QUALITY ASSURANCE PROJECT PLAN
ALASKA ROADBUILDERS GRAVEL PIT

Project Location
North of Ridgeway Road,
Easterly part of the gravel pit located in the SW1/2,
SW 1/4, SE 1/4, of Section 20, T 5 N, R 10 W, S.M. AK.

Owner
Ronald L. Davis
Alaska Roadbuilders
44990 Ridgeway Road
Soldotna, AK 99669
Phone: 907-262 9140
FAX: 907-262-1213

Submitted To
Kenai District Office, ADEC
Soldotna, Alaska
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Assessment Consultant
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July 23, 1991

1. HISTORY

This property has been the site of a gravel pit and asphalt batch plant since the mid-1960's. Approximately one acre, containing the concrete block building in the southwest corner of the 20 acre site, was subdivided into Lot 1, Arctic Subdivision in 1979. The remainder is unsubdivided. Gravel has been excavated from the center portion of the property to a depth of 20-25 feet below the surrounding area. The easterly 300 feet of the property is cleared but not excavated; it is used for storage of assorted equipment and components, scrap metal, tanks, 55-gallon drums, and brush. The area is surrounded by trees and soil berms on all sides with a road in the southwest corner connecting to Ridgeway Road.

On June 5, 1991 the Alaska Department of Environmental Conservation (ADEC) issued a Notice of Violation/Request for Corrective Action of "unknown petroleum type substances, and a high viscosity type petroleum product spill at the northeast end of the respondent's gravel pit." In response to Item No. 1 in the violation notice, an outline of the plan and time frame for corrective action was submitted to ADEC on July 8, 1991.

After interviewing Owner's personnel and conducting a site inspection, it was determined the *"high viscosity type petroleum product spill"* referred to in the Notice of Violation is CSS-1 which was spilled there in 1990. CSS-1 is a liquid asphalt emulsion product commonly diluted with water and applied for dust control or used as a tack coat on surfaces to insure there is a bond with overlying pavement. Most of the spilled material thickened and formed a thin layer on the ground in an area approximately 90 feet by 120 feet. Some of the material is under a pile of brush and stumps dumped on site.

There are several stained areas in a shallow ditch which goes from the CSS-1 spill area toward the main pit embankment to the west. This is a mixture of diesel fuel and asphalt residue from cleaning a distributor truck at that location during the spring of 1991..

There are three piles with a total of about one hundred fifty to two hundred 55-gallon drums plus individual drums scattered around the storage site. Most of the drums appear to be empty. The Owner says some contained CSS-1 and a few may have contained waste oil. No leaking drums were found during the brief inspection.

Soil beneath several equipment frames is stained with what is assumed to be petroleum-type material, probably a combination of diesel fuel, lubricating oil and hydraulic fluid.

Two other items not mentioned in the Notice of Violation will also be cleaned up with this work; an assortment of 30 to 40 vehicle batteries and insulation from an old boiler which may contain asbestos.

All observed "spills" are stable and no containment is needed at this time. There is no apparent threat to groundwater or to the general public. The ground water is reported to be several feet below the lower pit elevation., which is about 25 feet below the storage area.

2. OBJECTIVE

The purpose of this project plan is to outline the site assessment sampling program and remedial actions proposed for dealing with the Notice of Violation dated June 5, 1991. The object of the sampling program is to measure for contamination where it is most likely to be present. Samples will be collected in a manner which creates a minimum of disturbance and is representative of the material being sampled.

This plan is prepared in accordance with the *ADEC Interim Guidance for Soil Cleanup Levels, dated September 26, 1990.* Field quality control measures will include the following:

- ◊ Sample equipment decontamination procedure
- ◊ Sample collection, preservation and handling procedures
- ◊ Field documentation, reports, chain of custody and shipment
- ◊ Analytical methods

Data generated from the sampling and analysis will be used to determine the contents of any leaking drums, evaluate the level and extent of soil contamination at the site, and assess the need for cleanup and disposal. The proposed methods for cleanup and disposal of the vehicle batteries and boiler insulation are also presented.

