

***Exxon Valdez* Oil Spill  
Restoration Project Annual Report**

**Archaeological Site Restoration, Index Site Monitoring, 1995**

**Restoration Project 95007A  
Annual Report**

**This annual report has been prepared for peer review as part of the *Exxon Valdez* Oil Spill Trustee Council restoration program for the purpose of assessing project progress. Peer review comments have not been addressed in this annual report.**

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**April, 1996**

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**Study History:** The Index Site Monitoring project originated as an attempt to monitor vandalism and other site injury through time in the *Exxon Valdez* Oil Spill area. Sites were vandalized and un-intentionally injured during and immediately after oil spill cleanup efforts ceased. Additionally, the potential for oil to adversely effect their research value made monitoring intertidal site for intrusion by buried or re-transported remanents of the oil spill another concern of land managers. Because the large number of sites made monitoring of each site impossible, a few sites were selected to be visited. Montoring of selected sites commenced after Project 93007 as a reasonable approach of tracking injury to sites. The aim of the program is to provide monitoring of area sites for a ten year period after the spill to allow managers to detect trends of injuries.

**Abstract:** Some sites are visited yearly and others on a less frequent schedule. Condition of the index sites have been mapped and those which suffered oiling are sampled for encroachment of re-transported oil. None of the monitored sites have been re-oiled. The AFG-046, AFG-098, AFG-129, and KOD-171 sites continue to erode and provide fresh exposures to attract vandal attention. SEL-178 continues to be impacted by campers using the cabin on site and traversing the path across the site. The SEL-188 Site condition is holding static with tar mat and oil still present on the beach. The remaining sites do not appear to be seriously impacted.

**Key Words:** Archaeology, *Exxon Valdez*, index sites, monitoring, vandalism.

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## ARCHAEOLOGICAL SITE RESTORATION, INDEX SITE MONITORING, 1995

### INTRODUCTION

Oil cleanup and associated activities after the Exxon Valdez ran aground during 1989 unfortunately included vandalism of archaeological sites of the area. After a post-spill hiatus of over a year, assessment of injury to sites began and finally restorative actions commenced. Monitoring of sites on public lands for which vandal damage could be documented has been the primary restorative action. Although some land managers monitored sites immediately after the spill, monitoring for continued vandalism and movement of oil into site sediments became the official Trustee supported approach to restoration during 1993.

Damage to archaeological sites as a result of cleanup activities after the Exxon Valdez Oil Spill has been amply documented in damage assessment studies performed since the spill. Sites vandalized since the spill have been monitored and plans developed to restore the damages at the studied sites. Monitoring of damaged sites as a gauge of vandal activities in the spill area was identified as a primary strategy for site restoration during fiscal year 1995 (Figure 1). A

consensus was reached among agency archaeologists that the most efficient way to monitor vandalized sites will be to select "index" damaged sites which will provided an indication of the level of vandal activity in the spill area.

A recommendation of the Trustee's archaeological peer reviewer during the January 1995 science workshop was to continue to monitor oiled sites on an intermittent basis. His concern was that subsurface oil would move into archaeological deposits and compromise possible

