

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

1989 NONPOINT SOURCE WATER QUALITY ASSESSMENT

LONG FORM

*** WATERBODY ***

Name of Waterbody: SHOVEL CR

Location or Lat/Long: 7 MI. NE of Solomon (Nome), vicinity of Lee's Camp.

Waterbody Type:

- River/Stream
- Lake
- Fresh Wetland
- Tidal Wetland
- Estuary
- Coastal Shoreline
- Groundwater

Waterbody Size:

- 12 Miles
- _____ Acres/Hectares
- _____ Acres/Hectares
- _____ Acres/Hectares
- _____ Square Miles
- _____ Square Miles

ADEC USE ONLY

304I: N L M S
 WQL: 0 - N
 1 - PS
 2 - NPS
 3 - WQS
 4 - Con/Enf
 ID#:

Segment of Waterbody Addressed:

From: _____

To: _____

Other Description: confluence of shovel cr & Solomon R.

Size of Segment: _____

USGS Hydrologic Unit #: AK 190 50104-013

*** ASSESSMENT ***

Describe Source of Pollution and Documentation Provided:

Old leaking Barrels deposited in shovel cr from Nome Barrel Dump. Identified as CERCLA site by EPA - preliminary investigation has been done.

Type of Documentation (Attached If Possible):

- Water quality data
- Documented oil spill
- Enforcement action
- Photos with documentation
- Photos without documentation
- Written report
- Field notes
- Overflight
- Observation
- Other

Assessment type:

- Monitored
- Evaluated

Violation of Water Quality Standards:

- Past Violation Documented
- Current Violation Documented
- Current Violation Suspected
- Future Violation Projected

Waterbody Status:

- Impaired - Past
- Impaired - Current
- Suspected
- Unimpaired

Comments: _____

Author of This Assessment: S. Braley Affiliation: ADEC/wom Date: 89/10/9
YY/MM

Meets Clean Water Act Goals:

Fishable Swimmable
 Not Fishable Not Swimmable
 Fishable Not Attainable Swimmable Not Attainable

Suspect
Impaired Uses:

FRESHWATER	MARINE
<input checked="" type="checkbox"/> Drinking	<input type="checkbox"/> Aquaculture
<input checked="" type="checkbox"/> Agriculture	<input type="checkbox"/> Seafood Processing
<input checked="" type="checkbox"/> Aquaculture	<input type="checkbox"/> Industry
<input type="checkbox"/> Industry	<input type="checkbox"/> Recreation, Contact
<input type="checkbox"/> Recreation, Contact	<input type="checkbox"/> Recreation, Secondary
<input type="checkbox"/> Recreation, Secondary	<input type="checkbox"/> Fish, Shellfish, Wildlife
<input type="checkbox"/> Fish, Shellfish, Wildlife	<input type="checkbox"/> Harvest of Fish, Shellfish

Support of Designated Uses:

One or More Uses Not Supported (Impaired)
 One or More Uses Partially Supported (Partially Impaired)
 One or More Uses Suspected to Be Affected (Suspected)
 One or More Uses Projected to Become Affected (Projected)
 All Uses Fully Supported, sources present (Unimpaired)
 All Uses Fully Supported, no sources present (Unimpaired)

Trophic Status:	Trophic Trend
<i>N/A</i> <input type="checkbox"/> Oligatrophic	<input type="checkbox"/> Improving
<input type="checkbox"/> Mesatrophic	<input type="checkbox"/> Stable
<input type="checkbox"/> Eutrophic	<input type="checkbox"/> Deteriorating
<input type="checkbox"/> Hypereutrophic	
<input type="checkbox"/> Dystrophic	
<input type="checkbox"/> Unknown	

*** TOXICS ***

Monitored for Toxics: Yes No

Type of Toxics Monitoring:

<input checked="" type="checkbox"/> 1 Organics in water column	<input type="checkbox"/> 10 Metals in sediments
<input type="checkbox"/> 2 Organics in sediments	<input type="checkbox"/> 11 Metals in fish tissue
<input type="checkbox"/> 3 Organics in fish tissue	<input type="checkbox"/> 12 Metals in discharges
<input type="checkbox"/> 4 Organics in discharges	<input checked="" type="checkbox"/> 13 Other inorganics in water column
<input checked="" type="checkbox"/> 5 Pesticides in water column	<input type="checkbox"/> 99 Other inorganics in sediments
<input type="checkbox"/> 6 Pesticides in sediments	<input type="checkbox"/> 99 Other inorganics in fish tissue
<input type="checkbox"/> 7 Pesticides in fish tissue	<input type="checkbox"/> 14 Other inorganics in discharges
<input type="checkbox"/> 8 Pesticides in discharges	<input type="checkbox"/> 15 Toxicity testing of water column
<input type="checkbox"/> 9 Metals in water column	<input type="checkbox"/> 16 Toxicity testing of sediments
	<input type="checkbox"/> 17 Toxicity testing of discharges