3. APPROACH

The first task will be to lay out a survey baseline so sample locations and contaminated areas can be accurately documented. The east property line will probably be used.

The next step will be to inspect all drums to identify and collect samples from any that are leaking. A drum inventory form will be completed to document the drum condition, type and quantity of contents, and other relevant information. Drums will be segregated and properly stored on site according to whether they are: clean and empty; contain material known to be non-hazardous contents; contains material suspected or known to be hazardous; is damaged or leaking.

Contaminated soil will be checked with an organic vapor meter (OVM) for total petroleum hydrocarbon level, especially areas known or suspected to have diesel fuel. Soil samples collected for analysis will be screened with the OVM for future quantitative comparison with laboratory data.

Representative soil samples will be collected from areas where CSS-1 and asphalt/diesel residue was spilled and from the stained areas beneath old equipment frames. Discrete samples will be taken 6-12 inches below visibly contaminated soil. Front end loader or backhoe equipment will be used if needed to move stumps and brush to collect samples and determine the lateral extent of the CSS-1 spill. If contamination is detected the affected areas will be marked, excavated with backhoe or front end loader, and stockpiled on prepared pad lined with 10 mil reinforced polyethylene and covered with 6 mil reinforced polyethylene until laboratory test results are available and a method of soil disposal is approved by ADEC.

After the batteries are inspected for contents they will be hauled to the Borough Soldotna Landfill and turned over to the Borough for disposal. The boiler insulation will be picked up, bagged and taken to the Soldotna Landfill for disposal in accordance with Borough policy..

All sample collection, handling, documentation and cleanup will be performed or supervised by the Assessment Consultant in accordance with this Quality Assurance Project Plan.

The following tests will be performed on samples submitted to the laboratory to measure for concentrations remaining in the soil, or for product identification:

1) Total Petroleum Hydrocarbons (TPH) and Extractable Petroleum Hydrocarbons (EPH) from soil beneath the spilled CSS-1 and from the ditch where asphalt/diesel residue spilled. Since the high viscosity product is known to be CSS-1, no testing for PCB's is planned.

2) TPH and EPH from stained soil beneath the old equipment frames.

3) TCLP for lead from soil beneath batteries if leaking or staining is evident or suspected.

4) 40 CFR 266.40, EPA Energy Recovery Oil Burning Specifications for contents of leaking drums.

5) EPH, VPH, Lead, Arsenic,Chromium, Total Halogens and Flash Point for soil stockpile(s)

6) Testing of the boiler insulation is not required for disposal. — level of safety? Suspected to be asbestos. asbestos certified workers

4. SAMPLING PROCEDURES

4.1 Preliminary. Prior to doing any sampling the Consultant will coordinate with the laboratory on the following project specific requirements: Sample matrix, test methods, sample collection procedure, container type, size and quantity, QA samples (trip and field blanks), and holding times. The laboratory will furnish the shipping container, artificial ice and clean sample bottles. The Consultant will check laboratory sample kits, supplies and equipment prior to going into the field.

Samples known to be "hot" will be shipped separate from samples with low or no contamination. Samples from different projects will not be stored or shipped in the same container.

4.2 Decontamination. The following decontamination sequence will be used before and between each sampling point to clean sampling equipment and to prevent cross-contamination. Clean rubber gloves will be worn by the person collecting the sample.

- ◊ Clean sampler with a scraper
- ◊ Scrub and warm-hot wash with Alconox detergent
- ◊ Rinse with warm tap water
- ◊ Air dry (when possible)
- ◊ Rinse with warm distilled water *
- ◊ Air dry (when possible)

* Rinsing with methanol and hexane is used when heavy contamination is encountered.

