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FAIRBANKS ENVIRONMENTAL SERVICES

DATE: March 16, 2015

TO: Mr. Russell Grandel, Alaska Railroad Corporation

FROM: Michael Boese, Fairbanks Environmental Services

RE: 2014 Soil Gas Survey Report, Rev2
Former Mammoth Trucking Site
Anchorage, Alaska
ADEC Hazard ID – 23887 / File ID – 2100.26.202

EXECUTIVE SUMMARY

A quantitative soil gas survey was conducted at the former Mammoth Trucking site located in Anchorage, Alaska (Figure 1). The industrial site is owned by the Alaska Railroad Corporation (ARRC) and currently leased to Alaska West Express. The survey was conducted to evaluate soil gas conditions in the area located northwest of the existing building, and was a second phase to the passive soil gas survey conducted in 2013. Soil and groundwater contamination above Alaska Department of Environmental Conservation (ADEC) cleanup levels has been previously been identified at the site; contaminants of concern include both fuel and chlorinated solvent constituents.

Soil gas samples were collected from three soil gas monitoring wells installed in the northwest corner of the site. The three locations were chosen, in part, based on 2013 passive soil gas survey results. The soil gas samples were analyzed for volatile organic compounds (VOCs) using Method TO-15. The soil gas monitoring wells were installed with the oversight of qualified person Mike Boese of Fairbanks Environmental Services (FES). Samples were collected in accordance with the ADEC Vapor Intrusion Guidance by qualified persons, Nathan Oberlee and Zack Kirk of Rescon Alaska, as required by Title 18 of the Alaska Administrative Code, Chapter 75.

VOCs were detected in samples collected from all three soil gas monitoring well locations. Soil gas results were compared to the ADEC's target levels for deep and shallow subslab soil gas for a commercial setting listed in Appendices E and F of the Vapor Intrusion Guidance for Contaminated Sites (ADEC, 2012). ADEC vapor intrusion guidance states that target levels for shallow soil gas are applicable to samples collected within 5 vertical feet of the foundation or ground surface; since the top of well screens were all greater than 5 feet below the ground and foundation, only target levels for deep soil gas should apply. Shallow target levels were included in the comparison out of an abundance of caution. Analytes exceeding the deep and shallow target levels are summarized in the Table 1 below:

Table 1 - Summary of Analytes Exceeding Target Levels for Deep & Shallow Subslab Soil Gas[1]

SGMW-1		SGMW-2		SGMW-3	
Deep	**Shallow**	**Deep**	**Shallow**	**Deep**	**Shallow**
None	Naphthalene	Benzene Ethylbenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene	Vinyl Chloride cis-1,2 Dichlorethane n-Hexane Benzene Ethylbenzene m,p-xylenes 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene	None	Trichlorethene Tetrachloroethene

[1] – Target levels for deep and shallow subslab soil gas are from ADEC's Vapor Intrusion Guidance for Contaminated Sites, listed in Appendices F and E respectively, commercial setting (ADEC, 2012). All wells were greater than 5 feet deep and only deep target levels should apply.

The highest soil gas concentrations were generally detected in SGMW-2. SGMW-2 was installed in the location where the most contaminant detections with the highest magnitudes were detected during the 2013 passive gas survey.

Soil gas results for samples collected from well SGMW-1 and SGMW-3, located closest to the existing building, were below target levels for deep soil gas; however, the sample from SGMW-1 exceeded the shallow soil gas target level for naphthalene and the sample from SGMW-3 exceeded the shallow soil gas target level for tetrachloroethene (PCE) and trichloroethene (TCE). The sample from SGMW-1 was collected from approximately 5.5 feet below ground surface (bgs) and approximately 6.25 feet below the bottom of the slab (the slab was elevated on west side of building), and sample collected from SGMW-3 was collected from a depth of 7 feet bgs (approximately 6 feet below the bottom of the slab), so deep soil gas target levels would apply.

Based on the survey results, the potential for vapor intrusion of contaminants into the existing structure associated with the former Mammoth Trucking site appears to be low; the concentrations of analytes detected in soil gas monitoring wells located closest to the existing building (SGMW-1 and SGMW-3) were below applicable (deep) target levels. Although samples from SGMW-2 exceeded deep and shallow target levels for several VOCs, it is located 50 feet away from the building and the subslab screening levels would not be applicable.

1.0 INTRODUCTION

1.1 Site Description

The former Mammoth Trucking site is located at 1048 East Whitney Road in Anchorage, Alaska (Figures 1 and 2). The subject property is currently leased to Alaska West Express by the ARRC. Site improvements include a building surrounded by a large, paved yard. The site is underlain by a shallow, unconfined aquifer. The building which was constructed on a slab-on-grade foundation includes a shop with two large bays on the extreme west end, and office space immediately east of the shop. As shown in Photograph 1 in Appendix A, the local topography slopes to the south.

1.2 Previous Investigations

In 1990, one 500-gallon gasoline underground storage tank (UST), one 2,000-gallon diesel UST, one 12,000-gallon diesel UST, and two used oil USTs were removed from the northwest corner of the former Mammoth Trucking property. Upon removal of the tanks and approximately 140 cubic yards of contaminated soil, obvious soil contamination remained (Northern Test Lab, 1991).

In 1994, Laidlaw Transit, Inc. (Laidlaw), assumed the lease for the property. As part of the lease agreement, Laidlaw contracted with EMCON Alaska, Inc. (EMCON) to perform a baseline site assessment, including the installation of four monitoring wells. Groundwater analysis results revealed diesel-range organics (DRO), gasoline-range organics (GRO), and VOCs (including vinyl chloride and PCE) above the ADEC groundwater cleanup levels (EMCON, 1994).

Site characterization activities conducted between 1994 and 2012 indicate that soil and groundwater exceed ADEC cleanup levels for petroleum and chlorinated solvents. In addition, vapor intrusion screening levels were exceeded based on groundwater concentrations. Historical soil and groundwater results are shown in Figure 2. The source of chlorinated solvent contamination has not been identified, and based on PCE detections in wells located upgradient of the tanks the chlorinated solvent contamination does not appear to be from the former USTs. Groundwater flow direction at the former Mammoth Trucking site is generally to the south-southwest toward Ship Creek (CH2MHill, 1999).

A passive soil gas survey was conducted in October 2013. While nine of the twelve soil gas samplers had detectable contaminants, the detections were generally very low and detected compounds varied between sample locations. The passive sampler with the most contaminant detections and highest magnitude was from M-07, located 50 feet west of the existing building and near the location of the former underground storage tanks (FES, 2013). Passive soil gas results from 2013 are included on Figure 3.

2.0 WORK PERFORMED

Following utility locates, 1.5-inch-diameter holes were installed using a percussion driver through the asphalt at each of the three sample locations shown on Figure 3 on September 18, 2014. SGMW-2 was installed at former location of M-07 where the highest passive soil gas concentrations were measured in 2013. SGMW-1 was installed in the location of the former underground storage tanks (USTs) that were removed in 1990, and SGMW-3 was installed on the north side of the building nearest the office. Photographs of field activities are included in Appendix A. The locations of the soil gas samples were surveyed using a Global Positioning System (GPS) with sub-meter accuracy; coordinates are included in Table 2. In addition, the vertical depths of each well screen are summarized in the table.

Table 2 – Summary of Soil Gas Monitoring Wells

Location	Depth to Ground-water (feet bgs)	Depth of Screened Interval (feet bgs)	Vertical Distance between Top of Well Screen and Bottom of Foundation[1] (feet)	Longitude	Latitude
SGMW-1	7	5.3 to 5.8	6.3	-149.864097	61.224768
SGMW-2	7	5.2 to 5.7	NA	-149.864408	61.224809
SGMW-3	10.5	7 to 7.5	6.2	-149.863901	61.224926

[1] The slab on grade foundation was estimated to be 12 inches thick for the calculation. The foundation is higher than the asphalt parking lot at location SGMW-1.
Longitude and Latitude are in decimal degrees.
bgs – below ground surface
NA – not applicable – SGMW-2 is greater than 50 feet from the building.

Soil encountered beneath the asphalt was comprised primarily of gravelly sands (fill material). The openings were drilled to depths of approximately 1 to 2 feet above the water table (depths to the water table were measured prior to drilling in nearby groundwater monitoring wells); SGMW-1 and SGMW-2 were installed in borings drilled to a depth of 6 feet below ground surface (bgs), and SGMW-3 was installed in a boring drilled to a depth of 8.5 feet bgs. The soil gas monitoring wells were completed by installing a Geoprobe® 6-inch-long stainless steel implant connected to Teflon-lined tubing to the surface. Approximately 2 feet of 20/40 sand was placed in the annulus surrounding the implant, followed by a thin layer of dry bentonite and then a bentonite slurry to the ground surface to make a seal.

Samples were collected from each of the soil gas monitoring wells on September 23, 2014 by Nathan Oberlee and Zack Kirk of Rescon Alaska. A field duplicate was also collected from SGMW-2. The samples were collected in evacuated 1-liter Summa canisters following successful shut-in and leak tests. The shut-in tests confirmed that there were no leaks in the sample train and the leak tests confirmed that the soil gas monitoring wells were appropriately sealed from the surface (and that samples were being collected from the subsurface). Helium was used as the tracer compound for the leak tests. The results of the shut-in and leak tests are summarized in Table 3.

Table 3 – Results of Shut-In and Leak Tests

Location	Shut-In Test[1] (Inches of Water)		Leak Test[2] (Helium Concentration)	Pass/Fail
	Initial	Ending		
SGMW-1	-100	-100	0 ppm	**Pass**
SGMW-2	-100	-100	500 ppm	**Pass**
SGMW-3	-100	-100	0 ppm	**Pass**

[1] The sample train was evacuated and a measureable vacuum of approximately 100 inches of water was drawn and sustained for a period of 1 minute.
[2] The percentage of helium introduced into shroud was set at 200,000 ppm, so acceptable helium concentrations for the leak test range from 0 to 20,000 ppm (or 0 to 2%).
ppm – parts per million

Canisters were equipped with a flow controller that regulated the flow to the canister at a rate of 200 milliliters per minute (mL/min). The sample identification number, the initial and final canister vacuum, the regulator serial number, and the canister number were documented in the field notes and on the canister tag for tracking purposes. Sample collection field notes are included in Appendix B.

The soil gas samples were sent to the ALS Environmental laboratory in Simi Valley, California under chain of custody for analysis of VOCs using Method TO-15. Following sample collection activities, the tubing was removed and the holes were backfilled with clean sand and the asphalt was repaired using cold patch. An elastic crack filler will be applied when temperatures increase to above 50 degrees Fahrenheit in the spring of 2015.

3.0 DATA QUALITY

Soil gas samples were collected and analyzed in accordance with the procedures in the approved Work Plan (FES 2014). All project samples were analyzed by ALS of Simi Valley, California. The laboratory is NELAP certified for the contaminant method employed. All samples were shipped in a single sample data group (SDG) and assigned the SGS report number P1403938R. A copy of the laboratory report is included in Appendix C.

Chemical data quality is summarized in the ADEC Laboratory Review Checklist in Appendix D. Batch quality control data including reference standards and method blanks indicated that the gas chromatograph/mass selective detection instrument was operating properly. Due to sample dilution, several VOC analytes were not reported with adequate sensitivity in the samples from SGMW-2 (ie., detection limit > target level for those analytes); therefore, the absence of these non detect VOC analytes at levels exceeding the target levels at that location cannot be confirmed. There was only minor impact to data as the samples collected from that location exceeded target levels for several other VOCs. Additionally, there were some minor field duplicate precision discrepancies, but they did not adversely impact the project data. Lastly, custody seals were not provide by the project laboratory and were not used for the sample shipment. However, the samples were still under a vacuum upon arrival at the laboratory, and do not appear to be tampered with.

