

Travis/Peterson Environmental Consulting, Inc.

Michael D. Travis P.E. President

2020 Abbott Road, Suite 3 Anchorage, Alaska 99507

Phone: 907-522-4337 Fax: 907-522-4313 e-mail: mtravis@tpeci.com Laurence A. Peterson Operations Manager

329 2nd Street Fairbanks, Alaska 99701

Phone: 907-455-7225 Fax: 907-455-7228 e-mail: larry@tpeci.com

March 6, 2000 1013-05

North Slope Borough Department of CIPM P.O. Box 350 Barrow, Alaska 99723

Attention:

Marvin Olson

Program Manager

Re:

CIP No. 63-204

Phase I ESA for South Pad Final Report

Dear Marvin:

As you requested, I am providing you with one unbound copy and one bound copy of our Phase I Environmental Site Assessment for South Pad.

Your question pertaining to the city using the asphalt for the hockey rink was a good one. We suggest you put this in your RFP so the contractor will pursue your idea.

Thank you.

Sincerely,

Laurence A. Peterson Operations Manager



PHASE I ENVIRONMENTAL SITE ASSESSMENT SOUTH PAD

Prepared for

NORTH SLOPE BOROUGH DEPARTMENT OF CAPITAL IMPROVEMENT PROGRAM MANAGEMENT

P.O. Box 350 Barrow, Alaska 99723

Prepared by

TRAVIS/PETERSON ENVIRONMENTAL CONSULTING, INC.

329 2nd Street Fairbanks, Alaska 99701

> Project Number 1013-05 March 2000



EXECUTIVE SUMMARY

This report summarizes the findings of a Phase I Environmental Site Assessment (ESA) conducted by Travis/Peterson Environmental Consulting, Inc. (TPECI) at South Pad, Barrow, Alaska. Key Points of the Phase I ESA are summarized below and discussed in detail within the report. The Executive Summary is intended for introductory and reference use. A complete reading of this report is recommended.

Site History: The NSB constructed South Pad in 1980 to serve as staging area for contractor activities. According to Woodward-Clyde (1997), the gravel pad varies between 6 and 8 feet thick and rests directly on the tundra. Contractors managed the facility until 1986 when the NSB assumed control. Currently, various departments of the North Slope Borough (NSB) use South Pad for outdoor storage.

Site Reconnaissance: TPECI personnel conducted a site reconnaissance on January 26, 2000. The presence of above ground storage tanks (ASTs), drums, chemical materials, and construction materials were documented. Evidence of past contamination was also documented.

Soils, Geology, and Hydrogeology: Information on the subsurface soils at the site is based on direct observation made at the site and adjacent properties. In general, the site consists of a gravel pad that varies between six and eight feet thick.

Vicinity Environmental Documentation: A search of environmental documentation for surrounding sites revealed no risk of contamination from adjoining properties. No sites listed by the Environmental Protection Agency or the State of Alaska were found to be within the area of review for the subject site.

Conclusions and Recommendations: Evidence of environmental impairment by petroleum and chemical materials has been noted at South Pad and includes soil contaminated with diesel fuel, glycol, asphalt, and unidentified chemical materials. TPECI recommends that the NSB proceed with Phase II Environmental Sampling. The NSB can reduce the potential for future releases by adopting simple property management techniques, which would include housekeeping, inventory of materials, and/or removal, recycle, and disposal of non-hazardous materials.

TABLE OF CONTENTS

		Page	7
1.0	INTR	ODUCTION 1	
2.0	SITE	DESCRIPTION2	2
3.0	SITE 3.1	HISTORY	2
	3.1	Aerial Photograph Review	2
	5.2	3.2.1 1971 Aerial Photograph	5
		3.2.2 1981 Aerial Photograph	5
		3.2.3 1991 Aerial Photograph	5
		3.2.4 1999 Aerial Photograph	5
	3.3	Personal Interviews	5
4.0	SITE	RECONNAISSANCE	6
	4.1	Buildings	6
		4.1.1 Service Shop	6
		4.1.2 Storage Shed	
		4.1.3 Individual Connexes	0
	4.2	Fuel Storage Tanks 1	0
	4.3	Chemical Materials 1	1
	4.4	Refuse and Debris 1	1
	4.5	Site Drainage 1	2
	4.6	Fill Areas 1	2
	4.7	Water Wells and Water Service	
	4.8	Sewer and Septic Systems 1	
	4.9	Electrical Utilities and Transformers	
	4.10	Surface Vegetation	
	4.11	Adjoining Properties 1	4
5.0	GEO	LOGY, HYDROLOGY, AND SOILS 1	4
	5.1	Geology and Soils 1	4
	5.2	Hydrology 1	. 5
6.0	VICI	NITY ENVIRONMENTAL RECORDS 1	6
0.0	6.1	Registered UST's and AST's	(
	6.2	Leaking UST's	(
	6.3	ADEC Contaminated Sites List	16
	6.4	RCRA List	
	0.7	6.4.1 RCRA Corrective Action Facilities	
		U. I.I TOTAL CUITOUT I WANTED	

North Slope Bor		ough, 1013-05	March 3, 20	000
		1 Environmental Site Assessment	Page	e iv
	6.5 6.6	6.4.2 RCRA TSD Facilities		17 17
7.0	ASBES	STOS	OK 4004-0004008-40	19
8.0	LEAD.	-BASED PAINT	00 4 3 004004 4004 40	19
9.0	CONC 9.1 9.2	CLUSIONS AND RECOMMENDATIONS		. 20
10.0	REFE	RENCES		. 22
		LIST OF TABLES		
Table 1 Table 2		Materials Located in Storage Shed		8 . 23
		LIST OF FIGURES		
Figure 1 Figure 2		Location & Vicinity Map		3
		LIST OF APPENDICES		
Appen Appen	dix B	Aerial Photographs Photographic Log		

1.0 INTRODUCTION

Travis/Peterson Environmental Consulting, Inc. (TPECI) performed a Phase I Environmental Site Assessment (ESA) of South Pad, Barrow, Alaska. The purpose of the Phase I ESA is to document current and historical land uses on South Pad and adjacent property and evaluate the risk of adverse environmental impacts to the site based upon those uses, and to identify "recognized environmental conditions" as defined by the American Society for Testing and Materials (ASTM). The project conforms to general standards established by the ASTM (ASTM-E-1527-97). The scope of work for this Phase I ESA included:

- A physical reconnaissance of the site and observation of surrounding properties
 for unusual land colorations, physical irregularities, and noticeable refuse piles as
 well as an exploration of current land use in the immediate vicinity;
- A review of available information on the soils, geology, and hydrology in the vicinity of the site;
- A review of available environmental documentation for the site and vicinity properties from local, state, and federal environmental agencies;
- A review of available historical data and aerial photographs pertaining to the site and adjacent property use;
- A review of the information obtained and an assessment of the potential for impact by toxic, hazardous, or otherwise regulated materials; and
- Preparation of this report.

Environmental impairment of a property may result from activities such as illegal or unreported dumping or spilling of hazardous waste materials. The presence of contaminants at a property may not always be apparent, and the completion of a Phase I ESA cannot guarantee that contamination does not exist. The scope of services executed for this project does not comprise an audit for regulatory compliance, nor does it comprise a detailed condition survey for asbestos, lead paint, radon, naturally-occurring materials, wetlands, or other conditions or potential hazards not outlined in TPECI's scope of work.

This report has been prepared for the exclusive use of the North Slope Borough (NSB) in accordance with generally accepted professional consulting practices. No warranty, expressed or implied, is made. The findings contained herein are relevant to the date of TPECI's site visit and should not be relied upon to represent conditions at a later date.

In the event that changes in the nature, usage, or layout of the site or nearby properties are made, the conclusions and recommendations contained in this report may not be valid. If additional information becomes available, it should be provided to TPECI so that the original conclusions and recommendations can be modified as necessary.

2.0 SITE DESCRIPTION

The South Pad, Barrow, Alaska (Figure 1) site encompasses 8.35 acres and is located along Nunavaaq Street (Figure 2). The legal description of the subject site is Lot 2, Block B, U.S. Survey #4516. South Pad is located within Section 7, T22N, R18W, and Sections 12 and 13, T22N, R19W, Umiat Meridian. TPECI visually inspected South Pad, visually surveyed adjoining land, and reviewed public records and readily accessible documentation.

3.0 SITE HISTORY

TPECI documented the site history by reviewing historical aerial photographs, recorded information, readily accessible databases, and interviews. The NSB constructed South Pad in 1980 to serve as staging area for contractor activities. According to Woodward-Clyde, (1997), the gravel pad varies between 6 and 8 feet thick and rests directly on the tundra. Contractors managed the facility until 1986 when the NSB assumed control. Currently, various departments of the NSB use South Pad for outdoor storage.

SKW/Eskimo, Inc. constructed the shop building in 1981. Due to excessive slab settlement the shop was ordered vacated by inspectors from the Occupational Safety and Health Administration (OSHA) in 1993 (CH2M Hill, 1993).