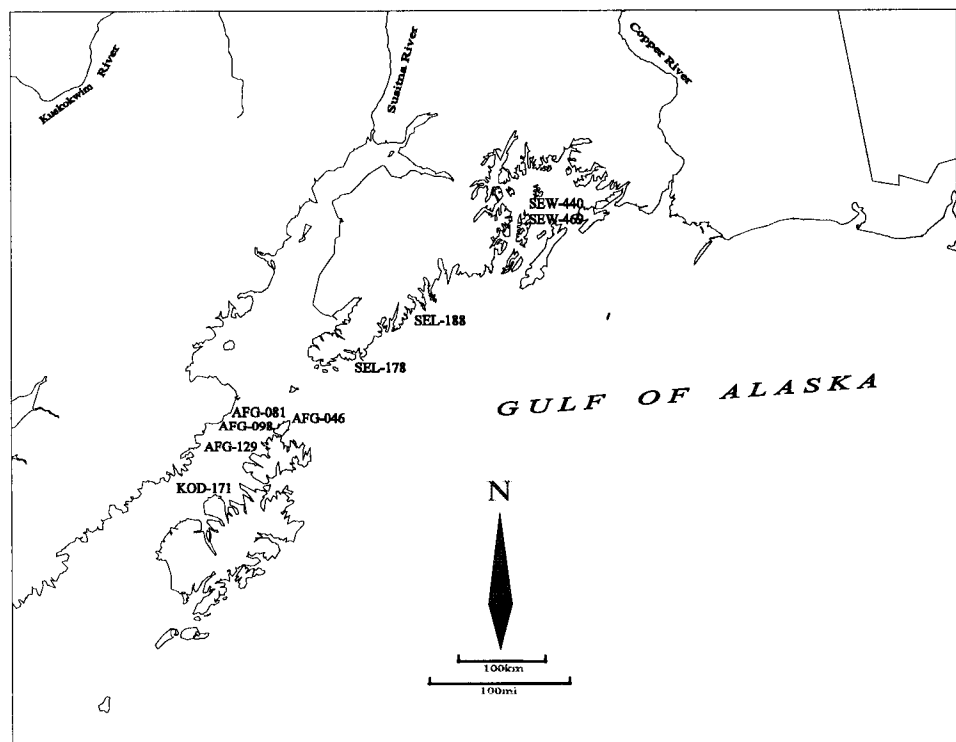


Figure 1. Sites monitored during 1995.

data recovery. The activities conducted during 1995 address the objectives of the restoration plan and the concerns of the archaeology peer reviewer. Nine sites were monitored during 1995 in the oil spill area by agency archaeologists. Five sites were monitored for oiling plus vandalism and four were monitored just for vandalism

### **State of Alaska, Department of Natural Resources Field Monitoring, 1995**

Douglas R. Reger  
Office of History and Archaeology  
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During 1995, the State monitored the status of three sites on Shuyak Island, the Twin Creeks Site (AFG-098), the AFG-081 Site, and the Perevalnie Passage Site (AFG-046). All three sites initially suffered injury from vandalism or unintentional injury during cleanup. Additionally, the Perevalnie Site also suffered considerable oiling. The intent of monitoring at all three sites was to detect any continued vandal activity so that the land manager, Alaska State Parks, could attempt to protect the remotely located sites. Oiled sites, notably the Perevalnie Passage Site, have been monitored both for vandal activities and for possible encroachment of re-transported oil into inter-tidal cultural deposits.

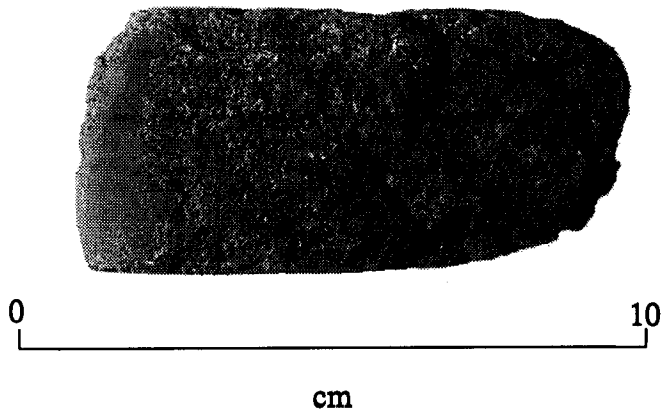
#### AFG-098 (Twin Creeks I; Segment NB-001)

The Twin Creeks Site suffered damage from vandals collecting exposed artifacts from inter-tidal midden. During the winter of 1994-1995, the site appeared to be disturbed when seal remains were observed on the beach at the site. Subsequent sighting of a brown bear and seal remains indicate the disturbance was from that source. The site was examined during 1995 and no significant change from prior year condition could be seen other than continued slow erosion of the exposed deposits. Photos of the site condition from a reference point established in 1991 duplicates views taken in prior years.