4.0 SOIL GAS RESULTS

Soil gas results are presented in Table 3 and Figure 3. Table 3 compares the soil gas concentrations to ADEC's target levels for deep and shallow subslab soil gas for a commercial setting as listed in Appendices F and E, respectively, of the Vapor Intrusion Guidance for Contaminated Sites (ADEC, 2012). The target levels are applicable to the SGMW-1 and SGMW-3 locations as they are directly adjacent the building, however probably not applicable to SGMW-2 as it located 50 feet from the building.

Chlorinated compounds were detected in all three locations; PCE and TCE were detected in the sample from location SGMW-3, and breakdown daughter products cis-1,2-dichloroethene and vinyl chloride were detected in SGMW-1 and SGMW-2. The PCE detection is consistent with historical groundwater detections in the well located on the north side of the building, and the daughter products were detected in downgradient locations in the direction of groundwater flow. Chlorofluorocarbon (CFC) dichlorodifluoromethane (CFC 12) was detected in SGMW-1, and trichlorofluoromethane (CFC 11) was detected in SGMW-1 and SGMW-3. CFCs were below detected below their respective target levels.

Petroleum contaminants were detected in soil gas samples from SGMW-1 and SGMW-2, with the highest concentration detected in the sample from SGMW-2. SGMW-1 was installed in the former used oil tank location (contaminated soil was previously excavated from this area), and SGMW-2 was located west of the limits of the 1990 soil excavation. Multiple VOCs exceeded the target levels in the samples collected from SGMW-2; however, elevated contaminant concentrations were expected to be detected in SGMW-2 since it was installed in the location with the highest passive soil gas concentrations during the 2013 soil gas survey.

5.0 DISCUSSION AND CONCLUSION

The purpose of this work was to evaluate soil gas conditions in the northwest corner of the former Mammoth Trucking site. Both petroleum and chlorinated contaminants have been detected in historical soil and groundwater samples. The survey confirmed an area with elevated soil gas concentrations and confirmed the presence of contaminants of concern including hydrocarbons, PCE, and PCE breakdown products. The contaminants identified in soil gas samples are consistent with analytes historically detected in groundwater, soil, and soil gas samples at the site.

ADEC vapor intrusion guidance states that target levels for shallow soil gas are applicable to samples collected within five vertical feet of the foundation or ground surface; deep soil gas requirements apply to samples collected more than five feet below the foundation or ground surface. Soil gas samples collected from soil gas monitoring wells located closest to the building (SGMW-1 and SGMW-3) were collected from screened depths greater than five feet bgs and, therefore, target levels for deep soil gas would apply. Since no target levels for deep soil gas were exceeded in the sample from well SGMW-1 (located closest to the shop) or well SGMW-3 (located closest to the office space), the potential for vapor intrusion is low.

Although samples from SGMW-2 exceeded deep and shallow target levels for several VOCs, it is located 50 feet away from the existing building and there is no evidence of preferential pathways between SGMW-2 and the structure (parking lot was built on gravelly fill material and no buried utilities were located on the west side of the building). SGMW-1 is roughly located between SGMW-2 and the building, and results from the sample collected from well SGMW-1 did not exceed target levels for deep subslab soil gas in a commercial setting.

6.0 REFERENCES

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EMCON Alaska, Inc. 1994. *Phase I and II Site Assessment Report – 1048 Whitney Road.* September.

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CH2M Hill, 1999b. *Memorandum: Mammoth Groundwater Results.* October 1.

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Restoration Science & Engineering, LLC, 2012. *Groundwater Monitoring Report, Former Mammoth Trucking Facility, 1048 Whitney Road, Anchorage, Alaska, ADEC File No. 2100.26.202*. October.

Attachments:
Table 1 – Summary of Analytes Exceeding Target Levels for Deep & Shallow Subslab Soil Gas
Table 2 – Survey Coordinates of Soil Gas Monitoring Wells
Table 3 – Results of Shut-In and Leak Tests
Table 4 – Soil Gas Results

Figure 1 – Vicinity Map
Figure 2 – Previous Groundwater and Soil Cleanup Level Exceedances
Figure 3 – Soil Gas Results

Appendix A – Photolog
Appendix B – Field Notes
Appendix C – ALS Laboratory Report (P1403938)
Appendix D – ADEC Laboratory Review Checklist

Table 4 - Soil Gas Results
2014 Soil Gas Survey
Former Mammoth Trucking Site

		Sample ID	Target Level Shallow (< 5 feet)[2]	Target Level Deep (≥ 5 feet)[2]	SGMW-1		SGMW-2		SGMW-X		SGMW-3	
		Location			SGMW-1		SGMW-2		Dup of SGMW-2		SGMW-3	
		Sample Depth[1]			6.3 Feet		5.2 Feet		5.2 Feet		6.2 Feet	
		Sample Type			Primary		Primary		Field Duplicate		Primary	
		Collection Date			9/23/2014		9/23/2014		9/23/2014		9/23/2014	
		Matrix			Soil Gas		Soil Gas		Soil Gas		Soil Gas	
Analyte	**Method**	**Units**			**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**
Propene	TO-15	µg/m^3	NE	NE	ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]
Dichlorodifluoromethane (CFC 12)	TO-15	µg/m^3	4400	44000	2.2	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Chloromethane	TO-15	µg/m^3	3900	39000	ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	TO-15	µg/m^3	NE	NE	ND	[0.79]	ND	[290]	ND	[270]	ND	[10]
Vinyl Chloride	TO-15	µg/m^3	280	2800	2.3	[0.71]	**1800**	**[260]**	**1300**	**[240]**	ND	[9.3]
1,3-Butadiene	TO-15	µg/m^3	41	410	ND	[0.92]	ND	[330]	ND	[310]	ND	[12]
Bromomethane	TO-15	µg/m^3	220	2200	ND	[0.79]	ND	[290]	ND	[270]	ND	[10]
Chloroethane	TO-15	µg/m^3	438000	4380000	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Ethanol	TO-15	µg/m^3	NE	NE	ND	[3.3]	ND	[1200]	ND	1100	ND	[44]
Acetonitrile	TO-15	µg/m^3	NE	NE	ND	[0.75]	ND	[270]	ND	[260]	ND	[9.8]
Acrolein	TO-15	µg/m^3	NE	NE	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Acetone	TO-15	µg/m^3	1350000	13500000	ND	[3.2]	ND	[1200]	ND	[1100]	ND	[42]
Trichlorofluoromethane (CFC 11)	TO-15	µg/m^3	30700	307000	4.9	[0.71]	ND	[260]	ND	[240]	87	[9.3]
2-Propanol (Isopropyl Alcohol)	TO-15	µg/m^3	NE	NE	ND	[1.8]	ND	[630]	ND	[600]	ND	[23]
Acrylonitrile	TO-15	µg/m^3	NE	NE	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
1,1-Dichloroethene (1,1-DCE)	TO-15	µg/m^3	8800	88000	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Dichloromethane (Methylene Chloride)	TO-15	µg/m^3	2600	26000	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
3-Chloro-1-propene (Allyl Chloride)	TO-15	µg/m^3	NE	NE	ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
1,1,2-Trichlorotrifluoroethane	TO-15	µg/m^3	NE	NE	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Carbon Disulfide	TO-15	µg/m^3	30700	307000	ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
trans-1,2-Dichloroethene	TO-15	µg/m^3	2600	26000	ND	[0.79]	ND	[290]	ND	[270]	ND	[10]
1,1-Dichloroethane (1,1-DCA)	TO-15	µg/m^3	770	7700	ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Methyl tert-Butyl Ether	TO-15	µg/m^3	4700	47000	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Vinyl Acetate	TO-15	µg/m^3	8800	88000	ND	[2.7]	ND	[980]	ND	[930]	ND	[35]
2-Butanone (MEK)	TO-15	µg/m^3	219000	2190000	ND	[0.88]	ND	[320]	ND	[300]	ND	[11]
cis-1,2-Dichloroethene	TO-15	µg/m^3	310	3100	3.1	[0.67]	**2200**	**[240]**	**1700**	**[230]**	ND	[8.7]
Ethyl Acetate	TO-15	µg/m^3	NE	NE	ND	[1.5]	ND	[530]	ND	[500]	ND	[19]
n-Hexane	TO-15	µg/m^3	30700	307000	52	[0.63]	**50000**	**[230]**	**40000**	**[210]**	ND	[8.2]
Chloroform	TO-15	µg/m^3	53	530	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Tetrahydrofuran (THF)	TO-15	µg/m^3	NE	NE	ND	[0.84]	ND	[300]	ND	[290]	ND	[11]
1,2-Dichloroethane	TO-15	µg/m^3	47	470	ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
1,1,1-Trichloroethane (TCA)	TO-15	µg/m^3	219000	2190000	ND	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
Benzene	TO-15	µg/m^3	160	1600	3.2	[0.67]	**2200**	**[240]**	**1700**	**[230]**	ND	[8.7]
Carbon Tetrachloride	TO-15	µg/m^3	200	2000	ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]

Table 4 - Soil Gas Results
2014 Soil Gas Survey
Former Mammoth Trucking Site

			Sample ID	Target Level Shallow (< 5 feet)[2]	Target Level Deep (≥ 5 feet)[2]	SGMW-1		SGMW-2		SGMW-X		SGMW-3	
			Location			SGMW-1		SGMW-2		Dup of SGMW-2		SGMW-3	
			Sample Depth[1]			6.3 Feet		5.2 Feet		5.2 Feet		6.2 Feet	
			Sample Type			Primary		Primary		Field Duplicate		Primary	
			Collection Date			9/23/2014		9/23/2014		9/23/2014		9/23/2014	
			Matrix			Soil Gas		Soil Gas		Soil Gas		Soil Gas	
Analyte	**Method**	**Units**				**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**
Cyclohexane	TO-15	µg/m^3	263000	2630000		84	[1.2]	50000	[440]	38000	[410]	ND	[16]
1,2-Dichloropropane	TO-15	µg/m^3	120	1200		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Bromodichloromethane	TO-15	µg/m^3	33	330		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
Trichloroethene (TCE)	TO-15	µg/m^3	88	880		ND	[0.58]	ND	[210]	ND	[200]	**330**	**[7.6]**
1,4-Dioxane	TO-15	µg/m^3	NE	NE		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Methyl Methacrylate	TO-15	µg/m^3	NE	NE		ND	[1.3]	ND	[470]	ND	[440]	ND	[17]
n-Heptane	TO-15	µg/m^3	NE	NE		76	[0.71]	62000	[260]	48000	[240]	ND	[9.3]
cis-1,3-Dichloropropene	TO-15	µg/m^3	310 (total)	3100 (total)		ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]
4-Methyl-2-pentanone	TO-15	µg/m^3	NE	NE		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
trans-1,3-Dichloropropene	TO-15	µg/m^3	310 (total)	3100 (total)		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
1,1,2-Trichloroethane	TO-15	µg/m^3	8.8	88		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Toluene	TO-15	µg/m^3	219000	2190000		3.1	[0.71]	ND	[260]	ND	[240]	ND	[9.3]
2-Hexanone	TO-15	µg/m^3	1300	13000		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Dibromochloromethane	TO-15	µg/m^3	45	450		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
1,2-Dibromoethane	TO-15	µg/m^3	2.0	20		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
n-Butyl Acetate	TO-15	µg/m^3	NE	NE		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
n-Octane	TO-15	µg/m^3	NE	NE		75	[0.75]	47000	[270]	38000	[260]	ND	[9.8]
Tetrachloroethene (PCE)	TO-15	µg/m^3	1800	18000		ND	[0.58]	ND	[210]	ND	[200]	**5400**	**[7.6]**
Chlorobenzene	TO-15	µg/m^3	2200	22000		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Ethylbenzene	TO-15	µg/m^3	490	4900		17	[0.67]	**8800**	**[240]**	**6900**	**[230]**	ND	[8.7]
m,p-Xylenes	TO-15	µg/m^3	4400 (total)	44000 (total)		19	[1.3]	**8700**	**[450]**	**6900**	**[430]**	ND	[16]
Bromoform	TO-15	µg/m^3	1100	11000		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
Styrene	TO-15	µg/m^3	43800	438000		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
o-Xylene	TO-15	µg/m^3	4400 (total)	44000 (total)		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
n-Nonane	TO-15	µg/m^3	NE	NE		34	[0.63]	9800	[230]	8000	[210]	ND	[8.2]
1,1,2,2-Tetrachloroethane	TO-15	µg/m^3	21	210		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
Isopropylbenzene (Cumene)	TO-15	µg/m^3	17500	175000		14	[0.63]	4000	[230]	3200	[210]	ND	[8.2]
alpha-Pinene	TO-15	µg/m^3	NE	NE		ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]
n-Propylbenzene	TO-15	µg/m^3	43800	438000		26	[0.67]	5300	[240]	4300	[230]	ND	[8.7]
4-Ethyltoluene	TO-15	µg/m^3	NE	NE		25	[0.67]	4300	[240]	3300	[230]	ND	[8.7]
1,3,5-Trimethylbenzene	TO-15	µg/m^3	310	3100		46	[0.67]	**6700**	**[240]**	**5300**	**[230]**	ND	[8.7]
1,2,4-Trimethylbenzene	TO-15	µg/m^3	310	3100		95	[0.63]	**11000**	**[230]**	**8800**	**[210]**	ND	[8.2]
Benzyl Chloride	TO-15	µg/m^3	NE	NE		ND	[0.46]	ND	[170]	ND	[160]	ND	[6]
1,3-Dichlorobenzene	TO-15	µg/m^3	8800	88000		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]