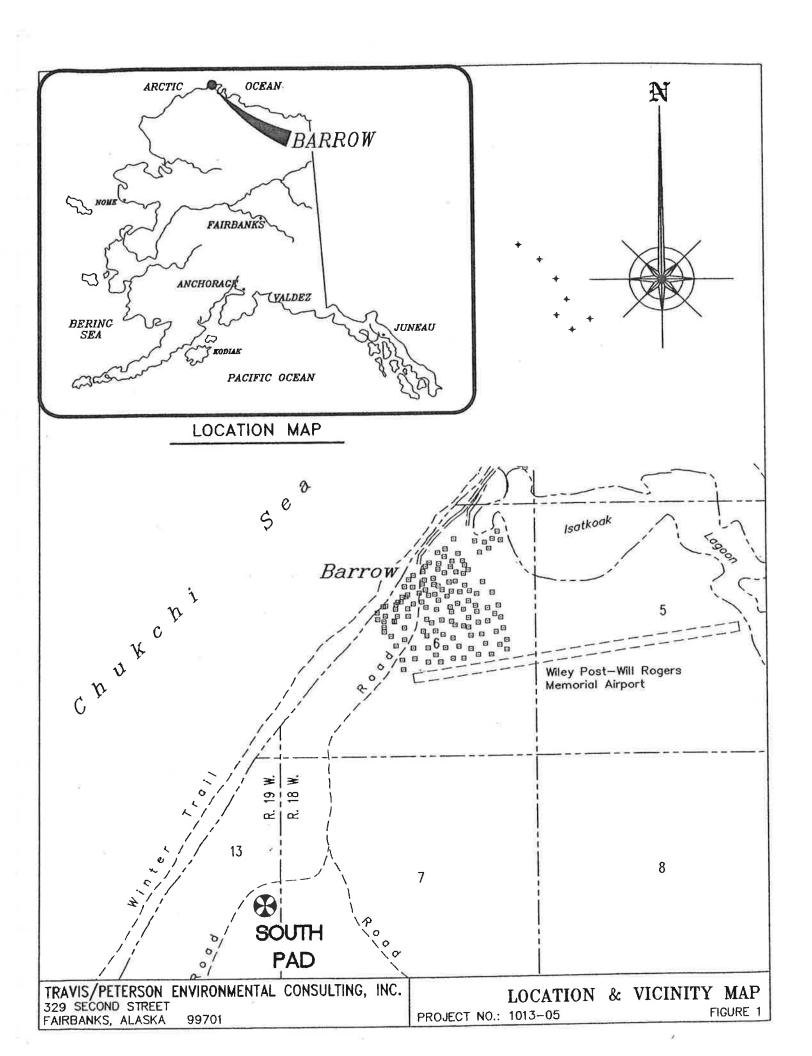
A check with the U.S. Army Corps of Engineers indicated that a Section 404 (dredge and fill activity in wetlands) permit was not required for South Pad. Any future enlargement of the pad must be permitted by the US Army Corps of Engineers (Hietz, 2000)

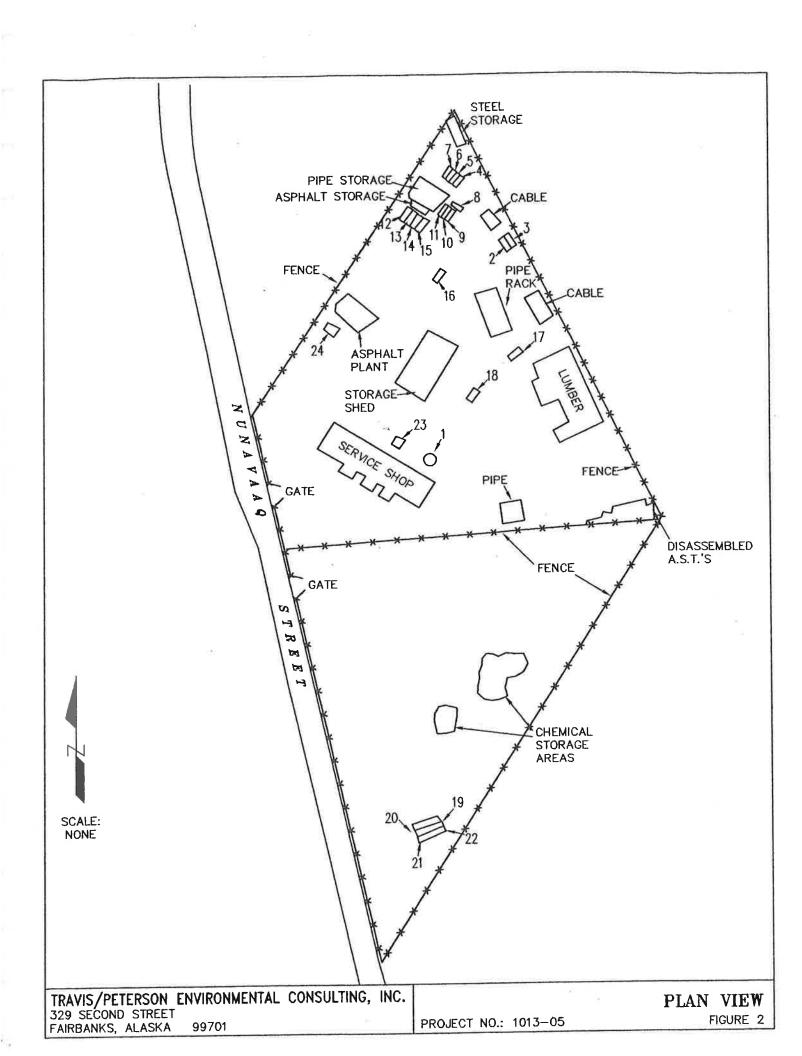
3.1 TAX ASSESSMENT AND TITLE RECORDS

Review of tax assessment records and title records was not included in the scope of work for this project. A full records assessment was not performed because existing documentation and information indicates that the NSB has been the sole property owner.

3.2 AERIAL PHOTOGRAPH REVIEW

Aerial photographs of South Pad and adjacent property obtained by TPECI span the period between 1971 and 1999 (Appendix A). The aerial photograph review indicates the adjacent property has not been developed. There has not been any appreciable change to the subject property since 1991. However, the aerial photographs show a progressive decline in the amount of material on the site.





3.2.1 1971 Aerial Photograph

The 1971 aerial photograph shows no development of the subject property (Appendix A). The site location is dominated by permafrost and wetland areas. Characteristics of the permafrost shown are indicative of wetlands and include patterned ground, permafrost islands, and thaw lakes. The photograph revealed no areas of stressed vegetation.

3.2.2 1981 Aerial Photograph

The 1981 aerial photograph shows most of South Pad has been built. The northeastern section of South Pad is a staging area for NSB contractors. The southeastern area is under construction with approximately 28,000 cubic yards of material (assuming a pad thickness of 6 feet) in place.

Large stacks of treated lumber line the eastern site fence. This lumber was apparently purchased for a construction project. The lumber was stored at South Pad pending use at the construction site (Woodward-Clyde, 1997). The photograph shows many empty shipping crates located along the northern site boundary. The items on site appear to be organized and stored neatly. The service shop appears to be in use.

3.2.3 1991 Aerial Photograph

The 1991 aerial photograph shows South Pad as it existed prior to the abandonment of the service shop. An addition has been made to the storage building and numerous connexes and materials have been added to the site. The NSB/OSEA office is located in the connex east of the service shop. There are three above ground storage tanks located north of the service shop gate near the fence line. Two above ground storage tanks are located at the southern corner of the property. A large bulk fuel storage tank is located adjacent to the shop. Pallets of drums are stacked adjacent to the service shop and access gate. There is debris scattered outside the eastern fence line. The photograph shows the worst debris field is northeast of the site and covers an area approximately 200 feet by 400 feet. In addition to the debris, numerous vehicles are present on the site. Although some appear to be parked, a good percentage of them appear to be abandoned in place. The materials on the southern part of the site appear to be ordered and placed in rows that are separated by roadways.

3.2.4 1999 Aerial Photograph

The 1999 aerial photograph shows the site conditions as they exist currently. The large debris fields along the eastern margin of the site have been cleaned-up. The outbuilding on the east side of the service shop has been removed and the site appears to be used for material storage. Overall, the materials stored on site appear to have decreased between 1991 and 1999. The numerous vehicles present in 1991 have been removed from the site. Much of the material

evident in the 1991 photograph has been removed. The remnants of lumber reported present on site in 1981 is stacked along the eastern margin of the site.

3.3 PERSONAL INTERVIEWS

Woodward-Clyde (1997) performed personal interviews with Mr. Jack Azizeh and Mr. Chris Cleveland. Information from these interviews is used in this report.

While on-site, two unidentified NSB/CIPM employees stopped to see who was on-site and what was going on. They expressed that the dispensing station had not be in use for at least 3 years. The numerous connexes on site belong to various departments of the NSB. They were not sure but thought some were CIPM, OSEA, Public Safety, and Transit. They also indicated that they would like to see the treated lumber stockpile removed from the site.

4.0 SITE RECONNAISSANCE

TPECI personnel conducted a site reconnaissance on January 26, 2000. Photographs (Appendix B) were taken at a variety of locations during the site reconnaissance.

4.1 BUILDINGS

There are two permanent structures located at South Pad. One is a service shop and the other is a storage building (Figure 2). Each of these structures is described in the following sections.

4.1.1 Service Shop

The service shop is a 40 foot wide by 200 foot long structure located approximately 100 feet from the western margin of the subject property. This shop was built in the early 1981 by SKW/Eskimos Inc. and was in service until it was condemned in 1993. The shop extends north to south and is subdivided into offices, storage areas, and working space. The shop has a concrete slab on grade with a ventilation system that circulated winter air under the building. TPECI inspected the service shop for potential contaminants and refuse.

Shop Offices and Storage Areas

There is a box of battery electrolyte fluid located in the storage room underneath the offices (Appendix B, Photograph #1). The box appeared to be intact and no leakage was observed. Three drums labeled used oil are located in the office portion of the shop located near the south vehicle door (Appendix B, Photograph #2). No contaminants or potentially hazardous materials were observed in any of the other offices or storage areas at the shop.

The working space of the shop is approximately 120 feet long and 40 feet wide. The concrete floor of the working space is equipped with a floor drain which, at the time of inspection, was frozen solid. The floor itself has collapsed into a thaw bulb and slopes towards the middle of the structure.

There are two large transformers collocated with electrical panels in the shop. The first is adjacent to the panel on the southeast shop wall (Appendix B, Photograph #3). This transformer is rated at 75 KVA - 60Hz, and was manufactured by the Square D Company (Serial #791S22C). The second transformer is located adjacent to the electrical panels along the southwest wall, near the two 1,000 gallon water storage tanks (Figure 3). This transformer is rated at 45 KVA - 60 Hz - 3 phase and was manufactured by Acme Electric Corporation (Model #T-1-53313-3). An oil rack is located near the storage area in the northwest corner of the working space. There is a 55-gallon drum filled with an unknown grease (Appendix B, Photograph #4). The grease has overflowed and spread to the floor. Absorbent pads are littered underneath the rack. Nine 55-gallon drums are on pallets along the eastern side of the shop across from shop offices. Four of these drums are empty, the remaining five are partially full (Appendix B, Photograph #5). The labels on the drums indicated that the contents include:

- Arctic Gear Lube (1 drum);
- OW-30 motor oil (1 drum);
- 5W-30 motor oil (1 drum); and
- Antifreeze (2 drums).

