REPORT

2019 Groundwater Monitoring Report

White Pass & Yukon Route, Railroad Maintenance Yard, Skagway Alaska

ADEC File No.: 1526.38.005

Submitted to:

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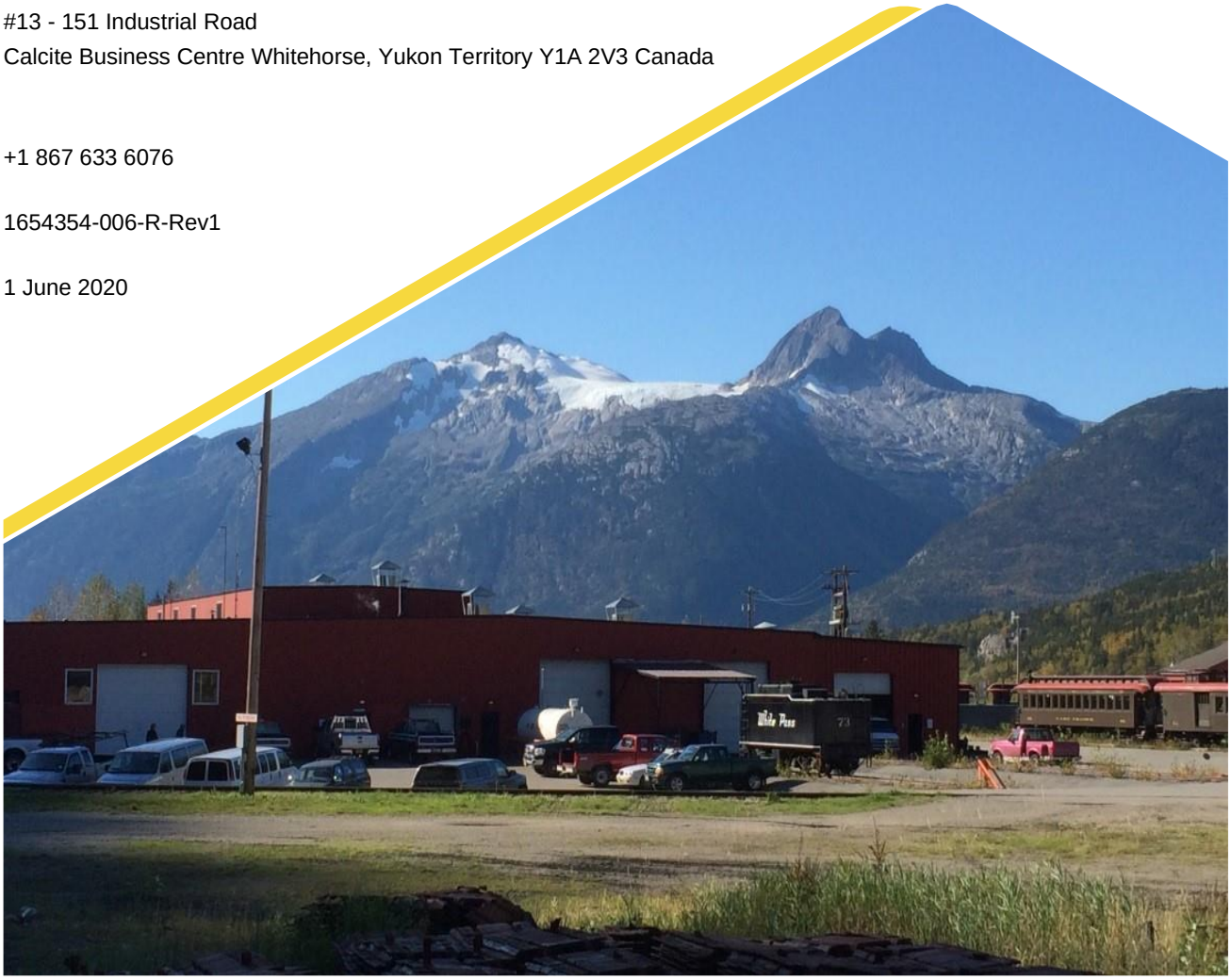

Distribution List

1 electronic copy - White Pass & Yukon Route

1 electronic copy - Alaska Department of Environmental Conservation (ADEC), Anchorage, AK

Executive Summary

This Environmental Monitoring report was prepared by Golder Associates Ltd., (Golder) on behalf of White Pass & Yukon Route (WP&YR) and describes the results of the groundwater monitoring program completed by Golder in May 2019 at the White Pass Maintenance Yard in Skagway, Alaska, henceforth referred to as the "Site". This work was conducted in response to the recommendations outlined in Golder's 9 August 2018 report entitled, "*2017 Groundwater Monitoring Report, White Pass & Yukon Route Railroad Maintenance Yard, Skagway, Alaska*" (Golder 2018a) and as per Golder's 2018 work plan entitled, "*White Pass & Yukon Route Rail Yard and Maintenance Yard, 2018 Environmental Monitoring Work Plan*" (Golder 2018b) that was approved by ADEC as per email communication received on 26 June 2018.

The 2019 groundwater monitoring program at the Site consisted of the collection of groundwater elevation data, analytical samples and field parameters at seven monitoring wells in May 2019.

In summary, six groundwater samples were collected during the 2019 sampling program. One monitoring well (MW00-35) contained insufficient water to collect a sample. One monitoring well location (MW97-3) located adjacent to the north side of the Shops building contained concentrations of Diesel Range Organics (DRO), Residual Range Organics (RRO) and Tetrachloroethene (PCE) greater than the DEC Cleanup Levels. In general, concentrations of COCs at this location have been stable or decreasing since the removal of LNAPL at this location. The other five groundwater monitoring wells sampled during the 2019 monitoring event contained concentrations of analyzed parameters less than the DEC Cleanup Levels. The presence of low levels of BTEX in the blank samples was not seen in the groundwater samples, and is thought to be residual contamination in the deionized water used in the blank samples as there were no BTEX parameters measured in the samples.

Based on the results of the 2019 groundwater program at the Site, Golder recommends that annual groundwater monitoring be continued in accordance with the approved 2018 Environmental Monitoring Work Plan.

Study Limitations

This report has been prepared for White Pass & Yukon Route Railroad and Alaska Department of Environmental Conservation and is intended to provide an indication of groundwater quality at the Site. This report may not be relied upon by any other person(s) or entity without the express written consent of Golder Associates Ltd. and the White Pass & Yukon Route Railroad. The inferences concerning the conditions of the Site contained in this report are based on information obtained during the environmental sampling program conducted by Golder personnel, and are based solely on conditions at the time of the sampling. Therefore, the potential remains for the presence of unknown, unidentified or unforeseen contamination in areas not inspected as part of this study.

Any uses that a third party makes of this report, or any reliance on decisions to be made based on it, are the responsibility of such third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The findings and conclusions documented in this report have been prepared for the specific application to this project, the services performed as described in this report were conducted in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

The content of this report is based on information collected during our environmental sampling, our present understanding of the Site, and our professional judgment in light of such information available at the time of this report. This report provides a professional opinion, and therefore no warranty is either expressed, implied or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

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APPENDICES

LIST OF ACRONYMS

ADEC	Alaska Department of Environmental Conservation
AS	Air Sparging Well
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
DF	Difference Factor
DNAPL	Dense Non-Aqueous Phase Liquids
DRO	Diesel Range Organics
FD/FDA	Field Duplicate/Field Duplicate Available
GRO	Gasoline Range Organics
HDPE	High Density Polyethylene
LNAPL	Light Non-Aqueous Phase Liquids
MDL	Method Detection Limit
MW	Monitoring Well
PAHs	Polycyclic Aromatic Hydrocarbons
PCP	Pentachlorophenol
PCE	Tetrachloroethene
PID	Photoionization Detector
QA/QC	Quality Assurance/ Quality Control
RRO	Residual Range Organics
RPD	Relative Percent Difference
TCE	Trichloroethene
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

This Environmental Monitoring report was prepared by Golder Associates Ltd., (Golder) on behalf of White Pass & Yukon Route (WP&YR) and describes the results of the groundwater monitoring program completed by Golder in May 2019 at the White Pass Maintenance Yard in Skagway, Alaska, henceforth referred to as the "Site". The location of the Site is shown on Figure 1 – Site Location Plan. This work was conducted in response to the recommendations outlined in Golder's 9 August 2018 report entitled, "*2017 Groundwater Monitoring Report, White Pass & Yukon Route Railroad Maintenance Yard, Skagway, Alaska*" (Golder 2018a) and as per Golder's 2018 work plan entitled, "White Pass & Yukon Route Rail Yard and Maintenance Yard, 2018 Environmental Monitoring Work Plan" (Golder 2018b) that was approved by ADEC as per email communication received on 26 June 2018.

2.0 SCOPE OF WORK

The 2019 groundwater monitoring program at the Site consisted of collecting groundwater elevation data, analytical samples and field parameters at seven on-site monitoring wells in May 2019.

3.0 SITE DESCRIPTION

3.1 Site Setting and Background

The Site is located north of 23rd Avenue in Skagway, Alaska (Figure 2). A detailed description of the Site setting and background was provided in the Site Characterization Work Plan (Golder 2013). No new buildings have been constructed on-site since 2013, nor has the use of existing buildings changed.

Since monitoring work began at the Site, several monitoring wells have been removed from the monitoring program following approval by the Alaska Department of Environmental Conservation (DEC). These monitoring wells have had concentrations of contaminants of concern (COCs) less than the DEC Cleanup Levels for several consecutive years or damage has occurred to the well rendering it unusable. The 2018 work plan removed many of the on-site and off-site monitoring wells from the biannual monitoring program with the exception of: MW97-7R shallow, MW97-5R, MW13-1D, MW00-33R, MW00-35, MW13-7 and MW97-3 (Golder 2017).

Based on the Site history outlined in the 2016 Monitoring Report (Golder 2016) and associated sources of groundwater contamination on-site, the COCs at the Site consist of petroleum hydrocarbons (diesel range organics [DRO], residual range organics [RRO], gasoline range organics [GRO]), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and lead (dissolved). In addition, Resource Conservation and Recovery Act (RCRA) metals, pentachlorophenol (PCP) and creosote are also considered contaminants of potential concern (COPC) in the vicinity of the former wood chip pile.

Historically, TCE has been the primary contaminant of concern in groundwater at the Site with TCE concentrations greater than the pre-2018 DEC Cleanup Levels measured at several monitoring well locations between 1998 and 2016. A smaller hydrocarbon plume originating from north of the main Shops building at MW97-3 toward the southwest (MW97-6) has also been observed.

In November of 2017, the DEC groundwater Cleanup Levels were updated and the TCE Cleanup Level increased from 0.005 mg/L to 0.028 mg/L. Historically, eleven of the on-site monitoring wells have exceeded the pre-2018 DEC Cleanup Levels for TCE during at least one sampling event: MW2HC, MW97-2, MW97-6M/-6D, MW98-1, MW00-34, MW13-1D, MW13-1S, MW13-2, MW13-3D and MW13-7. Since the implementation of the updated

DEC Cleanup Levels in November 2017 (revised 27 October 2018), all 22 monitoring wells included in the 2017 biannual monitoring program contained concentrations of TCE less than the DEC Cleanup Level for a period of 5 years or more; and therefore, the 2018 monitoring program was reduced to seven well locations.

Groundwater samples from two monitoring wells, MW00-33R and MW97-3, contained a concentration of benzo(a)pyrene greater than the DEC Cleanup Level during the May 2017 sampling event only. In 2017 the DEC Cleanup Level for this parameter changed from 0.0002 mg/L to a more stringent concentration of 0.000034 mg/L. This parameter has not been identified historically at the Site and has not been detected in groundwater at concentrations above the laboratory method detection limit (MDL) at MW00-33R or MW97-3 during any previous sampling events between November 2000 and October 2017.

As discussed in previous reports, it is suspected that the former presence of light non-aqueous phase liquid (LNAPL) in monitoring well MW97-3, may be influencing the concentrations of hydrocarbons in groundwater collected from this well. In 2018 an attempt was made to clean residual product from inside of the well casing. After conducting sampling at this location in June 2018, the inside of the PVC casing at MW97-3 was scrubbed by attaching a firm-bristled brush to the end of Waterra tubing and adding a small amount of phosphate-free Liquinox detergent in order to remove the oil residue. Following cleaning, the well was re-developed until the purge water no longer contained black hydrocarbon-like coloration (approximately 50 L) or evidence of the detergent.

3.2 Geology

Skagway is located in Southeast Alaska at the head of Taiya Inlet. Elongated lakes, U-shaped valley, and linear fjords resulting from extensive glaciation during the Pleistocene epoch characterize the area. The region was covered at one time by about 5,000 feet (ft) of ice. The Skagway area lies within a very rugged part of an extensive 1,000 mile-long linear belt of plutonic intrusive and metamorphic rocks consisting chiefly of quartz diorite and granodiorite of Mesozoic age. These plutonic rocks have been locally intruded by several small igneous dikes of Quaternary age. The terrain in the Skagway area is steep and rocky, restricting most of the man-made developments to the Skagway River floodplain and the landscape appears scoured. Vegetation of the slopes consists of healthy spruce-birch forest cover with a very thin organic mat of moss, leaves, and spruce needles. The Site is relatively flat and free of any significant vegetation. The ground surface is generally covered with sand and gravel. Similarly, subsurface soils consist of various sands and gravels. Permafrost is not present at the Site.

3.3 Hydrogeology

Groundwater elevations have been measured by Golder biannually at the Site since 1996. A review of historical groundwater elevation data suggest that groundwater levels encountered in the fall are typically higher than in the spring. The groundwater flow direction is inferred to be generally to the south-southwest parallel to the Skagway River.

During the December 2010 monitoring event, the horizontal hydraulic gradient in the shallow aquifer was estimated to be approximately 0.006 feet per feet (ft/ft) (Golder 2012). Assuming an effective porosity of 0.3, and an average hydraulic conductivity of 3.0 $x10^{-3}$ feet per second (ft/sec) (based on the average hydraulic conductivity measured in shallow wells MW-2HC and MW98-1 in 2007), the average linear groundwater seepage velocity is estimated to be approximately 5 feet per day (ft/day). The vertical hydraulic gradient, as measured at a monitoring well pair during the December 2010 monitoring event, is approximately 0.032 ft/ft. downward.

Groundwater levels were measured at 22 on-site and off-site monitoring wells in June 2018 in order to confirm the groundwater flow across the Site. Groundwater elevations calculated in 2018 were generally similar to previous groundwater elevations at the Site during summer monitoring. A review of historical groundwater elevation data suggest that water levels encountered in the fall are typically higher than in the spring. The shallow groundwater flow direction is generally to the south-southwest on the north side of the Site, trending to the south on the south side of the Site, as shown on Figure 4, with a horizontal hydraulic gradient in June 2018 of 0.007 feet per feet. Assuming an effective porosity of 0.3, and an average hydraulic conductivity of $3.0x10^{-3}$ feet per second (ft/sec) (based on the average hydraulic conductivity measured in monitoring wells MW-2HC and MW98-1), the average linear groundwater seepage velocity is estimated to be approximately 6.0 feet per day (ft/day).

Groundwater levels were measured at seven monitoring wells on 15 May 2019. The results of the groundwater level measurements are provided in Table 1. Measurements were within 0.2 ft of the water levels measured in May 2018, with the exception of MW13-7. In May 2017, the depth to water in this well was 16.43 ft below the top of casing (BTOC); in June 2018 the water was measured at 26.17 ft BTOC; and then in May 2019 water was again at 16.47 ft BTOC. The large fluctuation suggests a possible measurement error in June 2018.

4.0 REGULATORY

Golder understands that the community of Skagway has a Class A (community) water system. As stated in the Skagway Drinking Water Protection Plan (Gladden and Hann 2014), the system consists of three wells within downtown Skagway: Well #1 located on the corner of 15th Avenue and Main; Wells #2 and #3 located on the corner of 15th Avenue and Alaska Street. The depths of the three wells are between 70 and 80 ft below grade within a semi-confined aquifer consisting of gravel and fine to coarse sand. The static water levels in the wells are approximately 10 ft below ground surface.

In addition, the Alaska well database known as WELTS (Well Log Tracking System, administered by the Alaska Department of Natural Resources) was reviewed by Golder. A search for wells in Skagway, AK resulted in seven wells listed on the WELTS database, including the three community wells (Well #1, Well #2, and Well #3) described above, with the remaining four being of private ownership or registered to the City of Skagway approximately 300 m to 2.5 kilometers (km) from the Site and across the Skagway River.

Based on the location of the municipal drinking water wells located approximately 700 m in the inferred down-gradient direction from the Site, it is possible that groundwater from the Site would be within the zone of contribution or recharge area for the active public or private drinking water systems. The DEC groundwater Cleanup Levels provided in Table C of 18 AAC 75 Oil and Other Hazardous Substances Pollution Control, updated to 7 November 2017 (ADEC 2017) are considered applicable if groundwater at the Site is considered a current or future drinking water source. Based on the criteria outlined in Section 75.350 of 18 AAC and the evaluation of current and future groundwater use provided above, the DEC groundwater Cleanup Levels provided in Table C would apply to this Site.

Analytical parameters that were analysed in 2019 were screened to the revised (updated to 27 October 2018) DEC Cleanup Levels.

As outlined in the DEC regulation 18 AEC 75.333, Eliane Roy, a Qualified Environmental Sampler (QES) and Qualified Environmental Professional (QEP) conducted the field work and authored the report, while Tamra Reynolds, also a QEP reviewed the work. Ms. Roy's resume is provided in Appendix A.

5.0 METHODOLOGY

The sections below detail the scope of work and methods used for the investigation and monitoring program.

5.1 Groundwater Monitoring Program

During the 2019 monitoring program, a single groundwater monitoring event was conducted in early summer; the event took place on 15 May 2019.

In summary, groundwater levels and headspace measurements were obtained from seven monitoring wells across the Site (locations shown on Figure 3) that were outlined in the approved 2018 work plan:

- On-site shallow wells: MW97-3, MW97-5R, MW97-7R S, MW00-33R, MW00-35
- On-site mid depth wells: MW13-7
- On-site deep well: MW13-1D

In May 2019, MW00-35 had an insufficient volume of water and no sample was collected; this is consistent with previous monitoring events. Wells that were removed from the sampling program have had concentrations of COCs below DEC Cleanup Levels for at least five years or since installation. Groundwater monitoring of the seven wells was deemed sufficient to continue tracking the rate of natural attenuation of contaminated groundwater at the Site. The majority of wells are screened across the water table to capture concentrations of LNAPL contaminants. Mid depth and deep well locations were selected as they were screened at a confining layer in order to characterize potential DNAPL contamination at mid or deep depth intervals to capture the potential for deeper groundwater contamination due to downward hydraulic gradients.

Groundwater samples were collected using standard Golder operating procedures, which have been employed for the duration of the monitoring effort at the Site. These procedures are generally consistent with the DEC guidance documents. A peristaltic pump was used to purge and collect groundwater samples based on the results of comparison field testing between bladder and peristaltic pumps completed by Golder in 2013 (Golder 2014) and discussed in the *2018 Environmental Monitoring Work Plan* (Golder 2018b). One field duplicate groundwater sample, one trip blank and one field blank were also collected and analyzed for quality control purposes.

Monitoring wells were gauged using a water level probe for depth to water and depth to bottom in order to calculate the water volume and monitor the groundwater level during groundwater purging activities. A peristaltic pump set at a low speed was used to remove water from each well with ¼ inch diameter high density polyethylene (HDPE) dedicated tubing lowered to the approximate midpoint of each well screen. Up to three well volumes were removed with the pump until water quality parameters were considered stable. Groundwater quality parameters were considered stable when a minimum of three (minimum of four, if using temperature as an indicator) parameters listed below had three successive readings, collected three to five minutes apart, within:

- ± 3 percent for temperature (minimum of ± 0.2°C)
- ± 0.1 for pH
- ± 3 percent for conductivity

- ± 10 mv for redox potential
- ± 10 percent for dissolved oxygen (DO)

Samples were then collected in pre-cleaned containers supplied by TestAmerica of Anchorage, Alaska. As per the 2018 work plan, groundwater samples were analyzed for petroleum hydrocarbons as outlined in Table 1, below.

Table 1: Laboratory Analyses, May 2019

Well ID	PAHs	VOCs	DRO and RRO	GRO	BTEXS
MW97-3	✓	✓	✓	✓	✓
MW97-5R	✓	✓	✓	✓	✓
MW97-7R S	✓	✓	✓	✓	✓
MW00-33R	✓	✓			
MW00-35	✓	✓	✓	✓	✓
MW13-7	✓	✓			
MW13-1D	✓	✓			

(shaded): well had insufficient water, no sample collected.

The collected samples were stored in coolers with ice and shipped to TestAmerica at their Tacoma, Washington laboratory. Samples were shipped under standard Golder Chain-of-Custody procedures. Copies of the monitoring well sampling forms are provided in Appendix B.

5.2 Waste Disposal

During the May sampling program, purged groundwater was returned to the ground near the well locations with the exception of MW97-3, which was disposed of in the oil-water separator on-site. No free product was noted in the wells. Sampling related garbage such as nitrile gloves or broken tubing, was disposed of on-site in waste bins.

6.0 ANALYTICAL RESULTS

The analytical results of the 2019 groundwater sampling program are shown in Table 2A (Petroleum Hydrocarbons, VOCs and metals) and 2B (semi-volatile VOCs) alongside historical data. Table 3 presents only the 2019 results for petroleum hydrocarbons. The results were compared to DEC groundwater Cleanup Levels provided in Table C of 18 AAC 75 Oil and Other Hazardous Substances Pollution Control, updated to 27 October 2018. The laboratory report and corresponding Chain-of-Custody form is provided in Appendix C.

Groundwater from MW97-3 contained exceedances of the applicable DEC Cleanup Levels for DRO, RRO, PCE and pentachlorophenol (PCP). The concentrations of COCs in groundwater at monitoring well MW97-3 are summarized below and shown on Figure 5:

- The concentration of DRO of 21 mg/L exceeded the DEC Cleanup Level of 1.5 mg/L
- The concentration of RRO of 8 mg/L exceeded the DEC Cleanup Level of 1.1 mg/L.
- The concentration of PCP was below the laboratory MDL, however a dilution factor of five times was applied to the sample and its duplicate, which resulted in the detection limit (0.00094 mg/L) being greater than the Cleanup Level of 0.00041 mg/L.
- The concentration of tetrachloroethene (PCE) of 0.052 mg/L, was slightly greater than the DEC Cleanup Level of 0.041 mg/L.

The sample collected from monitoring well MW97-3 and its blind duplicate sample for analysis of semi-volatile organic compounds by method 8270D SIM required a 1:5 dilution prior to analysis, such that the laboratory reporting limits for those parameters had to be adjusted including the detection limit for pentachlorophenol (PCP) which was raised above the DEC Cleanup Level. Results with MDLs greater than the applicable DEC Cleanup Level are italicized in Table 2 and 3. No other samples required dilution, and all other sample MDLs met the DEC Cleanup Level. The groundwater samples from the other five monitoring wells contained concentrations of analyzed parameters less than the DEC Cleanup Levels.

7.0 QUALITY ASSURANCE / QUALITY CONTROL

Standard Golder and industry established field procedures were used throughout the field investigation to improve and assess the accuracy, precision and reproducibility of results. The samples were stored in chilled coolers prior to submission to the analytical laboratory and appropriately completed Chain-of-Custody forms accompanied the sample submissions.

The relative percent difference (RPD; the absolute difference between the two values, divided by the mean) of duplicate analyses was used to evaluate the sample result variability. As per ADEC sampling guidance document, an RPD value of less than 30% for water is considered an indication of acceptable sample variability, and therefore represented a good correlation between the sample and its duplicate. Where the concentration of a given parameter was less than five times the MDL, the results are less precise and a higher RPD value is generally considered acceptable.

7.1 QA/QC Results

As part of the May 2019 groundwater monitoring program, a duplicate groundwater sample was collected from monitoring well MW97-3 for quality assurance and quality control (QA/QC) purposes. The results of the duplicate sample pair analyses are shown in Table 4 along with the calculated RPDs. The QA/QC results for the groundwater samples were less than the RPD targets of 30%.

In addition to the duplicate sample analysis, one field blank and one trip blank were analysed as part of the May 2019 sampling event. All of the parameters analysed from the blank samples were below the laboratory MDLs, with the following exceptions:

- The field blank contained detectable concentrations of ethylbenzene, toluene and xylenes. The reported concentrations for ethylbenzene and xylenes were just above the laboratory MDLs but several orders of magnitude less than the DEC Cleanup Levels. The reported concentration for toluene was 10 times greater than the detection limit but several orders of magnitude less than the DEC Cleanup Level.
- The trip blank contained a concentration of toluene of 0.014mg/L, which is greater than the MDL of 0.00005mg/L but less than the DEC Cleanup Level.

Laboratory grade deionized water was obtained from TestAmerica for the field and trip blanks and shipped in a cooler along with the sample containers. The sample containers were shipped from Skagway to Tacoma, WA in two coolers; the 40mL vials preserved with hydrochloric acid for analysis of GRO, BTEX and VOCs were packaged in one of the coolers together with the field and trip blank vials. It is possible that the deionized water used for the field and trip blanks contained detectable concentrations of the parameters identified above. If this was the case it would not have impacted the sample results. TestAmerica was asked about the possibility of contamination of the deionized water and their response was that they had not seen this in the analysis of other blanks. In reviewing the order of analysis, it appears that the two samples from MW97-03 were run right before the two blank samples. Due to the relatively high concentrations of DRO in MW97-03, it is possible that there was carry over during analysis into the two blanks samples. There is also the potential that the blanks were contaminated during sample collection by airborne contaminants or during transport from contaminants in the cooler; however, the concentrations of BTEX in all groundwater samples were less than the MDLs, and thus the sample results appear unimpacted. The groundwater sample results were nonetheless flagged in Table 3; red font indicates that both the trip and field blank had detectable concentrations of ethylbenzene and xylenes, while orange font indicates that the field blank had detectable concentration of toluene. Reviewing the historical results, none of the six wells sampled at the Site have had any detection of BTEX in at least five years, thus off-gassing from any groundwater samples resulting in a low bias is unlikely.

In addition to the quality assurance procedures carried out during the groundwater sampling program, the analytical laboratory also instituted internal quality assurance procedures. These procedures included sample handling and record-keeping protocols, equipment maintenance and calibration, and the analysis of blanks, duplicates and/or standard reference materials. A review of the laboratory data determined that the laboratory generally met its own internal standards and targets.

Concerns identified through the laboratory data review have been detailed in the DEC Laboratory Data Review Checklists for May 2019 included in Appendix C. While there were quality assurance issues identified by the laboratory, the overall data quality is considered reliable for this investigation.

8.0 DISCUSSION

The series of figures produced for the 2019 report focuses on the on-site wells that are still being actively monitored for potential COCs.

With the exception of MW97-3, none of the wells sampled in 2019 exceeded DEC Cleanup Levels for the parameters analyzed (BTEXS, DRO, GRO, RRO, VOCs, PAHs). The historical change of DRO concentrations in groundwater at on-site wells is shown on Figure 6. A record of DRO concentrations for MW97-3 between 1997 and 2012 is not included on Figure 6 because this well historically contained free product and was not sampled between these years. The source of petroleum hydrocarbon contamination at MW97-3 is not specifically known. The monitoring well is located on the north side of the Shops building, between the boiler (located in the building), and the fuel storage tank for the boiler (located to the north of MW97-3). The contamination is thought to be from leaks or spills from the original tank, as the current tank is doubled walled and within secondary containment. A product recovery program was implemented in 2012 and 2013 at MW97-3 that consisted of the collection of free product from the well using an absorbent sock. Consequently, free product has not been detected at this location since the 2013 monitoring program however in 2017, 2018, and 2019 the water was observed to have a slight hydrocarbon sheen and a strong hydrocarbon odour. As discussed above, the inside of the well was cleaned following the 2018 sampling. As shown on Figure 6, the concentration of DRO at this well shows a strong seasonal variation with higher concentrations of DRO measured during the spring/summer sampling events. The concentration of DRO in the May 2019 sample is within the range of historical concentrations and it is unclear whether the cleaning of the well was effective.

As shown in Figure 7A, concentrations of RRO have decreased over time, and monitoring well MW97-3 is the only remaining location with a concentration of RRO greater than the DEC Cleanup Level. It should be noted that sampling results that were below the laboratory method detection limit are reported as 0 mg/L on Figure 7B while the laboratory method detection limits have improved over the duration of the sampling program. RRO has only recently been measured due to the improved detection limits.

As shown in Figure 8A and 8B, the concentration of PCE in groundwater samples has decreased over time. In 2019, the concentration of PCE at MW97-3 was slightly greater than the DEC Cleanup Level of 0.041 mg/L with a concentration of 0.052 mg/L (duplicate sample 0.046 mg PCE per L). The concentrations have remained constant over the last four years with concentrations ranging between 0.052 and 0.021 mg/L. As discussed in Golder's 2017 monitoring report (Golder 2018a), there is no apparent seasonal trend for PCE at MW97-3.

The concentration of PCP was less than the laboratory method detection limit, however a dilution factor of 5 times was applied to the sample from monitoring MW97-3 due to the presence of hydrocarbons, which resulted in the detection limit (0.00094 mg/L) being greater than the Cleanup Level (0.00041 mg/L). In 2018 the groundwater sample from this well had a concentration of PCP (0.00051 mg/L) greater than the DEC Cleanup Level. PCP was included in the VOC analytical package during the 2018 sampling program and will continue to be included in on-going sampling.

9.0 CONCLUSIONS AND RECOMMENDATIONS

In summary, six groundwater samples were collected during the 2019 sampling program. One monitoring well (MW00-35) contained insufficient water to collect a sample. One monitoring well location (MW97-3) located adjacent to the north side of the Shops building contained concentrations of Diesel Range Organics (DRO), Residual Range Organics (RRO) and Tetrachloroethene (PCE) greater than the DEC Cleanup Levels. In general, concentrations of COCs at this location have been stable or decreasing since the removal of LNAPL at this location. The other five groundwater monitoring wells sampled during the 2019 monitoring event contained concentrations of analyzed parameters less than the DEC Cleanup Levels. The presence of low levels of BTEX in the blank samples was not seen in the groundwater samples and is thought to be residual contamination in the deionized water used in the blank samples as there were no BTEX parameters measured in the samples.

Based on the results of the 2019 groundwater program at the Site, Golder recommends that annual groundwater monitoring be continued in accordance with the approved 2018 Environmental Monitoring Work Plan.

10.0 CLOSURE

We trust that this report provides you with the information you require at this time. Should you have any further questions or concerns, please do not hesitate to contact Tamra Reynolds at 867-633-6076.

Golder Associates Ltd.

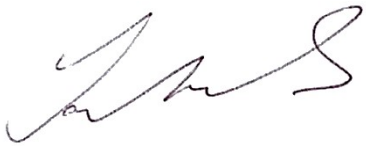

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TABLE 1
Spring Water Table Elevations
15 May 2019
Maintenance Yard Shops, Skagway, AK
White Pass Yukon Route

Monitoring Well Location	Date Measured	TOC[1] Elevation (ft)	Depth to Water[2] (ft)	Water Table Elevation[3] (ft)	Well Headspace[4] (ppm)
MW97-3	15-May-19	75.34	7.76	67.58	1.6
MW97-5R	15-May-19	74.90	8.41	66.49	0.0
MW97-7R S	15-May-19	73.78	10.89	62.90	0.4
MW00-33R	15-May-19	83.65	14.32	69.33	0.0
MW00-35	15-May-19	77.10	NA	NA	NM
MW13-1 D	15-May-19	79.49	11.38	68.10	0.0
MW13-7	15-May-19	82.70	16.47	66.23	0.0

Notes:

1. TOC = Top of Well Casing (measurements are approximate)
2. Depth to Water measured from TOC
3. Water Table Elevation = TOC minus Depth to Water
4. Well headspace recorded by Photoionization Detector (MiniRae PID)

NM = Not measured

NA = Not available

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC	MW-1AHC
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	0840-01	A9800524-14	A9900238-3	A9900715-1	A9900854-3	P005200-02	P0K0452-02	0862-01	0886-12	0903-01	8220-03	9029-04	041021-04	10842-12	11013-06	12176-01	PQJ0849-13	1303-06	1303-07	PSJ0126-02	206811-01	24103-01	24299-06
Date		23-Aug-97	29-Jul-98	10-Jun-99	24-Sep-99	02-Nov-99	06-May-00	14-Nov-00	28-Jun-01	12-Oct-01	19-Sep-02	15-Sep-03	29-May-04	21-Oct-04	21-May-05	28-Oct-05	16-Jul-06	13-Oct-07	25-Sep-08	25-Sep-08	01-Oct-09	08-Jun-11	09-Sep-13	17-Jun-14
QA/QC		FDA																	FDA	FD				
BTEXS																								
Benzene	**0.0046**	-	**0.046**	**0.005**	<0.001	<0.001	-	<0.0005	0.000531	<0.0003	0.000618	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.0002
Ethylbenzene	**0.015**	-	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Toluene	**1.1**	-	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Xylenes (total)	**0.19**	-	0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	-	0.84	0.63	<0.1	0.22	<0.25	0.999	0.817	0.51	0.321	0.28	<0.32	<0.435	<0.37	<0.417	0.518	<0.238	<0.245	<0.245	<0.25	<0.24	0.067	0.045
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	-	0.187	<0.05	<0.05	<0.05	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.01	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	-	<1	<1	<1	<0.5	-	-	-	-		<0.4	<0.522	<0.444	<0.5	<0.5	**1.14** *	<0.49	<0.49	<0.5	<0.481	<0.04	<0.48
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	0.0015	0.0021	0.0013	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005
1,1-Dichloroethene	**0.28**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005
cis-1,2-Dichloroethene	**0.036**	0.0067	0.011	0.0091	0.0016	0.0014	0.00313	0.0047	0.00791	0.00505	0.0086	0.00872	0.00317	0.00403	0.00441	0.00313	0.00552	<0.001	0.0014	0.0014	<0.001	<0.001	0.00064	<0.005
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000025	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.0096
Methylene Chloride	**0.11**	<0.0005	<0.005	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	*<0.048*
Tetrachloroethene (PCE)	**0.041**	0.005	<0.0005	<0.0005	0.001	0.002	0.002	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	0.00039
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	**0.0038**	0.0014	0.0039	0.0032	0.0034	0.0054	0.0020	0.0029	0.0025	0.0022	0.0022	0.0020	0.0021	0.0022	0.0018	0.0019	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	0.0004
Vinyl chloride (Chloroethane)	**0.00019**	**0.0007**	**0.0015**	**0.001**	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0038
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0038
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	*<0.0038*
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0038*
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045	*<0.0038*
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0038*
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0038*
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	*<0.0038*
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0038*
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0038
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	*<0.0038*
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0038
Naphthalene	**0.0017**	<0.0005	**0.006**	*<0.002*	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.0038
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.0096
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00032	<0.001
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time. The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1 HC	MW-1 HC	MW-1 HC	MW-1 HC	MW-1 HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	0840-03	A9800524-15	A9900238-2	A9900715-2	A9900854-2	P005200-01	P005488-01	P0K0452-01	0862-02	0862-03	0886-11	0903-02	8220-02	9029-03	041021-03	10842-11	11013-05	12176-12	PQJ0849-14	1303-05	PSJ0126-03	24103-02	24299-05	11317-12
Date		23-Aug-97	29-Jul-98	10-Jun-99 FDA	24-Sep-99 FDA	02-Nov-99	06-May-00	20-May-00 FDA	14-Nov-00	28-Jun-01 FDA	28-Jun-01 FD	12-Oct-01	19-Sep-02	15-Sep-03	28-May-04	21-Oct-04	21-May-05	28-Oct-05	16-Jul-06	13-Oct-07	25-Sep-08	01-Oct-09	09-Sep-13	16-Jun-14	28-Sep-14
QA/QC																									
BTEXS																									
Benzene	**0.0046**	-	<0.001	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0005	<0.0003	0.000729	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.00006	<0.0002	<0.0002
Ethylbenzene	**0.015**	-	<0.001	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Toluene	**1.1**	-	<0.001	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Xylenes (total)	**0.19**	-	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.001	<0.001	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	-	<0.1	0.15	<0.1	0.11	-	<0.25	0.321	<0.25	<0.25	<0.25	<0.25	<0.25	<0.32	<0.417	<0.37	<0.417	<0.25	<0.238	<0.245	<0.25	<0.03	0.041	<0.39
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	-	<0.05	<0.05	<0.05	<0.05	<0.08	-	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	-	<1	<1	<1	-	<0.5	-	-	-	-	-		<0.4	<0.5	<0.444	<0.5	<0.5	<0.476	<0.49	<0.5	<0.04	<0.48	<0.39
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005
1,1-Dichloroethene	**0.28**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005
cis-1,2-Dichloroethene	**0.036**	<0.0005	<0.0005	0.0034	0.0012	0.0008	0.00179	-	0.00273	0.00387	0.00374	0.0036	0.00432	0.00324	0.00121	0.00163	0.001	0.0015	0.00179	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000025	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0074	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.019	-
Methylene Chloride	**0.11**	<0.0005	<0.005	<0.001	<0.001	<0.001	<0.005	-	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	*<0.093*	-
Tetrachloroethene (PCE)	**0.041**	<0.0005	0.001	0.001	0.001	0.001	0.001	-	<0.001	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	<0.0005	0.0008	0.0054	0.0029	0.0022	0.0047	-	0.0033	0.0051	0.0050	0.0056	0.0057	0.0073	0.0026	0.0035	0.0020	0.0031	0.0035	<0.001	0.0012	0.0013	0.0004	0.0004	0.0003
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	-	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0074	<0.000097
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0074	<0.000097
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0074	<0.000097
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	*<0.0074*	<0.000097
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0074*	<0.000097
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045	*<0.0074*	<0.000097
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0074*	<0.000097
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0074*	<0.000097
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	*<0.0074*	<0.00019
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0074*	<0.000097
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0074	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0074	<0.000097
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0074	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0074	<0.000097
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0074	<0.000097
Naphthalene	**0.0017**	<0.0005	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.001	-	*<0.002*	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.0074	<0.000097
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.019	<0.000097
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00012	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	7508-04	7637-05	7681-11	7683-04	7688-06	10001-01	0839-02	A9800524-4	A9900271-10	A9900854-13	P005200-03	P0K0452-03	0862-05	0886-01	0903-12	8220-10	9029-09	041022-04	10841-06	11013-02	12176-07	PQJ0849-06	17219-01	17219-02
Date		06-May-15	08-Oct-15	16-Jun-16	20-Sep-16	16-May-17	16-Oct-17	06-Aug-97	30-Jul-98	15-Jun-99	02-Nov-99	08-May-00	14-Nov-00	28-Jun-01	11-Oct-01	20-Sep-02	16-Sep-03	01-Jun-04	22-Oct-04	21-May-05	27-Oct-05	16-Jul-06	12-Oct-07	27-Sep-08 FDA	27-Sep-08 FD
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001
Ethylbenzene	**0.015**	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001
Toluene	**1.1**	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001
Xylenes (total)	**0.19**	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.044	0.032	<0.77	<0.79	0.089	<0.65	-	**3.2**	**2.34**	**11.8**	**2.46**	1.27	0.832	0.836	0.299	0.684	<0.32	<0.435	<0.357	<0.5	0.86	<0.238	0.878	<0.243
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	-	0.056	<0.05	<0.05	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.062	0.046	<0.48	<0.49	0.06	<0.41	-	-	<1	**1.8**	<0.5	-	-	-	-		<0.4	<0.522	<0.429	<0.6	<0.5	<0.476	<0.485	<0.485
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	0.0234	0.016	0.0018	0.0007	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	<0.00021	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	0.0271	**0.038**	0.027	0.0068	0.0283	0.0247	**0.0375**	**0.0379**	0.0349	0.0278	0.00751	0.0135	0.0105	0.0145	0.00941	0.00177	0.0015	0.0016
trans-1,2-Dichloroethene	**0.36**	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	<0.0000057	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	<0.0000057	-	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.0005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.00075	<0.00075	0.00067	<0.0005	<0.0005	0.00081	0.032	0.007	0.003	0.002	0.002	0.001	<0.001	<0.00027	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	**8**	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	0.0672	0.021	0.0011	<0.0005	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	<0.00051	<0.00051	0.00095	0.0012	0.00068	0.0008	**0.0585**	0.0270	0.0230	0.0016	0.0244	0.0095	0.0130	0.0117	0.0164	0.0159	0.0082	0.0133	0.0151	0.0136	0.0067	0.0016	0.0027	0.0025
Vinyl chloride (Chloroethane)	**0.00019**	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	**0.26**	<0.0000057	<0.000003	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	**0.043**	<0.0000057	<0.000002	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	<0.0000057	<0.000006	<0.000021	<0.00002	*<0.000044*	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	<0.0000057	<0.000003	<0.000021	<0.00002	*<0.000044*	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	**0.0079**	-	-	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	**0.29**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	**0.26**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	**0.0017**	<0.0000069	<0.000003	<0.000021	<0.00002	<0.000044	<0.00004	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	**0.12**	<0.0000057	<0.000006	<0.000021	<0.00002	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.00017	<0.00017	<0.00002	<0.00002	<0.00002	0.000135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
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TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-2HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC	MW-3HC
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	PSJ0126-09	21707-02	206711-02	250-8077-3	24101-09	24298-03	24302-05	7507-07	0839-01	A9800524-13	A9900238-6	A9900854-6	P005200-04	P0K0452-04	9030-03	041020-05	10842-09	12180-01	PQJ0849-23	24103-07	24103-08	24299-03	11317-04	7507-03
Date		02-Oct-09	10-Dec-10	07-Jun-11	31-Oct-12	07-Sep-13	15-Jun-14	26-Sep-14	05-May-15	06-Aug-97	30-Jul-98	10-Jun-99	02-Nov-99	08-May-00	14-Nov-00	02-Jun-04	20-Oct-04	20-May-05	17-Jul-06	14-Oct-07	09-Sep-13 FDA**	09-Sep-13 FD**	16-Jun-14	27-Sep-14	05-May-15
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.0002	<0.0002	<0.00042	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.00006	<0.0002	<0.0002	<0.00042
Ethylbenzene	**0.015**	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051
Toluene	**1.1**	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044
Xylenes (total)	**0.19**	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.0005	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.0005
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00062	<0.0005	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	0.61	0.435	<0.236	<0.4	<0.03	<0.095	0.17	0.11	-	0.37	<0.1	<0.1	<0.25	<0.25	<0.32	<0.417	<0.37	<0.263	<0.238	<0.03	0.051	0.041	<0.39	0.072
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	<0.08	0.01	<0.08	<0.08	<0.015	-	0.087	<0.05	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.01	<0.08	<0.08	<0.015
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.476	<0.481	<0.472	<0.4	<0.04	<0.47	<0.39	<0.063	-	-	<1	<1	<0.5	-	<0.4	<0.5	<0.444	<0.526	<0.476	0.053	0.3	<0.48	<0.39	<0.062
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.0005	0.002	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.005	<0.0005	<0.00044
1,1-Dichloroethene	**0.28**	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00033	<0.0005	0.013	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.005	<0.0005	<0.00033
cis-1,2-Dichloroethene	**0.036**	<0.001	<0.001	-	<0.001	0.00026	0.00065	<0.0005	0.0011	0.0020	0.006	0.0088	0.0067	0.00668	0.00351	0.0011	<0.001	0.0011	<0.001	<0.001	<0.0005	<0.0005	<0.005	<0.0005	<0.00021
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.005	<0.0005	<0.00024
1,4-Dioxane	**0.0046**	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	<0.00022	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000025	<0.0000025	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000010
2-Methylnapthalene	**0.036**	-	-	-	-	<0.0003	<0.000096	-	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.0038	-	<0.000013
3 & 4 Methylphenol		-	-	-	-	<0.00025	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.00025	<0.0095	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.0005	<0.0013	<0.0005	*<0.01*	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0013
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	*<0.02*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.047*	-	-
Tetrachloroethene (PCE)	**0.041**	<0.001	<0.001	-	<0.001	0.00047	0.00064	0.00087	0.00087	**0.046**	**0.120**	0.014	0.015	0.009	0.013	0.003	0.003	0.003	<0.001	<0.001	0.001	0.001	0.001	0.001	<0.0075
1,1,1-Trichloroethane	**8**	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00058	<0.0005	0.11	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058
Trichloroethene (TCE)	**0.028**	0.0025	0.0015	-	0.0016	0.0019	0.0030	0.0009	0.0018	0.0124	**0.0440**	**0.0300**	0.0150	0.0183	0.0073	0.0018	<0.001	0.0015	<0.001	<0.001	0.0002	0.0002	<0.0005	0.0002	<0.00051
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	-	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.0005*	*<0.001*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	<0.0003	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.0038	<0.000096	<0.0000058
Acenaphthylene	**0.26**	-	-	-	-	<0.0005	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.0038	<0.000096	<0.0000058
Anthracene	**0.043**	-	-	-	-	<0.0004	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	<0.0038	<0.000096	<0.0000058
Benzo[a]anthracene	**0.0003**	-	-	-	-	*<0.00035*	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	*<0.00035*	*<0.0038*	<0.000096	<0.0000058
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	<0.0005	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	*<0.0038*	<0.000096	0.000012
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	<0.00045	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.00045	<0.00045	*<0.0038*	<0.000096	<0.0000058
Benzo[a]pyrene	**0.00025**	-	-	-	-	*<0.0003*	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0003*	*<0.0038*	<0.000096	<0.0000058
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	*<0.0005*	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0005*	*<0.0038*	<0.000096	0.0000088
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	<0.00005	<0.00019	<0.00019	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00005	*<0.0038*	<0.00019	<0.0000058
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	*<0.0006*	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0006*	*<0.0038*	<0.000096	0.0000063
Carbazole		-	-	-	-	<0.0004	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	<0.0038	-	-
Chrysene	**0.002**	-	-	-	-	<0.0005	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.0038	<0.000096	0.000019
Dibenzofuran	**0.0079**	-	-	-	-	<0.0003	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.0038	-	-
Fluorene	**0.29**	-	-	-	-	<0.0003	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.0038	<0.000096	<0.0000058
Fluoranthene	**0.26**	-	-	-	-	<0.0002	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.0038	<0.000096	0.000036
Naphthalene	**0.0017**	*<0.002*	*<0.002*	-	*<0.005*	*<0.002*	*<0.002*	*<0.002*	<0.0000073	<0.0005	*<0.004*	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	0.000011
Phenanthrene	**0.17**	-	-	-	-	<0.00025	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.00025	<0.0038	<0.000096	0.000022
Pyrene	**0.12**	-	-	-	-	<0.00035	<0.000096	<0.000096	<0.0000061	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.00035	<0.0095	<0.000096	0.00002
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00015	0.00019	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	<0.001	<0.001	<0.00017	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.00017
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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All concentrations are in milligrams per litre (mg/L); SCN = sample control number
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Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
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White Pass and Yukon Route