Sediment samples were collected from the mid to upper inter-tidal zone and from the low to middle inter-tidal zone to detect oil encroachment. The samples were collected from two 50cm x 50cm pits excavated to a depth of about 40cm. The pit in the upper-middle intertidal zone was located at the edge of the area of exposed fire cracked rock and artifacts noted in 1991 (Reger et al. 1992: 46) The pit is very near the 1991 test pit designated N46-47\E42-43. Sediment samples from the pit were collected at depths of 10cm - 20cm and 30cm - 40cm. Midden was encountered between 10cm and 15cm below the beach surface but no artifacts were found.

The lower pit was located 9m west of the higher pit near the lower edge of the gravel beach. It was excavated to a depth of 40cm and samples were collected from the same depths as the other pit. Midden in unconsolidated beach gravels contains sea mammal bone, fire cracked rocks and fragments of ground slate. The midden occurred 30cm - 40cm below the beach surface. No oil was detected when the samples from both pits were tested with the HNU-Hanby field test kit.

A planing adze bit of hard, coarse grained stone was found on the beach surface near the northern limits of the exposed fire cracked rocks (Figure 2). It is 8.9cm long, 4.2cm wide, and



**Figure 2.** Planing adze bit collected from beach, AFG-098. Photo: DNR, Office of History and Archaeology.

1.5cm thick. The adze bit was collected and will be curated with the other artifacts.

AFG-081 (Segment WO-003)

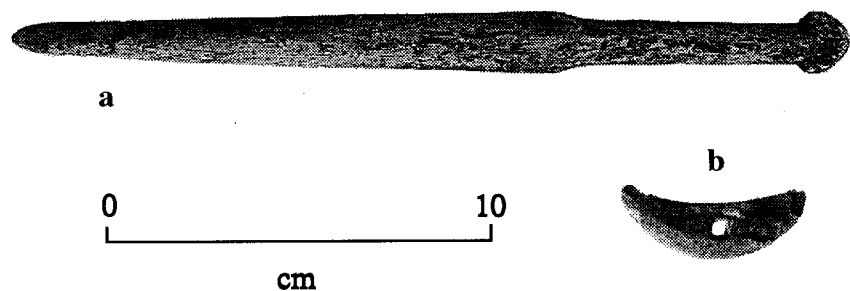
The AFG-081 Site was vandalized through un-authorized digging during 1990. A large hole in the side of the deep midden was placed on the Big Bay side of the site. During 1993, the damage was documented and the hole filled with loose debris and beach rocks. The exposed deposits have naturally re-vegetated and 80% of the disturbed area was grass covered. During 1995 the re-vegetated surface was heavily disturbed once again. Vegetation has

been torn loose and rolled down slope. The injury extends beyond the restored area of the mound and includes much of the northeast edge of the site. The agent of destruction in this instance however, appears to be the deer found on the island which use that part of the site as a thoroughfare. The damage was photographed from the same perspective as taken before and after restoration. An attempt will be made in the future to place logs and debris along the slope to block animals from using the injured area.

AFG-046 (Perevalnie Passage; Segment SI-005a)

The Perevalnie Passage Site is the most seriously damaged site on Shuyak Island. It suffered from unauthorized digging in the exposed cultural deposits, artifact collecting during cleanup and oiling of the beach where buried peats and scattered artifacts occur. During 1995 continued erosion of the site was documented through identification of items which were in place during 1994 but now were scattered on the beach. A secondary transit station was established and the current edge of the erosional scarp was measured. The station was also tied back into points mapped in prior years. Photos of the site condition were recorded from the transit station.

A bone dagger found on the beach near the center of the



**Figure 3.** Artifacts collected from beach, Perevalnie Passage Site, AFG-046. Photo: DNR, Office of History and Archaeology.



site and in danger of disappearing into the surf was collected (Figure 3a). The dagger is carved from sea mammal bone and measures 21.8cm long. It is 1.7cm wide and 1.0cm thick. The dagger will be curated with an ivory pendant collected during 1994 (Figure 3b).

A sediment sample collected in the middle intertidal zone yielded negative results from the test for petroleum hydrocarbons. The sample was collected within a meter of the locations of corresponding samples from 1993 and 1994 (Reger, et al. 1996: 8) at a depth of 30cm - 40cm below the beach surface.