Four drums labeled "contaminated soil" dated "5/19/90" are located adjacent to the electrical panel in the southeast corner of the shop (Appendix B, Photograph #6). This is the extent of potentially hazardous materials observed in the service shop.

4.1.2 Storage Shed

The storage shed, consisting of a series of 8-foot by 20-foot connexes enclosed with a wood-truss roof and walls, is located to the north of the service shop near the center of South Pad. There are approximately 44 steel connexes enclosed by the storage unit. This building provides dry storage for chemicals, paint, automotive fluids, office furniture, and miscellaneous items. During the site reconnaissance, TPECI personnel recorded the contents of each of the connexes. A detailed inventory of hazardous materials and quantities is presented in Table 1. Approximately 28 diesel fired space heaters are stored on the east side of the storage shed.

TABLE 1

MATERIALS LOCATED IN STORAGE SHED

Amount	Quantity	Material
2	5 Gallon	Daniel Boone Marine Gloss Enamel
1	½ Gallon	Hydraulic Fluid
1	1 Gallon	Jason Chemical Set Adhesive
11	5 Gallon	Carburetor & Cold Parts Cleaner
1	5 Gallon	Murphy's Tire & Tube Compound
1	4 Gallon	Carboline 191 Paint
1	5 Quart	Jason Curing Agent B, Chemical Adhesive
1	½ Gallon	Daniel Boone Paint
1	1 Pint	Sherwin Williams Acrylyd Acrylic Enamel
1	2 Quart	Carboline Part B 191 Finish
156	5 Gallon	Polyseamseal Adhesive Caulking
80	5 Gallon	Chevron Asphalt Coating
4	1 Gallon	Scotch Grip Plastic Adhesive 4693
2	5 Gallon	Foster Sealfas Coating 30-36
5	5 Gallon	Nalclean 8900 Alkaline Cleaner
39	39 Gallon	PRC Part A &B Paint
2	5 Gallon	Tnemec 2008 Safety Red
2	5 Gallon	Tnemec C Part B, Epoxy Converter
11	1 Gallon	Sikastix 370 A Sikadur
10	1 Gallon	Sikastix 370 Part B
1	5 Gallon	Graycoflex Part A
1	5 Gallon	Graycoflex Part B
4	5 Gallon	Preservative Prime Red Oxide Primer
2	5 Gallon	Industrial Finishes, Zinc Dust Primer
32	5 Gallon	Non-slip Coating 1420
5	5 Gallon	Carboline 190 HB Part A

TABLE 1, Continued

1	5 Gallon	Sonnebonn Kure-seal 0800
1	5 Gallon	BEHR Raw-hide Clean Gloss
1	5 Gallon	Carboline Thinner #15
1	5 Gallon	Carboline Thinner #11
1	5 Gallon	Carboline Thinner #21
9	1 Gallon	Carboline 190 Part B
1	5 Gallon	Methyleum Naphtha
1	5 Gallon	Latex Paint 631-W-105
3	5 Gallon	Anchor Paint White
1	1 Gallon	Porter MCR 43 Gloss Exopy, Part B
1	1 Gallon	Porter MCR 43 Gloss Exopy, Part A
10	5 Gallon	Thoropatch Concrete and Masonry Patch
1	5 Gallon	A and B Porter Tarset Coal Tar Epoxy
2	2 Gallon	Bostic Chem Calk 550
ī	5 Gallon	Carboline Carbo Zinc Base
26	1 Gallon	3-M Scotch Clad Non-slip Coating
1	1 Gallon	Aqua Gel Wire & Cable Pulling Lube
1	5 Gallon	Burke Res-X
1	5 Gallon	Daniel Boone Marine Enamel 3015
4	1 Gallon	1 Gallon A & 1 Gallon B per kit, Carboline 191
5	5 Gallon	Daniel Boone Flat Red Paint
1	5 Gallon	Carboline Zinc Filler # 73
7	5 Gallon	Dow Corning 732-45 Silicone Rubber Sealent
2	5 Gallon	Elasto-bond 875 Blue Primer,
3	5 Gallon	Daniel Boone Zinc Chromate Primer
3	5 Gallon	Tylox Lube #7
4	5 Gallon	Daniel Boone Exterior Log Finish
2	5 Gallon	Daniel Boone Super Sealer Vinyl Acrylic

4.1.3 Individual Connexes

Numerous steel connexes are located at South Pad. Attempts were made to access and inventory all connexes on site. The connexes located behind the shop building apparently belong to several departments of the NSB. Neither the CIPM individuals nor Oma Gilbreth knew which departments. No attempt was made to access connexes with locks on them Most of the connexes inspected were empty or contained non-hazardous materials (pipe, parts, automotive and heavy equipment parts, etc.). A number of these connexes contained small amounts of chemicals including glycol, used oils, and 5-gallon pails of oil. These appeared to have been placed in the connexes to protect them from the weather and accidental spillage. The presence of drifted snow in the connexes hindered visual inspection during the site assessment.

4.2 FUEL STORAGE TANKS

Numerous aboveground storage tanks (ASTs) are located at the site. All appeared to be temporarily stored at the site or, in the case of Tank 1, abandoned in place. It was not possible to ascertain whether they had been drained. The ASTs stored on site, and described below, include:

• Tank 1 45,000 gallon bulk fuel storage tank;

Tanks 2 through 22 10,000 gallon AST with containment; and

Tank 23
 10,000 gallon AST without containment.

Tank 1 is the bulk fuel storage tank for the old dispensing station located adjacent to the service shop. The nominal volume is estimated to be 45,000 gallons. According to Woodward-Clyde (1997),

"The 45,000 gallon AST is connected to the pump station by an above ground pipe. The AST sits in a lined dike that is full of water. The dispensing station also rests in water. According to Jack Azizeh, it was taken out of service/abandoned along with the Service Shop in 1992, but it is doubtful that this tank has been properly decommissioned."

Tanks 2 through 22 are skid mounted fuel storage tanks with integrated secondary containment. The nominal volume is estimated to be 10,000 gallons each, with a total potential storage volume of 200,000 gallons. No evidence of leaks or spills were noted during the site inspection. However, Woodward-Clyde (1997) reported, "At least one 10,000 gallon tank has seeped around the valve stem and stained the soil beneath it." The presence of stained soil could not be assessed during TPECI's site visit due to snow cover.

Tank 23 is a steel fuel storage tank that does not have integrated secondary containment. The nominal volume is estimated to be 10,000 gallons. Tank 23 is located adjacent to the service

shop and north of Tank 1. According to Woodward-Clyde (1997), this AST is outside of secondary containment and rests on a high spot between the lined secondary containment for Tank 1 and a depression that was created by an extension of the shop (since demolished).

4.3 CHEMICAL MATERIALS

Chemical products are stored at South Pad. These chemicals include glycol, gasoline, motor oils, kerosene, greases, asphalt, and paint materials. The chemical materials appear to concentrated in discreet locations throughout the site. These storage concentration areas include:

- The wooden skid adjacent to the asphalt storage area;
- Storage shed;
- Various connexes; and
- Two locations in the CIPM controlled area of South Pad.

In addition to the concentration areas, chemical materials are scattered throughout the site in individual 55-gallon drums and original shipping containers.

4.4 REFUSE AND DEBRIS

The 8.35 acre gravel pad is currently used to store various materials and items, including construction equipment (e.g., asphalt plant), construction materials (pipe, lumber, cabling, steel, etc.), vehicles (both in working condition and in various stages of 'parting-out'), fuel storage tanks, surplus materials, drums, and waste materials. It was difficult to determine what portion of these materials are new, usable, recyclable, and merely scrap. Thus, all have been included under this section.

Construction Equipment

The components of a disassembled asphalt plant are north of the service shop in an area that is approximately 50 feet by 50 feet square. Conveyors, feed hoppers, tanks, an operations 'van', and spare parts are also stored in this area.

Construction Materials

Construction materials are stored at various locations throughout South Pad.

- Various sizes of PVC pipe is stored in three locations around South Pad;
- Various sizes of steel pipe and material is stored in the northeast corner;
- Cable and miscellaneous construction supplies;
- 150 drums of asphalt; and

• Treated lumber pile (estimated to contain 192,000 cubic feet by Woodward-Clyde, 1997).

Vehicle Storage

It appears that efforts have been made to confine vehicles to a single location. Based on aerial photographs of the site, this consolidation has occurred since the aerial photograph was taken on May, 1999. The following vehicles are parked adjacent to the lumber pile:

- Four 25T 6x6 Caterpillar articulated trucks;
- Two Tracked vehicles (Nodwell Type) with trailers;
- One School bus; and
- One City bus.

Drums

Besides the ASTs, there are numerous drums of materials located on site. Most of the drums could not be characterized through visual inspection because the labels are either illegible or absent. The vast majority of these drums are located on a wooden skid adjacent to the asphalt storage area. According to Woodward-Clyde (1997), there are approximately 150 drums of asphalt, of which four appeared to be leaking. Approximately 50 drums of various materials, including glycol, kerosene, and oils, have been placed on a wooden skid. A survey of these drums indicated that some are leaking.

4.5 SITE DRAINAGE

The site is a flat gravel pad and a dominant drainage pattern was not apparent. It is likely that surface water infiltrates into the gravels. It is likely that the gravels in the South Pad may be frozen at depth. The gravel pad is discussed in the following section.

4.6 FILL AREAS

South Pad consists of imported gravel fill which is approximately 8 feet (Woodward-Clyde, 1997) thick and encompasses approximately 8.35 acres. Thus, total fill materials at South Pad are estimated to be 110,000 cubic yards.

4.7 WATER WELLS AND WATER SERVICE

There are no water wells at South Pad. The presence of shower facilities and bathrooms indicates that water service existed at one time. Water and waste water apparently was trucked to and from the site and is believed to have been stored in one of the large water tanks in the shop working space. Waste water was returned to the water tank marked 'non-potable' water. However, no above ground piping or evidence of below ground piping was observed during the site visit.

4.8 SEWER AND SEPTIC SYSTEMS

There is no evidence of sanitary sewers on site. A shop drain system appears to have been installed under the concrete floor of the shop. This was completely frozen at the time of the site inspection. There are four sumps below the slab (CH2M Hill, 1993). The sumps consist of circular steel tanks, 2 feet in diameter and 2 feet deep. This is the only system open to surface water inflows.