4.3 Sampling Waste Oil Drums. Representative samples will be collected from each drum which contains product. When drums appear to contain the same product a maximum of five samples may be combined for a composite sample. Observations about drum condition and contents will be noted on the drum sampling form.

Samples will be collected using clean, disposable glass sampling tubes. An estimate of the drum content and phases will be determined by slowly lowering the glass tube into the drum, almost to the bottom, so that a representative cross section of the drum contents can be obtained. The waste will be allowed to reach its natural level. Then the top of the tube will be capped with a rubber stopper or safety-gloved finger, the tube will be carefully withdrawn from the drum, and the contents will be released into a glass sample container. The sample container will be tightly sealed with a Teflon-lined cap and tagged with the sample identification. The glass tube will be broken in such a way that all parts of it will be left in the drum. Drums will be secured and labeled with sample identification information.

4.4 Sampling Soil. One discrete soil sample for each 250 square feet of stained surface will be collected at 6-12 inches below contaminated soil. The test locations will be surveyed and backfilled after sampling.

Soil samples will be collected with trowels or stainless steel utensils such as spoons or spatulas. Just prior to collecting each soil sample approximately three inches of soil will be rapidly scraped away from the surface at the sample location. To minimize the loss of volatiles, samples will be taken with a minimum amount of disturbance and rapidly transfered to a clean wide-mouth jar. The sample jar will be filled to leave as little headspace as possible in the container and immediately sealed with a teflon-lined screw cap. The threads and sealing surfaces will be checked and cleaned of soil that would prevent a tight seal.

4.5 Screening and Segregating Excavated Soil. While excavating petroleum contaminated soil extensive field screening with the OVM and field observations will be utilized to segregate soil into separate piles based on apparent degrees of contamination. All excavated soil will be contained on-site until it has been properly characterized.

The following screening procedure will be used. The portable OVM will be calibrated with a standard calibration gas of approximately 100 parts per million isobutylene prior to sampling, and again after four hours of use or more frequently if the Consultant thinks it is necessary. Samples will be collected with a clean trowel, put in zip lock plastic "baggies", placed in location away from petroleum vapor sources, and be allowed to warm for about five minutes to approximately 60° F. The bagged soil will be agitated to volatize any hydrocarbon compounds, the OVM probe tip will be inserted halfway into the bag, and the highest meter reading will be recorded in the project logbook.

4.6 Characterizing Spoil Piles. Characterization of stockpiled soil is necessary for determining whether or not treatment and/or disposal of the soil is needed. If treatment or disposal is required, other than disposal at approved incineration facilities who may have their own characterization requirements, adequate characterization is necessary to select a method to establish baseline data for use in evaluating the effectiveness of treatment efforts; i.e. endpoints.

Stockpiled soil will be characterized by field screening with the OVM and by laboratory analysis of discrete grab samples collected from the stockpile(s) using the following protocol.

> Field Screening: A minimum of one (1) soil sample will be obtained from each ten (10) cubic yards of stockpiled soil for screening purposes. Samples will be obtained from various depths in the pile, but none less than eighteen (18) inches beneath the exposed surface of the pile. Screening procedures, locations and results will be documented in a site log book.
>
> Laboratory Analysis: At a minimum, two (2) discrete grab samples should be collected from stockpiles of fifty (50) cubic yards or less. At least one (1) additional sample will be collected from each additional fifty (50) cubic yards of soil. Discrete grab samples collected from areas which showed the highest and the middle OVM levels of contamination during the field screening, referred to above, will be analyzed in accordance with this Project Plan.

Soil samples may also be collected for soil grain analysis.

4.7 Preserving and Handling Samples. After samples are properly sealed and labeled they will be immediately placed in a cooler with artificial ice and maintained at a temperature of 4°C (39°F) or less until received at the laboratory. Upon receipt of the sample shipment the laboratory will be responsible for preservation of the sample(s). Samples will be delivered or shipped by express services to arrive at the laboratory within 24 hours after sampling, preferably on the same day. This is to allow time for sample analysis to be completed within the specified holding time. Samples not analyzed within the prescribed holding period will be discarded and replaced.

