Texas Commission on Environmental Quality

Laboratory and Quality Assurance Section
P.O. Box 13087
Austin, Texas 78711
(512) 239-1716

Laboratory Analysis Results

ACL Number: 100116

ACL Lead: Karen Bachtel Region: T04 Date Received: 1/20/2010

Facility(ies) Sampled	City	County	Facility Type
Aruba Petroleum, 6H & 7H Wright Lease	Decatur	Wise	

Laboratory Procedure(s) Performed:

Analysis: AMOR006
Determination of VOC Canisters by GC/MS Using Modified Method TO-15
Procedure:
Prior to analysis, subatmospheric samples are pressurized to twice the collected volume using a sample dilution system. For analysis, a known volume of a sample is directed from the canister into a multitrap cryogenic concentrator. Internal standards are added to the sample stream prior to the trap. The concentrated sample is thermally desorbed and carried onto a GC column for separation. The analytical strategy involves using a GC with dual columns that are coupled to a mass selective detector (MSD) and a flame ionization detector (FID). Mass spectra for individual peaks in the total ion chromatogram are then used for target compound identification and quantitation. The fragmentation pattern is compared with stored spectra taken under similar conditions in order to identify the compound. For any given compound, the intensity of the quantitation fragment is compared with the system response to the fragment for known amounts of the compound. This establishes the compound concentration in the sample. For non-target compound peaks which are at least one-half the height of the internal standard, a library search is performed in an attempt to identify the compound solely upon fracture patterns. These tentatively identified compounds (TIC's) are reported as a sample specific footnote. Accurate quantitation of TICs is not possible. The FID is used for the quantitation of ethane, ethylene, acetylene, propylene and propane and identification is based on matching retention times of standards containing known analytes.

Sample(s) Received

Field ID Number: 20467 Laboratory Sample Number: 100116-0001 Sampled by: Xin Rao
Sampling Site: Approximately 54 feet downwind of a venting p Date & Time Sampled: 01/17/10 18:19:00 Valid Sample: Yes
Comments:
Canister #20467 was used as a grab sample.

Sample(s) Screening

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Sample(s) Screening

As a routine procedure, the data from this (these) sample(s) have been screened and at least one target compound was detected at or above the Appropriate Comparison Value and/or a TIC was identified. Therefore, the sample data have been forwarded to TCEQ's Toxicology Division for further review. Please note that this analytical technique is not capable of measuring all compounds which might have adverse heath effects. For questions on the analytical procedures please contact the laboratory manager at (512)-239-5853.
For an update on the health effects evaluation of these data, please contact the Toxicology Division at (512) 239-1795.

Analyst: Qiaoping Loh — Date: 1/25/10
J.P. Loh

Reviewed By: [signature] — Date: 1/26/10
Karen Bachtel

Section Manager: [signature] for SS — Date: 1/26/10
Steve Stubbs

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Note: Results are reported in units of parts per billion by volume (ppbv)

Lab ID			100116-0001					
Field ID			20467					
Canister ID			20467					
Analysis Date			01/21/10					
Compound	ESL	LOD	Concentration	SDL	Flags**	Concentration	SDL	Flags**
ethane	10000	0.50	31000 #	210	D1			
ethylene	1200	0.50	ND	210	D1			
acetylene	25000	0.50	ND	210	D1			
propane	10000	0.50	28000 #	210	D1			
propylene	68000	0.50	ND	210	D1			
dichlorodifluoromethane	10000	0.20	4.8	83	J,D1			
methyl chloride	500	0.20	ND	83	D1			
isobutane	2000	0.23	6600 #	96	D1			
vinyl chloride	50	0.17	ND	71	D1			
1-butene	360	0.20	18	83	J,D1			
1,3-butadiene	50	0.27	ND	110	D1			
n-butane	8000	0.20	12000 #	83	D1			
t-2-butene	2100	0.18	ND	75	D1			
bromomethane	30	0.27	ND	110	D1			
c-2-butene	2100	0.27	ND	110	D1			
3-methyl-1-butene	250	0.23	ND	96	D1			
isopentane	1200	0.27	4000 #	110	D1			
trichlorofluoromethane	5000	0.29	ND	120	D1			
1-pentene	100	0.27	ND	110	D1			
n-pentane	1200	0.27	3800 #	110	D1			
isoprene	5.0	0.27	ND	110	D1			
t-2-pentene	2600	0.27	ND	110	D1			
1,1-dichloroethylene	180	0.18	ND	75	D1			
c-2-pentene	2600	0.25	ND	100	D1			
methylene chloride	75	0.14	ND	58	D1			
2-methyl-2-butene	250	0.23	ND	96	D1			
2,2-dimethylbutane	1000	0.21	56	88	J,D1			
cyclopentene	2900	0.20	ND	83	D1			
4-methyl-1-pentene	20	0.22	ND	92	D1			
1,1-dichloroethane	1000	0.19	ND	79	D1			
cyclopentane	1200	0.27	70	110	J,D1			
2,3-dimethylbutane	1000	0.28	77	120	J,D1			
2-methylpentane	83	0.27	640 #	110	D1			
3-methylpentane	1000	0.23	360	96	D1			
2-methyl-1-pentene + 1-hexene	20	0.20	ND	83	D1			
n-hexane	1500	0.20	790	83	D1			
chloroform	20	0.21	ND	88	D1			
t-2-hexene	20	0.27	ND	110	D1			
c-2-hexene	20	0.27	ND	110	D1			
1,2-dichloroethane	40	0.27	ND	110	D1			
methylcyclopentane	750	0.27	170	110	L,D1			
2,4-dimethylpentane	910	0.27	47	110	J,D1			
1,1,1-trichloroethane	2000	0.26	ND	110	D1			
benzene	180	0.27	59	110	J,D1			
carbon tetrachloride	20	0.27	ND	110	D1			
cyclohexane	420	0.24	190	100	L,D1			
2-methylhexane	750	0.27	160	110	L,D1			
2,3-dimethylpentane	910	0.26	ND	110	D1			