4.9 ELECTRICAL UTILITIES AND TRANSFORMERS

Electrical service is supplied to the South Pad shop. Two transformers were apparent during TPECI's site visit and both were located in the shop (Section 4.1.1). These appeared to be in working condition and no fluids were observed leaking from them. Woodward-Clyde (1997) noted that "there is a platform located on the west side of the Storage Building that is used to store transformers. These transformers were newer models, but were unlabeled as to whether they contain PCBs. No leaking of dielectric fluids from the transformers was evident." This rack was either covered by snow or has been removed from the site.

The ballasts of flourescent lights were inspected by TPECI. The ballasts in the Storage Building were labeled as "Contains No PCBs".

4.10 SURFACE VEGETATION

The ability of TPECI personnel to inspect vegetation at the subject site and adjoining properties was limited due to the presence of snow cover on the pad and drifts surrounding the pad. However, inspection of the 1999 aerial photographs does not show any large denuded areas or vegetation in an obvious state of contaminant-caused stress. The photograph also shows that the gravel pad is not vegetated.

4.11 ADJOINING PROPERTIES

The land surrounding South Pad is not developed. Although South Pad has impacted the surrounding properties by creating or blocking natural drainage patterns, there is no evidence of gross disturbance.

5.0 GEOLOGY, HYDROLOGY, AND SOILS

Our understanding of subsurface conditions is based on visual observations made while on the site and review of documentation concerning regional and local conditions.

5.1 GEOLOGY AND SOILS

The subject site is located in the Arctic Coastal Plain approximately 1 mile south of Barrow, Alaska. The geology of the site is typical of the North Slope of Alaska. The original surficial geology of the site was composed of Histic Pergelic Cryaquept soils in association with Pergelic Cryofibrist soils. The principal soil subgroups of this association include:

- Histic Pergelic Cryaquepts (50 percent);
- Pergelic Cryofibrists (20 percent);
- Pergelic Cryaquepts (15 percent); and
- Pergelic Cryaquolls (5 percent).

Minor soil subgroups, comprising 10 percent of the association, include:

- Pergelic Cryothents;
- Pergelic Ruptic-Histic Cryaquepts;
- Pergelic Cryosamments;
- Pergelic Cryaquepts; and
- Pergelic Cryumbrepts.

The four major soil subgroups are described below.

Histic Pergelic Cryaquepts

Histic Pergelic Cryaquepts "are poorly drained soils on nearly level to rolling plains. Polygons, frost scars, low mounds, and pingos are common surface features. The vegetative cover includes sedge tussocks, grasses, low shrubs, forbs, mosses, and lichens. Typically, under a thick mat of partially decomposed organic matter, the soils have a mottled dark gray layer of nonacid silt loam or loam over gray loamy material. The permafrost table is shallow" (Anon., 1979).

Pergelic Cryofibrists

Pergelic Cryofibrists "are very poorly drained organic soils in broad depressions and shallow drainage ways and on the border of lakes. They consist of fibrous sedge and moss peat. In places, especially near the coast, the sedge peat contains lenses of sandy material. The peat is normally very strongly acid. Permafrost is shallow, and in summer the soil is always wet" (Anon., 1979).

Pergelic Cryaquepts

Pergelic Cryaquepts "are poorly drained soils on higher parts of the plain, especially in the northernmost sections, and in the beds of naturally drained thaw lakes. They support low shrubs, forbs, mosses, lichens, and some sedge tussocks. Typically, under a thin mat of organic matter, they have a thin layer of mottled gray loamy material. Permafrost is shallow." (Anon., 1979).

Pergelic Cryaquolls

Pergelic Cryaquolls "are somewhat poorly drained soils on gentle slopes under a cover of low shrubs, sedges, grasses, and lichens. They formed normally in calcareous material. Typically, under a surface mat of organic material, the soils have an upper layer of black mucky silt loam over mottled very dark grayish brown silt loam and, below that, mottled very dark gray loamy material. The underlying material is gravelly in places. The permafrost table is shallow" (Anon., 1979)

The surface soils at the site are underlain by the permanently frozen marine and alluvial clays, silts, and gravels of the Gubik Formation. Across the North Slope of Alaska, the Gubik Formation extends to a depth between 45 and 147 feet below surface. The frozen, lacustrine deposits of the Gubik Formation overlay the bedded sandstones of the Sagavanirktok Formation (Kirschner et al., 1992). Permafrost extends to a depth in excess of 1,000 feet.

5.2 HYDROLOGY

There is no groundwater in the area. The groundwater hydrology regime of the Arctic Coastal Plain is separated from surface water by permafrost. A seasonal groundwater table often is present in the active layer of the permafrost. However, this does not represent a usable aquifer or water source.

6.0 VICINITY ENVIRONMENTAL RECORDS

A review was made of pertinent environmental records within a 1 mile radius for facilities located in the site vicinity. The reviewed records include databases and files available from the Alaska Department of Environmental Conservation (ADEC) and the Environmental Protection Agency (EPA). The records search was performed in accordance with standards established in 1997 by the ASTM (ASTM E-1527-97). The review records include:

- ADEC list of registered UST's;
- ADEC leaking UST list;
- ADEC contaminated sites list;
- EPA Resource Conservation and Recovery Act (RCRA). Current RCRA large quantity and small quantity generators. Current RCRA treatment, storage, and disposal (TSD) facilities, including corrective action sites (CORRACTS) and non-CORRACTS facilities;
- Comprehensive Environmental Response, Compensation, and Liability Act Information Systems (CERCLIS-State and Federal Superfund);
- EPA National Priority List (NPL); and
- Emergency Response Notification System (ERNS).

TPECI environmental records review is based on computerized data complied by Environmental Data Resources Inc., (EDR). A copy of the EDR report appears in Appendix D.

6.1 REGISTERED UST'S AND AST'S

Based on a search of reasonably ascertainable information (EDR, 2000) there are no registered ASTs or USTs located within the ASTM specified search radius. For AST's, the ASTM search radius is confined to the subject site and for UST's the ASTM specified search radius is within 1/4 mile of the subject site.

6.2 LEAKING UST'S

Based on a search of reasonably ascertainable information (EDR, 2000), there are no leaking UST's located within the ASTM specified search radius (within ½ mile of the subject site).

6.3 ADEC CONTAMINATED SITES LIST

This database is regarded as the state equivalent of the federal CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information) listing and includes the following: (1) sites where there has been a confirmed release of a hazardous substance, (2) sites where there has been a confirmed release and investigation or where cleanup has been initiated or

completed, and (3) sites where there has been no confirmed release but for which the ADEC has received information indicating there may have been release of hazardous substances. The ADEC uses the federal CERCLIS database. The CERCLIS database contains information about abandoned, inactive, or uncontrolled hazardous waste sites that may require cleanup. A search of this database, performed by EDR, indicates that there are no state hazardous waste sites located within 1 mile of the subject site.

6.4 RCRA LIST

The RCRA Administration Action Tracking System (RAATS) was searched for RCRA sites located within 1 mile of the site. There are no RAATS sites located within the area of review for the subject property.

6.4.1 RCRA Corrective Action Facilities

RCRA corrective action facilities are sites which are currently performing site clean-up in accordance with the Resource Conservation and Recovery Act. There is no sites located within the area of review for the subject site.

6.4.2 RCRA TSD Facilities

The RCRA TSD listing includes all facilities which report the treatment, storage, and/or disposal of hazardous waste. There are no RCRA TSD sites located within the area of review for the site.

6.4.3 RCRA Generators

The RCRA generators database includes all facilities which report the generation, storage, transportation, treatment, or disposal (TSD) of hazardous wastes. Separate listings are maintained for large and small generators, respectively defined as facilities that generate more than or less than 1,000 kg of non-acutely hazardous waste per month. There are no RCRA Generators located within the area of review for the site.

6.5 CERCLIS LIST

TPECI reviewed state and federal databases to identify properties within the site vicinity that are known to contain environmental contamination or that house facilities that generate, store, treat, transport, or dispose of potentially hazardous materials. The information contained in each reviewed database is summarized below.

EPA National Priorities List

The National Priorities List (NPL) includes properties or facilities which the EPA has designated as requiring priority remedial action and which Superfund financing has been allotted. No NPL sites were found on the subject property or within the ASTM E 1527-97 search radius around the subject site.

EPA CERCLIS Database

The CERCLIS database contains a list of properties which have been or are being investigated by the EPA for existing or potential releases of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund). No such sites are located with in the area of review for the subject property.

EPA RCRA Generators List

The EPA Resource Conservation and Recovery Act (RCRA) generators list is a compilation of registered facilities that generate hazardous waste. No facilities included on the listing are located in the area of review for the subject site.

EPA RCRA TSD List

The EPA RCRA TSD list is a compilation of registered facilities that transport, store, or dispose of hazardous wastes. No such facilities are located within the area of review for the subject property.

ADEC Contaminated Sites Database

The ADEC Contaminated Sites listing is a record of known or suspected contaminated sites including leaking underground storage tanks, petroleum spill sites, and sites contaminated with hazardous substances other than petroleum. There are no such sites located within the area of review for the subject property.

6.6 EMERGENCY RESPONSE NOTIFICATION SYSTEM

The Federal Emergency Response Notification System (ERNS) is a national database of reported releases of oil and hazardous substances. There are no ERNS sites located within the area of review for the subject property.

7.0 ASBESTOS

An inspection for asbestos and asbestos-containing materials was not included in the scope of work for this project. The unfaced insulation in the shop was installed when the shop was constructed (early 1980's) and Gilbreth (2000) expressed that it had never been tested for asbestos materials to his knowledge.

8.0 LEAD-BASED PAINT

A lead-based paint survey was not included within the scope of this investigation.

9.0 CONCLUSIONS AND RECOMMENDATIONS

South Pad is a potential environmental liability for the NSB. This is primarily based on the diversity of chemical materials stored on the site. The chemicals range from usable materials (5-gallon pails of motor oil) to potentially toxic materials (methyl ethyl ketone) to chemicals that will now be classified as hazardous wastes (out of date paints and solvents).