4.8 Documentation. The following information will be prepared during the sampling activity and maintained by the Assessment Consultant:

1) A sketch of the site which clearly shows the identification number and location of each sample.

2) Each sample will be clearly labeled at the time of collection with a unique sample identification code. The label will be filled out with indelible marker with the following information: project name and location, sample number, date and time collected, matrix, sample location, analysis required, and samplers initials.

3) Color photographs with date stamp will be taken of each sample location.

4) A field report, including date, time, location/address, job name, sample numbers, pertinent field data, variations, and observations will be prepared on the same day work is conducted. A chain of custody form will be completed for all samples collected and submitted to the laboratory. The laboratory will be requested to return a copy of the completed chain of custody form to the Assessment Consultant.

5) If for any reason these sampling procedures are not or cannot be followed, the situation will be discussed with the laboratory supervisor or QA manager to determine what affect the variation may have on the test results. Approved procedure changes will be noted in the field report and submitted to ADEC with the testing analysis.

4.9 Chain of Custody. Chem Lab's Quality Control Document procedures are summarized here. The Assessment Consultant will be responsible for the care and custody of the collected samples until they are properly transferred. Each sample shipment will be accompanied by a separate Chain-of-Custody Record; see attached form. The method of shipment, courier name and other pertinent information will be entered in the "Remarks" space. When transferring possession of samples the individual relinquishing and receiving will sign, date and note the time on the Record. The original Record will accompany the samples at all times.

A designated sample custodian will accept custody of the sample shipment at the laboratory and will verify that the information on the sample tags matches that on the Chain-of-Custody Record. Pertinent information as to shipment condition, pick-up, courier, etc. will be entered in the "Remarks" space. The custodian will then enter the sample tag data into a bound logbook, which will generally be organized by laboratory sample number.

5. ANALYTICAL PROCEDURES

5.1 Analysis and Methods. All samples will be collected in EPA-approved, pre-cleaned containers which are furnished by the laboratory. The attached Table II from the September 26, 1990 *Interim Guidance for Soil Cleanup Levels,* lists the methods, required method detection limits, sample container size and maximum holding times to be used for the petroleum hydrocarbon analysis of soil samples. The analytical tests for waste oil constituents and leachable lead in soil under batteries are presented below:

ANALYSIS	METHOD	CONTAINER/PRESERVATION	HOLDING TIME
Used Oil (Drums)	EPA Energy Recovery Oil Burning Spec	8 oz. Amber Glass with Teflon Cap, Cool to 4° C	28 days
TCLP Lead (Batteries)	EPA Leachable Metals	8 oz. Amber Glass with Teflon Cap, Cool to 4° C	6 months
Lead	7421/Graphite Furnace	Same as above	6 months
Arsenic	7060/7421	Same as above	6 months
Chromium	7190/7191	Same as above	6 months
Flash Point	ASTM D-56	Same as above	6 months
Total Halogens	8010	Same as above	7 days

5.2 Cleanup Levels, The table below lists the soil cleanup levels for this project. The TPH level is from the September 26, 1990 *Interim Guidance for Soil Cleanup Levels.* The used oil specification levels from the table in 40 CFR 266.40, except a total halogens value of 1,000 is used instead of the 4,000 ppm as listed. Table Note (b) states that oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste unless the rebuttable presumption provided under paragraph 266.40(c) can be successfully demonstrated. Such demonstration is not planned on this project.

CLEANUP TARGET LEVELS

TEST	LEVEL
TPH	100 ppm maximum
Arsenic *	5 ppm "
Chromium *	10 ppm "
Lead *	100 ppm "
Flash Point *	100 °F minimum
Total Halogens *	1000 ppm maximum

(*) Used oil specification

Work matrix out for cleanup levels
Are you assuming matrix Level A

Reference is made to Chemical & Geological Laboratories of Alaska, Inc, *Quality Control Document,* May 1990 revision, for their laboratory quality assurance and quality control.