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Compound	ESL	LOD	Concentration	SDL	Flags**	Concentration	SDL	Flags**
3-methylhexane	750	0.20	150	83	L,D1			
1,2-dichloropropane	250	0.17	ND	71	D1			
trichloroethylene	250	0.29	ND	120	D1			
2,2,4-trimethylpentane	750	0.24	ND	100	D1			
2-chloropentane	190	0.27	ND	110	D1			
n-heptane	850	0.25	150	100	L,D1,A1			
c-1,3-dichloropropylene	10	0.20	ND	83	D1			
methylcyclohexane	4000	0.26	ND	110	D1			
t-1,3-dichloropropylene	10	0.20	ND	83	D1			
1,1,2-trichloroethane	100	0.21	ND	88	D1			
2,3,4-trimethylpentane	750	0.24	ND	100	D1			
toluene	170	0.27	77	110	J,D1			
2-methylheptane	750	0.20	30	83	J,D1			
3-methylheptane	750	0.23	20	96	J,D1			
1,2-dibromoethane	0.50	0.20	ND	83	D1			
n-octane	750	0.19	38	79	J,D1,A2			
tetrachloroethylene	770	0.24	ND	100	D1			
chlorobenzene	100	0.27	ND	110	D1			
ethylbenzene	460	0.27	ND	110	D1			
m & p-xylene	480	0.27	49	110	J,D1			
styrene	25	0.27	ND	110	D1			
1,1,2,2-tetrachloroethane	10	0.20	ND	83	D1			
o-xylene	1000	0.27	12	110	J,D1			
n-nonane	2000	0.22	32	92	J,D1			
isopropylbenzene	100	0.24	ND	100	D1			
n-propylbenzene	250	0.27	ND	110	D1			
m-ethyltoluene	250	0.11	ND	46	D1			
p-ethyltoluene	250	0.16	ND	67	D1			
1,3,5-trimethylbenzene	250	0.25	ND	100	D1			
o-ethyltoluene	250	0.13	ND	54	D1			
1,2,4-trimethylbenzene	250	0.27	ND	110	D1			
n-decane	1800	0.27	ND	110	D1			
1,2,3-trimethylbenzene	250	0.27	ND	110	D1			
m-diethylbenzene	460	0.27	ND	110	D1			
p-diethylbenzene	460	0.27	ND	110	D1			
n-undecane	200	0.27	20	110	J,D1			

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ESL - Effects Screening Level. (Short-term Health and Odor Based in units of ppbv)
LOD - Limit of Detection.
ND - not detected
NQ - concentration can not be quantified.
SDL - Sample Detection Limit (MDL adjusted for dilutions).
INV - Invalid.
J - Reported concentration is below SDL.
L - Reported concentration is at or above the SDL and is below the lower limit of quantitation.
E - Reported concentration exceeds the upper limit of instrument calibration.
M - Result modified from previous result.

* SDL is equal to LOD
** Quality control flags explanations are listed on the last page of this report.
# Compound concentration is equal to or greater than the Effects Screening Level.

TCEQ laboratory customer support may be reached at kbachtel@tceq.state.tx.us

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Quality Control Notes:

Quality control notes for samples 100116-0001,
A1-Not all associated QC data met accuracy specification. Data may be an average 18 percent low with a range of -31 to +5 percent.
A2-Not all associated QC data met accuracy specification. Data may be an average 22 percent low with a range of -34 to -4 percent.

D1 - sample was diluted 834.09 times to determine the compound concentrations.

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