Woodward-Clyde (1997) provided a summary of the impairment that currently exists at the property. Woodward-Clyde concluded there was evidence of:

- Contamination of the gravel pad resulting from the uncontrolled spills of chemical materials, including:
 - an engine fluid spill from a parked piece of machinery;
 - seepage from one of the stored ASTs;
 - spillage under the drum platform (skid) from approximately 25% of the containers stored there;
 - spillage from hazardous waste drums at this skid;
 - leakage of asphalt materials; and
 - small spills from various containers scattered throughout the site.
- Soil contamination may be associated with leaching of chemicals from the lumber stockpile; and
- Potential petroleum contamination associated with the old dispensing station and stored ASTs.

Recommendations based on the TPECI Phase I Environmental Site Assessment fall into two categories: Property Management and Phase II environmental sampling.

TABLE 2

SAMPLING LOCATIONS, PROTOCOLS, AND ESTIMATED NUMBER OF SAMPLES

Sampling Location	Depth	Constituents	Sample Protocol	Number of Samples
Service Shop The highest concentration of contaminants would be associated with the shop drain system. Sampling under the slab should be performed on the soils adjacent to the drain. We recommend an angled drill from the perimeter of the Service shop building.	2-3 feet below shop floor	diesel fuel; grease, oil, and hydraulic fluid; paints/solvents/wood preservatives; asphalt; glycol; adhesives; and small quantities of hazardous materials (battery acid etc.)	BTEX GRO DRO RRO 8 RCRA METALS	4 Soil Samples (minimum) one at each end of the drain; one in the middle; and one laboratory duplicate.
Storage Building The highest concentration would be anticipated in areas where staining is present. If no staining present, take samples in walkways and sheltered area between connexes.	Soil Surface	Paints; oils; glycol; adhesives; solvents; and greases	BTEX RRO 8 RCRA METALS	5 Soil Samples (minimum) four from under the storage shed as described in column 1; and one laboratory duplicate.
Lumber Pile Assumed preservatives include pentachlorophenol and Chromated Copper Arsenate.	Soil Surface and gravel tundra interface	Preservatives	EPA method 8270 (Pentachlorophenol) Chromium Copper	7 Soil Samples four from lumber pile perimeter; two samples at the gravel/tundra interface; and one laboratory duplicate 1 Wood Sample from a board from inside bundle
Asphalt Storage Area Leaking drums of asphalt may have contaminated soil below them. Remove solid asphalt from soil surface before collecting sample	Soil Surface	Asphalt	RRO	6 Soil Samples five from under the asphalt drums; and one laboratory duplicate

TABLE 2 (CONTINUED)

SAMPLING LOCATIONS, PROTOCOLS, AND ESTIMATED NUMBER OF SAMPLES

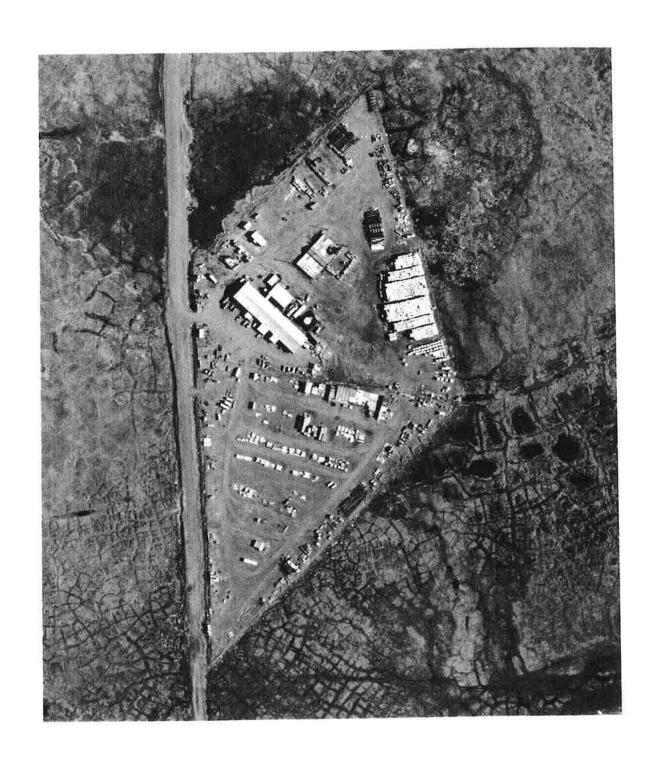
Drum Storage Areas Drum storage areas contain leaking drums of unknown fluids.	Soil Surface and gravel tundra interface	diesel fuel; grease, oil, and hydraulic fluid; paints/solvents/wood preservatives; asphalt; glycol; adhesives; and small quantities of hazardous materials (battery acid etc.)	BTEX DRO RRO 8 RCRA Metals Glycol	32 Soil Samples 4 samples from each of 8 drum storage areas Two soil samples One soil sample at gravel/tundra interface One laboratory duplicate per 10 samples
Miscellaneous Drums There are numerous drums scattered about the site. These drums have no labels and contain unknown materials. Where ground staining is present under the drum, sampling should be performed.	Soil Surface and gravel tundra interface	diesel fuel; grease, oil, and hydraulic fluid; paints/solvents/wood preservatives; asphalt; glycol; adhesives; and small quantities of hazardous materials (battery acid etc.)	BTEX DRO RRO 8 RCRA Metals Glycol	50 Soil Samples One soil samples from the soil under each drum or group of drums One sample from gravel/tundra interface One laboratory duplicate per 10 samples
Drums of Know Contents If the contents of a drum is known, then the appropriate test should be performed for that material only.	Soil Surface and gravel tundra interface	Diesel fuel Oil Solvents Glycol Hazardous materials	DRO and BTEX RRO BTEX Glycol Chemical specific test	20 Soil Samples One soil samples from under each drum or group of drums One sample from gravel/tundra interface One laboratory duplicate per 10 samples
ASTs Stored on Site There are numerous large ASTs stored on-site. These are presumed to have contained diesel. The soil underneath each of the outlet should be sampled for contamination.	Soil Surface	Diesel (Arctic Grade)	BTEX DRO	25 Samples One sample next to each tank One duplicate per 10 samples
Dispensing Facility The soil under the liner and along all distribution lines should be sampled	Soil Surface	Diesel (Arctic Grade)	BTEX DRO	5 Samples Four under liner & distribution lines One laboratory duplicate for location



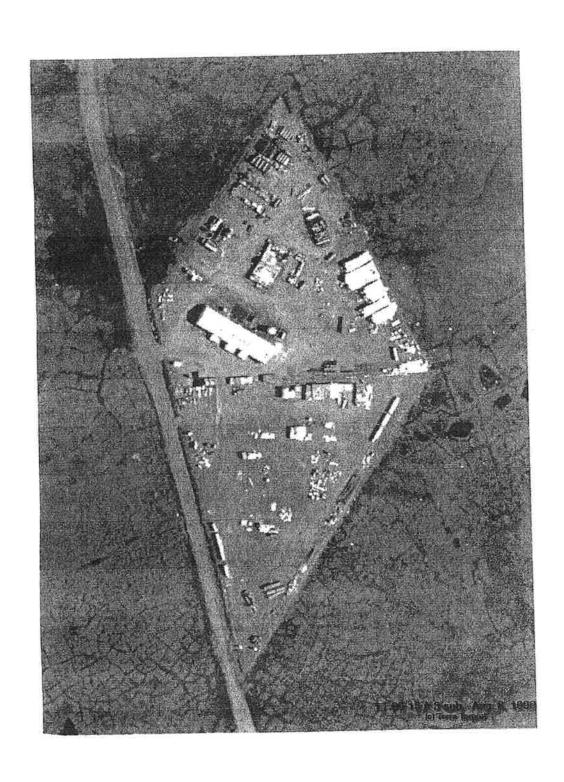
1971 AERIAL PHOTOGRAPH OF SOUTH PAD, BARROW ALASKA



1981 AERIAL PHOTOGRAPH OF SOUTH PAD, BARROW ALASKA



1991 AERIAL PHOTOGRAH OF SOUTH PAD, BARROW ALASKA



1999 AERIAL PHOTOGRAPH OF SOUTH PAD, BARROW ALASKA

41 - --------



The EDR-Radius Map with GeoCheck®

South Pad South Pad Barrow, AK 99723

Inquiry Number: 457599.1s

January 28, 2000

The Source For Environmental Risk Management Data

3530 Post Road Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050 Fax: 1-800-231-6802 Internet: www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary.	ES1
Topographic Map.	. 2
GeoCheck Summary.	3
Overview Map	5
Detail Map.	6
Map Summary	7
Map Findings	
Orphan Summary.	. 9
Zip Scan Report	. 10
APPENDICES	
GeoChack Vorsion 2.1	
GeoCheck Version 2.1	. A1
Government Records Searched / Data Currency Tracking Addendum	A3

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer and Other Information

This Report contains information obtained from a variety of public and other sources and Environmental Data Resources, Inc. (EDR) makes no representation or warranty regarding the accuracy, reliability, quality, suitability, or completeness of said information or the information contained in this report. The customer shall assume full responsibility for the use of this report.

NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, EXPRESSED OR IMPLIED, SHALL APPLY AND EDR SPECIFICALLY DISCLAIMS THE MAKING OF SUCH WARRANTIES. IN NO EVENT SHALL EDR BE LIABLE TO ANYONE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. COPYRIGHT (C) 1998 BY ENVIRONMENTAL DATA RESOURCES, INC. ALL RIGHTS RESERVED.