Fish and Shellfish Contamination:

0 None detected
 1 Contaminated fish
 2 Fishing advisory
 3 Fishing ban
 4 Fish abnormalities
 5 Shellfish restrictions due to pathogens
 6 Fish kill

Pollutants: (H = High, M = Medium, S = Slight)

- | | | |
|--|--|---|
| <input type="checkbox"/> 0 Cause Unknown | Type _____ | |
| <input checked="" type="checkbox"/> 1 Unknown toxicity | Type _____ | |
| <input type="checkbox"/> 2 Pesticides | Type _____ | |
| <input type="checkbox"/> 3 Priority organics | Type _____ | |
| <input type="checkbox"/> 4 Nonpriority organics | Type _____ | |
| <input type="checkbox"/> 5 Metals | Type _____ | |
| <input type="checkbox"/> 6 Ammonia | <input type="checkbox"/> 12 Organic enrichment | <input type="checkbox"/> 18 Radiation |
| <input type="checkbox"/> 7 Chlorine | <input type="checkbox"/> 13 Salinity/TDS/Chlorides | <input checked="" type="checkbox"/> 19 Oil and Grease |
| <input type="checkbox"/> 8 Other inorganics | <input type="checkbox"/> 14 Thermal modifications | <input type="checkbox"/> 20 Taste and Odor |
| <input type="checkbox"/> 9 Nutrients | <input type="checkbox"/> 15 Flow alteration | <input type="checkbox"/> 21 Suspended solids |
| <input type="checkbox"/> 10 pH | <input type="checkbox"/> 16 Habitat alteration | <input type="checkbox"/> 22 Noxious aquatic plants |
| <input type="checkbox"/> 11 Siltation | <input type="checkbox"/> 17 Pathogens | <input type="checkbox"/> 23 Filling and draining |

Sources of Pollutants: (H = High, M = Medium, S = Slight)

Point Sources

- 1 Industrial
- 2 Municipal
- 3 Municipal pretreatment
- 4 Combined sewers
- 5 Storm sewers
- 6 Other dischargers

Resource extraction/exploration

- 51 Surface mining
- 52 Subsurface mining
- 53 Placer mining
- 54 Dredge mining
- 55 Petroleum activities
- 56 Mill tailings
- 57 Mine tailings

Nonpoint Sources

- 9 Unspecified

Land Disposal (Permitted Activities)

- 61 Sludge
- 62 Wastewater
- 63 Landfills
- 64 Industrial land treatment
- 65 Onsite wastewater systems
- 66 Hazardous waste
- 67 Septage disposal

Agriculture

- 11 Non-irrigated crop production
- 12 Irrigated crop production
- 13 Specialty crop production
- 14 Pasture land
- 15 Range land
- 16 Feedlots
- 17 Aquaculture
- 18 Animal holding areas
- 19 Manure lagoons

Hydrologic Modification

- 71 Channelization
- 72 Dredging
- 73 Dam construction
- 74 Flow regulation/modification
- 75 Bridge construction
- 76 Removal of riparian vegetation
- 77 Streambank modification
- 78 Draining/filling of wetlands

Silviculture

- 21 Harvest, restoration
- 22 Forest management
- 23 Road construction/maintenance

Other

- 81 Atmospheric deposition
- 82 Waste storage/storage tank leaks
- 83 Highway maintenance and runoff
- 84 Spills
- 85 In-place contaminants
- 86 Natural
- 87 Recreational activities
- 88 Upstream impoundment
- 89 Salt storage sites
- 99 Septic tank seepage

Construction

- 31 Highway/road/bridge
- 32 Land development

Urban Runoff

- 41 Storm sewers
- 42 Combined sewers
- 43 Surface runoff

Source Unknown

- 90 Source Unknown

DESCRIBE POLLUTANTS AND POLLUTANT SOURCES. THE BASIS FOR THE DETERMINATION THAT A WATERBODY IS IMPAIRED MUST BE EXPLAINED IN THIS SECTION. DESCRIBE THE NATURE OF THE VIOLATION OF WATER QUALITY STANDARDS, INCLUDING DATA OR OTHER DOCUMENTATION IN RELATION TO STANDARDS. ALSO DESCRIBE WHETHER THE VIOLATION IS CONSIDERED PAST OR CURRENT, AND OTHER RELEVANT INFORMATION.

Old leaking barrels deposited from Nome Barrel Dump directly into Shovel Cr. at the mouth, confluence to Solomon R. Owner is under a voluntary compliance order, has agreed to have toxic barrels removed. Some barrels tested for toxincs, although water quality sampling did not show violation.