Table 4 - Soil Gas Results
2014 Soil Gas Survey
Former Mammoth Trucking Site

			Sample ID	Target Level Shallow (< 5 feet)[2]	Target Level Deep (≥ 5 feet)[2]	SGMW-1		SGMW-2		SGMW-X		SGMW-3	
			Location			SGMW-1		SGMW-2		Dup of SGMW-2		SGMW-3	
			Sample Depth[1]			6.3 Feet		5.2 Feet		5.2 Feet		6.2 Feet	
			Sample Type			Primary		Primary		Field Duplicate		Primary	
			Collection Date			9/23/2014		9/23/2014		9/23/2014		9/23/2014	
			Matrix			Soil Gas		Soil Gas		Soil Gas		Soil Gas	
Analyte	**Method**	**Units**				**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**	**Result**	**[DL]**
1,4-Dichlorobenzene	TO-15	µg/m^3	110	1100		ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]
1,2-Dichlorobenzene	TO-15	µg/m^3	8800	88000		ND	[0.63]	ND	[230]	ND	[210]	ND	[8.2]
d-Limonene	TO-15	µg/m^3	NE	NE		ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]
1,2-Dibromo 3-Chloropropane	TO-15	µg/m^3	NE	NE		ND	[0.41]	ND	[150]	ND	[140]	ND	[5.4]
1,2,4-Trichlorobenzene	TO-15	µg/m^3	88	880		ND	[0.67]	ND	[240]	ND	[230]	ND	[8.7]
Naphthalene	TO-15	µg/m^3	36	360		**100**	**[0.75]**	ND	[270]	ND	[260]	ND	[9.8]
Hexachlorobutadiene	TO-15	µg/m^3	NE	NE		ND	[0.58]	ND	[210]	ND	[200]	ND	[7.6]

[1] Sample depth is vertical depth between top of well screen and bottom of foundation (SGMW1 and SGMW-3) and vertical depth between top of well screen and ground surface (SGMW-2).

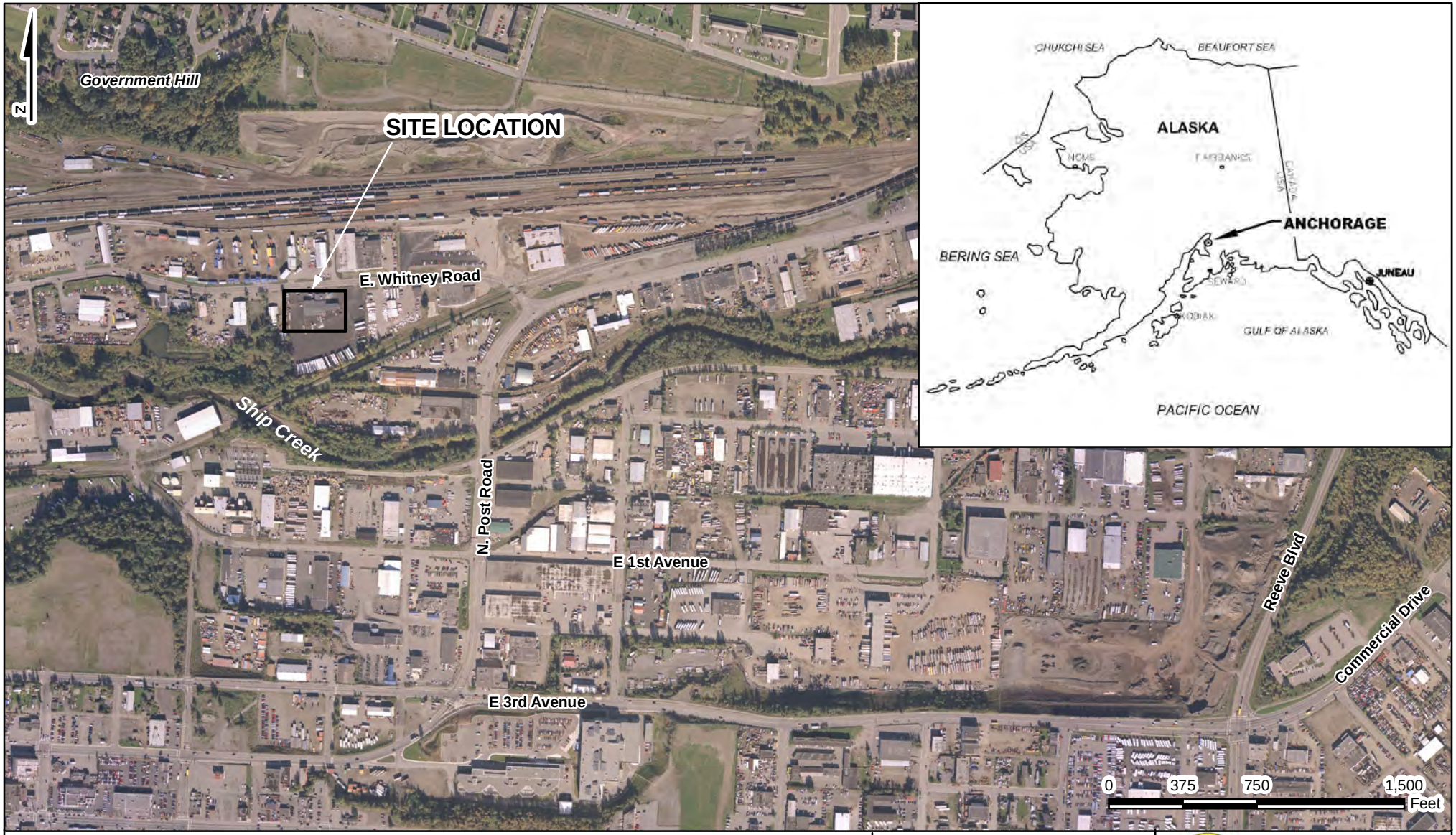
[2] Target Level's are from ADEC's Vapor Intrusion Guidance for Contaminated Sites, Tables E (Shallow [<5 feet]) and F (Deep [≥5 feet]) for a Commercial setting.

Orange highlighted results exceed the Shallow target levels, but not the Deep target levels

Yellow highlighted results exceed the Deep and Shallow target levels

Gray highlighted results have detection limits that are greater than the one or both target levels

ADEC - Alaska Department of Environmental Conservation
DL - detection limit
ND - analyte was not detected
NE - not established
µg/m^3 - micrograms per cubic meter



NOTES:

Source: Aerial Imagery was provided by Alaska Mapped (UAF-GINA/SDMI http://alaskamapped.org/bdl)

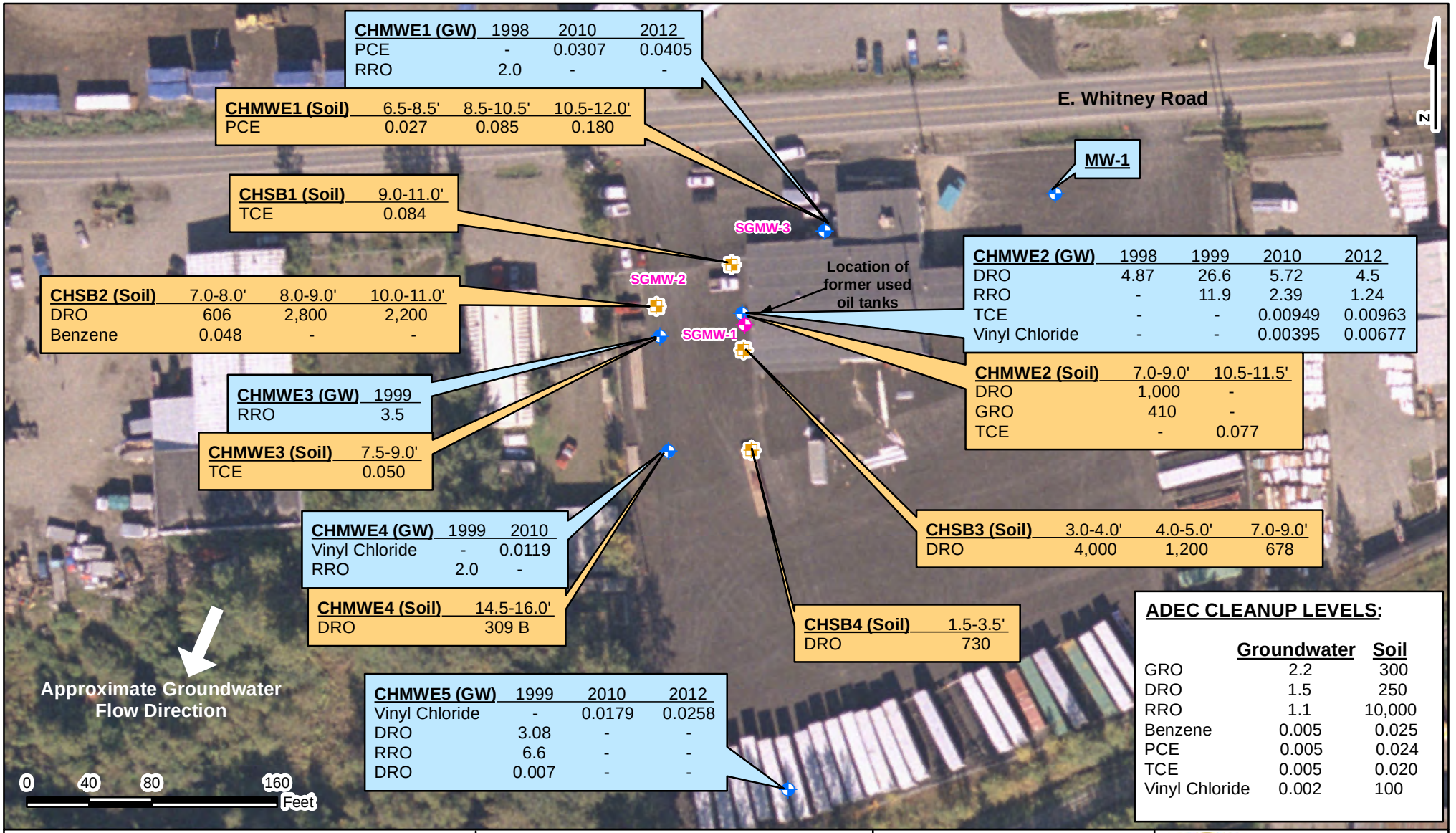
The Former Mammoth Trucking Site is located at 1048 E. Whitney Road in Anchorage, Alaska.