Unless otherwise indicated, all trademarks used herein are the property of Environmental Data Resources, Inc. or its affiliates.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

SOUTH PAD BARROW, AK 99723

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

NPL:	_ National Priority List
Delisted NPL:	NPL Deletions
RCRIS-TSD:	Resource Conservation and Recovery Information System
SHWS:	State Haz. Waste
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CERC-NFRAP:	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CORRACTS:	
SWF/LF:	
	Leaking Underground Storage Tank Database
UST:	Underground Storage Tank Database
AST:	
	RCRA Administrative Action Tracking System
	Resource Conservation and Recovery Information System
	Resource Conservation and Recovery Information System
	Hazardous Materials Information Reporting System
	PCB Activity Database System
ERNS:	Emergency Response Notification System
FINDS:	Facility Index System/Facility Identification Initiative Program Summary Report
	Toxic Chemical Release Inventory System
NPL Lien:	NPL Liens
TSCA:	Toxic Substances Control Act
MLTS:	Material Licensing Tracking System
AK Spills:	
ROD:	
CONSENT:	Superfund (CERCLA) Consent Decrees
MINES:	

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

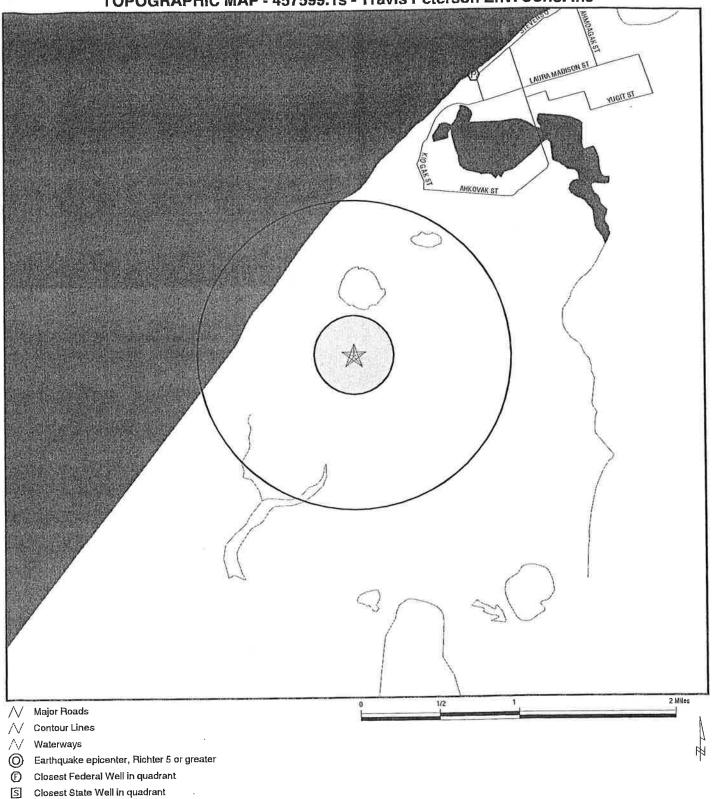
The subject property was not listed in any of the databases searched by EDR.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Due to poor or inadequate address information, the following sites were not me	Database(s)
	SHWS
Site Name	SHWS
AIRLINE FACILITY	SHWS
AIRLINE FACILITY OLD FUEL STORAGE TANK FARM	SHWS
OLD FUEL STOTE IS	SHWS
RESIDENCE	SHWS
DEWLINE SITE	SHWS
DEWLINE SITE OLD WASTE DISPOSAL AREA	SHWS
OLD WASTE DISPOSALTITE	SHWS
LAGOON	SHWS
RESEARCH LAB DRY CLEANING FACILITY, FORMER	SHWS
DRY CLEANING FACILITY	SHWS
DOMEDHOUSE	SHWS
AUDICTOID FILE OFILE	SHWS
BUILVEILE LANK FAINT	SHWS
EAST SIMPSON NO. 2 EAST SIMPSON NO. 2	SHWS
EAST SIMPSON NO. 2 DEWLINE SITE - POW 3 POL TANKS	SHWS
DEWLINE SITE	SHWS
DEWLINE SITE DEWLINE SITE - POW 3 LANDFILL DEWLINE SITE - POW 3 TRANSFORMERS	SHWS
DEWLINE SITE POW 3 TRANSFORMERS	SHWS
DEWLINE SITE - POW 3 TRANSFORMERS DEWLINE SITE - POW 3 TRANSFORMERS	SHWS
EUEL-DUMP	SHWS
DEWLINE SITE	SHWS
DEWLINE SITE, FUDS	
BEWI INE SILE	SHWS
DEWLINE SITE FUDS DEWLINE SITE FUDS LUST SITES	SHWS
	SHWS CERCLIS, FINDS, RCRIS-LQC
SAGWON AIRSTRIP DUMP SAGWON AIRSTRIP DUMP SAGWON AIRSTRIP AGING AREA	CERCLIS, FINDS, NOT WE
SAGWON AIRSTRIP DOWN SAGWON AIRSTRIP (DERP) UMIAT STAGING AREA (DERP) UMIAT STAGING AREA (DERP) DIMIAT STAGING AREA	CERCLIS
(DERP) UMIAT STAGING AREA USDOI BLM KOGRU RIV DEWLINE ST	SWF/LF
	SWF/LF
- · · · · · · · · · · · · · · · · · · ·	SWF/LF
BARROW LANDFILL (NSB)	SWF/LF
BARROW DUMP	SWF/LF
	ERNS
NUIQSUT LANDFILL (NSB) POINT LAY LANDFILL (NSB)	ERNS
POINT LAY LANDI ICE MARY PAD	ERNS
ARCO FACILITY 2 MARY PAD ARCO PAD PRUDHOE BAY OIL FIELD BOC PAD PRUDHOE BAY OIL FIELD	ERNS
BOC PAD PRUDHOE BAT OF THE PAD	ERNS
MILNEY PT OIL FIELD L PAD MILNEY PT OIL FIELD L PAD MILNEY PT OIL FIELD WESTERN OPERATING	ERNS
	ERNS
PRICE PAD PRUDHOE BAY PRUDHOE BAY UNIT WELL PAD L5 PRUDHOE BAY UNIT FIELD COLD STORAGE PAD	ERNS
PRUDHOE BAY UNIT WELL PAU LS PRUDHOE BAY OIL FIELD COLD STORAGE PAD PRUDHOE BAY EIFL D PRICE PAD	ERNS
PRUDHOE BAY FIELD PRICE PAD	
SPINE RD AND COAL STORAGE TAB	
PRUDHOE BAY OIL FIELD PRICE PAD PRUDHOE BAY FIELD PRICE PAD SPINE RD AND COAL STORAGE PAD	

TOPOGRAPHIC MAP - 457599.1s - Travis Peterson Env. Cons. Inc



No contour lines were detected within this map area.

TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP:

LAT/LONG:

Closest Public Water Supply Well

South Pad South Pad Barrow AK 99723 71,2649 / 156,8158 CUSTOMER: CONTACT: INQUIRY #:

DATE:

Travis Peterson Env. Cons. Inc Mr. Eddie Packee 457599.1s January 28, 2000 6:33 pm

GEOCHECK VERSION 2.1 SUMMARY

TARGET PROPERTY COORDINATES

Latitude (North):

71.264900 - 71" 15' 53.6"

Longitude (West):

156.815796 - 156° 48' 56.9"

Universal Transverse Mercator: UTM X (Meters):

Zone 4 578288.8

UTM Y (Meters):

7908184.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:

N/A

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:

Data Not Available

Era:

.

System: Series:

-

ROCK STRATIGRAPHIC UNIT

Category:

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles. The following table shows sites where groundwater flow and depth information was reported. Additional AQUIFLOW™ site information may be available in the GeoCheck® section at the end of this report.

MAP ID

DISTANCE

DIRECTION

GENERAL DIRECTION

Not Reported

ID FROM TP

FROM TP

GROUNDWATER FLOW

General Topographic Gradient at Target Property: Undeterminable General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.

FEDERAL DATABASE WELL INFORMATION

WELL

QUADRANT

DISTANCE FROM TP

LITHOLOGY

DEPTH TO WATER TABLE

NO WELLS FOUND

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

NOTE: PWS System location is not always the same as well location.

PWS Name:

WATER SERVICES MR. GUY BOWEN

BARROW, AK 99723

P.O. BOX 770

Location Relative to TP:

1 - 2 Miles North

PWS currently has or has had major violation(s) or enforcement:

Yes

GEOCHECK VERSION 2.1 SUMMARY

AREA RADON INFORMATION

EPA Radon Zone for NORTH SLOPE County: 3

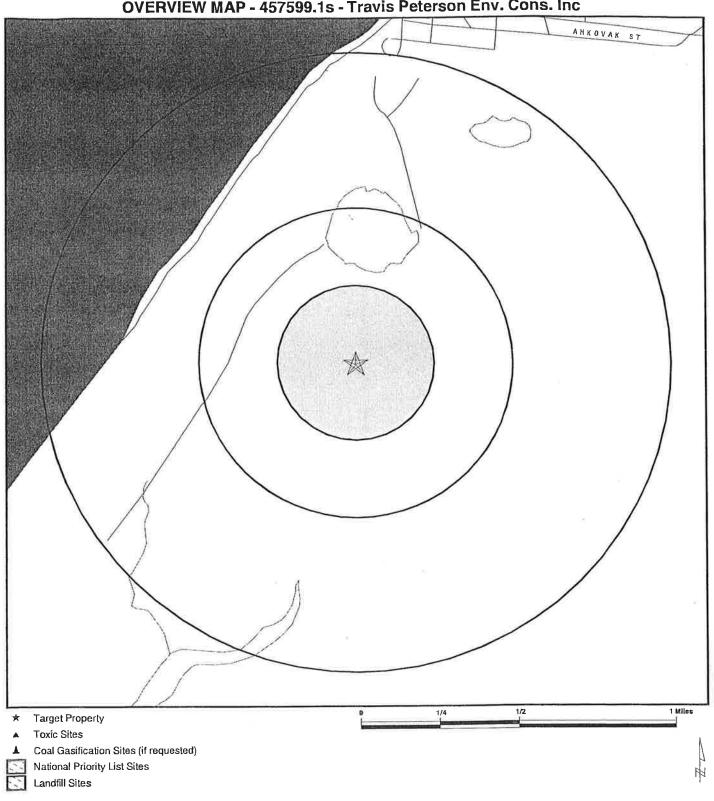
Note: Zone 1 indoor average level > 4 pCi/L. : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L. : Zone 3 indoor average level < 2 pCi/L.

NORTH SLOPE COUNTY, AK

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.000 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

OVERVIEW MAP - 457599.1s - Travis Peterson Env. Cons. Inc



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG:

South Pad South Pad Barrow AK 99723 71.2649 / 156.8158 CUSTOMER: CONTACT: INQUIRY #: DATE:

Travis Peterson Env. Cons. Inc Mr. Eddie Packee 457599.1s January 28, 2000 6:32 pm

DETAIL MAP - 457599.1s - Travis Peterson Env. Cons. Inc



LAT/LONG:

Target Property
Toxic Sites

Landfill Sites

Sensitive Receptors National Priority List Sites

Coal Gasification Sites (if requested)

CUSTOMER: CONTACT: INQUIRY #: DATE:

1/16

Travis Peterson Env. Cons. Inc Mr. Eddie Packee 457599.1s

January 28, 2000 6:33 pm

1/8

1/4 Miles

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1_	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0.	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	O
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
AK Spills		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
MINES		0.250	0	0	NR	NR	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

^{*} Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.)Site

EDR ID Number

Database(s)

EPA ID Number

Coal Gas Site Search: EDR does not presently have coal gas site information available in this state.