6. DISPOSAL METHODS.

6.1 Drums and Contents. Clean, empty drums will be marked and stored on site. Drums with contents will be properly stored on site until the contents are verified. Asphalt products will be incorporated into the Owner's future work or disposed at the Soldotna Landfill. Waste oil with specification levels less than the target cleanup level will be burned in a waste furnace or contracted to a disposal firm like Alaska Pollution Control. Waste oil classified as hazardous will contracted for disposal with Alaska Pollution Control, or a similar approved firm.

6.2 CSS-1 Asphalt Emulsion. If the laboratory results are below the cleanup levels, clean gravel will be mixed with the CSS-1 to enable it to be picked up, and the material will be hauled to the Borough Landfill for disposal.

6.3 Soil. The soil at the site consists primarily of sand and gravel with some silt. If the laboratory results are below the cleanup levels the soil will be processed into asphalt by the Owner. If contamination levels exceed target levels the results will be evaluated with regard to the degree of contamination, amount of contaminated soil, the available disposal or treatment options, and a recommendation will be submitted to ADEC for approval

6.4 Boiler Insulation. All insulation in question, whether fiberglass or suspected of having asbestos material, will be wetted with water, picked up and placed in 4 mil polyethylene bags, and delivered to the Soldotna Landfill. The delivery will be coordinated with the Borough Public Works Department.

7. HEALTH AND SAFETY

7.1 Before starting any field work, and at the beginning of each day, all personnel will be familiarized with the work operations, equipment which will be used, potential chemical and physical hazards and the appropriate safety measures.

7.2 During the work special care will be taken to prevent explosions and to minimize exposure to petroleum liquids, vapors or wastes. A combustible gas indicator instrument will be used to check for hazardous vapors around tanks or drums.

7.3 All personnel involved in the sampling and cleanup operations will be instructed to wear the following protective equipment: Coveralls, safety boots, safety glasses, gloves and hard hats. Chemical resistant protective equipment is recommended while sampling drums and cleaning up batteries. The need for respiratory equipment will be evaluated during the site assessment.

