Kuril Biocomplexity Project

REPORT OF ARCHAEOLOGICAL FIELD RESEARCH IN 2006, INCLUDING GEOLOGICAL DESCRIPTIONS OF ARCHAEOLOGICAL LOCALES.

Appendices include
A. Typological Analysis of Pottery, by T. Amano
B. Report of flake analyses, by C. Phillips
C. Report of faunal analyses, by M. Etnier and Ben Fitzhugh
D. Radiocarbon results from the Kuril Biocomplexity Project's 2006 Expedition with a focus on archaeological implications, by B. Fitzhugh

Report prepared by
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Report date: 18 June 2007

I. General Overview

The Kuril Biocomplexity Project (KBP) is an international and interdisciplinary research program designed to develop a better understanding of the dynamics inter-relations between human occupation and natural factors such as climate, volcanic eruptions, tsunamis, and ecological systems. This report documents the archaeological field results from the 2006 expedition to the Kurils. This expedition was sponsored by the Sakhalin Regional Museum under the direction of Dr. Tatiana Roon. Dr. Valery O. Shubin of the Sakhalin Regional Museum, served as expedition chief and lead Russian archaeologist. Dr. Ben Fitzhugh is the international director of the Kuril Biocomplexity Project and lead American archaeologist. Dr. Tetsuya Amano served as lead Japanese archaeologist. In addition to archaeology, the KBP expedition in 2006 included research teams specializing in the study of Kuril geology (volcanology and dynamic coastal processes), palynology, and ecology.

The expedition in the July and August 2006 was the first of three planned field expeditions to the Kuril Islands under KBP. This expedition included 21 scientists, 8 graduate students, 4 undergraduate students, a middle school teacher and a photographer – 35 project participants. Of these 13 were primarily involved in archaeological survey and testing. This expedition spent 43 days (July 18 to August 30) visiting the Kuril Islands and conducting archaeological, geological, and paleoecological field investigations on a number of islands from the southernmost end of Kunashir to the northernmost island of Shumshu (a linear distance of 1140 km). In an effort to maximize the amount of research performed in a limited time frame, teams of archaeologists, geologists, and paleoecologists were deployed in remote field camps for periods of up to two weeks in promising locations while the ship took the remaining participants to other sectors of the archipelago for more rapid scientific surveys. Teams went to shore at approximately 35 locations throughout the archipelago. The expedition was supported by the passenger ship "Gipanis" out of the port of Korsakov.

KBP field researchers and the ship's crew aboard the vessel 'Gipanis'. Photo by Kenji Ito.

II. Archaeological Research in 2006

TEAM:

DR. BEN FITZHUGH, PI/PROJECT DIRECTOR AND AMERICAN TEAM LEADER
DR. VALERY SHUBIN, EXPEDITION CHIEF AND RUSSIAN TEAM LEADER
DR. TETSUYA AMANO, JAPANESE TEAM LEADER
DR. MICHAEL ETNIER, ZOOARCHAEOLOGIST
DR. KAORU TEZUKA, ARCHAEOLOGIST AND ETHNOHISTORIAN
VOLODYA GOLUBTSOV, ARCHAEOLOGIST
MARINA I. SHUBINA, ETHNOHISTORIAN
NATASHA V. TOROPOVA, MUSEUM TECHNICIAN

COLBY PHILLIPS, GRADUATE STUDENT
JAMES TAYLOR, GRADUATE STUDENT
DENA BERKEY, UNDERGRADUATE STUDENT
MATT WALSH, UNDERGRADUATE STUDENT
DIMA V. SHUBIN, UNDERGRADUATE STUDENT

Misty Nikula-Ohlsen (school teacher), Paul Hezel (graduate student), and Kenji Ito (photographer) assisted with archaeological work occasionally. Importantly, the archaeology team coordinated with other teams in order to develop data that could be used to inform the interaction between past human settlement of the Kurils and past geological and ecological conditions, processes, and events (for example, tsunamis or climate). We consulted and worked particularly closely together with members of the Coastal Geology team, who described the sedimentological attributes of many archaeological stratigraphic sections as well as sections and profiles near archaeological sites.

PRIMARY OBJECTIVES IN YEAR 1 FIELD SEASON:

1) to develop a chronological framework for archaeological sites throughout the Kuril Islands;
2) to locate, map, and sample archaeological sites throughout the Kurils;
3) to collect zooarchaeological materials from preserved midden deposits at these sites;
4) to develop an understanding of environmental events and processes that affected human occupation and site preservation through collaboration with geology and paleoecology teams.

FIELD ORGANIZATION:

Typically we worked in teams of between 2 and 6 researchers scouting for archaeological remains, documenting archaeological sites, making limited test excavation or cleaning off naturally eroding banks to expose archaeological stratigraphy. Often one or more participants remained on the ship "Gipanis" to process collections (catalog, clean, and organize).

ARCHAEOLOGICAL NARRATIVE:

In the 2006 expedition, 41 archaeological sites were recorded, with 20 of these being new discoveries. Documentation included recording site location and size, mapping surface features (house depressions, artifact scatters, eroding exposures, and abandoned historic period structures), and excavating test pits or cleaning off naturally eroding exposures. Excavations of test pits and eroding sections involved recording stratigraphy, and collecting artifacts, faunal material, charcoal, and various sediment samples such as volcanic tephra and sand for stratigraphic and luminescence dating. Photography was used to document interesting aspects of site layout, stratigraphy, and the context of material remains. Video was used sometimes for this purpose.

Ben Fitzhugh, Marina Shubina, James Taylor, and Mike Etnier record and sample an eroded archaeological site on Iturup Island. The research vessel 'Gipanis' is anchored in the distance. Photo by Beth Martin.

Collections were documented and returned to the ship for cleaning, cataloging and preliminary analysis. Surface collections were sometimes made from destroyed portions of archaeological sites. Artifacts (stone tools, pottery, wood and bone tools) and related samples (charcoal, animal bones, etc.) were also collected from cleaned eroding sections and small test excavations. In all cases, stratigraphic locations were recorded for artifacts and other samples taken from eroding banks and test excavations. Artifacts collected included pottery fragments, stone tools, chips of stone, and occasionally, bone, wood, or iron tools or tool parts. Table 1 summarizes the archaeological collections made by Sakhalin Regional Museum and University of Washington participants. Additional samples from the volcanological team (Institute of Marine Geology and Geophysics) and paleoecological teams (UW and Northeast Interdsiciplinary Sceintific Research Institute, Magadan) are not included in this report.

TABLE 1

Material Type	***Number of Bags***	***Repository***
Charcoal/Carbon for dating	217	University of Washington
Chipped stone	171	University of Washington
Metal	6	Sakhalin Regional Museum
Miscellaneous Materials	31	Sakhalin Regional Museum
Pottery	149	Sakhalin Regional Museum
Stone Tools	117	Sakhalin Regional Museum
Worked bone/ bone tools	12	Sakhalin Regional Museum
Worked Leather	1	Sakhalin Regional Museum
Worked wood/ wood tools	9	Sakhalin Regional Museum
Faunal samples	183	University of Washington
Luminescence samples	13	University of Washington

Archaeological sites were found in every region of the archipelago, and on every island visited with the exception of Ketoy, where no archaeological site could be found. Sites were even found on remote and small islands in the central chain, such as Yankicha and Ryponkicha (Map 1; Table 2).

MAP 1 : Archaeological Sites documented in 2006 by the Kuril Biocomplexity Project

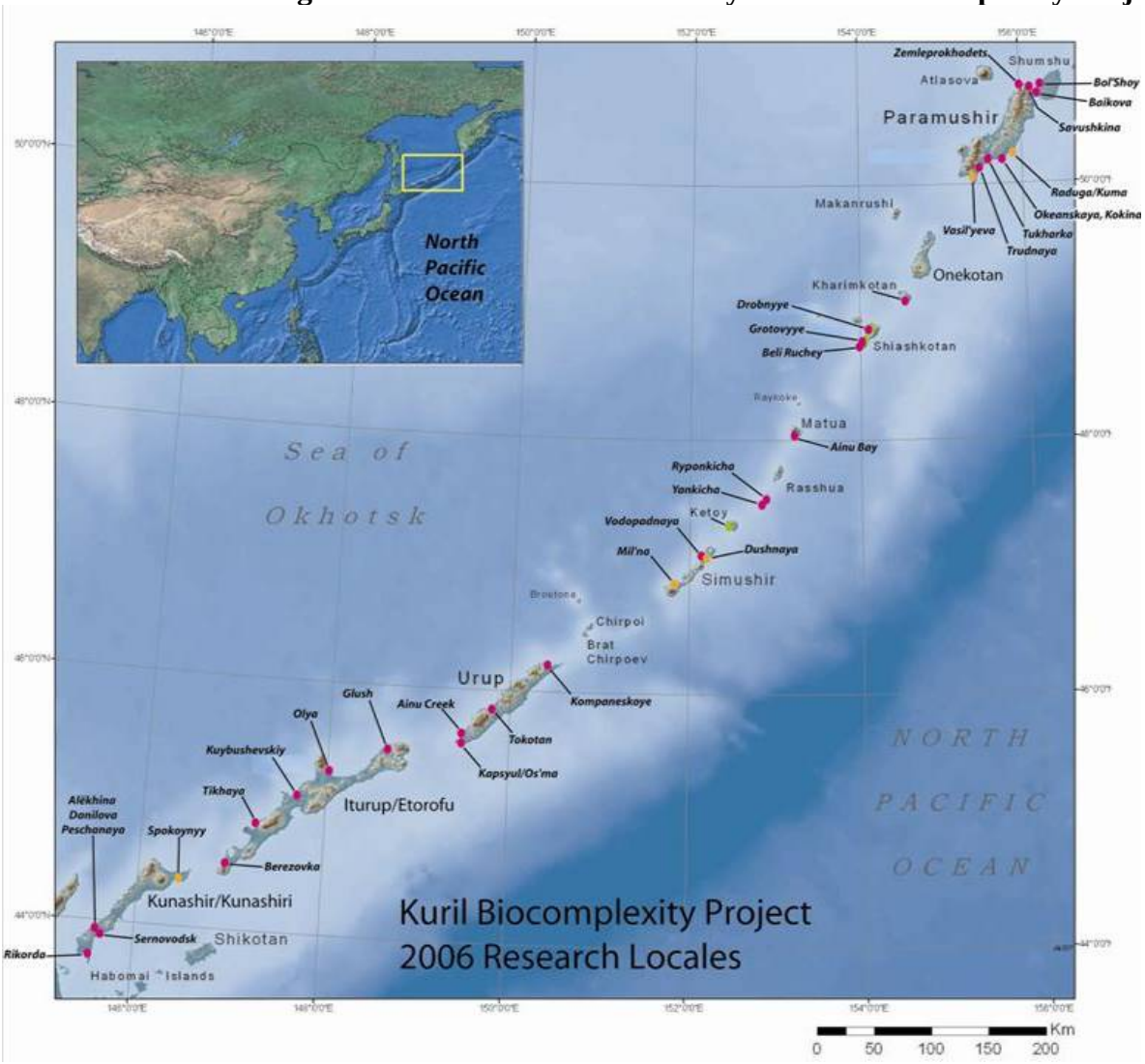


TABLE 2: Islands and archaeological sites documented in 2006 KBP expedition

Island name	*Site name*	*Date visited*	*Cultures represented*[1]
Iturup	Berezovka 1	7/23/2006 – 7/24/2006	2, 2.1, 2.3, 3
Iturup	Berezovka 2	7/24/2006	unknown
Iturup	Glush	7/30/2006	1.3
Iturup	Kubushevskaya 1	7/22/2006	1.4, 2.1, 2.2
Iturup	Olya 1	7/29/2006	1.4, 2.1, 3.3
Iturup	Tikhaya 1	7/23/2006	3
Kharimkotan	Kharimkotan 1	8/15/2006	unknown
Kunashir	Alëkhina 1	7/28/2006	unknown

Kunashir	Danilova 2	7/28/2006	2.1, 3.2
Kunashir	Golovnina Beach Terrace 1	7/27/2006	unknown
Kunashir	Peschanaya 1	7/28/2006	1.4
Kunashir	Peschanaya 2	7/28/2006	unknown
Kunashir	Rikorda 1	7/27/2006	2.1
Kunashir	Sernovodsk 1	7/26/2006	2, 3
Kunashir	Spokoyny Creek	7/25/2006	5
Matua	Ainu Bay 1	8/09/2006 – 8/11/2006	3, 4
Matua	Ainu Bay 2	8/09/2006 – 8/11/2006	2.1
Paramushir	Kokina Cape	8/21/2006	unknown
Paramushir	Okeanskoye	8/23/2006	unknown
Paramushir	Savushkina 1	8/18/2006	unknown
Paramushir	Savushkina 2	8/19/2006	unknown
Paramushir	Trudnaya 1	8/23/2006	unknown
Paramushir	Tukharka 1	8/22/2006	2.1
Ryponkicha - Ushishir	Ryponkicha 1	8/10/2006	3, 3.2
Shiashkotan	Drobnyye 1	8/13/2006 – 8/14/2006	2.1, 3.2
Shiashkotan	Grotovyye 1	8/13/2006	unknown
Shiashkotan	Grotovyye 2 (or Beli Rouchey)	8/13/2006	unknown
Shumshu	Baikova 1	8/18/2006	2, 3, 3.2
Shumshu	Bol'Shoy 1	8/20/2006	3.2
Simushir	Vodopadnaya 1	8/06/2006	
Simushir	Vodopadnaya 3	8/06/2006	
Simushir	Vodopadnaya 2	8/05/2006 - 8/06/2006	
Urup	Ainu Creek	7/25/2006, 7/31/2006 – 8/01/2006	2, 2.1, 3, 3.2
Urup	Fastritsa		
Urup	Kapsul	7/22/2006	3.2
Urup	Kompaneski	8/03/2006	
Urup	Osma	8/01/2006	
Urup	Tokotan 1	8/02/2006	
Urup	Tokotan 4	8/02/2006	3.2
Urup	Vasino 1	7/31/2006	
Yankicha - Ushishir	Yankicha 1	8/10/2006	5

[1]. *Codes from Table 3; where culture code is underlined, this indicates an inference from 14C date..*

Based on an initial analysis of the pottery collected during the 2006 expedition as well as house forms and other information, we can make an initial assessment of the extent and intensity of past human occupation along the chain. The culture history of the Kurils is broken into several periods and sub-periods (phases) based on similarity of pottery styles and other traits with the prehistory of Hokkaido. In general, no significant northern cultural influence is observed south of northern Paramushir and Shumshu until the Russian exploration of the 18th century. Known occupation extends back to the Late Jomon phase roughly 5000 bp and possibly as early as 7000 bp (Fitzhugh et al 2004). Subsequent occupation is known in the Epi-Jomon, Okhotsk, Ainu, and Historic periods (Table 3).