NO SITES FOUND

Ser		ERNS	0 5 LJ	SHWS	SHWD SHWD	SHWS	PADS, FINDS, RCRIS/LQG, CERCLIS-NFRAP	RCRIS/SQG, FINDS	RCRIS/SQG, FINDS	CERCLIS-NFRAP	FINDS, RCRIS/LQG, CERCLIS-NFRAP	CERCLIS-NFRAP	CERCLIS-NFRAP	FINDS, RCRIS/LQG, CERCLIS-NFRAP	S AHS	NO.	ASI FINDS RORIS/LOG, CERCLIS-NFRAP	SHWS	www. Manual Ma Manual Manual Manual Manual Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	SHAS	CERCLIS, RCRIS/SQG,	SWHS SWHS	ASST	ASI FINDS, RCRIS/LQG	RCRIS/SQG FINDS PADS CERCLIS RCRIS/SQG.		SHWS	CERCLIS, FINDS, RCRIS/LQG	in will make a second and a second a second and a second	CERCLIS	SHWS	SHWS	SMMS	SHWS	SHWS	RCRIS/SQG, FINDS	FINDS, RCRIS/LOG, CERCLIS-NFRAP	MLTS	CERCLIS-NFRAP	SO S	SHANS	SHWS) 2	SWHW.	SHANS	UST UST		
Databases		¥;														₹¥									ξ¥	ź :	¥₹	{¥:	₹\$	ξ¥	₹;	{₹	¥;	έ¥	¥;	ξ¥	¥	ξ¥	έ¥	ξž	ξ₹	ξş				ξž		
State	75	WAINWRIGHT	BARROW	BARROW	BARKOW BARROW (NEAR)	BARROW (NEAR)															BARROW	HOODE	BARROW	BARROW	BARROW	GALENA	BARROW	BARROW	BARROW (NEAR)	POINTHOPE	BARROW (NEAR)	PIN CREEK BARROW (NFAR)	BARROW (NEAR)	BARROW (NFAR)	BARROW (NEAR)	BARROW	BARROW	POINTLAY	BARROW	SAGWON	BAKKOW (NEAR)	BARROW (NEAR)	NAOKAK(NEAK)	KOKRUAGAROK (NR	BARROW NULAVIK (NEAR)	BARROW		
City	ommender																																															
Map/Dir/Dist	ner review rec	:	: :	k *	::	:	;	:	;	1	; ;	*	有吹	:	: :	: :	*	: :	:	*		;	1	Ō			* *	* :	:	: :	:	: :	:	* *	*	;	:	* :	: :	‡	Ţ. \$:	* *	*	* *	: :		
Address	ned a latitude/longitude coordinate. Further review recommended						N7119 30 W156 41 00	N74 1030 W/456 4100 E2	1295 AGVIK ST	1707 AHKOVAKST N BANK COLVIII E BIVEB	NORTH BANK COLVILLE RIVER	BARROW 380 MISE	BARROW AIRPORT	BARROW AIRPORT AREA	BAKKOW AK, SO WI SE OF BEACH ROAD	BETWEEN SALTLAGOON /	00000000000000000000000000000000000000	BTWN SALT LAGOON & IMIKPUKLK		BULLEN POINT	BULLEN POINT	BULLENTIE OFFENNING	CAPELISBURNE	CHRIS MELLOW, NORTH SLOPE BORG	2 MI E OF BARROW WESTEND OF RUNWAY	GALENAARPORT	HOPSONSTREET	4211 KARLUK STREET	W MARGIN HARRING NEWS	1.5 MILES WESTOF POINT HOPE	3.5 MILES NE OF BARROW	40 MILES EAST OF SAGWON	~4 MILES NE OF BARROW	NAKLTAGELI	4MINE OF BARROW	23M SWOF BARROW ON COAST	1685 OKPIK	POINTING 1/4 SEC. 4	POUCHB	T16SR11ESEC9UM155MISECT	NORTH SALT LAGOON	50MI.SEOFBARROW	65MI, SE OF PT HOPE	SEC. 14, T. 10N., R. 4E., U WEST SIDE OF HARRISON BAY	23MI.SWOFBARROW		WILEYPOSTAIRPORT	
	Indicates location may or may not be in requested radius. Site has not been assign		LANDFILL	NAVAL ARCTIC RESEARCH LAB (BARKOW	VON TACK TOUR TO THE HOSPITAL	MIDDLESALTLAGOON	RADIATION LABORATORY USNAVY ARTIC RESEARCH LABORATOR)		UKPEAGVIK INUPIA I CORP BARROWI I TILITIES & ELECTRIC	CAPE SMYTHE AIR SVC	USDO FAA UMIA FATATING AREA	USDOI/FWS DEMARCATION POINT DEW L	USDOJBLM PEAKUBA I DEVICINE SITE.	USDOT FAABARROW AIR NAVIGATIONS '	CAPE SIMPSONDEW STATION	DEWLINE SITE	BLOCK B TANK FARM	BARROW FOELS LOWICE SOLD TO SELL TO SE	DEWLINESITE - POW 3 POL TANKS	DEWLINESITE BOWS ANDER I	DEWLINE SITE - POW3TRANSFORMERS	USAF DEWLINE SITE POW 3	CAPELISBURNELRRSLUSTSITES	PT. HOPE FUEL STORAGE FACILITY MANAGEMENT POWER PLANT FUEL STO R	BARROW CYOF NORTH SLOPE BOROUG	CONSTRUCTORS PACIFIC ASTRACTOR OF USAF GALENAAIR FORCE STATION	100 × 0 × 11						LAGOON	DRY CLEANING FACILITY, FORMER	POWERHOUSE	AIRSTRIP FUEL SPILL	NORTH SLOPE BOROUGH PUBLIC WOR	USAF DEWLINE SITE POW1 LONELY	POINT LAY LANDFILL (NSB)	USDOI BLM CHANDAL ARDUMP	SAGWON AIKST KIT DOMF	DEWLINE SITE	EAST SIMPSON NO. 2	NUCCEUT LANDFILL (NSB)	DEWLINESITE, TODS DEWLINESITE	DEWLINE SITE FUDS TANK FARM RD	FAAVORTACFACILITY BARROW	
Facility ID Name	av or may not be in			1451			AK2170027245		AKR000000554	AKR000000505	AK6690502459	AK4143690101		AK1690502439	AKD981761984	6338		AK1570028695				AK2570028652			AKR0000000547	AKR000001933	200000000000000000000000000000000000000		AK0141190082		AKSFN1002131				111/		AK2141100196	AK3570028677	1439	AK7141167133				1408			3220	
EDR-ID F	tes location ma		3103228877		3104224127	3104224139	S104224141			1001022690	1000342740	1000904432	1000332772				4100024013	A100024015	S104224211	S104224212	S104224213	1000226891	5104225472	A100024012	A100024010 1001085205	1001115154	1 000226343	S104224128	1000904430	S104224142	96504655	\$104224135	S103376922	S104224140	S103785501	\$104224137	1000483661	1000697858	\$102977896	1000709010	S103376967	S104224138 S104224991	\$104224132	5102610047	S104225248	\$104225431	96516247 U003541132	99%
ZIP E	** - Indica						99723									99723					99723				99723																					99723		

FacilityID	6230		1117				1408	1439
7ip Database(s)	3	99723 SWF/LF 99723 SHWS 99723 SHWS	99723 CERCLIS, FINDS, RCKIS-LAG 99723 CERCLIS ERNS 99723 SWF/LF ERNS	E E	99723 SHWS 99723 SHWS 99723 SHWS 99723 SHWS	99723 SHWS 99723 SHWS 99723 SHWS 99723 SHWS 99723 SHWS 99723 SHWS 99723 SHWS		
ORPHANSUMMARY	Site Address	BEACH NORT BEACH ROAD BOC PAD PRUDHOE BAY OIL FIELD HOPSON STREET	4211 KARLUK STREET WMARGIN HARRISON BAY 3.5 MILES NE OF BARROW MILNEY PT OIL FIELD L PAD NARL ROAD NARL ROAD	PROBLEM SALT LAGOON	SPINE RD AND COAL STORAGE PAU 23 ML SW OF BARROW BETWEEN N SALT LAGOON / 12 MILE S. OF NARL	4 MILES NE OF BARROW A MILES NE OF BARROW NARL FACILITY A MI NE OF BARROW NEAR AIRSTRIP NORTH SALT LAGOON 52 MI. SE OF BARROW ON BULLEN POINT	BULLEN POINT BULLEN POINT BULLEN POINT 40 MILES EAST OF SAGWON 50 MI. SE OF BARROW WEST SIDE OF PT. HOPE 65 MI. SE OF PT. HOPE	SEC. 14, 1.10 TS. 15 50 MI. SW OF BARROW CAPE LISBURNE POINT LAY, IN SE 1/4 SEC. 4, SAGWON LANDING STRIP NORTH BANK COLVILLE RIVER
	RID SiteName	82.8	1 O L > -	-	BARROW DUMP SPINE RD AND COAL STO DEWLINE SITE	S104224133 DEWLINE SITE S104224142 OLD WASTE DISPOSAL AREA S104224134 LAGOON S104224135 RESEARCH LAB S104224136 POWERHOUSE S104224136 AIRSTRIP FUEL SPILL S104224138 BULK FUEL TANK FARM	. ~ + ~ + 0	at 10 F 4
	EDRID	BARROW \$10 BARROW BARROW \$10	5000		(), (), ()	BARROW BARROW (NEAR) BARROW (NEAR) BARROW (NEAR) BARROW (NEAR) BARROW (NEAR) BARROW (NEAR) BARROW (NEAR)	BARROW (NEAR) BULLEN BULLEN BULLEN BULLEN FIN CREEK	KOKRUAGAROK (NR NAOKAK (NEAR) NUIQSUT NULAVIK (NEAR) POINT HOPE POINT LAY SAGWON UMIAT