Location		MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-4HC	MW-5HC
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	0839-04	A9800524-16	A9900238-1	A9900854-1	P005200-05	0862-11	0885-01	0903-03	8220-01	9029-01	041021-01	10842-10	11013-04	12180-02	PQJ0849-24	1303-04	PSJ0126-01	21707-06	206711-10	24103-03	0839-03
Date		06-Aug-97	29-Jul-98	10-Jun-99	02-Nov-99	06-May-00 FDA	29-Jun-01	05-Oct-01	19-Sep-02	15-Sep-03	28-May-04	21-Oct-04	20-May-05	28-Oct-05	17-Jul-06	15-Oct-07	25-Sep-08	01-Oct-09	10-Dec-10	07-Jun-11	09-Sep-13	06-Aug-97
QA/QC																						
BTEXS																						
Benzene	**0.0046**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	-
Ethylbenzene	**0.015**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	-
Toluene	**1.1**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	-
Xylenes (total)	**0.19**	-	<0.001	<0.001	<0.001	-	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	-
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
Petroleum Hydrocarbons																						
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	-	<0.1	<0.1	<0.1	<0.25	<0.25	<0.125	<0.25	<0.25	<0.32	<0.435	<0.357	<0.417	<0.248	<0.238	<0.245	<0.248	<0.238	-	<0.03	-
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	-	<0.05	<0.05	<0.05	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	-
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	-	<1	<1	<0.5	-	-	-	-	<0.4	<0.522	<0.429	<0.5	<0.495	**1.33 ***	<0.49	<0.495	<0.476	-	<0.04	-
Volatile Organic Compounds (VOCs)																						
1,1-Dichloroethane	**0.028**	0.0006	0.0006	<0.0005	<0.0005	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
1,1-Dichloroethene	**0.28**	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.0011	0.001	<0.0005	0.0006	0.00112	0.00228	0.00152	0.00118	0.00168	<0.001	<0.001	0.00131	<0.001	0.00113	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000025	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-
Methylene Chloride	**0.11**	<0.0005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	-	<0.005	<0.0005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	-
Tetrachloroethene (PCE)	**0.041**	0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
1,1,1-Trichloroethane	**8**	0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0124	0.0037	<0.0005	0.0014	0.0024	0.0042	0.0023	0.0023	0.0034	0.0021	0.0017	0.0026	0.0019	0.0027	<0.001	<0.001	<0.001	<0.001	-	0.00057	<0.0005
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																						
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-
Naphthalene	**0.0017**	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.001	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.002*	<0.0005
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035	-
Metals																						
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[iii]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00017	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time. The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1	MW97-1
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	A709046-01	A9800524-7	A9900271-7	A9900854-10	P005200-06	P0K0452-05	0862-04	0886-09	0886-10	0905-02	0903-03	8221-05	8221-06	9030-06	9030-07	041020-06	10844-04	11012-05	11012-06	12175-07	PQJ0849-11	PQJ0849-12	1303-12	PSJ0126-08
Date		06-Sep-97	30-Jul-98	15-Jun-99	02-Nov-99	08-May-00	14-Nov-00	28-Jun-01	11-Oct-01 FDA	11-Oct-01 FD	20-Sep-02 FDA	20-Sep-02 FD	16-Sep-03 FDA	16-Sep-03 FD	03-Jun-04 FDA	03-Jun-04 FD	20-Oct-04	24-May-05	26-Oct-05 FDA	26-Oct-05 FD	11-Jul-06	13-Oct-07 FDA	13-Oct-07 FD	26-Sep-08	02-Oct-09
BTEXS																									
Benzene	0.0046	-	**0.13**	**0.045**	<0.001	-	**0.0148**	**0.00465**	**0.00568**	**0.00468**	0.00156	0.00153	0.00239	0.00252	0.00261	0.0026	0.00115	0.00124	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001
Ethylbenzene	0.015	-	**0.27**	**0.2**	<0.001	-	0.0108	**0.0476**	**0.0603**	**0.0568**	**0.0295**	**0.0274**	**0.0193**	**0.0201**	0.0117	0.0125	0.00584	0.00506	<0.001	<0.001	0.00471	0.00336	0.00345	<0.001	<0.001
Toluene	1.1	-	0.12	0.046	<0.001	-	0.0981	0.0037	0.00584	0.00479	0.000828	0.000718	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001
Xylenes (total)	0.19	-	0.75	0.58	<0.001	-	0.141	0.0257	0.0514	0.0384	0.00277	0.00234	0.00163	0.00193	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.00332	<0.001	<0.001	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	1.2	<0.03	<0.0025	0.0051	<0.0005	<0.001	<0.005	<0.001	<0.000154	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	1.5	**8.4**	1.3	**5.04**	**7.1**	**4.1**	**2.82**	**2.92**	**2.37**	**2.64**	**1.71**	**1.67**	1.07	1.22	**2.98**	**2.96**	1.48	**2.97**	**2.88**	**4.0**	**1.61**	1.14	1.23	<0.245	**3.53**
Gasoline Range Organics (GRO C_6-C_{10})	2.2	-	**3.4**	1.8	1.45	0.664	1.36	0.464	1.47	1.19	0.322	0.295	0.315	0.34	<0.08	<0.08	0.0858	0.0836	<0.08	<0.08	0.0827	<0.08	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	1.1	-	-	<1	1.0	<0.5	-	-			-	-			**3.57**	<0.4	<0.522	<0.444	<0.522	0.58	<0.476	<0.472	<0.476	<0.49	<0.495
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	0.028	<0.05	0.0082	<0.005	0.0015	<0.001	<0.005	<0.001	<0.000214	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.28	<0.05	<0.0025	<0.005	<0.0005	<0.001	<0.005	<0.001	<0.000151	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	0.036	<0.03	0.0056	0.016	0.0043	0.00803	<0.005	0.00762	0.00517	0.00528	0.00652	0.00651	0.00593	0.00703	0.00394	0.00425	0.00559	0.00463	0.00307	0.00312	0.00379	0.00164	0.00158	0.0018	0.00145
trans-1,2-Dichloroethene	0.36	<0.03	<0.0025	<0.0005	<0.0005	<0.001	<0.005	<0.001	<0.000194	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	0.0046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	0.000075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	0.036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	0.11	0.022	<0.005	<0.01	<0.001	<0.005	<0.025	<0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	0.00041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.041	<0.03	<0.0025	<0.005	0.001	<0.001	<0.005	<0.001	<0.00027	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	8	<0.05	<0.0025	<0.005	<0.0005	<0.001	<0.005	<0.001	<0.0001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	0.028	<0.03	<0.0025	<0.005	0.0019	0.0034	<0.005	0.0046	0.0016	0.0017	0.0021	0.0020	0.0012	0.0012	0.0019	0.0019	0.0013	0.0030	0.0022	0.0023	0.0013	<0.001	<0.001	<0.001	0.0012
Vinyl chloride (Chloroethane)	0.00019	*<0.02*	**0.0037**	**0.015**	**0.0018**	**0.00924**	*<0.005*	**0.00411**	**0.00226**	**0.00225**	**0.00426**	**0.00423**	**0.0043**	**0.00451**	**0.00143**	**0.00138**	**0.00149**	**0.0021**	*<0.001*	*<0.001*	**0.00132**	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	0.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	0.043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	0.0025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	0.0008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	0.00025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	0.00026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.00025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	0.00019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	0.0079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	0.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	0.0017	**0.051**	**0.03**	**0.038**	**0.022**	**0.0321**	**0.0221**	**0.00603**	**0.0108**	**0.00963**	**0.00449**	**0.00463**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																									
Arsenic	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.0092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	22^{III}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	0.094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-1R	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	24300-10	6347-06	6347-07	7508-01	7637-01	7680-11	7684-02	7688-04	10001-02	A709046-02	A9800524-11	A9900271-9	A9900854-17	P005200-07	P005488-03	P0K0452-06	0862-07	0885-08	0903-09	8220-09	9030-04	041022-05	041022-06	10841-10
Date		18-Jun-14	25-Sep-14	25-Sep-14	05-May-15	07-Oct-15	16-Jun-16	20-Sep-16	16-May-17	16-Oct-17	06-Sep-97	30-Jul-98	15-Jun-99	02-Nov-99	05-May-00	20-May-00	14-Nov-00	29-Jun-01	08-Oct-01	19-Sep-02	16-Sep-03	02-Jun-04	22-Oct-04	22-Oct-04	23-May-05
QA/QC			FDA	FD								FDA		FD	FDA								FDA	FD	
BTEXS																									
Benzene	**0.0046**	0.00015	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Ethylbenzene	**0.015**	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Toluene	**1.1**	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.001	-	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Xylenes (total)	**0.19**	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	-	<0.001	<0.001	<0.001	-	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	0.096	0.084	0.15	0.62	0.42	<0.81	<0.79	0.28	<0.65	**6.8**	0.91	**1.87**	**6.74**	-	**3.02**	0.327	0.474	0.368	0.441	<0.25	0.508	<0.417	<0.4	<0.4
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	<0.015	0.018	<0.1	<0.1	<0.1	<0.1	-	0.051	0.06	0.071	0.238	-	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	0.077	0.16	<0.38	<0.061	0.14	<0.51	<0.49	0.12	<0.41	-	-	**7.5**	**24.2**	-	**12.3**	-	-		-		0.956	<0.5	<0.48	<0.48
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	0.004	0.0009	<0.0005	<0.001	-	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.005	<0.0005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	0.0021	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	0.00021	0.00018	0.00016	0.00072	0.00067	0.00051	<0.0005	<0.0005	0.00051	0.01	0.021	0.026	0.0073	0.0183	-	0.0152	0.0244	0.0197	0.0154	0.0157	0.00635	0.00902	0.00954	0.0121
trans-1,2-Dichloroethene	**0.36**	<0.005	<0.0005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	0.000042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	<0.0038	-	-	<0.0000058	-	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		<0.0096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.01	<0.005	<0.001	<0.001	<0.005	-	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	*<0.048*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.0005	0.001	0.001	<0.00075	<0.00075	<0.0005	0.00056	<0.0005	<0.0005	0.014	0.017	0.006	0.011	0.005	-	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	0.021	0.025	0.0009	0.0006	<0.001	-	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	0.0013	0.0009	0.0009	0.0010	0.00096	0.0016	0.0012	0.0012	0.0013	0.0160	**0.0470**	**0.0600**	0.0048	**0.0374**	-	0.0185	**0.0349**	0.0255	**0.0372**	**0.0303**	0.0104	0.0163	0.0173	0.0209
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	-	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	<0.0038	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	**0.26**	<0.0038	<0.000098	<0.000097	<0.0000058	<0.0000031	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	**0.043**	<0.0038	<0.000098	<0.000097	0.000016	<0.0000021	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	*<0.0038*	<0.0002	<0.00019	<0.0000058	<0.0000031	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	*<0.0038*	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		<0.0038	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	<0.0038	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	**0.0079**	<0.0038	-	-	-	-	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	**0.29**	<0.0038	<0.000098	<0.000097	0.000017	0.000052	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	**0.26**	<0.0038	<0.000098	<0.000097	0.0000069	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	0.000024	<0.0000031	<0.000021	<0.000022	<0.000044	0.00004	*<0.005*	*<0.002*	*<0.002*	*<0.002*	<0.001	-	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	<0.0038	<0.000098	<0.000097	0.0000087	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	**0.12**	<0.0096	<0.000098	<0.000097	<0.0000058	<0.0000062	<0.000021	<0.000022	<0.000044	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.001	<0.001	<0.001	<0.00017	<0.00017	0.000037	0.000026	0.000129	0.000026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time. The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-2	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3
SCN or Lab ID	**ADEC Groundwater Cleanup Level (2018)[1]**	11012-09	11012-10	12176-11	PQJ0849-04	17219-04	PSJ0126-13	21707-03	206711-05	250-8077-8	24102-02	24298-02	24302-09	7506-12	7633-01	7682-01	7684-05	7796-08	10001-07	A709046-03	24103-12	24299-02	11317-05	11317-06	7507-01
Date		27-Oct-05	27-Oct-05	16-Jul-06	12-Oct-07	27-Sep-08	02-Oct-09	10-Dec-10	07-Jun-11	01-Nov-12	08-Sep-13	13-Jun-14	26-Sep-14	04-May-15	06-Oct-15	16-Jun-16	20-Sep-16	16-May-17	17-Oct-17	06-Sep-97	09-Sep-13	16-Jun-14	27-Sep-14	27-Sep-14	05-May-15
QA/QC		FDA	FD																			FDA	FD	FDA
BTEXS																									
Benzene	**0.0046**	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.00006	<0.00006	<0.001	<0.001	<0.00042
Ethylbenzene	**0.015**	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0001	<0.0025	<0.0025	<0.00051
Toluene	**1.1**	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.00011	<0.0025	<0.0025	<0.00044
Xylenes (total)	**0.19**	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	-	<0.001	<0.00033	<0.005	<0.005	<0.0005
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005	<0.0025	<0.0025	<0.00062
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.5	<0.5	<0.253	<0.238	<0.243	<0.25	<0.238	<0.24	<0.4	0.19	<0.094	<0.4	0.15	0.10	<0.77	<0.79	0.082	<0.68	**3.1**	**14**	**64**	**31**	**32**	**40**
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.022	<0.015	<0.1	<0.1	<0.1	<0.1	-	0.13	<0.13	<0.4	<0.4	0.082
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.6	<0.6	<0.505	<0.476	<0.485	<0.5	<0.476	<0.481	<0.4	1.0	<0.47	<0.4	<0.06	0.14	<0.48	<0.49	0.19	<0.42	-	0.43	**3.4**	**1.9**	**1.9**	**8.4**
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	0.0003	<0.005	0.00073	0.00072	<0.00044
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.005	<0.0025	<0.0025	<0.00033
cis-1,2-Dichloroethene	**0.036**	0.0166	0.0163	0.00279	0.0014	<0.001	<0.001	<0.001	-	<0.001	0.00051	0.00094	0.00021	0.0019	0.00066	0.0013	0.00072	0.0015	<0.0005	<0.003	0.00084	<0.005	<0.0025	<0.0025	<0.00021
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.005	<0.0025	<0.0025	<0.00024
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	<0.00088	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	<0.00001	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000058	-	-	-	-	-	-	-	-	-	-	0.0023
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	<0.0003	<0.000099	-	<0.0000058	-	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0003	<0.038	-	-	<0.00011
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	<0.00025	<0.000099	-	-	-	-	-	-	-	-	<0.00025	<0.096	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.0005	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	0.012	<0.0005	<0.005	<0.025	<0.025	<0.0013
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	*<0.02*	<0.000099	-	-	-	-	-	-	-	-	*<0.02*	*<0.48*	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.003	0.003	0.002	0.001	<0.001	0.001	0.002	-	<0.001	0.001	0.001	0.001	0.00094	0.00075	0.0012	0.0008	0.00072	0.00098	**0.083**	**0.043**	0.009	**0.043**	**0.041**	0.039
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	0.063	<0.0005	<0.0005	<0.0025	<0.0025	0.00063
Trichloroethene (TCE)	**0.028**	0.0217	0.0217	0.0086	0.0033	0.0034	0.0023	0.0015	-	0.0019	0.0025	0.0038	0.0011	0.0026	0.0028	0.0027	0.0032	0.0034	0.0015	0.0190	0.0006	0.0004	0.00067	<0.0025	<0.00051
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.002*	*<0.0005*	*<0.0005*	*<0.0025*	*<0.0025*	*<0.00022*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	<0.0003	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0003	<0.038	<0.00072	<0.00072	<0.00011
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	<0.0005	<0.000099	<0.000095	<0.0000058	<0.0000032	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0005	<0.038	<0.00048	<0.00048	<0.00011
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	<0.0004	<0.000099	<0.000095	<0.0000058	<0.0000021	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0004	<0.038	<0.00048	<0.00048	<0.00011
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	*<0.00035*	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	*<0.00035*	*<0.038*	*<0.00048*	*<0.00096*	<0.00011
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	<0.0005	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0005	*<0.038*	<0.00048	<0.00048	<0.00011
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	<0.00045	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.00045	*<0.038*	<0.00048	<0.00048	<0.00011
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	*<0.0003*	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	*<0.0003*	*<0.038*	*<0.00048*	*<0.00048*	*<0.00011*
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	*<0.0005*	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	*<0.0005*	*<0.038*	*<0.00048*	*<0.00048*	<0.00011
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	<0.00005	<0.0002	<0.00019	<0.0000058	<0.0000032	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.00005	*<0.038*	*<0.00095*	*<0.00096*	<0.00011
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	*<0.0006*	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	*<0.0006*	*<0.038*	*<0.00048*	*<0.00048*	<0.00011
Carbazole		-	-	-	-	-	-	-	-	-	<0.0004	<0.000099	-	-	-	-	-	-	-	-	<0.0004	<0.038	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	<0.0005	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0005	<0.038	<0.00048	<0.00096	<0.00011
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	<0.0003	<0.000099	-	-	-	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0003	<0.038	-	-	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	<0.0003	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0003	<0.038	<0.00048	<0.00048	<0.00011
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	<0.0002	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.0002	<0.038	<0.00048	<0.00048	<0.00011
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	<0.0005	*<0.002*	*<0.002*	<0.000007	<0.0000032	<0.000022	<0.00002	<0.00004	<0.000034	*<0.005*	0.0002	*<0.002*	*<0.01*	*<0.01*	0.00053
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	<0.00025	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.00025	<0.038	<0.00048	<0.00048	0.0021
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	<0.00035	<0.000099	<0.000095	<0.0000058	<0.0000064	<0.000022	<0.00002	<0.00004	<0.000034	-	<0.00035	<0.096	<0.00048	<0.00096	<0.00011
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-	-	0.00035	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.00017	<0.00017	0.000149	<0.00002	<0.00002	<0.00002	-	-	0.00078	0.00018	0.00017	0.00036
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-4	MW97-4	MW97-5	MW97-5	MW97-5	MW97-5	MW97-5	MW97-5R	MW97-5R	MW97-5R	MW97-5R
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	7507-02	7633-08	7681-03	7681-04	7685-03	7685-04	7796-12	7689-01	10001-11	580-78478-7	580-86209-6	580-86209-7	A709046-04	A9800524-9	A709046-05	A9800524-8	A9900271-6	A9900854-15	P005200-08	24300-05	24300-06	11317-07	7507-04
Date		05-May-15	06-Oct-15	15-Jun-16	15-Jun-16	21-Sep-16	21-Sep-16	17-May-17	17-May-17	17-Oct-17	27-Jun-18	15-May-19	15-May-19	06-Sep-97	30-Jul-98	06-Sep-97	30-Jul-98	15-Jun-99	02-Nov-99	05-May-00	18-Jun-14	18-Jun-14	27-Sep-14	05-May-15
QA/QC		FD		FDA	FD	FDA	FD	FDA	FD			FDA	FD			FDA					FDA	FD		
BTEXS																								
Benzene	**0.0046**	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030	<0.000030	-	<0.001	-	**0.22**	**0.36**	<0.001	-	0.00078	0.00083	<0.0002	<0.00042
Ethylbenzene	**0.015**	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000050	<0.000050	-	<0.001	-	**0.29**	**0.44**	<0.001	-	<0.0005	<0.0005	<0.0005	<0.00051
Toluene	**1.1**	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000030	<0.000030	-	<0.001	-	0.23	0.3	<0.001	-	<0.0005	<0.0005	<0.0005	<0.00044
Xylenes (total)	**0.19**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.00015	<0.00015	<0.00015	-	<0.001	-	1.4	2.4	<0.001	-	<0.001	<0.001	<0.001	<0.0005
Xylenes (m,p)		-	-	-	-	-	-	-	-	<0.0005	-	<0.00075	<0.00075	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	<0.0005	-	<0.00039	<0.00039	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019	<0.00019	<0.003	<0.0005	**0.27**	<0.01	<0.05	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.00062
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	**37**	**30**	**42**	**41**	**23** [2]	**25** [2]	**52**	**58**	**13**	**29**	**21**	**21**	**1.8**	0.74	**13.0**	**8.2**	**1.69**	**6**	**1.56**	0.62	0.7	<0.41	0.09
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	0.085	0.063	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	-	<0.05	-	**6.5**	**7.1**	0.142	**3.43**	<0.08	<0.08	<0.08	<0.015
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	**7.6**	**8.3**	**6.0**	**7.0**	**4.9** [2]	**5.7** [2]	**3.8**	**4.9**	**1.9**	**10**	**8**	**8.8**	-	-	-	-	<1	**54**	<0.5	<0.48	<0.47	<0.41	<0.063
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.00044	0.00083	<0.0005	<0.0005	0.00051	0.00051	<0.0005	<0.0005	<0.0005	0.00019	0.000027	0.000031	<0.005	<0.0005	<0.025	<0.01	<0.05	<0.0005	<0.01	<0.005	<0.005	<0.0005	<0.00044
1,1-Dichloroethene	**0.28**	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010	<0.00010	<0.005	<0.0005	*<0.025*	*<0.01*	*<0.05*	<0.0005	*<0.01*	<0.005	<0.005	<0.0005	<0.00033
cis-1,2-Dichloroethene	**0.036**	<0.00021	0.00097	<0.0005	<0.0005	0.00083	0.00083	<0.0005	<0.0005	<0.0005	<0.000055	<0.000055	<0.000055	**0.066**	0.0025	0.024	**0.045**	**0.053**	0.0009	0.0321	0.00095	0.00100	0.0002	<0.00021
trans-1,2-Dichloroethene	**0.36**	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089	<0.000089	<0.003	<0.0005	<0.003	<0.001	<0.0005	<0.0005	<0.01	<0.005	<0.005	<0.0005	<0.00024
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025	<0.000025	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	0.0030	-	-	-	-	-	-	-	-	0.0011	<0.000099	<0.0001	-	-	-	-	-	-	-	-	-	-	<0.0000057
2-Methylnapthalene	**0.036**	<0.00011	-	<0.000023	<0.000022	<0.000022	<0.000022	<0.00023	0.0002	<0.000034	0.00012	<0.0002	<0.00021	-	-	-	-	-	-	-	<0.0038	<0.0038	-	<0.0000057
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0096	<0.0095	-	-
Methylene Chloride	**0.11**	<0.0013	<0.0013	-	-	-	-	-	-	<0.002	<0.0017	<0.00074	<0.00074	0.0023	<0.001	0.037	*<0.02*	*<0.1*	<0.001	*<0.05*	<0.005	<0.005	<0.005	<0.0013
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	**0.00051**	*<0.00094*	*<0.00095*	-	-	-	-	-	-	-	*<0.048*	*<0.048*	-	-
Tetrachloroethene (PCE)	**0.041**	0.040	0.039	**0.051**	**0.050**	**0.043**	0.039	0.039	0.04	**0.043**	**0.043**	**0.052**	**0.046**	0.036	0.010	*<0.015*	*<0.01*	*<0.05*	0.001	*<0.01*	0.001	0.001	0.001	<0.00075
1,1,1-Trichloroethane	**8**	0.00066	0.0006	<0.0005	<0.0005	0.00056	0.00056	0.00082	0.00076	<0.0005	0.00048	0.00023	0.00024	<0.005	<0.0005	<0.025	<0.01	<0.05	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.00058
Trichloroethene (TCE)	**0.028**	<0.00051	<0.00051	0.00081	0.00088	0.00057	0.00055	0.0012	0.0011	0.00081	0.00035	0.00043	0.00041	0.0130	0.0120	<0.015	<0.01	<0.05	0.0006	<0.01	0.0010	0.0009	0.0007	0.0005
Vinyl chloride (Chloroethene)	**0.00019**	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013	<0.000013	*<0.002*	*<0.0005*	*<0.01*	*<0.01*	*<0.05*	*<0.0005*	*<0.01*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	<0.00011	<0.00064	<0.000023	<0.000022	0.00063	0.00098	<0.00023	0.0001	<0.000034	<0.000030	<0.000073	<0.000074	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Acenaphthylene	**0.26**	0.00021	<0.00032	<0.00023	<0.00022	0.00017	<0.000079	<0.00023	0.00065	<0.000034	<0.000015	<0.000047	<0.000048	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Anthracene	**0.043**	<0.00011	<0.00021	<0.00023	<0.00022	<0.00011	<0.000079	<0.00023	<0.000041	<0.000034	<0.000010	<0.00011	<0.00012	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Benzo[a]anthracene	**0.0003**	<0.00011	*<0.00064*	<0.000023	<0.000022	<0.00011	<0.000079	<0.000046	0.000044	<0.000034	<0.000030	<0.000073	<0.000074	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Benzo[b]fluoranthene	**0.0025**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	0.00005	<0.000041	<0.000034	<0.000030	<0.000057	<0.000058	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Benzo[k]fluoranthene	**0.0008**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	<0.000046	<0.000041	<0.000034	<0.000030	<0.000063	<0.000063	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Benzo[a]pyrene	**0.00025**	*<0.00011*	*<0.00064*	<0.000023	<0.000022	<0.00011	<0.000079	0.000049	<0.000041	<0.000034	<0.000030	<0.000057	<0.000058	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Benzo[g,h,i]perylene	**0.00026**	<0.00011	*<0.00064*	<0.000023	<0.000022	<0.00011	<0.000079	0.000053	<0.000041	<0.000034	<0.000030	<0.000063	<0.000063	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Dibenz(a,h)anthracene	**0.00025**	<0.00011	*<0.00032*	<0.000023	<0.000022	<0.00011	<0.000079	<0.000046	<0.000041	<0.000034	<0.000015	<0.000052	<0.000053	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.00019	<0.0000057
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.00011	*<0.00064*	<0.000023	<0.000022	<0.00011	<0.000079	<0.000046	<0.000041	<0.000034	<0.000030	<0.000073	<0.000074	-	-	-	-	-	-	-	*<0.0038*	*<0.0038*	<0.000096	<0.0000057
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.0038	-	-
Chrysene	**0.002**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	<0.000046	<0.000041	<0.000034	<0.000030	<0.000083	<0.000085	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Dibenzofuran	**0.0079**	-	-	<0.00023	<0.00022	<0.00011	0.00011	<0.00023	0.00013	<0.000034	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.0038	-	-
Fluorene	**0.29**	<0.00011	<0.00064	<0.00023	<0.00022	0.00046	0.00015	<0.00023	0.00038	<0.000034	<0.000030	<0.000089	<0.00009	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Fluoranthene	**0.26**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	<0.00023	<0.000041	<0.000034	<0.000030	<0.00026	<0.00026	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Naphthalene	**0.0017**	0.00063	<0.00032	<0.000023	<0.000022	0.00033	0.00032	<0.00023	<0.00056	<0.000034	0.00018	<0.00016	<0.00016	**0.011**	*<0.002*	**0.025**	**0.043**	<0.2	*<0.002*	**0.0205**	*<0.002*	*<0.002*	*<0.002*	<0.0000069
Phenanthrene	**0.17**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	<0.00023	<0.000041	<0.000034	<0.000030	0.00097	0.00059	-	-	-	-	-	-	-	<0.0038	<0.0038	<0.000096	<0.0000057
Pyrene	**0.12**	<0.00011	<0.00064	<0.000023	<0.000022	<0.00011	<0.000079	0.00036	0.00014	<0.000034	<0.000030	<0.00017	<0.00017	-	-	-	-	-	-	-	<0.0096	<0.0095	<0.000096	<0.0000057
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[iii]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	0.00045	0.00030	0.00032	0.00077	0.000269	0.000274	0.000555	0.000641	0.000094	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.00017
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	7633-07	7681-05	7685-05	7796-07	10001-09	10001-10	580-78476-2	580-86209-2	A709046-07	A9800524-3	A9900271-11	A9900854-12	P005200-10	P0K0452-07	0862-06	0886-02	0903-10	8220-12	9029-10	041022-02	041022-03	10841-03	10841-05	11013-01
Date		06-Oct-15	15-Jun-16	21-Sep-16	16-May-17	17-Oct-17	17-Oct-17	27-Jun-18	15-May-19	06-Sep-97	30-Jul-98	15-Jun-99	02-Nov-99	08-May-00	14-Nov-00	29-Jun-01	11-Oct-01	20-Sep-02	16-Sep-03	01-Jun-04	22-Oct-04 FDA	22-Oct-04 FD	21-May-05 FDA	21-May-05 FD	27-Oct-05
QA/QC						FDA	FD																		
BTEXS																									
Benzene	**0.0046**	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.000041	<0.000030	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	**0.015**	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000050	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	0.0147	0.0146	<0.001
Toluene	**1.1**	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000030	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes (total)	**0.19**	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.00015	<0.00015	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	<0.0005	<0.0005	-	<0.00075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	<0.0005	<0.0005	-	<0.00039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019	<0.003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	0.065	<0.77	<0.75	0.98	<0.7	<0.7	0.49	1.4	<0.25	0.22	<0.1	0.78	<0.25	<0.25	<0.25	<0.000156	<0.25	<0.25	<0.32	<0.435	<0.417	<0.357	<0.333	-
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	-	<0.05	<0.05	0.066	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	-
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	0.072	<0.48	<0.47	0.17	<0.44	<0.44	<0.068	0.33	-	-	<1	<1	<0.5	-	-		-		<0.4	<0.522	<0.5	<0.429	<0.4	-
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.005	0.0034	<0.0005	0.0011	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010	<0.005	0.0014	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00018	<0.000055	0.017	0.019	0.015	0.021	0.0203	0.019	0.0241	0.0216	0.0148	0.0139	0.0109	0.0109	0.0107	0.0147	0.0146	0.0151
trans-1,2-Dichloroethene	**0.36**	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089	<0.003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	<0.0000020	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	<0.00002	-	0.000055	<0.000034	<0.000034	<0.0000061	<0.000041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.0013	-	-	-	<0.002	<0.002	<0.0017	<0.00074	0.0076	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	0.000062	<0.00019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.00075	0.001	0.001	0.00061	0.00079	0.00081	0.00053	0.00057	0.012	0.011	0.006	0.003	0.004	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
1,1,1-Trichloroethane	**8**	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	0.019	0.018	0.0011	0.0006	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	0.00061	0.00055	0.00085	0.00065	0.00072	0.00067	0.00038	0.00043	**0.0300**	**0.0450**	**0.0410**	0.0120	**0.0398**	0.0241	**0.0375**	**0.0292**	**0.0361**	**0.0322**	0.0196	0.0206	0.0204	0.0259	0.0254	0.0226
Vinyl chloride (Chloroethane)	**0.00019**	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013	*<0.002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	<0.0000061	<0.00002	0.000035	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	**0.26**	<0.000003	<0.00002	0.000041	<0.00004	<0.000034	<0.000034	<0.0000030	<0.0000095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	**0.043**	<0.000002	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000020	<0.000023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	<0.000003	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	0.0000059	<0.000011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	<0.0000061	0.000024	0.000024	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	**0.0079**	-	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	**0.29**	<0.0000061	0.000071	0.000071	0.00012	<0.000034	<0.000034	<0.0000061	<0.000018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	**0.26**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	**0.0017**	<0.000003	<0.00002	0.000084	0.0014	<0.000034	<0.000034	<0.0000030	<0.000033	*<0.005*	*<0.002*	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	<0.0000061	0.00016	<0.000022	0.00019	<0.000034	<0.000034	<0.0000061	0.000066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	**0.12**	<0.0000061	<0.00002	<0.00002	<0.00004	<0.000034	<0.000034	<0.0000061	<0.000035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.00017	0.000026	0.000029	0.000089	<0.00002	0.000041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M	MW97-6M
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	12176-06	12176-08	PQJ0849-05	17219-03	PSJ0126-10	PSJ0126-11	21707-01	206711-01	250-8077-5	250-8077-6	250-8433-3	24101-07	24101-08	24297-03	24297-04	24302-04	7507-06	7633-05	7633-06	7681-06	7683-08	7796-06	10001-08
Date		16-Jul-06	16-Jul-06	12-Oct-07	27-Sep-08	02-Oct-09	02-Oct-09	10-Dec-10	07-Jun-11	01-Nov-12	01-Nov-12	17-Nov-12	07-Sep-13	07-Sep-13	12-Jun-14	12-Jun-14	26-Sep-14	05-May-15	06-Oct-15	06-Oct-15	15-Jun-16	20-Sep-16	16-May-17	17-Oct-17
QA/QC		FDA	FD			FDA	FD			FDA	FD		FDA	FD	FDA	FD			FDA	FD				
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.00006	<0.00006	<0.0002	<0.0002	<0.0002	<0.00042	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	**0.015**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	**1.1**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (total)	**0.19**	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.25	<0.25	<0.238	-	-	-	<0.238	<0.238	-	<0.4	<0.4	<0.03	<0.03	<0.095	<0.095	<0.38	0.091	0.065	0.065	<0.77	<0.79	0.044	<0.65
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	-	-	-	<0.08	<0.08	<0.08	<0.08	-	0.014	0.011	<0.08	<0.08	<0.08	<0.015	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.5	<0.5	<0.476	-	-	-	<0.476	<0.476	-	<0.4	<0.4	<0.04	<0.04	<0.47	<0.47	<0.38	<0.06	0.091	0.075	<0.48	<0.49	0.064	<0.41
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00033	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.00812	0.00783	0.0	0.00173	0.00125	0.00120	0.00176	-	0.0013	0.0014	-	0.00088	0.00091	0.0012	0.0012	0.00041	0.0019	0.0011	0.0010	0.0023	0.0011	0.0013	<0.0005
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00024	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	<0.00022	<0.00022	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0005*	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.000095	<0.000096	-	<0.0000057	-	-	<0.00002	<0.000021	<0.00004	<0.000034
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.00025	<0.000095	<0.000096	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-	<0.0005	<0.0005	<0.005	<0.005	<0.005	<0.0013	<0.0013	<0.0013	-	<0.002	-	<0.002
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	*<0.02*	<0.000095	<0.000096	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	0.00042	0.00046	0.001	<0.0005	0.001	<0.0075	<0.00075	<0.00075	0.00077	0.00072	<0.0005	<0.0005
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0210	0.0201	0.0049	0.0057	0.0043	0.0049	0.0043	-	0.0041	0.0044	-	0.0036	0.0035	0.0040	0.0041	0.0018	0.0028	0.0027	0.0029	0.0044	0.0035	0.003	0.0019
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	*<0.001*	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000031	<0.0000031	<0.00002	<0.000021	<0.00004	<0.000034
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000021	<0.0000021	<0.00002	<0.000021	<0.00004	<0.000034
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	*<0.00035*	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0005*	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	<0.00045	<0.00045	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0003*	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0005*	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00005	<0.00019	<0.00019	<0.00019	<0.0000057	<0.0000031	<0.0000031	<0.00002	<0.000021	<0.00004	<0.000034
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0006*	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Carbazole		-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	<0.000095	<0.000096	-	-	-	-	-	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.000095	<0.000096	-	-	-	-	<0.00002	<0.000021	<0.00004	<0.000034
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0003	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	*<0.005*	-	<0.0005	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.0000069	<0.0000031	<0.0000031	<0.00002	<0.000021	<0.00004	<0.000034
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.00025	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.00035	<0.000095	<0.000096	<0.000095	<0.0000057	<0.0000063	<0.0000062	<0.00002	<0.000021	<0.00004	<0.000034
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	<0.00011	0.00075	<0.001	<0.001	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0016	<0.00017	0.0047	0.000219	0.000025	0.000047	<0.00002
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-6D	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	A709046-08	A9800524-5	A9900271-8	A9900854-11	P005200-09	P0K0452-08	0878-06	0886-03	0903-11	8220-11	9029-11	041022-01	10841-04	PQJ0849-10	250-8077-4	24101-10	24297-05	24302-03	7507-08	A709046-09	A9800524-6	A9900271-1	A9900854-9	P005200-13
Date		06-Sep-97	30-Jul-98	15-Jun-99	02-Nov-99	08-May-00	14-Nov-00	28-Jul-01	11-Oct-01	20-Sep-02	16-Sep-03	01-Jun-04	22-Oct-04	21-May-05	13-Oct-07	01-Nov-12	08-Sep-13	12-Jun-14	26-Sep-14	05-May-15	06-Sep-97	30-Jul-98	15-Jun-99 FDA	02-Nov-99	05-May-00
QA/QC																								
BTEXS																								
Benzene	**0.0046**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.001	-	<0.001	<0.0005	<0.001	<0.00006	<0.0002	<0.0002	<0.00042	-	<0.001	<0.001	<0.001	-
Ethylbenzene	**0.015**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.001	-	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	-	<0.001	<0.001	<0.001	-
Toluene	**1.1**	-	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.001	-	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	-	<0.001	<0.001	<0.001	-
Xylenes (total)	**0.19**	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	-	<0.003	<0.001	<0.003	<0.001	<0.001	<0.001	<0.0005	-	<0.001	<0.001	<0.001	-
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00062	<0.003	<0.0005	<0.0005	<0.0005	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.25	0.28	<0.1	<0.1	<0.25	<0.25	<0.25	<0.000156	<0.25	<0.25	<0.32	<0.417	<0.417	<0.238	<0.4	<0.03	<0.095	<0.39	0.055	0.47	0.14	<0.1	0.12	<0.25
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	-	<0.05	<0.05	<0.05	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.015	-	<0.05	<0.05	<0.05	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	-	<1	<1	<0.5	-	-	-	-	-	<0.4	<0.5	<0.5	<0.476	<0.4	<0.04	<0.48	<0.39	<0.061	-	-	<1	<1	<0.5
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.005	<0.0005	<0.0005	<0.0005	<0.001
1,1-Dichloroethene	**0.28**	<0.005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00033	<0.005	<0.0005	<0.0005	<0.0005	<0.001
cis-1,2-Dichloroethene	**0.036**	0.015	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00021	<0.003	<0.0005	<0.0005	<0.0005	<0.001
trans-1,2-Dichloroethene	**0.36**	<0.003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00024	<0.003	<0.0005	<0.0005	<0.0005	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000096	-	<0.0000057	-	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.000096	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	0.0049	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.0013	0.0067	<0.005	<0.001	<0.001	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	<0.000096	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.011	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00075	0.002	0.001	0.003	0.002	0.003
1,1,1-Trichloroethane	**8**	0.015	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00058	<0.005	<0.0005	<0.0005	<0.0005	<0.001
Trichloroethene (TCE)	**0.028**	**0.0290**	0.0012	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000359	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.003	<0.0005	0.0020	0.0016	0.0027
Vinyl chloride (Chloroethane)	**0.00019**	*<0.002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.002*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00019	<0.00019	<0.0000057	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.000096	-	-	-	-	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000096	-	-	-	-	-	-	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Naphthalene	**0.0017**	*<0.005*	*<0.002*	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.005*	<0.0005	*<0.002*	*<0.002*	<0.0000069	*<0.005*	*<0.002*	*<0.002*	*<0.002*	<0.001
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.000096	<0.000096	<0.0000057	-	-	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	0.0034	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time. The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7R S	MW97-7M	MW97-7M
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	P0K0452-09	0862-12	0886-05	0886-06	0903-13	0903-14	8221-01	8221-02	9030-02	041021-07	10844-03	24301-03	11317-08	7507-11	7633-04	7680-03	7683-03	7688-01	10001-06	580-78476-1	580-78476-7	580-86209-1	A709046-10	A9800524-2
Date		10-Nov-00	29-Jun-01	11-Oct-01 FDA	11-Oct-01 FD	20-Sep-02 FDA	20-Sep-02 FD	16-Sep-03 FDA	16-Sep-03 FD	02-Jun-04	21-Oct-04	24-May-05	19-Jun-14	27-Sep-14	05-May-15	06-Oct-15	15-Jun-16	19-Sep-16	15-May-17	16-Oct-17	27-Jun-18 FDA	27-Jun-18 FD	15-May-19	06-Sep-97	30-Jul-98
QA/QC																								
BTEXS																								
Benzene	0.0046	<0.0005	<0.0005	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030	<0.000030	-	<0.001
Ethylbenzene	0.015	<0.0005	<0.0005	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030	<0.000050	-	<0.001
Toluene	1.1	<0.0005	<0.0005	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	0.000074	<0.000030	-	<0.001
Xylenes (total)	0.19	<0.001	<0.001	<0.0006	<0.0006	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.003	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.00015	<0.00015	<0.00015	-	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	<0.00075	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	<0.00039	-	-
Styrene	1.2	<0.001	<0.001	<0.000154	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019	<0.00019	<0.003	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	1.5	<0.25	<0.25	<0.000156	<0.000156	<0.25	<0.25	<0.25	<0.25	0.481	<0.417	<0.4	<0.095	0.098***	0.085	0.062	<0.74	<0.78	0.062	<0.7	<0.077	<0.078	<0.081	<0.25	0.22
Gasoline Range Organics (GRO C_6-C_{10})	2.2	<0.08	<0.08	<0.05	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	-	<0.05
Residual Range Organics (RRO C_{25}-C_{36})	1.1	-	-	-	-	-	-	-	-	<0.4	<0.5	<0.48	<0.48	<0.41	<0.061	0.071	<0.46	<0.49	0.1	<0.44	<0.068	<0.068	0.083	-	-
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	0.028	<0.001	<0.001	<0.000214	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.000025	<0.005	<0.0005
1,1-Dichloroethene	0.28	<0.001	<0.001	<0.000151	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010	<0.00010	<0.005	<0.0005
cis-1,2-Dichloroethene	0.036	<0.001	<0.001	<0.000187	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00021	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	<0.000055	<0.000055	<0.000055	<0.003	<0.0005
trans-1,2-Dichloroethene	0.36	<0.001	<0.001	<0.000194	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089	<0.000089	<0.003	<0.0005
1,4-Dioxane	0.0046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	0.000075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025	<0.000025	-	-
1-Methylnaphthalene	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000058	-	-	-	-	-	0.000016	<0.0000021	<0.00002	-	-
2-Methylnapthalene	0.036	-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	<0.0000058	-	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	<0.0000062	<0.000041	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	<0.0096	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	0.11	<0.005	<0.005	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0016	<0.0013	-	<0.002	-	<0.002	<0.0017	<0.0017	<0.00074	0.0080	<0.005
Pentachlorophenol (PCP)	0.00041	-	-	-	-	-	-	-	-	-	-	-	*<0.048*	-	-	-	-	-	-	-	<0.000014	0.000046	<0.00019	-	-
Tetrachloroethene (PCE)	0.041	0.001	0.002	0.003	0.002	0.002	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	0.0001	0.00017	<0.000084	0.005	0.001
1,1,1-Trichloroethane	8	<0.001	<0.001	<0.0001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.000025	<0.005	<0.0005
Trichloroethene (TCE)	0.028	<0.001	0.0016	0.0023	0.0023	0.0025	0.0026	0.0021	0.0020	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.000066	<0.000066	<0.003	0.0012
Vinyl chloride (Chloroethane)	0.00019	*<0.001*	*<0.001*	*<0.00031*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013	<0.000013	*<0.002*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	0.53	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	<0.0000062	<0.000015	-	-
Acenaphthylene	0.26	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000031	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000030	<0.0000031	<0.0000094	-	-
Anthracene	0.043	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000021	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000020	<0.0000021	<0.000023	-	-
Benzo[a]anthracene	0.0003	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000086	<0.000015	-	-
Benzo[b]fluoranthene	0.0025	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.000013	<0.000011	-	-
Benzo[k]fluoranthene	0.0008	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000062	<0.000013	-	-
Benzo[a]pyrene	0.00025	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000072	<0.000011	-	-
Benzo[g,h,i]perylene	0.00026	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000066	<0.000013	-	-
Dibenz(a,h)anthracene	0.00025	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.00019	<0.0000058	<0.0000031	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000030	0.0000068	<0.00001	-	-
Indeno[1,2,3-cd]pyrene	0.00019	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.000011	<0.000015	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	<0.0000058	-	-	-	-	-	-	-	-	-	-
Chrysene	0.002	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000066	<0.000017	-	-
Dibenzofuran	0.0079	-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	<0.0000058	-	<0.00002	<0.00002	<0.000044	<0.00004	-	-	-	-	-
Fluorene	0.29	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	<0.0000062	<0.000018	-	-
Fluoranthene	0.26	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000067	<0.000052	-	-
Naphthalene	0.0017	*<0.002*	*<0.002*	<0.000104	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.0000069	<0.0000031	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000030	<0.0000031	<0.000032	*<0.005*	*<0.002*
Phenanthrene	0.17	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	<0.0000062	<0.000032	-	-
Pyrene	0.12	-	-	-	-	-	-	-	-	-	-	-	<0.0096	<0.000096	<0.0000058	<0.0000062	<0.00002	<0.00002	<0.000044	<0.00004	<0.0000061	0.0000094	<0.000034	-	-
Metals																									
Arsenic	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.0092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	22[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.015	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	0.0002	<0.00017	0.000024	<0.00002	<0.00002	0.000248	-	-	-	-	-
Mercury	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	0.094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7M	MW97-7D	MW97-7D	MW97-7D
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	A9900271-3	A9900854-8	P005200-12	P0K0452-10	0878-04	8221-03	9029-12	041021-06	10844-02	12180-08	PQJ0849-08	250-8077-7	24101-12	24301-02	11317-09	7507-10	7633-03	7680-01	7683-03	7688-02	10001-05	A709046-11	A9800524-1	A9900271-2
Date		15-Jun-99	02-Nov-99	05-May-00	10-Nov-00	27-Jul-01	16-Sep-03	01-Jun-04	21-Oct-04	24-May-05	17-Jul-06	13-Oct-07	01-Nov-12	08-Sep-13	19-Jun-14	27-Sep-14	05-May-15	06-Oct-15	15-Jun-16	19-Sep-16	15-May-17	16-Oct-17	06-Sep-97	30-Jul-98	15-Jun-99
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.00006	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Ethylbenzene	**0.015**	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Toluene	**1.1**	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Xylenes (total)	**0.19**	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.001	<0.003	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	-	<0.001	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.1	<0.1	<0.25	<0.25	0.381	<0.25	<0.32	<0.417	<0.385	<0.248	<0.238	<0.4	<0.03	<0.095	<0.39	0.088	0.062	<0.74	<0.79	0.053	<0.7	0.34	0.28	<0.1
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.05	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<1	<1	<0.5	-	-		<0.4	<0.5	<0.462	<0.495	<0.476	<0.4	<0.04	<0.48	<0.39	<0.06	0.11	<0.46	<0.49	0.093	<0.44	-	-	<1
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
1,1-Dichloroethene	**0.28**	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
cis-1,2-Dichloroethene	**0.036**	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005	<0.00021	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.0005	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	<0.0005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038	-	<0.0000057	-	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.0095	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.0013	<0.0013		<0.002	-	<0.002	0.0083	<0.005	<0.001
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	*<0.047*	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.002	0.002	0.002	0.002	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	0.003	0.002	0.002
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0021	0.0013	0.0028	0.0013	0.0024	0.0023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.003	0.0008	0.0015
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.002*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0038	<0.000095	<0.0000057	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0038	<0.000095	<0.0000057	<0.0000021	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	*<0.0038*	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	*<0.0038*	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045	*<0.0038*	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0038*	*<0.000095*	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0038*	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	*<0.0038*	<0.00019	<0.0000057	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0038*	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0038	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0038	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038	-	-	-	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.0038	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0038	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Naphthalene	**0.0017**	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.005*	<0.0005	*<0.002*	*<0.002*	<0.0000069	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	*<0.005*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.0038	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.0095	<0.000095	<0.0000057	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.00017	<0.00017	0.000052	<0.00002	<0.00002	0.000257	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7D	MW97-7R D	MW97-7R D	MW97-7R D	MW97-7R D	MW97-7R D	MW97-7R D	MW97-7R D	MW98-1	MW98-1	MW98-1	MW98-1
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	A9900854-7	P005200-11	P0K0452-11	0878-05	0886-08	0905-01	8221-04	9030-01	041021-05	10844-01	12180-07	PQJ0849-09	24301-01	11317-10	7507-09	7633-02	7680-02	7683-01	7688-03	10001-04	A9800683-1	A9900238-5	A9900854-5	P005200-14
Date		02-Nov-99	05-May-00	10-Nov-00	27-Jul-01	11-Oct-01	20-Sep-02	16-Sep-03	01-Jun-04	21-Oct-04	24-May-05	17-Jul-06	13-Oct-07	19-Jun-14	27-Sep-14	05-May-15	06-Oct-15	15-Jun-16	19-Sep-16	16-May-17	16-Oct-17	01-Sep-98	10-Jun-99	02-Nov-99	06-May-00
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	-
Ethylbenzene	**0.015**	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	-
Toluene	**1.1**	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	-
Xylenes (total)	**0.19**	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	<0.001	-
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-
Styrene	**1.2**	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.1	<0.25	<0.25	1.03	<0.000156	<0.25	<0.25	<0.32	<0.435	<0.37	<0.248	<0.238	<0.095	<0.41	0.096	0.051	<0.79	<0.74	0.036	<0.7	-	<0.1	0.41	<0.25
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.05	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<1	<0.5	-	-	-	-	-	<0.4	<0.522	<0.444	<0.495	<0.476	<0.48	<0.41	<0.062	0.045	<0.49	<0.46	0.035	<0.44	-	<1	<1	<0.5
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.0005	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
1,1-Dichloroethene	**0.28**	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
cis-1,2-Dichloroethene	**0.036**	<0.0005	<0.001	<0.001	<0.001	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00021	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	0.00306
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.001	<0.001	-	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	<0.0000057	-	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	<0.0096	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	-	<0.001	<0.001	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.048*	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.002	0.002	0.001	0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
1,1,1-Trichloroethane	**8**	<0.0005	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.001
Trichloroethene (TCE)	**0.028**	0.0013	0.0021	0.0011	0.0016	0.0019	0.0017	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	-	0.0019	<0.0005	0.0055
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000031	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000021	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.00019	<0.0000057	<0.0000031	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0038*	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	-	-	-	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Naphthalene	**0.0017**	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.0000069	<0.0000031	<0.000021	<0.000022	<0.000049	<0.00004	-	*<0.002*	*<0.002*	<0.001
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0038	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	<0.0096	<0.000096	<0.0000057	<0.0000062	<0.000021	<0.000022	<0.000049	<0.00004	-	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	0.00025	<0.00017	<0.00002	0.000029	<0.00002	0.000038	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1S	MW98-1M	MW98-1D	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	P0K0452-12	0862-10	0885-07	0903-05	8220-05	9029-08	041021-08	041021-09	10841-08	10841-09	11013-07	12176-03	12176-04	PQJ0849-07	17222-06	17222-07	17222-08	PSJ0126-15	PSJ0126-16	21707-04	206711-04	250-8077-9	250-8077-10	24103-09
Date		14-Nov-00	29-Jun-01	08-Oct-01	19-Sep-02	15-Sep-03	01-Jun-04	21-Oct-04	21-Oct-04	23-May-05	23-May-05	28-Oct-05	16-Jul-06	16-Jul-06	12-Oct-07	30-Sep-08	30-Sep-08	30-Sep-08	02-Oct-09	02-Oct-09	10-Dec-10	07-Jun-11	02-Nov-12	02-Nov-12	09-Sep-13
QA/QC								FDA	FD	FDA	FD		FDA	FD					FDA	FD			FDA	FD	FDA
BTEXS																									
Benzene	**0.0046**	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00006
Ethylbenzene	**0.015**	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Toluene	**1.1**	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Xylenes (total)	**0.19**	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	-	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.25	<0.25	<0.125	<0.25	<0.25	<0.32	<0.5	<0.435	<0.4	<0.4	<0.435	<0.25	<0.25	<0.238	-	-	-	0.367	0.370	<0.25	<0.238	<0.4	<0.4	<0.03
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	-	-	-	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.012
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	-	-	-	-	<0.4	<0.6	<0.522	<0.48	<0.48	<0.522	<0.5	<0.5	<0.476	-	-	-	<0.472	<0.472	<0.5	<0.476	<0.4	<0.4	<0.04
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0005
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.0327	0.00231	0.0129	0.00439	0.0026	0.00529	0.013	0.0129	0.00514	0.00508	0.0205	0.00434	0.00508	0.00487	0.00533	0.00523	0.00507	0.00316	0.00322	0.0074	-	0.0037	0.0041	0.0019
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000025
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025
Methylene Chloride	**0.11**	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.0005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.02*
Tetrachloroethene (PCE)	**0.041**	0.003	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.002	0.002	0.001	0.001	<0.001	-	0.0013	0.0012	0.001
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0005
Trichloroethene (TCE)	**0.028**	0.0277	0.0053	0.0150	0.0107	0.0060	0.0197	**0.0289**	**0.0290**	0.0147	0.0146	**0.0436**	0.0131	0.0197	0.0123	0.0150	0.0153	0.0152	0.0112	0.0111	0.0142	-	0.0130	0.014	0.0068
Vinyl chloride (Chloroethene)	**0.00019**	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	*<0.001*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00045
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0003
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002
Naphthalene	**0.0017**	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	*<0.005*	<0.0005
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00025
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00035
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[iii]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00011
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