#### SEL-178 (Port Dick Cabin Site; Segment

The Port Dick Cabin Site (SEL-178) on the Kenai Peninsula was also monitored by the State. The site was a staging location for cleanup activities and a helicopter re-fueling station was established on the site. During 1995, after not monitoring for two years, the site was re-visited and additional, extensive damage to the deposits in the trail were noted. Cultural deposits along the trail to the cabin were exposed by foot traffic between the beach and the cabin. Fire cracked rock fragments and several rock spalls were evident in the trail. No evidence for digging was found either in the main site surface or in the exposed deposits of the intertidal area.

A sediment sample taken from just below the sod near the 1990-1991 helicopter pad yielded no oil. The 1995 sample location is the same location checked during prior monitoring. A sample location scheduled for collecting during 1995 was not tested due to the presence of sport fishermen during the brief visit. Rather than advertise the existence of the site, sampling was not attempted and the beach will be sampled during 1996. The location of a fish habitat enhancement proposal upstream along Port Dick Creek was also examined during the 1995 visit.. No evidence for human occupation was found up the creek.

### **U.S. Fish and Wildlife Service Field Monitoring, 1995**

Debra Corbett  
Alaska Regional Office

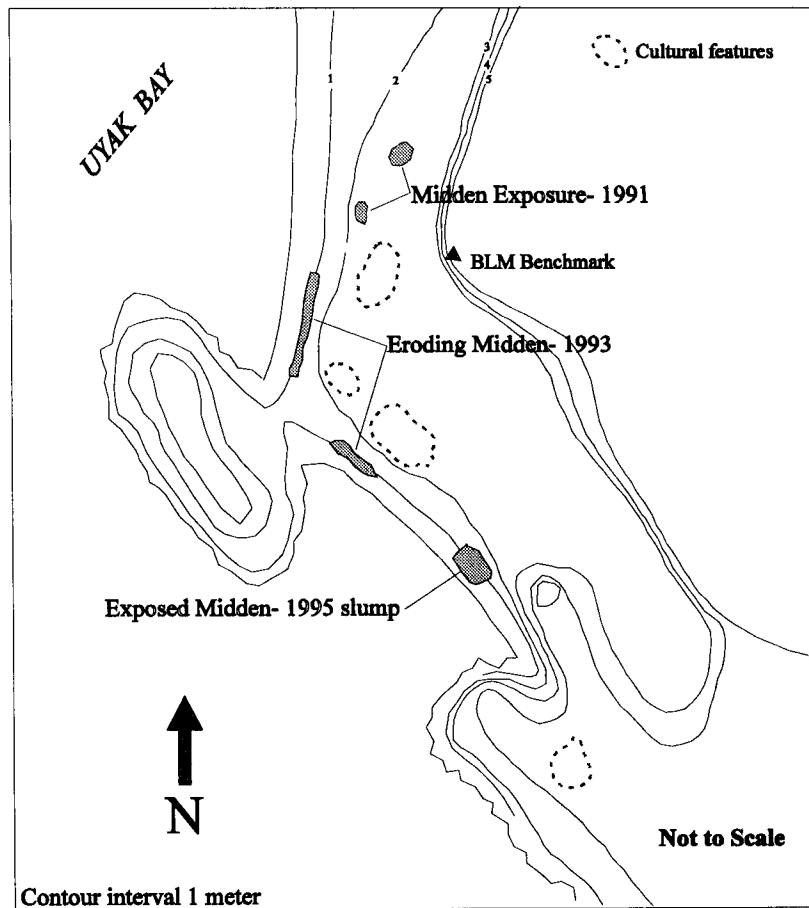
Two sites were examined in 1995, KOD-171 Chief Cove, on Kodiak Island and AFG-129, Ban Island, off Afognak Island. Monitoring involved a pedestrian reconnaissance of the sites to compare reported damage to current site condition. Since reported damage to both sites consisted of illegal digging no sampling of sediments was necessary.