7.4 All personnel will be briefed on the location of fire and emergency medical services.

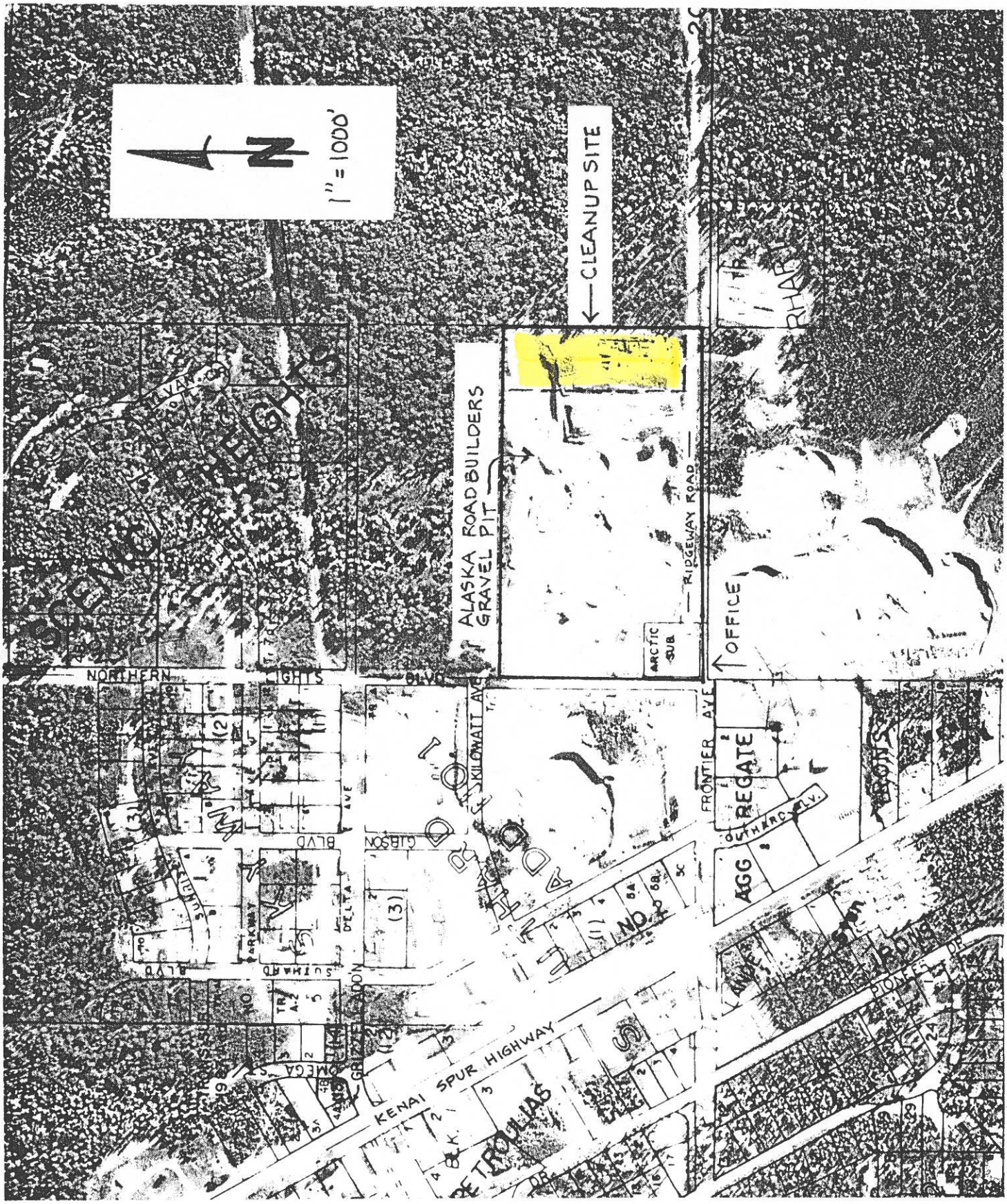
7.5 Open excavations will be barricaded as appropriate and marked with flagging.

7.6 Cleanup contractor is responsible for providing fire extinguishers at the work location.

7.7 Supervisor for sampling and cleanup must have a current certificate of satisfactory completion from an EPA approved 40-hour Hazardous Waste Site Operations course.

ATTACHMENTS

A. Site Location Plan
B. Table II, Soil Petroleum Hydrocarbon Analysis, ADEC Interim Guide, 9/26/90
C. Chain-of-Custody Form
D. Container Inventory Form



SITE LOCATION PLAN
ALASKA ROADBUILDERS GRAVEL PIT

TABLE II

SOIL PETROLEUM HYDROCARBON ANALYSIS

	ANALYSIS DESCRIPTION	METHODS	REQUIRED METHOD DETECTION LIMIT	SAMPLE CONTAINER	MAXIMUM HOLDING TIMES
TPH	Total Petroleum Hydrocarbons		25.0 ppm	8 oz. glass w/TLC note 1	Extract within 14 days Analyze within 40 days
	Infrared Spectroscopy - IR	418.1 note 2			
BTEX	Volatile Aromatic Hydrocarbons		0.050 ppm note 3	4 oz. glass w/TLC	Analyze within 14 days note 4
	Purge & Trap / Gas Chromatography - PID	5030 / 8020 note 3			
	OR				
	Purge & Trap / Mass Spectroscopy - GCMS	8240 note 3			
VPH	Volatile Petroleum Hydrocarbons		1.0 ppm note 3	2-4 oz. glass w/TLC	Analyze within 14 days note 4
	Purge & Trap / Gas Chromatography - FID	5030 / 8015 note 3			
EPH	Extractable Petroleum Hydrocarbons note 5		10.0 ppm	8 oz. glass w/TLC	Extract within 14 days Analyze within 40 days
	Sonication Extraction / Gas Chromatography - FID	3550 / 8015			
	OR				
	Soxhlet Extraction / Gas Chromatography - FID	3540 / 8015			