Fairbanks Environmental Services
3538 International Street
Fairbanks, Alaska 99701

ALASKA RAILROAD CORPORATION

Vicinity Map
2014 Report
Former Mammoth Trucking Site
Anchorage, Alaska

CONTRACT:	FIGURE:	DATE:
85304	1	12/14



ADEC CLEANUP LEVELS:

	Groundwater	Soil
GRO	2.2	300
DRO	1.5	250
RRO	1.1	10,000
Benzene	0.005	0.025
PCE	0.005	0.024
TCE	0.005	0.020
Vinyl Chloride	0.002	100

NOTES:

Only results in excess of ADEC groundwater and Method Two soil cleanup levels are displayed. Groundwater results are displayed in milligrams per liter (mg/L). Soil results are displayed in milligrams per kilogram (mg/Kg).

Soil boring and monitoring well locations were approximated. Groundwater results from CH2MHill, 1999, Clarus, 2010, and Restoration Science & Engineering, 2012. Soil results from CH2M Hill, 1999.

GRO - gasoline range organics
DRO - diesel range organics
RRO - residual range organics
PCE - tetrachloroethene
TCE - trichloroethene
bgs - below ground surface

KEY:

CHMWE3 (GW) 1999 RRO 3.5 — Year Groundwater Sample Collected

CHMWE3 (Soil) 7.5-9.0' TCE 0.050 — Sample Depth (feet bgs)

1998 Soil Boring Location

1998 Soil Boring Completed as a Monitoring Well

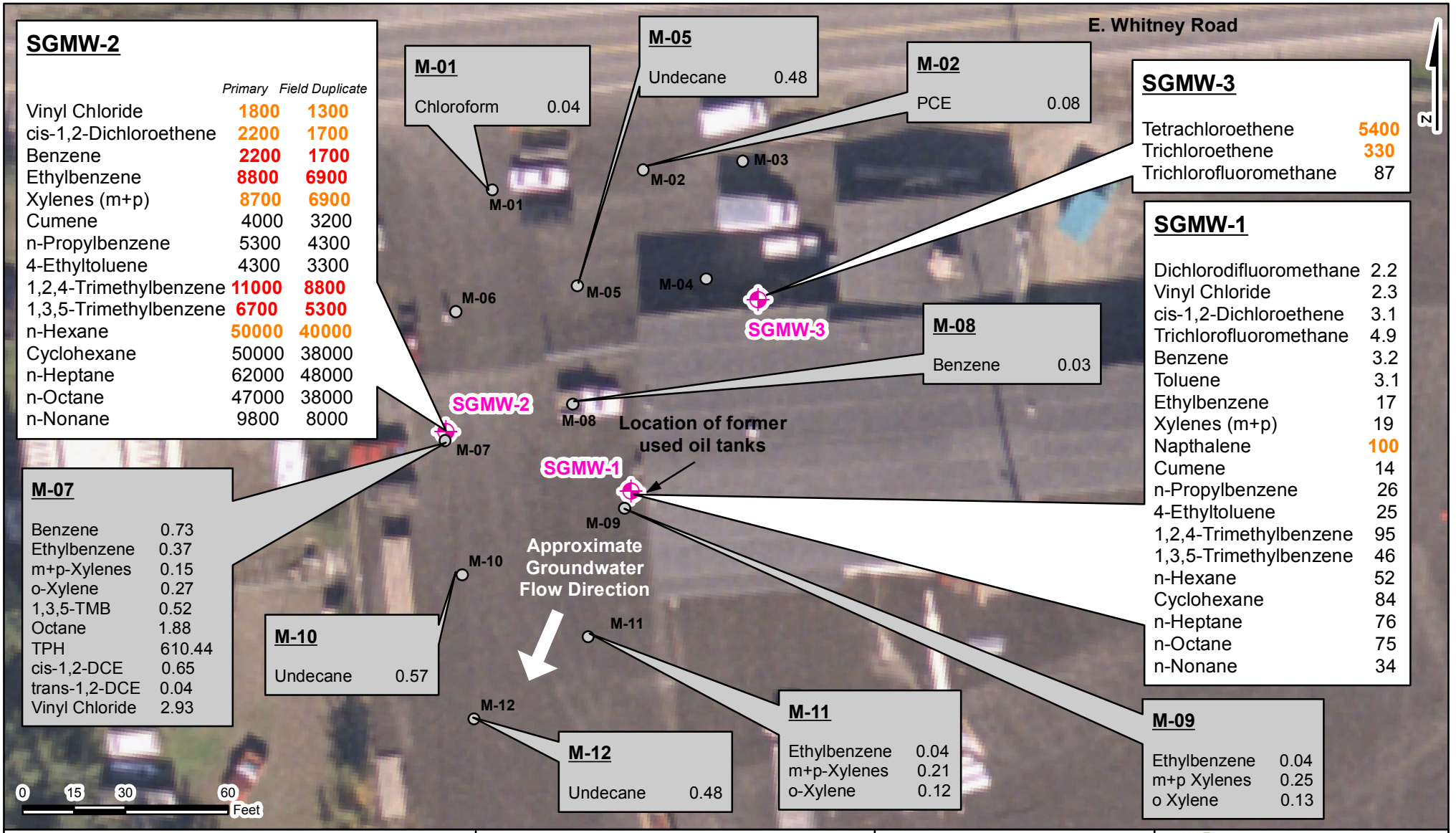
2014 Deep Soil Gas Monitoring Well

Fairbanks Environmental Services
3538 International Street
Fairbanks, Alaska 99701

ALASKA RAILROAD CORPORATION

Previous Groundwater and Soil Cleanup Level Exceedances
2014 Report
Former Mammoth Trucking Site
Anchorage, Alaska

CONTRACT:	FIGURE:	DATE:
85304	2	12/14



NOTES:
2014 results are in micrograms per cubic meter (µg/m).
Red results exceed the target level for Deep Soil Gas and **orange results** exceed the target level for Shallow Soil Gas in a Commercial setting; target levels are from ADEC's October 2012 Vapor Intrusion Guidance for Contaminated Sites and are listed in Appendix F and E, respectively. All wells were >5 feet deep, so deep **(red)** target levels apply. Shallow **(orange)** would apply if the sample was collected from depths <5 feet deep.

2013 results are in micrograms (µg); only detections in excess of 2 times the concentrations found in blank samples are shown for 2013 samples.

2014 Deep Soil Gas Monitoring Well Location

SGMW-3

SGMW-3	µg/m³
Tetrachloroethene	5400
Trichloroethene	330
Trichlorofluoromethane	87

2013 Passive Soil Gas Location

M-10

M-10	
Undecane	0.57

Fairbanks Environmental Services
3538 International Street
Fairbanks, Alaska 99701

ALASKA RAILROAD CORPORATION

Soil Gas Results

2014 Report
Former Mammoth Trucking Site
Anchorage, Alaska

CONTRACT:	FIGURE:	DATE:
85304	3	3/15

APPENDIX A

PHOTOLOG

Photograph 1 – View of the site. View to the southeast.

Photograph 2 – Water levels were measured in adjacent existing wells to determine depth of soil gas monitoring wells; boreholes were advanced to approximately 1 foot above the water table. View to the north.

Photograph 3 – Boreholes were installed using percussion techniques. View to the northeast.

Photograph 4 – Example of Geoprobe 6-inch-long stainless steel implant connected to Teflon-lined tubing used in the construction of the soil gas monitoring wells.

Photograph 5 – A grout slurry was added above the sand pack to seal each soil gas monitoring well.

Photograph 6 – Example of a completed soil gas monitoring well (SGMW-3).

Photograph 7 – Leak tests were performed prior to sample collection using helium as shown here. Samples were collected in 1-liter stainless steel Summa canisters (both primary and field duplicate are shown).

Photograph 8 – Instrument used to measure the concentration of helium in parts per million.

APPENDIX B

FIELD NOTES

VAPOR INTRUSION SAMPLE DATA SHEET

Project Number: 26-001
Project Name: MAMMOTH TRUCKING
Client: FES
Sampler: ZK, MD
Date Sample Collected: 9/23/14
Temperature: ~50° F, OVERCAST, CALM
Weather:

SITE SPECIFIC INFORMATION

COPCs: VOCs

CANISTER MEASUREMENTS

SAMPLE ID	Canister Size	Canister #	Regulator #	Gauge #	Leak Check	Initial Pressure	Sample Time	Final Pressure	Location
SGMW-2	1L	1SC00907	0A00741	AVG03462	PASS	14.29	1030	1.45	SGMW-2 LOCATION. INSIDE GATE (WEST SIDE)
SGMW-~~DUP~~ X	1L	1SC00259	0A01088	AVG03261	PASS	14.69	1035	1.17	DUPLICATE SAMPLE OF ~~SGMW-DUP~~ SGMW-2
SGMW-1	1L	1SC00960	0A01269	AVG03434	PASS	14.62	1100	1.39	INSIDE GATE AREA, WEST OF PROPERTY BLDG.
SGMW-3	1L	1SC00009	0A00813	AVG03734	PASS	14.61	1125	2.18	OUTSIDE GATE IN FRONT OF BUILDING

Sample Comments (Low Canister Vacuum, Bad Flow Controller - Canister Connection, Incorrect Flow Controller Rate, etc)

Additional Site Comments:

Duplicate Samples
Duplicate Sample ID: SGMW-X
Duplicate Sample ID:
Duplicate Sample ID:

Primary Samples
Primary Sample ID: SGMW-2
Primary Sample ID:
Primary Sample ID:

Signed:
Date: 9/23/14

26-001
FORMER MAMMOTH TRUCKING ZK, NO

SEPTEMBER 23, 2014 ~ 50°F, OVERCAST, CALM

1000 - ARRIVE ONSITE. MEET M. BOWLES (FAIRBANKS ENVIRONMENTAL SERVICES)
- INSPECT THREE VAPOR SAMPLE POINT LOCATIONS.
- MINOR SETTLING (~1" TO 1.5") OBSERVED IN WELL POINTS.
- CONTACT GEOTEK TO BRING ~~HOME~~ ADDITIONAL GROUT.

1015 - DECIDE TO PROCEED WITH LEAK CHECKS ANYWAY ~~TO ASSESS~~ AND USE GROUT AS NECESSARY WHEN GEOTEK ARRIVES.
- SET UP AT ~~M~~ SGMW-2.

1020 - CONDUCT SHUT IN AND LEAK TEST ON SAMPLE PROBE AND MANIFOLD.

1025 - LEAK TESTS PASS.

1030 - COLLECT SOIL GAS SAMPLE SGMW-2

1035 - COLLECT FIELD DUPLICATE SAMPLE SGMW-X AT THE SGMW-2 LOCATION.
- SEE VAPOR INTRUSION DATA SHEET FOR DETAILS.

1040 - SET UP AT SGMW-1

1050 - SHUT IN / LEAK TEST ~~TEST~~ PASSED

1/1

FORMER MAMMOTH TRUCKING ZK, NO
26-001
9/23/14 ~50°, OVERCAST, CALM

1100 - COLLECT SOIL GAS SAMPLE SGMW-1
- SEE VI DATA CHART FOR DETAILS.

1105 - SET UP AT SGMW-3 LOCATION.

1120 - LEAK AND SHUT-IN TESTS PASS.

1125 - COLLECT SOIL GAS SAMPLE SGMW-3.

1145 - CLEAN UP AND DEPART THE SITE.
- TEMPORARY SOIL GAS PROBES WILL BE LEFT ON SITE PENDING THE RESULTS OF THE ANALYTICAL SAMPLES.