#### KOD-171 (Chief Cove Site; Segment CK-005A)

Chief Cove, KOD-171 is located on the north shore of Spiridon Bay, the northern arm of Uyak Bay on the west coast of Kodiak Island. The majority of the upland portion of the site is managed by the Kodiak National Wildlife Refuge. Part of the eastern end is a Native allotment. The site is L-shaped; a beach ridge with house pits extends 200m north of the main midden area which climbs a bluff and extends east 70m. Features cluster within 25 meters of the shoreline. Midden consisting primarily of charcoal and ashy soil, with lenses of sand, shell and bone ranges from 0.5 m to over 2.0 m in depth. All reported features are pits, presumably house depressions. The site is reported to have both Paleo-Koniag (Kachemak) and Koniag components as well as historic Russian materials (Hrdlicka 1944).

In 1989 Exxon Archaeologists reported two excavations in the eroding southern face of the midden. A 1990 visit confirmed the damage but found no new holes (Haggarty et al. 1991). The site was revisited in 1991 (Dekin et al. 1993) and two additional exposures on the bluff near the east end of the site showed clear signs of illegal excavation. Two further excavations inside features at the western end of the bluff were of apparent human origin and recent, probably from that summer. A monitoring visit by U.S. Fish and Wildlife Service archaeologists in 1993 discovered three additional potholes in the bluffs. Erosion continues, primarily at the southwestern end of the site.

On September 12, 1995 U.S. Fish and Wildlife Service Archaeologists Charles Diters and Debra Corbett examined the beach fronts where the majority of past damage had occurred (Figure 4). One area on the southern midden face has a significant slump in the vicinity of several old holes which may have contributed to the slump. However, no new excavations were evident; the old holes are revegetating. Minor erosion at the southwest edge of the site continues.

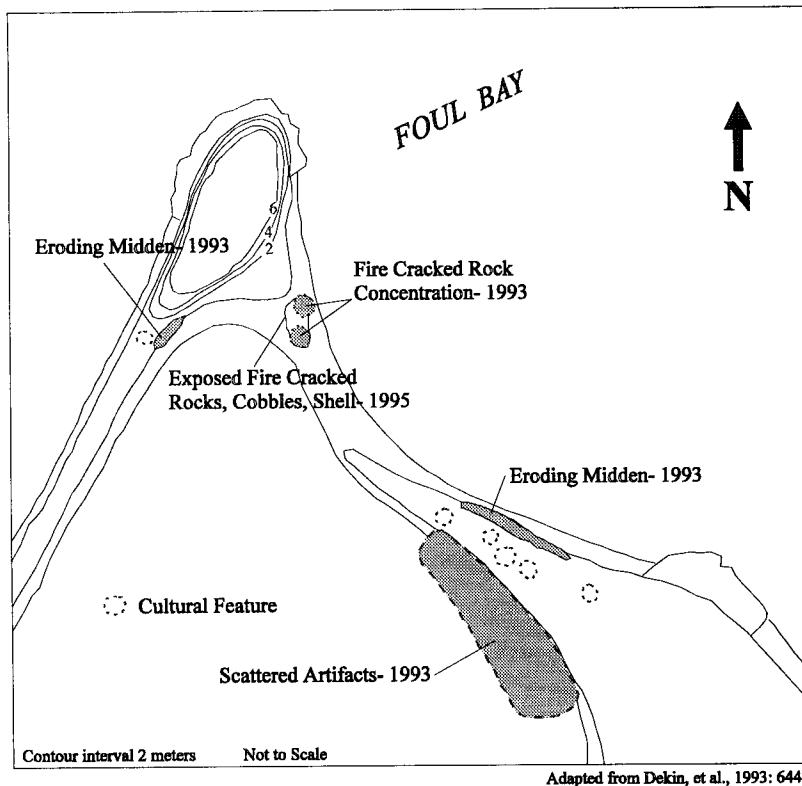


Adapted from Dekin, et al., 1993: 666

**Figure 4.** Cultural features and injury locations at the Chief Cove Site, KOD-171.

AFG-129 (Ban Island House Pits; Segment BI-010)