TABLE 3: Culture history periods of the Kuril Islands

PERIOD	PHASE*	CODE (FOR TABLE 2)	AGE RANGES (APPX)**
20th Century		**5**	**0-95 BP**
Ainu/ (Russian/Japanese)		**4**	**55-700/ (100-200) BP**
Okhotsk		**3**	**800-1,300**
	Late	3.3	
	Middle	3.2	
Epi-Jomon		**2**	**1,300-2,000**
	Late	2.2	
	Early	2.1	
Jomon		**1**	**2,000-7,000(+/-)**
	Late	1.4	
	Middle	1.2	

** Only listing phases currently documented for the Kurils.*
*** Period dates are rough estimates. Phase dates not given as these are still being worked out in the current project.*

As expected the Kuril Biocomplexity Project documented occupations of all of these periods. Unexpected was the overwhelming number and scale of Epi-Jomon settlements stretching from Kunashir to Shiashkotan and perhaps onto Paramushir. Our working model led us to expect an increasing human presence on the islands with time, but it currently appears that the Epi-Jomon were one of the most successful settlers of the chain. Pottery types suggest that the Epi-Jomon occupation was concentrated during the Early Epi-Jomon phase, leading us to hypothesize that some factor in climate and environment may have rendered the archipelago less attractive in the subsequent phases. It is also possible that Kuril populations were significantly isolated from Hokkaido cultural developments in later phases and that pottery styles failed to develop in parallel in the later Epi-Jomon time periods. Radiocarbon dating in process should help to resolve these two possibilities.

The Okhotsk period occupation was also substantial and may be concentrated primarily in the Middle Okhotsk phase. Interestingly, we found very little Okhotsk archaeology in the southernmost island of Kunashir, though early 20th century Japanese reports note several sites in the region, especially on Iturup (Chard 1960). Following conventional understanding of Okhotsk subsistence adaptations to ice-adapted marine mammals, we speculate that Okhotsk populations entered the Kurils from the northern side of the Shiretoko Peninsula and concentrated in areas adjacent to the distribution of seasonal pack ice from Iturup north, especially in areas of the southern Kurils, on the Okhotsk Sea side, where seasonal pack ice reaches its greatest extent. A

few Okhotsk sites are known from Kunashir, and we identified one possible Okhotsk pottery fragment in southern Kunashir. The more northerly range of this occupation, including sites on Shiashkotan and Shumshu, does not currently experienced seasonal pack ice (as does the southern archipelago), and additional reasoning will be necessary to explain Okhotsk presence there. As with all patterns discussed here, we must also consider the possibility that our preliminary identifications are subject to large sampling biases that will be reduced substantially with the addition of radiocarbon dates and additional research in the coming field seasons.

Of particular surprise to the archaeology team was the scarcity of evidence of Ainu occupations throughout the Kurils. Ethnohistoric documentation (Krashenenikov 1972) and earlier archaeological study (Baba 1934, 1935, 1937, 1939; Baba and Oka 1938), have documented a significant, if not abundant record of Ainu occupation in the islands from Kunshir all the way to Paramushir and Shumshu (with the possibility of admixture with Kamchatka Itel'men in the Northern settlements on Shumshu: Krashenenikov 1972). Our survey in 2006 identified only one site with Ainu pottery (interior lugged handles mimicking iron pot styles from Japan). That site was on Matua (Ainu Bay 1 site). In addition we documented one site with typical moated pit houses on Simushir (Vodopadnaya 3 site). Prior research in 2000 by the International Kuril Island Project (IKIP) also documented Ainu housepits on Chirpoi and southern Paramushir. Radiocarbon dates support Ainu occupation on Chirpoi, Matua, and Paramushir, as well (Fitzhugh et al. 2004).

There are several possibilities to explain the relatively low visibility of Ainu sites through the Kurils. It is possible that there really were very few Ainu in the Kurils, and that their occupation was concentrated in a few locations. This hypothesis is consistent with ethnohistoric notes referring to relatively low population densities in the Kurils but not of the reported differentiation of the Kuril Ainu into two distinct dialect groups in the northern and southern islands, respectively (Krashenenikov 1972). Minimally we know from ethnohistoric accounts in the 18th and 19th centuries that Ainu had settlements minimally on Kunashir, Iturup, Urup, Chirpoi (seasonally), Simushir, Rasshua (probably), Shiashkotan, Kharimkotan, Onekotan, Paramushir and Shumshu. At least one of these settlements was reportedly destroyed by a volcanic eruption on northern Shiashkotan that buried the village under pyroclastic debris flow (Snow 1910). Other possibilities to explain the observed dearth of Ainu archaeological remains include differences in the nature of the Ainu material record relative to the preceding culture groups. For example, it is also possible that the Ainu living in this region were relatively mobile during much of the year. When not in a few fixed settlements they may have left little archaeological record of their seasonal camps. It is also likely that the diagnostic attributes of Ainu occupation are relatively less frequent than those of the Jomon, EpiJomon and Okhotsk. Ainu pottery is generally reported to be rather undecorated, with the primary unique attribute being the internal lugs. As these occupy a relatively small portion of any pot, the resulting pot sherds can be expected to be dominated by undecorated and non-diagnostic body sherds. Earlier culture groups tended to decorate many of their pots across the exterior surfaces, leaving a much more visible record. Ainu in Hokkaido, are also well known for having lived in above ground wooden structures, which leave less visible traces on site surfaces. While trees would have been scarce and structural building materials limited to drift wood in much of the Kurils (at least north of Urup), it is possible that some Ainu houses were nevertheless above ground features, reducing

their archaeological visibility. Ethnohistoric reports, however, only identify semi-subterranean dwellings among the Kuril Ainu (Krashenenikov 1972; Snow 1897)

Historic sites observed during the 2006 expedition were primarily inferred as Japanese and Soviet military installations and features from World War II and the Cold War era. We did not focus our attention on documenting these installations, but it is worth pointing out that Japanese trenches, bunkers, and gun emplacements were a very common feature on the coastal landscape. It was rare to find an archaeological site from an earlier era that was not impacted to one degree or another by these WWII defensive features. Post war Soviet border-guard stations were positioned strategically throughout the chain, and were quite destructive of archaeological deposits in their footprints, but the nature of the Soviet (and subsequent Russian) occupation left a less widespread or extensive overlay on the older archaeological patterns than did the trenching and bunkering during WWII.

Our archaeological collection strategy for the 2006 field season focused on pottery, stone, and other tools (under analysis and curation at the Sakhalin Regional Museum), and chipped stone waste flakes and faunal materials (under analysis and curation at the University of Washington). Pottery was used for the culture historical analysis already discussed and may also be subject to functional and technological analyses and as a material for luminescence dating in the future. Stone tools include a number of fine projectile points and knifes, scrapers, cores, and utilized flakes. While there are currently few culturally diagnostic stone tool forms for the Kurils, further lithic analysis in conjunction with the radiocarbon dating of artifact-bearing stratigraphic layers may yield data that is useful for developing tool typologies for the region. Lithic raw materials represented among the stone tools and waste flakes include obsidian, basalt, and a variety of red, orange, yellow, beige to pink, and grey cherts. While obsidian sources in the Kuril Islands are not well known, the volcanology team documented an outcrop of low-quality obsidian on Ketoy Island in the central Kurils that we hope will provide a distinct mineralogical/chemical signature for sourcing studies of the archaeological obsidian, along with known sources from Kamchatka and Hokkaido. The multiple colors of chert were duplicated in natural beach gravels in a variety of locations throughout the islands, and for that reason we now believe these materials may not be useful for point-source studies. The chipped stone waste flakes were brought back to the University of Washington where we will begin analysis in the Winter or Spring terms of 2007.

Organic tools were rarely encountered, but where organic preservation was particularly good, we did find both bone and wood tools. The southern end of Urup Island was particularly productive in this regard with the sites of Ainu Creek and Kapsul Cape yielding one or more bone and wood implements. At Ainu Creek, a team of Russian, Japanese and American archaeologists worked for several days exposing and mapping a deeply stratified Epi-Jomon and Okhotsk midden and other areas of the site. Organic materials recovered from this excavation include a wooden spoon and several bone harpoon tips. At Kapsul Cape, a midden excavation turned up a barbed bone harpoon point reminiscent of Aleut and Alutiiq types. It is possible that this point was deposited during the Russian American occupation, when Alutiiq and Aleut sea otter hunters were transplanted to Urup Island (esp. Aleutka Bay about 70 km north on the Pacific side of the island; Shubin 1994). On Simushir, at the site of Vodopadnaya 2, an excavation (TP3) yielded a rich midden deposit with pottery and a unique engraved bone disk

(probably spindle whorl). One face of the disk was engraved with concentric circles, some with perpendicular hatch marks. A historic deposit at the northern Urup site of Kompaneyski included a fragment of worked leather, probably not more than 50-100 years in age).

The 2006 field season was successful in recovering faunal samples from a number of sites throughout the island chain. Specifically, 20 of 41 sites yielded fauna, with a total of 183 samples. Samples range in size from a single piece of bone to thousands of pieces of shell, fish bone, bird bone, and mammal bone (primarily, but not exclusively, from sea mammals). Even so, we were initially concerned about the potential to locate good fauna-bearing archaeological sites. As it turned out the slow beginning was due, in large part, to the nature of the sites we visited at the beginning of the field season. Many of the first sites we visited were heavily eroded sand dune sites, with little or no buried component. These sites were characterized by extremely poor faunal preservation. As the season progressed, however, greater effort was put into investigating buried sites that were more likely to have faunal remains preserved, with greater success.

Because this initial field season was primarily designed to be extensive, rather than intensive, in nature, field recovery techniques for fauna were typically limited to hand-sorting of sediment, with occasional use of 1/4" (3.2 mm) mesh hardware cloth. In some cases, the nature of the faunal deposit dictated that 1/8" (6.4 mm) mesh hardware cloth be used. Finally, some faunal deposits were so densely packed with shell and bone that the most efficient means of sampling was to bring bulk samples back to be screened and sorted in the lab (either ship-board or at the University of Washington).

The 2006-2007 lab analysis is focusing primarily on general identifications of faunal remains. Preliminary results indicate that for mammals, harbor seal, sea otter, and Steller sea lion are ubiquitous. Shellfish are dominated by marine gastropods such as whelks and periwinkles. Birds consist primarily of various species of auklets, with low frequencies of sea eagle. And fish consist of salmon, cod, and halibut, with low frequencies of a large shark species.

With few exceptions, the species represented in the faunal samples are locally common in the Kurils today. In that regard, the faunal data we have thus far provide few surprises. Subsequent analyses of the 2006 samples, along with increased sample sizes in coming years will establish, age and sex composition, differential body-part representation of selected species, metrics for examining degrees of resource depression, isotopic analyses to detect marine productivity and trophic complexity. These derived data will be used to evaluate the hypotheses that the ancient distributions of the resource species were significantly affected by changes in climate or as a consequence of human predation pressure.

Bone harpoon point from Vodopadnaya 2 site, Test Pit 3, Simushir. Photo by K. Ito

ARCHAEOLOGICAL SITE DESCRIPTIONS

Archaeological sites recorded in the 2006 KBP expedition are described in the following pages. Included in each record is a narrative description of each site followed by tables listing important information collected for the site, its features, and any excavations and collections made during the 2006 KBP expedition. Radiocarbon dates listed for each site were processed at the Wood's Hole Oceanographic Institute's AMS radiocarbon laboratory (NOSAMS). Dates are presented as conventional radiocarbon dates and are uncalibrated. Diagnostic ceramics were identified by Tetsuya Amano in the field based on his detailed knowledge of northern Hokkaido archaeological typology. A summary of Dr. Amano's analysis is included as an appendix to this report.