2/2

APPENDIX C

ALS LABORATORY REPORT P1403938

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

October 13, 2014

Nathan Oberlee
Rescon Alaska
1120 Huffman Rd Ste 24-431
Anchorage, AK 99515

RE: Mammoth Trucking / 26-001

Dear Nathan:

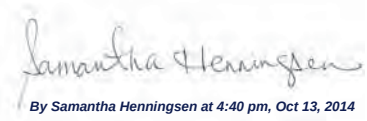
Enclosed are the revised results of the samples submitted to our laboratory on September 26, 2014. For your reference, these analyses have been assigned our service request number P1403938. Please note that this report has been revised to extend the target analyte list, and all revised pages will be denoted with a "Revised Page" footer located on the bottom right-hand corner of the page.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental



Samantha Henningsen
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Rescon Alaska
Project: Mammoth Trucking / 26-001

Service Request No: P1403938

CASE NARRATIVE

The samples were received intact under chain of custody on September 26, 2014 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L14-2
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	643428
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-14-5
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272014-4
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Rescon Alaska
Service Request: P1403938
Project ID: Mammoth Trucking / 26-001

Date Received: 9/26/2014
Time Received: 10:05

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SGMW-2	P1403938-001	Air	9/23/2014	10:30	1SC00907	-0.68	6.29	X
SGMW-X	P1403938-002	Air	9/23/2014	10:35	1SC00259	-0.41	5.70	X
SGMW-1	P1403938-003	Air	9/23/2014	11:00	1SC00960	-0.60	8.87	X
SGMW-3	P1403938-004	Air	9/23/2014	11:25	1SC00009			X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: P1403938

Company Name & Address (Reporting Information): RESCON ALASKA, 1120 HUFFMAN RD. STE 24-431, ANCHORAGE, AK 99501

Project Name: MAMMOTH TRUCKING

Project Number: 26-001

Project Manager: NATE OBERLEE

P.O. # / Billing Information: 26-001

Phone: 907.317.2473

Fax:

Email Address for Result Reporting: NOBERLEE@RESCONALASKA.COM

Sampler (Print & Sign): ZACK KIRK

ALS Contact:

Analysis Method: TO-15 VOCs

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TO-15 VOCs		Comments e.g. Actual Preservative or specific instructions
SGMW-2	1-0.57	9/23/14	1030	ISC00907	OA00741	-14.29	-1.45	1L	X		
SGMW-4	2-0.30		1035	ISC00259	OA01088	-14.69	-1.17	1L	X		
SGMW-1	3-0.46		1100	ISC00960	OA01269	-14.62	-1.39	1L	X		
SGMW-3	4-1.31		1125	ISC00009	OA00813	-14.61	-2.18	1L	X		

5 of 30

Report Tier Levels - please select

Tier I - Results (Default in not specified) X
Tier II (Results + QC Summaries _____
Tier III (Results + QC & Calibration Summaries) _____
Tier IV (Date Validation Package) 10% Surcharge _____

EDD required: YES / No
Type: EQUIS Units: _____

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	9/23/14	1500		9/26/14	1005
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature _____°C

ALS Environmental
Sample Acceptance Check Form

Client: Rescon Alaska Work order: P1403938

Project: Mammoth Trucking / 26-001

Sample(s) received on: 9/26/14 Date opened: 9/26/14 by: RMARTENIES

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1403938-001.01	1.0 L Source Can					
P1403938-002.01	1.0 L Source Can					
P1403938-003.01	1.0 L Source Can					
P1403938-004.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-2** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-001

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00907

Initial Pressure (psig): -0.68 Final Pressure (psig): 6.29

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	750	ND	440	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	750	ND	150	
74-87-3	Chloromethane	ND	750	ND	360	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	750	ND	110	
75-01-4	Vinyl Chloride	**1,800**	750	**700**	290	
106-99-0	1,3-Butadiene	ND	750	ND	340	
74-83-9	Bromomethane	ND	750	ND	190	
75-00-3	Chloroethane	ND	750	ND	280	
64-17-5	Ethanol	ND	7,500	ND	4,000	
75-05-8	Acetonitrile	ND	750	ND	450	
107-02-8	Acrolein	ND	3,000	ND	1,300	
67-64-1	Acetone	ND	7,500	ND	3,200	
75-69-4	Trichlorofluoromethane	ND	750	ND	130	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7,500	ND	3,100	
107-13-1	Acrylonitrile	ND	750	ND	350	
75-35-4	1,1-Dichloroethene	ND	750	ND	190	
75-09-2	Methylene Chloride	ND	750	ND	220	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	750	ND	240	
76-13-1	Trichlorotrifluoroethane	ND	750	ND	98	
75-15-0	Carbon Disulfide	ND	7,500	ND	2,400	
156-60-5	trans-1,2-Dichloroethene	ND	750	ND	190	
75-34-3	1,1-Dichloroethane	ND	750	ND	190	
1634-04-4	Methyl tert-Butyl Ether	ND	750	ND	210	
108-05-4	Vinyl Acetate	ND	7,500	ND	2,100	
78-93-3	2-Butanone (MEK)	ND	7,500	ND	2,500	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **SGMW-2** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-001

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00907

Initial Pressure (psig): -0.68 Final Pressure (psig): 6.29

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**2,200**	750	**550**	190	
141-78-6	Ethyl Acetate	ND	1,500	ND	420	
110-54-3	n-Hexane	**50,000**	750	**14,000**	210	
67-66-3	Chloroform	ND	750	ND	150	
109-99-9	Tetrahydrofuran (THF)	ND	750	ND	250	
107-06-2	1,2-Dichloroethane	ND	750	ND	190	
71-55-6	1,1,1-Trichloroethane	ND	750	ND	140	
71-43-2	Benzene	**2,200**	750	**700**	230	
56-23-5	Carbon Tetrachloride	ND	750	ND	120	
110-82-7	Cyclohexane	**50,000**	1,500	**14,000**	440	
78-87-5	1,2-Dichloropropane	ND	750	ND	160	
75-27-4	Bromodichloromethane	ND	750	ND	110	
79-01-6	Trichloroethene	ND	750	ND	140	
123-91-1	1,4-Dioxane	ND	750	ND	210	
80-62-6	Methyl Methacrylate	ND	1,500	ND	370	
142-82-5	n-Heptane	**62,000**	750	**15,000**	180	
10061-01-5	cis-1,3-Dichloropropene	ND	750	ND	170	
108-10-1	4-Methyl-2-pentanone	ND	750	ND	180	
10061-02-6	trans-1,3-Dichloropropene	ND	750	ND	170	
79-00-5	1,1,2-Trichloroethane	ND	750	ND	140	
108-88-3	Toluene	ND	750	ND	200	
591-78-6	2-Hexanone	ND	750	ND	180	
124-48-1	Dibromochloromethane	ND	750	ND	88	
106-93-4	1,2-Dibromoethane	ND	750	ND	98	
123-86-4	n-Butyl Acetate	ND	750	ND	160	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-2** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-001

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00907

Initial Pressure (psig): -0.68 Final Pressure (psig): 6.29

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**47,000**	750	**10,000**	160	
127-18-4	Tetrachloroethene	ND	750	ND	110	
108-90-7	Chlorobenzene	ND	750	ND	160	
100-41-4	Ethylbenzene	**8,800**	750	**2,000**	170	
179601-23-1	m,p-Xylenes	**8,700**	1,500	**2,000**	350	
75-25-2	Bromoform	ND	750	ND	73	
100-42-5	Styrene	ND	750	ND	180	
95-47-6	o-Xylene	ND	750	ND	170	
111-84-2	n-Nonane	**9,800**	750	**1,900**	140	
79-34-5	1,1,2,2-Tetrachloroethane	ND	750	ND	110	
98-82-8	Cumene	**4,000**	750	**810**	150	
80-56-8	alpha-Pinene	ND	750	ND	130	
103-65-1	n-Propylbenzene	**5,300**	750	**1,100**	150	
622-96-8	4-Ethyltoluene	**4,300**	750	**870**	150	
108-67-8	1,3,5-Trimethylbenzene	**6,700**	750	**1,400**	150	
95-63-6	1,2,4-Trimethylbenzene	**11,000**	750	**2,300**	150	
100-44-7	Benzyl Chloride	ND	750	ND	140	
541-73-1	1,3-Dichlorobenzene	ND	750	ND	120	
106-46-7	1,4-Dichlorobenzene	ND	750	ND	120	
95-50-1	1,2-Dichlorobenzene	ND	750	ND	120	
5989-27-5	d-Limonene	ND	750	ND	130	
96-12-8	1,2-Dibromo-3-chloropropane	ND	750	ND	78	
120-82-1	1,2,4-Trichlorobenzene	ND	750	ND	100	
91-20-3	Naphthalene	ND	750	ND	140	
87-68-3	Hexachlorobutadiene	ND	750	ND	70	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-X** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-002

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00259

Initial Pressure (psig): -0.41 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	720	ND	420	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	720	ND	140	
74-87-3	Chloromethane	ND	720	ND	350	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	720	ND	100	
75-01-4	Vinyl Chloride	**1,300**	720	**520**	280	
106-99-0	1,3-Butadiene	ND	720	ND	320	
74-83-9	Bromomethane	ND	720	ND	180	
75-00-3	Chloroethane	ND	720	ND	270	
64-17-5	Ethanol	ND	7,200	ND	3,800	
75-05-8	Acetonitrile	ND	720	ND	430	
107-02-8	Acrolein	ND	2,900	ND	1,200	
67-64-1	Acetone	ND	7,200	ND	3,000	
75-69-4	Trichlorofluoromethane	ND	720	ND	130	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7,200	ND	2,900	
107-13-1	Acrylonitrile	ND	720	ND	330	
75-35-4	1,1-Dichloroethene	ND	720	ND	180	
75-09-2	Methylene Chloride	ND	720	ND	210	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	720	ND	230	
76-13-1	Trichlorotrifluoroethane	ND	720	ND	93	
75-15-0	Carbon Disulfide	ND	7,200	ND	2,300	
156-60-5	trans-1,2-Dichloroethene	ND	720	ND	180	
75-34-3	1,1-Dichloroethane	ND	720	ND	180	
1634-04-4	Methyl tert-Butyl Ether	ND	720	ND	200	
108-05-4	Vinyl Acetate	ND	7,200	ND	2,000	
78-93-3	2-Butanone (MEK)	ND	7,200	ND	2,400	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-X** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-002

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00259

Initial Pressure (psig): -0.41 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**1,700**	720	**420**	180	
141-78-6	Ethyl Acetate	ND	1,400	ND	400	
110-54-3	n-Hexane	**40,000**	720	**11,000**	200	
67-66-3	Chloroform	ND	720	ND	150	
109-99-9	Tetrahydrofuran (THF)	ND	720	ND	240	
107-06-2	1,2-Dichloroethane	ND	720	ND	180	
71-55-6	1,1,1-Trichloroethane	ND	720	ND	130	
71-43-2	Benzene	**1,700**	720	**530**	220	
56-23-5	Carbon Tetrachloride	ND	720	ND	110	
110-82-7	Cyclohexane	**38,000**	1,400	**11,000**	420	
78-87-5	1,2-Dichloropropane	ND	720	ND	150	
75-27-4	Bromodichloromethane	ND	720	ND	110	
79-01-6	Trichloroethene	ND	720	ND	130	
123-91-1	1,4-Dioxane	ND	720	ND	200	
80-62-6	Methyl Methacrylate	ND	1,400	ND	350	
142-82-5	n-Heptane	**48,000**	720	**12,000**	170	
10061-01-5	cis-1,3-Dichloropropene	ND	720	ND	160	
108-10-1	4-Methyl-2-pentanone	ND	720	ND	170	
10061-02-6	trans-1,3-Dichloropropene	ND	720	ND	160	
79-00-5	1,1,2-Trichloroethane	ND	720	ND	130	
108-88-3	Toluene	ND	720	ND	190	
591-78-6	2-Hexanone	ND	720	ND	170	
124-48-1	Dibromochloromethane	ND	720	ND	84	
106-93-4	1,2-Dibromoethane	ND	720	ND	93	
123-86-4	n-Butyl Acetate	ND	720	ND	150	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **SGMW-X** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-002