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Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-1	MW98-2	MW98-2	MW98-2	MW-98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	24103-10	24103-11	24298-01	24302-06	24302-07	7506-08	7506-09	7632-07	7681-08	7684-04	7796-05	10002-05	A9900271-5	A9900854-4	P005200-15	P0K0452-13	0878-03	0885-03	0903-04	8220-04	9029-02	041020-01	10842-05	11013-03
Date		09-Sep-13	09-Sep-13	13-Jun-14	26-Sep-14	26-Sep-14	04-May-15	04-May-15	06-Oct-15	15-Jun-16	20-Sep-16	16-May-17	16-Oct-17	15-Jun-99	02-Nov-99	08-May-00	10-Nov-00	27-Jul-01	07-Oct-01	19-Sep-02	15-Sep-03	28-May-04	20-Oct-04	20-May-05	28-Oct-05
QA/QC		FD	**		FDA	FD	FDA	FD																	
BTEXS																									
Benzene	0.0046	<0.00006	<0.00006	<0.0002	<0.0002	<0.0002	<0.00042	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Ethylbenzene	0.015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Toluene	1.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	-	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Xylenes (total)	0.19	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	1.2	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	1.5	<0.03	<0.03	<0.095	0.12	0.098	0.15	0.12	0.065	<0.75	<0.79	0.044	<0.76	<0.1	<0.1	<0.25	<0.25	<0.25	<0.125	<0.25	-	<0.32	<0.435	<0.357	-
Gasoline Range Organics (GRO C_6-C_{10})	2.2	0.011	0.011	<0.08	<0.08	<0.08	0.029	0.03	<0.015	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	-
Residual Range Organics (RRO C_{25}-C_{36})	1.1	<0.04	<0.04	<0.47	<0.4	<0.39	<0.06	<0.061	0.038	<0.47	<0.49	0.079	<0.47	<1	<1	<0.5	-	-	-	-	-	<0.4	<0.522	<0.429	-
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	0.028	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.28	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00033	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	0.036	0.0017	0.002	0.0037	0.0029	0.0031	0.0086	0.0086	0.0038	0.0093	0.0028	0.0024	0.0019	<0.0005	0.029	<0.001	<0.001	<0.001	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	0.36	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00024	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	-	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	0.0046	<0.00022	<0.00022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	0.000075	<0.0000025	<0.0000025	*<0.0005*	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	0.011	-	-	-	-	-	<0.0000057	<0.0000058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	0.036	<0.0003	<0.0003	<0.000095	-	-	<0.0000057	<0.0000058	-	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		<0.00025	<0.00025	<0.000095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	0.11	<0.0005	<0.0005	<0.005	<0.005	<0.005	<0.0013	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.001	<0.001	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	0.00041	*<0.02*	*<0.02*	<0.000095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.041	0.001	0.001	0.001	0.001	0.001	0.0011	0.00096	0.001	0.0012	0.0012	0.00058	0.001	<0.0005	0.006	<0.001	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	8	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	0.028	0.0063	0.0067	0.0120	0.0058	0.0061	0.011	0.010	0.010	0.015	0.009	0.005	0.0075	<0.0005	0.0260	<0.001	<0.001	<0.001	<0.000359	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride (Chloroethane)	0.00019	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	0.53	<0.0003	<0.0003	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.26	<0.0005	<0.0005	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	0.043	<0.0004	<0.0004	<0.000095	<0.000095	<0.000096	0.0000072	<0.0000058	<0.0000021	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	0.0003	*<0.00035*	*<0.00035*	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	0.0025	<0.0005	<0.0005	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	0.0008	<0.00045	<0.00045	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	0.00025	*<0.0003*	*<0.0003*	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	0.00026	*<0.0005*	*<0.0005*	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.00025	<0.00005	<0.00005	<0.00019	<0.00019	<0.00019	<0.0000057	<0.0000058	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	0.00019	*<0.0006*	*<0.0006*	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		<0.0004	<0.0004	<0.000095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.002	<0.0005	<0.0005	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	0.0079	<0.0003	<0.0003	<0.000095	-	-	-	-	-	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	0.29	<0.0003	<0.0003	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	0.26	<0.0002	<0.0002	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	0.0017	<0.0005	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.0000069	<0.0000069	<0.0000031	<0.000021	<0.00002	<0.000041	<0.00004	*<0.002*	*<0.002*	<0.001	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	0.17	<0.00025	<0.00025	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	0.12	<0.00035	<0.00035	<0.000095	<0.000095	<0.000096	<0.0000057	<0.0000058	<0.0000063	<0.000021	<0.00002	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-
Metals																									
Arsenic	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.0092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	22[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	0.015	0.00016	0.00013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.015	-	-	<0.001	<0.001	<0.001	<0.00017	<0.00017	<0.00017	0.00005	0.000029	<0.00002	0.000046	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	0.094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — XX