Ban Island House Pit Site, AFG-129 is located on Ban Island off the southern coast of Foul Bay on the west coast of Afognak Island. Ban Island is managed by the Kodiak National Wildlife Refuge. The site was first reported in 1989 by Exxon archaeologists and revisited in 1990. The site occupies a barrier beach enclosing a lagoon on the north side of the island. The southern end of the site, on a low rise, contains at least 5 large housepits. The spit to the north has dense clusters of fire cracked rock which are certainly the eroded remains of in-situ features. The northern end of the spit is an uneroded, drowned forest. At least one housepit is reported in this northern area. Fire-cracked rock, shell and bone midden is exposed on the beaches at both



**Figure 5.** Cultural features and injury at the Ban Island Housepit Site, AFG-129.

Debra Corbett, accompanied by a contract video crew (Stefan and Clare Dobert) flew to Ban Island. The site was thoroughly examined to locate all past reported disturbance. A thick mat of decaying seaweed on the lagoon side of the southern site area precluded inspection of the intertidal zone but all other areas were examined. Additional concentrations of fire cracked rock and a possible hearth were noted in the intertidal zone. All reported vandal holes were relocated and were revegetating. No new excavations were evident. Erosion continues on the edges of both the north and south upland areas, and in the intertidal zone.

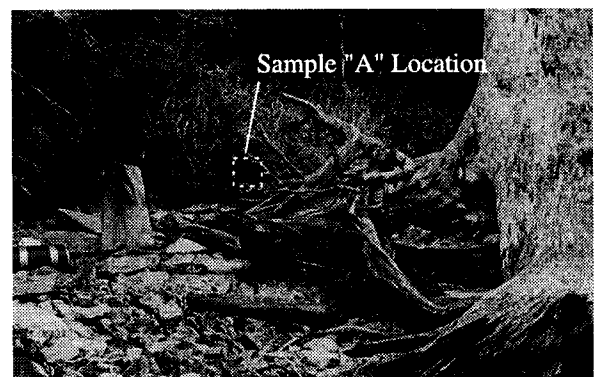
**U.S. National Park Service Field Monitoring, 1995**

Mark Lutrell  
Alaska Regional Office

ends of the site, in upended tree roots in the drowned forest, and in the eroded intertidal area. Artifacts were found in the intertidal zone (Figure 5).

During the initial survey in mid-July, recorders noted four vandal holes in the seaward edge of the southern midden and holes inside two housepits. Most of the excavations were old but one was recently disturbed. Two weeks later a cleanup vessel crew in Foul Bay was briefed on archaeological procedures. The next day a freshly excavated vandal hole was discovered on the site. Investigation failed to produce a suspect and no further damage was noted in the next several months (Mobley et al. 1990). The site was not monitored in 1993.

On September 12, 1995 U.S. Fish and Wildlife Service Archaeologists Charles Ditters and