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/8/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00259

Initial Pressure (psig): -0.41 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**38,000**	720	**8,100**	150	
127-18-4	Tetrachloroethene	ND	720	ND	110	
108-90-7	Chlorobenzene	ND	720	ND	160	
100-41-4	Ethylbenzene	**6,900**	720	**1,600**	160	
179601-23-1	m,p-Xylenes	**6,900**	1,400	**1,600**	330	
75-25-2	Bromoform	ND	720	ND	69	
100-42-5	Styrene	ND	720	ND	170	
95-47-6	o-Xylene	ND	720	ND	160	
111-84-2	n-Nonane	**8,000**	720	**1,500**	140	
79-34-5	1,1,2,2-Tetrachloroethane	ND	720	ND	100	
98-82-8	Cumene	**3,200**	720	**650**	150	
80-56-8	alpha-Pinene	ND	720	ND	130	
103-65-1	n-Propylbenzene	**4,300**	720	**870**	150	
622-96-8	4-Ethyltoluene	**3,300**	720	**680**	150	
108-67-8	1,3,5-Trimethylbenzene	**5,300**	720	**1,100**	150	
95-63-6	1,2,4-Trimethylbenzene	**8,800**	720	**1,800**	150	
100-44-7	Benzyl Chloride	ND	720	ND	140	
541-73-1	1,3-Dichlorobenzene	ND	720	ND	120	
106-46-7	1,4-Dichlorobenzene	ND	720	ND	120	
95-50-1	1,2-Dichlorobenzene	ND	720	ND	120	
5989-27-5	d-Limonene	ND	720	ND	130	
96-12-8	1,2-Dibromo-3-chloropropane	ND	720	ND	74	
120-82-1	1,2,4-Trichlorobenzene	ND	720	ND	96	
91-20-3	Naphthalene	ND	720	ND	140	
87-68-3	Hexachlorobutadiene	ND	720	ND	67	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-1**
Client Project ID: **Mammoth Trucking / 26-001**

ALS Project ID: P1403938
ALS Sample ID: P1403938-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00960

Date Collected: 9/23/14
Date Received: 9/26/14
Date Analyzed: 10/7/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.60 Final Pressure (psig): 8.87

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	2.1	ND	1.2	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.1	**0.44**	0.42	
74-87-3	Chloromethane	ND	2.1	ND	1.0	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	2.1	ND	0.30	
75-01-4	Vinyl Chloride	**2.3**	2.1	**0.91**	0.82	
106-99-0	1,3-Butadiene	ND	2.1	ND	0.94	
74-83-9	Bromomethane	ND	2.1	ND	0.54	
75-00-3	Chloroethane	ND	2.1	ND	0.79	
64-17-5	Ethanol	ND	21	ND	11	
75-05-8	Acetonitrile	ND	2.1	ND	1.2	
107-02-8	Acrolein	ND	8.4	ND	3.6	
67-64-1	Acetone	ND	21	ND	8.8	
75-69-4	Trichlorofluoromethane	**4.9**	2.1	**0.88**	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	21	ND	8.5	
107-13-1	Acrylonitrile	ND	2.1	ND	0.96	
75-35-4	1,1-Dichloroethene	ND	2.1	ND	0.53	
75-09-2	Methylene Chloride	ND	2.1	ND	0.60	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	2.1	ND	0.67	
76-13-1	Trichlorotrifluoroethane	ND	2.1	ND	0.27	
75-15-0	Carbon Disulfide	ND	21	ND	6.7	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ND	0.53	
75-34-3	1,1-Dichloroethane	ND	2.1	ND	0.52	
1634-04-4	Methyl tert-Butyl Ether	ND	2.1	ND	0.58	
108-05-4	Vinyl Acetate	ND	21	ND	5.9	
78-93-3	2-Butanone (MEK)	ND	21	ND	7.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **SGMW-1** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-003

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00960

Initial Pressure (psig): -0.60 Final Pressure (psig): 8.87

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**3.1**	2.1	**0.78**	0.53	
141-78-6	Ethyl Acetate	ND	4.2	ND	1.2	
110-54-3	n-Hexane	**52**	2.1	**15**	0.59	
67-66-3	Chloroform	ND	2.1	ND	0.43	
109-99-9	Tetrahydrofuran (THF)	ND	2.1	ND	0.71	
107-06-2	1,2-Dichloroethane	ND	2.1	ND	0.52	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ND	0.38	
71-43-2	Benzene	**3.2**	2.1	**1.0**	0.65	
56-23-5	Carbon Tetrachloride	ND	2.1	ND	0.33	
110-82-7	Cyclohexane	**84**	4.2	**25**	1.2	
78-87-5	1,2-Dichloropropane	ND	2.1	ND	0.45	
75-27-4	Bromodichloromethane	ND	2.1	ND	0.31	
79-01-6	Trichloroethene	ND	2.1	ND	0.39	
123-91-1	1,4-Dioxane	ND	2.1	ND	0.58	
80-62-6	Methyl Methacrylate	ND	4.2	ND	1.0	
142-82-5	n-Heptane	**76**	2.1	**19**	0.51	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ND	0.46	
108-10-1	4-Methyl-2-pentanone	ND	2.1	ND	0.51	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ND	0.46	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ND	0.38	
108-88-3	Toluene	**3.1**	2.1	**0.83**	0.55	
591-78-6	2-Hexanone	ND	2.1	ND	0.51	
124-48-1	Dibromochloromethane	ND	2.1	ND	0.25	
106-93-4	1,2-Dibromoethane	ND	2.1	ND	0.27	
123-86-4	n-Butyl Acetate	ND	2.1	ND	0.44	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **SGMW-1** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-003

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00960

Initial Pressure (psig): -0.60 Final Pressure (psig): 8.87

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	**75**	2.1	**16**	0.45	
127-18-4	Tetrachloroethene	ND	2.1	ND	0.31	
108-90-7	Chlorobenzene	ND	2.1	ND	0.45	
100-41-4	Ethylbenzene	**17**	2.1	**3.9**	0.48	
179601-23-1	m,p-Xylenes	**19**	4.2	**4.4**	0.96	
75-25-2	Bromoform	ND	2.1	ND	0.20	
100-42-5	Styrene	ND	2.1	ND	0.49	
95-47-6	o-Xylene	ND	2.1	ND	0.48	
111-84-2	n-Nonane	**34**	2.1	**6.5**	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ND	0.30	
98-82-8	Cumene	**14**	2.1	**2.9**	0.42	
80-56-8	alpha-Pinene	ND	2.1	ND	0.37	
103-65-1	n-Propylbenzene	**26**	2.1	**5.2**	0.42	
622-96-8	4-Ethyltoluene	**25**	2.1	**5.0**	0.42	
108-67-8	1,3,5-Trimethylbenzene	**46**	2.1	**9.4**	0.42	
95-63-6	1,2,4-Trimethylbenzene	**95**	2.1	**19**	0.42	
100-44-7	Benzyl Chloride	ND	2.1	ND	0.40	
541-73-1	1,3-Dichlorobenzene	ND	2.1	ND	0.35	
106-46-7	1,4-Dichlorobenzene	ND	2.1	ND	0.35	
95-50-1	1,2-Dichlorobenzene	ND	2.1	ND	0.35	
5989-27-5	d-Limonene	ND	2.1	ND	0.37	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	ND	0.22	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	ND	0.28	
91-20-3	Naphthalene	**100**	2.1	**20**	0.40	
87-68-3	Hexachlorobutadiene	ND	2.1	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-3** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-004

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00009

Initial Pressure (psig): -1.21 Final Pressure (psig): 0.0

Canister Dilution Factor: 1.09

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	27	ND	16	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	27	ND	5.5	
74-87-3	Chloromethane	ND	27	ND	13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	27	ND	3.9	
75-01-4	Vinyl Chloride	ND	27	ND	11	
106-99-0	1,3-Butadiene	ND	27	ND	12	
74-83-9	Bromomethane	ND	27	ND	7.0	
75-00-3	Chloroethane	ND	27	ND	10	
64-17-5	Ethanol	ND	270	ND	140	
75-05-8	Acetonitrile	ND	27	ND	16	
107-02-8	Acrolein	ND	110	ND	48	
67-64-1	Acetone	ND	270	ND	110	
75-69-4	Trichlorofluoromethane	**87**	27	**15**	4.9	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	270	ND	110	
107-13-1	Acrylonitrile	ND	27	ND	13	
75-35-4	1,1-Dichloroethene	ND	27	ND	6.9	
75-09-2	Methylene Chloride	ND	27	ND	7.8	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	27	ND	8.7	
76-13-1	Trichlorotrifluoroethane	ND	27	ND	3.6	
75-15-0	Carbon Disulfide	ND	270	ND	88	
156-60-5	trans-1,2-Dichloroethene	ND	27	ND	6.9	
75-34-3	1,1-Dichloroethane	ND	27	ND	6.7	
1634-04-4	Methyl tert-Butyl Ether	ND	27	ND	7.6	
108-05-4	Vinyl Acetate	ND	270	ND	77	
78-93-3	2-Butanone (MEK)	ND	270	ND	92	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **SGMW-3** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-004

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00009

Initial Pressure (psig): -1.21 Final Pressure (psig): 0.0

Canister Dilution Factor: 1.09

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	27	ND	6.9	
141-78-6	Ethyl Acetate	ND	55	ND	15	
110-54-3	n-Hexane	ND	27	ND	7.7	
67-66-3	Chloroform	ND	27	ND	5.6	
109-99-9	Tetrahydrofuran (THF)	ND	27	ND	9.2	
107-06-2	1,2-Dichloroethane	ND	27	ND	6.7	
71-55-6	1,1,1-Trichloroethane	ND	27	ND	5.0	
71-43-2	Benzene	ND	27	ND	8.5	
56-23-5	Carbon Tetrachloride	ND	27	ND	4.3	
110-82-7	Cyclohexane	ND	55	ND	16	
78-87-5	1,2-Dichloropropane	ND	27	ND	5.9	
75-27-4	Bromodichloromethane	ND	27	ND	4.1	
79-01-6	Trichloroethene	**330**	27	**62**	5.1	
123-91-1	1,4-Dioxane	ND	27	ND	7.6	
80-62-6	Methyl Methacrylate	ND	55	ND	13	
142-82-5	n-Heptane	ND	27	ND	6.7	
10061-01-5	cis-1,3-Dichloropropene	ND	27	ND	6.0	
108-10-1	4-Methyl-2-pentanone	ND	27	ND	6.7	
10061-02-6	trans-1,3-Dichloropropene	ND	27	ND	6.0	
79-00-5	1,1,2-Trichloroethane	ND	27	ND	5.0	
108-88-3	Toluene	ND	27	ND	7.2	
591-78-6	2-Hexanone	ND	27	ND	6.7	
124-48-1	Dibromochloromethane	ND	27	ND	3.2	
106-93-4	1,2-Dibromoethane	ND	27	ND	3.5	
123-86-4	n-Butyl Acetate	ND	27	ND	5.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **SGMW-3** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P1403938-004

Test Code: EPA TO-15 Date Collected: 9/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 9/26/14
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00009

