample relative to spike amount.

Duplicate Summary

Job Number: TC8550
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8551-1DUP	SS002676.D	1	05/24/12	FI	n/a	n/a	GSS134
TC8551-1	SS002675.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8550-1

CAS No.	Compound	TC8551-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	18.4		14.6		23	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	5.81		5.40		7	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30

Gulf Coast ACCUTEST LABORATORIES

05/24/12

Technical Report for

EarthCon Consultants

First Quarterly Well Sampling, Parker County, Texas

Accutest Job Number: TC8551

Sampling Date: 05/14/12

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: **25**

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: Elessa Sommers 713-271-4700

Certifications: TX (T104704220-12-7) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: TC8551-1: WWW24-SMI-051412 6
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: LRC Form 13
Section 5: GC/MS Volatiles - QC Data Summaries **17**
5.1: Method Blank Summary 18
5.2: Blank Spike Summary 19
5.3: Matrix Spike/Matrix Spike Duplicate Summary 20
Section 6: GC Volatiles - QC Data Summaries **21**
6.1: Method Blank Summary 22
6.2: Blank Spike Summary 23
6.3: Matrix Spike Summary 24
6.4: Duplicate Summary 25

Sample Summary

EarthCon Consultants

Job No: TC8551

First Quarterly Well Sampling, Parker County, Texas

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC8551-1	05/14/12	11:10		05/15/12	AQ	Ground Water	WWW24-SMI-051412

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EarthCon Consultants	**Job No**	TC8551
Site:	First Quarterly Well Sampling, Parker County, Texas	**Report Date**	5/24/2012 3:43:35 PM

1 Sample was collected on 05/14/2012 and received intact at Accutest on 05/15/2012 and properly preserved in 1 cooler at 2.8 Deg C. The sample received an Accutest job number of TC8551. 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:** VE812

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8215-7MS, TC8215-7MSD were used as the QC samples indicated.

Volatiles by GC By Method RSKSOP-147/175

Matrix AQ **Batch ID:** GSS134

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC8551-1DUP, TC8767-2MS were used as the QC samples indicated.
- Matrix Spike Recovery for Methane is outside control limits. Outside control limits due to high level in sample relative to spike amount.

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

Gulf Coast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WWW24-SMI-051412		
Lab Sample ID:	TC8551-1	**Date Sampled:**	05/14/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0017781.D	1	05/17/12	MH	n/a	n/a	VE812
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	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	95%		87-119%
460-00-4	4-Bromofluorobenzene	96%		80-133%

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:	WWW24-SMI-051412		
Lab Sample ID:	TC8551-1	**Date Sampled:**	05/14/12
Matrix:	AQ - Ground Water	**Date Received:**	05/15/12
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	First Quarterly Well Sampling, Parker County, Texas		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	SS002675.D	1	05/24/12	FI	n/a	n/a	GSS134
Run #2							

RSK147 Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0184	0.00050	0.00030	mg/l	
74-85-1	Ethene	0.00050 U	0.0010	0.00050	mg/l	
74-84-0	Ethane	0.00581	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	

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

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 # TC8551

Client Reporting Information

Company Name: EarthCon Constants, Inc.

Street Address: 4800 Sugar Grove Blvd., Suite 390

City: Stafford State: TX Zip: 77477

Project Contact: Gabriela Flores E-mail:

Phone #: 281-201-3513 Fax #:

Sampler(s) Name(s): KATHLEEN BUXTON Phone #: 281-240-5206

Project Information

Project Name: First 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

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	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	MWW24-SMI-051412	5/14/12		KB	W	6	X												X	X	

Number of preserved Bottles

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

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"
- [X] 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		5/14/12 1300	1 KB Fedex	2 Fedex	5/15/12	2
2	Relinquished by Sampler	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
	3		3	4		4
	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
	5		5				✓	2.8

4.1
4

TC8551: Chain of Custody
Page 1 of 25

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC8551 **Client:** EARTHCON **Project:** FIRST QUARTERLY WELL SAMPLING PARKER

Date / Time Received: 5/15/2012 **Delivery Method:** FedEx **Airbill #'s:** 800040672089

No. Coolers: 1 **Therm ID:** IRGUN5 **Temp Adjustment Factor:** -0.5

Cooler Temps (Initial/Adjusted): #1: (3.3/2.8)

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 Preservatio	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 TIME ON VIALS IS 11:10 SAME DATE AS C.O.C.
Trip blank is reported in job TC8536.