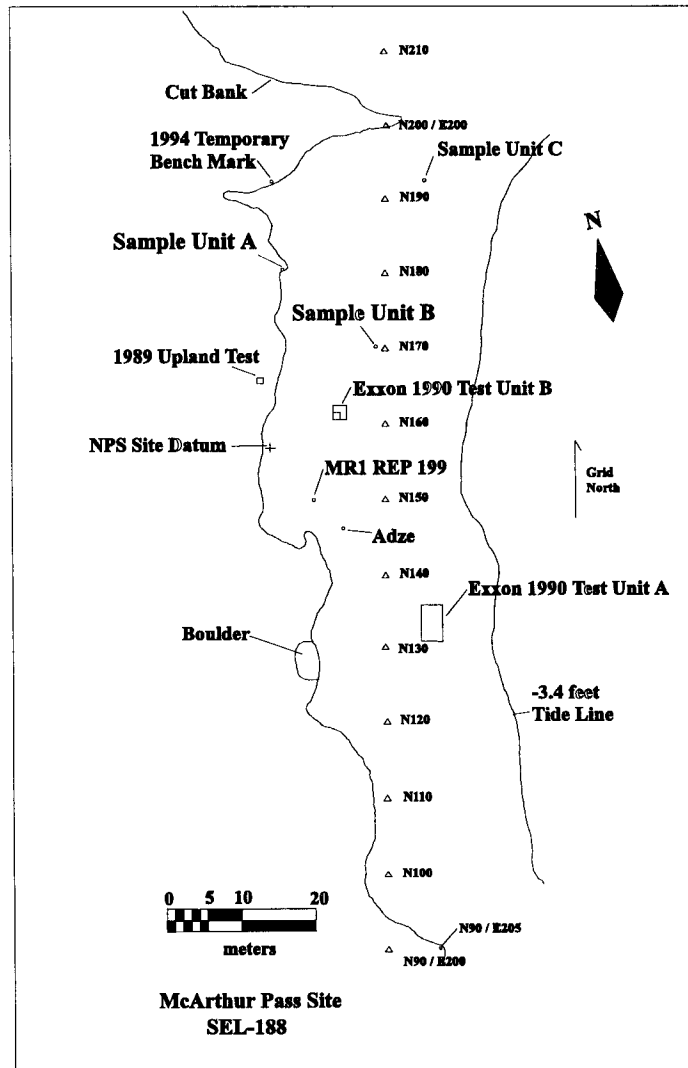


**Figure 6.** Sample "A" location, McArthur Pass Site, SEL-188. Photo: National Park Service.

SEL-188 (McArthur Pass Site; Segment MR-001) During 1995, the National Park Service re-visited the McArthur Pass Site after a monitoring hiatus of a year. The site was heavily oiled during the Oil Spill and cleanup crews were accompanied by archaeological monitors. Artifact distributions mapped during 1991 in the intertidal zone have shifted locations although probably due to natural tidal movement. The NPS archaeologist found no evidence of un-authorized digging when he surveyed the upland fringe area. He re-located prior year test pits which remain filled-in and which have re-vegetated naturally with moss covering. He confirmed the observation made during 1994 that rocks on the beach have shifted since the initial NPS map was drawn in 1993.

Sediment samples were collected from two localities at the McArthur Pass Site. The samples were recovered from previously sampled areas to maintain continuity of monitoring. The sample from Unit A was a column of turf and sediments taken from the eroded bank face (Figure 6). The column measured 4cm x 4cm x 12cm. The sandy gravel sample was tested for petroleum hydrocarbons with the HNU- Hanby test kit and provided negative findings.

The inter-tidal gravel from locality B smells strongly of crude oil and because of the obvious presence of oil, was not tested. Samples collected from the beach in 1993 were identified as originating from the *Exxon Valdez* (personal communication, J. Short to T. Birkedal, July 5, 1995)(Figure 7). Oil still remains in the intertidal sediments at the site. A tar mat was found which measured 50cm x 20cm and was 10cm thick. The mat, which was left in place, contained flakes of slate, some of which were culturally modified. A water worn cobble which is not the same lithology as local bedrock and possibly culturally



adapted from Beits, et al. 1991: 47

**Figure 7.** Cultural remains and sampling locations, McArthur Pass Site, SEL-188.

introduced, was also embedded in the tar mat. The unit selected as sample location C was covered by water during the visit and was not sampled.

Another goal of the NPS monitoring visit was to relocate the midden documented by Schaaf and Johnson during 1990. The search could not be attempted because of changing weather and rising tides.

## **U.S. Forest Service Field Monitoring, 1995**

Linda Yarborough  
Chugach National Forest

### SEW-440 (Eleanor Island Camp; Segment EL-054)

Inter-tidal cultural remains at the Eleanor Island site were disturbed during cleanup and the beach containing the deposit was later bioremediated. Test pits excavated in the site during damage assessment have re-vegetated and the only recent injury to the site is a small eroded path from the beach to the uplands. The path was probably created by deer movements. A sediment sample collected from the inter-tidal zone registered positive using the HNU-Hanby field test kit. A reading of 50 - 100 mg/Kg was obtained using the direct extraction method. That finding probably reflects the original oiling of *Exxon Valdez* crude oil.

### SEW-469 (Passage Point Rock Shelter; Segment KN-110)

The Passage Point Rock Shelter was vandalized during cleanup of the area when cultural remains were exposed and removed. During 1995 the rockshelter appears to have been further disturbed through exposure of cultural remains. Chiton and small fish remains scattered on the floor of the rockshelter suggest that land otter may be the culprits. No conclusive evidence of human activity could be found.

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