note 1 w/TLC : Use glass containers with teflon lined caps

note 2 EPA Method 418.1, modified for soil extraction/analysis

note 3 Use the high level extraction method for the soil/sediment described in Section 7.3.3.2 of EPA Method 5030. A portion of the soil sample is dispersed in methanol as the extraction solvent to dissolve the volatile organic compounds. The method specifies using a minimum of 4 grams wet weight of sample.

note 4 Samples should be extracted (note 3) as soon as possible after collection to minimize volatilization and analyzed within 14 days.

note 5 This test method only needs to be qualitative to determine hydrocarbon type rather than quantitative in determining a concentration. This gas chromatography method is capable of identifying the range of hydrocarbons present in the sample to determine the petroleum hydrocarbon type (gasoline, deisel, crude oil, lubricating oil etc.) present.

RONALD T. ROZAK, P.E.
Civil Engineering and Construction Management Consultant

CHAIN OF CUSTODY RECORD

SURVEY

SAMPLERS: *(Signature)*

STATION NUMBER	STATION LOCATION	DATE	TIME	SAMPLE TYPE			SEQ. NO.	NO. OF CONTAINERS	ANALYSIS REQUIRED
				Water		Air			
				Comp.	Grab.				

Relinquished by: *(Signature)* | Received by: *(Signature)* | Date/Time

Relinquished by: *(Signature)* | Received by: *(Signature)* | Date/Time

Relinquished by: *(Signature)* | Received by: *(Signature)* | Date/Time

Relinquished by: *(Signature)* | Received by Mobile Laboratory for field analysis: *(Signature)* | Date/Time

Dispatched by: *(Signature)* | Date/Time | Received for Laboratory by: | Date/Time

Method of Shipment:

P.O. Box 350 Kenai, Alaska 99611 (907) 283-5640

CONTAINER INVENTORY

Project Name: _____ Date/Time: _____
Client Name: _____ Sample Number:_____
Site Location:_____ Sampled By:_____
_____ _____

CONTAINER INFORMATION

Size:	Opening:	Material:	Condition:
0 unknown _	0 unknown _	0 unknown _	1 dented _
1 55 gal_	1 ring top_	1 metal_	2 creased_
2 30 gal_	2 closed top_	2 plastic_	3 punctured_
3 other_	3 other_	3 fiber_	4 corroded_
		4 glass_	5 severely corroded_
		5 other_	6 bungs missing_
			7 bulged_
			8 other_

Markings:
Color:_____
Top: _____
Body:_____

CONTENT INFORMATION

State:	Amount:	Material:
0 unknown_	0 unknown_	0 unknown_
1 solid_	1 full_	1 water_
2 liquid_	2 3/4ths_	2 assumed_____
3 sludge_	3 1/2_	3 record_____
4 gas_	4 1/4th_	from_____
5 empty_		
6 soil_	Color:	
7 gel_	_____	
8 stratified_		
9 other_		

Comments:_____
_____
_____
_____

RONALD T. ROZAK, P.E. P.O. Box 350 Kenai, AK 99611
Phone/FAX (907) 283-5640

Material Safety Data Sheet

ASPHALT EMULSION CSS-1
Identity (Trade Name As Used On Label)

EMULSION PRODUCTS OF ALASKA, INC.
Manufacturer
P.O. Box 56277
Address
North Pole, Alaska 99705