Natasha Toropova assembling surface collected artifacts from modern road at Ainu Creek, southern Urup Island. Photo by K. Ito, 2006

Archaeological Site: Kapsyul [KAP1]
Dates visited: 22 - 24 July and 31 July 2006

The Kapsyul site on southern Urup Island is located on a bluff overlooking a small cove and beach. The archaeological site is bounded on the east and west sides by small streams that drain at the beach. This is a relatively large site with 24 house pits identified on the bluff. There is also evidence of past occupation just off the cove beach below the bluff. Three Test Pits were excavated at the site. One test pit was excavated on the bluff and two near the cove beach.

Test Pit 1 was an "L" shaped excavation located on the bluff in between House Pit 23 and House Pit 24 (house numbers based on a sketch map drawn by V. Shubin). Test Pit 1 was formed by joining two 2 m long trenches, an east-west trench and a north-south trench. Each trench was excavated in 20 cm levels down to a final depth of 60 cm below surface. Several flakes and pieces of pottery were recovered from each of the trenches in Test Pit 1.

Test Pit 2 was located approximately 15 m from the beach below the bluff. Test Pit 2 was a 2 m x 2 m pit that was excavated in 20 cm levels primarily using shovels. A large faunal sample was obtained from the top 20 cm (Level 1: 0-20 cm below surface) of the pit. In Level 2 (20-40cm below surface) there were fewer bones, several flakes, a bone harpoon, and a small stone projectile point. Several charcoal samples were obtained from both Levels 1 and 2.

Test Pit 3 was also dug near the cove beach below the bluff, just to the south of Test Pit 2. Four levels were dug in the pit again recovering additional faunal materials, and many of the bones appeared to be from the bottom of Level 3 (12-23 cm below surface) on a sand layer.

Kapsyul 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0248	OS-59496	TP 2, Level 2	Modern	
0255	OS-59497	TP 3, Level 2	80	25
0256	OS-59385	TP 3, Level 3	135	35
0262	OS-59414	TP 4	815	25

1. NOSAMS is the Wood's Hole Oceanogaphic Institute's AMS radiocarbon laboratory.

Kapsyul 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Kapsyul 1 Test Pit 1	22 July 2006	N45 34.75, E149 25.220
Kapsyul 1 Test Pit 2	24 July 2006	N45 34.715, E149 25.264
Kapsyul 1 Test Pit 3	31 July 2006	N45 34.42.9, E149 25 16.1
Kapsyul 1 Test Pit 4	31 July 2006	N45 34 45.2, E149 25 12.6

Kapsyul 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-5	Very dark brown sandy silt, roots and grass material, O horizon, no artifacts
2	5-12	Grayish brown sandy silt, A horizon, first cultural layer with ceramics and lithic debitage
3	12-23	Dark brown sandy silt, ceramics and flakes
4	23-33	Reddish brown sandy silt, ceramics and flakes
5	33-40	Medium brown sandy silt, ceramics and flakes
6	40-46	Dark brown sandy silt, ceramics and flakes
7	46-60	Yellowish brown sandy clay, B horizon, no artifacts

Kapsyul 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-20	Very dark brown sandy silt, 25-50% roots and rocks, O horizon
2	20-34	Grayish brown silty sand, 0-25% roots and rocks
3	34-40	Darker grayish brown silty sand, 0-25% roots and rocks
4	40-60	Grayish brown silty sand, 0-25% roots and rocks

Kapsyul 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-5	Sod with coarse sand and roots
2	5-13	Dark brownish-black rich sandy loam
3	13-23	Light brown sand that's mixing at places with lower level
4	23-34	Yellow/light brown sand

Kapsyul 1 Test Pit 4

Level	Depth (cm below surface)	Description
1	0	same as roadcut 1, medium flowers, tall grasses, "pootcha relative" renunculus (big butter cup), thistle
2	0-5	turf
3	5-15	fine-medium-coarse sand, soily, rooty, bits of charcoal
4	15-25	medium brown, soily sand, more soily/silty matrix, still charcoal, more reddish downward. Dark red brown by bottom
5	25-35	Very coarse sand, some granules, reddish brown, soily - more reddish than overlying
6	35-38	reddish black charcoaly soil, very rich. Surface flat but wedge-like unit below
7	38-45	pinching out laterally toward valley, thickens to >10 cm. v compact reddish brown clay, more brown than overlying, angular material (cultural?) something of a midden?
8	45-47	charcoal, irregular laterally csand-very coarse sand, rounded (basal sand) correlates with 63-67
9	47-62	medium light brown silty compact silty-clayey soil, barren (sterile) gets lighter down, some weathered rock clasts 0.5-1cm
10	62-62+	regolith

Kapsyul 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0231	Kapsyul	Urup	LITHICS	TP 1, N-S trench, level 1, Lithics
0232	Kapsyul	Urup	LITHICS	TP 1, E-W trench, Level 2, Lithics
0233	Kapsyul	Urup	POTTERY	TP 1, E-W Trench, Level 2 ceramics
0234	Kapsyul	Urup	POTTERY	TP 1, N-S Trench, Level 1, ceramics
0235	Kapsyul	Urup	LITHICS	TP 1, N-S trench, level 1, Lithics
0236	Kapsyul	Urup	HISTORIC,	TP 2, Level 2, Metal

			OTHER METAL	
0237	Kapsyul	Urup	CARBON	TP 1, E-W trench, Level 1, charcoal
0238	Kapsyul	Urup	LITHICS	TP 2, Level 2, lithic
0239	Kapsyul	Urup	STONE TOOLS	TP 1, E-W trench, Level 1, Lithics
0240	Kapsyul	Urup	POTTERY	TP 1, N-S Trench, Level 1, ceramics
0241	Kapsyul	Urup	LITHICS	TP 1, E-W trench, level 1, lithic
0242	Kapsyul	Urup	POTTERY	TP 1, EW Trench, Level 1, Ceramics
0243	Kapsyul	Urup	FAUNAL	TP 2, Level 2, bones
0244	Kapsyul	Urup	FAUNAL	TP 2, Level 2, bones
0245	Kapsyul	Urup	BONE TOOLS	TP 2, Level 2, Bone Harpoon
0246	Kapsyul	Urup	CARBON	TP 2, Level 2, Charcoal
0247	Kapsyul	Urup	STONE TOOLS	TP 2, Level 2, quartz point
0248	Kapsyul	Urup	CARBON	TP 2, Level 2, Charcoal
0249	Kapsyul	Urup	BONE, WORKED	TP 2, Level 2, worked bone
0250	Kapsyul	Urup	FAUNAL	TP 2, level 2, bones
0251	Kapsyul	Urup	OSL SAMPLE	Level 4, OSL sample, 38 cm below surface
0252	Kapsyul	Urup	FAUNAL	TP 2, level 1, bulk faunal sample
0253	Kapsyul	Urup	FAUNAL	TP 2, level 2, bulk faunal sample
0254	Kapsyul	Urup	HISTORIC, GLASS	TP 3, level 2, historic artifact (green glass)
0255	Kapsyul	Urup	CARBON	TP 3, Level 2, charcoal
0256	Kapsyul	Urup	CARBON	TP 3, level 3, charcoal
0257	Kapsyul	Urup	FAUNAL	TP 3, level 3, faunal
0258	Kapsyul	Urup	CARBON	TP 3, level 4, charcoal
0259	Kapsyul	Urup	FAUNAL	TP 3, level 1, faunal
0260	Kapsyul	Urup	FAUNAL	TP 3, level 2, faunal
0261	Kapsyul	Urup	FAUNAL	TP 3, level 3, faunal
0262	Kapsyul	Urup	CARBON	TP 4, charcoal
0263	Kapsyul	Urup	POTTERY	TP 4, ceramic
0397	Kapsyul	Urup	CARBON	Road cut 38 - 43cm below surface, charcoal
0406	Kapsyul	Urup	WATER SAMPLE	Water sample #8, fresh
0625	Kapsyul	Urup	LITHICS	TP 3, level 3, coal
0665	Kapsyul	Urup	CARBON	TP 1, Level 1, charcoal
0666	Kapsyul	Urup	POTTERY	TP 1, Level 1, ceramics, 1-20cm below surface
0667	Kapsyul	Urup	STONE TOOLS	TP 1, Level 1, small biface
0668	Kapsyul	Urup	POTTERY	TP 1, Level 1, ceramics
0669	Kapsyul	Urup	LITHICS	TP 2, surface collection, lithics
0670	Kapsyul	Urup	HISTORIC, METAL	TP 2, surface collection, metal

Geological Field Studies Report

Observations and Interpretations:

Terraces: In the southern cape in general, there seem to be two dominant terraces, although there are hints of other ones. The lower dominant terrace (actively eroding) was measured between 48 and 63 m. It was higher values being on the Pacific and the lower on the Okhotsk side. The lighthouse is on a seastack on this terrace. The higher dominant terrace was measured at 120 m, but multiple elevation readings were not taken. There are at least 5 tephra on this terrace and compact soil. (In the area of Os'ma, it was noted that there was also a concordance of peaks at 90 m, but limited flat area.)

Little things: Three little geological observations were noted: 1) The cove had a bryozoan reef that could dampen the waves approaching the shore (noted from pieces on the beach). 2) In the non-sandy part of the beach, the cobbles had formed a very solid pavement. 3) The vegetated part of the sandy beach (3 m elevation) was eroding onto the unvegetated sandy beach via debris fans.

Tsunami: There is potentially one tsunami below the cultural layer and one above in the beach excavation. The higher excavations (~18 m) are very sandy, with up to 5 distinctly sandy layers. They seem too high to be tsunami deposits, although the possibility cannot be ruled out.

Volcanic activity: In Kapsyul (not counting the 120-m terrace), 2-4 tephra were identified

Looking down on the Kapsyul site locality. View east. Photo: S.C. Phillips.

Kapsyul Test Pit 1 stratigraphy of N-S trench. Photo: S.C. Phillips

Looking at north wall of Kapsyul Test Pit 2. Photo: S.C. Phillips

Photo of sea mammal bone excavated from Kapsyul Test Pit 2 at the Kapsul site.
Photo: S.C. Phillips.

Archaeological Site: Kubushevskiya 1 [KUB1]
Dates visited: 22 July, 2006

The Kubushevskiya 1 site is located on the shore of Kubushevskiya Bay, western Iturup facing the Sea of Okhotsk, just 24km southwest of Kurilsk. This site is bordered to the north by the Sea of Okhotsk and to the south by Kubushevskiya Lake (see **Image 4**). A stream divides the site in half and may also demark differing temporal components (see below). Archaeological remains are largely surface material left by dune deflation, with small pockets of intact buried archaeological deposits.

Materials noted on the surface in both deflation areas include high quantities of Epi-Jomon and Okhotsk ceramics, lithics, and historic Japanese artifacts. Middle Jomon pottery was also collected on the eastern side of the stream where other lithic materials and pottery was noted. Whale and sea otter bones were found on the surface, while a small relict portion of dune contained other terrestrial and marine fauna, including bear, fox, artiodactyls, bird, and human bones. Human remains were poorly preserved, but were collected for curation. One radiocarbon sample has been analyzed, providing an uncalibrated age of 935 +/-30 years before present. This charcoal sample was taken from directly beneath a 'pink tephra' from within the relict dune.

In 2006 the site seemed largely eroded and littered with surface artifacts. One of three examples of Middle Jomon pottery found during the field season came from this site.

Kubushevskiya 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0001	OS-58965	Below tephra	935	30

Kubushevskiya 1 Feature Coordinates

GPS Feature	Date	Lat/Lon coord
Kubushevskiya 1	22 July 2006	N45 04.599, E147 39.235

Kubushevskiya 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0001	Kubushevskaya 1	Iturup	CARBON	E side of site, high relict dune below first pink tephra. Radio carbon - charcoal
0002	Kubushevskaya 1	Iturup	CARBON	Charcoal, radio carbon sample between N & S of site between blowouts
0003	Kubushevskaya 1	Iturup	POTTERY	surface collection pottery sherds
0004	Kubushevskaya 1	Iturup	POTTERY	surface collection pottery sherds
0005	Kubushevskaya 1	Iturup	POTTERY	surface collection pottery sherds
0006	Kubushevskaya 1	Iturup	STONE TOOLS	surface collection lithics
0007	Kubushevskaya 1	Iturup	FAUNAL	surface collection bone
0008	Kubushevskaya 1	Iturup	POTTERY	grab sample from Eastern deflation at base of high relict dune. Pottery
0009	Kubushevskaya 1	Iturup	LITHICS	surface collection lithics, flakes
0010	Kubushevskaya 1	Iturup	POTTERY	2 pot bases, surface collection Eastern deflaton zone, high relict dune
0011	Kubushevskaya 1	Iturup	LITHICS	flakes, 2x2 meter controled collection. North deflation zone.

0012	Kubushevskaya 1	Iturup	LITHICS	flake from cultural strata layer below pink tephra. East deflation zone.
0013	Kubushevskaya 1	Iturup	POTTERY	pottery from cultural layer below pink tephra layer. East deflation zone.
0014	Kubushevskaya 1	Iturup	POTTERY	pottery, North deflation zone
0015	Kubushevskaya 1	Iturup	STONE TOOLS	lithics, surface collection. North deflation zone
0016	Kubushevskaya 1	Iturup	STONE TOOLS	surface collection, lithics. North deflation zone.
0017	Kubushevskaya 1	Iturup	STONE TOOLS	projectile point, N of creek, dune deflation
0018	Kubushevskaya 1	Iturup	FAUNAL	bird ulna. Surface collection, North deflation zone.
0019	Kubushevskaya 1	Iturup	FAUNAL	bones, north deflation zone, surface.
0020	Kubushevskaya 1	Iturup	FAUNAL	bear skull fragments, surface collection. Top of profile of high relict dune above pink tephra.
0022	Kubushevskaya 1	Iturup	POTTERY	pottery, north of creek, dune deflation zone. Middleof Early Jomon (ID by T. Amano). Possible TL sample
0023	Kubushevskaya 1	Iturup	STONE TOOLS	obsidian, surface collection, SW of creek, posible source sample
0024	Kubushevskaya 1	Iturup	LITHICS	obsidian, surface collection, NE of creek, posible source sample
0025	Kubushevskaya 1	Iturup	POTTERY	pottery, surface collection, fragment. Jomon or Epi-Jomon.
0026	Kubushevskaya 1	Iturup	HUMAN	human remains
0166	Kubushevskaya 1	Iturup	GEOLOGIC	To GEO, tephra above charcoal surface between two blowouts
0167	Kubushevskaya 1	Iturup	LITHICS	Obsidian flake from charcoal exposure between two saddles
0168	Kubushevskaya 1	Iturup	STONE TOOLS	point from above or associated with charcoal from exposure between two blowouts
0169	Kubushevskaya 1	Iturup	POTTERY	Epi-Jomon or Jomon potsherd from charcoal exposure between two blowouts
0171	Kubushevskaya 1	Iturup	STONE TOOLS	Grab sample from eastern (small) deflation at base of high relict dune, obsidian point
0173	Kubushevskaya 1	Iturup	LITHICS	Grab sample from eastern small deflation surface at base of high relict dune, flakes
0174	Kubushevskaya 1	Iturup	FAUNAL	Grab sample from eastern (small) deflation zone at base of high relict dune, bone
0178	Kubushevskaya 1	Iturup	HISTORIC, OTHER METAL	Rifle slug from eastern (small) deflation zone at base of high relict dune

0179	Kubushevskaya 1	Iturup	POTTERY	Grab sample from eastern (small)deflation at base of high relict dune, modern ceramic
0181	Kubushevskaya 1	Iturup	STONE TOOLS	surface collection, lithic tools
0183	Kubushevskaya 1	Iturup	POTTERY	N of creek, dune deflation, pottery
0184	Kubushevskaya 1	Iturup	HISTORIC, OTHER METAL	N of creek, dune deflation, bullet slugs
0185	Kubushevskaya 1	Iturup	FAUNAL	N of creek, dune deflation, bone
0187	Kubushevskaya 1	Iturup	STONE TOOLS	N deflation zone, controlled 2m x 2m collection, lithic tools
0188	Kubushevskaya 1	Iturup	FAUNAL	N deflation zone, controlled 2m x 2m collection, bone
0890	Kubushevskaya 1	Iturup	STONE TOOLS	surface collection, lithic tools
0896	Kubushevskaya 1	Iturup	LITHICS	Surface collection, Flakes, from bag #0009
0897	Kubushevskaya 1	Iturup	LITHICS	NE of creek, obsidian flake for sourcing
0898	Kubushevskaya 1	Iturup	LITHICS	Surace collection SW of creek, obsidian flake
0899	Kubushevskaya 1	Iturup	LITHICS	Surface collection, N. deflation zone, obsidian flake
0900	Kubushevskaya 1	Iturup	STONE TOOLS	Surface collection, adze
0992	Kubushevskaya 1	Iturup	SAND SAMPLE	(GEO-KHABAROVSK)
1182	Kubushevskaya 1	Iturup	LITHICS	Basalt Tool
1183	Kubushevskaya 1	Iturup	LITHICS	Chert Scraper
1184	Kubushevskaya 1	Iturup	LITHICS	Red and yellow Chert Core
1185	Kubushevskaya 1	Iturup	LITHICS	Chert Tool
1186	Kubushevskaya 1	Iturup	LITHICS	Red Chert Tool
1181	Kubushevskaya 1	Iturup	LITHICS	Banded Yellow Chert Stone Tool

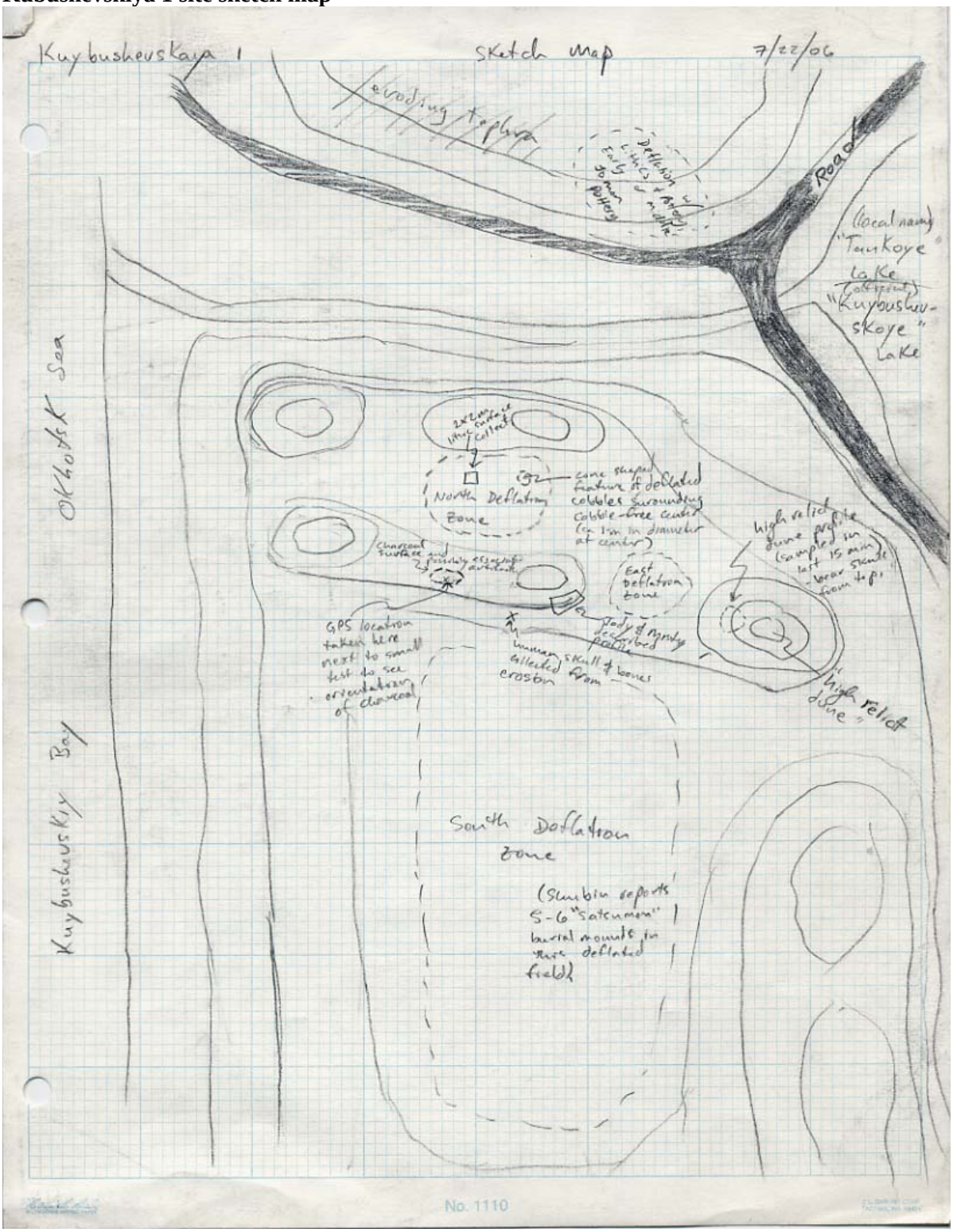
Geological Field Studies Report
Observations and Interpretations:
Deflating dunes:

Terraces: There appear to be two terraces. The lower one was measured to be 40-50 m and the upper one estimated ~100m. The lower terrace is extensive and only missing immediately near the rivermouth. The upper terrace is more variable. If the terraces are correlated with MIS 5e and 7, then the uplift rate would be around 0.4-0.5 mm/yr. If they correlate with MIS 5a and 5e, the uplift rate would be around 0.8 mm/yr (which fits better with the uniform uplift approach)

Tsunami: None could be distinguished

Volcanic activity: There were two tephra described.

Kubushevskiya 1 site sketch map



Satellite view of the Kubushevskiya 1 site. Copyright: Google Earth, 2007


Kubushevskiya 1 site, north dune deflation with dense artifacts on surface behind the standing figure in the center. Photo by B. Fitzhugh

Archaeological Site: Tikhaya 1 [TIK1]
Dates visited: 23 July 2006

Tikhaya 1 is located on high dunes immediately south of the outlet of the Tikhaya River into Drobroye Nachalo Bay on the Okhotsk Sea coast of Iturup, about 52 km southwest of Kurilsk. Two test pits were excavated at the Tikhaya 1 site. Test Pit 1 was excavated in the side of a high hill about 30 meters southwest of the river bend where the road crosses. Test Pit 1 was primarily unstratified sand, and just one iron artifact was found at 60 cm below surface. This excavation was made to be about 1 meter by 2 meters and was excavated to about 2 meters deep from the high (east) end of the excavation. Test Pit 2 was situated between two deep house pits about 30 meters southwest of Test Pit 1and was a 10 m section of an eroding dune about 50 m south of Test Pit 1. A cultural layer with charcoal, a small number of flakes and Okhotsk-period plainware pottery was sampled from Test Pit 2.

Tikhaya 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Tikhaya 1 Test Pit 1	23 July 2006	N44 43.410, E147 11.997
Tikhaya 1 Test Pit 2	23 July 2006	N44 43.384, E147 11.956

Tikhaya 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-100	No stratigraphy, all sand

Tikhaya 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-30	Sand and vegetation
2	30-33	Brown sandy silt
3	33-34	White fine grained tephra (somewhat mottled with surrounding loam)
4	34-46	Brown sandy loam
5	46-50	Dark/black stained loam with cinders
6	50-55	Medium size cinders (pea gravel)
7	55-57	Dark/black stained loam with cinders
8	57-60	Brown silt with cinders
9	60-75	Coarse cinders (popcorn)
10	75-100/ 125 (in NE)	Cultural fill with charcoal, pottery, flakes
11	100-115	Salt and pepper sand or tephra
12	115-120	Sandy loam
13	120-125	Fine cinders (like coarse sand)
14	125-150	Sterile dune sand
15	150	Base excavation

Tikhaya 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0027	Tikhaya 1	Iturup	HISTORIC, OTHER METAL	Iron fragment,probably Japanese. TP 1, 60 cm below N. surface
0028	Tikhaya 1	Iturup	CARBON	Radio carbon -- charcoal
0029	Tikhaya 1	Iturup	LITHICS	TP 2, lithics
0030	Tikhaya 1	Iturup	POTTERY	TP 2, ceramincs, 80 cm below N. surface in cultural level with charcoal
0031	Tikhaya 1	Iturup	POTTERY	modern ceramics, near river crossing
0032	Tikhaya 1	Iturup	LITHICS	rock found beneath pottery base
0033	Tikhaya 1	Iturup	POTTERY	pottery from 80 cm below surface
0034	Tikhaya 1	Iturup	LITHICS	lithics, base/erosional
0035	Tikhaya 1	Iturup	POTTERY	TP 2, ceramics
0036	Tikhaya 1	Iturup	FAUNAL	bone from TP 2
0037	Tikhaya 1	Iturup	GEOLOGIC	West profile, 96 cm below datum, TP 2 sediment sample
0038	Tikhaya 1	Iturup	GEOLOGIC	sediment sample A w/profile
0039	Tikhaya 1	Iturup	GEOLOGIC	sediment sample E, W profile, 85 cmbd
0040	Tikhaya 1	Iturup	GEOLOGIC	sediment sample B w/profile
0041	Tikhaya 1	Iturup	GEOLOGIC	sed sample C, W. profile, 55 cmbd, TP 2
0170	Tikhaya 1	Iturup	LITHICS	lithics, surface collection, river near crossing
0172	Tikhaya 1	Iturup	CARBON	Bark sample from 80cm below surface
0191	Tikhaya 1	Iturup	STONE TOOLS	River near crossing, lithics, stone tools, surface collection; removed from Bag ID 0170
0193	Tikhaya 1	Iturup	STONE TOOLS	point from lithics bag ID 0029

Geological Field Studies Report

Observations and Interpretations:

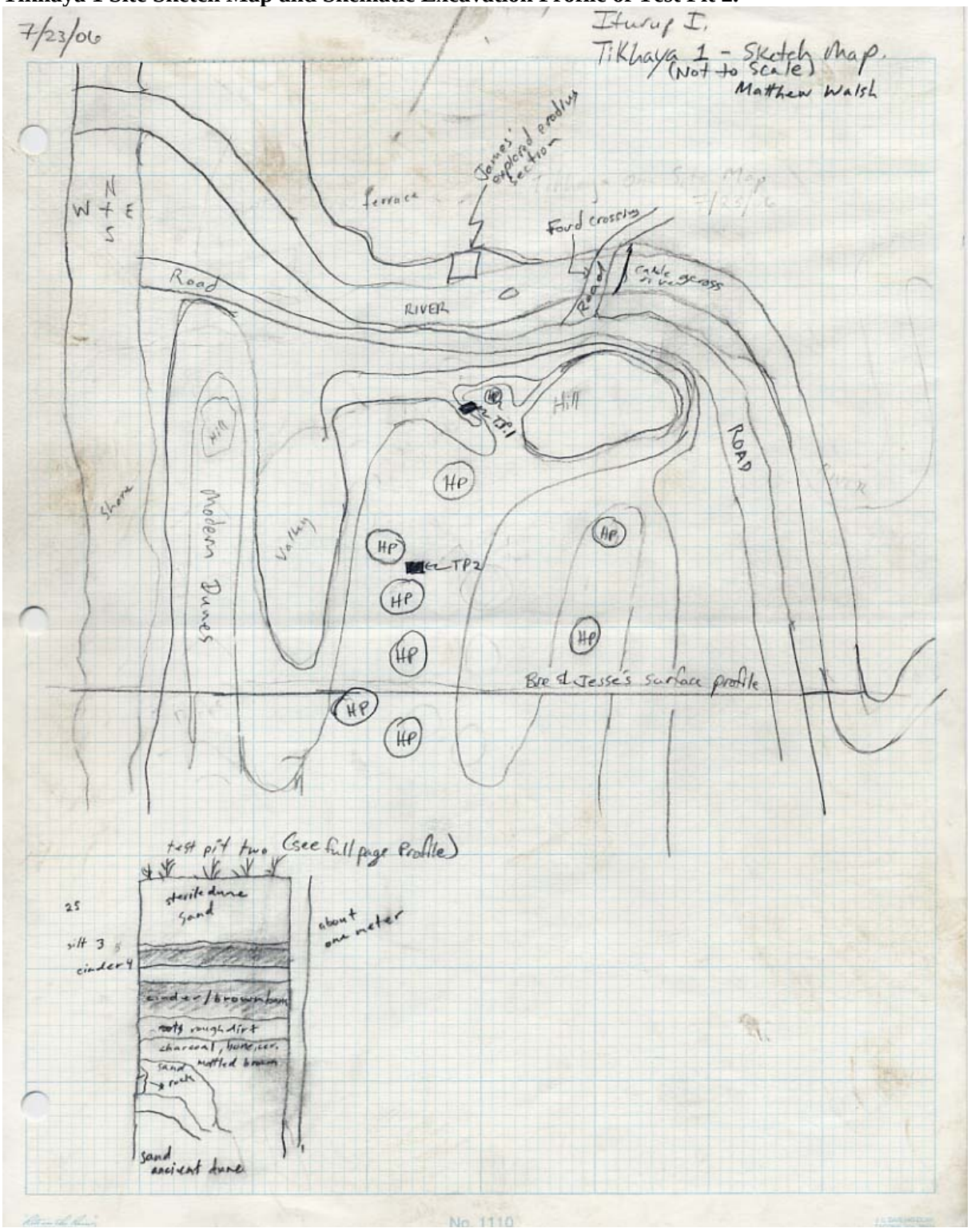
Peat core: The core is a repeating sequence of sand, cinders and peat. The sands may represent flooding events due to the proximity to the river. They could also be part of an eruptive cycle that produced the overlying cinders?

Beach ridges?: In google earth, there are shore-parallel, linear features that have the appearance of beach ridges to the north and south of the field area. However, in the vicinity of the rivermouth, this characteristic is disrupted by meander scars from the river.

Tsunami: Nothing can specifically be identified

Volcanic activity: There are at least 7 tephra layers, 4 of which are cinders.

Tikhaya 1 Site Sketch Map and Skematic Excavation Profile of Test Pit 2.



Archaeological Site: Berezovka 1 [BER1]
Dates visited: 23 July 2006

Berezovka 1 is located on Iturup Island's Okhotsk Sea side, on the south side of the Bystyy River on Dozovny Bay. The site is mostly a deflated dune feature around the coastal portions of an abandoned military outpost. Some preserved stratigraphy was observed in the relict dunes, and two Test Pits were dug at the sites.

Test Pit 1 was a profile that was made by cutting a step-line trench into the eroding face of an internally deflating relict dune. The sandy matrix was screened, and a single occupation zone with charcoal, lithics, and Epi-Jomon pottery was found near a potential hearth feature. This zone was about 25-30 cm thick, and was mixed with a great deal of sand. It appears this deposit was made in an active dune, though it corresponds to a slightly denser layer of sediment that resisted erosion more than the surrounding sand, which may indicate a tephra or paleosol.

Test Pit 2 was a profile that consisted of clearing off the top 2 m of slump, exposing three tephra layers, each with black soil formed on top. A thick cultural zone was exposed above the third tephra layer. Stratigraphic distinction could be made between two or three portions of the cultural zone, including a probably pit house that cut through the lowest cultural layer and an orange and brown tephra. A hearth was also exposed at about 20 cm above the northern (left) corner of the pit depression, which may be associated with the depression but only after it was built up with floor deposit or fill. Above the hearth, cultural material accumulated as more and less consolidated sand with occasional charcoal, pottery, and flakes, including obsidian. Two unconsolidated layers of sand partially separate the cultural material: the lower one appears to be truncated by cultural material above the right/south end of the pit depression. The upper sand lens crosses most of the way over the pit depression and has concentrations of pottery just above and below. The cultural matrix itself is primarily sand, more or less consolidated.

Okhotsk period pottery was discovered only on the northern end of the site on top of a hill with a 20th century watch tower still standing at the top. The KBP team was unable to located intact Okhotsk age stratigraphic layers.

Berezovka 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Berezovka 1 Test Pit 1	24 July 2006	N44 32.495, E146 56.776
Berezovka 1 Test Pit 2	24 July 2006	N44 32.470, E146 56.762

Berezovka 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-165	Well-stratified dune sand containing some cultural materials, dark brown in color
2	165-180	Multiple charcoal deposition events, some large rounded cobbles, possible hearth with one or two discrete red oxidized layers
3	180-410	Sterile sand dune with multiple apparent depositional events

Berezovka 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-70	Loose sand below vegetation
2	70-95	Package of black soil above light brown tephra above dark brown silt
3	95-105	Loose sand between soil/tephra packages
4	105-135	Package of black-stained soil above light brown tephra

5	135-150	Brown silt grading into silty sand mixed with charcoal, pottery, and flakes
6	150-160	Thin and hard to see layer of loose sand with more light grains than surrounding
7A	155-160	Brown silt grading into silty sand mixed with charcoal, pottery, and flakes
7B	160-170	Brown silt grading into silty sand mixed with charcoal, pottery, and flakes; this layer sandwiched between to sand lenses
8	170-180	Thin and hard to see layer of loose sand with more light grains than surrounding
9A	200-245	Hearth feature above pit house floor
9B	270-290	Brown silt grading into silty sand mixed with charcoal, pottery, and flakes
9C	180-200	Cultural fill and sand mix
10	200-230	Sand
11	230-240	Paleosol with charcoal and flakes (lowest cultural level)
12	240-250	Orange-brown tephra truncated by pit house
13	250-280	Medium brown sand
14	280-320	Silt/tephra package
15	320-350	Basal sand

Berezovka 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0042	Berezovka 1	Iturup	LITHICS	surface collection, lithics
0043	Berezovka 1	Iturup	STONE TOOLS	surface collection, lithics
0044	Berezovka 1	Iturup	FAUNAL	surface collection, bone
0045	Berezovka 1	Iturup	POTTERY	surface collection, pottery
0046	Berezovka 1	Iturup	POTTERY	pottery from watchtower hill
0047	Berezovka 1	Iturup	POTTERY	surface collection, pottery
0048	Berezovka 1	Iturup	POTTERY	surface collection, pottery
0049	Berezovka 1	Iturup	POTTERY	profle 2, profile artifact 3, contact between strata 6 and 7A; pottery
0050	Berezovka 1	Iturup	LITHICS	Profile 2, level 2; obsidian flakes
0051	Berezovka 1	Iturup	GEOLOGIC	profile 2, tephra sample of uppermost tephra layer
0052	Berezovka 1	Iturup	GEOLOGIC	profile 2, strata 7A; clay below hearth
0053	Berezovka 1	Iturup	GEOLOGIC	profile 2, tephra sample and tephra from top
0054	Berezovka 1	Iturup	POTTERY	profile 2, artifact 5; pottery and flake from base of pit house strata 9B close to CH #2
0055	Berezovka 1	Iturup	GEOLOGIC	profile 2, tephra sample. 3rd tephra from top
0056	Berezovka 1	Iturup	LITHICS	artifacts form sandy cultural level -- top of 6 into 7
0057	Berezovka 1	Iturup	POTTERY	profile 2, pottery from strata 5, profile artifact #1
0058	Berezovka 1	Iturup	STONE TOOLS	pumice abrader from house depression (9A - 9B); profile artifact #2
0059	Berezovka 1	Iturup	CARBON	Profile 1, level 2, charcoal from hearth feature -- radiocarbon

0060	Berezovka 1	Iturup	CARBON	Profile 1, level 2, 185 cm. Charcoal 3.
0061	Berezovka 1	Iturup	STONE TOOLS	surface collection, Fundel point
0062	Berezovka 1	Iturup	STONE TOOLS	surface collection, Fundel point
0063	Berezovka 1	Iturup	CARBON	profile 2, level 1; bulk charcoal
0064	Berezovka 1	Iturup	CARBON	profile 1, level 2; charcoal 5
0065	Berezovka 1	Iturup	LITHICS	profile 1, level 2, screened material
0066	Berezovka 1	Iturup	CARBON	charcoal, profile 1 at 155 cmbd
0067	Berezovka 1	Iturup	CARBON	charcoal, profile 1 at 157 cmbd
0068	Berezovka 1	Iturup	CARBON	charcoal, profile 1 at bulk site
0069	Berezovka 1	Iturup	STONE TOOLS	lithic from profile 1, 155 cmbd
0070	Berezovka 1	Iturup	LITHICS	profile 1, layer 1, 0-157 cmbd
0071	Berezovka 1	Iturup	POTTERY	profile 1, potery 1, 150 cmbd
0072	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 1, profile 1
0073	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 2, profile 1
0074	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 3, profile 1
0075	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 1, profile 2
0076	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 2, profile 2
0077	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 3, profile 2
0078	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 4, profile 2
0079	Berezovka 1	Iturup	OSL SAMPLE	OSL sample 5, profile 2
0080	Berezovka 1	Iturup	CARBON	profile 2, profile charcoal sample #1, 30 -- 40 cm above hearth
0081	Berezovka 1	Iturup	CARBON	profile 2, profile charcoal sample #2, from N. end Level 9B
0082	Berezovka 1	Iturup	CARBON	profile 2, profile charcoal sample #3, from N. end level 9A
0083	Berezovka 1	Iturup	CARBON	profile 2, profile charcoal sample #4, from S. end level 11
0084	Berezovka 1	Iturup	CARBON	profile 2, profile charcoal sample #5, 10 cm above hearth
0085	Berezovka 1	Iturup	CARBON	profile 2, level 9A, charred seed
0094	Berezovka 1	Iturup	LITHICS	Obsidian from vicinity of Okhotsk material near tower
0209	Berezovka 1	Iturup	STONE TOOLS	Surface collection, lithic tools
0214	Berezovka 1	Iturup	FAUNAL	profile 1, level 1, bones
0215	Berezovka 1	Iturup	STONE TOOLS	profile 1, layer 1, 0-157 cmbd, lithic tools
0216	Berezovka 1	Iturup	POTTERY	Profile 1, layer 1, 0 - 157cm, ceramic
0217	Berezovka 1	Iturup	FAUNAL	profile 1, layer 1, 0 - 157cm, bone
0218	Berezovka 1	Iturup	LITHICS	surface collectino lithics
0219	Berezovka 1	Iturup	STONE TOOLS	surface collection lithics
0220	Berezovka 1	Iturup	LITHICS	surface collection lithics
0221	Berezovka 1	Iturup	LITHICS	surface collection lithics
0222	Berezovka 1	Iturup	STONE TOOLS	surface collection lithics
0223	Berezovka 1	Iturup	STONE TOOLS	Surface collection, lithics
0224	Berezovka 1	Iturup	LITHICS	profile 2, lithics, strata 5, artifact 1

0225	Berezovka 1	Iturup	LITHICS	Profile 2, lithics, contact strata 6 & 7a, profile artifact #3
0226	Berezovka 1	Iturup	POTTERY	Profile 2 surface collection ceramics
0227	Berezovka 1	Iturup	LITHICS	Profile 2, surface collection lithics
0596	Berezovka 1	Iturup	LITHICS	Surface collection, flakes, taken from bag #0209
0597	Berezovka 1	Iturup	LITHICS	Surface collection on dune deflation near profile 1, flakes, taken from #0048
0598	Berezovka 1	Iturup	STONE TOOLS	Surface collection, tool
0600	Berezovka 1	Iturup	LITHICS	Obsidian from watch tower hill, flakes
0615	Berezovka 1	Iturup	LITHICS	Profile 2, contact strata 6 & 7a, flake associated with profile artifact #3
0869	Berezovka 1	Iturup	LITHICS	Profile 2, flake from base of house pit depression strata 9b, close to CH#2, profile artifact #5b
0892	Berezovka 1	Iturup	STONE TOOLS	surface collection, lithic tools
0893	Berezovka 1	Iturup	STONE TOOLS	Surface collection, lithic tool, profile 2
0960	Berezovka 1	Iturup	LITHICS	Surface collected lithics
1000	Berezovka 1	Iturup	STONE TOOLS	Surface Collection, biface fragment
1001	Berezovka 1	Iturup	STONE TOOLS	Surface Collection, biface fragment
1002	Berezovka 1	Iturup	STONE TOOLS	Surface Collection, biface fragments

Geological Field Studies Report

Observations and Interpretations:

Debris flows: From a distance, the coast seems to be a broad flat terrace with many small V-shaped valleys. However, in investigating the "terrace" we discovered it was actually a series of debris flows. Based on color and stratigraphy, we tentatively identified a minimum 5 debris flows between ½ m and 24 m thick (white, black, brown, pink/red, and orange), although we could not rule out the potential of local color variation artificially increasing out count. The white debris flow was the thickest and could be found in the northern part of the bay. The relative-age of the white debris flow vs. the black, brown and pink/red sequence vs. the orange debris flow could not be immediately ascertained due to faulting, both identified and presumed (the debris flow color would change across streams). The white debris flow, presumed to be the oldest, was covered with ~150 cm of well-developed soils and 3 fairly thick tephra. It is our interpretation that these debris flows originate from L'Vanya Past, the caldera immediately to the north that had its caldera forming eruption 7500ka.

"Core" of the dunes: A stream outcrop (excavation 1-3) shows that the dunes are built upon a core of interlayered peats, mud and lagoonal mud. One debris flow (orange) is found on top of the core and below the dunes but there is some, but limited, soil development between sand and breccia. Without knowing the timing of the various debris flows, we cannot say if the "core" sequence was temporarily contiguous with any debris flow or developed before all or after all but the orange debris flow.

The sequence (going up-stratigraphy) of sand, mud, muddy peat, peat, lagoonal mud, mud, tsunami, peat, peaty mud, mud, tsunami gives an idea of the land-level change. From the sand to first peat, either the land is slowly uplifting, or the stratigraphy is building up (more likely). The peat-lagoon

transition indicates sudden subsidence. The mud to second peat is again building up or uplifting while the second peat to second tsunami indicates a gradual subsidence.

Dunes: The dunes are actively deflating. There appears to be no active depositional faces, while there are many areas of erosion. The stratigraphy of a dune (profile 2) shows at least two paleosoils (indicating at least three separate periods of activity?) and three thick tephra.

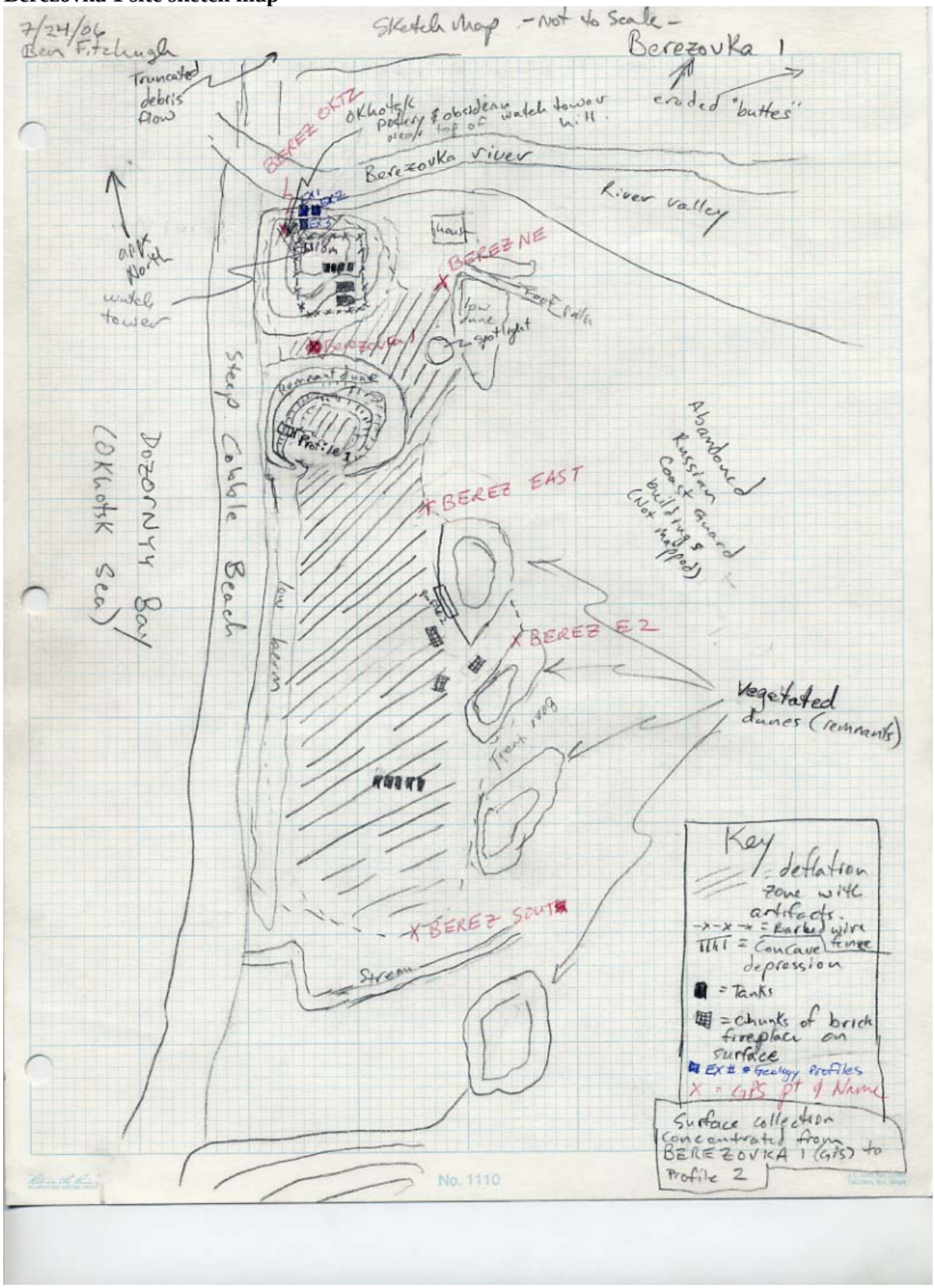
Cobble terraces: Cobble terraces can be found along the coast, partway between excavations 1-3 and excavation 4. There were up to three terraces counted at one stream mouth, but usually only one existed above the modern berm and storm overwash area. The relief between each terrace was approximately two meters, indicating a minimum of three earthquakes each with two meters of uplift in the immediate area since the time of terrace formation. No tephra were found on any of the terraces, so the age may be relatively young.

River terraces below Excavation 4: Along the river below excavation 4, there are 2 river terraces; one at 5 m and one at ~20 m. These terraces may be related to the earthquakes that generated the Holocene cobble terraces, but the correlation is uncertain. However, they are further support of an uplifting coastline.

Tsunami: Two tsunami sand layers can be found in the "core" of the dunes, but little can be concluded about them. The empirical elevation of the land surface at that time is uncertain as is the age of the sand layers. No other excavation was dug at a low enough elevation where one is likely to find tsunami deposits.

Volcanic activity: 4-6 tephra were identified. One prominent beige tephra was found to be 30 cm thick in profile 2. The 5 debris flows may also be indicators of volcanic activity, but little more can be concluded.

Berezovka 1 site sketch map



Archaeological Site: Ainu Creek 1 [AIN1]
Dates visited: 25 July – 1 Aug 2006

The Ainu Creek site is located on the Okhotsk Sea side of southern Urup Island. The site includes a large midden deposit on bluff at approximately 10 m in elevation 60 m from the beach. The midden has been eroded and exposed by an old military road that cuts through the site. Approximately 80 m south of the beach and located east of the road and west of Ainu Creek is a complex of an unknown number of house pits. Several military pits/trenches are present throughout the site as well. A total of five Test Pits were dug at Ainu Creek, four in the midden and road that cuts through the midden, and one between two housepits.

Test Pit 1 was a 2 m section of the eroding midden exposure just to the east and above the road cut that was cleaned off and leveled. A number of ceramic and lithic artifacts, bones, midden sample, and charcoal samples were collected from the section cleaning as it was being prepared. Test Pit 2 was a continuation of the Test Pit 1 section cleaning below the ground surface, and was extended vertically in a 50 cm x 100 cm pit. The age reversal of the first uncalibrated radiocarbon sample from 62 cmbs reported at 1290 +/- 30 may be due to the fact that Level VIII was dipping and intruding into lower levels, and this date could be from material that was lying below the other two dated samples. Test Pit 2 was excavated an additional 60 cm below the surface, and the recovery of ceramics, lithics, bones, and charcoal samples was consistent with the section from Test Pit 1. This included a significant portion of shell midden that was dominated by sea urchin shells.

Test Pit 3 was located approximately 85 m south of the beach and 14 m east of the road, and was excavated as a 2 m x 2 m pit dug in 20 cm levels down to a maximum depth of 70 cm. This Test Pit was placed in between two house pit depressions, which could potentially be a common activity area between the house structures. Test Pit 3 did not reveal many artifacts overall, a few lithic flakes and ceramic sherds, but did include several dark-stained features which may be indicative of fire pits from which charcoal samples were obtained. Upon further investigation of the house pit depressions that Test Pit 3 was placed between, it seemed like they may actually be military disturbances due to the fact that they are much deeper than typical house pit depressions and have sloping, funnel-shaped sides down to the bottom.

Test Pit 4 was placed along the road about 40 m south of the beach in the left wheel track heading up the hill away from the site. The pit was constructed as a 1 m x 1 m pit that extended approximately 50 cm into the wheel track towards the median and 50 cm into the road cut wall in an area where lithic and ceramic artifacts and bones had been surface collected. Test Pit 4 included a 10-15 cm thick shell layer about 15 cm below the surface of the road, and then a deeper, second cultural layer with interstratified lenses of clay-like ash and charcoal (potentially a hearth structure) with flakes and ceramic sherds. The lowest layer consisted of a thick, dense black layer with bones, lithics, and a piece of preserved wood. A bone harpoon tip was also found at the bottom of the pit, which had a maximum depth of 150 cm. Level 6 in Test Pit 4 contains a pit feature that is dug into Level 7, and the dated materials from Levels 6 and 7 may have been reversed, causing a radiocarbon date reversal. The pit was lined with visqueen sheets before being backfilled to preserve the extent of the excavation for this season.

Test Pit 5 was placed near the Test Pit 1 section cleaning on the east face of the midden, fronting the Okhotsk Seat. This test pit was excavated down to a maximum depth of 260 cm below surface. The top meter was vegetated dune sod, but contained charcoal and pottery. The lower, more well-stratified part of the section included an Okhotsk culture ceramic zone on top of Epi-Jomon layers as indicated by the ceramic artifacts. Abundant faunal remains were present and were collected, as were lithic and ceramic artifacts and charcoal samples. The lower Epi-Jomon layers were truncated by what seemed to be a pit of Okhotsk-like material. Several iron objects were also recovered from Okhotsk or Epi-Jomon levels. The lowest levels of Test Pit 5 had very little pottery, and the bottom 30 cm contained a large amount of sea mammal bones and charcoal, with a greasy black charcoal lens underneath the bones. The top 100-150 cm of Test Pit 5 consisted of poorly stratified vegetated dune sod that was sloping over more finely stratified layers below. The dated material from 150-160 cmbs that appears to be younger than the

dated samples from 60-80 cmbs and 125 cmbs may have been introduced from the upper layers. When reported as calibrated radiocarbon dates, the ages for the lowest three levels (210-220 cmbs, 242-250 cmbs, and 260-270 cmbs) all overlap at the two sigma distribution (2766-2720 cal bp, 2749-2505 cal bp, and 2699-2352 cal bp respectively), indicating that the dated material from these levels is essentially of the same age.

The Ainu Creek site is very important to KBP archaeological research in terms of the potential time-depth that it represents including Okhotsk and Epi-Jomon cultural layers, and for the type and amount of ceramic, lithic, and bone artifacts and faunal remains that were recovered from the site.

Ainu Creek 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0290	OS-59347	TP 1, 62 cm below surface	1290	30
0268	OS-59205	TP 1, 115 cm below surface	1120	25
0272	OS-59382	TP 1, 127 cm below surface	1160	25
0323	OS-59348	TP 2, Level 3	2540	30
0368	OS-59374	TP 4, level 5, 90 - 95cm	880	30
0386	OS-59522	TP 4, level 6, 110 - 128 cm below surface	3230	30
0391	OS-59342	TP 4, Level 7	2410	30
0447	OS-59343	TP 5, 150-160 cm below surface	1310	25
0443	OS-59795	TP5, profile 2, 60 - 80cm below surface	2010	80
0444	OS-59375	TP5, 115 - 125cm below surface, above 'Okhotsk' layer	2050	35
0537	OS-59377	TP 5, Profile 2, from 192 cm below surface in Epi-Jomon layer	2170	30
0538	OS-59345	TP 5, 210-220 cm below surface	2610	25
0510	OS-59344	TP 5, 242-250 cm below surface	2550	25
0507	OS-59376	TP 5, Profile 2, from basal black layer at 260-270 cm below surface	2430	30

Ainu Creek 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Ainu Creek Test Pit 1-2	31 July 2006	N45 36.154, E149 26.352
Ainu Creek Test Pit 3	1 August 2006	N45 36.118, E149 26.361
Ainu Creek Test Pit 4	1 August 2006	N45 36.145, E149 26.353

Ainu Creek 1 Test Pit 1-2

Level	Depth (cm below surface)	Description
1		Dark brown, sandy silt, 25-50% roots, 0-25% rocks, designated O horizon
2		Light brown, sandy silt, 25-50% roots, 0-25% rocks
3		White-gray shell midden, 0-25% roots, 75-100% shell, 0-25% rocks
4		Dark brown sandy silt, 0-25% roots, 0-25% shell, 0-25% rocks, designated A horizon
5		Light brown mottled with dark brown and reddish brown, sandy silt, 0-25% rocks, 0-25% roots
6		Grayish-brown mottled with light brown and reddish brown, sandy silt, 0-25% rocks, 0-25% roots, 0-25% shell
7		Gray mottled with light brown and reddish brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
8		Light grayish brown mottled with dark brown and reddish brown, sandy silt, 0-25% rocks, 0-25% roots
9		Dark brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
10		Yellow mottled with reddish brown, silty sand, 0-25% roots, 0-25% rocks, 0-25% shell
11		Dark brown, silty clay loam, 0-25% roots, 25-50% rocks, 0-25% shell

Ainu Creek 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-10	Dark brown-black, loamy, 50-75% roots, 0-25% rocks, 0-25% shell, designated O horizon
2	10-17	Light grayish-tan, sand, 25-50% roots, 0-25% rocks, 0-25% shell
3	17-20	Dark brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
4	20-25	Grayish-brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
	25-30	Brownish-black, charcoal layer
5	30-37	Reddish-brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
6	37-47	Light reddish-brown, sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell
7	47-60	Yellowish-brown sandy silt, 0-25% roots, 0-25% rocks, 0-25% shell

Ainu Creek 1 Test Pit 4

Level	Depth (cm below surface)	Description
1	0-25	Sod layer with bones, ceramics, flakes, stone tools just above 5cm-thick coarse, sandy layer
2	25-35	Dark brown sandy loam above shell midden layer at 33-35cm below surface
3	35-45	Dark brown/black charcoal and loamy soil just above and into midden

		layer
4	45-56	Midden
5	56-73	Grey-black clay with coarse sand
6	73-81	Medium brownish grey clay with coarse sand
7	81-90	Light brown-beige clay and sand mottled with smaller pebbles
8	90-92	Reddish brown sandy clay
9	92-100	Grey-brown clay
10	100-125	Mottled brown-grey-yellow clay
11	125-150	Dark brown silty clay

Ainu Creek 1 Test Pit 5

Level	Depth (cm below surface)	Description
A	0-120	Sloping sod with charcoal and pottery in bands
B	120-150/200	Dark brown silt with midden, including ceramics, lithics, and charcoal
C	150/200-220	Clay-rich cultural layers with Epi-Jomon ceramics and bones with interstratified yellow-grey fine grain silt
D	220-242	Dark grey-brown sediment with bones, charcoal, lithics, and some pottery
E	242-260	Sandy reddish-brown sediment, rich in bone and charcoal lenses; little pottery
F	260-263	Charcoal-greasy black lens draped over possible house pit wall or feature
G	263-275	Light brown clay with sand and rocks; culturally sterile

Ainu Creek 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0264	Ainu Creek	Urup	FAUNAL	TP 1, bones from shell midden
0265	Ainu Creek	Urup	POTTERY	TP 1, 64cm below surface, 74cm N, ceramics
0266	Ainu Creek	Urup	FAUNAL	TP 1, 115 cm below surface, 90 cm N, bone
0267	Ainu Creek	Urup	FAUNAL	TP 1, 115 cm below surface, 90 cm N, Midden Sample
0268	Ainu Creek	Urup	CARBON	TP 1, 115cm below surface, 90 cm N Charcoal Sample
0269	Ainu Creek	Urup	LITHICS	TP 1, surface cleaning, lithics
0270	Ainu Creek	Urup	CARBON	TP 1, charcoal sample, 88cm below surface, 85 cm N
0271	Ainu Creek	Urup	POTTERY	TP 1, ceramic, 40 cm below surface, 65 cm N
0272	Ainu Creek	Urup	CARBON	TP 1, charcoal sample, 127 cm below surface
0273	Ainu Creek	Urup	CARBON	TP 1, charcoal sample, 111cm below surface, 27cm N
0274	Ainu Creek	Urup	LITHICS	TP 1, wall cleaning, lithics
0275	Ainu Creek	Urup	FAUNAL	TP 1, bone, 110cm below surface, 90cm N
0276	Ainu Creek	Urup	FAUNAL	TP 1, bone, 102cm below surface, 95 cm N

0277	Ainu Creek	Urup	FAUNAL	TP 1, bone, 90cm below surface, 70 cm N
0278	Ainu Creek	Urup	CARBON	TP 1, charcoal associated with shell midden, 106cm below surface, 98cm N
0279	Ainu Creek	Urup	CARBON	TP 1, charcoal, 110 cm below surface, 60cm N
0280	Ainu Creek	Urup	STONE TOOLS	TP 1, Projectile Point, 110cm below surface, 60cm N
0281	Ainu Creek	Urup	POTTERY	TP 1, ceramic, 102 cm below surface, 80 cm N
0282	Ainu Creek	Urup	FAUNAL	TP 1, Bone, surface cleaning
0283	Ainu Creek	Urup	FAUNAL	TP 1, bulk midden sample, 125 cm below surface
0284	Ainu Creek	Urup	CARBON	TP 1, charcoal sample 110 cm below surface, 90cm N
0285	Ainu Creek	Urup	POTTERY	TP 1, surface cleaning, ceramics
0286	Ainu Creek	Urup	FAUNAL	TP 1, surface cleaning, bones
0287	Ainu Creek	Urup	FAUNAL	TP 1, wall cleaning, bones
0288	Ainu Creek	Urup	POTTERY	TP 1, wall cleaning, ceramics
0289	Ainu Creek	Urup	FAUNAL	TP 1, bones from shell midden
0290	Ainu Creek	Urup	CARBON	TP 1, charcoal, 62cm below surface, 45, cm N
0291	Ainu Creek	Urup	FAUNAL	TP 1, bone, 62cm below surface, 40cmN
0292	Ainu Creek	Urup	LITHICS	TP 2, level 3, lithic sample
0293	Ainu Creek	Urup	LITHICS	TP 2, lithic, level 3, 112cm below surface, 3cm N, 43E
0294	Ainu Creek	Urup	CARBON	TP 2, charcoal, level 3, 42cm below surface, 3cm N, 43cmE
0295	Ainu Creek	Urup	POTTERY	TP 2, level 2, 21cm below surface, 90 cm N, 25cm E, ceramics
0296	Ainu Creek	Urup	LITHICS	TP 2, level 2, lithic sample
0297	Ainu Creek	Urup	CARBON	TP 2, level 2, 26cm below surface, 80 N 18 E, charcoal
0298	Ainu Creek	Urup	FAUNAL	TP 2, level 1, bones
0299	Ainu Creek	Urup	POTTERY	TP 2, level 3, ceramics
0300	Ainu Creek	Urup	LITHICS	TP 2, 25cm below surface, 62 N, 5E, lithics
0301	Ainu Creek	Urup	STONE TOOLS	TP 2, level 2, 25cm below surface, 11N, 45E, knife
0302	Ainu Creek	Urup	POTTERY	TP 2, level 1, 8cm below surface, 96 N, 9E, ceramic
0303	Ainu Creek	Urup	CARBON	TP 2, level 3, charcoal 50 cm below surface
0304	Ainu Creek	Urup	FAUNAL	TP 2, level 2, bone sample
0305	Ainu Creek	Urup	CARBON	TP 2, level 1, charcoal, 15cm below surface, 81n 6E
0306	Ainu Creek	Urup	POTTERY	TP 2, level 1, ceramic, 15cm below surface, 81N 6E
0307	Ainu Creek	Urup	FAUNAL	TP 2, level 3, faunal sample

0308	Ainu Creek	Urup	LITHICS	TP 2, level 2, lithic, 27cm below surface, 98N 25 E
0309	Ainu Creek	Urup	CARBON	TP 2, level 2, charcoal, 27cm below surface, 98N 25E
0310	Ainu Creek	Urup	CARBON	TP 2, level 2, 32 cm below surface, charcoal sample
0311	Ainu Creek	Urup	FAUNAL	TP 2, level 1, fauna, 17cm below surface, 34N 30E
0312	Ainu Creek	Urup	LITHICS	TP 2, level 1, lithic sample
0313	Ainu Creek	Urup	BONE TOOLS	TP 2, level 1, 18cm below surface, 2N 4E, bone artifact
0314	Ainu Creek	Urup	POTTERY	TP 2, level 1, ceramic, 16cm below surface, 38E 65N
0315	Ainu Creek	Urup	FAUNAL	TP 2, level 1, bone, 11cm below surface, 22E, 100N
0316	Ainu Creek	Urup	CARBON	TP 2, level 1, charcoal, 11cm below surface, 22E, 100N
0317	Ainu Creek	Urup	CARBON	TP 2, bottome of level 2, 40cm below surface, charcoal
0318	Ainu Creek	Urup	FAUNAL	TP 2, level 1, bone, 15cm below surface, 1E, 13N
0319	Ainu Creek	Urup	POTTERY	TP 2, level 1, ceramics
0320	Ainu Creek	Urup	POTTERY	TP 2, level 2, ceramic sample
0321	Ainu Creek	Urup	BONE TOOLS	TP 2, level 1, bone harpoon, 20cm below surface, 60N 14E
0322	Ainu Creek	Urup	FAUNAL	TP 2, level 1, bone, 15cm below surface, 2E 47N
0323	Ainu Creek	Urup	CARBON	TP 2, level 3, 52cm below surface, 36E 35N, charcoal
0324	Ainu Creek	Urup	POTTERY	TP 2, level 3, 52cm below surface, 36E 35N, ceramics
0325	Ainu Creek	Urup	CARBON	TP 2, level 3, 51cm below surface, 19N 34 E, charcoal
0326	Ainu Creek	Urup	LITHICS	TP 2, level 3, 51cm below surface, 11N 34E, core
0327	Ainu Creek	Urup	LITHICS	TP 3, level 3, lithic sample
0328	Ainu Creek	Urup	POTTERY	TP 3, level 1, ceramic
0329	Ainu Creek	Urup	POTTERY	TP 3, level 2, ceramics
0330	Ainu Creek	Urup	STONE TOOLS	TP 3, level 3, 65cm below surface, 123 N 130 E; projectile point
0331	Ainu Creek	Urup	LITHICS	TP 3, level 2, lithic sample
0332	Ainu Creek	Urup	LITHICS	TP 3, level 2, lithic sample
0333	Ainu Creek	Urup	CARBON	TP 3, level 3, charcoal sample, 86cm below surface, 80N 35E
0334	Ainu Creek	Urup	LITHICS	TP 3, level 3, lithic sample 46cm below surface, 80N 35E
0335	Ainu Creek	Urup	CARBON	TP 3, level 2, charcoal sample
0336	Ainu Creek	Urup	POTTERY	TP 3, level 2, ceramic sample
0337	Ainu Creek	Urup	FAUNAL	TP 2, level 2, bone, 25cm below surface, 50N 30E
0338	Ainu Creek	Urup	CARBON	TP 3, charcoal sample 57cm below surface