Initial Pressure (psig): -1.21 Final Pressure (psig): 0.0

Canister Dilution Factor: 1.09

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	27	ND	5.8	
127-18-4	Tetrachloroethene	**5,400**	27	**800**	4.0	
108-90-7	Chlorobenzene	ND	27	ND	5.9	
100-41-4	Ethylbenzene	ND	27	ND	6.3	
179601-23-1	m,p-Xylenes	ND	55	ND	13	
75-25-2	Bromoform	ND	27	ND	2.6	
100-42-5	Styrene	ND	27	ND	6.4	
95-47-6	o-Xylene	ND	27	ND	6.3	
111-84-2	n-Nonane	ND	27	ND	5.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	27	ND	4.0	
98-82-8	Cumene	ND	27	ND	5.5	
80-56-8	alpha-Pinene	ND	27	ND	4.9	
103-65-1	n-Propylbenzene	ND	27	ND	5.5	
622-96-8	4-Ethyltoluene	ND	27	ND	5.5	
108-67-8	1,3,5-Trimethylbenzene	ND	27	ND	5.5	
95-63-6	1,2,4-Trimethylbenzene	ND	27	ND	5.5	
100-44-7	Benzyl Chloride	ND	27	ND	5.3	
541-73-1	1,3-Dichlorobenzene	ND	27	ND	4.5	
106-46-7	1,4-Dichlorobenzene	ND	27	ND	4.5	
95-50-1	1,2-Dichlorobenzene	ND	27	ND	4.5	
5989-27-5	d-Limonene	ND	27	ND	4.9	
96-12-8	1,2-Dibromo-3-chloropropane	ND	27	ND	2.8	
120-82-1	1,2,4-Trichlorobenzene	ND	27	ND	3.7	
91-20-3	Naphthalene	ND	27	ND	5.2	
87-68-3	Hexachlorobutadiene	ND	27	ND	2.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Rescon Alaska**
Client Sample ID: **Method Blank** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**

Client Sample ID: **Method Blank** ALS Project ID: P1403938

Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Wida Ang Date Analyzed: 10/7/14

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **Method Blank** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **Method Blank** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	ND	0.29	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	ND	0.10	
74-87-3	Chloromethane	ND	0.50	ND	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	ND	0.072	
75-01-4	Vinyl Chloride	ND	0.50	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.50	ND	0.23	
74-83-9	Bromomethane	ND	0.50	ND	0.13	
75-00-3	Chloroethane	ND	0.50	ND	0.19	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	0.50	ND	0.30	
107-02-8	Acrolein	ND	2.0	ND	0.87	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	0.50	ND	0.089	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	ND	2.0	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.50	ND	0.13	
75-09-2	Methylene Chloride	ND	0.50	ND	0.14	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	ND	0.16	
76-13-1	Trichlorotrifluoroethane	ND	0.50	ND	0.065	
75-15-0	Carbon Disulfide	ND	5.0	ND	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	ND	0.13	
75-34-3	1,1-Dichloroethane	ND	0.50	ND	0.12	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	ND	0.14	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	5.0	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**

Client Sample ID: **Method Blank** ALS Project ID: P1403938

Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA

Analyst: Wida Ang Date Analyzed: 10/7/14

Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)

Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	ND	0.13	
141-78-6	Ethyl Acetate	ND	1.0	ND	0.28	
110-54-3	n-Hexane	ND	0.50	ND	0.14	
67-66-3	Chloroform	ND	0.50	ND	0.10	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	ND	0.17	
107-06-2	1,2-Dichloroethane	ND	0.50	ND	0.12	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ND	0.092	
71-43-2	Benzene	ND	0.50	ND	0.16	
56-23-5	Carbon Tetrachloride	ND	0.50	ND	0.080	
110-82-7	Cyclohexane	ND	1.0	ND	0.29	
78-87-5	1,2-Dichloropropane	ND	0.50	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.50	ND	0.075	
79-01-6	Trichloroethene	ND	0.50	ND	0.093	
123-91-1	1,4-Dioxane	ND	0.50	ND	0.14	
80-62-6	Methyl Methacrylate	ND	1.0	ND	0.24	
142-82-5	n-Heptane	ND	0.50	ND	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ND	0.11	
108-10-1	4-Methyl-2-pentanone	ND	0.50	ND	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ND	0.092	
108-88-3	Toluene	ND	0.50	ND	0.13	
591-78-6	2-Hexanone	ND	0.50	ND	0.12	
124-48-1	Dibromochloromethane	ND	0.50	ND	0.059	
106-93-4	1,2-Dibromoethane	ND	0.50	ND	0.065	
123-86-4	n-Butyl Acetate	ND	0.50	ND	0.11	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Rescon Alaska**
Client Sample ID: **Method Blank** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	ND	0.11	
127-18-4	Tetrachloroethene	ND	0.50	ND	0.074	
108-90-7	Chlorobenzene	ND	0.50	ND	0.11	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	0.50	ND	0.048	
100-42-5	Styrene	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	
111-84-2	n-Nonane	ND	0.50	ND	0.095	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ND	0.073	
98-82-8	Cumene	ND	0.50	ND	0.10	
80-56-8	alpha-Pinene	ND	0.50	ND	0.090	
103-65-1	n-Propylbenzene	ND	0.50	ND	0.10	
622-96-8	4-Ethyltoluene	ND	0.50	ND	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ND	0.10	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ND	0.10	
100-44-7	Benzyl Chloride	ND	0.50	ND	0.097	
541-73-1	1,3-Dichlorobenzene	ND	0.50	ND	0.083	
106-46-7	1,4-Dichlorobenzene	ND	0.50	ND	0.083	
95-50-1	1,2-Dichlorobenzene	ND	0.50	ND	0.083	
5989-27-5	d-Limonene	ND	0.50	ND	0.090	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ND	0.052	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ND	0.067	
91-20-3	Naphthalene	ND	0.50	ND	0.095	
87-68-3	Hexachlorobutadiene	ND	0.50	ND	0.047	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	200	**180**	**90**	50-128	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	**189**	**93**	66-117	
74-87-3	Chloromethane	198	**190**	**96**	51-133	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	**202**	**98**	65-117	
75-01-4	Vinyl Chloride	202	**209**	**103**	61-127	
106-99-0	1,3-Butadiene	214	**224**	**105**	65-132	
74-83-9	Bromomethane	202	**211**	**104**	62-114	
75-00-3	Chloroethane	202	**204**	**101**	64-122	
64-17-5	Ethanol	1,020	**911**	**89**	57-131	
75-05-8	Acetonitrile	204	**191**	**94**	52-135	
107-02-8	Acrolein	214	**241**	**113**	64-124	
67-64-1	Acetone	1,080	**949**	**88**	60-113	
75-69-4	Trichlorofluoromethane	198	**209**	**106**	64-112	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	**391**	**93**	62-129	
107-13-1	Acrylonitrile	208	**210**	**101**	69-133	
75-35-4	1,1-Dichloroethene	214	**218**	**102**	70-114	
75-09-2	Methylene Chloride	216	**213**	**99**	63-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**186**	**85**	57-135	
76-13-1	Trichlorotrifluoroethane	216	**209**	**97**	69-116	
75-15-0	Carbon Disulfide	196	**220**	**112**	66-118	
156-60-5	trans-1,2-Dichloroethene	212	**215**	**101**	69-123	
75-34-3	1,1-Dichloroethane	208	**200**	**96**	65-118	
1634-04-4	Methyl tert-Butyl Ether	212	**199**	**94**	57-125	
108-05-4	Vinyl Acetate	1,020	**1100**	**108**	69-131	
78-93-3	2-Butanone (MEK)	216	**216**	**100**	63-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	214	**211**	**99**	69-119	
141-78-6	Ethyl Acetate	428	**427**	**100**	65-129	
110-54-3	n-Hexane	210	**220**	**105**	55-116	
67-66-3	Chloroform	216	**205**	**95**	68-111	
109-99-9	Tetrahydrofuran (THF)	206	**201**	**98**	69-120	
107-06-2	1,2-Dichloroethane	210	**201**	**96**	67-117	
71-55-6	1,1,1-Trichloroethane	208	**198**	**95**	74-116	
71-43-2	Benzene	220	**184**	**84**	61-109	
56-23-5	Carbon Tetrachloride	214	**220**	**103**	76-120	
110-82-7	Cyclohexane	422	**396**	**94**	72-115	
78-87-5	1,2-Dichloropropane	212	**197**	**93**	67-119	
75-27-4	Bromodichloromethane	216	**213**	**99**	78-124	
79-01-6	Trichloroethene	208	**203**	**98**	69-115	
123-91-1	1,4-Dioxane	218	**207**	**95**	69-127	
80-62-6	Methyl Methacrylate	420	**420**	**100**	76-128	
142-82-5	n-Heptane	214	**202**	**94**	66-118	
10061-01-5	cis-1,3-Dichloropropene	226	**222**	**98**	77-124	
108-10-1	4-Methyl-2-pentanone	218	**207**	**95**	66-134	
10061-02-6	trans-1,3-Dichloropropene	216	**221**	**102**	80-130	
79-00-5	1,1,2-Trichloroethane	212	**205**	**97**	75-119	
108-88-3	Toluene	212	**209**	**99**	68-114	
591-78-6	2-Hexanone	222	**197**	**89**	60-136	
124-48-1	Dibromochloromethane	220	**217**	**99**	75-132	
106-93-4	1,2-Dibromoethane	216	**213**	**99**	72-122	
123-86-4	n-Butyl Acetate	224	**200**	**89**	60-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	208	**197**	**95**	66-120	
127-18-4	Tetrachloroethene	198	**190**	**96**	67-120	
108-90-7	Chlorobenzene	216	**203**	**94**	69-114	
100-41-4	Ethylbenzene	212	**199**	**94**	71-117	
179601-23-1	m,p-Xylenes	420	**393**	**94**	71-118	
75-25-2	Bromoform	216	**245**	**113**	76-149	
100-42-5	Styrene	218	**210**	**96**	71-128	
95-47-6	o-Xylene	206	**192**	**93**	72-118	
111-84-2	n-Nonane	204	**187**	**92**	63-123	
79-34-5	1,1,2,2-Tetrachloroethane	202	**200**	**99**	73-124	
98-82-8	Cumene	204	**189**	**93**	71-118	
80-56-8	alpha-Pinene	208	**194**	**93**	71-123	
103-65-1	n-Propylbenzene	202	**189**	**94**	71-120	
622-96-8	4-Ethyltoluene	212	**196**	**92**	71-121	
108-67-8	1,3,5-Trimethylbenzene	212	**197**	**93**	72-121	
95-63-6	1,2,4-Trimethylbenzene	210	**202**	**96**	71-122	
100-44-7	Benzyl Chloride	218	**239**	**110**	79-143	
541-73-1	1,3-Dichlorobenzene	218	**216**	**99**	67-121	
106-46-7	1,4-Dichlorobenzene	212	**203**	**96**	68-121	
95-50-1	1,2-Dichlorobenzene	214	**213**	**100**	68-121	
5989-27-5	d-Limonene	210	**200**	**95**	69-137	
96-12-8	1,2-Dibromo-3-chloropropane	206	**231**	**112**	73-145	
120-82-1	1,2,4-Trichlorobenzene	210	**238**	**113**	60-135	
91-20-3	Naphthalene	196	**237**	**121**	63-142	
87-68-3	Hexachlorobutadiene	214	**216**	**101**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	200	**160**	**80**	50-128	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	**167**	**82**	66-117	
74-87-3	Chloromethane	198	**168**	**85**	51-133	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	**180**	**87**	65-117	
75-01-4	Vinyl Chloride	202	**188**	**93**	61-127	
106-99-0	1,3-Butadiene	214	**206**	**96**	65-132	
74-83-9	Bromomethane	202	**189**	**94**	62-114	
75-00-3	Chloroethane	202	**185**	**92**	64-122	
64-17-5	Ethanol	1,020	**817**	**80**	57-131	
75-05-8	Acetonitrile	204	**171**	**84**	52-135	
107-02-8	Acrolein	214	**217**	**101**	64-124	
67-64-1	Acetone	1,080	**861**	**80**	60-113	
75-69-4	Trichlorofluoromethane	198	**186**	**94**	64-112	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	**350**	**83**	62-129	
107-13-1	Acrylonitrile	208	**189**	**91**	69-133	
75-35-4	1,1-Dichloroethene	214	**197**	**92**	70-114	
75-09-2	Methylene Chloride	216	**192**	**89**	63-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	**166**	**76**	57-135	
76-13-1	Trichlorotrifluoroethane	216	**186**	**86**	69-116	
75-15-0	Carbon Disulfide	196	**199**	**102**	66-118	
156-60-5	trans-1,2-Dichloroethene	212	**193**	**91**	69-123	
75-34-3	1,1-Dichloroethane	208	**180**	**87**	65-118	
1634-04-4	Methyl tert-Butyl Ether	212	**179**	**84**	57-125	
108-05-4	Vinyl Acetate	1,020	**1020**	**100**	69-131	
78-93-3	2-Butanone (MEK)	216	**200**	**93**	63-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	214	**190**	**89**	69-119	
141-78-6	Ethyl Acetate	428	**398**	**93**	65-129	
110-54-3	n-Hexane	210	**210**	**100**	55-116	
67-66-3	Chloroform	216	**185**	**86**	68-111	
109-99-9	Tetrahydrofuran (THF)	206	**184**	**89**	69-120	
107-06-2	1,2-Dichloroethane	210	**181**	**86**	67-117	
71-55-6	1,1,1-Trichloroethane	208	**176**	**85**	74-116	
71-43-2	Benzene	220	**169**	**77**	61-109	
56-23-5	Carbon Tetrachloride	214	**198**	**93**	76-120	
110-82-7	Cyclohexane	422	**360**	**85**	72-115	
78-87-5	1,2-Dichloropropane	212	**181**	**85**	67-119	
75-27-4	Bromodichloromethane	216	**191**	**88**	78-124	
79-01-6	Trichloroethene	208	**187**	**90**	69-115	
123-91-1	1,4-Dioxane	218	**188**	**86**	69-127	
80-62-6	Methyl Methacrylate	420	**387**	**92**	76-128	
142-82-5	n-Heptane	214	**188**	**88**	66-118	
10061-01-5	cis-1,3-Dichloropropene	226	**202**	**89**	77-124	
108-10-1	4-Methyl-2-pentanone	218	**186**	**85**	66-134	
10061-02-6	trans-1,3-Dichloropropene	216	**198**	**92**	80-130	
79-00-5	1,1,2-Trichloroethane	212	**185**	**87**	75-119	
108-88-3	Toluene	212	**186**	**88**	68-114	
591-78-6	2-Hexanone	222	**172**	**77**	60-136	
124-48-1	Dibromochloromethane	220	**192**	**87**	75-132	
106-93-4	1,2-Dibromoethane	216	**186**	**86**	72-122	
123-86-4	n-Butyl Acetate	224	**174**	**78**	60-137	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Rescon Alaska**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1403938
Client Project ID: **Mammoth Trucking / 26-001** ALS Sample ID: P141007-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 10/7/14
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	208	**177**	**85**	66-120	
127-18-4	Tetrachloroethene	198	**171**	**86**	67-120	
108-90-7	Chlorobenzene	216	**182**	**84**	69-114	
100-41-4	Ethylbenzene	212	**175**	**83**	71-117	
179601-23-1	m,p-Xylenes	420	**345**	**82**	71-118	
75-25-2	Bromoform	216	**214**	**99**	76-149	
100-42-5	Styrene	218	**185**	**85**	71-128	
95-47-6	o-Xylene	206	**170**	**83**	72-118	
111-84-2	n-Nonane	204	**164**	**80**	63-123	
79-34-5	1,1,2,2-Tetrachloroethane	202	**174**	**86**	73-124	
98-82-8	Cumene	204	**165**	**81**	71-118	
80-56-8	alpha-Pinene	208	**170**	**82**	71-123	
103-65-1	n-Propylbenzene	202	**166**	**82**	71-120	
622-96-8	4-Ethyltoluene	212	**175**	**83**	71-121	
108-67-8	1,3,5-Trimethylbenzene	212	**172**	**81**	72-121	
95-63-6	1,2,4-Trimethylbenzene	210	**176**	**84**	71-122	
100-44-7	Benzyl Chloride	218	**207**	**95**	79-143	
541-73-1	1,3-Dichlorobenzene	218	**189**	**87**	67-121	
106-46-7	1,4-Dichlorobenzene	212	**178**	**84**	68-121	
95-50-1	1,2-Dichlorobenzene	214	**188**	**88**	68-121	
5989-27-5	d-Limonene	210	**175**	**83**	69-137	
96-12-8	1,2-Dibromo-3-chloropropane	206	**199**	**97**	73-145	
120-82-1	1,2,4-Trichlorobenzene	210	**205**	**98**	60-135	
91-20-3	Naphthalene	196	**204**	**104**	63-142	
87-68-3	Hexachlorobutadiene	214	**187**	**87**	65-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