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW98-2	MW00-31	MW00-31	MW00-31	MW00-31	MW00-31	MW00-31	MW00-31	MW00-31	MW00-31
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	12180-03	PQJ0849-15	1304-01	PSJ0126-17	21707-05	21707-11	206711-03	250-8077-1	24102-03	24299-01	11317-02	7506-01	7632-01	7680-09	10002-01	P0K0452-14	0878-02	0885-02	0903-06	8220-06	9029-05	041020-03	10842-06	12180-04
Date		17-Jul-06	13-Oct-07	26-Sep-08	02-Oct-09	10-Dec-10 FDA	10-Dec-10 FD	07-Jun-11	31-Oct-12	08-Sep-13	16-Jun-14	27-Sep-14	04-May-15	06-Oct-15	15-Jun-16	16-Oct-17	10-Nov-00	27-Jul-01	05-Oct-01	19-Sep-02	15-Sep-03	29-May-04	20-Oct-04	20-May-05	17-Jul-06
QA/QC																									
BTEXS																									
Benzene	0.0046	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.00006	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Ethylbenzene	0.015	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0001	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Toluene	1.1	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00011	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001
Xylenes (total)	0.19	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.00033	<0.001	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-
Styrene	1.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	1.5	<0.245	<0.238	-	-	<0.24	<0.236	<0.236	<0.4	<0.03	<0.028	0.12***	0.055	0.10	<0.75	<0.76	0.626	<0.25	<0.125	<0.25	<0.25	0.42	<0.417	<0.37	<0.25
Gasoline Range Organics (GRO C_6-C_{10})	2.2	<0.08	<0.08	-	-	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.022	<0.015	<0.1	<0.1	0.137	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	1.1	<0.49	<0.476	-	-	<0.481	<0.472	<0.472	<0.4	<0.04	<0.038	<0.38	<0.061	0.041	<0.47	<0.47	-	-	-	-	-	0.583	<0.5	<0.444	<0.5
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	0.028	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	0.28	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	0.036	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.005	<0.0005	<0.00021	<0.00021	<0.0005	<0.0005	<0.001	<0.001	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	0.36	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.001	-	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	0.0046	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	0.000075	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	0.011	-	-	-	-	-	-	-	-	-	-	-	<0.0000058	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	0.036	-	-	-	-	-	-	-	-	<0.0003	<0.0038	-	<0.0000058	-	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	<0.00025	<0.0095	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	0.11	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.0005	<0.005	<0.005	<0.0013	0.0016	-	<0.002	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	0.00041	-	-	-	-	-	-	-	-	*<0.02*	*<0.047*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.041	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	8	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	0.028	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.001	<0.001	<0.000359	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride (Chloroethane)	0.00019	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	0.53	-	-	-	-	-	-	-	-	<0.0003	<0.0038	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.26	-	-	-	-	-	-	-	-	<0.0005	<0.0038	<0.000095	<0.0000058	<0.0000031	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Anthracene	0.043	-	-	-	-	-	-	-	-	<0.0004	<0.0038	<0.000095	<0.0000058	<0.000002	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	0.0003	-	-	-	-	-	-	-	-	*<0.00035*	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	0.0025	-	-	-	-	-	-	-	-	<0.0005	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	0.0008	-	-	-	-	-	-	-	-	<0.00045	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	0.00025	-	-	-	-	-	-	-	-	*<0.0003*	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	0.00026	-	-	-	-	-	-	-	-	*<0.0005*	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.00025	-	-	-	-	-	-	-	-	<0.00005	*<0.0038*	<0.00019	<0.0000058	<0.0000031	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	0.00019	-	-	-	-	-	-	-	-	*<0.0006*	*<0.0038*	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	<0.0004	<0.0038	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.002	-	-	-	-	-	-	-	-	<0.0005	<0.0038	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Dibenzofuran	0.0079	-	-	-	-	-	-	-	-	<0.0003	<0.0038	-	-	-	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Fluorene	0.29	-	-	-	-	-	-	-	-	<0.0003	<0.0038	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Fluoranthene	0.26	-	-	-	-	-	-	-	-	<0.0002	<0.0038	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Naphthalene	0.0017	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	<0.0005	*<0.002*	*<0.002*	<0.000007	<0.0000031	<0.00002	<0.00004	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	0.17	-	-	-	-	-	-	-	-	<0.00025	<0.0038	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Pyrene	0.12	-	-	-	-	-	-	-	-	<0.00035	<0.0095	<0.000095	<0.0000058	<0.0000061	<0.00002	<0.00004	-	-	-	-	-	-	-	-	-
Metals																									
Arsenic	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.0092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	22[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	0.015	-	-	-	-	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.015	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.00017	<0.00017	0.00004	0.000102	-	-	-	-	-	-	-	-	-
Mercury	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	0.094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW00-31	MW00-31	MW00-31	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-32	MW00-33	MW00-33	MW00-33	MW00-33	MW00-33	MW00-33	MW00-33
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	PQJ0849-01	24103-04	24297-01	P0K0452-14	0878-01	0885-05	0903-07	8220-07	9029-06	041020-02	10842-07	12180-05	PQJ0849-02	250-8077-2	24103-05	24297-02	P0K0452-16	0862-13	0885-04	0903-08	8220-08	9029-07	041020-04
Date		11-Oct-07	09-Sep-13	11-Jun-14	10-Nov-00	27-Jul-01	07-Oct-01	19-Sep-02	15-Sep-03	29-May-04	20-Oct-04	20-May-05	17-Jul-06	12-Oct-07	31-Oct-12	09-Sep-13	11-Jun-14	10-Nov-00	29-Jun-01	07-Oct-01	19-Sep-02	15-Sep-03	01-Jun-04	20-Oct-04
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.0005	<0.00006	<0.0002	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.00006	<0.0002	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001
Ethylbenzene	**0.015**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001
Toluene	**1.1**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005	<0.0005	<0.0005	<0.001
Xylenes (total)	**0.19**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.0006	<0.001	<0.001	<0.001	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.238	<0.03	<0.11	1.28	0.381	0.79	<0.25	<0.25	<0.32	<0.417	<0.385	<0.25	<0.238	<0.4	<0.03	<0.095	<0.25	<0.25	<0.125	<0.25	<0.25	<0.32	<0.417
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.01	<0.08	0.0851	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.08	<0.05	<0.08	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.476	<0.04	<0.53	-	-	-	-	-	<0.4	<0.5	<0.462	<0.5	<0.476	<0.4	<0.04	<0.48	-	-	-	-	-	<0.4	<0.5
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000187	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	0.00784	0.0108	0.0193	0.00464	0.00243	0.00547	<0.001
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.0005	<0.0005	<0.001	-	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	<0.0000025	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	<0.0000025	*<0.0005*	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	<0.0003	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000095	-	-	-	-	-	-	-
3 & 4 Methylphenol		-	<0.00025	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.000095	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	*<0.02*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	<0.000095	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.00027	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	0.013	0.009	0.013	0.004	0.002	0.005	0.005
1,1,1-Trichloroethane	**8**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.000359	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	0.0158	**0.0338**	**0.0338**	0.0156	0.0102	0.0106	<0.001
Vinyl chloride (Chloroethene)	**0.00019**	*<0.001*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	<0.0003	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000095	-	-	-	-	-	-	-
Acenaphthylene	**0.26**	-	<0.0005	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.000095	-	-	-	-	-	-	-
Anthracene	**0.043**	-	<0.0004	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.000095	-	-	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	-	*<0.00035*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	<0.000095	-	-	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	-	<0.0005	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.000095	-	-	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	-	<0.00045	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.00045	<0.000095	-	-	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	-	*<0.0003*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	<0.000095	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	-	*<0.0005*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	<0.000095	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	-	<0.00005	<0.00019	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00019	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	*<0.0006*	<0.000096	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	<0.000095	-	-	-	-	-	-	-
Carbazole		-	<0.0004	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.000095	-	-	-	-	-	-	-
Chrysene	**0.002**	-	<0.0005	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.000095	-	-	-	-	-	-	-
Dibenzofuran	**0.0079**	-	<0.0003	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000095	-	-	-	-	-	-	-
Fluorene	**0.29**	-	<0.0003	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0003	<0.000095	-	-	-	-	-	-	-
Fluoranthene	**0.26**	-	<0.0002	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.000095	-	-	-	-	-	-	-
Naphthalene	**0.0017**	*<0.002*	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.005*	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	<0.00025	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.00025	<0.000095	-	-	-	-	-	-	-
Pyrene	**0.12**	-	<0.00035	<0.000096	-	-	-	-	-	-	-	-	-	-	-	<0.00035	<0.000095	-	-	-	-	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22[iii]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	0.00016	<0.001	-	-	-	-	-	-	-	-	-	-	-	<0.00011	<0.001	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW00-33	MW00-33	MW00-33	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34	MW00-34R
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	10842-08	11012-07	12180-06	24299-10	11317-03	7506-04	7632-04	7632-05	7680-06	7685-01	7688-07	10002-02	580-78476-4	580-86209-4	P0K0452-17	0862-09	0885-06	041021-02	10841-07	11012-08	12176-02	PQJ0849-03	PSJ0126-14	24299-12
Date		20-May-05	27-Oct-05	17-Jul-06	17-Jun-14	27-Sep-14	04-May-15	06-Oct-15 FDA	06-Oct-15 FD	15-Jun-16	20-Sep-16	16-May-17	16-Oct-17	27-Jun-18	15-May-19	14-Nov-00	29-Jun-01	07-Oct-01	21-Oct-04	23-May-05	27-Oct-05	12-Jul-06	12-Oct-07	02-Oct-09	17-Jun-14
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.00042	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030	<0.0005	<0.0005	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0002
Ethylbenzene	**0.015**	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000050	<0.0005	<0.0005	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005
Toluene	**1.1**	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000030	<0.0005	<0.0005	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005
Xylenes (total)	**0.19**	<0.003	<0.003	<0.003	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.00015	<0.00015	<0.001	<0.001	<0.0006	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00062	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019	<0.001	<0.001	<0.000154	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Petroleum Hydrocarbons																									
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.357	-	<0.263	<0.095	<0.4	0.1	0.061	0.042	<0.86	<0.75	0.029	<0.7	-	-	<0.25	<0.25	<0.125	<0.5	<0.4	-	<0.245	<0.238	-	<0.096
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	-	<0.08	<0.08	<0.08	<0.022	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	-	-	<0.08	<0.08	0.0977	<0.08	<0.08	-	<0.08	<0.08	-	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.429	-	<0.526	<0.48	<0.4	<0.061	0.039	0.056	<0.54	<0.47	0.04	<0.44	-	-	-	-	-	<0.6	<0.48	-	<0.49	<0.476	-	<0.48
Volatile Organic Compounds (VOCs)																									
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.001	<0.001	<0.000214	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00033	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010	<0.001	<0.001	<0.000151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
cis-1,2-Dichloroethene	**0.036**	0.00407	<0.001	<0.001	<0.005	<0.0005	0.00035	0.00027	0.00028	<0.0005	<0.0005	<0.0005	<0.0005	<0.000055	<0.000055	0.0197	0.0303	0.0222	0.0144	0.0229	0.0196	0.00188	0.00175	<0.001	0.0010
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.00024	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089	<0.001	<0.001	<0.000194	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	<0.0000058	-	-	-	-	-	-	0.000048	<0.00002	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	<0.0038	-	<0.0000058	-	-	<0.000022	<0.000022	<0.000041	<0.00004	0.000062	<0.000041	-	-	-	-	-	-	-	-	-	<0.0039
3 & 4 Methylphenol		-	-	-	<0.0095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0096
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0013	<0.0013	<0.0013	-	-	-	<0.002	<0.0017	<0.00074	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	*<0.048*	-	-	-	-	-	-	-	-	0.00005	<0.00019	-	-	-	-	-	-	-	-	-	*<0.048*
Tetrachloroethene (PCE)	**0.041**	0.003	0.002	0.002	0.001	0.002	0.0012	0.0017	0.0019	0.0013	0.0014	0.00071	0.0028	0.00054	0.00071	0.005	0.006	0.004	0.003	0.003	0.002	<0.001	<0.001	<0.001	0.00043
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00058	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005
Trichloroethene (TCE)	**0.028**	0.0046	<0.001	<0.001	0.00023	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	0.000099	0.00016	0.0278	**0.0578**	**0.0354**	0.0219	**0.0372**	0.0266	0.0054	0.0035	0.0022	0.0033
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013	*<0.001*	*<0.001*	*<0.00031*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																									
Acenaphthene	**0.53**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	<0.0000060	<0.000015	-	-	-	-	-	-	-	-	-	<0.0039
Acenaphthylene	**0.26**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000031	<0.0000031	<0.000022	<0.000022	<0.000041	<0.00004	0.000005	<0.0000095	-	-	-	-	-	-	-	-	-	<0.0039
Anthracene	**0.043**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000021	<0.0000021	<0.000022	<0.000022	<0.000041	<0.00004	0.000014	<0.000023	-	-	-	-	-	-	-	-	-	<0.0039
Benzo[a]anthracene	**0.0003**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.000014	<0.000015	-	-	-	-	-	-	-	-	-	*<0.0039*
Benzo[b]fluoranthene	**0.0025**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	0.00021	<0.00004	0.000053	<0.000012	-	-	-	-	-	-	-	-	-	*<0.0039*
Benzo[k]fluoranthene	**0.0008**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	0.000059	<0.00004	0.000018	<0.000013	-	-	-	-	-	-	-	-	-	*<0.0039*
Benzo[a]pyrene	**0.00025**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	0.000088	<0.00004	0.000012	<0.000012	-	-	-	-	-	-	-	-	-	*<0.0039*
Benzo[g,h,i]perylene	**0.00026**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	0.000052	<0.00004	0.000015	<0.000013	-	-	-	-	-	-	-	-	-	*<0.0039*
Dibenz(a,h)anthracene	**0.00025**	-	-	-	*<0.0038*	<0.00019	<0.0000058	<0.0000031	<0.0000031	<0.000022	<0.000022	<0.000041	<0.00004	0.0000095	<0.000011	-	-	-	-	-	-	-	-	-	*<0.0039*
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	*<0.0038*	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	0.00007	<0.00004	0.000023	<0.000015	-	-	-	-	-	-	-	-	-	*<0.0039*
Carbazole		-	-	-	<0.0038	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0039
Chrysene	**0.002**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.000038	<0.000017	-	-	-	-	-	-	-	-	-	<0.0039
Dibenzofuran	**0.0079**	-	-	-	<0.0038	-	-	-	-	<0.000022	<0.000022	<0.000041	<0.00004	-	-	-	-	-	-	-	-	-	-	-	<0.0039
Fluorene	**0.29**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.0000075	<0.000018	-	-	-	-	-	-	-	-	-	<0.0039
Fluoranthene	**0.26**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.00005	<0.000053	-	-	-	-	-	-	-	-	-	<0.0039
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	0.0000087	<0.0000031	<0.0000031	<0.000022	<0.000022	<0.000041	<0.00004	0.000037	<0.000033	*<0.002*	*<0.002*	<0.000104	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	-	-	<0.0038	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.000046	<0.000033	-	-	-	-	-	-	-	-	-	<0.0039
Pyrene	**0.12**	-	-	-	<0.0095	<0.000096	<0.0000058	<0.0000062	<0.0000062	<0.000022	<0.000022	<0.000041	<0.00004	0.000039	<0.000035	-	-	-	-	-	-	-	-	-	<0.0096
Metals																									
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.001*
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001
Chromium (Total)	**22[III]**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.002
Lead	**0.015**	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001
Lead (Dissolved)	**0.015**	-	-	-	-	<0.001	<0.00017	<0.00017	<0.00017	0.000034	0.000118	0.000067	0.000083	-	-	-	-	-	-	-	-	-	-	-	<0.001
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00019
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
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Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-35	MW00-35	MW00-35	MW00-35	MW00-35	MW00-35	MW00-35	MW00-35	MW00-35	AS-2	AS-2	AS-2	AS-2	AS-2	AS-2
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	24302-10	7507-05	7637-03	7637-04	7680-10	7685-08	7796-09	10002-09	P0K0452-18	0862-08	0886-04	10841-01	10841-02	11012-11	12176-09	12176-10	PSJ0126-12	9030-08	041022-07	10841-11	11012-01	12175-01	PQJ0849-21
Date		26-Sep-14	05-May-15	07-Oct-15	07-Oct-15	15-Jun-16	21-Sep-16	16-May-17	17-Oct-17	14-Nov-00	29-Jun-01	11-Oct-01	21-May-05	21-May-05	27-Oct-05	16-Jul-06	16-Jul-06	02-Oct-09	04-Jun-04	22-Oct-04	23-May-05	25-Oct-05	11-Jul-06	14-Oct-07
QA/QC				FDA	FD								FDA	FD		FDA	FD							FDA
BTEXS																								
Benzene	**0.0046**	<0.0002	<0.00042	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	**0.0779**	**0.0335**	**0.0268**	**0.0092**	**0.00904**	**0.0104**	**0.00985**	-	**0.00642**	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	**0.015**	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	**0.0611**	**0.106**	**0.09**	**0.021**	**0.0191**	**0.0281**	**0.0242**	-	0.00710	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	**1.1**	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	0.19	0.0247	0.0227	0.0034	0.00316	0.00356	0.0015	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes (total)	**0.19**	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.761	0.222	0.335	0.02599	0.02363	0.0366	<0.00926	-	<0.005	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.00062	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.000308	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.41	0.19	0.043	0.050	<0.83	<0.75	0.039	<0.7	**5.15**	**3.25**	**3.49**	**3.83**	**3.67**	-	**4.48**	**4.73**	**7.81**	<0.32	<0.5	<0.4	-	<0.245	<0.238
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.015	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	**5.34**	2.06	**4.07**	0.52	0.533	-	0.469	-	0.146	<0.08	<0.08	<0.08	-	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.41	<0.064	0.048	0.069	<0.52	<0.47	0.074	<0.44	-	-	-	<0.545	<0.429	-	<0.5	<0.5	<0.5	<0.4	<0.6	<0.48	-	<0.49	<0.476
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.000428	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.0005	<0.00033	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.000302	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	0.00021	0.00280	0.0011	0.00094	0.0016	0.001	0.0019	<0.0005	0.00655	0.0137	0.0073	0.00536	0.00524	0.00565	0.00454	-	0.00430	0.0046	0.00412	0.0056	0.00519	0.00463	<0.001
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.00024	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.001	<0.000388	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	<0.0000058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	<0.0038	<0.0000058	<0.000019	<0.000019	<0.00002	-	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 & 4 Methylphenol		<0.0095	<0.000096	<0.000097	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.0013	<0.0013	<0.0013	-	-	-	<0.002	<0.025	<0.01	<0.004	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	*<0.048*	<0.000096	<0.000097	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**0.041**	0.001	<0.0075	<0.00075	<0.00075	0.001	0.001	<0.0005	0.00063	<0.005	<0.002	<0.00054	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	**8**	<0.0005	<0.00058	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.002	<0.0002	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	0.0011	0.003	0.0031	0.0033	0.0028	0.0032	0.0037	0.0016	<0.005	0.0028	<0.000718	0.0012	0.0011	<0.001	0.0014	-	0.0012	0.0076	0.0095	0.0111	0.0104	0.0105	0.0031
Vinyl chloride (Chloroethene)	**0.00019**	*<0.0005*	*<0.00022*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	**0.0052**	**0.00778**	**0.00392**	**0.00229**	**0.00217**	**0.00252**	**0.00126**	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	<0.0038	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	**0.26**	<0.0038	<0.0000058	<0.0000032	<0.0000031	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	**0.043**	<0.0038	<0.0000058	<0.0000021	<0.000002	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	**0.0003**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	**0.0025**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	**0.0008**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	**0.00025**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	**0.00026**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	**0.00025**	*<0.0038*	<0.0000058	<0.0000032	<0.0000031	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	*<0.0038*	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		<0.0038	<0.000096	<0.000097	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	**0.002**	<0.0038	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	**0.0079**	<0.0038	<0.000096	<0.000097	<0.000096	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	**0.29**	<0.0038	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	**0.26**	<0.0038	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	**0.0017**	*<0.002*	<0.0000069	<0.0000032	<0.0000031	<0.00002	<0.00002	<0.00004	<0.00004	**0.0545**	**0.0361**	**0.0443**	**0.00862**	**0.00906**	**0.015**	**0.00697**	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	<0.0038	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	**0.12**	<0.0095	<0.0000058	<0.0000064	<0.0000061	<0.00002	<0.00002	<0.00004	<0.00004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																								
Arsenic	**0.00052**	0.00014	*<0.0014*	*<0.0014*	*<0.0014*	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	0.16	0.13	0.13	0.13	0.133	0.125	0.108	0.134	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	0.000071	<0.00014	<0.00014	<0.00014	0.000032	0.000032	<0.00005	0.000027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[iii]	<0.002	<0.00071	<0.00071	<0.00071	<0.0002	0.0002	0.00027	0.00027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	<0.001	<0.00017	<0.00017	<0.00017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.001	<0.00017	-	-	0.000028	<0.00002	0.000026	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	<0.0002	<0.000041	<0.000041	<0.000041	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	0.00025	<0.0015	<0.0015	<0.0015	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	<0.001	<0.00015	<0.00015	<0.00015	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		AS-2	AS-2	AS-2	AS-2	AS-2	AS-2	AS-2	AS-2	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-4	AS-6	AS-6	AS-6
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	PQJ0849-22	1303-08	PSJ0126-07	21707-07	206711-06	250-8077-11	250-8433-4	24101-01	9030-09	041023-01	10841-12	11012-02	12175-02	PQJ0849-20	1303-09	PSJ0126-06	21707-08	206711-07	250-8077-12	24101-02	9030-10	041023-02	10842-04
Date		14-Oct-07	26-Sep-08	01-Oct-09	10-Dec-10	07-Jun-11	02-Nov-12	17-Nov-12	07-Sep-13	04-Jun-04	23-Oct-04	23-May-05	25-Oct-05	11-Jul-06	14-Oct-07	26-Sep-08	01-Oct-09	10-Dec-10	07-Jun-11	02-Nov-12	07-Sep-13	04-Jun-04	23-Oct-04	19-May-05
QA/QC		FD																						
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.00006	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.0005	<0.001	<0.001
Ethylbenzene	**0.015**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001
Toluene	**1.1**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001
Xylenes (total)	**0.19**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	-	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.003	<0.003
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.001	<0.001	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.238	<0.245	<0.263	<0.24	<1.11	-	<0.4	<0.03	<0.32	<0.417	<0.435	-	<0.25	<0.238	-	-	<0.238	<0.236	<0.4	<0.03	<0.32	<0.5	<0.357
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	-	0.011	<0.08	<0.08	<0.08	-	<0.08	<0.08	-	-	<0.08	<0.08	<0.08	0.01	<0.08	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	**3.5** *	<0.49	<0.526	<0.481	*<2.22*	-	<0.4	0.051	<0.4	<0.5	<0.522	-	<0.5	<0.476	-	-	<0.476	<0.472	<0.4	<0.04	<0.4	<0.6	<0.429
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.001	<0.001	<0.001
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.001	<0.001	<0.001
cis-1,2-Dichloroethene	**0.036**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	0.00047	0.00222	0.00208	0.00216	0.00283	0.00292	<0.001	<0.001	<0.001	<0.001	-	<0.001	0.00016	0.00257	0.00264	0.0027
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.001	<0.001	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	<0.00025	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	-	<0.005	-	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.0005	<0.005	<0.005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	*<0.02*	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	0.000	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.001	<0.001	<0.001
Trichloroethene (TCE)	**0.028**	0.0021	0.0039	0.0023	0.0020	-	0.0012	-	0.0020	0.0043	0.0053	0.0051	0.0058	0.0063	0.0025	0.0017	0.0012	<0.001	-	<0.001	0.0010	0.0051	0.0060	0.0057
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	-	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	*<0.001*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-
Anthracene	**0.043**	-	-	-	-	-	-	-	<0.0004	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-	-	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	*<0.00035*	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	-	-	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	<0.00045	-	-	-	-	-	-	-	-	-	-	-	<0.00045	-	-	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	*<0.0003*	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	-	-	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	<0.00005	-	-	-	-	-	-	-	-	-	-	-	<0.00005	-	-	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	*<0.0006*	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	-	-	-
Carbazole		-	-	-	-	-	-	-	<0.0004	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-	-	-
Chrysene	**0.002**	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-
Fluorene	**0.29**	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	-	-
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	-	<0.0005	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.005*	<0.0005	*<0.002*	*<0.002*	*<0.002*
Phenanthrene	**0.17**	-	-	-	-	-	-	-	<0.00025	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-	-	-
Pyrene	**0.12**	-	-	-	-	-	-	-	<0.00035	-	-	-	-	-	-	-	-	-	-	-	<0.00035	-	-	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[iii]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	<0.00011	-	-	-	-	-	-	-	-	-	-	-	<0.00011	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		AS-6	AS-6	AS-6	AS-6	AS-6	AS-6	AS-6	AS-6	AS-6	AS-6	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-8	AS-10
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	11012-03	12175-03	PQJ0849-19	1303-10	PSJ0126-04	21707-09	206711-08	250-8077-13	250-8433-1	24101-03	9030-11	041022-08	10842-03	12175-04	PQJ0849-18	1303-11	PSJ0126-05	21707-10	206711-09	250-8077-14	250-8433-2	24101-04	9031-01
Date		26-Oct-05	11-Jul-06	14-Oct-07	26-Sep-08	01-Oct-09	10-Dec-10	07-Jun-11	03-Nov-12	17-Nov-12	07-Sep-13	04-Jun-04	22-Oct-04	19-May-05	11-Jul-06	14-Oct-07	26-Sep-08	01-Oct-09	10-Dec-10	07-Jun-11	03-Nov-12	17-Nov-12	07-Sep-13	09-Jun-04
QA/QC																								FDA
BTEXS																								
Benzene	**0.0046**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.00006	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.00006	<0.0005
Ethylbenzene	**0.015**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005
Toluene	**1.1**	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005	<0.0005
Xylenes (total)	**0.19**	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	-	<0.003	<0.001	<0.001	<0.003	<0.003	<0.003	<0.001	<0.003	<0.003	<0.003	<0.003	-	<0.003	<0.001	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	-	<0.248	<0.238	-	-	<0.243	<0.238	<0.4	-	<0.03	<0.32	<0.417	<0.37	<0.25	<0.238	-	-	<0.238	<0.236	<0.4	-	<0.03	<0.32
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	-	<0.08	<0.08	-	-	<0.08	<0.08	-	<0.08	<0.01	<0.08	<0.08	<0.08	<0.08	<0.08	-	-	<0.08	<0.08	-	<0.08	<0.01	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	-	<0.495	<0.476	-	-	<0.485	<0.476	<0.4	-	<0.04	<0.4	<0.5	<0.444	<0.5	<0.476	-	-	<0.476	<0.472	<0.4	-	<0.04	<0.4
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
cis-1,2-Dichloroethene	**0.036**	0.00348	0.0026	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	0.0012
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-	-	<0.00022	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
3 & 4 Methylphenol		-	-	-	-	-	-	-	-	-	<0.00025	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	<0.005	<0.0005	<0.005
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	-	-	*<0.02*	-	-	-	-	-	-	-	-	-	-	-	*<0.02*	-
Tetrachloroethene (PCE)	**0.041**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	<0.001
Trichloroethene (TCE)	**0.028**	0.0061	0.0060	0.0016	0.0014	<0.001	<0.001	-	-	<0.001	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.0005	0.0028
Vinyl chloride (Chloroethene)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	-	*<0.001*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	-	-	*<0.001*	*<0.0005*	*<0.001*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Acenaphthylene	**0.26**	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-
Anthracene	**0.043**	-	-	-	-	-	-	-	-	-	<0.0004	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	-	-	-	-	*<0.00035*	-	-	-	-	-	-	-	-	-	-	-	*<0.00035*	-
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	-	-	-	-	<0.00045	-	-	-	-	-	-	-	-	-	-	-	<0.00045	-
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	-	-	-	-	*<0.0003*	-	-	-	-	-	-	-	-	-	-	-	*<0.0003*	-
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	-	-	-	-	-	*<0.0005*	-
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	-	-	-	-	<0.00005	-	-	-	-	-	-	-	-	-	-	-	<0.00005	-
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	-	-	-	-	*<0.0006*	-	-	-	-	-	-	-	-	-	-	-	*<0.0006*	-
Carbazole		-	-	-	-	-	-	-	-	-	<0.0004	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-
Chrysene	**0.002**	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-
Dibenzofuran	**0.0079**	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Fluorene	**0.29**	-	-	-	-	-	-	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	<0.0003	-
Fluoranthene	**0.26**	-	-	-	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	*<0.005*	<0.0005	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	*<0.005*	<0.0005	*<0.002*
Phenanthrene	**0.17**	-	-	-	-	-	-	-	-	-	<0.00025	-	-	-	-	-	-	-	-	-	-	-	<0.00025	-
Pyrene	**0.12**	-	-	-	-	-	-	-	-	-	<0.00035	-	-	-	-	-	-	-	-	-	-	-	<0.00035	-
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[iii]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	-	-	-	-	-	-	-	-	-	0.00014	-	-	-	-	-	-	-	-	-	-	-	<0.00011	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		AS-10	AS-10	AS-10	AS-10	AS-10	AS-10	AS-12	AS-12	AS-12	AS-12	AS-12	AS-12	AS-12	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1S
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	9031-02	041022-09	10842-02	12175-05	PQJ0849-17	24101-05	9031-03	041022-10	10842-01	11012-04	12175-06	PQJ0849-16	24101-06	24299-07	24299-08	6347-02	7506-03	7632-03	7680-04	7685-10	7688-09	10002-10	10002-11
Date		09-Jun-04	22-Oct-04	19-May-05	11-Jul-06	14-Oct-07	07-Sep-13	09-Jun-04	22-Oct-04	19-May-05	26-Oct-05	11-Jul-06	14-Oct-07	07-Sep-13	17-Jun-14	17-Jun-14	25-Sep-14	04-May-15	06-Oct-15	15-Jun-16	21-Sep-16	16-May-17	17-Oct-17	17-Oct-17
QA/QC		FD													FDA	FD							FDA	FD
BTEXS																								
Benzene	**0.0046**	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.00006	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00006	<0.0002	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	**0.015**	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	**1.1**	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (total)	**0.19**	<0.001	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-
Xylenes (m,p)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005
o-Xylene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005
Styrene	**1.2**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.32	<0.417	<0.385	<0.385	<0.238	<0.03	<0.32	<0.4	<0.357	-	<0.243	<0.238	<0.03	<0.096	<0.096	0.1	0.077	0.083	<0.8	<0.8	0.037	<0.7	<0.7
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.08	<0.08	<0.08	<0.01	<0.08	<0.08	<0.08	-	<0.08	<0.08	<0.01	<0.08	<0.08	<0.08	<0.022	<0.015	<0.1	<0.1	<0.1	<0.1	<0.1
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.4	<0.5	<0.462	<0.462	<0.476	<0.04	<0.4	<0.48	<0.429	-	<0.485	<0.476	<0.04	<0.48	<0.48	<0.4	<0.064	0.049	<0.5	<0.5	0.074	<0.44	<0.44
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloroethene	**0.28**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.0013	0.00122	0.00114	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	0.0016	0.0018	0.0015	0.005	0.0034	0.0027	0.0019	0.0025	0.0012	0.0012
trans-1,2-Dichloroethene	**0.36**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	<0.00022	-	-	-	-	-	-	<0.00022	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
1-Methylnaphthalene	**0.011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	-	-	-	-	<0.0003	-	-	-	-	-	-	<0.0003	<0.0038	<0.0038	-	<0.0000057	<0.00002	<0.00002	-	<0.000045	<0.00004	<0.00004
3 & 4 Methylphenol		-	-	-	-	-	<0.00025	-	-	-	-	-	-	<0.00025	<0.0096	<0.0095	-	-	<0.0001	-	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.0013	<0.0013	-	-	-	<0.002	<0.002
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	*<0.02*	-	-	-	-	-	-	*<0.02*	*<0.048*	*<0.048*	-	-	<0.0001	*<0.0005*	*<0.0005*	-	-	-
Tetrachloroethene (PCE)	**0.041**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	0.000	0.000	0.001	<0.00075	<0.00075	0.00056	<0.0005	<0.0005	0.00069	0.00066
1,1,1-Trichloroethane	**8**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0029	0.0033	0.0028	0.0025	<0.001	0.0002	0.0014	0.0023	0.0014	0.0021	0.0011	<0.001	0.0002	0.0042	0.0043	0.0019	0.0053	0.0064	0.0038	0.0050	0.0049	0.003	0.003
Vinyl chloride (Chloroethane)	**0.00019**	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	-	-	-	-	-	<0.0003	-	-	-	-	-	-	<0.0003	<0.0038	<0.0038	-	<0.0000057	<0.0000064	<0.00002	<0.00002	<0.000045	<0.00004	<0.00004
Acenaphthylene	**0.26**	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005	<0.0038	<0.0038	-	<0.0000057	<0.0000032	<0.00002	<0.00002	<0.000045	<0.00004	<0.00004
Anthracene	**0.043**	-	-	-	-	-	<0.0004	-	-	-	-	-	-	<0.0004	<0.0038	<0.0038	-	0.0000088	<0.0000021	<0.00002	<0.00002	<0.000045	<0.00004	<0.00004
Benzo[a]anthracene	**0.0003**	-	-	-	-	-	*<0.00035*	-	-	-	-	-	-	*<0.00035*	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000021	<0.00002	<0.000045	<0.00004	<0.00004
Benzo[b]fluoranthene	**0.0025**	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000045	<0.00004	<0.00004
Benzo[k]fluoranthene	**0.0008**	-	-	-	-	-	<0.00045	-	-	-	-	-	-	<0.00045	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000023	<0.00002	<0.000045	<0.00004	<0.00004
Benzo[a]pyrene	**0.00025**	-	-	-	-	-	*<0.0003*	-	-	-	-	-	-	*<0.0003*	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000024	<0.00002	<0.000045	<0.00004	<0.00004
Benzo[g,h,i]perylene	**0.00026**	-	-	-	-	-	*<0.0005*	-	-	-	-	-	-	*<0.0005*	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000025	<0.00002	<0.000045	<0.00004	<0.00004
Dibenz(a,h)anthracene	**0.00025**	-	-	-	-	-	<0.00005	-	-	-	-	-	-	<0.00005	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000032	<0.000026	<0.00002	<0.000045	<0.00004	<0.00004
Indeno[1,2,3-cd]pyrene	**0.00019**	-	-	-	-	-	*<0.0006*	-	-	-	-	-	-	*<0.0006*	*<0.0038*	*<0.0038*	-	<0.0000057	<0.0000064	<0.000027	<0.00002	<0.000045	<0.00004	<0.00004
Carbazole		-	-	-	-	-	<0.0004	-	-	-	-	-	-	<0.0004	<0.0038	<0.0038	-	-	<0.0001	<0.000028	-	-	-	-
Chrysene	**0.002**	-	-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005	<0.0038	<0.0038	-	<0.0000057	<0.0000064	<0.000029	<0.00002	<0.000045	<0.00004	<0.00004
Dibenzofuran	**0.0079**	-	-	-	-	-	<0.0003	-	-	-	-	-	-	<0.0003	<0.0038	<0.0038	-	-	<0.0001	<0.00003	<0.00002	<0.000045	<0.00004	<0.00004
Fluorene	**0.29**	-	-	-	-	-	<0.0003	-	-	-	-	-	-	<0.0003	<0.0038	<0.0038	-	<0.0000057	<0.0000064	<0.000031	<0.00002	<0.000045	<0.00004	<0.00004
Fluoranthene	**0.26**	-	-	-	-	-	<0.0002	-	-	-	-	-	-	<0.0002	<0.0038	<0.0038	-	<0.0000057	<0.0000064	<0.000032	<0.00002	<0.000045	<0.00004	<0.00004
Naphthalene	**0.0017**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.0005	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.0005	*<0.002*	*<0.002*	*<0.002*	<0.0000069	<0.0000032	<0.000033	<0.00002	<0.000045	<0.00004	<0.00004
Phenanthrene	**0.17**	-	-	-	-	-	<0.00025	-	-	-	-	-	-	<0.00025	<0.0038	<0.0038	-	<0.0000057	<0.0000064	<0.000034	<0.00002	<0.000045	<0.00004	<0.00004
Pyrene	**0.12**	-	-	-	-	-	<0.00035	-	-	-	-	-	-	<0.00035	<0.0096	<0.0095	-	<0.0000057	<0.0000064	<0.000035	<0.00002	<0.000045	<0.00004	<0.00004
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00014	0.00011	0.00012	*<0.0014*	*<0.0014*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.16	0.16	0.13	0.116	0.110	0.095	0.136	0.135
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	0.00019	<0.00014	<0.00002	<0.00002	<0.00005	<0.00002	<0.00002
Chromium (Total)	**22**[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.002	<0.002	0.00032	<0.00071	<0.00071	0.00025	0.00023	0.00027	0.00026	0.00029
Lead	**0.015**	-	-	-	-	-	<0.00011	-	-	-	-	-	-	<0.00011	0.00028	0.00015	<0.001	0.002	<0.00017	-	-	-	-	-
Lead (Dissolved)	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.00017	-	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0000041	<0.000041	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00018	0.00017	0.0002	<0.0015	<0.0015	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.00015	<0.00015	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-3D	MW13-3D
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	24300-02	23465-01	7506-05	7632-06	7681-01	7681-02	7685-09	7688-08	10002-12	580-78476-3	580-86209-3	24300-01	11317-01	7506-06	7506-07	7632-09	7680-05	7685-02	7796-10	7796-11	10002-03	24300-04	24302-08
Date		18-Jun-14	03-Oct-14	04-May-15	06-Oct-15	15-Jun-16 FDA	15-Jun-16 FD	21-Sep-16	16-May-17	17-Oct-17	27-Jun-18	15-May-19	18-Jun-14	27-Sep-14	04-May-15 FDA	04-May-15 FD	06-Oct-15	15-Jun-16	20-Sep-16	17-May-17 FDA	17-May-17 FD	16-Oct-17	18-Jun-14	26-Sep-14
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030	<0.0002	<0.0002	<0.00042	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002
Ethylbenzene	**0.015**	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000050	<0.0005	<0.0005	<0.00051	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	**1.1**	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000030	<0.0005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (total)	**0.19**	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.00015	<0.00015	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Xylenes (m,p)		-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-
o-Xylene		-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019	<0.0005	<0.0005	<0.00062	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.095	<0.39	0.065	0.057	<0.76	<0.77	<0.77	0.025	<0.7	-	-	<0.095	<0.39	0.044	0.054	0.092	<0.8	*<1.6*	0.041	0.031	<0.7	<0.095	0.21
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.08	<0.022	<0.015	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.08	<0.08	<0.022	<0.022	<0.015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.08	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.47	<0.39	<0.061	<0.032	<0.47	<0.48	<0.48	0.035	<0.44	-	-	<0.48	<0.39	<0.061	<0.061	0.087	<0.5	<0.96	0.082	0.051	<0.44	<0.48	<0.39
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.005	<0.0005	<0.00044	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005
1,1-Dichloroethene	**0.28**	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010	<0.005	<0.0005	<0.00033	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.0015	0.0027	0.0048	0.0041	0.0028	0.0028	0.0021	0.0017	0.0021	0.00073	0.0012	0.0022	0.016	0.005	0.005	0.0049	0.0073	0.0021	0.0011	0.00099	0.0066	0.0031	0.0040
trans-1,2-Dichloroethene	**0.36**	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089	<0.005	<0.0005	<0.00024	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025	-	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-
1-Methylnaphthalene	**0.011**	-	-	<0.0000057	-	-	-	-	-	-	<0.0000020	<0.00002	-	-	<0.0000057	<0.0000057	-	-	-	-	-	-	-	-
2-Methylnapthalene	**0.036**	<0.0038	<0.0038	0.0000077	<0.000019	<0.000021	<0.000022	-	<0.000045	<0.00004	<0.0000061	<0.00004	<0.0038	-	<0.0000057	<0.0000057	-	<0.00002	-	<0.000046	<0.00004	<0.00004	<0.0038	-
3 & 4 Methylphenol		<0.0095	<0.0095	-	<0.000096	-	-	-	-	-	-	-	<0.0094	-	-	-	-	-	-	-	-	-	<0.0095	-
Methylene Chloride	**0.11**	<0.005	<0.005	<0.0013	<0.0013	-	-	-	-	<0.002	<0.0017	<0.00074	<0.005	<0.005	<0.0013	<0.0013	<0.0013	-	-	-	-	<0.002	<0.005	<0.0005
Pentachlorophenol (PCP)	**0.00041**	*<0.048*	*<0.048*	-	<0.000096	*<0.0005*	*<0.0005*	*<0.0005*	-	-	<0.000014	<0.00019	*<0.047*	-	-	-	-	-	-	-	-	-	*<0.047*	-
Tetrachloroethene (PCE)	**0.041**	0.000	0.000	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00015	0.00023	0.001	0.002	<0.00075	<0.00075	0.001	0.00093	0.00085	<0.0005	<0.0005	0.0019	0.001	0.001
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025	<0.0005	<0.0005	<0.00058	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0041	0.0034	0.0053	0.007	0.0038	0.0040	0.0049	0.0032	0.0045	0.002	0.0028	0.0063	0.0170	0.0074	0.0072	0.011	0.012	0.0075	0.0026	0.0026	0.013	0.0091	0.0073
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	<0.0038	<0.0038	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000015	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Acenaphthylene	**0.26**	<0.0038	<0.0038	<0.0000057	<0.000003	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000030	<0.0000093	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000033	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Anthracene	**0.043**	<0.0038	<0.0038	<0.0000057	<0.000002	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000020	<0.000023	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000022	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Benzo[a]anthracene	**0.0003**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000015	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	<0.000096
Benzo[b]fluoranthene	**0.0025**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000011	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	<0.000096
Benzo[k]fluoranthene	**0.0008**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000012	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	<0.000096
Benzo[a]pyrene	**0.00025**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000011	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	*<0.000096*
Benzo[g,h,i]perylene	**0.00026**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000012	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	<0.000096
Dibenz(a,h)anthracene	**0.00025**	*<0.0038*	*<0.0038*	<0.0000057	<0.000003	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	0.0000057	<0.00001	*<0.0038*	*<0.00019*	<0.0000057	<0.0000057	<0.0000033	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	*<0.00019*
Indeno[1,2,3-cd]pyrene	**0.00019**	*<0.0038*	*<0.0038*	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000015	*<0.0038*	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.0038*	<0.000096
Carbazole		<0.0038	<0.0038	-	<0.000096	-	-	-	-	-	-	-	<0.0038	-	-	-	-	-	-	-	-	-	<0.0038	-
Chrysene	**0.002**	<0.0038	<0.0038	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000017	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Dibenzofuran	**0.0079**	<0.0038	<0.0038	-	<0.000096	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	-	-	<0.0038	-	-	-	-	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	-
Fluorene	**0.29**	<0.0038	<0.0038	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000018	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Fluoranthene	**0.26**	<0.0038	<0.0038	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000052	<0.0038	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Naphthalene	**0.0017**	*<0.002*	*<0.002*	0.00003	<0.000003	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000030	<0.000032	*<0.002*	*<0.002*	<0.0000069	<0.0000068	<0.0000033	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	*<0.002*	*<0.002*
Phenanthrene	**0.17**	<0.0038	<0.0038	0.0000074	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000032	<0.0038	<0.000095	<0.0000057	0.0000059	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0038	<0.000096
Pyrene	**0.12**	<0.0095	<0.0095	<0.0000057	<0.0000061	<0.000021	<0.000022	<0.000022	<0.000045	<0.00004	<0.0000061	<0.000034	<0.0094	<0.000095	<0.0000057	<0.0000057	<0.0000067	<0.00002	<0.00002	<0.000046	<0.00004	<0.00004	<0.0095	<0.000096
Metals																								
Arsenic	**0.00052**	*<0.001*	*<0.001*	*<0.0014*	*<0.0014*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	**3.8**	0.080	0.081	0.08	0.071	0.0653	0.0639	0.0608	0.0623	0.0787	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	**0.0092**	<0.001	<0.001	<0.00014	<0.00014	<0.00002	<0.00002	<0.00002	<0.00005	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	**22**[3]	0.00041	<0.002	<0.00071	<0.00071	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	**0.015**	0.00035	<0.001	<0.00017	<0.00017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.001	<0.001	<0.00017	-	0.00007	0.000021	<0.00002	<0.00002	<0.00002	-	-	<0.001	<0.001	<0.00017	<0.00017	<0.00017	0.000021	<0.00002	<0.00002	0.000044	<0.00002	0.00033	0.00073
Mercury	**0.00052**	<0.0002	<0.0002	<0.000041	<0.000041	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	**0.1**	0.00011	0.000042	<0.0015	<0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	**0.094**	<0.001	<0.001	<0.00015	<0.00015	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW13-3D	MW13-3D	MW13-3D	MW13-3D	MW13-3D	MW13-3D	MW13-4	MW13-4	MW13-4	MW13-4	MW13-4	MW13-4	MW13-4	MW13-4	MW13-5S	MW13-5S	MW13-5S	MW13-5S	MW13-5S	MW13-5S	MW13-5S	MW13-5S	MW13-5D
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	7506-10	7632-08	7681-07	7683-06	7796-03	10002-04	24300-03	24302-02	7506-11	7632-10	7682-02	7683-07	7796-04	10002-06	24300-07	6347-05	7508-02	7632-12	7681-09	7683-05	7796-02	10002-07	24300-08
Date		04-May-15	06-Oct-15	15-Jun-16	20-Sep-16	16-May-17	16-Oct-17	18-Jun-14	26-Sep-14	04-May-15	06-Oct-15	16-Jun-16	20-Sep-16	16-May-17	16-Oct-17	18-Jun-14	25-Sep-14	06-May-15	06-Oct-15	16-Jun-16	20-Sep-16	16-May-17	16-Oct-17	18-Jun-14
QA/QC																								
BTEXS																								
Benzene	0.0046	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
Ethylbenzene	0.015	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	1.1	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (total)	0.19	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001
Xylenes (m,p)		-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-
o-Xylene		-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-
Styrene	1.2	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	1.5	0.1	0.054	<0.75	<0.79	0.026	<0.76	<0.095	<0.4	0.16	0.046	<0.84	<0.79	0.038	<0.68	<0.095	0.085	0.044	0.061	<0.77	<0.82	0.025	<0.7	<0.097
Gasoline Range Organics (GRO C_6-C_{10})	2.2	0.027	<0.015	<0.1	<0.1	<0.1	<0.1	<0.08	<0.08	<0.022	<0.015	<0.1	<0.1	<0.1	<0.1	<0.08	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	<0.08
Residual Range Organics (RRO C_{25}-C_{36})	1.1	<0.061	0.090	<0.47	<0.49	0.054	<0.47	<0.48	<0.4	<0.062	0.058	<0.52	<0.49	0.073	<0.42	<0.47	<0.38	<0.061	0.10	<0.48	<0.51	0.047	<0.44	<0.49
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	0.028	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
1,1-Dichloroethene	0.28	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
cis-1,2-Dichloroethene	0.036	0.0085	0.0041	0.0096	<0.0005	0.0024	0.0022	0.00018	0.0012	<0.00021	0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	0.0005	<0.00021	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
trans-1,2-Dichloroethene	0.36	0.00028	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005
1,4-Dioxane	0.0046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	0.000075	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-
1-Methylnaphthalene	0.011	<0.0000059	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-	-
2-Methylnapthalene	0.036	<0.0000059	-	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	-	<0.0000057	-	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	-	<0.0000057	-	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
3 & 4 Methylphenol		-	-	-	-	-	-	<0.0096	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.0099
Methylene Chloride	0.11	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.005
Pentachlorophenol (PCP)	0.00041	-	-	-	-	-	-	*<0.048*	-	-	-	-	-	-	-	*<0.052*	-	-	-	-	-	-	-	*<0.05*
Tetrachloroethene (PCE)	0.041	0.001	0.001	0.0011	<0.0005	<0.0005	0.001	0.000	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,1,1-Trichloroethane	8	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	0.028	0.010	0.0097	0.014	<0.0005	0.0045	0.008	0.0006	0.0014	<0.00051	0.00078	<0.0005	<0.0005	<0.0005	0.00071	0.0008	0.0011	<0.00051	0.00055	0.00062	<0.0005	<0.0005	0.00071	0.0004
Vinyl chloride (Chloroethane)	0.00019	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	0.53	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Acenaphthylene	0.26	<0.0000059	<0.0000032	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000034	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000032	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Anthracene	0.043	<0.0000059	<0.0000021	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000023	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000021	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Benzo[a]anthracene	0.0003	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Benzo[b]fluoranthene	0.0025	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Benzo[k]fluoranthene	0.0008	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Benzo[a]pyrene	0.00025	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	*<0.000095*	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	*<0.000095*	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Benzo[g,h,i]perylene	0.00026	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	0.000065	*<0.004*
Dibenz(a,h)anthracene	0.00025	<0.0000059	<0.0000032	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	*<0.00019*	<0.0000057	<0.0000034	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	*<0.00019*	<0.0000057	<0.0000032	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Indeno[1,2,3-cd]pyrene	0.00019	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	*<0.0042*	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	*<0.004*
Carbazole		-	-	-	-	-	-	<0.0038	-	-	-	-	-	-	-	<0.0042	-	-	-	-	-	-	-	<0.004
Chrysene	0.002	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Dibenzofuran	0.0079	-	-	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	-	-	-	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	-	-	-	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Fluorene	0.29	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Fluoranthene	0.26	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.0042	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Naphthalene	0.0017	<0.0000071	<0.0000032	<0.000021	<0.00002	<0.000043	<0.00004	*<0.002*	*<0.002*	<0.0000069	<0.0000034	<0.00002	<0.00002	<0.000041	<0.00004	*<0.002*	*<0.002*	<0.0000069	<0.0000032	<0.000022	<0.00002	<0.000042	<0.00004	*<0.002*
Phenanthrene	0.17	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.0038	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.004
Pyrene	0.12	<0.0000059	<0.0000064	<0.000021	<0.00002	<0.000043	<0.00004	<0.0096	<0.000095	<0.0000057	<0.0000068	<0.00002	<0.00002	<0.000041	<0.00004	<0.01	<0.000095	<0.0000057	<0.0000064	<0.000022	<0.00002	<0.000042	<0.00004	<0.0099
Metals																								
Arsenic	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	0.0092	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Total)	22[III]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.015	<0.00017	<0.00017	0.000057	0.000021	<0.00002	<0.00002	<0.001	<0.001	<0.00017	<0.00017	0.000045	<0.00002	0.000188	<0.00002	<0.001	<0.001	<0.00017	<0.00017	0.000053	<0.00002	<0.00002	<0.00002	<0.001
Mercury	0.00052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	0.094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW13-5D	MW13-5D	MW13-5D	MW13-5D	MW13-5D	MW13-5D	MW13-5D	MW13-6	MW13-6	MW13-6	MW13-6	MW13-6	MW13-6	MW13-6	MW13-6	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	6347-04	7508-03	7632-11	7681-10	7683-06	7796-01	10002-08	24300-11	24302-01	7507-12	7637-02	7680-12	7684-01	7688-05	10001-03	24299-09	6347-01	7506-02	7632-02	7680-07	7680-07	7685-06	7685-07
Date		25-Sep-14	06-May-15	06-Oct-15	16-Jun-16	20-Sep-16	16-May-17	17-Oct-17	19-Jun-14	26-Sep-14	05-May-15	07-Oct-15	16-Jun-16	20-Sep-16	16-May-17	16-Oct-17	17-Jun-14	25-Sep-14	04-May-15	06-Oct-15	15-Jun-16 FDA	15-Jun-16 FD	21-Sep-16 FDA	21-Sep-16 FD
QA/QC																								
BTEXS																								
Benzene	**0.0046**	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.00042	<0.00042	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	**0.015**	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	**1.1**	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (total)	**0.19**	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	-	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylenes (m,p)		-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-
o-Xylene		-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-
Styrene	**1.2**	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00062	<0.00062	<0.0005	<0.0005	<0.0005	<0.0005
Petroleum Hydrocarbons																								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	<0.41	<0.043	0.045	<0.77	<0.79	0.034	<0.7	0.11	<0.4	0.19	0.16	<0.82	<0.74	0.13	<0.65	<0.095	<0.41	0.069	0.10	<0.78	<0.84	<0.74	<0.77
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	<0.08	<0.08	<0.015	<0.015	<0.1	<0.1	<0.1	<0.1	<0.08	<0.08	0.032	<0.015	<0.1	<0.1	<0.1	<0.1
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	<0.41	<0.06	0.041	<0.48	<0.49	0.075	<0.44	<0.48	<0.4	<0.062	0.11	<0.51	<0.46	0.11	<0.41	<0.48	<0.41	<0.059	0.057	<0.49	<0.52	<0.46	<0.48
Volatile Organic Compounds (VOCs)																								
1,1-Dichloroethane	**0.028**	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00044	<0.00044	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloroethene	**0.28**	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00033	<0.00033	<0.0005	<0.0005	<0.0005	<0.0005
cis-1,2-Dichloroethene	**0.036**	0.00036	0.00023	<0.00021	<0.0005	<0.0005	<0.0005	<0.0005	0.00087	0.00017	0.00033	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	0.0046	0.0054	0.0150	0.015	0.0049	0.005	0.0042	0.0044
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.00024	<0.00024	<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dioxane	**0.0046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*
1-Methylnaphthalene	**0.011**	-	<0.0000058	-	-	-	-	-	-	-	<0.0000058	-	-	-	-	-	-	-	<0.0000057	-	-	-	-	-
2-Methylnapthalene	**0.036**	-	<0.0000058	-	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	-	<0.0000058	-	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.000019	<0.000021	<0.000021	<0.00002	<0.00002
3 & 4 Methylphenol		-	-	-	-	-	-	-	<0.0096	-	-	-	-	-	-	-	<0.0097	<0.0096	<0.000096	<0.000097	-	-	-	-
Methylene Chloride	**0.11**	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.005	<0.005	<0.0013	<0.0013	-	<0.002	-	<0.002	<0.005	<0.005	<0.0013	<0.0013	-	-	-	-
Pentachlorophenol (PCP)	**0.00041**	-	-	-	-	-	-	-	*<0.048*	-	-	-	-	-	-	-	*<0.048*	*<0.048*	<0.000096	0.00013	*<0.0005*	-	*<0.0005*	*<0.0005*
Tetrachloroethene (PCE)	**0.041**	<0.0005	<0.00075	<0.00075	<0.0005	<0.0005	<0.0005	<0.0005	0.000	0.001	<0.00075	<0.00075	<0.0005	0.0006	<0.0005	0.00073	0.00032	0.00037	<0.00075	<0.00075	<0.0005	<0.0005	0.00051	<0.0005
1,1,1-Trichloroethane	**8**	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00058	<0.00058	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethene (TCE)	**0.028**	0.0008	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0005	0.0007	0.00087	0.00083	0.00081	0.00078	0.0011	0.0078	0.0048	0.013	0.0078	0.0078	0.0079	0.0098	0.0098
Vinyl chloride (Chloroethene)	**0.00019**	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.00022*	*<0.00022*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Polycyclic Aromatic Hydrocarbons (PAHs)																								
Acenaphthene	**0.53**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Acenaphthylene	**0.26**	<0.000096	<0.0000058	<0.0000031	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000003	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000033	<0.000021	<0.000021	<0.000021	<0.000021
Anthracene	**0.043**	<0.000096	<0.0000058	<0.0000021	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000002	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	0.0000082	<0.0000022	<0.000021	<0.000021	<0.000021	<0.000021
Benzo[a]anthracene	**0.0003**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Benzo[b]fluoranthene	**0.0025**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Benzo[k]fluoranthene	**0.0008**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Benzo[a]pyrene	**0.00025**	*<0.000096*	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	*<0.000095*	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Benzo[g,h,i]perylene	**0.00026**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Dibenz(a,h)anthracene	**0.00025**	*<0.00019*	<0.0000058	<0.0000031	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	*<0.00019*	<0.0000058	<0.000003	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000033	<0.000021	<0.000021	<0.000021	<0.000021
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	*<0.0038*	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	*<0.0039*	*<0.0038*	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Carbazole		-	-	-	-	-	-	-	<0.0038	-	<0.0000058	-	-	-	-	-	<0.0039	<0.0038	<0.000096	<0.000097	-	-	-	-
Chrysene	**0.002**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	**0.0079**	-	-	-	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	-	<0.0000058	-	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.000096	<0.000097	<0.000021	<0.000021	<0.000021	<0.000021
Fluorene	**0.29**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Fluoranthene	**0.26**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Naphthalene	**0.0017**	*<0.002*	<0.0000069	<0.0000031	<0.000022	<0.00002	<0.000043	<0.00004	*<0.002*	*<0.002*	<0.000007	<0.000003	<0.000021	<0.000021	<0.000045	<0.00004	*<0.002*	*<0.002*	<0.0000069	<0.0000033	<0.000021	<0.000021	<0.000021	<0.000021
Phenanthrene	**0.17**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0038	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0039	<0.0038	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Pyrene	**0.12**	<0.000096	<0.0000058	<0.0000062	<0.000022	<0.00002	<0.000043	<0.00004	<0.0096	<0.000095	<0.0000058	<0.000006	<0.000021	<0.000021	<0.000045	<0.00004	<0.0097	<0.0096	<0.0000057	<0.0000066	<0.000021	<0.000021	<0.000021	<0.000021
Metals																								
Arsenic	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00012	0.00029	*<0.0014*	*<0.0014*	<0.0005	-	<0.0005	<0.0005
Barium	**3.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	0.16	0.15	0.16	0.123	-	0.116	0.122
Cadmium	**0.0092**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000054	<0.001	<0.00014	<0.00014	0.000024	-	0.000028	0.000035
Chromium (Total)	**22**[iii]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00066	<0.002	<0.00071	<0.00071	<0.0002	-	<0.0002	<0.0002
Lead	**0.015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00063	<0.001	<0.00017	<0.00017	-	-	-	-
Lead (Dissolved)	**0.015**	<0.001	<0.00017	<0.00017	0.000025	<0.00002	<0.00002	<0.00002	<0.001	<0.001	<0.00017	<0.00017	<0.00002	0.000052	0.000038	0.000047	<0.001	<0.001	<0.00017	-	<0.00002	<0.00002	<0.00002	<0.00002
Mercury	**0.00052**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.000041	<0.0002	-	<0.0002	<0.0002
Selenium	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00014	0.0006	<0.0015	<0.0015	<0.001	-	<0.001	<0.001
Silver	**0.094**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.00015	<0.00015	<0.00002	-	<0.00002	<0.00002

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2A
Historical Groundwater Analytical Results
Hydrocarbons, Volatile Organic Compounds and Metals
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7
SCN or Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	7688-10	7688-12	10003-02	10003-03	580-78476-5	580-86209-5
Date		17-May-17	17-May-17	17-Oct-17	17-Oct-17	27-Jun-18	15-May-19
QA/QC		FDA	FD	FDA	FD		
BTEXS							
Benzene	**0.0046**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000030
Ethylbenzene	**0.015**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000030	<0.000050
Toluene	**1.1**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000050	<0.000030
Xylenes (total)	**0.19**	<0.0005	<0.0005	-	-	<0.00015	<0.00015
Xylenes (m,p)		-	-	<0.0005	<0.0005	-	-
o-Xylene		-	-	<0.0005	<0.0005	-	-
Styrene	**1.2**	<0.0005	<0.0005	<0.0005	<0.0005	<0.00019	<0.00019
Petroleum Hydrocarbons							
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	0.028	0.038	<0.7	-	-	-
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.1	<0.1	<0.1	<0.1	-	-
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	0.053	0.059	<0.44	-	-	-
Volatile Organic Compounds (VOCs)							
1,1-Dichloroethane	**0.028**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025
1,1-Dichloroethene	**0.28**	<0.0005	<0.0005	<0.0005	<0.0005	<0.00010	<0.00010
cis-1,2-Dichloroethene	**0.036**	0.0052	0.0055	0.0068	0.007	0.0017	0.0038
trans-1,2-Dichloroethene	**0.36**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000089	<0.000089
1,4-Dioxane	**0.0046**	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	*<0.002*	*<0.002*	*<0.002*	*<0.002*	<0.000025	<0.000025
1-Methylnaphthalene	**0.011**	-	-	-	-	0.0000028	<0.000021
2-Methylnapthalene	**0.036**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000043
3 & 4 Methylphenol		-	-	-	-	-	-
Methylene Chloride	**0.11**	-	-	<0.002	<0.002	<0.0017	<0.00074
Pentachlorophenol (PCP)	**0.00041**	-	-	*<0.025*	*<0.025*	0.000043	<0.0002
Tetrachloroethene (PCE)	**0.041**	<0.0005	<0.0005	0.00055	0.0006	0.00027	0.00032
1,1,1-Trichloroethane	**8**	<0.0005	<0.0005	<0.0005	<0.0005	<0.000025	<0.000025
Trichloroethene (TCE)	**0.028**	0.01	0.011	0.011	0.011	0.0035	0.007
Vinyl chloride (Chloroethane)	**0.00019**	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	<0.000013	<0.000013
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	**0.53**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000015
Acenaphthylene	**0.26**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000031	<0.0000099
Anthracene	**0.043**	<0.000047	<0.000047	<0.00004	<0.00002	0.0000037	<0.000024
Benzo[a]anthracene	**0.0003**	<0.000047	<0.000047	<0.00004	<0.00002	0.0000062	<0.000015
Benzo[b]fluoranthene	**0.0025**	<0.000047	<0.000047	<0.00004	<0.00002	0.00001	<0.000012
Benzo[k]fluoranthene	**0.0008**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000013
Benzo[a]pyrene	**0.00025**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000012
Benzo[g,h,i]perylene	**0.00026**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000013
Dibenz(a,h)anthracene	**0.00025**	<0.000047	<0.000047	<0.00004	<0.00002	0.0000066	<0.000011
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.000047	<0.000047	<0.00004	<0.00002	0.0000085	<0.000015
Carbazole		-	-	-	-	-	-
Chrysene	**0.002**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000018
Dibenzofuran	**0.0079**	<0.000047	<0.000047	<0.00004	<0.00002	-	-
Fluorene	**0.29**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000019
Fluoranthene	**0.26**	<0.000047	<0.000047	<0.00004	<0.00002	0.000007	<0.000055
Naphthalene	**0.0017**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000031	<0.000034
Phenanthrene	**0.17**	<0.000047	<0.000047	<0.00004	<0.00002	<0.0000062	<0.000034
Pyrene	**0.12**	<0.000047	<0.000047	<0.00004	<0.00002	0.0000071	<0.000036
Metals							
Arsenic	**0.00052**	<0.0005	<0.0005	<0.0005	<0.0005	-	-
Barium	**3.8**	0.103	0.103	0.169	0.167	-	-
Cadmium	**0.0092**	<0.00005	<0.00005	0.000033	0.000032	-	-
Chromium (Total)	**22**[II]	<0.0002	0.00022	<0.0002	<0.0002	-	-
Lead	**0.015**	-	-	-	-	-	-
Lead (Dissolved)	**0.015**	<0.00002	<0.00002	0.000026	<0.00002	-	-
Mercury	**0.00052**	<0.0002	<0.0002	<0.0002	<0.0002	-	-
Selenium	**0.1**	<0.001	<0.001	<0.001	<0.001	-	-
Silver	**0.094**	<0.00002	<0.00002	<0.00002	<0.00002	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control number
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.
2. Method reporting limit raised for this sample due to dilution of the sample by the lab prior to analysis.
* Sample result for RRO during the October 2007 monitoring event is suspected to be result of cross-contamination that occurred during analysis.
Sample collected using bladder pump during the September 2013 monitoring eve
***Surrogate compounds failed low or were inadvertently omitted during the extraction process for DRO analysis at MW97-7R S and 98-2 in Sept. 2014 and re-extraction was performed outside of the method defined holding-time.
The greater of the two results has been reported.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to October 2018) — **XX**

TABLE 2B
Historical Groundwater Analytical Results
Semivolatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW-1AHC	MW-1HC	MW-1HC	MW-1HC	MW-1HC	MW-2HC	MW-3HC	MW-3HC	MW-4HC	MW97-1R	MW97-1R	MW97-1R	MW97-2	MW97-2	MW97-2	MW97-2	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-3	MW97-6M	MW97-6M
SCN		24103-01	24103-02	7681-11	7683-04	7688-06	24298-03	24103-07	24103-08	24103-03	7680-11	7684-02	7688-04	24298-02	7682-01	7684-05	7796-08	24103-12	7681-03	7681-04	7685-03	7685-04	7796-12	7689-01	580-78476-(	24297-03	24297-04
Date		09-Sep-13	09-Sep-13	16-Jun-16	20-Sep-16	16-May-17	15-Jun-14	09-Sep-13	09-Sep-13	09-Sep-13	16-Jun-16	20-Sep-16	16-May-17	13-Jun-14	16-Jun-16	20-Sep-16	16-May-17	09-Sep-13	15-Jun-16	15-Jun-16	21-Sep-16	21-Sep-16	17-May-17	17-May-17	27-Jun-18	12-Jun-14	12-Jun-14
QA/QC								FDA**	FD**										FDA	FD	FDA	FD	FDA	FD		FDA	FD
Semivolatile Organic Compounds																											
Acetone	**14**	-	-	<0.02	<0.02	<0.02	<0.025	-	-	-	<0.02	<0.02	<0.02	<0.025	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.025	<0.025
n-Butylbenzene	**1**	-	-	<0.002	<0.002	<0.002	<0.005	-	-	-	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005
sec-Butylbenzene	**2**	-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
tert-Butylbenzene	**0.69**	-	-	<0.002	<0.002	<0.002	<0.001	-	-	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.001	<0.001
Bromobenzene	**0.062**	-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
Bromochloromethane		-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Bromodichloromethane	**0.0013**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Bromoform	**0.033**	-	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Carbon disulfide	**0.81**	-	-	<0.0005	<0.0005	<0.0005	<0.01	-	-	-	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.01	<0.01
Carbon tetrachloride	**0.0046**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Chlorobenzene	**0.078**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Chloroethane		-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Chloroform	**0.0022**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Methyl bromide (Bromomethane)	**0.0075**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.005	<0.005
Methyl ethyl ketone (MEK)	**5.6**	-	-	<0.02	<0.02	<0.02	<0.01	-	-	-	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.01	<0.01
Methyl chloride (Chloromethane)	**0.19**	-	-	<0.0005	<0.0005	<0.0005	<0.005	-	-	-	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.005	<0.005
2-Chlorotoluene		-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
4-Chlorotoluene		-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
1,2-Dibromo-3-Chloropropane (DBCP)		<0.000011	<0.000011	<0.002	<0.002	<0.002	<0.005	<0.000011	<0.000011	<0.000011	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.000044	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.005	<0.005
Chlorodibromomethane (Dibromochloromethane)	**0.0087**	-	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Dibromomethane	**0.0083**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,2-Dichloroethane	**0.0017**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,2-Dichlorobenzene	**0.3**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,3-Dichlorobenzene	**0.3**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,4-Dichlorobenzene	**0.0048**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
Dichlorodifluoromethane	**0.2**	-	-	<0.0005	<0.0005	<0.0005	<0.005	-	-	-	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.005	<0.005
1,2-Dichloropropane	**0.0082**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,3-Dichloropropene	**0.0047**	-	-	<0.0005	<0.0005	-	<0.0005	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005
cis-1,3-Dichloropropene		-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
trans-1,3-Dichloropropene		-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
2,2-Dichloropropane		-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,1-Dichloropropene		-	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.001	<0.001
Hexachlorobutadiene	**0.0014**	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.004*	-	-	-	*<0.002*	*<0.002*	*<0.002*	*<0.004*	*<0.002*	*<0.002*	*<0.002*	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.004*	*<0.004*
2-Hexanone	**0.038**	-	-	<0.02	<0.02	<0.02	<0.01	-	-	-	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.01	<0.01
Isopropylbenzene (Cumene)	**0.45**	-	-	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002
p-Isopropyltoluene		-	-	-	<0.002	-	<0.002	-	-	-	-	-	-	<0.002	-	<0.002	-	-	-	-	-	-	-	-	-	<0.002	<0.002
Methyl isobutyl ketone (MIBK)	**6.3**	-	-	<0.02	<0.02	<0.02	<0.005	-	-	-	<0.02	<0.02	<0.02	<0.005	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.005	<0.005
Methyl tert-butyl ether (MTBE)	**0.14**	-	-	-	-	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01
n-Propylbenzene	**0.66**	-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
1,1,1,2-Tetrachloroethane	**0.0057**	-	-	<0.0005	<0.0005		<0.0005	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005
1,1,2,2-Tetrachloroethane	**0.00076**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,2,3-Trichlorobenzene	**0.007**	-	-	<0.002	<0.002	<0.002	<0.001	-	-	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.001	<0.001
1,2,4-Trichlorobenzene	**0.004**	-	-	<0.002	<0.002	<0.002	<0.001	-	-	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.001	<0.001
1,1,2-Trichloroethane	**0.00041**	-	-	<0.0005	<0.0005	-	<0.0005	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0014	<0.0014	-	<0.0005	<0.0005
Trichlorofluoromethane (Freon-11)	**5.2**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,2,3-Trichloropropane	**0.0000075**	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005
1,3,4-Trimethylbenzene		-	-	<0.002	<0.002	<0.002	<0.001	-	-	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.001	<0.001
1,2,4-Trimethylbenzene	**0.056**	-	-	<0.002	<0.002	<0.002	<0.001	-	-	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.001	<0.001
1,3,5-Trimethylbenzene	**0.06**	-	-	<0.002	<0.002	<0.002	<0.0005	-	-	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.0005	<0.0005
2,4,5-Trichlorophenol	**1.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	**0.012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	**0.046**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	**0.36**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	**0.039**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	**0.0024**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	**0.00049**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	**0.75**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	**0.091**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	**0.00011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	**0.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	**0.0013**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	**0.0037**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	**0.00014**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl) phthalate	**0.056**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzyl phthalate	**0.16**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	**16**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butyl phthalate	**0.9**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	**0.000098**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	**0.00041**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	**0.0033**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	**0.0014**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	**5.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane		-	-	-	-	<0.0005	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	<0.0005	<0.0005	-	-	-
4-Isopropyltoluene		-	-	-	-	<0.002	-	-	-	-	-	-	<0.002	-	-	-	<0.002	-	-	-	-	-	<0.002	<0.002	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control numbe
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplica
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.