Problem Resolution

Accutest Job Number: TC8551

CSR: Elessa Sommers **Response Date:** 5/16/2012

Response: The collection time was not recorded on the chain-of-custody. Collection time was obtained from the container labels.
Trip blank is reported in job TC8536.

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC8551 **Date / Time Received:** 5/15/2012 9:45:00 AM **Initials:** BG

Client: EARTHCON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC8551-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8551-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8551-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8551-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8551-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8
1	TC8551-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	3.3	-0.5	2.8

TC8551: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TC8551 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
Paul Canevaro		Laboratory Director	5/24/2012

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Parker County, Texas**	Laboratory Project Number:	**TC8551**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**

# [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				**2**
		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			**1**
		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				
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			**3**
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				

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**5/24/2012**				
Project Name:		**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8551**				
Reviewer	Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**				
#[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				**2**
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:	**5/24/2012**
Project Name:	**First Quarterly Well Sampling, Pa**	Laboratory Project Number:	**TC8551**
Reviewer Name:	**Elessa Sommers**	Prep Batch Number(s):	**GSS134, VE812**

ER#[1]	Description
1	All anomalies are discussed in the case narrative.
2	The Laboratory does not perform DCS analysis for Method RSKSOP-147/175. The compounds reported are not listed or do not have values in the Texas TRRP PCL tables.
3	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.
4	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.

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: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-MB	E0017766.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8551-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	80-133%

Blank Spike Summary

Job Number: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE812-BS	E0017764.D	1	05/17/12	MH	n/a	n/a	VE812

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

TC8551-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	24.7	99	75-112
108-88-3	Toluene	25	23.7	95	77-114
1330-20-7	Xylene (total)	75	72.4	97	75-111

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8215-7MS	E0017783.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7MSD	E0017784.D	10	05/17/12	MH	n/a	n/a	VE812
TC8215-7	E0017782.D	10	05/17/12	MH	n/a	n/a	VE812

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

TC8551-1

CAS No.	Compound	TC8215-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1030		250	1260	92	1280	100	2	76-118/16
100-41-4	Ethylbenzene	26.7		250	272	98	267	96	2	75-112/12
108-88-3	Toluene	ND		250	246	98	240	96	2	77-114/12
1330-20-7	Xylene (total)	70.6		750	809	98	794	96	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC8215-7	Limits
1868-53-7	Dibromofluoromethane	92%	94%	92%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	99%	75-121%
2037-26-5	Toluene-D8	98%	97%	96%	87-119%
460-00-4	4-Bromofluorobenzene	99%	95%	98%	80-133%

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: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS134-MB	SS002670.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8551-1

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: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GSS134-BS	SS002671.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8551-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.6	96	70-130
74-85-1	Ethene	57.4	63.5	111	70-130
74-84-0	Ethane	43.3	45.2	104	70-130
74-98-6	Propane	60.6	61.0	101	70-130
75-28-5	Isobutane	72.5	73.1	101	70-130
106-97-8	Butane	76.6	79.2	103	70-130

Matrix Spike Summary

Job Number: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8767-2MS	SS002679.D	1	05/24/12	FI	n/a	n/a	GSS134
TC8767-2	SS002678.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8551-1

CAS No.	Compound	TC8767-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	65.5		21.5	42.1	-109* [a]	60-140
74-85-1	Ethene	ND		57.4	45.4	79	60-140
74-84-0	Ethane	ND		43.3	34.8	80	60-140
74-98-6	Propane	ND		60.6	49.4	81	60-140
75-28-5	Isobutane	ND		72.5	54.6	75	60-140
106-97-8	Butane	ND		76.6	58.7	77	60-140

(a) Outside control limits due to high level in sample relative to spike amount.

Duplicate Summary

Job Number: TC8551
Account: PESTXST EarthCon Consultants
Project: First Quarterly Well Sampling, Parker County, Texas

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC8551-1DUP	SS002676.D	1	05/24/12	FI	n/a	n/a	GSS134
TC8551-1	SS002675.D	1	05/24/12	FI	n/a	n/a	GSS134

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

TC8551-1

CAS No.	Compound	TC8551-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	18.4		14.6		23	30
74-85-1	Ethene	1.0 U		ND		nc	30
74-84-0	Ethane	5.81		5.40		7	30
74-98-6	Propane	1.5 U		ND		nc	30
75-28-5	Isobutane	1.5 U		ND		nc	30
106-97-8	Butane	1.5 U		ND		nc	30