APPENDIX D

ADEC LABORATORY REVIEW CHECKLIST

Contaminated Sites Program
Spill Prevention and Response Division
Alaska Department of Environmental Conservation

Laboratory Data Review Checklist for Air Samples

Completed by:	Mike Boese		
Title:	Chemist	Date:	12/12/2014
CS Report Name:	Former Mammoth Trucking	Report Date:	10/13/2014
Consultant Firm:	Fairbanks Environmental Services		
Laboratory Name:	ALS – Simi Valley	Laboratory Report Number:	P1403938R1
DEC File Number:	2100.26.202	DEC Haz ID:	23887

1. Laboratory
   a. Did a NELAP-certified laboratory receive and perform all of the submitted sample analyses?
      ■Yes No N/A (Please explain.)

   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses NELAP-approved?
      Yes No ■N/A (Please explain.)

   Comments:
   No samples were transferred.

2. Chain of Custody (COC)
   a. Was the COC information completed, signed and dated (including released/received by)?
      ■Yes No N/A (Please explain.)

   Comments:

   b. Was the correct analyses requested?
      ■Yes No N/A (Please explain.)

   Comments:

3. Laboratory Sample Receipt Documentation

a. Was the sample condition documented? Were samples collected in gas-tight, opaque/dark Summa canisters or other DEC-approved containers? Was the canister vacuum/pressure checked, recorded upon receipt and were there no open valves?

■Yes No N/A (Please explain.)

Comments:

b. If there were any discrepancies, were they documented? Examples include incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.

Yes No ■N/A (Please explain.)

Comments:

No discrepancies were noted.

c. Was the data quality or usability affected? (Please explain.)

Comments:

No, sample condition and sample documentation were acceptable.

4. Case Narrative

a. Is there a case narrative and is it understandable?

■Yes No N/A (Please explain.)

Comments:

b. Were there any discrepancies, errors or QC failures identified by the lab?

Yes ■ No N/A (Please explain.)

Comments:

c. Were all corrective actions documented?

Yes No ■N/A (Please explain.)

Comments:

No corrective actions were necessary.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

No discrepancies were noted during sample analysis. The results reported above the DL but below the RL are considered to be high biased because the Summa canister cleaning is only documented down to the RL.

5. Samples Results
   a. Was the correct analyses performed/reported as requested on COC?
      ■Yes No N/A (Please explain.)

   Comments:

   b. Were the samples analyzed within 30 days of collection or within the time required by the method?
      ■Yes No N/A (Please explain.)

   Comments:

   c. Are the reported PQLs less than the Target Screening Level or the minimum required detection level for the project?
      Yes ■ No N/A (Please explain.)

   Comments:

   Due to sample dilution, the reported detection limits for several non-detect VOC analytes did not meet the Target Levels in the soil gas samples from SGMW-2. Consequently, the absence of these VOC analytes at levels exceeding the target level at that location cannot be confirmed. Impact to data is minor since both of the impacted samples (primary and field duplicate) exceeded cleanup levels for other VOC compounds.

   RLs were reported with acceptable analytical sensitivity in samples SGMW-1 and SGMW-3.

   d. Was the data quality or usability affected?

   Comments:

   Several VOC analytes may not have been detected if present in samples from SGMW-2. Impact is minor since the contaminated samples exceeded target levels for several other VOC analytes.

6. QC Samples
   a. Method Blank
      i. Was one method blank reported per analysis and 20 samples?
      ■Yes No N/A (Please explain.)

   Comments:

      ii. Were all method blank results less than PQL?
      ■Yes No N/A (Please explain.)

   Comments:

      iii. If above PQL, what samples are affected?

   Comments:

   Not applicable.

iv. Do the affected sample(s) have data flags and, if so, are the data flags clearly defined?
Yes No ■N/A (Please explain.)

Comments:

There were no MB detections.

v. Was the data quality or usability affected? (Please explain.)

Comments:

No impact to data since there were no MB detections.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Was there one LCS/LCSD or one LCS and a sample/sample duplicate pair reported per analysis and 20 samples?
■Yes No N/A (Please explain.)

Comments:

ii. Accuracy – Were all percent recoveries (%R) reported and within method or laboratory limits? What were the project specified DQOs, if applicable?
■Yes No N/A (Please explain.)

Comments:

Laboratory limits were used for DQOs.

iii. Precision – Were all relative percent differences (RPD) reported and were they less than method or laboratory limits? What were the project-specified DQOs, if applicable.
Yes No ■N/A (Please explain.)

Comments:

RPDs were not calculated. Precision was not specified as a project DQO.

iv. If the %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Not applicable

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes No ■N/A (Please explain.)

Comments:

LCS accuracy was acceptable and no data flags were required.

vi. Is the data quality or usability affected? (Please explain.)

Comments:

No impact to data quality or usability since LCS accuracy was acceptable.

c. Surrogates

i. Are surrogate recoveries reported for field, QC and laboratory samples?
Yes No ■N/A (Please explain.)

Comments:

Surrogates are not a TO-15 method requirement and were not performed.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits? What were the project-specified DQOs, if applicable?
Yes No ■N/A (Please explain.)

Comments:

Surrogates are not a TO-15 method requirement and were not performed.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
Yes No ■N/A (Please explain.)

Comments:

Surrogates are not a TO-15 method requirement and were not performed.

iv. Was the data quality or usability affected? (Please explain.)

Comments:

Not applicable.

d. Field Duplicate

i. Was one field duplicate submitted per analysis and 10 type (soil gas, indoor air, etc.) samples?
■Yes No N/A (Please explain.)

Comments:

Sample SGMW-X was a field duplicate of SGMW-2.

ii. Were they or was it submitted blind to the lab?
■Yes No N/A (Please explain.)

Comments:

iii. Precision – Were all relative percent differences (RPD) less than the specified DQOs? (Recommended: 25 %)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes ■No N/A (Please explain.)

Comments:

RPDs for vinyl chloride (32%), benzene (26%), cis-1,2-dichloroethene (26%), 4-ethyltoluene (26%), and cyclohexane (27%) exceeded the recommended 25% criterion and the VOC analyte n-Heptane was equal to it.

iv. Was the data quality or usability affected? (Please explain.)

Comments:

Impact to data was minor as the exceedences were all marginally above 25% criterion, and the same analytes were detected in both samples.

e. Field Blank (If not used, explain why.)

Yes No ■N/A (Please explain.)

Comments:

Field blanks were not required for this project and were not collected.

i. Were all results less than the PQL?

Yes No ■N/A (Please explain.)

Comments:

Field blanks were not required for this project and were not collected.

ii. If above PQL, what samples are affected?

Comments:

Not applicable

iii. Was the data quality or usability affected? (Please explain.)

Comments:

Not applicable. There does not appear to be any impact to data quality or usability from potential contamination during shipping or storage.

7. Other Data Flags/Qualifiers
    a. Were other data flags/qualifiers defined and appropriate?
        Yes ■No N/A (Please explain.)

    Comments: