Site: Ridge Wall Scoria Pit, Two-Party Agreement (TPA) Site Number 15c, a Subsite of TPA Site No. 15, Scoria Pits. TPA Site No. 15 consists of Telegraph Hill, Lake Hill, and Ridge Wall Scoria Pits.

Location: St. Paul Island, Alaska, approximately 800 miles southwest of Anchorage in the Bering Sea. TPA Site No. 15c is located within Section 8, Township 35 South, Range 132, West of the Seward Meridian, Alaska (BLM 1986). It is within the western portion of St. Paul Island, approximately 120 meters (394 feet) north of the road to SW Point, 8,847 meters (5.5 miles) west of the airport, 7,197 meters (4.5 miles) northwest of the City of St. Paul, approximately 1,950 meters (1.21) miles to the nearest drinking water well at SW Point, 40 meters (131.2 feet) above mean sea level, and in the general vicinity of:

Latitude	57 ⁰ 9' 38.29''N	
Longitude	170 [°] 22' 38.51"W	(Figure 1)

Type of Release: Abandoned empty steel drums, metal and wood debris.

History:

In 1941, there was neither development at Ridge Wall, nor any roads to the site. The existing gravel road from the Village ended at the Zapadni Rookery Watch House, approximately 1,808 meters (1.12 miles) southeast of Ridge Wall. A trail extended from Antone Lake to the Watch House between Ridge Wall and Southwest Point to the west. (**Figure 2**).

In 1942, and in response to the invasion and occupation of Aleutian Islands by Japanese Imperial Forces, Pribilovians were evacuated to internment camps in southeast Alaska. U.S Army, U.S. Navy and U.S. Coast Guard units and personnel were deployed to the Pribilof Islands for defensive occupation of both St. George and St. Paul Islands.

By 1943, the U.S. Army had planned and constructed a series of facilities on the island (**Figure 3**), including the 1943 establishment of U.S. Coast Guard Unit #60 – Long Range Aid to Navigation (LORAN) "Double Master" Station at Southwest Point (USCG 1996). A drinking water well was installed for the LORAN Station at SW Point (**Figure 4**).

After WWII, the scoria pit continued to be used as a source of scoria aggregate or gravel. To what extent, it is currently unknown. In December 1976, the Department of Commerce began the process of conveying management and ownership of island properties under the Fur Seal Act of 1966 and the Alaska Native Settlement Claims Act. On January 19, 1979, the Bureau of Land Management ((BLM) awarded an interim conveyance and patented surface property rights to the Tanadgusix Corporation (TDX) and the subsurface property rights to The Aleut Corporation (BLM No. 149 1979). By July 14, 1986, BLM had completed final conveyance of the property (BLM 1986).

On October 28, 1983, the Federal Government withdrew from the management and administration of the Pribilof Islands.

In October 1983, the Alaska Department of Environmental Conservation (ADEC) conducted a field visit and literature research of the Community and Island of St. Paul. Carl H. Harmon, ADEC, did visit and inspect the Ridge Wall scoria pit. It is merely identified on Figure 1 of the report as "Old Seal Pit". The report did not describe any abandoned drums, equipment or debris at the site (ADEC 1984).

Circa 1983, NOAA presumes that a collection of photographs from ADEC files of the Ridge Wall scoria pit (ADEC, *Circa* 1983), were taken by Mr. Carl Harmon during his 1983 survey (ADEC 1984). The photographs depict sun bleached fur seal bones, steel 55-gallon drums, galvanized corrugated sheet metal panels, a household appliance, and miscellaneous wood and metal debris can be seen on the southeastern side of the pit, near the entrance from the road. The steel drums and galvanized corrugated steel sheeting show indications of extensive corrosion. Steel drums had deteriorated into visible fragments and components, and can be seen scattered at the site. (**Figure 5**). This accumulation was located at the area within the Ridge Wall scoria pit, which would first be designated as the U.S. Army Corps of Engineers (USACE) Department of Defense (DOD), Defense Environmental Restoration Account (DERA) Site No. D (USACE 1991), and later be designated as TPA Site No. 15c, Ridge Wall Scoria Pit (NOAA 1996).

In 1985, USACE initiated a debris cleanup and site restoration project on St. George and St. Paul Islands under the DERA program. This USACE-administered DERA program would later transition into the Department of Defense Formerly Used Defense Sites (DOD FUDS) program. On St. Paul Island, the contract identified 10 sites for the removal of miscellaneous wood and metal debris, and 55 gallon drum dumps, followed by appropriate site restoration and revegetation. The Alaska District, USACE contracted Chase Construction, Inc. (Chase) of Anchorage, Alaska, to complete this project under Contract No. DACA85-86-C-0003. On St. Paul Island, Chase subcontracted the Tanadgusix Corporation to perform the fieldwork. The Alaska District awarded the contract to Chase on November 06, 1985, with fieldwork being completed during 1986. The project work was accepted by the Alaska District on July 10, 1986, and given a satisfactory performance evaluation on August 26, 1987 (USACE 1991).

In the contract, the Ridge Wall Scoria Pit was designated by USACE as Site D, and originally described as:

"Site D: Ridge Wall Borrow Pit: St. Paul Island

The DOD debris at the Ridge Wall site is located along the south edge of the pit and covers an area about 150 ft. long and 50 ft. wide.

The debris consists of the following:

- 100 thoroughly rusted barrels or partial barrels
- 500 barrel hoops
- 10 sheets of corrugated roofing
- 20 yd³ of miscellaneous scrap metal and occasional pieces of wood

Labels on the barrels are rusted beyond recognition. Some barrels have fluid in them, likely rainwater has accumulated over the years through holes in the barrels." (USACE 1991).

Chase did identify the Ridge Wall site in its *Quality Control Program* written in 1985, in anticipation of its debris cleanup (Chase 1985). A review of Chase's "Daily Quality Control Inspection Report[s]" revealed that the site was inspected on the 12th, 13th and 15th of May 1986. The USACE representative, Mr. Robert Preston Rozier, arrived on-island on May 16, 1986, and inspected the site from which debris was hauled to disposal that day. Testing at sites was discussed during the general inspection tour made by Mr. Earl W. Benson, Chase Construction Quality Control Representative, Mr. Rozier, USACE Alaska District, and Mr. John Johnston, Pittsburg Testing Lab, on the 16th. The following general remark was recorded: 'Discussed testing (QC & PTL rep were told "No testing until COE rep present.")'. On the 17th of May, the site was again inspected. Additional debris was hauled from the site on May 21, 1986. On May 27, 1986, Chase performed "thorough inspections at all sites that have been worked on. Made out progress report based on these inspections." (Chase 1986).

As a subcontractor to Chase, and at completion of the field work on St. Paul Island, TDX submitted a letter to Chase on June 18, 1986, stating, "To the best of our knowledge all DOD materials existing on the Island of St. Paul have been disposed of as per contract drawings and specifications (TDX 1986). Consequently, on June 20, 1986, USACE and Chase tentatively set dates for project completion site, pre-final and finals inspections for the period 7/1 thru 7/3. The Alaska District, USACE, formally informed Chase that all work required under the contract had been completed, as of June 24, 1986, and accepted on September 9, 1987 (USACE 1987). However, there is no evidence for, or mention of any confirmation sampling conducted at the site by USACE through the DERA contractor.

In 1991, ADEC personnel conducted a site visit and preliminary assessment (PA) of nine sites on St. Paul Island, during the period July 30 – August 1. These sites were previously listed by DOD under DERA, as being suspected of past uncontrolled hazardous substance disposal. The Ridge Wall scoria pit site was described as:

"Site E – Ridge Wall Pit

This site was cleaned during the 1985 DERA cleanup. Prior to that, there was a pit approximately $\frac{1}{2}$ acre in size containing metal debris. The site appeared to be clean. There was a large pile of seal bones at the site." (ADEC 1991 and ADEC 1992).

In October 1992, two Ecology And Environment, Inc (E&E) representatives and one U.S. Army Corps of Engineers, Alaska District representative conducted a site visit to St. George and St. Paul Islands. The Ridge Wall scoria pit, as well as the future TPA 15c site were visited, documented, and reported in a Preliminary Assessment (E&E 1993). The subsequent PA report states,

"Residents claim that NOAA had left equipment at the Ridgewall Scoria Pit located adjacent to the road to Southwest Point. No equipment was present at the time of the site visit (E&E 1992)."

No photographs were included in the PA report. Within the PA, exposure pathways of concern are discussed for the three scoria pits, Lake Hill, Ridge Wall and Telegraph Hill Scoria Pits. However, the PA contained no discussion or indication of any contaminant releases or contaminated soil at the Ridge Wall scoria pit. Regardless, this PA provides the basis for the negotiated designation of TPA Site No. 15, Scoria Pits (E&E 1993).

Aerial photographs taken of St. Paul Island in 1993 (AeroMap US 1993), did not show any of the debris or drums visible in the ca. 1983 ground photographs (**Figure 6**).

On January 26, 1996, NOAA and the State of Alaska signed the Two Party Agreement (NOAA 1996). The Ridge Wall scoria pit site is included in the St. Paul Island TPA Site No. 15, Scoria Pits, designated as an Operating Unit 6 site for petroleum/hazardous substances contamination. However, the TPA provided no background, nor discussion of the Ridge Wall site. The TPA only stated, "All unburied drums on Lake and Ridgewall Hill were bulked, sampled, and disposed." As of 1996, only the 1985, U.S. Army Corps of Engineers (USACE) Defense Environmental Restoration Account (DERA), or formerly used defense site (FUDS) project removed drums, wood and metal debris from the Ridge Wall scoria pit. Based upon the *circa* 1983 photographs, USACE project documentation, ADEC PA and the E&E PA, all drums, metal and wood debris, and any equipment that might have been left at the site had been removed from the scoria pit site by the USACE DERA contractor. NOAA had not removed any drums from this site, when the TPA was signed. Within the TPA heading of "remaining activities", NOAA was to: "1. Remove machinery hulks/debris/empty drums and take confirmation samples. 2. NOAA to submit letter report with sample results for the site closure."

In 1996, NOAA awarded a cooperative agreement (CA), Award No. NA77AB0013, to a joint venture of Bering Sea Eccotech, Inc. (BSE) and Bristol Environmental Services Corporation (BESC), known as Aleutian Enterprises. BSE is a subsidiary of the TDX. TDX was the subcontractor to Chase Construction, which removed the debris from the Ridge Wall scoria pit, under contract to the U.S. Army Corps of Engineers (USACE), Alaska District, in 1986.

In early 1997, BSE conducted a site visit to TPA Site No. 15c, and found nothing to remove and no observable contamination. The Ridge Wall scoria pit was not included in the final CA work plan (Aleutian Enterprises 1997 and BSE 1998). Similarly, the project close-out report did not address the site, as no work had been conducted there (Aleutian Enterprises 1998). Because no

debris was removed, nor were there any apparent indications of contaminated soils at this site, no confirmation samples were taken (BSE 1998).

On August 22, 1999, David B. Winandy, NOAA Pribilof Project Office conducted a site visit, inspecting and photographing the site and the scoria pit. The TPA Site No. 15c had been cleaned (**Figures 7 thru 10**). There was no apparent contamination, via visual and olfactory observation. The larger scoria pit was an active quarry, although no quarrying activities were occurring on the day of the site visit.

In September 1999, NOAA tasked Tetra Tech EM Inc. (TTEMI) to provide independent verification. TTEMI conducted fieldwork at TPA Site No. 15c, under the approved closure confirmation sampling plan (TTEMI 2000). TTEMI reported, "This scoria pit is an active gravel quarry. Tetra Tech observed no visual evidence of buried or partially buried drums, stained soil, or potentially contaminated soil at the site. Seal, bird, and reindeer skeletons were present in the scoria pit. Miscellaneous debris also was observed, including tin cans and small quantities of paper and plastic waste that most likely was blown into the site. Tetra Tech did not observe any evidence of the debris that was removed by Chase in 1986 (U.S. Army 1991). No environmental samples were collected."

TTEMI recommended, "Based upon field observations conducted during the 1999 field effort, the three scoria pits are all active quarries. No visual evidence of the debris noted at the Lake Hill and Ridge Wall Scoria Pits during previous investigations was noted during the 1999 field effort. In addition, Tetra Tech observed no evidence of stressed vegetation, stained soil, or odors at either site. Because historical removal activities have occurred at these sites, and because the previous and current investigations have not identified any signs of releases from these two sites, Tetra Tech recommends no further action at the Ridge Wall and Lake Hill Scoria Pits."

In 2001, NOAA PPO procured IKONOS satellite imagery of St. Paul Island. In 2002, the digital elevation model (DEM) of the island was completed using this IKONOS imagery. In 2003, the IKONOS imagery was processed. In comparison between the 1993 and 2001 aerial imagery, additional excavation had occurred within the scoria pit (**Figure 11**). In 2001, the northwest rim of the scoria pit was at approximately 50 meters (164 feet) above mean sea level (MSL), the bottom of the pit was at approximately 40 meters (131.2 feet) above MSL, the water surface of the perched aquifer in the adjacent crater lake to the northwest was at approximately 90 meters (295.3 feet) and located approximately 912 meters (2,992 feet) distant, the scoria pit covered an area of 5,703 square meters (1.409 acres), and the depth to groundwater at the bottom of the scoria pit was estimated at 129 feet. (NOAA 2002).

Summary of Site Investigations:

ADEC obtained photographs of the site *circa* 1983, documenting seal bones, abandoned drums, corrugated sheet metal, and metal and wood debris at what was to become the TPA 15c site. USACE and Chase Construction documented abandoned drums, corrugated sheet metal, and metal and wood debris and location in the Ridge Wall scoria pit, St. Paul Island DERA Site D, which was later designated the TPA 15c site. E&E conducted a preliminary assessment of the site in 1992, six years after the DOD cleanup. E&E documented that equipment reportedly abandoned at the site was no longer there. The site had been cleaned up.

Summary of Clean up Actions:

In 1986, the USACE contractor, Chase Construction, Inc. and subcontractor, Tanadgusix Corporation, removed all drums and debris from the Ridge Wall scoria pit site, as part of the DERA project. No confirmation samples were taken at that time.

The 1996 TPA states "All unburied drums on Lake and Ridgewall Hill were bulked, sampled, and disposed." However, only the 1985, USACE DERA project removed drums, wood and metal debris from the Ridge Wall scoria pit. Based upon the *circa* 1983 photographs, USACE project documentation, ADEC PA and the E&E PA, all drums, metal and wood debris, and any equipment that might have been left at the site had been removed from the scoria pit site by the USACE DERA contractor. NOAA had not removed any drums from this site, when the TPA was signed

In 1997, BSE did not conduct any activities at the site under the NOAA CA for debris and UST removal, since the site was found to have already been cleaned under the DERA project. No confirmation samples were taken at that time, as there was no observable contaminated soil.

In 1999, NOAA PPO inspected and photographed the site. No visual or olfactory evidence of contaminate soil could be found. In 1999, TTEMI also observed no visual evidence of buried or partially buried drums, stained soil, or potentially contaminated soil at the site. As a result, no confirmation samples were taken.

In 2001, the site was an active quarry with extensive excavations both horizontally and vertically. No signs of past activities including debris, stained soils, stressed vegetation, or petroleum odors related to NOAA, DOD or their predecessor agencies are evident at this site.

Recommended Action:

Waiver the TPA requirement for confirmation sampling at the site, as there is no identifiable contaminated area to sample. In accordance with the waiver and paragraph 59 of the Two-Party Agreement (NOAA 1996), NOAA submits written confirmation that all corrective action has been completed and that no further action is required at TPA Site Number 15c, Ridge Wall Scoria Pit.

Basic: March 20, 2003

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For the National Oceanic and Atmospheric Administration

John Lindsay NOAA, Pribilof Project Office Date

Approvals: In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed at TPA Site Number 15c, Ridge Wall Scoria Pit, in accordance with the Agreement and that no further action is required.

For the Alaska Department of Environmental Conservation

Louis Howard Alaska Department of Environmental Conservation Remedial Project Manager Date