1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

** Sample collected using bladder pump during the September 2013 monitoring event.

Concentration Exceeds ADEC Groundwater Cleanup Level (updated to September 2018) **XX**

TABLE 2B
Historical Groundwater Analytical Results
Semivolatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-5R	MW97-5R	MW97-5R	MW97-5R	MW97-6M	MW97-6M	MW97-6M	MW97-6D	MW97-7S	MW97-7S	MW97-7M	MW97-7M	MW97-7M	MW97-7D	MW97-7D	MW97-7D	MW97-7R S	MW97-7R S	MW97-7R S	MW98-1	MW98-1	MW98-1	MW98-1	MW98-2	MW00-31	MW00-32
SCN		7681-05	7685-05	7796-07	580-78476-2	7681-06	7683-08	7796-06	24297-05	7680-03	7683-03	7680-01	7683-02	7688-02	7680-02	7683-01	7688-03	7688-01	580-78476-1	580-78476-7	24298-01	7681-08	7684-04	7796-05	7680-09	24297-01	24297-02
Date		15-Jun-16	21-Sep-16	16-May-17	27-Jun-18	15-Jun-16	20-Sep-16	16-May-17	12-Jun-14	15-Jun-16	19-Sep-16	15-Jun-16	19-Sep-16	15-May-17	15-Jun-16	19-Sep-16	16-May-17	15-May-17	27-Jun-18 FDA	27-Jun-18 FD	13-Jun-14	15-Jun-16	20-Sep-16	16-May-17	15-Jun-16	11-Jun-14	11-Jun-14
QA/QC																											
Semivolatile Organic Compounds																											
Acetone	14	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.025	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	<0.025	<0.02	<0.02	<0.02	<0.02	<0.025	<0.025
n-Butylbenzene	1	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005
sec-Butylbenzene	2	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
tert-Butylbenzene	0.69	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001
Bromobenzene	0.062	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
Bromochloromethane		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bromodichloromethane	0.0013	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bromoform	0.033	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Carbon disulfide	0.81	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	<0.01
Carbon tetrachloride	0.0046	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	0.078	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chloroethane		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chloroform	0.0022	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Methyl bromide (Bromomethane)	0.0075	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.005
Methyl ethyl ketone (MEK)	5.6	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01
Methyl chloride (Chloromethane)	0.19	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.005
2-Chlorotoluene		<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
4-Chlorotoluene		<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
1,2-Dibromo-3-Chloropropane (DBCP)		<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.005	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005
Chlorodibromomethane (Dibromochloromethane)	0.0087	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Dibromomethane	0.0083	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloroethane	0.0017	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	0.3	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	0.3	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	0.0048	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dichlorodifluoromethane	0.2	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.005
1,2-Dichloropropane	0.0082	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichloropropene	0.0047	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005
cis-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
trans-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
2,2-Dichloropropane		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloropropene		<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Hexachlorobutadiene	0.0014	*<0.002*	*<0.002*	*<0.002*	-	*<0.002*	*<0.002*	*<0.002*	*<0.004*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	-	*<0.004*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.004*	*<0.004*
2-Hexanone	0.038	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	<0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01
Isopropylbenzene (Cumene)	0.45	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
p-Isopropyltoluene		-	-	-	-	-	-	-	<0.002	-	-	-	-	-	<0.02	-	-	-	-	-	<0.002	-	-	-	-	<0.002	<0.002
Methyl isobutyl ketone (MIBK)	6.3	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	<0.005	<0.02	<0.02	<0.02	<0.02	<0.005	<0.005
Methyl tert-butyl ether (MTBE)	0.14	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	<0.01
n-Propylbenzene	0.66	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005
1,1,1,2-Tetrachloroethane	0.0057	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005
1,1,2,2-Tetrachloroethane	0.00076	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2,3-Trichlorobenzene	0.007	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001
1,2,4-Trichlorobenzene	0.004	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001
1,1,2-Trichloroethane	0.00041	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	-	-	-	-	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*
Trichlorofluoromethane (Freon-11)	5.2	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2,3-Trichloropropane	0.0000075	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
1,2,4-Trimethylbenzene	0.056	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.001	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001
1,3,5-Trimethylbenzene	0.06	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0005
2,4,5-Trichlorophenol	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	0.012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	0.046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	0.0024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	0.00049	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	0.091	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	0.00011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	0.0013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	0.0037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	0.00014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl) phthalate	0.056	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzyl phthalate	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butyl phthalate	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	0.000098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	0.00041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	0.0014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane		-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	<0.0005	-	-	<0.0005	<0.0005	-	-	-	-	-	<0.0005	-	-	-
4-Isopropyltoluene		-	-	<0.002	-	-	-	<0.002	-	-	-	-	-	<0.002	-	-	<0.002	<0.002	-	-	-	-	-	<0.002	-	-	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control numbe
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplica
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

** Sample collected using bladder pump during the September 2013 monitoring event.

Concentration Exceeds ADEC Groundwater Cleanup Level (updated to September 2018) — XX

TABLE 2B
Historical Groundwater Analytical Results
Semivolatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW00-33R	MW00-33R	MW00-33R	MW00-33R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW00-34R	MW13-1S	MW13-1S	MW13-1S	MW13-1S	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-1D	MW13-2	MW13-2	MW13-2	MW13-2	MW13-3D	MW13-3D	MW13-3D
SCN	ADEC Groundwater	7680-06	7685-01	7688-07	580-78476-4	7507-05	7637-03	7637-04	7680-10	7685-08	7796-09	7632-03	7680-04	7685-10	7688-09	7632-06	7681-01	7681-02	7685-09	7688-08	580-78476-3	7680-05	7685-02	7796-10	7796-11	7681-07	7684-03	7796-03
Date	Cleanup Level (2018)[1]	15-Jun-16	20-Sep-16	16-May-17	27-Jun-18	05-May-15	07-Oct-15 FDA	07-Oct-15 FDA	15-Jun-16	21-Sep-16	16-May-17	06-Oct-15	15-Jun-16	21-Sep-16	16-May-17	06-Oct-15	15-Jun-16 FDA	15-Jun-16 FD	21-Sep-16	16-May-17	27-Jun-18	15-Jun-16	20-Sep-16	17-May-17	17-May-17	15-Jun-16	20-Sep-16	16-May-17
QA/QC																												
Semivolatile Organic Compounds																												
Acetone	**14**	<0.02	<0.02	<0.02	-	-	-	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
n-Butylbenzene	**1**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
sec-Butylbenzene	**2**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
tert-Butylbenzene	**0.69**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bromobenzene	**0.062**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bromochloromethane		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bromodichloromethane	**0.0013**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bromoform	**0.033**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Carbon disulfide	**0.81**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Carbon tetrachloride	**0.0046**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	**0.078**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chloroethane		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chloroform	**0.0022**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Methyl bromide (Bromomethane)	**0.0075**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Methyl ethyl ketone (MEK)	**5.6**	<0.02	<0.02	<0.02	-	-	-	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl chloride (Chloromethane)	**0.19**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
2-Chlorotoluene		<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
4-Chlorotoluene		<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,2-Dibromo-3-Chloropropane (DBCP)		<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chlorodibromomethane (Dibromochloromethane)	**0.0087**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dibromomethane	**0.0083**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloroethane	**0.0017**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichlorobenzene	**0.3**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	**0.3**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	**0.0048**	<0.0005	<0.0005	<0.0005	-	<0.000096	<0.000097	<0.000096	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.000096	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dichlorodifluoromethane	**0.2**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloropropane	**0.0082**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichloropropene	**0.0047**	<0.0005	<0.0005	-	-	-	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-
cis-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
trans-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
2,2-Dichloropropane		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloropropene		<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Hexachlorobutadiene	**0.0014**	*<0.002*	*<0.002*	*<0.002*	-	<0.000096	<0.000097	<0.000096	*<0.002*	*<0.002*	*<0.002*	<0.0001	*<0.002*	*<0.002*	*<0.002*	<0.000096	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*
2-Hexanone	**0.038**	<0.02	<0.02	<0.02	-	-	-	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Isopropylbenzene (Cumene)	**0.45**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
p-Isopropyltoluene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone (MIBK)	**6.3**	<0.02	<0.02	<0.02	-	-	-	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl tert-butyl ether (MTBE)	**0.14**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	**0.66**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,1,1,2-Tetrachloroethane	**0.0057**	<0.0005	<0.0005	-	-	-	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-
1,1,2,2-Tetrachloroethane	**0.00076**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2,3-Trichlorobenzene	**0.007**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,2,4-Trichlorobenzene	**0.004**	<0.002	<0.002	<0.002	-	<0.000096	<0.000097	<0.000096	<0.002	<0.002	<0.002	<0.0001	<0.002	<0.002	<0.002	<0.000096	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,1,2-Trichloroethane	**0.00041**	*<0.0005*	*<0.0005*	-	-	-	-	-	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	-	-	-	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	-
Trichlorofluoromethane (Freon-11)	**5.2**	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1,2,3-Trichloropropane	**0.0000075**	*<0.0005*	*<0.0005*	*<0.0005*	-	-	-	-	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
1,2,4-Trimethylbenzene	**0.056**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	**0.06**	<0.002	<0.002	<0.002	-	-	-	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2,4,5-Trichlorophenol	**1.2**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	**0.012**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	**0.046**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	0.00014	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	**0.36**	-	-	-	-	<0.00029	<0.00029	<0.00029	-	<0.01	-	<0.0003	-	-	-	<0.00029	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	**0.039**	-	-	-	-	<0.000096	<0.00097	<0.00096	-	<0.025	-	<0.001	-	-	-	<0.00096	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	**0.0024**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	**0.00049**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	**0.75**	-	-	-	-	<0.000019	<0.000019	<0.000019	-	<0.01	-	<0.00002	-	-	-	<0.000019	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	**0.091**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	**0.00011**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	**0.12**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	0.025	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	**0.0013**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.025*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline		-	-	-	-	<0.00012	<0.00012	<0.00012	-	*<0.025*	-	*<0.00012*	-	-	-	<0.00012	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol		-	-	-	-	<0.00096	<0.00097	<0.00096	-	*<0.025*	-	<0.001	-	-	-	<0.00096	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	**0.0037**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.025	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol		-	-	-	-	<0.00096	<0.00097	<0.00096	-	<0.025	-	<0.001	-	-	-	<0.00096	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone		-	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane		-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	**0.00014**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl) phthalate	**0.056**	-	-	-	-	<0.0011	<0.0011	0.0045	-	*<0.01*	-	<0.0012	-	-	-	<0.0011	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzyl phthalate	**0.16**	-	-	-	-	<0.0019	<0.00019	<0.00019	-	<0.01	-	<0.0002	-	-	-	<0.00019	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	**15**	-	-	-	-	0.00021	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	**16**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butyl phthalate	**0.9**	-	-	-	-	<0.00012	<0.00013	<0.00013	-	<0.01	-	<0.00013	-	-	-	<0.00012	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate		-	-	-	-	<0.00017	<0.00017	<0.00017	-	<0.01	-	<0.00018	-	-	-	<0.00017	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	**0.000098**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	*<0.0001*	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	**0.00041**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	**0.0033**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	**0.0014**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	*<0.01*	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	**5.8**	-	-	-	-	<0.000096	<0.000097	<0.000096	-	<0.01	-	<0.0001	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane		-	-	<0.0005	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	<0.0005	-	-	-	<0.0005	<0.0005	-	-	<0.0005
4-Isopropyltoluene		-	-	<0.002	-	-	-	-	-	-	<0.002	-	-	-	<0.002	-	-	-	-	<0.002	-	-	-	<0.002	<0.002	-	-	<0.002

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control numbe
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplica
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.
1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

** Sample collected using bladder pump during the September 2013 monitoring event.
Concentration Exceeds ADEC Groundwater Cleanup Level (updated to September 2018) **XX**

TABLE 2B
Historical Groundwater Analytical Results
Semivolatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW13-4	MW13-4	MW13-4	MW13-5S	MW13-5S	MW13-5S	MW13-5D	MW13-5D	MW13-5D	MW13-6	MW13-6	MW13-6	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7	MW13-7
SCN		7682-02	7683-07	7796-04	7681-09	7683-05	7796-02	7681-10	7683-06	7796-01	7680-12	7684-01	7688-05	6347-01	7506-02	7632-02	7680-07	7680-08	7685-06	7685-07	7688-10	7688-12	10003-02	10003-03	580-78476-5
Date		16-Jun-16	20-Sep-16	16-May-17	16-Jun-16	20-Sep-16	16-May-17	16-Jun-16	20-Sep-16	16-May-17	16-Jun-16	20-Sep-16	16-May-17	25-Sep-14	04-May-15	06-Oct-15	15-Jun-16	15-Jun-16	21-Sep-16	21-Sep-16	17-May-17	17-May-17	17-Oct-17	17-Oct-17	27-Jun-18
QA/QC																	FDA	FD	FDA	FD			FDA	FD	
Semivolatile Organic Compounds																									
Acetone	14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-
n-Butylbenzene	1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
sec-Butylbenzene	2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
tert-Butylbenzene	0.69	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Bromobenzene	0.062	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Bromochloromethane		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Bromodichloromethane	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Bromoform	0.033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Carbon disulfide	0.81	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Carbon tetrachloride	0.0046	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Chlorobenzene	0.078	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Chloroethane		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Chloroform	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Methyl bromide (Bromomethane)	0.0075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Methyl ethyl ketone (MEK)	5.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-
Methyl chloride (Chloromethane)	0.19	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
2-Chlorotoluene		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
4-Chlorotoluene		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
1,2-Dibromo-3-Chloropropane (DBCP)		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Chlorodibromomethane (Dibromochloromethane)	0.0087	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Dibromomethane	0.0083	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,2-Dichloroethane	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,2-Dichlorobenzene	0.3	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,3-Dichlorobenzene	0.3	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,4-Dichlorobenzene	0.0048	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0038	<0.000096	<0.000097	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Dichlorodifluoromethane	0.2	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,2-Dichloropropane	0.0082	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,3-Dichloropropene	0.0047	<0.0005	<0.0005	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-
cis-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
trans-1,3-Dichloropropene		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
2,2-Dichloropropane		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,1-Dichloropropene		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
Hexachlorobutadiene	0.0014	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.0096*	<0.000096	<0.000097	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	*<0.002*	-
2-Hexanone	0.038	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-
Isopropylbenzene (Cumene)	0.45	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
p-Isopropyltoluene		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone (MIBK)	6.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-
Methyl tert-butyl ether (MTBE)	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	0.66	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
1,1,1,2-Tetrachloroethane	0.0057	<0.0005	<0.0005	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-
1,1,2,2-Tetrachloroethane	0.00076	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-
1,2,3-Trichlorobenzene	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
1,2,4-Trichlorobenzene	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0038	<0.000096	<0.000097	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
1,1,2-Trichloroethane	0.00041	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	-	*<0.0005*	*<0.0005*	-	-	-	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	-	*<0.0005*	*<0.0005*	-
Trichlorofluoromethane (Freon-11)	5.2	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-
1,2,3-Trichloropropane	0.0000075	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-	-	-	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	-
1,2,4-Trimethylbenzene	0.056	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
1,3,5-Trimethylbenzene	0.06	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
2,4,5-Trichlorophenol	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2,4,6-Trichlorophenol	0.012	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2,4-Dichlorophenol	0.046	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2,4-Dimethylphenol	0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00029	<0.00029	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2,4-Dinitrophenol	0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.00097	<0.025	-	<0.025	<0.025	-	-	<0.025	<0.025	-
2,4-Dinitrotoluene	0.0024	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	*<0.0099*	*<0.0099*	-
2,6-Dinitrotoluene	0.00049	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000097	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	*<0.0099*	*<0.0099*	-
2-Chloronaphthalene	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000019	<0.000019	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2-Chlorophenol	0.091	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
2-Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
N-Nitrosodi-n-propylamine	0.00011	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	-	-	-
N-Nitrosodiphenylamine	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	0.025	0.025	-	-	-	-	-
2-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.025	-	<0.01	<0.01	-	-	<0.025	<0.025	-
2-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
3,3'-Dichlorobenzidine	0.0013	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.025*	-	*<0.025*	*<0.025*	-	-	*<0.025*	*<0.025*	-
3-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00011	<0.00012	<0.025	-	<0.025	<0.025	-	-	<0.025	<0.025	-
4,6-Dinitro-2-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00096	<0.00097	<0.025	-	<0.025	<0.025	-	-	<0.025	<0.025	-
4-Bromophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
4-Chloro-3-methylphenol		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
4-Chloroaniline	0.0037	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	*<0.0099*	*<0.0099*	-
4-Chlorophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
4-Nitroaniline		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.025	-	<0.025	<0.025	-	-	<0.025	<0.025	-
4-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00096	<0.00097	<0.025	-	<0.025	<0.025	-	-	<0.025	<0.025	-
Acetophenone		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Bis(2-chloroethyl)ether	0.00014	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	-	-	-
Bis(2-ethylhexyl) phthalate	0.056	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0011	0.0083	*<0.0098*	-	*<0.01*	*<0.01*	-	-	-	-	-
Butyl benzyl phthalate	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00021	0.00056	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Diethyl phthalate	15	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Dimethyl phthalate	16	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Di-n-butyl phthalate	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00012	0.00015	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Di-n-octyl phthalate		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00017	<0.00017	<0.0098	-	<0.01	<0.01	-	-	-	-	-
Hexachlorobenzene	0.000098	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	-	-	-
Hexachlorocyclopentadiene	0.00041	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	*<0.01*	-	-	-	-	-
Hexachloroethane	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	-	-	-
Nitrobenzene	0.0014	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	*<0.0098*	-	*<0.01*	*<0.01*	-	-	*<0.0099*	*<0.0099*	-
Phenol	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000096	<0.000097	<0.0098	-	<0.01	<0.01	-	-	<0.0099	<0.0099	-
1,3-Dichloropropane		-	-	<0.0005	-	-	<0.0005	-	-	<0.0005	-	-	<0.0005	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-
4-Isopropyltoluene		-	-	<0.002	-	-	<0.002	-	-	<0.002	-	-	<0.002	-	-	-	-	-	-	-	<0.002	<0.002	<0.002	<0.002	-

Notes:
All concentrations are in milligrams per litre (mg/L); SCN = sample control numbe
QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplica
Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.

1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

** Sample collected using bladder pump during the September 2013 monitoring event.

Concentration Exceeds ADEC Groundwater Cleanup Level (updated to September 2018) — XX

TABLE 3
May 2019 Groundwater Analytical Results
Contaminants of Concern and Field Parameters
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-3		MW97-5R	MW97-7R S	MW00-33R	MW13-1D	MW13-7
Lab ID	ADEC Groundwater Cleanup Level (2018)[1]	580-86209-6	580-86209-7	580-86209-2	580-86209-1	580-86209-4	580-86209-3	580-86209-5
Date		15-May-19	15-May-19	15-May-19	15-May-19	15-May-19	15-May-19	15-May-19
QA/QC		FDA	FD					
Field Parameters								
Temperature (°C)		5.28	5.28	6.16	5.24	5.43	4.93	4.81
pH		6.03	6.03	6.25	6.02	6.42	6.51	6.39
Specific Conductivity (µS/cm)		412	412	294	209	210	100	178
Oxidation Reduction Potential (mV)		81.3	81.3	137.4	203.1	165.6	177.7	179.7
Dissolved Oxygen (mg/L)		1.74	1.74	3.05	2.88	6.25	6.81	5.46
BTEXS								
Benzene	**0.0046**	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
Ethylbenzene	**0.015**	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
Toluene	**1.1**	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Xylenes (total)	**0.19**	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015
Styrene	**1.2**	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019
Petroleum Hydrocarbons								
Diesel Range Organics (DRO C_{10}-C_{25})	**1.5**	**21**	**21**	1.4	<0.081	-	-	-
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	<0.10	<0.10	<0.10	<0.10	-	-	-
Residual Range Organics (RRO C_{25}-C_{36})	**1.1**	**8**	**8.8**	0.33	0.083	-	-	-
Volatile Organic Compounds (VOCs)								
1,1-Dichloroethane	**0.028**	0.000027	0.000031	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
1,1-Dichloroethene	**0.28**	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
cis-1,2-Dichloroethene	**0.036**	<0.000055	<0.000055	<0.000055	<0.000055	<0.000055	0.0012	0.0038
trans-1,2-Dichloroethene	**0.36**	<0.000089	<0.000089	<0.000089	<0.000089	<0.000089	<0.000089	<0.000089
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
1-Methylnapthalene	**0.011**	<0.000099	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.000021
2-Methylnapthalene	**0.036**	<0.0002	<0.00021	<0.000041	<0.000041	<0.000041	<0.00004	<0.000043
Methylene Chloride	**0.11**	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074
Pentachlorophenol (PCP)	**0.00041**	*<0.00094*	*<0.00095*	<0.00019	<0.00019	<0.00019	<0.00019	<0.0002
Tetrachloroethene (PCE)	**0.041**	**0.052**	**0.046**	0.00057	<0.000084	0.00071	0.00023	0.00032
1,1,1-Trichloroethane	**8**	0.00023	0.00024	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Trichloroethene (TCE)	**0.028**	0.00043	0.00041	0.00043	<0.000066	0.00016	0.0028	0.007
Vinyl chloride (Chloroethane)	**0.00019**	<0.000013	<0.000013	<0.000013	<0.000013	<0.000013	<0.000013	<0.000013
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	**0.53**	<0.000073	<0.000074	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Acenaphthylene	**0.26**	<0.000047	<0.000048	<0.0000095	<0.0000094	<0.0000095	<0.0000093	<0.0000099
Anthracene	**0.043**	<0.00011	<0.00012	<0.000023	<0.000023	<0.000023	<0.000023	<0.000024
Benzo[a]anthracene	**0.0003**	<0.000073	<0.000074	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Benzo[b]fluoranthene	**0.0025**	<0.000057	<0.000058	<0.000012	<0.000011	<0.000012	<0.000011	<0.000012
Benzo[k]fluoranthene	**0.0008**	<0.000063	<0.000063	<0.000013	<0.000013	<0.000013	<0.000012	<0.000013
Benzo[a]pyrene	**0.00025**	<0.000057	<0.000058	<0.000012	<0.000011	<0.000012	<0.000011	<0.000012
Benzo[g,h,i]perylene	**0.00026**	<0.000063	<0.000063	<0.000013	<0.000013	<0.000013	<0.000012	<0.000013
Dibenz(a,h)anthracene	**0.00025**	<0.000052	<0.000053	<0.000011	<0.00001	<0.000011	<0.00001	<0.000011
Indeno[1,2,3-cd]pyrene	**0.00019**	<0.000073	<0.000074	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chrysene	**0.002**	<0.000083	<0.000085	<0.000017	<0.000017	<0.000017	<0.000017	<0.000018
Fluorene	**0.29**	<0.000089	<0.00009	<0.000018	<0.000018	<0.000018	<0.000018	<0.000019
Fluoranthene	**0.26**	<0.00026	<0.00026	<0.000053	<0.000052	<0.000053	<0.000052	<0.000055
Naphthalene	**0.0017**	<0.00016	<0.00016	<0.000033	<0.000032	<0.000033	<0.000032	<0.000034
Phenanthrene	**0.17**	0.00097	0.00059	0.000066	<0.000032	<0.000033	<0.000032	<0.000034
Pyrene	**0.12**	<0.00017	<0.00017	<0.000035	<0.000034	<0.000035	<0.000034	<0.000036

Notes:

All concentrations are in milligrams per litre (mg/L)

QA/QC = quality assurance/quality control; FDA/FD = field duplicate available/ field duplicate

RED font indicates parameter with detectable concentrations in field and trip blanks.

ORANGE font indicates parameter with detectable concentrations in the field blank.

Italics indicate method detection limit was greater than the applicable ADEC Clean-up Level.

1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

Concentration Exceeds ADEC Groundwater Cleanup Level (updated to February 2018) — **XX**

- : Not analysed

TABLE 4
QA/QC Results for Groundwater Analysis
Hydrocarbons and Volatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location		MW97-3	MW05-19			
Lab ID	Method Detection Limit[1]	580-86209-6	580-86209-7	Mean	Relative Percent Difference	Difference Factor
Date		15-May-19	15-May-19			
QA/QC		FDA	FD			
BTEXS						
Benzene	0.00003	<0.000030	<0.000030	NC	NC	NC
Ethylbenzene	0.00003	<0.000030	<0.000030	NC	NC	NC
Toluene	0.00005	<0.000050	<0.000050	NC	NC	NC
Xylenes (total)	0.00015	<0.00015	<0.00015	NC	NC	NC
Styrene	0.00019	<0.00019	<0.00019	NC	NC	NC
Petroleum Hydrocarbons						
Diesel Range Organics (DRO C_{10}-C_{25})	0.078	21	21	21.0	0.0	NC
Gasoline Range Organics (GRO C_6-C_{10})	0.1	<0.10	<0.10	NC	NC	NC
Residual Range Organics (RRO C_{25}-C_{36})	0.068	8	8.8	8.4	9.5	NC
Volatile Organic Compounds (VOCs)						
1,1-Dichloroethane	0.000025	0.000027	0.000031	0.00003	NC	0.16
1,1-Dichloroethene	0.0001	<0.00010	<0.00010	NC	NC	NC
cis-1,2-Dichloroethene	0.000055	<0.000055	<0.000055	NC	NC	NC
trans-1,2-Dichloroethene	0.000089	<0.000089	<0.000089	NC	NC	NC
1,2-Dibromoethane (Ethylene Dibromide)	0.000025	<0.000025	<0.000025	NC	NC	NC
1-Methylnapthalene	0.000019	<0.000099	<0.0001	NC	NC	NC
2-Methylnapthalene	0.000039	<0.0002	<0.00021	NC	NC	NC
Methylene Chloride	0.00074	<0.00074	<0.00074	NC	NC	NC
Pentachlorophenol (PCP)	0.00018	<0.00094	<0.00095	NC	NC	NC
Tetrachloroethene (PCE)	0.000084	0.052	0.046	0.04900	12.2	NC
1,1,1-Trichloroethane	0.000025	0.000	0.00024	0.00024	4.3	NC
Trichloroethene (TCE)	0.000066	0.00043	0.00041	0.00042	4.8	NC
Vinyl chloride (Chloroethane)	0.000013	<0.000013	<0.000013	NC	NC	NC
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	0.000014	<0.000073	<0.000074	NC	NC	NC
Acenaphthylene	0.0000090	<0.000047	<0.000048	NC	NC	NC
Anthracene	0.0000220	<0.00011	<0.00012	NC	NC	NC
Benzo[a]anthracene	0.000014	<0.000073	<0.000074	NC	NC	NC
Benzo[b]fluoranthene	0.000011	<0.000057	<0.000058	NC	NC	NC
Benzo[k]fluoranthene	0.000012	<0.000063	<0.000063	NC	NC	NC
Benzo[a]pyrene	0.000011	<0.000057	<0.000058	NC	NC	NC
Benzo[g,h,i]perylene	0.000012	<0.000063	<0.000063	NC	NC	NC
Dibenz(a,h)anthracene	0.00001	<0.000052	<0.000053	NC	NC	NC
Indeno[1,2,3-cd]pyrene	0.000014	<0.000073	<0.000074	NC	NC	NC
Chrysene	0.000016	<0.000083	<0.000085	NC	NC	NC
Fluorene	0.000017	<0.000089	<0.00009	NC	NC	NC
Fluoranthene	0.00005	<0.00026	<0.00026	NC	NC	NC
Naphthalene	0.000031	<0.00016	<0.00016	NC	NC	NC
Phenanthrene	0.00016	0.00097	0.00059	0.00078	NC	**2.38**
Pyrene	0.000033	<0.00017	<0.00017	NC	NC	NC

Notes:
All concentrations are in milligrams per litre (mg/L.)
QA/QC = quality assurance/quality control
FDA = field duplicate available; FD = field duplicate
1. Detection limits provided are for typical samples and may not reflect the detection limit obtained by the lab due to interference or sample dilution
Method Detection Limit indicates the minimum concentration that could be measured by laboratory instrumentation for a specific sample.
Mean indicates the mean or average value calculated of a field duplicate pair.
Relative Percent Difference (RPD) is calculated when the mean value is greater than five times the method detection limit; ADEC's recommended QA/QC target is less than 30%.
Difference Factor (DF) is calculated when the mean value is within five times the method detection limit; Golder's internal QA/QC target is less than 2
NC = not calculated

TABLE 5
Results for Field Blank and Field Duplicate Samples
Hydrocarbons and Volatile Organic Compounds
Maintenance Yard Shops, Skagway, AK
White Pass and Yukon Route

Location			Field Blank	Trip Blank
Lab ID	**ADEC Groundwater Cleanup Level (2018)[1]**	**Method Detection Limit[2]**	580-86209-8	580-86209-9
Date			15-May-19	15-May-19
BTEXS				
Benzene	**0.0046**	0.00003	<0.000030	<0.000030
Ethylbenzene	**0.015**	0.00003	**0.000045**	<0.000030
Toluene	**1.1**	0.00005	**0.00057**	**0.014**
Xylenes (total)	**0.19**	0.00015	**0.00021**	<0.00015
Styrene	**1.2**	0.00019	<0.00019	<0.00019
Petroleum Hydrocarbons				
Gasoline Range Organics (GRO C_6-C_{10})	**2.2**	0.1	<0.10	<0.10
Volatile Organic Compounds (VOCs)				
1,1-Dichloroethane	**0.028**	0.000025	<0.000025	<0.000025
1,1-Dichloroethene	**0.28**	0.0001	<0.00010	<0.00010
cis-1,2-Dichloroethene	**0.036**	0.000055	<0.000055	<0.000055
trans-1,2-Dichloroethene	**0.36**	0.000089	<0.000089	<0.000089
1,2-Dibromoethane (Ethylene Dibromide)	**0.000075**	0.000025	<0.000025	<0.000025
Methylene Chloride	**0.11**	0.00074	<0.00074	<0.00074
Tetrachloroethene (PCE)	**0.041**	0.000084	<0.000084	<0.000084
1,1,1-Trichloroethane	**8**	0.000025	<0.000025	<0.000025
Trichloroethene (TCE)	**0.028**	0.000066	<0.000066	<0.000066
Vinyl chloride (Chloroethane)	**0.00019**	0.000013	<0.000013	<0.000013
Polycyclic Aromatic Hydrocarbons (PAHs)				
Naphthalene	**0.0017**	0.00022	<0.00022	<0.00022

Notes:

All concentrations are in milligrams per litre (mg/L.)

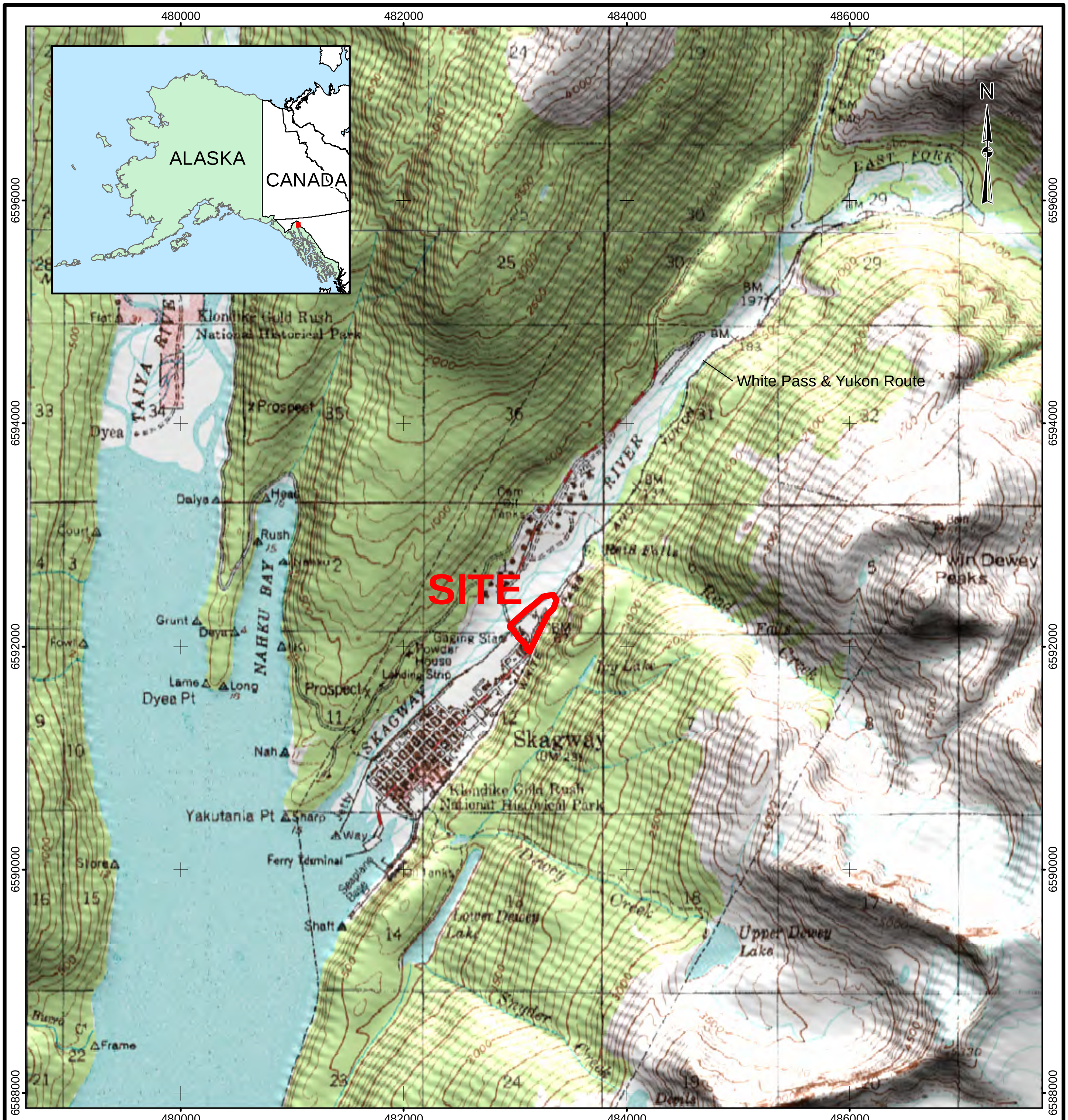
QA/QC = quality assurance/quality control

1. Alaska Department of Environmental Conservation (ADEC), Table C of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control", regulations revised as of 29 September 2018.

2. Method Detection limits provided are for typical samples and may not reflect the detection limit obtained by the lab due to interference or sample dilution

Method Detection Limit indicates the minimum concentration that could be measured by laboratory instrumentation for a specific sample.

BOLD font indicates the parameter analysed is above the Method Detection Limit.



LEGEND

PROJECT SITE

1,000 0 1,000

SCALE 1:50,000 METRES

REFERENCE

TOPOGRAPHY OBTAINED FROM THE STATEWIDE DIGITAL MAPPING INITIATIVE IN THE STATE OF ALASKA.
INSET DATA OBTAINED FROM E.S.R.I.
DATUM: NAD83 PROJECTION: UTM ZONE 8

PROJECT

WHITE PASS & YUKON ROUTE SHOPS
2019 SITE INVESTIGATION AND ENVIRONMENTAL MONITORING REPORT
#1 SHOPS ROAD, SKAGWAY, ALASKA

TITLE

SITE LOCATION MAP

GOLDER

PROJECT 1654354			FILE No	
DESIGN	KB	2020-01-28	SCALE	AS SHOWN
GIS	JP	2020-01-28	FIGURE	
CHECK	AB	2020-01-28	**FIGURE 1**	
REVIEW	TR	2020-01-28		

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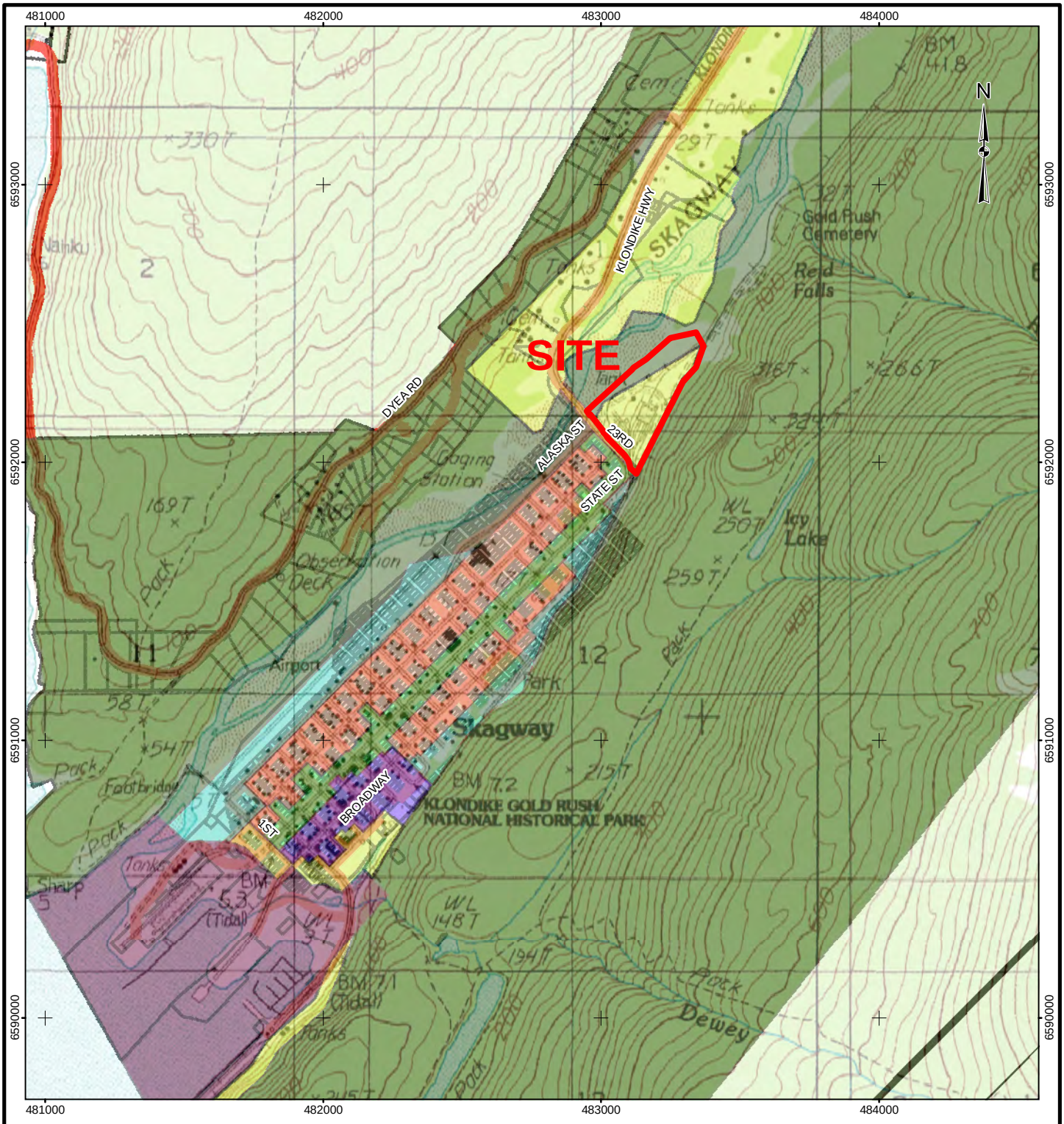

LEGEND

- PROJECT SITE
- BUSINESS - SKAGWAY HISTORIC DISTRICT
- INDUSTRIAL - LIGHT DISTRICT
- INDUSTRIAL DISTRICT
- RESIDENTIAL - CONSERVATION DISTRICT
- RESIDENTIAL - GENERAL DISTRICT
- WATERFRONT DISTRICT
- ROAD
- CADASTRAL OUTLINE

500 0 500

SCALE 1:20,000 METRES

REFERENCE

DATA OBTAINED FROM THE MUNICIPALITY OF SKAGWAY
TOPOGRAPHY OBTAINED FROM THE STATEWIDE DIGITAL MAPPING INITIATIVE IN THE STATE OF ALASKA.
DATUM: NAD83 PROJECTION: UTM ZONE 8

PROJECT

WHITE PASS & YUKON ROUTE SHOPS
2019 SITE INVESTIGATION AND ENVIRONMENTAL MONITORING REPORT
#1 SHOPS ROAD, SKAGWAY, ALASKA

TITLE

SITE VICINITY MAP

GOLDER

PROJECT 1654354			FILE No	
DESIGN	KB	2020-01-28	SCALE	AS SHOWN
GIS	JP	2020-01-28	FIGURE	
CHECK	AB	2020-01-28	**FIGURE 2**	
REVIEW	TR	2020-01-28		