(907)488-8277
Phone Number (For Information)

Emergency Phone Number Telex*

MSDS Number*

CAS Number*

May 1991
Date Prepared

Prepared By*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS — Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	%	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
Asphalt Cement			5mg/m^3	(fumes only)
Non Hazardous Ingredients				
TOTAL	100			

SECTION 2 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 100C--212F
Specific Gravity (H_2O = 1): 0.97-1.04
Vapor Pressure (mm Hg and Temperature): Approx. 22
Melting Point: N.A.
Vapor Density (Air = 1): 1.0
Evaporation Rate (_____ = 1): N.I.A.
Solubility in Water: To some extent
Water Reactive:

Appearance and Odor: Dark, low to semi-viscous liquid, minimal odor

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used: N.A. as an emulsion
Flammability Limits in Air % by Volume: LEL N.I.A. UEL N.I.A.
Extinguisher Media: If water is evaporated, treat as with asphalt/oil fire=Use Dry Chemical, Foam, CO_2
Special Fire Fighting Procedures: Do not enter confined fire arear without full bunker gear and NIOSH approved self-contained breathing apparatus
Unusual Fire and Explosion Hazards: Emulsion may foam if heated to 212°F. If materials in excess of 212°F are added to emulsion, possible foaming may occur.

NOTE: N.A. = Not Applicable N.I.A. = No Information Available

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: [X] Stable [ ] Unstable — Conditions To Avoid:

Incompatability (Materials to Avoid): Strong oxidizers

Hazardous Decomposition Products: If burning, carbon monoxide, hydrogen sulfide, aldehydes and other compounds may form.

HAZARDOUS POLYMERIZATION: [ ] May Occur [X] Will Not Occur — Conditions To Avoid:

SECTION 5 - HEALTH HAZARD DATA

Health Hazards (Acute & Chronic) Not expected if proper safety precautions are followed
Skin-thermal burns,dermatitis Inhalation-nausea,dizziness, headache

Carcinogen NTP? IARC Monograph? OSHA Regulated?

As asphalt is the major ingredient in an asphalt emulsion and since some asphalts may possess weak carcinogenic activity, good personal hygiene should be practiced. Intermittant contact with the asphalt portion is not expected to have serious health effects. In the emulsion state, asphalt contact is minimal.

Signs and Symptoms of Exposure
Medical Conditions Generally Aggravated by Exposure

EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation and support if necessary.

Eye Contact: Flush with water--Remove contact lenses if worn--Contact Physician

Skin Contact: Wash with soap and water or hand cleaner--Remove contaminated clothing

Inhalation: Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

Ingestion: Consult physician before inducing vomiting

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type): Not required under normal conditions

Protective Gloves: Insulated gloves to prevent thermal burns

Eye Protection: Faceshield/goggles

VENTILATION TO BE USED: [X] Local Exhaust Use if in enclosed area [ ] Mechanical (general) [ ] Special [ ] Other (specify)

Other Protective Clothing and Equipment: Recommended long sleeve shirts and full-length pants

Hygienic Work Practices: Use good practice associated with any thermally hot material

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken If Material Is Spilled Or Released: Dike or absorb emulsified asphalt-earth, sand or saw dust make good absorbents. Contact local authorities if emulsified asphalt enters sewer or water

Waste Disposal Methods: Dispose of in accordance with local, state or federal regulations

Precautions to be Taken in Handling and Storage: Cover face and skin when opening tanks or drums in case emulsified asphalt is under pressure. Make sure heaters are fully submerged in liquid.

Other Precautions and/or Special Hazards: AVOID pressurizing, torching, welding, grinding empty containers. DO NOT expose empty containers to heat, sparks or any type of ignition.

NFPA Rating* Health___ Flammability___ Reactivity___ Special___ Additional

HMIS Rating* Health___ Flammability___ Reactivity___ Personal Protection___