Point Sources:

NPDES Permit Number: _____
NPDES Permit Name: _____
Causes Nonattainment: Yes No
Pollutant: _____

NPDES Permit Number: _____
NPDES Permit Name: _____
Causes Nonattainment: Yes No
Pollutant: _____

Nonpoint Sources:

Nonpoint Source Name: _____
Nonpoint Source Type: _____
Nonpoint Source Description: _____

Nonpoint Source Name: _____
Nonpoint Source Type: _____
Nonpoint Source Description: _____



TDD #10-8506-05
PRELIMINARY SITE ASSESSMENT
NOME BARREL DUMP
SOLOMON, ALASKA

16 JULY 1985

BACKGROUND

The Nome Barrel Dump site is located on the Nome-Council Highway, approximately five and one-half miles northeast of the town of Solomon, Alaska (Figure 1). It is situated at the confluence of Shovel Creek and the Solomon River. Lee's Camp, a gold mining operation, is located adjacent to the site. Richard Lee is the present Nome Barrel Dump property owner.

An estimated 1,500 full or partially full drums are located throughout the three acre dump site (Figure 2). Many of these containers are leaking and are piled on top of one another. A number of empty drums are also found at the site. The drums are labelled or appear to contain compounds including lubricating oil, diesel fuel, and asphalt. Several drums have also been noted as containing a white crystalline substance.

The sandy to gravelly soils in the vicinity of the drum storage areas were reported to be oily and stained black. A slight sheen enters Shovel Creek from the dump site just upstream of the Solomon River. The Solomon River is the primary source of drinking water for the town of Solomon and nearby residents.

During the summer of 1984, the Nome Barrel Dump was investigated by Tetra Tech, Inc., personnel while under contract to the Alaska Department of Environmental Conservation (ADEC). Subsequent to the initial investigation, Region X EPA officials requested that the Region X Technical Assistance Team (TAT) complete site safety and sampling plans in preparation for a mid-July 1985 preliminary site assessment.

SITE ASSESSMENT

On 16 July 1985, a preliminary assessment was conducted at the Nome Barrel

Asphalt-like material which had leaked from one of the Location III drums was composited into an eight-ounce sample bottle utilizing a stainless steel spoon. This sample was labelled NBD10. The drum from which the sample was collected was nearly full.

One of the drums containing the whitish, powdery to crystalline material was also sampled by the investigative team. The material appeared to have reacted with precipitation causing the drum contents to migrate onto the top of the drum. This drum was found to be nearly full. The sample was labelled NBD11.

The final container sample collected on this date was obtained from a nearly full drum, also staged in the Location III site section. This sample was drawn from material which had leaked onto the top of a container. The sample was a translucent, reddish-brown liquid above a yellow/white sludge-like layer. The sample was labelled NBD12.

Surface Water and Stream Sediment Sampling

Surface water and stream sediment samples were collected from the Solomon River at two locations. The first location was at a point upstream of the various drum storage areas of the site. The water sample collected at this location was obtained from a point just north of the river's midstream. The sample was collected in a pre-cleaned, pre-labelled one-liter polyethylene bottle by submerging the mouth of the bottle under the surface of the river. This sample was found to be clear, and was labeled NBD01.

The stream sediment sample collected at the above location was obtained utilizing a stainless steel spoon to scoop sediments from the bank of the river at the waterline. The sediments were placed into an eight-ounce glass bottle. These river sediments contained small stones and coarse sand. The sample was labeled NBD02.

Downstream water and sediment samples were collected approximately 50 feet below the outfall of Shovel Creek to the Solomon River. The surface water sample

was collected an estimated ten feet from the north river bank, while the sediment sample was collected directly from the bank. The water sample (NBD03) was clear, while the sediment sample (NBD04) contained sandy soil with small stones.

RESULTS

The twelve samples collected from the Nome Barrel Dump site on 16 July were shipped via air cargo express to the TAT office in Seattle, Washington on 18 July. The samples were subsequently submitted to Lauck's Testing Laboratory in Seattle following a competitive bidding process on 1 August 1985. Samples NBD01, 02, 03, 04, and 10 were to be analyzed for the base/neutral extractible compounds included on the EPA Priority Pollutant scan and the full range of polychlorinated biphenyl (PCB) isomers. Samples NBD05, 06, 07, 08, 09, and 12 were analyzed for the PCB isomers and were also scanned to provide a hydrocarbon fingerprint that may prove useful in tracing a subsequent downstream petroleum product contamination problem. Sample NBD11, the white crystalline material, was analyzed for the presence of calcium hydroxide, calcium carbonate, calcium carbide, and cyanide. As of 20 September 1985, only the PCB, cyanide, and calcium compound information was available from the laboratory. The remaining base/neutral extractible organics analyses are expected from the laboratory by the end of September or early October.

PCB Results

Two of the 11 samples analyzed for PCB content at the site indicated low level positive results. Sample NBD07 collected from a drum containing a green, sludge-like material in Location I was found to contain 3 ppm PCB. Sample NBD09, a soil sample collected from the base of a group of drums in Location II, also tested positive for PCB at a level of 4.6 ppm. These results would appear to indicate that some PCB-contaminated oils are in storage at the site, although these compounds are present in relatively low concentrations.

