

May 1, 1997

R&M No. 751030

Ken Flynn Alaska  
1502 Juneau Street  
Anchorage, Alaska 99501

ATTN: Mr. Ken Flynn  
President

RE: Results of Supplemental Environmental Site Investigation  
1410 Rudakof Circle, Anchorage, Alaska

Dear Mr. Flynn:

R&M Consultants, Inc. (R&M) is pleased to report the findings of our supplemental Environmental Site Investigation at 1410 Rudakof Circle as planned in our proposal dated March 27, 1997. During our previous investigation, reported March 24, 1997, contamination which may be in excess of regulatory limits was encountered. Laboratory analyses detected 84 to 204 ppm Total Petroleum Hydrocarbons (TPH) in soils located between 4 and 6 feet below ground surface. The purpose of this supplemental investigation was to obtain additional samples from which it would be possible to determine the specific range of petroleum contamination, i.e. Gasoline, Diesel, or Residual Range Organics, which was detected in our previous investigation. A site plan, the Logs of Test Boring, and laboratory analytical results are attached herewith.

This supplemental Environmental Site Investigation is limited in scope to one shallow borehole located in the vicinity of a previous boring, and drilled only through the depths at which contamination was previously detected. No conclusions concerning other areas of the property can be inferred from the information obtained in this and our previous investigations. Therefore, the results of this investigation do not represent a thorough characterization of the site or a Phase II Environmental Site Assessment. In addition to

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sites which were discussed in our previous report, there may be additional sites with ascertainable environmental conditions within the recommended search areas prescribed in ASTM Practice E 1527. Therefore, this report does not constitute a Phase I or Phase II Environmental Site Assessment.

#### **BACKGROUND INFORMATION**

The legal description of the property is Lot 5A, DeBarr-Bragaw Subdivision, Anchorage, Alaska. A one-story building is located along the northern property boundary. Environmental concerns for the property, based on site history, are as follows: the DeBarr-Bragaw Subdivision was an oval-shaped, vehicle race track, which may have been paved, between at least 1959 and the late 1970's. The subject property is located in the northwest portion of the open area at the center of the oval track. The area appears to have been cleared and graded prior to 1980. The building on the subject property, as well as the gas station, car wash, and former auto repair shop located on lots adjacent to the subject property, were constructed between 1980 and 1985. These three properties adjacent to the subject site have documented petroleum contamination. A brief description of known conditions at these sites obtained through review of Alaska Department of Environmental Conservation (ADEC) files was presented in our previous report.

Review of known conditions at adjacent sites suggested that the area of the subject property most likely to have contamination which may have migrated from adjacent sites was the northwestern quadrant. Therefore, our first borehole was located as close to the northwestern corner of the property as possible while avoiding utility lines. R&M supervised the installation of one borehole/temporary monitoring well by Discovery Drilling on March 7, 1997. Here, R&M performed field screening and collection of soil and groundwater samples for laboratory analyses using procedures outlined in the Alaska Department of Environmental Conservation (ADEC) Standard Sampling Procedures Manual. The panel of laboratory analyses included Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1 and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA Method 8020. Samples were submitted to Columbia Analytical Services (CAS) on March 7, 1997.

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Laboratory analyses detected 84 to 204 ppm TPH in soils located between 4 and 6 feet below ground surface. No BTEX contamination was detected, and soil contamination at further depths and groundwater contamination appeared absent. Soil cleanup levels established by ADEC are based upon Gasoline, Diesel, and Residual Range Organics contamination, which cannot be distinguished by EPA Method 418.1 (TPH analysis). Therefore, further samples were obtained on April 2, 1997 in order to clarify the type of contamination present.

**SUPPLEMENTAL FIELD INVESTIGATION**

The borehole sampled during this supplemental investigation, designated RM-02, was located as close as possible to the previous boring, RM-01, while avoiding utility conflicts and soils which were disturbed during the previous investigation. It is important to note that Boring RM-02 was located in a paved area, while Boring RM-01 was located at the edge of the pavement. Both boreholes appear on the site plan, attached as Drawing A-02. Logs of Test Boring are presented as Drawings A-03 and A-04, respectively.

No petroleum odor was observed in soils from Borehole RM-02. The green staining of soils returned from the 2.5 to 4.5 feet below ground surface (bgs) interval present in Boring RM-01 was absent in RM-02. The zone of saturated soil which occurred between approximately 4 and 5.5 feet bgs in RM-01 also was not apparent in RM-02. Sample 1410-T2-01 was taken at an identical depth to Sample 1410-01 (March 7, 1997). Sample 1410-T2-02 was taken from soils located about 6.5 to 7 feet bgs, slightly deeper than sample 1410-02 (March 7, 1997).

**SUPPLEMENTAL FIELD SCREENING**

The Log of Test Boring for RM-02 is presented as Drawing A-04. The table below summarizes soil field screening results.

SAMPLE ID	1410-T2-1	1410-T2-2
Depth (ft)	4-4.5	6.5-7
PID reading (ppm)	0.8	0.6

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Samples 1410-T2-01 and 1410-T2-02 were submitted to Columbia Analytical Services on April 3, 1997 for analysis. Field screening did not detect volatile hydrocarbons in soil from this area.

**LABORATORY ANALYTICAL RESULTS**

Laboratory analytical results detected minor soil contamination within seven feet bgs. The following tables summarize laboratory analytical results for each borehole. The laboratory analytical reports for each boring appears in Attachment B.

**SOIL ANALYTICAL RESULTS, RM-02**

SAMPLE ID	DEPTH (ft)	RESIDUAL RANGE ORGANICS (AK 103) (ppm)	DIESEL RANGE ORGANICS (AK 102) (ppm)	GASOLINE RANGE ORGANICS (AK 101) (ppm)	BENZENE BY EPA 5030A (ppm)	TOLUENE BY EPA 5030A (ppm)	ETHYL-BENZENE BY EPA 5030A (ppm)	TOTAL XYLENES BY EPA 5030A (ppm)
1410-RM2-1	4-4.5	ND	ND	ND	ND	ND	ND	ND
1410-RM2-2	6.5-7	ND	ND	ND	0.11	ND	ND	ND

ND indicates that the analyte was not detected at the Minimum Detection Limit (MDL) for the analysis requested.

**SOIL ANALYTICAL RESULTS, RM-01**

SAMPLE ID	DEPTH (ft)	TOTAL PETROLEUM HYDROCARBONS BY EPA 418.1 (ppm)	BENZENE BY EPA 5030A (ppm)	TOLUENE BY EPA 5030A (ppm)	ETHYLBENZENE BY EPA 5030A (ppm)	TOTAL XYLENES BY EPA 5030A (ppm)
1410-01	4-4.5	204	ND	ND	ND	ND
1410-02	5-6	84	ND	ND	ND	ND
1410-06	16-16.5	ND	ND	ND	ND	ND

ND indicates that the analyte was not detected at the Minimum Detection Limit (MDL) for the analysis requested.