GEOCHECK VERSION 2.1 PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:

AK2320230

PWS Status: Date Deactivated: Not Reported

Active

Distance from TP: 1 - 2 Miles

Dir relative to TP: North

Date Initiated: PWS Name:

Not Reported WATER SERVICES

MR. GUY BOWEN P.O. BOX 770 BARROW, AK 99723

Addressee / Facility:

Not Reported

Facility Latitude:

71 17 30

Facility Longitude: 156 47 12

City Served: Treatment Class: Not Reported Treated

Population Served: 101 - 500 Persons

PWS currently has or has had major violation(s) or enforcement:

Yes

VIOLATIONS INFORMATION:

Violation ID:

9331662 10/01/92 Source ID: Vio. end Date: 001 12/31/92 PWS Phone:

Not Reported

8522500

Vio. beginning Date: Num of required Samples: Not Reported

Number of Samples Taken: Maximum Contaminant Level: Vio. Period:

3 Months

Analysis Result:

Not Reported

Not Reported

Analysis Method: Violation Type:

Monitoring, Regular COLIFORM (PRE-TCR)

Contaminant: Vio. Awareness Date:

Not Reported

ENFORCEMENT INFORMATION:

System Name:

Violation Type:

System Name:

WATER SERVICES

Contaminant:

Monitoring, Routine Major (TCR) COLIFORM (TCR)

Compliance Period:

0000 1998-1 - 1-01 1998-1 99030694

Violation ID: Enforcement Date:

Not Reported

WATER SERVICES

Violation Type: Contaminant:

Monitoring, Routine Major (TCR) COLIFORM (TCR)

Compliance Period: Violation ID:

System Name:

Violation Type:

System Name:

Contaminant:

0000 1998-1 - 2-01 1998-1

Enforcement Date:

99030906

Not Reported

WATER SERVICES

Monitoring, Repeat Minor (TCR) COLIFORM (TCR)

Compliance Period: Violation ID: Enforcement Date:

0000 1998-0 - 9-01 1998-0

99030254 Not Reported

Violation Type: Contaminant:

Monitoring, Routine Major (TCR) COLIFORM (TCR)

Compliance Period: Violation ID:

Enforcement Date:

WATER SERVICES

1999-04-01 - 1999-04-30

9935427 Not Reported

000000.00000 Analytical Value:

1-30 Enforcement ID: Not Reported Enf. Action:

0000000.000000 Analytical Value:

2-31 Enforcement ID: Not Reported Enf. Action:

0000000.000000 Analytical Value:

9-30 Enforcement ID: Not Reported Enf. Action:

0000000.00000 Analytical Value: Not Reported Enforcement ID: Not Reported Enf. Action:

GEOCHECK VERSION 2.1 PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

ENFORCEMENT INFORMATION:

System Name:

WATER SERVICES

Violation Type:

Monitoring, Routine Major (TCR)

Contaminant:

COLIFORM (TCR)

Compliance Period:

1999-05-01 - 1999-05-31

Violation ID: Enforcement Date:

9935608

Not Reported

System Name:

WATER SERVICES

Violation Type:

Monitoring, Routine Major (TCR)

Contaminant: Compliance Period: COLIFORM (TCR)

Violation ID:

1999-01-01 - 1999-01-31 9934909

Enforcement Date:

Not Reported

System Name:

WATER SERVICES

Violation Type:

Monitoring, Routine Major (TCR)

Contaminant: Compliance Period: COLIFORM (TCR) 1999-03-01 - 1999-03-31

Violation ID: **Enforcement Date:** 9935227 Not Reported Enf. Action:

Analytical Value:

Enforcement ID:

Enf. Action:

0000000.00000 Analytical Value: Not Reported

Enforcement ID:

Not Reported

0000000.00000

Not Reported

Not Reported

Analytical Value: Enforcement ID:

Enf. Action:

0000000.00000 Not Reported

Not Reported

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities Date of Data Arrival at EDR: 08/30/99

List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/26/99 Date Made Active at EDR: 11/11/99 Database Release Frequency: Quarterly Elapsed ASTM days: 73

Date of Last EDR Contact: 11/29/99

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous

substances.

Date of Government Version: 10/28/99 Date Made Active at EDR: 12/03/99 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 11/01/99 Elapsed ASTM days: 32 Date of Last EDR Contact: 11/01/99

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center

(EPIC).

Date of Government Version: 07/22/99 Date Made Active at EDR: 09/10/99 Database Release Frequency: Semi-Annually Date of Data Arrival at EDR: 08/05/99 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/08/99

RCRIS: Resource Conservation and Recovery Information System

Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery

Act (RCRA).

Date of Government Version: 09/01/99 Date Made Active at EDR: 11/17/99 Database Release Frequency: Semi-Annually Date of Data Arrival at EDR: 10/06/99 Elapsed ASTM days: 42 Date of Last EDR Contact: 01/03/00

CORRACTS: Corrective Action Report

Source: EPA

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. Telephone: 800-424-9346

Date of Government Version: 09/07/99 Date Made Active at EDR: 10/28/99 Database Release Frequency: Semi-Annually Date of Data Arrival at EDR: 09/13/99 Elapsed ASTM days: 45 Date of Last EDR Contact: 12/13/99

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System

Source: EPA/NTIS Telephone: 800-424-9346

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG)

and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/97 Database Release Frequency: Biennially Date of Last EDR Contact: 12/20/99 Date of Next Scheduled EDR Contact: 03/20/00

CONSENT: Superfund (CERCLA) Consent Decrees

Source: EPA Regional Offices

Telephone: Varies

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies Database Release Frequency: Varies Date of Last EDR Contact: Varies Date of Next Scheduled EDR Contact: N/A

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report

Source: EPA Telephone: N/A

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/13/99 Database Release Frequency: Quarterly

Date of Last EDR Contact: 01/12/00 Date of Next Scheduled EDR Contact: 04/10/00

HMIRS: Hazardous Materials Information Reporting System

Source: U.S. Department of Transportation

Telephone: 202-366-4526

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/30/99 Database Release Frequency: Annually Date of Last EDR Contact: 10/28/99 Date of Next Scheduled EDR Contact: 01/24/00

MLTS: Material Licensing Tracking System Source: Nuclear Regulatory Commission

Telephone: 301-415-7169

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/29/99 Database Release Frequency: Quarterly Date of Last EDR Contact: 01/10/00 Date of Next Scheduled EDR Contact: 04/10/00

NPL LIENS: Federal Superfund Liens

Source: EPA

Telephone: 205-564-4267

Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91

Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/24/99 Date of Next Scheduled EDR Contact: 02/21/00

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers

of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97

Database Release Frequency: No Update Planned

Date of Last EDR Contact: 11/09/99 Date of Next Scheduled EDR Contact: 02/14/00

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration pertaining to major violators and includes administrative and civil actions prought by the EPA, For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database. Date of Last EDR Contact: 12/13/99

Date of Government Version: 04/17/95

Database Release Frequency: No Update Planned

Date of Next Scheduled EDR Contact: 03/13/00

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical ROD: Records Of Decision Source: NTIS

and health information to aid in the cleanup.

Date of Government Version: 01/31/99 Database Release Frequency: Annually Date of Last EDR Contact: 01/10/00 Date of Next Scheduled EDR Contact: 04/10/00

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and Source: EPA

land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/97 Database Release Frequency: Annually Date of Last EDR Contact: 12/27/99 Date of Next Scheduled EDR Contact: 03/27/00

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant Source: EPA

site.

Date of Government Version: 12/31/94 Database Release Frequency: Every 4 Years

Source: Department of Labor, Mine Safety and Health Administration MINES: Mines Master Index File

Telephone: 303-231-5959

Date of Government Version: 08/01/98

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 01/03/00 Date of Next Scheduled EDR Contact: 04/24/00

Date of Next Scheduled EDR Contact: 04/03/00

Date of Last EDR Contact: 01/03/00

TC457599.1s Pag€

STATE OF ALASKA ASTM RECORDS:

LUST: Leaking Underground Storage Tank Database

Source: Department of Environmental Conservation

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground

storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/09/99

Date Made Active at EDR: 01/07/00

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/27/99

Elapsed ASTM days: 11

Date of Last EDR Contact: 12/27/99

SHWS: Contaminated Sites Database

Source: Department of Environmental Conservation State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially

responsible parties. Available information varies by state.

Date of Government Version: 12/01/99 Date Made Active at EDR: 01/07/00

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/21/99

Elapsed ASTM days: 17

Date of Last EDR Contact: 12/21/99

LF: Solid Waste Facilities

Source: Department of Environmental Conservation

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal

sites.

Date of Government Version: 11/29/99 Date Made Active at EDR: 12/10/99

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/30/99

Elapsed ASTM days: 10

Date of Last EDR Contact: 11/29/99

UST: Underground Storage Tank Database

Source: Department of Environmental Conservation

Registered Underground Storage Tanks. UST's are regulated under Subtille I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available

information varies by state program.

Date of Government Version: 11/11/99 Date Made Active at EDR: 01/07/00

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/27/99

Elapsed ASTM days: 11

Date of Last EDR Contact: 12/27/99

STATE OF ALASKA NON-ASTM RECORDS:

AST: Oil Terminal Facilities

Source: Department of Environmental Conservation

Telephone: 907-465-5231

Registered Aboveground Storage Tanks.

Date of Government Version: 05/01/95 Database Release Frequency: Annually Date of Last EDR Contact: 12/20/99 Date of Next Scheduled EDR Contact: 03/20/00

SPILLS: Spills Database

Source: Department of Environmental Conservation

Telephone: 907-269-5242

Date of Government Version: 09/30/99 Database Release Frequency: Semi-Annually Date of Last EDR Contact: 11/08/99 Date of Next Scheduled EDR Contact: 02/07/00

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. @Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: NPL Deletions

Source: EPA Telephone: N/A

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/24/99

Date Made Active at EDR: 09/10/99

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 08/10/99

Elapsed ASTM days: 31

Date of Last EDR Contact: 11/08/99

NFRAP: No Further Remedial Action Planned

Source: EPA

Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/26/99 Date Made Active at EDR: 11/11/99 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 08/30/99 Elapsed ASTM days: 73

Date of Last EDR Contact: 11/29/99

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams

Source: Federal Emergency Management Agency

National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.