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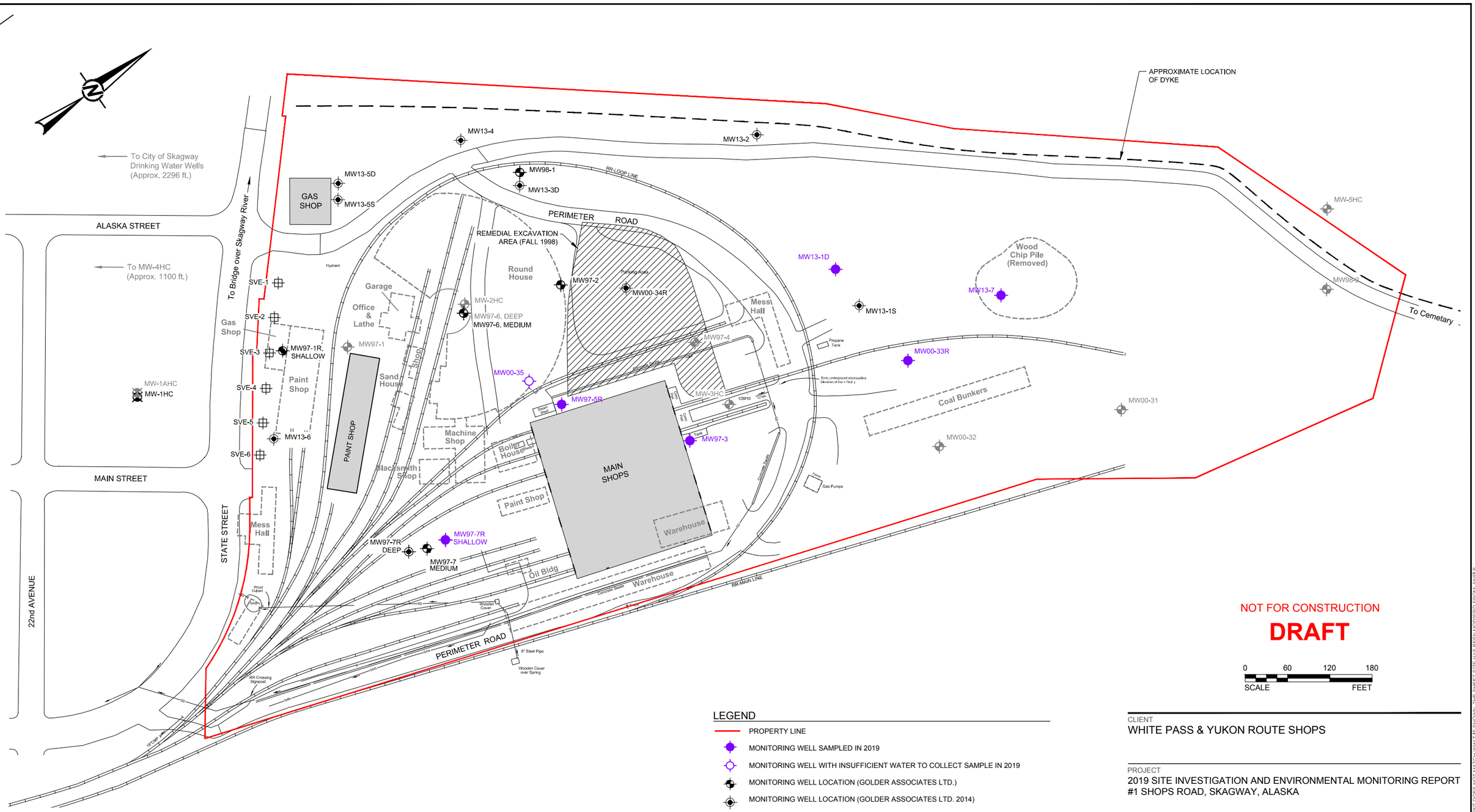


NOT FOR CONSTRUCTION

DRAFT

0 60 120 180

SCALE FEET

LEGEND

- PROPERTY LINE
- MONITORING WELL SAMPLED IN 2019
- MONITORING WELL WITH INSUFFICIENT WATER TO COLLECT SAMPLE IN 2019
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD.)
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD. 2014)
- MONITORING WELL LOCATION (HART CROWSER)
- MONITORING WELL ABANDONED AND/OR NO LONGER INCLUDED IN THE MONITORING PROGRAM
- SOIL VAPOUR EXTRACTION WELL LOCATION
- FOOTPRINT OF HISTORICAL FEATURE
- REMEDIAL EXCAVATION (FALL 1998)

NOTES

1. BASEMAP FROM "SITE PLAN WHITE PASS YARD SKAGWAY, ALASKA" BY UNDERHILL GEOMATICS LTD. NOVEMBER, 2000.

CLIENT
WHITE PASS & YUKON ROUTE SHOPS

PROJECT
2019 SITE INVESTIGATION AND ENVIRONMENTAL MONITORING REPORT
#1 SHOPS ROAD, SKAGWAY, ALASKA

TITLE
SITE PLAN

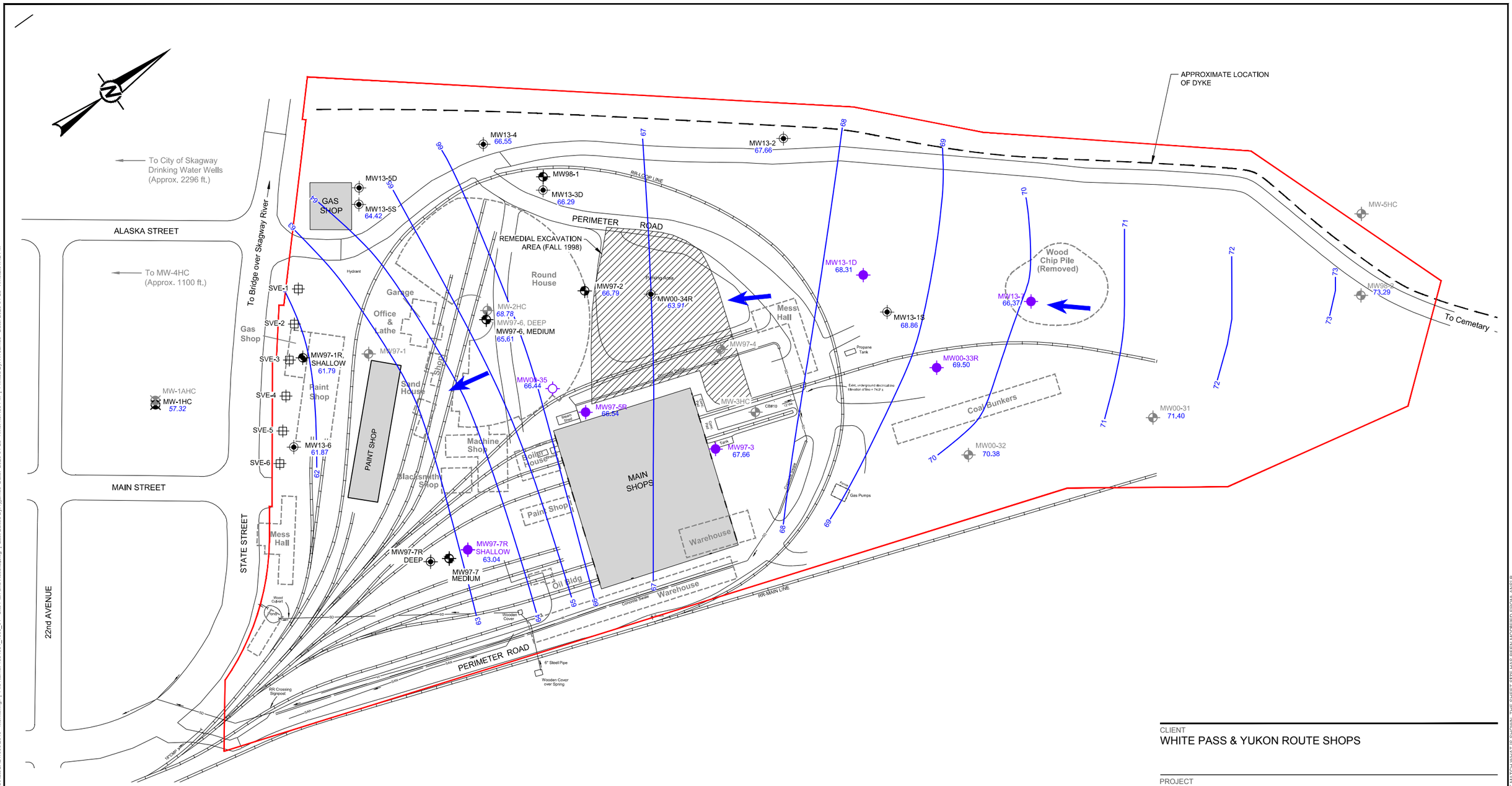
CONSULTANT
GOLDER

YYYY-MM-DD	2020-01-28
DESIGNED	ER
PREPARED	RTJ
REVIEWED	-
APPROVED	-

PROJECT NO.	PHASE	REV.	FIGURE
1654354	1000	A	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm



LEGEND

- PROPERTY LINE
- MONITORING WELL SAMPLED IN 2019
- MONITORING WELL WITH INSUFFICIENT WATER TO COLLECT SAMPLE IN 2019
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD.)
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD. 2014)
- MONITORING WELL ABANDONED AND/OR NO LONGER INCLUDED IN THE MONITORING PROGRAM
- SOIL VAPOUR EXTRACTION WELL LOCATION
- MONITORING WELL LOCATION (HART CROWSER)
- REMEDIAL EXCAVATION (FALL 1998)
- **66.49** WATER TABLE ELEVATION (FT) JUNE 2018
- *66.49* WATER TABLE ELEVATION (FT) NOT USED TO INTERPRET GROUNDWATER CONTOURS
- INFERRED GROUNDWATER FLOW DIRECTION
- GROUNDWATER CONTOUR

NOTES

1. BASEMAP FROM "SITE PLAN WHITE PASS YARD SKAGWAY, ALASKA" BY UNDERHILL GEOMATICS LTD. NOVEMBER, 2000.

NOT FOR CONSTRUCTION

DRAFT

0 60 120 180

SCALE FEET

CLIENT
WHITE PASS & YUKON ROUTE SHOPS

PROJECT
2019 SITE INVESTIGATION AND ENVIRONMENTAL MONITORING REPORT
#1 SHOPS ROAD, SKAGWAY, ALASKA

TITLE
WATER TABLE ELEVATIONS AND CONTOURS, JUNE 2018

CONSULTANT
GOLDER

YYYY-MM-DD	2020-01-28
DESIGNED	ER
PREPARED	RTJ
REVIEWED	-
APPROVED	-

PROJECT NO.	PHASE	REV.	FIGURE
1654354	1000	A	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

25 mm

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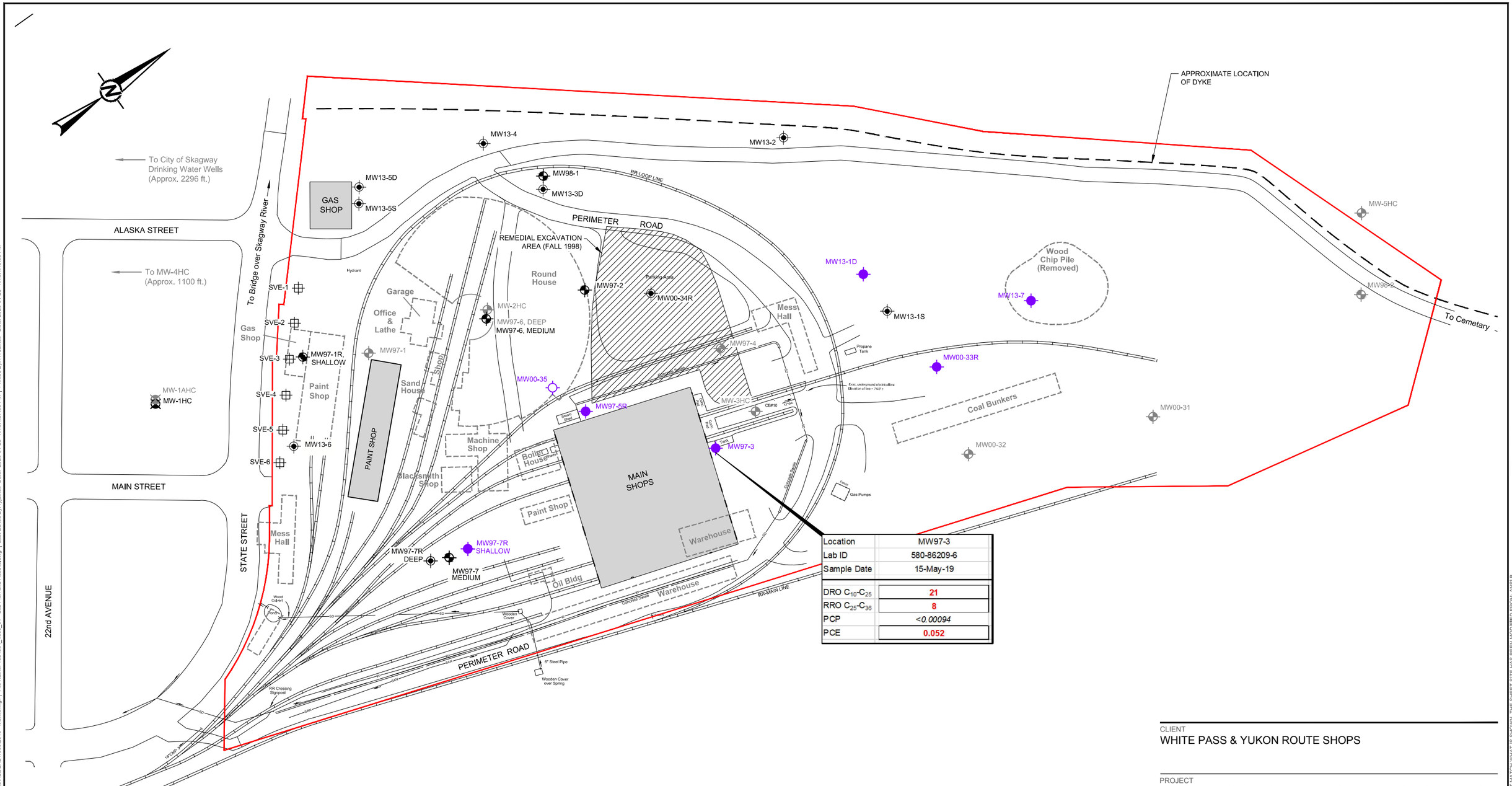


Location	MW97-3
Lab ID	580-86209-6
Sample Date	15-May-19
DRO C_{10}-C_{25}	21
RRO C_{25}-C_{36}	8
PCP	*<0.00094*
PCE	0.052

LEGEND

- PROPERTY LINE
- MONITORING WELL SAMPLED IN 2019
- MONITORING WELL WITH INSUFFICIENT WATER TO COLLECT SAMPLE IN 2019
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD.)
- MONITORING WELL LOCATION (GOLDER ASSOCIATES LTD. 2014)
- MONITORING WELL ABANDONED AND/OR NO LONGER INCLUDED IN THE MONITORING PROGRAM
- SOIL VAPOUR EXTRACTION WELL LOCATION
- MONITORING WELL LOCATION (HART CROWSER)

	ADEC Groundwater Cleanup Level[2] (mg/L)
DRO C_{10}-C_{25}	1.5
RRO C_{25}-C_{36}	1.1
PCP	0.00041
PCE	0.041

NOTES

1. BASEMAP FROM "SITE PLAN WHITE PASS YARD SKAGWAY, ALASKA" BY UNDERHILL GEOMATICS LTD. NOVEMBER, 2000.
2. ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) GROUNDWATER STANDARDS (TABLE C) REVISED AS OF OCTOBER 27, 2018. CONCENTRATIONS ABOVE ADEC STANDARD IN RED BOLD TEXT.

ABBREVIATIONS

SCN	SAMPLE CONTROL NUMBER
QA/QC	QUALITY ASSURANCE/QUALITY CONTROL
FDA/FD	FIELD DUPLICATE AVAILABLE/FIELD DUPLICATE
DRO C_{10}-C_{25}	DIESEL RANGE ORGANICS
RRO C_{25}-C_{36}	RESIDUAL RANGE ORGANICS
PCE	TETRACHLOROETHENE
PCP	PENTACHLOROPHENOL

NOT FOR CONSTRUCTION

DRAFT

0 60 120 180

SCALE FEET

CLIENT
WHITE PASS & YUKON ROUTE SHOPS

PROJECT
2019 SITE INVESTIGATION AND ENVIRONMENTAL MONITORING REPORT
#1 SHOPS ROAD, SKAGWAY, ALASKA

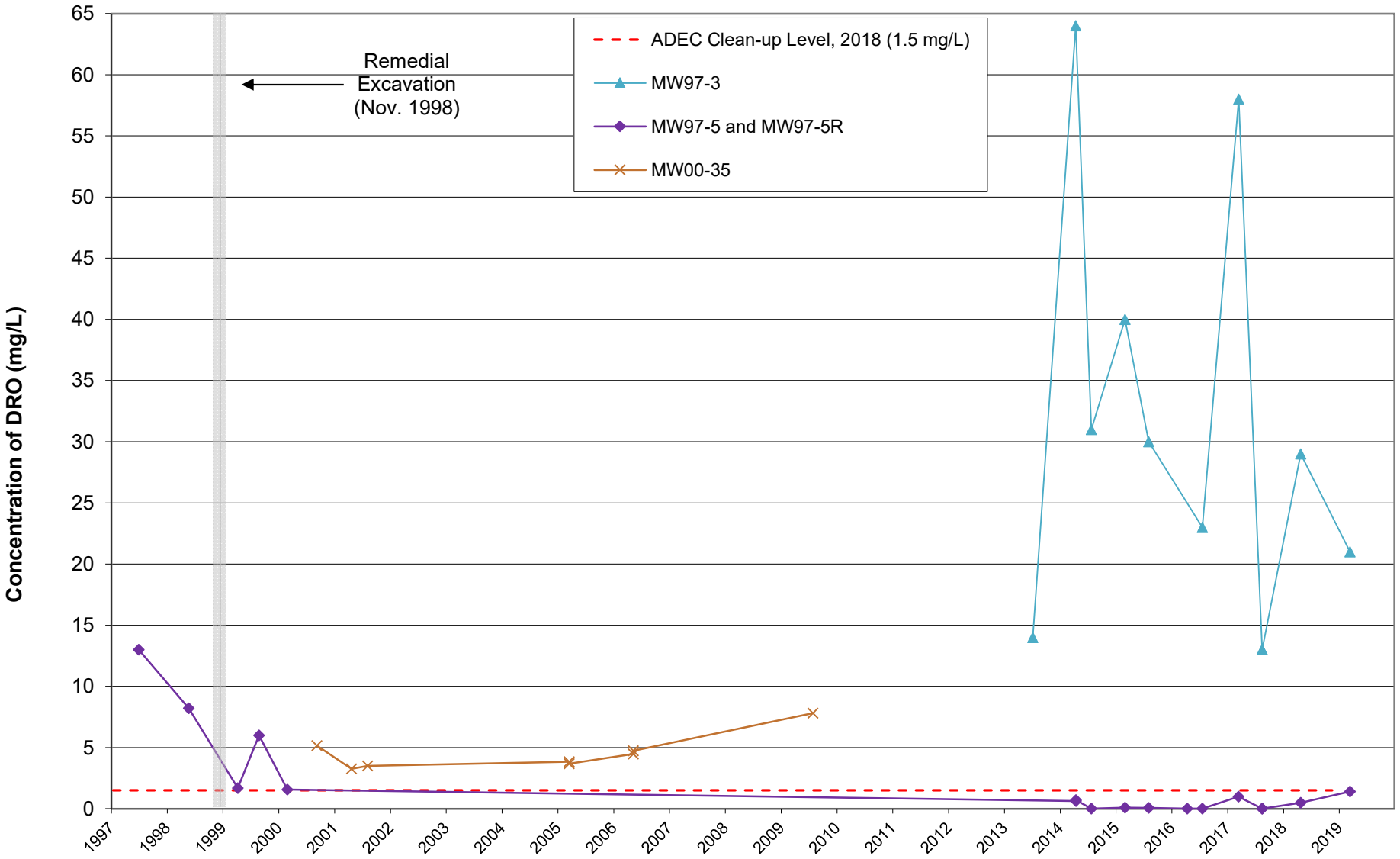
TITLE
CHEMICAL EXCEEDANCES IN GROUNDWATER, MAY 2019

CONSULTANT
GOLDER

YYYY-MM-DD	2020-01-28
DESIGNED	ER
PREPARED	RTJ
REVIEWED	-
APPROVED	-

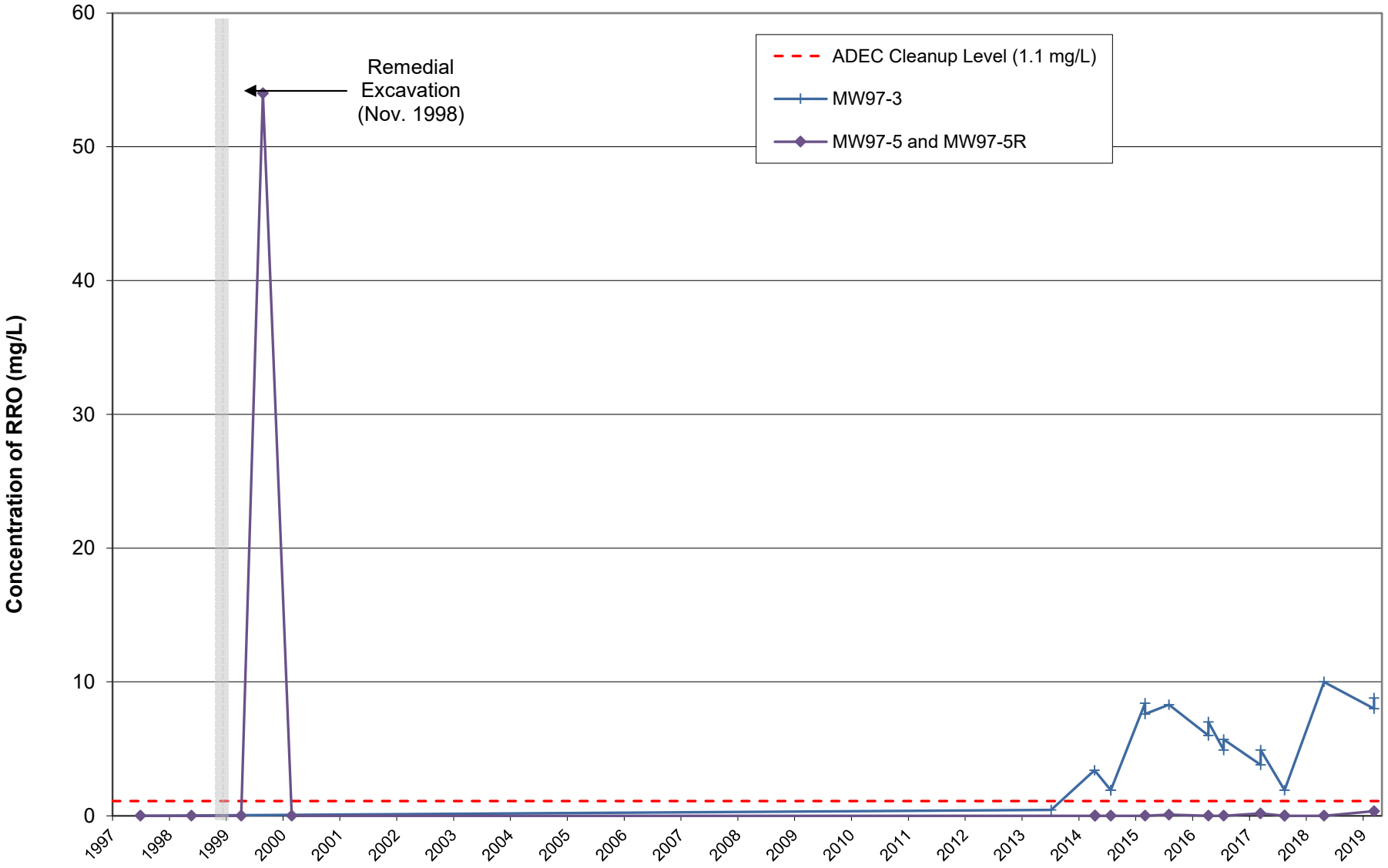
PROJECT NO.	PHASE	REV.	FIGURE
1654354	1000	A	5

FIGURE 6
Concentration of DRO in Groundwater over Time



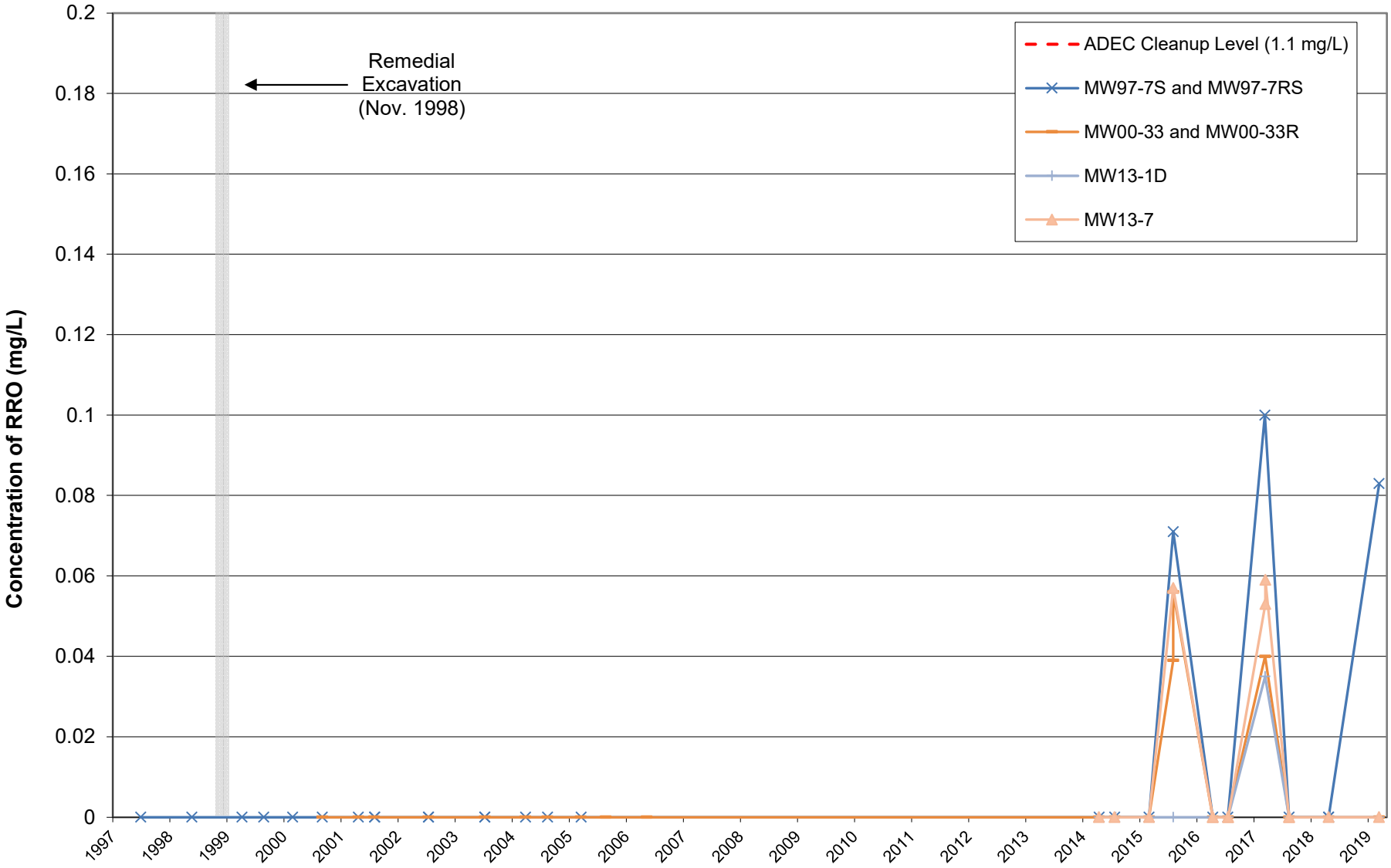
Note: Only wells where DRO concentrations have been above the ADEC Clean-up Level (2018) on at least one occasion are shown.

FIGURE 7A
Concentration of RRO in Groundwater over Time (Concentrations greater than 5 mg/L)



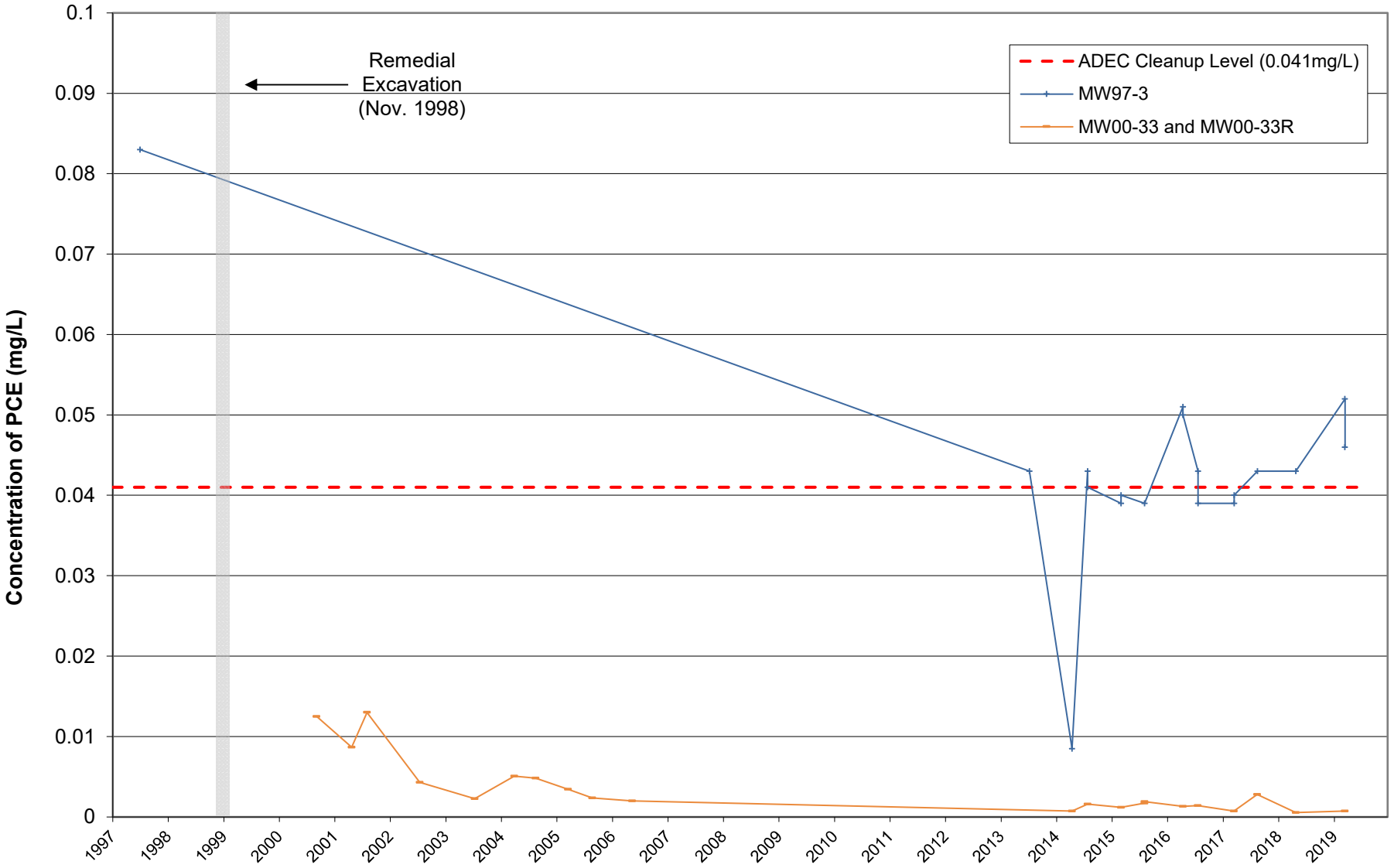
Note: Only wells where RRO concentrations have been greater than 5 mg/L on at least one occasion are shown. Values below detection limit are shown as 0 mg/L.

FIGURE 7B
Concentration of RRO in Groundwater over Time (Concentrations less than 5 mg/L)



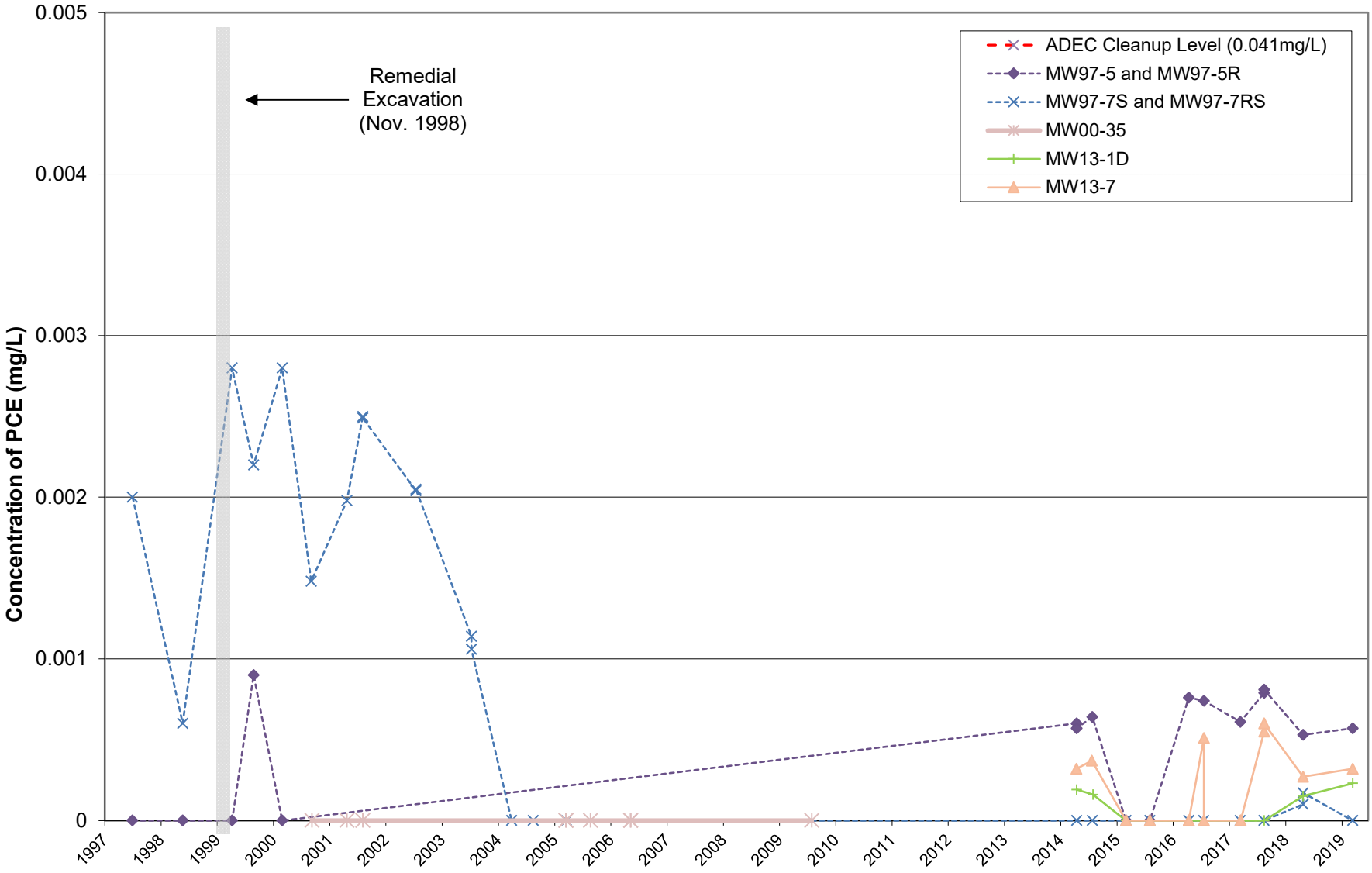
Note: Only wells with RRO concentrations above the detection limit but below 5 mg/L during at least once sampling event are shown. Values below the detection limit are shown as 0 mg/L.

FIGURE 8A
Concentration of PCE in Groundwater over Time (Concentrations greater than 0.01 mg/L)



Note: Only wells with PCE concentrations exceeding 0.01 mg/L during at least one sampling event are shown. Values below detection limit are shown as 0 mg/L.

FIGURE 8B
Concentration of PCE in Groundwater over Time (Concentrations less than 0.01 mg/L)



Note: Only wells where PCE concentrations have been detected at least once but have never exceeded 0.01 mg/L are shown. Values below detection limit are shown as 0 mg/L.

APPENDIX A

Resumé

Golder Associates Ltd. – Whitehorse, YT

Junior Water Engineer (2017 to present)

Eliane Roy is Junior Water Engineer in the Contaminated Sites Group in Golder's Whitehorse, Yukon office with seven years of experience in environmental consulting, mining and oil & gas exploration projects. She holds a B.Eng. in Water Resources Engineering from the Université Laval in Quebec. Eliane has been involved in a wide variety of projects across Yukon, the Northwest Territories, British Columbia and Alaska, including surface and groundwater monitoring, environmental site assessments and baseline water quality studies. She has extensive experience working around heavy equipment, drill rigs and helicopters. She also has experience installing subsurface instrumentation, conducting hydrogeological testing, and is apt to conduct field work in remote locations for extended periods of time.

Employment History

Alexco Environmental Group – YT

Field Hydrogeologist (2016 to 2017)

Conduct environmental sampling and install hydrogeological instrumentation.

Tetra Tech EBA – Whitehorse, YT

Junior Water Engineer and Field Hydrogeologist (2014 to 2016)

Installed subsurface instrumentation such as monitoring wells, vibrating wire piezometers, and thermistor cables at various contaminated sites and mining exploration sites. Conducted packer tests (nitrogen, NQ and HQ) in exploration boreholes to determine hydraulic conductivity. Collected surface and groundwater samples and hydrogeological data from wells on (potentially) contaminated sites, landfills, and mining exploration sites around the Yukon and NT. Conducted extensive hydrogeological field programs, including field preparation, maintenance, calibration and troubleshooting of equipment, and timely delivery of samples to analytical laboratories. Performed surface and groundwater water quality data analysis, QA/QC, comparison with applicable environmental standards, and interpretation at contaminated sites, landfills, soil remediation facilities and mining exploration projects. Calculated site-specific surface water quality objectives based on baseline data for a mining project. Determined aquifer hydraulic conductivity and travel times near sewage lagoons. Wrote proposals and assisted with reporting for environmental monitoring, groundwater contamination delineation and/or new water well installation projects. Conducted Phase I and II Environmental Site Assessments.

GeoTir – Eagle Plains 3D Seismic Project

Cat Push / General Helper / Environmental Monitor (2013 to 2014)

Established creek crossings ahead of mulchers and snow cat. Compiled daily line cutting production for mapping and billing purposes. Drove Nodwell providing support to mulchers; helped repair and maintain heavy equipment. Ensured compliance with Land Use Permit and other agreements. Oversaw Aboriginal Wildlife Monitors' daily field activities and reported on wildlife sighting.

Education

Bachelor in Water Resources Engineering, Universite Laval, Quebec, QC, 2013

Certifications

BC Forest Service Bear Aware and Safety, 2018

BC Mine Supervisor, 2018

Wilderness First Responder (80h – First Aid Level 3), May 2019

H2S Alive, 2015

Firearm Possession and Acquisition License, 2015

RSS Snowmobile Safety, 2014

Languages

English – Fluent

French – Fluent

Veris Gold Corp. – Ketza River Project, YT
Acting Environmental Manager (Summer 2012)

Responsible for the administration of on-site environmental programs for water quality, hydrology and waste management. Ensured compliance with Yukon Government Water Resources Inspector's Directions. Provided daily and weekly reports to YG-WR and Company management and informed them of on-site environmental issues. Carried out fieldwork necessary to gather data for further environmental permitting of the mine site. Supervised and directed Aboriginal Environmental Assistants' activities. Operated the on-site tailings water arsenic removal unit. Commissioned drinking water well to service camp.

Veris Gold Corp. – Ketza River Project, YT
Environmental Monitor (Summer 2012)

Collected surface water samples at stations in accordance with Water License requirements with the assistance of Aboriginal team members. Collected flow data at established gauging stations on a weekly basis. Entered data and maintained the existing database of environmental data gathered at site. Assisted with the installation and setup of a new tailings water arsenic removal unit.

EBA, A Tetra Tech Company – Whitehorse YT
Environmental Technician (Fall 2010 to and Summer 2011)

Conducted environmental sampling (soil, surface water and groundwater) for assessment and remediation projects at sites throughout the Yukon. Coordinated fieldwork, sample preparation and sample shipping. Assisted with environmental monitoring on mine sites including flow metering, surface water and groundwater sampling, data collection, and reporting. Assisted geologists in surficial geology mapping fieldwork. Collaborated in fisheries and aquatic environment assessment on mine sites.

Centre d'expertise hydrique du Québec – Québec, QC
Intern in Hydrology (Summer 2010)

Developed computer modelling tools for hydrologists to estimate base flow contribution to observable river flow and developed various graphical analysis tools. Automated eco-hydrological flow calculation based on historical flow data for most rivers in Quebec, as well as their graphical representation. Provided specific flow data from various watercourses to clients.

PROJECT EXPERIENCE – GEOTECHNICAL ENGINEERING

Carmacks Copper North Yukon, Canada 2017	Field Hydrogeologist. Geotechnical Study. Logged overburden core recovered from six diamond drill boreholes (up to 80 m of till).
Inuvik Senior Center Northwest Territories, Canada 2015	Field Engineer. Supervised pile installation project. Logged soil, ensured that piles were installed according to design specifications 10 meters below permafrost, and collected daily grout batch samples.
Nuway Crusher Yukon, Canada 2016	Conducted grain size analysis on crushed aggregate to ensure compliance with government standards.

PROJECT EXPERIENCE – ENVIRONMENTAL ASSESSMENT

Muncho Lake Highway Maintenance Camp BC, Canada 2019	Field Engineer. Post-remediation drilling program. Supervised the installation of several soil vapour probes and groundwater monitoring wells. Coordinated field activities, samples and equipment logistics.
Faro Mine Complex Yukon, Canada 2017-2020	Technician. Environmental Monitoring. Conducted the monthly surface water monitoring program. Conducted the biannual seepage and groundwater monitoring program. Assisted with data interpretation and reporting.
Former Beatson Copper Mine Latouche Island, Alaska 2018-2019	Technician. Site Characterisation. Collected soil, surface, seepage and groundwater samples. Conducted flow gauging of stream throughout the site.
Skagway Ore Basin Skagway, Alaska 2018	Field Engineer. Risk Assessment Investigation. Supervised the drilling conducted from a landingcraft in the Skagway harbour and collected sediment samples.
Ross River Landfill Yukon, Canada	Field Hydrogeologist. Well Network Upgrade. Supervised borehole drilling and monitoring well installation, logged soil and collected samples for hydrocarbon contamination screening.
DEW Lines Sites Yukon and NT, Canada 2017-2018	Environmental Team Lead. Chemical Monitoring. Conducted the soil sampling and groundwater monitoring around landfill at three former DEW line stations with the assistance of Inuvialuit team members. Organised field equipment, drafted the Work Plan and Monitoring Reports.
White Pass and Yukon Route Railway Shops and Wharf Alaska, United-States 2017-2018	Technician. Conducted groundwater monitoring and sampling for chlorinated solvents and hydrocarbons.

Whitehorse Upper Tank Farm Yukon, Canada 2017-2019	Field Engineer. Conducted testpitting program, directed remedial excavations, and collected soil samples for site characterisation.
Carmacks Public Works Building Yukon, Canada 2017	Field Hydrogeologist. Directed drilling program and monitoring well installation. Logged soil and collected samples for laboratory analysis. Surveyed and developed monitoring wells.
Various Landfills Yukon, Canada 2010, 2011, 2014-2016	Technician. Conducted biannual groundwater monitoring and sampling at various sites throughout the Yukon including landfills in Dawson City, Teslin, and Carmacks; sewage lagoons in Pelly Crossing and Ross River; Land Treatment Facilities in Mayo and Whitehorse; and KBL's hazardous waste transfer facility in Whitehorse. Projects included measuring water levels, developing and purging wells, monitoring field parameters, collecting samples from seeps, recording reading form thermistor cables, and collecting groundwater samples with the assistance of Aboriginal team members.
McLean Lake Road LTF Yukon, Canada 2010, 2011	Technician. Collected composite soil samples from stockpiles. Provided updates on soil remediation to client and regulators.

PROJECT EXPERIENCE – MINING

Bonanza Ledge Mine BC, Canada 2018-2019	Field Hydrogeologist. Environmental Compliance. Conducted the quarterly groundwater monitoring program.
Kennady North Project Northwest Territories, Canada 2017	Drillers Helper. Reverse Circulation Drilling Program. Assisted with drilling function and performed maintenance of equipment.
Gahcho Kue Mine Northwest Territories, Canada 2014	Technician. Dike Construction Project. Checked ice thickness and monitored under ice lake water turbidity during dike construction.
Ketza River Project Yukon, Canada 2012	Environmental Monitor and Acting Environmental Manager. Site Environmental Monitoring Program. Administered on-site environmental programs for water quality, hydrology and waste management. Operated the tailings water arsenic removal treatment unit. Commissioned drinking water well for camp.
Andrew Property Yukon, Canada 2011	Technician. Baseline Assessment Study. Assisted with surficial geology mapping to locate road aggregate sources and permafrost, and with fisheries programs.

PROJECT EXPERIENCE – HYDROGEOLOGY

BGM Caribou Gold BC, Canada 2018-2019	Field Hydrogeologist. Baseline Hydrogeology Study. Conducted the quarterly groundwater and seepage monitoring program.
Carmacks Copper North Yukon, Canada 2017	Field Hydrogeologist. Hydrogeology Study. Conducted packer testing on diamond drill boreholes, installed VWP, logged core recovered, assisted with hydraulic conductivity data interpretation.
Keno Hill Yukon, Canada 2016	Field Hydrogeologist. Silver King Underground Workings and Birmingham Dewatering Estimates. Monitored drill progress and well installation into old underground workings. Logged rock chips. Conducted flow measurements and air lift tests. Drafted Dewatering Estimate Memo.
Brewery Creek Yukon, Canada 2016	Technician. On-Going Environmental Monitoring Program. Conducted the yearly groundwater and surface water monitoring program.
Kudz Ze Kayah Yukon, Canada 2015-2016	Field Hydrogeologist. KZK Hydrogeology Baseline Study. Conducted early site reconnaissance, helped design a monitoring well network, conducted packer testing on several diamond drill boreholes, installed VWP and monitoring well, developed and sampled the monitoring well network, and drafted the hydrogeologic baseline report for the site.
Klaza Yukon, Canada 2015	Field Hydrogeologist. KZK Hydrogeology Baseline Study. Conducted packer testing on several diamond drill boreholes, assisted with hydraulic conductivity data interpretation, and drafted the hydrogeologic baseline report for the site.

PROJECT EXPERIENCE – LANDFILL

Various Yukon, Canada 2010, 2011, 2014-2016, 2017-2018	Technician. Various landfills, land treatment facilities and sewage lagoons throughout the Yukon and Northwest Territories. Conducted compliance groundwater and soil monitoring programs.

PROFESSIONAL AFFILIATIONS

Engineers Yukon, Engineer-in-Training

APPENDIX B

Groundwater Sampling Field Forms

Golder Associates

SUBJECT	Skagway Ships GW monitoring		
Job No. 1658354/1000	Made by EK	Date May 15, 2019	
	Reviewed	Sheet 1 of 1	

- arrived @ the office @ 740 hrs
- PID calibration 0 reads 0.0 ppm, calibrated to 0.0 ppm ✓
  span calibrated to 99.9 ppm ✓
- YSI 556 calibration
  - pH 7 @ 19°C 6.87 → 7.04 ✓
  - pH 4 @ 19°C 4.24 → 4.00 ✓
  - pH 10 @ 19°C 10.49 → 10.12 ✓
  - Sp Cond 1457 µS/cm → 1413 µS/cm ✓
  - ORP 232.2 → 240.0 ✓
  - DO% sat 96.2% → 94.3% ✓

calibrated in Skagway @ 1030.

- left office @ 810, picked up @ Metal gas station.
- Arrived in Skagway & picked up coolers 1030 hrs
- Wharf product recently bailed in MW00-40
  - 44 cm of product over water in reservoir
  - 60 cm of product over water table (disposable bailer dip)
- Sampling of the Ships
- Packaged samples, COC, organized Air Cargo shipping

  55 lbs 13 x 24 x 14"

  AWB 27068333 Flight 176 Mag 16 @ 5200 hrs
  ~117.32 $ Seattle @ 840 hrs.

- Left Skagway @ 1730
- Arrived in Carcross to grab sample of spill @ 1830 – 1915
- Arrived in Whitehorse, unloaded truck EOD 2040.

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW97-7R SHALLOW
PROJECT NO.: 1654354 / 1000
SITE: WP&YR Skagway Shops
FIELD PERSONNEL: Eliane Roy
WEATHER: overcast, steady rain
DATE: May 15, 2019
TEMPERATURE: ~10°C
TIME: 1030

Depth to Bottom of Well Below Top of Casing (A):	5.62	(meters)	Easting:		Northing:
Depth to Water Below Top of Casing (B):	3.318	(meters)	Well headspace:	0.4	ppm
Water Column:	2.31	(meters)	Completion:	☐ Flushmount	☒ Stickup monument
Stick-up:	1.03	(meters)	Well locked:	☐ Yes	☒ No

FIELD EQUIPMENT
Field Meters Calibrated: YSI 556

Pump:	☐	none	☐	Waterra	☐	Submersible	☒	Peristaltic	☐	Bladder	
Bailer:	☒	none			☐	Stainless Steel	☐	Teflon	☐	PVC	
Filter:	☒	none			☐	In-line	☐	Vacuum	☐	Syringe	
Equipment left in well:	☐	none			☐	Bailer	☒	Tubing	☐	Datalogger	

WELL DEVELOPMENT / PURGING
Purge Volumes

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

One well volume ((A – B(* C): ~4.6 litres
Purge start time: 1147
Purge end time:
Pump inlet depth: ~5.5 m bTOC

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O₂ (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1156	~4L	3.32	5.37	5.65	210	220.1	3.34	greyish, 3/10, medium sheen
1201	~6L	—	5.27	5.78	209.	216.2	3.17	— — —
1205	~8L	—	5.25	5.88	208.	208.2	2.99	clear 1/10, medium sheen.
1209	~10L	—	5.29	5.96	208.	206.0	2.87	— —
1211	~12L	—	5.24	6.02	209.	203.1	2.98	— —

SAMPLING Water Odour: ☒ No ☐ Yes (describe): Sheen ☒ No ☐ Yes (describe):
Turbidity: ____ NTU or relative scale (circle as appropriate): Clear (1) 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s: ☐ Yes ☒ No **QA/QC Type and ID:** —

NOTES (consumables, well condition, pictures, etc)
- Ambiant PID reads 0.6 ppm.
- Changed Silicon tubing section.

Sample @ 1215

Bottle count: 18

Reviewed by:

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW 97-5R
PROJECT NO.: 1654354 / 1000
SITE: WP&YR Skagway Shops
FIELD PERSONNEL: Eliane Roy
WEATHER: overcast, steady rain
DATE: May 15, 2019
TEMPERATURE: ~10°C
TIME: 1125

Depth to Bottom of Well Below Top of Casing (A):	4.475 (meters)	Easting:	Northing:
Depth to Water Below Top of Casing (B):	2.563 (meters)	Well headspace:	0.0 ppm
Water Column:	1.91 (meters)	Completion:	☒ Flushmount ☐ Stickup monument
Stick-up:	~ -0.11 (meters)	Well locked:	☐ Yes ☒ No

FIELD EQUIPMENT

Field Meters Calibrated: ysi 556.

Pump:	☐ none	☐ Waterra	☐ Submersible	☒ Peristaltic	☐ Bladder
Bailer:	☒ none		☐ Stainless Steel	☐ Teflon	☐ PVC
Filter:	☒ none		☐ In-line	☐ Vacuum	☐ Syringe
Equipment left in well:	☐ none		☐ Bailer	☒ Tubing	☐ Datalogger

WELL DEVELOPMENT / PURGING

One well volume ((A – B(* C): ~3.8 litres
Purge start time: 1136
Purge end time:
Pump inlet depth: ~4.3 m bTOC

Purge Volumes

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O_2 (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1240	~3L	—	6.17	6.37	236.	104.2	3.92	clear, 2/10, no sheen or odour
1243	~5L	2.565	6.19	6.27	269.	125.5	3.29	~~~~
1246	~7L	—	6.15	6.27	281.	127.8	3.19	~~~~ tiny sheen, no odour
1249	~9L	—	6.15	6.24	292.	135.1	3.07	~~~~
1253	~11L	—	6.16	6.25	294.	137.4	3.05	~~~~

SAMPLING Water Odour: ☒ No ☐ Yes (describe): Sheen ☒ No ☒ Yes (describe): PNC 40%, tiny amount

Turbidity: _____ NTU or relative scale (circle as appropriate): Clear 1 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s : ☐ Yes ☒ No **QA/QC Type and ID :** —

NOTES (consumables, well condition, pictures, etc)

- Nearby well MW00-35: DTB: 3.28, DTW 3.25 insufficient volume

Sample @ 1255

Bottle count: 10.

Reviewed by:

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW13-1D
SITE: WP&YR Skagway Shops
WEATHER: overcast, rain easing off
TEMPERATURE: ~10°C

PROJECT NO.: 1654354 / 1000
FIELD PERSONNEL: Eliane Roy
DATE: May 15, 2019
TIME: 1315

Depth to Bottom of Well Below Top of Casing (A):	9.09	(meters)	Easting:	Northing:
Depth to Water Below Top of Casing (B):	3.47	(meters)	Well headspace:	0.0 ppm
Water Column:	5.62	(meters)	Completion:	☒ Flushmount ☐ Stickup monument
Stick-up:	~0.13	(meters)	Well locked:	☐ Yes ☒ No

FIELD EQUIPMENT

Field Meters Calibrated: YSI 556

Pump:	☐ none	☐ Waterra	☐ Submersible	☒ Peristaltic	☐ Bladder
Bailer:	☒ none		☐ Stainless Steel	☐ Teflon	☐ PVC
Filter:	☒ none		☐ In-line	☐ Vacuum	☐ Syringe
Equipment left in well:	☐ none		☐ Bailer	☒ Tubing	☐ Datalogger

WELL DEVELOPMENT / PURGING

One well volume ((A – B(* C): ~11.2 litres
Purge start time: 1327
Purge end time:
Pump inlet depth: m bTOC

Purge Volumes

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O2 (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1333	~4L	—	4.95	6.17	101.	201.3	7.21	clear, no sheen or odour
1340	~8L	—	4.92	6.25	100.	186.8	6.99	— — —
1346	~12L	3.45	4.91 ✓	6.44 ✓	100. ✓	178.8 ✓	6.79 ✓	— —
1352	~16L	—	4.93	6.51 ✓	100. ✓	177.7	6.81	— —

SAMPLING Water Odour: ☒ No ☐ Yes (describe): Sheen ☒ No ☐ Yes (describe):

Turbidity: _____ NTU or relative scale (circle as appropriate): Clear (1) 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s: ☐ Yes ☒ No QA/QC Type and ID: —

NOTES (consumables, well condition, pictures, etc)

- Coupling at surface is 400SC

Sample @ 1355

Bottle count: 10.

Reviewed by:

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW00-33R
PROJECT NO.: 1654354 / 1000
SITE: WP&YR Skagway Shops
FIELD PERSONNEL: Eliane Roy
WEATHER: overcast, calm
DATE: May 15, 2019
TEMPERATURE: ~12°C
TIME: 1405

Depth to Bottom of Well Below Top of Casing (A):	5.615 (meters)	Easting:	Northing:
Depth to Water Below Top of Casing (B):	4.365 (meters)	Well headspace:	0.0 ppm
Water Column:	1.25 (meters)	Completion:	☐ Flushmount ☒ Stickup monument
Stick-up:	~0.93 (meters)	Well locked:	☐ Yes ☒ No

FIELD EQUIPMENT

Field Meters Calibrated: YSI 556

Pump:	☐ none	☐ Waterra	☐ Submersible	☒ Peristaltic	☐ Bladder
Bailer:	☒ none		☐ Stainless Steel	☐ Teflon	☐ PVC
Filter:	☒ none		☐ In-line	☐ Vacuum	☐ Syringe
Equipment left in well:	☐ none		☐ Bailer	☒ Tubing	☐ Datalogger

WELL DEVELOPMENT / PURGING

Purge Volumes

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

One well volume ((A – B(* C): 2.5 litres
Purge start time: 1418
Purge end time:
Pump inlet depth: ~5.4 m bTOC

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O_2 (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1417	~2L	—	5.48	6.44	212.	151.3	8.13	clear, no sheen or odour.
1420	~4L	—	5.47	6.40	210.	158.0	6.62	〃 〃
1423	~6L	4.36	5.43	6.42	210.	165.6	6.25	〃 〃

SAMPLING Water Odour: ☒ No ☐ Yes (describe): Sheen ☒ No ☐ Yes (describe):

Turbidity: _____ NTU or relative scale (circle as appropriate): Clear 1 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s : ☐ Yes ☒ No **QA/QC Type and ID :** —

NOTES (consumables, well condition, pictures, etc)

- Concrete heaved, well at a slight angle

Sample @ 1425

Bottle count: 10

Reviewed by:

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW13-7
PROJECT NO.: 1654354 / 1000
SITE: WP&YR Skagway Shops
FIELD PERSONNEL: Eliane Roy
WEATHER: overcast, light shower.
DATE: May 15, 2019
TEMPERATURE: ~12°C
TIME: 1440

Depth to Bottom of Well Below Top of Casing (A):	6.18 (meters)	Easting:	Northing:
Depth to Water Below Top of Casing (B):	5.02 (meters)	Well headspace:	0.0 ppm
Water Column:	1.16 (meters)	Completion:	☐ Flushmount ☒ Stickup monument
Stick-up:	~0.92 (meters)	Well locked:	☐ Yes ☒ No

FIELD EQUIPMENT
Field Meters Calibrated: YSI 5556

Pump:	☐ none	☐ Waterra	☐ Submersible	☒ Peristaltic	☐ Bladder
Bailer:	☒ none		☐ Stainless Steel	☐ Teflon	☐ PVC
Filter:	☒ none		☐ In-line	☐ Vacuum	☐ Syringe
Equipment left in well:	☐ none		☐ Bailer	☒ Tubing	☐ Datalogger

WELL DEVELOPMENT / PURGING

One well volume ((A – B(* C): ~2.3 litres
Purge start time: 1446
Purge end time:
Pump inlet depth: ~5.95 m bTOC

Purge Volumes

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O2 (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1448	~2L	—	5.49	6.54	191.	175.8	6.67	clear, no sheen or odour.
1451	~4L	5.03	4.95	6.44	199	178.7	5.61	—
1455	~6L	—	4.87	6.39	179.	179.7	5.46	—

SAMPLING Water Odour: ☒ No ☐ Yes (describe): Sheen ☒ No ☐ Yes (describe):
Turbidity: _____ NTU or relative scale (circle as appropriate): Clear 1 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s: ☐ Yes ☒ No **QA/QC Type and ID:** —

NOTES (consumables, well condition, pictures, etc)

Field blank at this location @ 1515 using DI water from ALS in Whitehorse

Sample @ 1500

Bottle count: 10.

Reviewed by:

GOLDER

Groundwater Development, Purging and Sampling Sheet

☐ Development
☒ Purge/Sample

WELL ID: MW97-3
PROJECT NO.: 1654354 / 1000
SITE: WP&YR Skagway Shops
FIELD PERSONNEL: Eliane Roy
WEATHER: overcast, light shower
DATE: May 15, 2019
TEMPERATURE: ~12°C
TIME: 1520

Depth to Bottom of Well Below Top of Casing (A):	3.81 (meters)	Easting:	Northing:
Depth to Water Below Top of Casing (B):	2.365 (meters)	Well headspace:	1.6 ppm
Water Column:	1.45 (meters)	Completion:	☒ Flushmount ☐ Stickup monument
Stick-up :	(meters)	Well locked:	☐ Yes ☒ No

FIELD EQUIPMENT
Field Meters Calibrated: YSI 556

Pump:	☐ none	☐ Waterra	☐ Submersible	☒ Peristaltic	☐ Bladder
Bailer:	☒ none		☐ Stainless Steel	☐ Teflon	☐ PVC
Filter:	☒ none		☐ In-line	☐ Vacuum	☐ Syringe
Equipment left in well:	☐ none		☐ Bailer	☒ Tubing	☐ Datalogger

WELL DEVELOPMENT / PURGING
One well volume ((A – B(* C): ~2.9 litres
Purge Volumes
Purge start time: 1527
Purge end time:
Pump inlet depth: ~3.7 m bTOC

Casing In. Diam.	½"	1"	1¼	½	2"	4"	6"
Vol (L/m of casing)* (C)	0.1	0.5	0.8	1.1	2.0	8.1	18.2

*double for filter pack

TIME	VOL REMOVED	Water Level (m bTOC)	TEMP (°C)	pH (UNITS)	SP.COND. (uS/cm)	REDOX (mV)	DIS.O_2 (mg/L) or %	REMARKS (colour, odour, sheen, brittle film, silt content, etc.)
Stabilisation Criteria (ASTM D4448-01)			+/- 0.2	+/-0.1	+/- 3%	+/- 10	+/- 10%	Colour, turbidity, odour etc should be stable
1530	~2L	—	5.62	6.09	416.	90.1	2.75	orange, particles, sheen, mild PHC odour
1533	~4L	—	5.39	6.07	419.	84.1	1.87	clear, PHC sheen & odour
1536	~6L	2.38	5.31	6.06	416.	81.5	1.79	~ ~ ~
1539	~8L	—	5.28	6.03	412.	81.3	1.74	~ ~ ~

SAMPLING Water Odour: ☐ No ☒ Yes (describe): PHC like Sheen ☐ No ☒ Yes (describe): PHC like
Turbidity: _____ NTU or relative scale (circle as appropriate): Clear 1 2 3 4 5 6 7 8 9 10 Very Silty

QA/QC Sample/s : ☒ Yes ☐ No **QA/QC Type and ID :** MW05-19 DUPLICATE 9 Bottles

NOTES (consumables, well condition, pictures, etc)

Sample @ 1550

Bottle count: 10.

Reviewed by:

TestAmerica Anchorage
2000 W. International Airport Road
Suite A10
Anchorage, AK 99502
Phone: 907.563.9200 Fax: 907.563.9210

Chain of Custody Record

240318

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other: ADEC

Client Contact	Project Manager: Sheri Cruz	Site Contact:	Date:	COC No:
Company Name: Golder Associates Ltd	Tel/Fax:	Lab Contact: Sheri Cruz	Carrier:	1 of 1 COCs
Address: 13-1st Industrial Rd.	Analysis Turnaround Time			Sampler:
City/State/Zip: Whitehorse, YT Y1A 2V3	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 867.633.6076	TAT if different from Below _____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: Skagway	☐ 1 week			
Site: WP4R Shops	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Regular

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8270D SIM PAHs	8260C VOCs	AK102/103 DRO/RRO	AK101 GRO	[redacted]	BTEX	Sample Specific Notes:
MW97-7R Shallow	May15	1215	G	W	10	N		X	X	X	X		X	
MW97-5R		1255			10			X	X	X	X		X	
MW13-1D		1355			10			X	X					
MW00-33R		1425			10			X	X					
MW13-7		1500			10			X	X					
MW97-3		1550			10			X	X	X	X		X	
MW05-19		1555			9			X	X	X	X		X	
FB		1515			6				X		X			
TB	—		↓	↓	6	↓			X		X			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____ 2 2 2 2

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GOLDER	May 15			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

APPENDIX C

Laboratory Certificate of Analysis, Chain of Custody Form and Data Review Checklist – May 2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-86209-1
Client Project/Site: Skagway

For:
Golder Associates Ltd
#13 - 151 Industrial Road
Calcite Business Centre
Whitehorse, Yukon Territory Y1A 2V3

Attn: Eliane Roy

Authorized for release by:
5/30/2019 11:17:28 AM

Sheri Cruz, Project Manager I
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Job ID: 580-86209-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

CASE NARRATIVE

Client: Golder Associates Ltd
Project: Skagway
Report Number: 580-86209-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/16/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

RECEIPT EXCEPTIONS
The Field Sampler was not listed on the Chain of Custody.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW97-3 (580-86209-6) and MW05-19 (580-86209-7) were analyzed for volatile organic compounds (GC-MS) in accordance with 8260C. The samples were analyzed on 05/17/2019 and 05/21/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW13-1D (580-86209-3), MW00-33R (580-86209-4), MW13-7 (580-86209-5), MW97-3 (580-86209-6), MW05-19 (580-86209-7), FB (580-86209-8) and TB (580-86209-9) were analyzed for volatile organic compounds (GC-MS) in accordance with 8260C. The samples were analyzed on 05/20/2019, 05/21/2019 and 05/22/2019.

Samples MW97-3 (580-86209-6)[10X] and MW05-19 (580-86209-7)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The continuing calibration verification (CCV) associated with batch 580-301121 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The continuing calibration verification (CCV) associated with batch 580-301121 recovered outside acceptance criteria, low biased, for Naphthalene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Job ID: 580-86209-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

The continuing calibration verification (CCV) associated with batch 580-301238 recovered outside acceptance criteria, low biased, for Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILE ORGANIC COMPOUNDS - SELECTED ION MODE (SIM)

Samples MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW13-1D (580-86209-3), MW00-33R (580-86209-4), MW13-7 (580-86209-5), MW97-3 (580-86209-6) and MW05-19 (580-86209-7) were analyzed for semivolatile organic compounds - Selected Ion Mode (SIM) in accordance with EPA SW-846 Method 8270D SIM. The samples were prepared on 05/21/2019 and analyzed on 05/22/2019.

Terphenyl-d14 failed the surrogate recovery criteria low for MW97-5R (580-86209-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Samples MW97-3 (580-86209-6)[5X] and MW05-19 (580-86209-7)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The continuing calibration verification (CCV) associated with batch 580-301290 recovered above the upper control limit for Pentachlorophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW13-1D (580-86209-3), MW00-33R (580-86209-4), MW13-7 (580-86209-5), MW97-3 (580-86209-6), MW05-19 (580-86209-7) and (CCVIS 580-301290/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GASOLINE RANGE ORGANICS

Samples MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW97-3 (580-86209-6), MW05-19 (580-86209-7), FB (580-86209-8) and TB (580-86209-9) were analyzed for gasoline range organics in accordance with State of Alaska Method AK101. The samples were analyzed on 05/22/2019 and 05/24/2019.

Continuing calibration verification (CCV) standard associated with batch 580-301269 recovered outside %Drift acceptance criteria for Trifluorotoluene (Surr) and 4-Bromofluorobenzene (Surr). The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCV 580-301269/15) and (CCVRT 580-301269/4)

The %D of surrogate in CCV associated with batch 580-301601 were outside control limits. All associated sample surrogate fell within acceptance criteria; therefore, the data have been reported. (CCV 580-301601/15), (CCV 580-301601/26) and (CCVRT 580-301601/4)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DIESEL AND RESIDUAL RANGE ORGANICS

Samples MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW97-3 (580-86209-6) and MW05-19 (580-86209-7) were analyzed for diesel and residual range organics in accordance with State of Alaska Method AK102 and AK103. The samples were prepared on 05/24/2019 and analyzed on 05/25/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-7R SHALLOW

Date Collected: 05/15/19 12:15
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 22:59	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 22:59	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 22:59	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 22:59	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 22:59	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/20/19 22:59	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 22:59	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 22:59	1
Trichloroethene	ND		0.00020	0.000066	mg/L			05/20/19 22:59	1
Toluene	ND		0.00020	0.000050	mg/L			05/20/19 22:59	1
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/20/19 22:59	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 22:59	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/20/19 22:59	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 22:59	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 22:59	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/20/19 22:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*05/20/19 22:59*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 22:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*05/20/19 22:59*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/20/19 22:59*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/20/19 22:59*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/21/19 20:54	1
Toluene	ND		2.0	0.39	ug/L			05/21/19 20:54	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/21/19 20:54	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/21/19 20:54	1
o-Xylene	ND		2.0	0.39	ug/L			05/21/19 20:54	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/21/19 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*05/21/19 20:54*	*1*
Trifluorotoluene (Surr)	*93*		*80 - 120*		*05/21/19 20:54*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/21/19 20:54*	*1*
Dibromofluoromethane (Surr)	*86*		*80 - 120*		*05/21/19 20:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*80 - 126*		*05/21/19 20:54*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.032	ug/L		05/21/19 10:29	05/22/19 14:35	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		05/21/19 10:29	05/22/19 14:35	1
1-Methylnaphthalene	ND		0.10	0.020	ug/L		05/21/19 10:29	05/22/19 14:35	1
Acenaphthylene	ND		0.052	0.0094	ug/L		05/21/19 10:29	05/22/19 14:35	1
Acenaphthene	ND		0.10	0.015	ug/L		05/21/19 10:29	05/22/19 14:35	1
Fluorene	ND		0.10	0.018	ug/L		05/21/19 10:29	05/22/19 14:35	1
Pentachlorophenol	ND		1.0	0.19	ug/L		05/21/19 10:29	05/22/19 14:35	1
Phenanthrene	ND		0.10	0.032	ug/L		05/21/19 10:29	05/22/19 14:35	1

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-7R SHALLOW

Date Collected: 05/15/19 12:15
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-1

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.10	0.023	ug/L		05/21/19 10:29	05/22/19 14:35	1
Fluoranthene	ND		0.21	0.052	ug/L		05/21/19 10:29	05/22/19 14:35	1
Pyrene	ND		0.10	0.034	ug/L		05/21/19 10:29	05/22/19 14:35	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		05/21/19 10:29	05/22/19 14:35	1
Chrysene	ND		0.10	0.017	ug/L		05/21/19 10:29	05/22/19 14:35	1
Benzo[b]fluoranthene	ND		0.052	0.011	ug/L		05/21/19 10:29	05/22/19 14:35	1
Benzo[k]fluoranthene	ND		0.052	0.013	ug/L		05/21/19 10:29	05/22/19 14:35	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		05/21/19 10:29	05/22/19 14:35	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		05/21/19 10:29	05/22/19 14:35	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		05/21/19 10:29	05/22/19 14:35	1
Benzo[g,h,i]perylene	ND		0.052	0.013	ug/L		05/21/19 10:29	05/22/19 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*66*		*53 - 120*	*05/21/19 10:29*	*05/22/19 14:35*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/24/19 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*132*		*50 - 150*		*05/24/19 17:49*	*1*
4-Bromofluorobenzene (Surr)	*66*		*50 - 150*		*05/24/19 17:49*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.12	0.081	mg/L		05/24/19 11:00	05/25/19 19:19	1
RRO (nC25-nC36)	**0.083**	**J**	0.27	0.071	mg/L		05/24/19 11:00	05/25/19 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*05/24/19 11:00*	*05/25/19 19:19*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*05/24/19 11:00*	*05/25/19 19:19*	*1*

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-5R

Date Collected: 05/15/19 12:55
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 23:25	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 23:25	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 23:25	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 23:25	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 23:25	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/20/19 23:25	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 23:25	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 23:25	1
Trichloroethene	**0.00043**		0.00020	0.000066	mg/L			05/20/19 23:25	1
Toluene	ND		0.00020	0.000050	mg/L			05/20/19 23:25	1
Tetrachloroethene	**0.00057**		0.00050	0.000084	mg/L			05/20/19 23:25	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 23:25	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/20/19 23:25	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 23:25	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 23:25	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/20/19 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*95*		*80 - 120*		*05/20/19 23:25*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 23:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*		*05/20/19 23:25*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/20/19 23:25*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/20/19 23:25*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/17/19 23:02	1
Toluene	ND		2.0	0.39	ug/L			05/17/19 23:02	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/17/19 23:02	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/17/19 23:02	1
o-Xylene	ND		2.0	0.39	ug/L			05/17/19 23:02	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/17/19 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/17/19 23:02*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*05/17/19 23:02*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*05/17/19 23:02*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*05/17/19 23:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 126*		*05/17/19 23:02*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.033	ug/L		05/21/19 10:29	05/22/19 15:02	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		05/21/19 10:29	05/22/19 15:02	1
1-Methylnaphthalene	ND		0.11	0.020	ug/L		05/21/19 10:29	05/22/19 15:02	1
Acenaphthylene	ND		0.053	0.0095	ug/L		05/21/19 10:29	05/22/19 15:02	1
Acenaphthene	ND		0.11	0.015	ug/L		05/21/19 10:29	05/22/19 15:02	1
Fluorene	ND		0.11	0.018	ug/L		05/21/19 10:29	05/22/19 15:02	1
Pentachlorophenol	ND		1.1	0.19	ug/L		05/21/19 10:29	05/22/19 15:02	1
Phenanthrene	**0.066**	**J**	0.11	0.033	ug/L		05/21/19 10:29	05/22/19 15:02	1

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-5R

Date Collected: 05/15/19 12:55
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-2

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.11	0.023	ug/L		05/21/19 10:29	05/22/19 15:02	1
Fluoranthene	ND		0.21	0.053	ug/L		05/21/19 10:29	05/22/19 15:02	1
Pyrene	ND		0.11	0.035	ug/L		05/21/19 10:29	05/22/19 15:02	1
Benzo[a]anthracene	ND		0.053	0.015	ug/L		05/21/19 10:29	05/22/19 15:02	1
Chrysene	ND		0.11	0.017	ug/L		05/21/19 10:29	05/22/19 15:02	1
Benzo[b]fluoranthene	ND		0.053	0.012	ug/L		05/21/19 10:29	05/22/19 15:02	1
Benzo[k]fluoranthene	ND		0.053	0.013	ug/L		05/21/19 10:29	05/22/19 15:02	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		05/21/19 10:29	05/22/19 15:02	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.015	ug/L		05/21/19 10:29	05/22/19 15:02	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		05/21/19 10:29	05/22/19 15:02	1
Benzo[g,h,i]perylene	ND		0.053	0.013	ug/L		05/21/19 10:29	05/22/19 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*52*	*X*	*53 - 120*	*05/21/19 10:29*	*05/22/19 15:02*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/24/19 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*134*		*50 - 150*		*05/24/19 18:17*	*1*
4-Bromofluorobenzene (Surr)	*69*		*50 - 150*		*05/24/19 18:17*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**1.4**		0.11	0.078	mg/L		05/24/19 11:00	05/25/19 19:41	1
RRO (nC25-nC36)	**0.33**		0.26	0.069	mg/L		05/24/19 11:00	05/25/19 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*50 - 150*	*05/24/19 11:00*	*05/25/19 19:41*	*1*
n-Triacontane-d62	*73*		*50 - 150*	*05/24/19 11:00*	*05/25/19 19:41*	*1*

Client Sample ID: MW13-1D

Date Collected: 05/15/19 13:55
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 23:52	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 23:52	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 23:52	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 23:52	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 23:52	1
cis-1,2-Dichloroethene	**0.0012**		0.00020	0.000055	mg/L			05/20/19 23:52	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 23:52	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 23:52	1
Trichloroethene	**0.0028**		0.00020	0.000066	mg/L			05/20/19 23:52	1
Toluene	ND		0.00020	0.000050	mg/L			05/20/19 23:52	1
Tetrachloroethene	**0.00023**	**J**	0.00050	0.000084	mg/L			05/20/19 23:52	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 23:52	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/20/19 23:52	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 23:52	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 23:52	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/20/19 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*95*		*80 - 120*		*05/20/19 23:52*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 23:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/20/19 23:52*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/20/19 23:52*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/20/19 23:52*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.032	ug/L		05/21/19 10:29	05/22/19 15:29	1
2-Methylnaphthalene	ND		0.21	0.040	ug/L		05/21/19 10:29	05/22/19 15:29	1
1-Methylnaphthalene	ND		0.10	0.020	ug/L		05/21/19 10:29	05/22/19 15:29	1
Acenaphthylene	ND		0.052	0.0093	ug/L		05/21/19 10:29	05/22/19 15:29	1
Acenaphthene	ND		0.10	0.015	ug/L		05/21/19 10:29	05/22/19 15:29	1
Fluorene	ND		0.10	0.018	ug/L		05/21/19 10:29	05/22/19 15:29	1
Pentachlorophenol	ND		1.0	0.19	ug/L		05/21/19 10:29	05/22/19 15:29	1
Phenanthrene	ND		0.10	0.032	ug/L		05/21/19 10:29	05/22/19 15:29	1
Anthracene	ND		0.10	0.023	ug/L		05/21/19 10:29	05/22/19 15:29	1
Fluoranthene	ND		0.21	0.052	ug/L		05/21/19 10:29	05/22/19 15:29	1
Pyrene	ND		0.10	0.034	ug/L		05/21/19 10:29	05/22/19 15:29	1
Benzo[a]anthracene	ND		0.052	0.015	ug/L		05/21/19 10:29	05/22/19 15:29	1
Chrysene	ND		0.10	0.017	ug/L		05/21/19 10:29	05/22/19 15:29	1
Benzo[b]fluoranthene	ND		0.052	0.011	ug/L		05/21/19 10:29	05/22/19 15:29	1
Benzo[k]fluoranthene	ND		0.052	0.012	ug/L		05/21/19 10:29	05/22/19 15:29	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		05/21/19 10:29	05/22/19 15:29	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.015	ug/L		05/21/19 10:29	05/22/19 15:29	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		05/21/19 10:29	05/22/19 15:29	1
Benzo[g,h,i]perylene	ND		0.052	0.012	ug/L		05/21/19 10:29	05/22/19 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*66*		*53 - 120*	*05/21/19 10:29*	*05/22/19 15:29*	*1*

Client Sample ID: MW00-33R

Date Collected: 05/15/19 14:25
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/21/19 00:18	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/21/19 00:18	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/21/19 00:18	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/21/19 00:18	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 00:18	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/21/19 00:18	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 00:18	1
Benzene	ND		0.00020	0.000030	mg/L			05/21/19 00:18	1
Trichloroethene	**0.00016**	**J**	0.00020	0.000066	mg/L			05/21/19 00:18	1
Toluene	ND		0.00020	0.000050	mg/L			05/21/19 00:18	1
Tetrachloroethene	**0.00071**		0.00050	0.000084	mg/L			05/21/19 00:18	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/21/19 00:18	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/21/19 00:18	1
Styrene	ND		0.00050	0.00019	mg/L			05/21/19 00:18	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/21/19 00:18	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/21/19 00:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*96*		*80 - 120*		*05/21/19 00:18*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/21/19 00:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 120*		*05/21/19 00:18*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/21/19 00:18*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/21/19 00:18*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.033	ug/L		05/21/19 10:29	05/22/19 15:55	1
2-Methylnaphthalene	ND		0.21	0.041	ug/L		05/21/19 10:29	05/22/19 15:55	1
1-Methylnaphthalene	ND		0.11	0.020	ug/L		05/21/19 10:29	05/22/19 15:55	1
Acenaphthylene	ND		0.053	0.0095	ug/L		05/21/19 10:29	05/22/19 15:55	1
Acenaphthene	ND		0.11	0.015	ug/L		05/21/19 10:29	05/22/19 15:55	1
Fluorene	ND		0.11	0.018	ug/L		05/21/19 10:29	05/22/19 15:55	1
Pentachlorophenol	ND		1.1	0.19	ug/L		05/21/19 10:29	05/22/19 15:55	1
Phenanthrene	ND		0.11	0.033	ug/L		05/21/19 10:29	05/22/19 15:55	1
Anthracene	ND		0.11	0.023	ug/L		05/21/19 10:29	05/22/19 15:55	1
Fluoranthene	ND		0.21	0.053	ug/L		05/21/19 10:29	05/22/19 15:55	1
Pyrene	ND		0.11	0.035	ug/L		05/21/19 10:29	05/22/19 15:55	1
Benzo[a]anthracene	ND		0.053	0.015	ug/L		05/21/19 10:29	05/22/19 15:55	1
Chrysene	ND		0.11	0.017	ug/L		05/21/19 10:29	05/22/19 15:55	1
Benzo[b]fluoranthene	ND		0.053	0.012	ug/L		05/21/19 10:29	05/22/19 15:55	1
Benzo[k]fluoranthene	ND		0.053	0.013	ug/L		05/21/19 10:29	05/22/19 15:55	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		05/21/19 10:29	05/22/19 15:55	1
Indeno[1,2,3-cd]pyrene	ND		0.053	0.015	ug/L		05/21/19 10:29	05/22/19 15:55	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		05/21/19 10:29	05/22/19 15:55	1
Benzo[g,h,i]perylene	ND		0.053	0.013	ug/L		05/21/19 10:29	05/22/19 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*64*		*53 - 120*	*05/21/19 10:29*	*05/22/19 15:55*	*1*

Client Sample ID: MW13-7

Date Collected: 05/15/19 15:00
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/21/19 00:45	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/21/19 00:45	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/21/19 00:45	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/21/19 00:45	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 00:45	1
cis-1,2-Dichloroethene	**0.0038**		0.00020	0.000055	mg/L			05/21/19 00:45	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 00:45	1
Benzene	ND		0.00020	0.000030	mg/L			05/21/19 00:45	1
Trichloroethene	**0.0070**		0.00020	0.000066	mg/L			05/21/19 00:45	1
Toluene	ND		0.00020	0.000050	mg/L			05/21/19 00:45	1
Tetrachloroethene	**0.00032**	**J**	0.00050	0.000084	mg/L			05/21/19 00:45	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/21/19 00:45	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/21/19 00:45	1
Styrene	ND		0.00050	0.00019	mg/L			05/21/19 00:45	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/21/19 00:45	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/21/19 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*95*		*80 - 120*		*05/21/19 00:45*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/21/19 00:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/21/19 00:45*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/21/19 00:45*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/21/19 00:45*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.034	ug/L		05/21/19 10:29	05/22/19 16:22	1
2-Methylnaphthalene	ND		0.22	0.043	ug/L		05/21/19 10:29	05/22/19 16:22	1
1-Methylnaphthalene	ND		0.11	0.021	ug/L		05/21/19 10:29	05/22/19 16:22	1
Acenaphthylene	ND		0.055	0.0099	ug/L		05/21/19 10:29	05/22/19 16:22	1
Acenaphthene	ND		0.11	0.015	ug/L		05/21/19 10:29	05/22/19 16:22	1
Fluorene	ND		0.11	0.019	ug/L		05/21/19 10:29	05/22/19 16:22	1
Pentachlorophenol	ND		1.1	0.20	ug/L		05/21/19 10:29	05/22/19 16:22	1
Phenanthrene	ND		0.11	0.034	ug/L		05/21/19 10:29	05/22/19 16:22	1
Anthracene	ND		0.11	0.024	ug/L		05/21/19 10:29	05/22/19 16:22	1
Fluoranthene	ND		0.22	0.055	ug/L		05/21/19 10:29	05/22/19 16:22	1
Pyrene	ND		0.11	0.036	ug/L		05/21/19 10:29	05/22/19 16:22	1
Benzo[a]anthracene	ND		0.055	0.015	ug/L		05/21/19 10:29	05/22/19 16:22	1
Chrysene	ND		0.11	0.018	ug/L		05/21/19 10:29	05/22/19 16:22	1
Benzo[b]fluoranthene	ND		0.055	0.012	ug/L		05/21/19 10:29	05/22/19 16:22	1
Benzo[k]fluoranthene	ND		0.055	0.013	ug/L		05/21/19 10:29	05/22/19 16:22	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		05/21/19 10:29	05/22/19 16:22	1
Indeno[1,2,3-cd]pyrene	ND		0.055	0.015	ug/L		05/21/19 10:29	05/22/19 16:22	1
Dibenz(a,h)anthracene	ND		0.11	0.011	ug/L		05/21/19 10:29	05/22/19 16:22	1
Benzo[g,h,i]perylene	ND		0.055	0.013	ug/L		05/21/19 10:29	05/22/19 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*65*		*53 - 120*	*05/21/19 10:29*	*05/22/19 16:22*	*1*

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-3

Date Collected: 05/15/19 15:50
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/21/19 01:11	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/21/19 01:11	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/21/19 01:11	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/21/19 01:11	1
1,1-Dichloroethane	**0.000027**	**J**	0.00020	0.000025	mg/L			05/21/19 01:11	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/21/19 01:11	1
1,1,1-Trichloroethane	**0.00023**		0.00020	0.000025	mg/L			05/21/19 01:11	1
Benzene	ND		0.00020	0.000030	mg/L			05/21/19 01:11	1
Trichloroethene	**0.00043**		0.00020	0.000066	mg/L			05/21/19 01:11	1
Toluene	ND		0.00020	0.000050	mg/L			05/21/19 01:11	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/21/19 01:11	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/21/19 01:11	1
Styrene	ND		0.00050	0.00019	mg/L			05/21/19 01:11	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/21/19 01:11	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/21/19 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*89*		*80 - 120*		*05/21/19 01:11*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/21/19 01:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*05/21/19 01:11*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*05/21/19 01:11*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*05/21/19 01:11*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.052**		0.0050	0.00084	mg/L			05/21/19 22:30	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*05/21/19 22:30*	*10*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/21/19 22:30*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*05/21/19 22:30*	*10*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/21/19 22:30*	*10*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*05/21/19 22:30*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/17/19 23:26	1
Toluene	ND		2.0	0.39	ug/L			05/17/19 23:26	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/17/19 23:26	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/17/19 23:26	1
o-Xylene	ND		2.0	0.39	ug/L			05/17/19 23:26	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/17/19 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/17/19 23:26*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*05/17/19 23:26*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*05/17/19 23:26*	*1*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*05/17/19 23:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 126*		*05/17/19 23:26*	*1*

Client Sample ID: MW97-3

Date Collected: 05/15/19 15:50
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-6

