QUALITY ASSURANCE AUDIT REPORT

North Texas Commission
Ambient Air and Meteorological Monitoring

Prepared for:

North Texas Commission

8445 Freeport Parkway

Irving, TX 75063

Prepared by:

AECOM
13640 Briarwick Drive (78729)
P.O. Box 201088
Austin, TX 78720-1088

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AECOM
P.O. Box 201088
Austin, TX 78720-1088
13640 Briarwick Drive
Austin, TX 78729

EXECUTIVE SUMMARY

On April 25th – 28th, an audit team from the AECOM ambient air group in Austin, Texas conducted performance and technical system audits of the North Texas Commission (NTC) ambient air monitoring network. The audits provide an independent assessment of the monitoring program.

The monitoring program at NTC consists of continuous gas chromatographs (GC), volatile organic compound (VOC) canister collection systems, and meteorological sensors including wind speed, wind direction, and temperature.

The performance audit results indicate acceptable responses for measurement systems with the exceptions summarized below.

The temperature sensor at Mineral Wells was outside of audit parameters for accuracy (±0.9° F) with the site temperature probe reading an average of 1.4° F higher than the audit probe. The aspirator fan was also found not running during the audit. The temperature probe and aspirator fan were replaced by the site operator two days after the audit.

The wind speed sensor at Joe B. Rushing was outside of audit parameters for starting threshold (<0.4 g/cm) with a starting threshold of 0.9 g/cm in the counterclockwise direction and 1.0 g/cm in the clockwise direction. The bearings were replaced on the sensor by the site operator two days after the audit.

The wind direction sensor at Godley was outside of audit guidance for linearity and maximum total error. The sensor had a maximum linearity error of -4.1°, resulting in a maximum total error of 5.6°. The wind direction sensor was replaced by the site operator the following week.

Out of the 48 compounds being analyzed, seventeen compounds (Ethane, Ethylene, Propylene, Acetylene, isoprene, 2-methylhexane, ethylbenzene, m/p-Xylene, Styrene, o-xylene, Isopropylbenzene, n-Propylbenzene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, n-Decane, 1,2,3-Trimethylbenzene, and n-Undecane) were found to be outside of the audit objective of 70% - 130% recovery at several sites. In addition, the Benbrook and Elm Fork sites had the following GC compound recoveries outside of the audit specification:

Locations	**Compounds**
Benbrook	Benzene Toluene n-Nonnane
Elm Fork	Cis-2-pentene

These network GC audit results are comparable historically to other AECOM auto-GC audits. The GC audit results are contained in table ES-1. Technical systems audit results demonstrate satisfactory operational procedures for collecting valid data.

A performance evaluation (PE) sample is prepared by the AECOM QA group on a quarterly basis and submitted to the VOC laboratory for analysis. This performance evaluation sample contained known (spiked) concentrations of the target VOCs. A review of the sample recoveries for the spiked target VOCs shows that seven out of the forty-five compounds were not within the range of expected values (70-130%).

- 1,1,2,2-tetrachloroethane (63.2%)
- 1,2,4-Trimethylbenzene (50.3%)
- 1,3,5-Trimethylbenzene (55.6%)
- 4-Ethyltoluene (p-Ethyltoluene) (56.9%)
- Ethylbenzene (67.2%)
- o-Xylene (67.1%)
- Styrene (61.0%)

AECOM QA staff shared the performance evaluation results with the VOC laboratory, and no other corrective action was taken. We will continue to evaluate these compounds in our PE samples and work with the lab to resolve these discrepancies. GD Air's most recent performance evaluation canister results for the first quarter of 2022 are contained below in Table ES-2.

Table ES-1. Audit Standard Results for all Network GCs

			Benbrook		Decatur		Dish		Eagle Mountain Lake	
Compound Name	CAS Number	Audit Conc (ppbc)	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery
Ethane	74-84-0	51.2	41.6	81.4%	41.5	81.2%	43.8	85.6%	46.8	91.5%
Ethylene	74-85-1	17.1	9.8	**57.2%**	11.5	**67.1%**	12.1	71.1%	12.7	74.2%
Propane	74-98-6	12.7	10.6	83.3%	11.6	91.4%	10.5	82.8%	11.0	86.7%
Propylene	115-07-1	12.5	10.1	81.3%	10.7	85.9%	9.5	76.3%	11.0	88.0%
Iso-Butane	75-28-5	16.5	16.1	98.0%	18.5	112.3%	16.1	97.7%	16.0	97.4%
N-Butane	106-97-8	16.8	16.4	97.7%	19.3	115.0%	16.7	99.4%	16.9	100.7%
Acetylene	74-86-2	8.5	2.9	**34.7%**	7.2	84.4%	5.5	**64.8%**	6.9	81.9%
Trans-2-Butene	624-64-6	16.6	15.3	92.1%	18.5	111.1%	16.3	98.2%	16.4	98.7%
1-Butene	106-98-9	16.3	15.7	96.2%	18.4	112.8%	16.3	100.2%	16.1	98.6%
Cis-2-Butene	590-18-1	17.4	16.1	92.3%	19.4	111.0%	17.1	97.9%	17.3	99.1%
Cyclopentane	287-92-3	20.8	18.9	90.7%	22.9	110.2%	20.3	97.7%	21.6	103.7%
Iso-Pentane	78-78-4	21.2	19.0	89.5%	23.7	112.0%	21.1	99.4%	21.5	101.3%
N-Pentane	109-66-0	21.2	19.0	89.5%	24.0	113.1%	21.2	99.8%	22.5	106.2%
1,3-Butadiene	106-99-0	16.2	14.0	86.7%	17.8	110.0%	16.1	99.6%	17.1	106.1%
Trans-2-Pentene	646-04-8	20.8	18.1	87.1%	23.2	111.4%	21.0	101.0%	21.7	104.5%
1-Pentene	109-67-1	21.4	17.1	80.1%	21.9	102.4%	20.5	95.7%	21.3	99.4%
Cis-2-Pentene	627-20-3	19.4	14.9	77.0%	20.1	103.6%	18.5	95.6%	19.0	97.9%
2,2-Dimethylbutane	75-83-2	25.2	21.7	85.9%	27.1	107.4%	24.0	95.2%	25.0	99.2%
2-Methylpentane	107-83-5	24.5	20.6	84.3%	26.6	108.5%	22.9	93.4%	24.1	98.6%
Isoprene	78-79-5	20.8	13.7	**65.6%**	18.5	88.9%	17.3	83.4%	18.2	87.5%
n-Hexane	110-54-3	25.4	18.4	72.3%	23.1	90.9%	24.2	94.9%	27.3	107.2%
Methylcyclopentane	108-87-2	25.2	19.5	77.4%	20.6	81.9%	19.6	77.8%	19.6	77.6%
2,4-Dimethylpentane	108-08-7	30.2	24.6	81.5%	29.7	98.1%	29.5	97.6%	28.6	94.7%
Benzene	71-43-2	25.7	17.4	**67.9%**	23.6	91.8%	20.6	80.2%	22.1	85.9%
Cyclohexane	110-82-7	25.7	21.4	83.2%	24.8	96.6%	22.4	87.4%	23.5	91.5%
2-Methylhexane	591-76-4	30.0	19.2	**64.0%**	23.7	79.2%	22.3	74.5%	21.9	73.0%
2,3-Dimethylpentane	565-59-3	29.1	24.7	84.8%	31.1	106.8%	28.5	97.8%	31.0	106.5%
3-Methylhexane	589-34-4	29.7	22.0	74.2%	30.0	101.0%	25.8	87.1%	27.8	93.5%
2,2,4-Trimethylpentane	540-84-1	33.9	25.9	76.3%	29.6	87.3%	29.6	87.4%	29.8	87.8%
n-Heptane	142-82-5	30.0	21.0	70.2%	26.5	88.6%	25.2	84.3%	25.5	85.0%
Methylcyclohexane	108-87-2	29.7	22.2	74.8%	27.3	92.0%	25.9	87.2%	25.9	87.4%
2,3,4-Trimethylpentane	565-75-3	34.2	25.5	74.4%	30.2	88.3%	29.7	86.7%	30.8	89.9%
Toluene	108-88-3	29.4	19.7	**66.9%**	27.1	92.3%	24.6	83.6%	26.9	91.4%
2-Methylheptane	592-27-8	33.6	23.87	71.0%	29.3	87.3%	29.0	86.3%	30.4	90.6%
3-Methylheptane	589-81-1	33.9	24.14	71.2%	31.7	93.6%	29.6	87.3%	32.8	96.8%
n-Octane	111-65-9	33.9	23.79	70.1%	28.7	84.5%	29.2	86.2%	29.9	88.0%
Ethylbenzene	100-41-4	33.9	21.71	**64.0%**	26.4	77.8%	27.8	82.0%	27.5	81.0%
M&P-Xylene	108-38-3	67.2	42.75	**63.6%**	48.9	72.7%	53.6	79.8%	53.8	80.1%
Styrene	100-42-5	32.3	14.69	**45.5%**	21.2	**65.6%**	23.6	72.9%	24.5	75.8%
O-Xylene	95-47-6	33.6	21.85	**65.0%**	26.5	78.9%	28.1	83.6%	28.6	85.2%
N-Nonane	111-84-2	37.1	24.61	**66.4%**	30.7	82.7%	31.5	85.0%	33.4	90.0%
Isopropylbenzene	98-82-8	36.7	24.26	**66.1%**	26.8	72.9%	29.9	81.5%	30.4	82.9%
n-Propylbenzene	103-65-1	35.6	22.22	**62.4%**	25.7	72.2%	28.9	81.0%	29.5	82.7%
1,3,5-Trimethylbenzene	108-67-8	37.8	23.91	**63.3%**	26.8	70.9%	27.8	73.6%	29.5	78.1%
1,2,4-Trimethylbenzene	95-63-6	38.5	21.16	**54.9%**	27.0	70.2%	28.9	75.0%	30.0	77.9%
n-Decane	124-18-5	41.6	22.99	**55.3%**	27.2	**65.3%**	31.7	76.1%	31.6	75.9%
1,2,3-Trimethylbenzene	526-73-8	38.9	20.35	**52.3%**	22.6	**58.1%**	25.1	**64.5%**	24.9	**64.1%**
n-Undecane	1120-21-4	45.8	22.43	**49.0%**	28.7	**62.6%**	27.2	**59.5%**	26.7	**58.4%**

[a] Compound order based on elution time.

Table ES-1. (Continued) Audit Standard Results for all Network GCs

			Elm Fork		Everman		Flower Mound		Godley	
Compound Name	CAS Number	Audit Conc (ppbc)	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery
Ethane	74-84-0	51.2	36.1	70.5%	33.4	**65.2%**	42.2	82.4%	40.6	79.4%
Ethylene	74-85-1	17.1	12.0	70.2%	8.0	**47.0%**	13.8	81.1%	11.0	**64.3%**
Propane	74-98-6	12.7	10.1	79.6%	9.9	77.7%	10.6	82.9%	10.6	83.4%
Propylene	115-07-1	12.5	8.3	**66.3%**	8.8	70.5%	10.0	80.4%	9.3	74.6%
Iso-Butane	75-28-5	16.5	16.0	97.1%	15.1	91.7%	15.4	93.6%	16.4	99.4%
N-Butane	106-97-8	16.8	16.6	98.6%	16.1	95.6%	15.7	93.7%	17.0	101.0%
Acetylene	74-86-2	8.5	5.9	**69.9%**	5.8	**68.0%**	6.5	77.2%	6.1	72.0%
Trans-2-Butene	624-64-6	16.6	15.6	94.0%	15.8	95.0%	15.4	92.3%	16.2	97.5%
1-Butene	106-98-9	16.3	15.6	95.4%	15.6	95.4%	15.4	94.1%	15.9	97.7%
Cis-2-Butene	590-18-1	17.4	16.2	93.1%	16.5	94.5%	16.0	91.8%	16.9	96.7%
Cyclopentane	287-92-3	20.8	20.2	97.3%	19.7	94.5%	19.2	92.4%	20.4	98.0%
Iso-Pentane	78-78-4	21.2	20.5	96.7%	20.3	95.7%	19.7	93.1%	21.1	99.5%
N-Pentane	109-66-0	21.2	21.1	99.4%	20.3	95.7%	20.0	94.5%	21.2	100.0%
1,3-Butadiene	106-99-0	16.2	13.0	80.3%	15.4	95.1%	15.2	94.3%	15.7	97.3%
Trans-2-Pentene	646-04-8	20.8	19.2	92.3%	20.2	96.9%	19.8	95.1%	20.4	98.2%
1-Pentene	109-67-1	21.4	19.2	89.6%	19.6	91.5%	19.4	90.8%	19.4	90.7%
Cis-2-Pentene	627-20-3	19.4	12.1	**62.3%**	17.5	90.0%	17.5	90.2%	17.9	92.3%
2,2-Dimethylbutane	75-83-2	25.2	24.1	95.7%	23.8	94.4%	23.2	92.2%	24.6	97.7%
2-Methylpentane	107-83-5	24.5	23.8	97.3%	23.1	94.4%	23.2	94.6%	23.4	95.7%
Isoprene	78-79-5	20.8	13.0	**62.4%**	15.4	74.0%	16.7	80.1%	16.0	77.1%
n-Hexane	110-54-3	25.4	21.7	85.2%	20.6	80.9%	22.9	89.9%	22.6	88.7%
Methylcyclopentane	108-87-2	25.2	19.3	76.6%	17.9	71.2%	18.8	74.6%	23.1	91.7%
2,4-Dimethylpentane	108-08-7	30.2	28.4	94.0%	28.0	92.6%	27.7	91.6%	29.5	97.7%
Benzene	71-43-2	25.7	21.6	84.1%	21.3	82.9%	20.0	78.0%	22.3	86.8%
Cyclohexane	110-82-7	25.7	22.5	87.4%	22.6	88.2%	21.4	83.2%	26.8	104.5%
2-Methylhexane	591-76-4	30.0	22.5	75.0%	20.5	**68.4%**	21.6	72.2%	24.4	81.3%
2,3-Dimethylpentane	565-59-3	29.1	28.0	96.2%	28.4	97.4%	27.1	93.2%	31.8	109.0%
3-Methylhexane	589-34-4	29.7	27.4	92.4%	25.2	85.0%	24.9	83.8%	28.7	96.8%
2,2,4-Trimethylpentane	540-84-1	33.9	28.9	85.2%	27.5	81.2%	28.5	83.9%	31.9	94.2%
n-Heptane	142-82-5	30.0	25.8	86.1%	24.5	81.9%	25.0	83.6%	25.8	86.1%
Methylcyclohexane	108-87-2	29.7	25.8	86.9%	24.0	80.7%	24.8	83.7%	27.9	93.9%
2,3,4-Trimethylpentane	565-75-3	34.2	28.7	83.8%	27.5	80.2%	29.0	84.8%	32.2	94.1%
Toluene	108-88-3	29.4	23.6	80.4%	25.4	86.3%	24.2	82.2%	25.4	86.5%
2-Methylheptane	592-27-8	33.6	27.2	80.9%	27.0	80.5%	28.0	83.2%	30.4	90.6%
3-Methylheptane	589-81-1	33.9	27.8	82.0%	27.3	80.4%	28.4	83.6%	30.8	90.7%
n-Octane	111-65-9	33.9	27.6	81.2%	27.1	79.8%	27.9	82.3%	30.1	88.9%
Ethylbenzene	100-41-4	33.9	25.1	74.0%	24.1	71.2%	26.5	78.1%	27.2	80.3%
M&P-Xylene	108-38-3	67.2	47.5	70.7%	46.4	**69.0%**	51.2	76.2%	51.6	76.8%
Styrene	100-42-5	32.3	19.8	**61.3%**	20.3	**62.9%**	21.6	**66.9%**	21.4	**66.2%**
O-Xylene	95-47-6	33.6	25.3	75.3%	25.0	74.5%	26.7	79.4%	28.8	85.6%
N-Nonane	111-84-2	37.1	29.3	79.0%	28.7	77.5%	30.1	81.3%	32.7	88.1%
Isopropylbenzene	98-82-8	36.7	26.5	72.1%	26.9	73.3%	28.8	78.3%	30.3	82.6%
n-Propylbenzene	103-65-1	35.6	25.3	71.1%	26.1	73.1%	27.5	77.2%	28.9	81.2%
1,3,5-Trimethylbenzene	108-67-8	37.8	23.6	**62.5%**	28.7	75.8%	26.7	70.6%	32.3	85.4%
1,2,4-Trimethylbenzene	95-63-6	38.5	22.9	**59.3%**	29.3	76.0%	26.4	**68.6%**	31.8	82.5%
n-Decane	124-18-5	41.6	25.1	**60.2%**	28.3	**68.0%**	29.6	71.2%	32.1	77.2%
1,2,3-Trimethylbenzene	526-73-8	38.9	20.3	**52.3%**	25.8	**66.4%**	23.7	**60.9%**	29.0	74.5%
n-Undecane	1120-21-4	45.8	26.2	**57.4%**	33.3	72.8%	25.6	**55.9%**	37.5	82.0%

[a] Compound order based on elution time.

Table ES-1. (Continued) Audit Standard Results for all Network GCs

			Kennedale		Mansfield		Rhome		Rushing		UTA	
Compound Name	CAS Number	Audit Conc (ppbc)	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery	Post Processed ppbc	Percent Recovery
Ethane	74-84-0	51.2	41.8	81.6%	41.2	80.5%	49.3	96.4%	51.7	101.0%	35.1	**68.6%**
Ethylene	74-85-1	17.1	11.6	**68.3%**	12.5	73.3%	16.0	93.6%	16.7	98.0%	11.5	**67.7%**
Propane	74-98-6	12.7	12.8	101.0%	10.6	83.5%	11.8	93.0%	12.5	98.4%	10.0	78.8%
Propylene	115-07-1	12.5	11.6	93.2%	9.8	78.2%	10.4	83.6%	11.0	87.9%	8.4	**67.6%**
Iso-Butane	75-28-5	16.5	18.5	112.5%	17.5	106.1%	17.1	103.8%	19.1	115.7%	16.7	101.4%
N-Butane	106-97-8	16.8	19.4	115.3%	18.0	107.1%	17.6	104.6%	19.6	116.5%	17.2	102.4%
Acetylene	74-86-2	8.5	8.5	100.5%	5.6	**65.7%**	7.1	84.2%	6.8	80.6%	6.2	73.3%
Trans-2-Butene	624-64-6	16.6	19.0	114.1%	17.1	102.5%	17.2	103.6%	18.9	113.7%	16.7	100.2%
1-Butene	106-98-9	16.3	18.5	113.1%	16.9	103.7%	17.2	105.2%	19.1	117.2%	16.5	100.9%
Cis-2-Butene	590-18-1	17.4	19.5	111.8%	17.8	102.3%	17.9	102.9%	19.6	112.2%	17.3	99.3%
Cyclopentane	287-92-3	20.8	23.2	111.7%	21.6	103.7%	21.6	104.0%	23.7	114.1%	20.5	98.7%
Iso-Pentane	78-78-4	21.2	24.0	113.3%	22.1	104.2%	22.7	106.9%	24.7	116.6%	21.2	100.0%
N-Pentane	109-66-0	21.2	24.0	113.2%	21.9	103.4%	22.6	106.5%	24.6	116.0%	21.2	99.8%
1,3-Butadiene	106-99-0	16.2	18.6	115.0%	16.9	104.4%	16.9	104.3%	18.7	115.8%	15.9	98.4%
Trans-2-Pentene	646-04-8	20.8	23.5	112.7%	21.8	105.0%	22.1	106.3%	23.8	114.6%	20.7	99.6%
1-Pentene	109-67-1	21.4	23.3	108.7%	21.2	99.2%	21.9	102.4%	25.4	118.7%	20.7	96.6%
Cis-2-Pentene	627-20-3	19.4	20.9	107.6%	19.5	100.6%	19.6	101.1%	20.7	106.8%	18.1	93.4%
2,2-Dimethylbutane	75-83-2	25.2	27.6	109.6%	25.9	102.8%	26.1	103.7%	28.4	112.8%	24.4	96.6%
2-Methylpentane	107-83-5	24.5	27.0	110.5%	25.2	102.8%	25.2	102.8%	27.2	111.2%	23.7	96.8%
Isoprene	78-79-5	20.8	18.1	87.2%	18.6	89.2%	18.6	89.3%	20.9	100.6%	16.9	81.2%
n-Hexane	110-54-3	25.4	25.9	101.8%	22.2	87.2%	24.4	95.9%	25.3	99.3%	21.1	82.9%
Methylcyclopentane	108-87-2	25.2	26.1	103.6%	21.7	85.9%	21.1	83.5%	24.0	95.3%	20.8	82.7%
2,4-Dimethylpentane	108-08-7	30.2	31.3	103.6%	26.2	86.5%	33.7	111.6%	32.9	108.9%	24.4	80.6%
Benzene	71-43-2	25.7	25.7	99.9%	20.8	81.1%	22.0	85.8%	26.1	101.5%	19.5	75.8%
Cyclohexane	110-82-7	25.7	27.0	105.1%	22.4	87.2%	24.6	95.8%	28.0	109.1%	21.1	82.3%
2-Methylhexane	591-76-4	30.0	28.5	95.0%	23.9	79.8%	24.4	81.3%	27.3	91.1%	22.0	73.6%
2,3-Dimethylpentane	565-59-3	29.1	30.1	103.2%	25.7	88.4%	32.0	110.0%	33.3	114.4%	24.2	83.1%
3-Methylhexane	589-34-4	29.7	30.0	101.0%	25.4	85.6%	28.7	96.6%	31.4	105.9%	23.7	79.8%
2,2,4-Trimethylpentane	540-84-1	33.9	33.1	97.7%	28.1	82.8%	33.3	98.1%	34.1	100.7%	26.1	77.1%
n-Heptane	142-82-5	30.0	30.2	100.7%	25.1	83.8%	29.5	98.6%	30.2	100.7%	23.3	77.9%
Methylcyclohexane	108-87-2	29.7	30.0	101.0%	25.1	84.6%	28.8	97.1%	30.0	101.1%	23.4	78.9%
2,3,4-Trimethylpentane	565-75-3	34.2	33.0	96.3%	28.0	81.7%	33.5	97.9%	34.7	101.3%	26.0	75.8%
Toluene	108-88-3	29.4	29.6	100.8%	23.8	81.0%	29.7	101.1%	29.6	100.5%	22.4	76.2%
2-Methylheptane	592-27-8	33.6	33.0	98.1%	27.0	80.3%	33.4	99.5%	33.6	100.1%	24.8	73.7%
3-Methylheptane	589-81-1	33.9	32.9	96.9%	27.5	81.0%	33.8	99.5%	34.1	100.4%	25.2	74.2%
n-Octane	111-65-9	33.9	31.9	94.1%	26.8	79.0%	33.9	99.8%	35.2	103.7%	24.7	72.8%
Ethylbenzene	100-41-4	33.9	30.8	90.8%	25.7	75.8%	30.7	90.5%	31.8	93.6%	22.9	**67.4%**
M&P-Xylene	108-38-3	67.2	60.3	89.8%	48.5	72.2%	60.3	89.8%	61.7	91.8%	42.8	**63.8%**
Styrene	100-42-5	32.3	28.3	87.5%	20.4	**63.0%**	25.7	79.7%	28.2	87.2%	17.9	**55.4%**
O-Xylene	95-47-6	33.6	31.9	94.9%	24.3	72.2%	32.1	95.5%	32.9	97.8%	22.5	**67.1%**
N-Nonane	111-84-2	37.1	36.7	98.9%	27.7	74.8%	37.5	101.2%	37.7	101.8%	26.0	70.1%
Isopropylbenzene	98-82-8	36.7	35.6	96.9%	27.0	73.6%	35.0	95.2%	35.0	95.3%	23.9	**65.0%**
n-Propylbenzene	103-65-1	35.6	35.0	98.3%	25.7	72.1%	33.5	94.0%	34.0	95.5%	22.6	**63.5%**
1,3,5-Trimethylbenzene	108-67-8	37.8	34.1	90.1%	23.8	**63.0%**	34.5	91.3%	34.5	91.2%	20.9	**55.4%**
1,2,4-Trimethylbenzene	95-63-6	38.5	38.5	100.0%	25.3	**65.6%**	35.8	93.1%	36.3	94.1%	22.0	**57.0%**
n-Decane	124-18-5	41.6	38.6	92.7%	26.3	**63.2%**	39.0	93.8%	37.9	91.0%	26.4	**63.4%**
1,2,3-Trimethylbenzene	526-73-8	38.9	34.8	89.5%	22.5	**57.8%**	29.4	75.6%	29.3	75.3%	19.4	**49.9%**
n-Undecane	1120-21-4	45.8	43.5	95.0%	24.5	**53.5%**	29.4	**64.3%**	31.9	**69.6%**	27.8	**60.8%**

[a] Compound order based on elution time.

Table ES-2. Results of Performance Standard for Off-Site Analytical Lab

Compound Name	CAS Number	Input Concentration (ppb-v)	Lab Results (ppb-v)	% Recovery
1,1,1-Trichloroethane	71-55-6	2.9	2.58	88.5%
1,1,2,2-Tetrachloroethane	79-34-5	2.8	1.79	**63.2%**
1,1,2-Trichloroethane	79-00-5	3.0	2.41	81.1%
1,1-Dichloroethane	75-34-3	2.9	2.47	85.5%
1,1-Dichloroethene	75-35-4	2.9	2.29	79.3%
1,2,4-Trimethylbenzene	95-63-6	2.7	1.37	**50.3%**
1,2-Dibromoethane	106-93-4	2.9	2.31	80.0%
1,2-Dichloroethane	107-06-2	2.9	2.3	78.1%
1,2-Dichloropropane	78-87-5	2.9	2.36	80.2%
1,3,5-Trimethylbenzene	108-67-8	2.8	1.53	**55.6%**
1,3-Butadiene	106-99-0	5.8	6.08	104.2%
1-Butene	106-98-9	2.9	2.35	81.3%
1-Hexene	592-41-6	2.7	2.4	89.1%
1-Pentene	109-67-1	2.9	2.37	82.8%
2,2,4-Trimethylpentane	540-84-1	2.9	2.55	87.4%
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	2.7	1.55	**56.9%**
Benzene	71-43-2	3.0	2.49	83.0%
Bromomethane	74-83-9	2.8	2.48	88.4%
c-1,3-Dichloropropene	10061-01-5	2.5	2.4	97.1%
Carbon tetrachloride	56-23-5	2.9	2.5	86.5%
Chlorobenzene	108-90-7	2.9	2.17	75.1%
Chloroethane	75-00-3	2.9	2.49	86.2%
Chloroform	67-66-3	2.9	2.44	85.3%
Chloromethane (Methyl Chloride)	74-87-3	3.0	2.75	91.7%
Cyclohexane	110-82-7	2.9	2.36	80.9%
Dichlorodifluoromethane (Freon-12)	75-71-8	2.9	2.41	83.4%
Ethane	74-84-0	17.6	16.51	94.0%
Ethene	74-85-1	5.8	5.84	100.1%
Ethylbenzene	100-41-4	2.9	1.94	**67.2%**
Methylene Chloride (Dichloromethane)	75-09-2	2.9	2.38	80.8%
m-Xylene & p-Xylene	106-42-3+108-38-3	5.6	3.94	70.2%
n-Butane	106-97-8	2.9	2.7	92.6%
n-Heptane	142-82-5	2.9	2.44	83.7%
n-Hexane	110-54-3	8.8	7.76	88.7%
n-Pentane	109-66-0	2.9	2.47	86.3%
o-Xylene	95-47-6	2.8	1.9	**67.1%**
Propane	74-98-6	2.9	2.8	96.9%
Propylene	115-07-1	5.8	4.83	83.6%
Styrene	100-42-5	2.8	1.71	**61.0%**
t-1,3-Dichloropropene	10061-02-6	2.7	2	74.2%
Tetrachloroethene	127-18-4	3.0	2.37	79.0%
Toluene	108-88-3	3.0	2.3	77.4%
Trichloroethene	79-01-6	2.9	2.5	87.4%
Trichlorofluoromethane (Freon-11)	75-69-4	3.0	2.5	83.3%
Vinyl Chloride	75-01-4	2.9	2.62	89.8%