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.52	0.16	ug/L		05/21/19 10:29	05/22/19 16:49	5
2-Methylnaphthalene	ND		1.0	0.20	ug/L		05/21/19 10:29	05/22/19 16:49	5
1-Methylnaphthalene	ND		0.52	0.099	ug/L		05/21/19 10:29	05/22/19 16:49	5
Acenaphthylene	ND		0.26	0.047	ug/L		05/21/19 10:29	05/22/19 16:49	5
Acenaphthene	ND		0.52	0.073	ug/L		05/21/19 10:29	05/22/19 16:49	5
Fluorene	ND		0.52	0.089	ug/L		05/21/19 10:29	05/22/19 16:49	5
Pentachlorophenol	ND		5.2	0.94	ug/L		05/21/19 10:29	05/22/19 16:49	5
Phenanthrene	**0.97**		0.52	0.16	ug/L		05/21/19 10:29	05/22/19 16:49	5
Anthracene	ND		0.52	0.11	ug/L		05/21/19 10:29	05/22/19 16:49	5
Fluoranthene	ND		1.0	0.26	ug/L		05/21/19 10:29	05/22/19 16:49	5
Pyrene	ND		0.52	0.17	ug/L		05/21/19 10:29	05/22/19 16:49	5
Benzo[a]anthracene	ND		0.26	0.073	ug/L		05/21/19 10:29	05/22/19 16:49	5
Chrysene	ND		0.52	0.083	ug/L		05/21/19 10:29	05/22/19 16:49	5
Benzo[b]fluoranthene	ND		0.26	0.057	ug/L		05/21/19 10:29	05/22/19 16:49	5
Benzo[k]fluoranthene	ND		0.26	0.063	ug/L		05/21/19 10:29	05/22/19 16:49	5
Benzo[a]pyrene	ND		0.52	0.057	ug/L		05/21/19 10:29	05/22/19 16:49	5
Indeno[1,2,3-cd]pyrene	ND		0.26	0.073	ug/L		05/21/19 10:29	05/22/19 16:49	5
Dibenz(a,h)anthracene	ND		0.52	0.052	ug/L		05/21/19 10:29	05/22/19 16:49	5
Benzo[g,h,i]perylene	ND		0.26	0.063	ug/L		05/21/19 10:29	05/22/19 16:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*79*		*53 - 120*	*05/21/19 10:29*	*05/22/19 16:49*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/24/19 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*136*		*50 - 150*		*05/24/19 18:44*	*1*
4-Bromofluorobenzene (Surr)	*72*		*50 - 150*		*05/24/19 18:44*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**21**		0.11	0.078	mg/L		05/24/19 11:00	05/25/19 20:03	1
RRO (nC25-nC36)	**8.0**		0.26	0.068	mg/L		05/24/19 11:00	05/25/19 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*60*		*50 - 150*	*05/24/19 11:00*	*05/25/19 20:03*	*1*
n-Triacontane-d62	*79*		*50 - 150*	*05/24/19 11:00*	*05/25/19 20:03*	*1*

Client Sample ID: MW05-19

Date Collected: 05/15/19 15:55
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/21/19 22:03	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/21/19 22:03	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/21/19 22:03	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/21/19 22:03	1
1,1-Dichloroethane	**0.000031**	**J**	0.00020	0.000025	mg/L			05/21/19 22:03	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/21/19 22:03	1
1,1,1-Trichloroethane	**0.00024**		0.00020	0.000025	mg/L			05/21/19 22:03	1
Benzene	ND		0.00020	0.000030	mg/L			05/21/19 22:03	1
Trichloroethene	**0.00041**		0.00020	0.000066	mg/L			05/21/19 22:03	1
Toluene	ND		0.00020	0.000050	mg/L			05/21/19 22:03	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/21/19 22:03	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/21/19 22:03	1
Styrene	ND		0.00050	0.00019	mg/L			05/21/19 22:03	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/21/19 22:03	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/21/19 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*05/21/19 22:03*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/21/19 22:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*05/21/19 22:03*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/21/19 22:03*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*05/21/19 22:03*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.046**		0.0050	0.00084	mg/L			05/22/19 17:32	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*107*		*80 - 120*		*05/22/19 17:32*	*10*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/22/19 17:32*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*05/22/19 17:32*	*10*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*05/22/19 17:32*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/22/19 17:32*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/17/19 23:50	1
Toluene	ND		2.0	0.39	ug/L			05/17/19 23:50	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/17/19 23:50	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/17/19 23:50	1
o-Xylene	ND		2.0	0.39	ug/L			05/17/19 23:50	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/17/19 23:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/17/19 23:50*	*1*
Trifluorotoluene (Surr)	*97*		*80 - 120*		*05/17/19 23:50*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/17/19 23:50*	*1*
Dibromofluoromethane (Surr)	*86*		*80 - 120*		*05/17/19 23:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*82*		*80 - 126*		*05/17/19 23:50*	*1*

Client Sample ID: MW05-19

Date Collected: 05/15/19 15:55
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-7

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.53	0.16	ug/L		05/21/19 10:29	05/22/19 17:15	5
2-Methylnaphthalene	ND		1.1	0.21	ug/L		05/21/19 10:29	05/22/19 17:15	5
1-Methylnaphthalene	ND		0.53	0.10	ug/L		05/21/19 10:29	05/22/19 17:15	5
Acenaphthylene	ND		0.26	0.048	ug/L		05/21/19 10:29	05/22/19 17:15	5
Acenaphthene	ND		0.53	0.074	ug/L		05/21/19 10:29	05/22/19 17:15	5
Fluorene	ND		0.53	0.090	ug/L		05/21/19 10:29	05/22/19 17:15	5
Pentachlorophenol	ND		5.3	0.95	ug/L		05/21/19 10:29	05/22/19 17:15	5
Phenanthrene	**0.59**		0.53	0.16	ug/L		05/21/19 10:29	05/22/19 17:15	5
Anthracene	ND		0.53	0.12	ug/L		05/21/19 10:29	05/22/19 17:15	5
Fluoranthene	ND		1.1	0.26	ug/L		05/21/19 10:29	05/22/19 17:15	5
Pyrene	ND		0.53	0.17	ug/L		05/21/19 10:29	05/22/19 17:15	5
Benzo[a]anthracene	ND		0.26	0.074	ug/L		05/21/19 10:29	05/22/19 17:15	5
Chrysene	ND		0.53	0.085	ug/L		05/21/19 10:29	05/22/19 17:15	5
Benzo[b]fluoranthene	ND		0.26	0.058	ug/L		05/21/19 10:29	05/22/19 17:15	5
Benzo[k]fluoranthene	ND		0.26	0.063	ug/L		05/21/19 10:29	05/22/19 17:15	5
Benzo[a]pyrene	ND		0.53	0.058	ug/L		05/21/19 10:29	05/22/19 17:15	5
Indeno[1,2,3-cd]pyrene	ND		0.26	0.074	ug/L		05/21/19 10:29	05/22/19 17:15	5
Dibenz(a,h)anthracene	ND		0.53	0.053	ug/L		05/21/19 10:29	05/22/19 17:15	5
Benzo[g,h,i]perylene	ND		0.26	0.063	ug/L		05/21/19 10:29	05/22/19 17:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*53 - 120*	*05/21/19 10:29*	*05/22/19 17:15*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/24/19 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*138*		*50 - 150*		*05/24/19 19:11*	*1*
4-Bromofluorobenzene (Surr)	*74*		*50 - 150*		*05/24/19 19:11*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**21**		0.11	0.077	mg/L		05/24/19 11:00	05/25/19 20:24	1
RRO (nC25-nC36)	**8.8**		0.26	0.068	mg/L		05/24/19 11:00	05/25/19 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*63*		*50 - 150*	*05/24/19 11:00*	*05/25/19 20:24*	*1*
n-Triacontane-d62	*81*		*50 - 150*	*05/24/19 11:00*	*05/25/19 20:24*	*1*

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: FB

Date Collected: 05/15/19 15:15
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 19:00	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 19:00	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 19:00	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 19:00	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 19:00	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/20/19 19:00	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 19:00	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 19:00	1
Trichloroethene	ND		0.00020	0.000066	mg/L			05/20/19 19:00	1
Toluene	**0.00057**		0.00020	0.000050	mg/L			05/20/19 19:00	1
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/20/19 19:00	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 19:00	1
Ethylbenzene	**0.000045**	**J**	0.00020	0.000030	mg/L			05/20/19 19:00	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 19:00	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 19:00	1
Xylenes, Total	**0.00021**	**J**	0.00050	0.00015	mg/L			05/20/19 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*05/20/19 19:00*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 19:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 120*		*05/20/19 19:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/20/19 19:00*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/20/19 19:00*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/22/19 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*05/22/19 11:51*	*1*
4-Bromofluorobenzene (Surr)	*67*		*50 - 150*		*05/22/19 11:51*	*1*

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: TB

Date Collected: 05/15/19 15:15
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 18:33	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 18:33	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 18:33	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 18:33	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 18:33	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/20/19 18:33	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 18:33	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 18:33	1
Trichloroethene	ND		0.00020	0.000066	mg/L			05/20/19 18:33	1
Toluene	**0.014**		0.00020	0.000050	mg/L			05/20/19 18:33	1
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/20/19 18:33	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 18:33	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/20/19 18:33	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 18:33	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 18:33	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/20/19 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*99*		*80 - 120*		*05/20/19 18:33*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 18:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*		*05/20/19 18:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/20/19 18:33*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/20/19 18:33*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/22/19 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*116*		*50 - 150*		*05/22/19 12:18*	*1*
4-Bromofluorobenzene (Surr)	*72*		*50 - 150*		*05/22/19 12:18*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-301121/7
Matrix: Water
Analysis Batch: 301121

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/20/19 16:47	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/20/19 16:47	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/20/19 16:47	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/20/19 16:47	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 16:47	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/20/19 16:47	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/20/19 16:47	1
Benzene	ND		0.00020	0.000030	mg/L			05/20/19 16:47	1
Trichloroethene	ND		0.00020	0.000066	mg/L			05/20/19 16:47	1
Toluene	ND		0.00020	0.000050	mg/L			05/20/19 16:47	1
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/20/19 16:47	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/20/19 16:47	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/20/19 16:47	1
Styrene	ND		0.00050	0.00019	mg/L			05/20/19 16:47	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/20/19 16:47	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/20/19 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*96*		*80 - 120*		*05/20/19 16:47*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/20/19 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*05/20/19 16:47*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/20/19 16:47*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*05/20/19 16:47*	*1*

Lab Sample ID: LCS 580-301121/4
Matrix: Water
Analysis Batch: 301121

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.00500	0.00546		mg/L		109	52 - 128
1,1-Dichloroethene	0.00500	0.00493		mg/L		99	71 - 126
Methylene Chloride	0.00500	0.00543		mg/L		109	75 - 134
trans-1,2-Dichloroethene	0.00500	0.00497		mg/L		99	63 - 133
1,1-Dichloroethane	0.00500	0.00538		mg/L		108	74 - 135
cis-1,2-Dichloroethene	0.00500	0.00533		mg/L		107	72 - 130
1,1,1-Trichloroethane	0.00500	0.00533		mg/L		107	74 - 128
Benzene	0.00500	0.00517		mg/L		103	73 - 133
Trichloroethene	0.00500	0.00529		mg/L		106	72 - 136
Toluene	0.00500	0.00530		mg/L		106	80 - 126
Tetrachloroethene	0.00500	0.00519		mg/L		104	75 - 131
Ethylene Dibromide	0.00500	0.00501		mg/L		100	80 - 126
Ethylbenzene	0.00500	0.00532		mg/L		106	80 - 130
Styrene	0.00500	0.00508		mg/L		102	74 - 136
Naphthalene	0.00500	0.00401		mg/L		80	64 - 132
Xylenes, Total	0.0100	0.0106		mg/L		106	73 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*98*		*80 - 120*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-301121/4
Matrix: Water
Analysis Batch: 301121

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-301121/5
Matrix: Water
Analysis Batch: 301121

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride			0.00500	0.00512		mg/L		102	52 - 128	6	21
1,1-Dichloroethene			0.00500	0.00472		mg/L		94	71 - 126	4	17
Methylene Chloride			0.00500	0.00607		mg/L		121	75 - 134	11	18
trans-1,2-Dichloroethene			0.00500	0.00473		mg/L		95	63 - 133	5	17
1,1-Dichloroethane			0.00500	0.00513		mg/L		103	74 - 135	5	20
cis-1,2-Dichloroethene			0.00500	0.00509		mg/L		102	72 - 130	5	20
1,1,1-Trichloroethane			0.00500	0.00514		mg/L		103	74 - 128	3	14
Benzene			0.00500	0.00501		mg/L		100	73 - 133	3	20
Trichloroethene			0.00500	0.00509		mg/L		102	72 - 136	4	14
Toluene			0.00500	0.00516		mg/L		103	80 - 126	3	20
Tetrachloroethene			0.00500	0.00507		mg/L		101	75 - 131	2	20
Ethylene Dibromide			0.00500	0.00514		mg/L		103	80 - 126	3	20
Ethylbenzene			0.00500	0.00521		mg/L		104	80 - 130	2	20
Styrene			0.00500	0.00501		mg/L		100	74 - 136	1	20
Naphthalene			0.00500	0.00418		mg/L		84	64 - 132	4	20
Xylenes, Total			0.0100	0.0103		mg/L		103	73 - 131	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 580-301238/7
Matrix: Water
Analysis Batch: 301238

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.000020	0.000013	mg/L			05/21/19 18:57	1
1,1-Dichloroethene	ND		0.00020	0.00010	mg/L			05/21/19 18:57	1
Methylene Chloride	ND		0.0050	0.00074	mg/L			05/21/19 18:57	1
trans-1,2-Dichloroethene	ND		0.00020	0.000089	mg/L			05/21/19 18:57	1
1,1-Dichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 18:57	1
cis-1,2-Dichloroethene	ND		0.00020	0.000055	mg/L			05/21/19 18:57	1
1,1,1-Trichloroethane	ND		0.00020	0.000025	mg/L			05/21/19 18:57	1
Benzene	ND		0.00020	0.000030	mg/L			05/21/19 18:57	1
Trichloroethene	ND		0.00020	0.000066	mg/L			05/21/19 18:57	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-301238/7
Matrix: Water
Analysis Batch: 301238

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.00020	0.000050	mg/L			05/21/19 18:57	1
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/21/19 18:57	1
Ethylene Dibromide	ND		0.00010	0.000025	mg/L			05/21/19 18:57	1
Ethylbenzene	ND		0.00020	0.000030	mg/L			05/21/19 18:57	1
Styrene	ND		0.00050	0.00019	mg/L			05/21/19 18:57	1
Naphthalene	ND		0.0010	0.00022	mg/L			05/21/19 18:57	1
Xylenes, Total	ND		0.00050	0.00015	mg/L			05/21/19 18:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*106*		*80 - 120*		*05/21/19 18:57*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/21/19 18:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*80 - 120*		*05/21/19 18:57*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/21/19 18:57*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*05/21/19 18:57*	*1*

Lab Sample ID: LCS 580-301238/4
Matrix: Water
Analysis Batch: 301238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.00500	0.00379		mg/L		76	52 - 128
1,1-Dichloroethene	0.00500	0.00527		mg/L		105	71 - 126
Methylene Chloride	0.00500	0.00484	J	mg/L		97	75 - 134
trans-1,2-Dichloroethene	0.00500	0.00526		mg/L		105	63 - 133
1,1-Dichloroethane	0.00500	0.00537		mg/L		107	74 - 135
cis-1,2-Dichloroethene	0.00500	0.00536		mg/L		107	72 - 130
1,1,1-Trichloroethane	0.00500	0.00521		mg/L		104	74 - 128
Benzene	0.00500	0.00486		mg/L		97	73 - 133
Trichloroethene	0.00500	0.00495		mg/L		99	72 - 136
Toluene	0.00500	0.00489		mg/L		98	80 - 126
Tetrachloroethene	0.00500	0.00485		mg/L		97	75 - 131
Ethylene Dibromide	0.00500	0.00449		mg/L		90	80 - 126
Ethylbenzene	0.00500	0.00497		mg/L		99	80 - 130
Styrene	0.00500	0.00463		mg/L		93	74 - 136
Naphthalene	0.00500	0.00457		mg/L		91	64 - 132
Xylenes, Total	0.0100	0.00997		mg/L		100	73 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*108*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-301238/5
Matrix: Water
Analysis Batch: 301238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	0.00500	0.00391		mg/L		78	52 - 128	3	21
1,1-Dichloroethene	0.00500	0.00483		mg/L		97	71 - 126	9	17
Methylene Chloride	0.00500	0.00446	J	mg/L		89	75 - 134	8	18
trans-1,2-Dichloroethene	0.00500	0.00485		mg/L		97	63 - 133	8	17
1,1-Dichloroethane	0.00500	0.00499		mg/L		100	74 - 135	7	20
cis-1,2-Dichloroethene	0.00500	0.00504		mg/L		101	72 - 130	6	20
1,1,1-Trichloroethane	0.00500	0.00491		mg/L		98	74 - 128	6	14
Benzene	0.00500	0.00473		mg/L		95	73 - 133	3	20
Trichloroethene	0.00500	0.00495		mg/L		99	72 - 136	0	14
Toluene	0.00500	0.00497		mg/L		99	80 - 126	2	20
Tetrachloroethene	0.00500	0.00485		mg/L		97	75 - 131	0	20
Ethylene Dibromide	0.00500	0.00462		mg/L		92	80 - 126	3	20
Ethylbenzene	0.00500	0.00500		mg/L		100	80 - 130	1	20
Styrene	0.00500	0.00472		mg/L		94	74 - 136	2	20
Naphthalene	0.00500	0.00552		mg/L		110	64 - 132	19	20
Xylenes, Total	0.0100	0.00996		mg/L		100	73 - 131	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*107*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

Lab Sample ID: MB 580-301311/7
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.00050	0.000084	mg/L			05/22/19 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*05/22/19 14:27*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/22/19 14:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*05/22/19 14:27*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*05/22/19 14:27*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*05/22/19 14:27*	*1*

Lab Sample ID: LCS 580-301311/4
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.00500	0.00491		mg/L		98	75 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*103*		*80 - 120*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-301311/4
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 580-301311/5
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene			0.00500	0.00489		mg/L		98	75 - 131	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: 580-86302-D-2 MS
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	ND		0.00535	0.00495		mg/L		93	75 - 131

Surrogate	MS %Recovery	MS Qualifier	Limits
Trifluorotoluene (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*

Lab Sample ID: 580-86302-D-2 MSD
Matrix: Water
Analysis Batch: 301311

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		0.00535	0.00458		mg/L		86	75 - 131	8	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Trifluorotoluene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-300973/7
Matrix: Water
Analysis Batch: 300973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/17/19 18:10	1
Toluene	ND		2.0	0.39	ug/L			05/17/19 18:10	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/17/19 18:10	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/17/19 18:10	1
o-Xylene	ND		2.0	0.39	ug/L			05/17/19 18:10	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/17/19 18:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/17/19 18:10*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*05/17/19 18:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*05/17/19 18:10*	*1*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*05/17/19 18:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 126*		*05/17/19 18:10*	*1*

Lab Sample ID: LCS 580-300973/4
Matrix: Water
Analysis Batch: 300973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			10.0	9.85		ug/L		98	75 - 121		
Toluene			10.0	9.86		ug/L		99	80 - 120		
Ethylbenzene			10.0	8.55		ug/L		85	80 - 120		
m-Xylene & p-Xylene			10.0	8.94		ug/L		89	80 - 120		
o-Xylene			10.0	8.85		ug/L		89	80 - 120		
Xylenes, Total			20.0	17.8		ug/L		89	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Trifluorotoluene (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*84*		*80 - 126*

Lab Sample ID: LCSD 580-300973/5
Matrix: Water
Analysis Batch: 300973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			10.0	9.63		ug/L		96	75 - 121	2	14
Toluene			10.0	9.65		ug/L		96	80 - 120	2	19
Ethylbenzene			10.0	8.46		ug/L		85	80 - 120	1	14
m-Xylene & p-Xylene			10.0	8.94		ug/L		89	80 - 120	0	14
o-Xylene			10.0	8.69		ug/L		87	80 - 120	2	16
Xylenes, Total			20.0	17.6		ug/L		88	80 - 120	1	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-300973/5
Matrix: Water
Analysis Batch: 300973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*89*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*88*		*80 - 126*

Lab Sample ID: MB 580-301232/7
Matrix: Water
Analysis Batch: 301232

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			05/21/19 18:53	1
Toluene	ND		2.0	0.39	ug/L			05/21/19 18:53	1
Ethylbenzene	ND		3.0	0.50	ug/L			05/21/19 18:53	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			05/21/19 18:53	1
o-Xylene	ND		2.0	0.39	ug/L			05/21/19 18:53	1
Xylenes, Total	ND		3.0	0.75	ug/L			05/21/19 18:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*105*		*80 - 120*		*05/21/19 18:53*	*1*
Trifluorotoluene (Surr)	*96*		*80 - 120*		*05/21/19 18:53*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*05/21/19 18:53*	*1*
Dibromofluoromethane (Surr)	*87*		*80 - 120*		*05/21/19 18:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*80 - 126*		*05/21/19 18:53*	*1*

Lab Sample ID: LCS 580-301232/4
Matrix: Water
Analysis Batch: 301232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.89		ug/L		99	75 - 121
Toluene	10.0	10.3		ug/L		103	80 - 120
Ethylbenzene	10.0	9.08		ug/L		91	80 - 120
m-Xylene & p-Xylene	10.0	9.59		ug/L		96	80 - 120
o-Xylene	10.0	9.32		ug/L		93	80 - 120
Xylenes, Total	20.0	18.9		ug/L		95	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*101*		*80 - 120*
Trifluorotoluene (Surr)	*95*		*80 - 120*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*82*		*80 - 126*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-301232/5
Matrix: Water
Analysis Batch: 301232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			10.0	9.52		ug/L		95	75 - 121	4	14
Toluene			10.0	10.2		ug/L		102	80 - 120	1	19
Ethylbenzene			10.0	8.62		ug/L		86	80 - 120	5	14
m-Xylene & p-Xylene			10.0	9.54		ug/L		95	80 - 120	0	14
o-Xylene			10.0	8.87		ug/L		89	80 - 120	5	16
Xylenes, Total			20.0	18.4		ug/L		92	80 - 120	3	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Trifluorotoluene (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*88*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 126*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-301165/1-A
Matrix: Water
Analysis Batch: 301290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301165

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.031	ug/L		05/21/19 10:29	05/22/19 12:50	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		05/21/19 10:29	05/22/19 12:50	1
1-Methylnaphthalene	ND		0.10	0.019	ug/L		05/21/19 10:29	05/22/19 12:50	1
Acenaphthylene	ND		0.050	0.0090	ug/L		05/21/19 10:29	05/22/19 12:50	1
Acenaphthene	ND		0.10	0.014	ug/L		05/21/19 10:29	05/22/19 12:50	1
Fluorene	ND		0.10	0.017	ug/L		05/21/19 10:29	05/22/19 12:50	1
Pentachlorophenol	ND		1.0	0.18	ug/L		05/21/19 10:29	05/22/19 12:50	1
Phenanthrene	ND		0.10	0.031	ug/L		05/21/19 10:29	05/22/19 12:50	1
Anthracene	ND		0.10	0.022	ug/L		05/21/19 10:29	05/22/19 12:50	1
Fluoranthene	ND		0.20	0.050	ug/L		05/21/19 10:29	05/22/19 12:50	1
Pyrene	ND		0.10	0.033	ug/L		05/21/19 10:29	05/22/19 12:50	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		05/21/19 10:29	05/22/19 12:50	1
Chrysene	ND		0.10	0.016	ug/L		05/21/19 10:29	05/22/19 12:50	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		05/21/19 10:29	05/22/19 12:50	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		05/21/19 10:29	05/22/19 12:50	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		05/21/19 10:29	05/22/19 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		05/21/19 10:29	05/22/19 12:50	1
Dibenz(a,h)anthracene	ND		0.10	0.010	ug/L		05/21/19 10:29	05/22/19 12:50	1
Benzo[g,h,i]perylene	ND		0.050	0.012	ug/L		05/21/19 10:29	05/22/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*65*		*53 - 120*	*05/21/19 10:29*	*05/22/19 12:50*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-301165/2-A
Matrix: Water
Analysis Batch: 301290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301165

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Naphthalene			4.00	2.48		ug/L		62	36 - 120		
2-Methylnaphthalene			4.00	2.54		ug/L		64	33 - 120		
1-Methylnaphthalene			4.00	2.53		ug/L		63	35 - 120		
Acenaphthylene			4.00	2.55		ug/L		64	42 - 120		
Acenaphthene			4.00	2.43		ug/L		61	42 - 120		
Fluorene			4.00	2.54		ug/L		64	49 - 120		
Pentachlorophenol			8.00	5.52		ug/L		69	39 - 150		
Phenanthrene			4.00	2.39		ug/L		60	54 - 120		
Anthracene			4.00	2.66		ug/L		67	56 - 120		
Fluoranthene			4.00	2.54		ug/L		64	52 - 129		
Pyrene			4.00	2.45		ug/L		61	50 - 127		
Benzo[a]anthracene			4.00	3.08		ug/L		77	61 - 129		
Chrysene			4.00	2.41		ug/L		60	47 - 126		
Benzo[b]fluoranthene			4.00	2.81		ug/L		70	53 - 133		
Benzo[k]fluoranthene			4.00	2.64		ug/L		66	51 - 132		
Benzo[a]pyrene			4.00	2.85		ug/L		71	56 - 130		
Indeno[1,2,3-cd]pyrene			4.00	2.99		ug/L		75	56 - 135		
Dibenz(a,h)anthracene			4.00	2.74		ug/L		69	60 - 133		
Benzo[g,h,i]perylene			4.00	2.70		ug/L		68	55 - 127		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*58*		*53 - 120*

Lab Sample ID: LCSD 580-301165/3-A
Matrix: Water
Analysis Batch: 301290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 301165

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			4.00	2.83		ug/L		71	36 - 120	13	27
2-Methylnaphthalene			4.00	2.90		ug/L		72	33 - 120	13	30
1-Methylnaphthalene			4.00	2.90		ug/L		73	35 - 120	14	34
Acenaphthylene			4.00	2.93		ug/L		73	42 - 120	14	26
Acenaphthene			4.00	2.78		ug/L		69	42 - 120	13	24
Fluorene			4.00	2.94		ug/L		73	49 - 120	14	21
Pentachlorophenol			8.00	6.81		ug/L		85	39 - 150	21	35
Phenanthrene			4.00	2.86		ug/L		71	54 - 120	18	21
Anthracene			4.00	3.17		ug/L		79	56 - 120	17	29
Fluoranthene			4.00	3.05		ug/L		76	52 - 129	18	32
Pyrene			4.00	2.91		ug/L		73	50 - 127	17	35
Benzo[a]anthracene			4.00	3.62		ug/L		91	61 - 129	16	31
Chrysene			4.00	2.81		ug/L		70	47 - 126	15	23
Benzo[b]fluoranthene			4.00	3.26		ug/L		82	53 - 133	15	25
Benzo[k]fluoranthene			4.00	2.96		ug/L		74	51 - 132	11	25
Benzo[a]pyrene			4.00	3.30		ug/L		82	56 - 130	15	27
Indeno[1,2,3-cd]pyrene			4.00	3.47		ug/L		87	56 - 135	15	24
Dibenz(a,h)anthracene			4.00	3.16		ug/L		79	60 - 133	14	25
Benzo[g,h,i]perylene			4.00	3.12		ug/L		78	55 - 127	14	27

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-301165/3-A
Matrix: Water
Analysis Batch: 301290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 301165

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	67		53 - 120

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Lab Sample ID: MB 580-301269/5
Matrix: Water
Analysis Batch: 301269

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/22/19 10:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	125		50 - 150		05/22/19 10:29	1
4-Bromofluorobenzene (Surr)	68		50 - 150		05/22/19 10:29	1

Lab Sample ID: LCS 580-301269/6
Matrix: Water
Analysis Batch: 301269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	1.00	1.04		mg/L		104	77 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	137		50 - 150
4-Bromofluorobenzene (Surr)	75		50 - 150

Lab Sample ID: LCSD 580-301269/7
Matrix: Water
Analysis Batch: 301269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	1.00	1.11		mg/L		111	77 - 123	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	139		50 - 150
4-Bromofluorobenzene (Surr)	77		50 - 150

Lab Sample ID: MB 580-301601/5
Matrix: Water
Analysis Batch: 301601

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			05/24/19 10:36	1

Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: MB 580-301601/5
Matrix: Water
Analysis Batch: 301601

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	*141*		*50 - 150*		*05/24/19 10:36*	*1*
4-Bromofluorobenzene (Surr)	*69*		*50 - 150*		*05/24/19 10:36*	*1*

Lab Sample ID: LCS 580-301601/6
Matrix: Water
Analysis Batch: 301601

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	1.00	1.13		mg/L		113	77 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	*139*		*50 - 150*
4-Bromofluorobenzene (Surr)	*73*		*50 - 150*

Lab Sample ID: LCSD 580-301601/7
Matrix: Water
Analysis Batch: 301601

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	1.00	1.12		mg/L		112	77 - 123	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	*137*		*50 - 150*
4-Bromofluorobenzene (Surr)	*74*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 580-301550/1-A
Matrix: Water
Analysis Batch: 301636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11	0.075	mg/L		05/24/19 11:00	05/25/19 16:25	1
RRO (nC25-nC36)	ND		0.25	0.066	mg/L		05/24/19 11:00	05/25/19 16:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	*83*		*50 - 150*	*05/24/19 11:00*	*05/25/19 16:25*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*05/24/19 11:00*	*05/25/19 16:25*	*1*

Lab Sample ID: LCS 580-301550/2-A
Matrix: Water
Analysis Batch: 301636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (nC10-<nC25)	2.00	1.63		mg/L		82	75 - 125
RRO (nC25-nC36)	2.00	1.71		mg/L		86	60 - 120

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-301550/2-A
Matrix: Water
Analysis Batch: 301636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301550

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*68*		*50 - 150*
n-Triacontane-d62	*72*		*50 - 150*

Lab Sample ID: LCSD 580-301550/3-A
Matrix: Water
Analysis Batch: 301636

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 301550

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			2.00	1.69		mg/L		84	75 - 125	3	20
RRO (nC25-nC36)			2.00	1.75		mg/L		88	60 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*88*		*50 - 150*
n-Triacontane-d62	*79*		*50 - 150*

Lab Chronicle

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW97-7R SHALLOW
Lab Sample ID: 580-86209-1
Date Collected: 05/15/19 12:15
Matrix: Water
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301232	05/21/19 20:54	CJ	TAL SEA
Total/NA	Analysis	8260C		1	301121	05/20/19 22:59	DSO	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	301290	05/22/19 14:35	TL1	TAL SEA
Total/NA	Analysis	AK101		1	301601	05/24/19 17:49	CJ	TAL SEA
Total/NA	Prep	3510C			301550	05/24/19 11:00	DCV	TAL SEA
Total/NA	Analysis	AK102 & 103		1	301636	05/25/19 19:19	JCM	TAL SEA

Client Sample ID: MW97-5R
Lab Sample ID: 580-86209-2
Date Collected: 05/15/19 12:55
Matrix: Water
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	300973	05/17/19 23:02	T1W	TAL SEA
Total/NA	Analysis	8260C		1	301121	05/20/19 23:25	DSO	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	301290	05/22/19 15:02	TL1	TAL SEA
Total/NA	Analysis	AK101		1	301601	05/24/19 18:17	CJ	TAL SEA
Total/NA	Prep	3510C			301550	05/24/19 11:00	DCV	TAL SEA
Total/NA	Analysis	AK102 & 103		1	301636	05/25/19 19:41	JCM	TAL SEA

Client Sample ID: MW13-1D
Lab Sample ID: 580-86209-3
Date Collected: 05/15/19 13:55
Matrix: Water
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301121	05/20/19 23:52	DSO	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	301290	05/22/19 15:29	TL1	TAL SEA

Client Sample ID: MW00-33R
Lab Sample ID: 580-86209-4
Date Collected: 05/15/19 14:25
Matrix: Water
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301121	05/21/19 00:18	DSO	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	301290	05/22/19 15:55	TL1	TAL SEA

Client Sample ID: MW13-7
Lab Sample ID: 580-86209-5
Date Collected: 05/15/19 15:00
Matrix: Water
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301121	05/21/19 00:45	DSO	TAL SEA

Lab Chronicle

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: MW13-7

Lab Sample ID: 580-86209-5
Matrix: Water
Date Collected: 05/15/19 15:00
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		1	301290	05/22/19 16:22	TL1	TAL SEA

Client Sample ID: MW97-3

Lab Sample ID: 580-86209-6
Matrix: Water
Date Collected: 05/15/19 15:50
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	300973	05/17/19 23:26	T1W	TAL SEA
Total/NA	Analysis	8260C		1	301121	05/21/19 01:11	DSO	TAL SEA
Total/NA	Analysis	8260C	DL	10	301238	05/21/19 22:30	T1W	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		5	301290	05/22/19 16:49	TL1	TAL SEA
Total/NA	Analysis	AK101		1	301601	05/24/19 18:44	CJ	TAL SEA
Total/NA	Prep	3510C			301550	05/24/19 11:00	DCV	TAL SEA
Total/NA	Analysis	AK102 & 103		1	301636	05/25/19 20:03	JCM	TAL SEA

Client Sample ID: MW05-19

Lab Sample ID: 580-86209-7
Matrix: Water
Date Collected: 05/15/19 15:55
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	300973	05/17/19 23:50	T1W	TAL SEA
Total/NA	Analysis	8260C	DL	10	301311	05/22/19 17:32	T1W	TAL SEA
Total/NA	Analysis	8260C		1	301238	05/21/19 22:03	T1W	TAL SEA
Total/NA	Prep	3510C			301165	05/21/19 10:29	JCM	TAL SEA
Total/NA	Analysis	8270D SIM		5	301290	05/22/19 17:15	TL1	TAL SEA
Total/NA	Analysis	AK101		1	301601	05/24/19 19:11	CJ	TAL SEA
Total/NA	Prep	3510C			301550	05/24/19 11:00	DCV	TAL SEA
Total/NA	Analysis	AK102 & 103		1	301636	05/25/19 20:24	JCM	TAL SEA

Client Sample ID: FB

Lab Sample ID: 580-86209-8
Matrix: Water
Date Collected: 05/15/19 15:15
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301121	05/20/19 19:00	DSO	TAL SEA
Total/NA	Analysis	AK101		1	301269	05/22/19 11:51	TL1	TAL SEA

Client Sample ID: TB

Lab Sample ID: 580-86209-9
Matrix: Water
Date Collected: 05/15/19 15:15
Date Received: 05/16/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	301121	05/20/19 18:33	DSO	TAL SEA

Lab Chronicle

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Client Sample ID: TB

Date Collected: 05/15/19 15:15
Date Received: 05/16/19 09:15

Lab Sample ID: 580-86209-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK101		1	301269	05/22/19 12:18	TL1	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

Sample Summary

Client: Golder Associates Ltd
Project/Site: Skagway

Job ID: 580-86209-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-86209-1	MW97-7R SHALLOW	Water	05/15/19 12:15	05/16/19 09:15	
580-86209-2	MW97-5R	Water	05/15/19 12:55	05/16/19 09:15	
580-86209-3	MW13-1D	Water	05/15/19 13:55	05/16/19 09:15	
580-86209-4	MW00-33R	Water	05/15/19 14:25	05/16/19 09:15	
580-86209-5	MW13-7	Water	05/15/19 15:00	05/16/19 09:15	
580-86209-6	MW97-3	Water	05/15/19 15:50	05/16/19 09:15	
580-86209-7	MW05-19	Water	05/15/19 15:55	05/16/19 09:15	
580-86209-8	FB	Water	05/15/19 15:15	05/16/19 09:15	
580-86209-9	TB	Water	05/15/19 15:15	05/16/19 09:15	

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86209

Chain of Custody Record

249318

TestAmerica
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TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other: ADEC

Client Contact	Project Manager: Shen Cruz	Site Contact:	Date:	COC No:
Company Name: Golden Associates Ltd	Tel/Fax:	Lab Contact: Sheri Cruz	Carrier:	___ of ___ COCs
Address: 13-151 Industrial Rd.	Analysis Turnaround Time			Sampler:
City/State/Zip: Whitehorse, YT Y1A 2V3	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 867.633.6076	TAT if different from Below ____			Walk-in Client:
Fax:	☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day Regular			Lab Sampling:
Project Name: Skagway				Job / SDG No.:
Site: inPort Sheds				
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8270D SIM PAHs	8260C VOCs	AK102/103 DRO/ORO	AK101 GRO	BTEX	Sample Specific Notes:
MW97-7R Shallow	May15	1215	G	W	10	N		X	X	X	X	X	
MW97-5R		1255			10			X	X	X	X	X	
MW13-1D		1355			10			X	X				
MW00-33R		1425			10			X	X				
MW13-7		1500			10			X	X				
MW97-3		1550			10			X	X	X	X	X	
MW05-19		1555			9			X	X	X	X	X	
FB	↓	1515			6				X		X		
TB	—		↓	↓	6	↓			X		X		

580-86209 Chain of Custody

Therm. ID: #2 Cor: 2.9 ° Unc: 3.3 °
Cooler Dsc: Lrg Blue
Packing: Bubble
Cust. Seal: Yes X No ___
Blue Ice, Wet, Dry, None
FedEx: ___
UPS: ___
Lab Courr: ___
Other: 6.5.

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ___ (2 2 2 2)

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ___ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ___ Corr'd: ___		Therm ID No.: ___
Relinquished by:	Company: GolDOC	Date/Time: May15e	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: STL TA	Date/Time: 5.16.19 1300

Login Sample Receipt Checklist

Client: Golder Associates Ltd

Job Number: 580-86209-1

Login Number: 86209
List Number: 1
Creator: Vallelunga, Diana L

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not Present on COC
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Laboratory Data Review Checklist

Completed by: Eliane Roy

Title: Junior Water Resources Engineer Date: November 12, 2019

CS Report Name: 2019 Site Investigation and Environmental Monitoring, White Pass & Yukon Route, Railroad Maintenance Yard, Skagway Alaska Report Date: May 30, 2019

Consultant Firm: Golder Associates Ltd.

Laboratory Name: TestAmerica Seattle Laboratory Report Number: 580-86209-1

ADEC File Number: 1526.38.005 ADEC RecKey Number: 1988110934705

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      A certification summary confirms the laboratory's authority in Alaska (identification # 17-024)

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

      Samples were not transferred to another facility

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Included within laboratory report

   b. Correct analyses requested?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Correct analyses were conducted as requested

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      The temperatures of the two coolers at receipt time were 2.9°C and 3.3°C.

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
☒Yes ☐ No ☐NA (Please explain.) Comments:

Properly preserved and on ice

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☒Yes ☐ No ☐NA (Please explain.) Comments:

Samples arrived in good condition

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No discrepancies were documented for sample receipt.

e. Data quality or usability affected? (Please explain.)
Comments:

NA

4. Case Narrative
a. Present and understandable?
☒Yes ☐ No ☐NA (Please explain.) Comments:

Case narrative was provided

b. Discrepancies, errors or QC failures identified by the lab?
☒Yes ☐ No ☐NA (Please explain.) Comments:

1. The continuing calibration verification (CCV) associated with batch 580-301121 recovered above the upper control limit for Vinyl chloride. 2. The continuing calibration verification (CCV) associated with batch 580-301121 recovered outside acceptance criteria, low biased, for Naphthalene. 3. The continuing calibration verification (CCV) associated with batch 580-301238 recovered outside acceptance criteria, low biased, for Vinyl chloride. 4. Terphenyl-d14 failed the surrogate recovery criteria low for MW97-5R (580-86209-2). 5. The continuing calibration verification (CCV) associated with batch 580-301290 recovered above the upper control limit for Pentachlorophenol. 6. Continuing calibration verification (CCV) standard associated with batch 580-301269 recovered outside %Drift acceptance criteria for Trifluorotoluene (Surr) and 4-Bromofluorobenzene (Surr). 7. The %D of surrogate in CCV associated with batch 580-301601 were outside control limits.

c. Were all corrective actions documented?

Refer to corresponding numbered sections below and laboratory report Case Narrative.

☒Yes ☐ No ☐NA (Please explain.) Comments:

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

1. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.
2. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.
3. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.
4. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.
5. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW97-7R SHALLOW (580-86209-1), MW97-5R (580-86209-2), MW13-1D (580-86209-3), MW00-33R (580-86209-4), MW13-7 (580-86209-5), MW97-3 (580-86209-6), MW05-19 (580-86209-7) and (CCVIS 580-301290/3).
6. The %Recovery is within acceptance criteria for the surrogate in the CCV and associated samples; therefore, the data are qualified and reported. (CCV 580-301269/15) and (CCVRT 580-301269/4).
7. All associated sample surrogate fell within acceptance criteria; therefore, the data have been reported. (CCV 580-301601/15), (CCV 580-301601/26) and (CCVRT 580-301601/4)

8. Samples Results

a. Correct analyses performed/reported as requested on COC?
☒Yes ☐ No ☐NA (Please explain.) Comments:

Yes

b. All applicable holding times met?
☒Yes ☐ No ☐NA (Please explain.) Comments:

Samples were received and analyzed within holding times.

c. All soils reported on a dry weight basis?
☐Yes ☐ No ☒NA (Please explain.) Comments:

No soil samples analyzed

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☐Yes ☒ No ☐NA (Please explain.) Comments:

RL provided instead of PQL. RLs were less than Cleanup Level except pentachlorophenol (PCP) in samples from well MW97-3 which required dilution (5X) prior to analysis and the reporting limit have been adjusted accordingly (CL = 0.00041 mg/L, RL = 0.0052 mg/L).

e. Data quality or usability affected?

Results for pentachlorophenol (PCP) were below the MDL (0.00095 mg/L) for both samples and thus the data usability is not affected.

Comments:

9. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      ii. All method blank results less than PQL?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      iii. If above PQL, what samples are affected?
      Comments:

      NA

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

      No affected samples

      v. Data quality or usability affected? (Please explain.)
      Comments:

      No

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

      i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
      ☐Yes ☐ No ☒NA (Please explain.) Comments:

      Analysis of metals/inorganics not requested

      iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from

LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☒Yes ☐ No ☐NA (Please explain.) Comments:

1. The RPDs between all laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) were less than RPD limits

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

Comments:

NA

ii. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☒NA (Please explain.) Comments:

iii. Data quality or usability affected? (Use comment box to explain.)

Comments:

NA

2. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☒Yes ☐ No ☐NA (Please explain.) Comments:

Surrogate recoveries are reported

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐Yes ☒ No ☐NA (Please explain.) Comments:

All %R were within the laboratory limits, with the exception of %R (52%) for terphenyl-d14 (SIM 8270D) for sample from well MW975R was just below the limit (53%)

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☒Yes ☐ No ☐NA (Please explain.) Comments:

Data of affected sample was flagged with a qualifier

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No, the results for affected samples were found to be below the laboratory detection limit.

3. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

   i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

Six groundwater samples shipped for one set of trip blanks

   ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)
   ☐Yes ☒ No ☐NA (Please explain.) Comments:

Trip blanks and VOA samples were shipped in the same cooler; COC provided inside cooler.

   iii. All results less than PQL?
   ☐Yes ☒ No ☐NA (Please explain.) Comments:

All results are below the method of detection limit with the exception of toluene (0.014 mg/L, MDL 0.000050 mg/L)

   iv. If above PQL, what samples are affected?
   Comments:

None.

   v. Data quality or usability affected? (Please explain.)
   Comments:

All samples results are below MDL for toluene.

4. Field Duplicate

   i. One field duplicate submitted per matrix, analysis and 10 project samples?
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

1 duplicate sample was submitted for the 6 groundwater samples collected

   ii. Submitted blind to lab?

Client sample ID for the duplicate was MW05-19, similar to other submitted samples

☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

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 ☐NA (Please explain.) Comments:

The RDP between the duplicate pair was 48.7% for phenanthrene. All other analytes had RPD values below 30%.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data was not affected

5. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☒ No ☐NA (Please explain.) Comments:

Dedicated tubing was used for each well/ sample collected

i. All results less than PQL?

☐Yes ☐ No ☒NA (Please explain.) Comments:

No equipment blank was submitted (see above)

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? (Please explain.)

Comments:

NA

2. <u>Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)</u>
   1. Defined and appropriate?

☒Yes ☐ No ☐NA (Please explain.) Comments:

Qualifiers and abbreviations definitions were provided

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