0339	Ainu Creek	Urup	CARBON	TP 3, charcoal sample, level 1
0340	Ainu Creek	Urup	CARBON	TP 3, charcoal sample level 2, 36cm below surface
0341	Ainu Creek	Urup	CARBON	TP 3, charcoal, level 2, 30cm below surface
0342	Ainu Creek	Urup	STONE TOOLS	TP 3, level 3, projectile point, 48cm below surface, 36N 188E
0343	Ainu Creek	Urup	CARBON	TP 3, charcoal sample, 56cm below surface
0344	Ainu Creek	Urup	POTTERY	TP 4, level ? ceramicsS
0345	Ainu Creek	Urup	CARBON	TP 4, Level 1, charcoal
0346	Ainu Creek	Urup	FAUNAL	TP 4, level ?, bone
0347	Ainu Creek	Urup	LITHICS	TP 4, level 4, lithics
0348	Ainu Creek	Urup	LITHICS	TP 4, level 2, just above midden level, lithics
0349	Ainu Creek	Urup	FLORA	TP 4, level 2, just above midden level, wood
0350	Ainu Creek	Urup	FAUNAL	TP 4, level 2, just above midden level, bone
0351	Ainu Creek	Urup	FAUNAL	TP 4, level 3, midden, 1/4" screen
0352	Ainu Creek	Urup	CARBON	TP 4, level 3, charcoal from midden
0353	Ainu Creek	Urup	FAUNAL	TP 4, level3, midden, 1/8" screen
0354	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithics
0355	Ainu Creek	Urup	LITHICS	TP 4, level 4, lithics
0356	Ainu Creek	Urup	FAUNAL	TP 4, level 5, just below road surface
0357	Ainu Creek	Urup	FAUNAL	TP 4, level 4, bones
0358	Ainu Creek	Urup	FAUNAL	TP 4, level 5, bones
0359	Ainu Creek	Urup	CARBON	TP 4, level 4, charcoal from 56cm
0360	Ainu Creek	Urup	POTTERY	TP 4, level 4, 56cm, ceramic
0361	Ainu Creek	Urup	FAUNAL	TP 4, samples from fire place
0362	Ainu Creek	Urup	WOOD	TP 4, level 5, wood near fireplace
0363	Ainu Creek	Urup	FAUNAL	TP 4, bones from road level 90 - 95cm
0364	Ainu Creek	Urup	FAUNAL	TP 4, bones from 95 - 113cm, level 5
0365	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithic tool, 90 - 95cm
0366	Ainu Creek	Urup	STONE TOOLS	TP 4, level 5, biface, 90 - 95cm
0367	Ainu Creek	Urup	WOOD	TP 4, level 5, 90 - 95cm, wood
0368	Ainu Creek	Urup	CARBON	TP 4, level 5, charcoal 90 - 95cm
0369	Ainu Creek	Urup	POTTERY	TP 4, level 5, pottery 90 - 95cm
0370	Ainu Creek	Urup	WOOD	TP 4, level 5, wood 90 - 110cm
0371	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithics eroded out level 95cm
0372	Ainu Creek	Urup	WOOD	TP 4, level 5, wood
0373	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithics, 90 - 95cm
0374	Ainu Creek	Urup	BONE, WORKED	TP 4, level 5, worked bone
0376	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithics, just below road cut surface

0377	Ainu Creek	Urup	POTTERY	TP 4, level 5, ceramics
0378	Ainu Creek	Urup	LITHICS	TP 4, level 5, lithics, near firepit
0379	Ainu Creek	Urup	POTTERY	TP 4, level 5, pottery from near fireplace
0380	Ainu Creek	Urup	FAUNAL	TP 4, fauna near fire pit
0381	Ainu Creek	Urup	BONE, WORKED	TP 4, level 5, worked bone
0382	Ainu Creek	Urup	FAUNAL	TP 4, level 5, firepit sample
0383	Ainu Creek	Urup	FAUNAL	TP 4, level 6, 110 - 128cm, bone
0384	Ainu Creek	Urup	LITHICS	TP 4, level 6, 110 - 128cm, lithics
0385	Ainu Creek	Urup	POTTERY	TP 4, level 6, 110 - 128cm, pottery
0386	Ainu Creek	Urup	CARBON	TP 4, level 6, charcoal, 110 - 128cm
0387	Ainu Creek	Urup	CARBON	TP 4, level 6, charcoal from fireplace
0388	Ainu Creek	Urup	WOOD	TP 4, level 6, wood, 110 - 128cm, sample bag
0389	Ainu Creek	Urup	FAUNAL	TP 4, level 6, bone, 110 - 128cm
0390	Ainu Creek	Urup	WOOD	TP 4, level 6, wood, 110 - 128cm, sample bag 2
0391	Ainu Creek	Urup	CARBON	TP 4, level 7, charcoal, 133cm below surface
0392	Ainu Creek	Urup	LITHICS	TP 4, level 7, lithics and one piece of charcoal
0393	Ainu Creek	Urup	WOOD	TP 4, level 7, wood
0394	Ainu Creek	Urup	FAUNAL	TP 4, level 7, bone
0395	Ainu Creek	Urup	POTTERY	TP 4, level 7, ceramics
0403	Ainu Creek	Urup	WATER SAMPLE	Water sample #5, fresh
0404	Ainu Creek	Urup	WATER SAMPLE	Water sample #6, marine
0407	Ainu Creek	Urup	GEOLOGIC	soil sample 1 - 10
0408	Ainu Creek	Urup	GEOLOGIC	soil sample 38 - 38.5
0409	Ainu Creek	Urup	GEOLOGIC	soil sample 65 - 66
0410	Ainu Creek	Urup	GEOLOGIC	soil sample 73 - 77
0411	Ainu Creek	Urup	GEOLOGIC	soil sample 98 - 102
0412	Ainu Creek	Urup	GEOLOGIC	soil sample 121 -128
0435	Ainu Creek	Urup	WOOD TOOLS	TP 4, level 7, wooden spoon from beneath hearth and ceramic from near spoon
0436	Ainu Creek	Urup	GEOLOGIC	TP5; Mustard yellow sed sample from 200cm (epi-jomon)
0437	Ainu Creek	Urup	CARBON	TP4, charcoal from just below tephra sample N, just below tephra sample M 75cm below surface
0439	Ainu Creek	Urup	CARBON	TP5, profile 2, charcoal (small sample) from 40 - 55cm below surface
0440	Ainu Creek	Urup	STONE TOOLS	TP5, profile 2, 40 - 80cm below surface, tool
0441	Ainu Creek	Urup	POTTERY	TP5, profile 2, 40 - 80cm below

				surface, ceramics
0442	Ainu Creek	Urup	LITHICS	TP5, profile 2, 40 - 80cm below surface, flakes
0443	Ainu Creek	Urup	CARBON	TP5, profile 2, charcoal 60 - 80cm below surface
0444	Ainu Creek	Urup	CARBON	TP5, fish bone and charcoal, 115 - 125cm below surface above 'Okhotsk' layer
0445	Ainu Creek	Urup	CARBON	TP5, charcoal, 115 - 130cm
0446	Ainu Creek	Urup	LITHICS	TP5, flakes, 115 - 130cm below surface
0447	Ainu Creek	Urup	CARBON	TP5, charcoal from 150 - 160cm below surface, okhotsk midden layer
0448	Ainu Creek	Urup	STONE TOOLS	TP5, hammerstone from mixed okhotsk/Epi-Jomon layers ca 150 - 200cm
0449	Ainu Creek	Urup	LITHICS	TP5, flakes, 145 - 205cm, Okhotsk with some Epi-Jomon mixed in
0450	Ainu Creek	Urup	POTTERY	TP5, 145 - 205cm okhotsk ceramics
0451	Ainu Creek	Urup	POTTERY	TP5, okhotsk (?) Epi-Jomon, 150 - 200cm below surface, ceramics
0452	Ainu Creek	Urup	FAUNAL	TP5, bone, okhotsk (?), Epi-Jomon, 150 - 200cm below surface
0453	Ainu Creek	Urup	LITHICS	TP5, Okhotsk (?), Epi-Jomon, lithics 150 - 200cm below surface
0454	Ainu Creek	Urup	LITHICS	TP5, 145cm below surface, whale bone (Okhotsk-like layer)
0455	Ainu Creek	Urup	FAUNAL	TP5, discretionary faunal sample, 145 - 205cm Okhotsk
0456	Ainu Creek	Urup	STONE TOOLS	TP5, hammerstone, okhotsk layer, 145cm below surface
0457	Ainu Creek	Urup	LITHICS	TP5, flakes, 145 - 205cm, (from in bag with Okhotsk pottery)
0458	Ainu Creek	Urup	POTTERY	TP5, Okhotsk pottery 145 - 205
0459	Ainu Creek	Urup	FAUNAL	TP5, 180 - 195 cm below surface, in Epi-Jomon, tooth
0476	Ainu Creek	Urup	BONE TOOLS	TP 5, bone spoon, 200 cm below surface, maybe Okhotsk or EpiJomon
0478	Ainu Creek	Urup	BONE TOOLS	TP 4, level 7, 153 cm below surface, bone harpoon
0499	Ainu Creek	Urup	FAUNAL	TP 5, large sea mammal bones from top charcoal layer (base brown midden layer)
0500	Ainu Creek	Urup	FAUNAL	TP 5, bone bed 142-165 cm below surface, bones from base of layer 150-160 cm below surface
0501	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bulk sample 210-215 cm below surface

0502	Ainu Creek	Urup	FAUNAL	TP 1-2, Profile 1 (Colby's), sea urchin bulk sample from pit depression 80-100 cm below surface
0503	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bulk midden from 150-160 cm below surface
0504	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bulk sample from 190-200 cm below surface in top Epi-Jomon layer
0505	Ainu Creek	Urup	BONE TOOLS	TP 5, Profile 2, bone object from 200 cm below surface at top of Epi-Jomon layer
0506	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bone from basal charcoal layer at 260-270 cm below surface
0507	Ainu Creek	Urup	CARBON	TP 5, Profile 2, Charcoal from basal black layer at 260-270 cm below surface
0508	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bones from 25-242 cm below surface
0509	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, biface adze from basal black charcoal layer at 265 cm below surface
0510	Ainu Creek	Urup	CARBON	TP 5, Profile 2, charcoal from charcoal and bone layer at 242-250 cm below surface
0511	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, scapula from sea mammal bone bed between two charcoal bands at 250 cm below surface
0512	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, flake tool/scraper from 235 cm below surface, belowlong bone
0513	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, fauna from black level at 242-250 cm below surface
0514	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, biface fragment from charcoal layer at 242-250 cm below surface
0515	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, lithics from black level at 242-263 cm below surface, bone bed midden with black lenses
0516	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, lithics/flakes from 260-270 cm below surface in basal black layer
0517	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, lithics/flakes from 225-242 cm below surface
0518	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, biface from beside sea mammal bone at 243 cm below surface
0519	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, unifacial scraper/adze from between two charcoal layers at 250 cm below surface

0520	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, point from black level at 242 cm below surface
0521	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bulk midden from 190-205 cm below surface in Okhotsk pit
0522	Ainu Creek	Urup	CARBON	TP 5, Profile 2, wood and charcoal from 240 cm below surface
0523	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2 Ex, biface from 225-242 cm below surface
0524	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, biface from 240 cm below surface, just above charcoal layer
0525	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, core from 233 cm below surface (above black cultural layer)
0526	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, pottery from 225-242 cm below surface
0527	Ainu Creek	Urup	CARBON	TP 5, Profile 2, Charcoal from 225-235 cm below surface
0528	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, lithics from 210-225 cm below surface in Epi-Jomon layer
0529	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, tools from 210-225 cm below surface in Epi-Jomon layer
0530	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, pottery from 230 cm below surface, but had fallen from above
0531	Ainu Creek	Urup	CARBON	TP 5, Profile 2, charcoal from 200 cm below surface
0532	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, pottery from 220-225 cm below surface
0533	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bone from 210-225 cm below surface
0534	Ainu Creek	Urup	CARBON	TP 5, Profile 2, charcoal from +/-205 cm below surface in Epi-Jomon layer
0535	Ainu Creek	Urup	GEOLOGIC	TP 5, Profile 2, red ochre from 180-200 cm below surface in Epi-Jomon layer
0536	Ainu Creek	Urup	GEOLOGIC	TP 5, Profile 2, red ochre from 210 cm below surface
0537	Ainu Creek	Urup	CARBON	TP 5, Profile 2, charcoal from 192 cm below surface in Epi-Jomon layer
0538	Ainu Creek	Urup	CARBON	TP 5, Profile 2, wood and charcoal from 210-220 cm below surface
0539	Ainu Creek	Urup	STONE TOOLS	TP 5, Profile 2, core from 215 cm below surface in Epi-Jomon layer
0540	Ainu Creek	Urup	POTTERY	TP 5, Profile 2,pottery from 180-200 cm below surface in Epi-Jomon layer

0541	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, flakes from 180-200 cm below surface in Epi-Jomon layer
0542	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bone from 180-190 cm below surface in Epi-Jomon layer
0543	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, discretionary faunal sample from 195-200 cm below surface in Epi-Jomon
0544	Ainu Creek	Urup	HISTORIC, OTHER METAL	TP 5, Profile 2, Iron from base Okhotsk or Epi-Jomon at about 205 cm below surface
0545	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, Fauna from top Epi-Jomon layer at 200 cm below surface
0546	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, ceramics from 200-210 cm below surface in Epi-Jomon layer
0547	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, ceramics from 200 cm below surface in Epi-Jomon layer
0548	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, lithics from 200-210 cm below surface
0549	Ainu Creek	Urup	FAUNAL	TP 5, Profile 2, bones from 200-210 cm below surface in Epi-Jomon layer
0970	Ainu Creek	Urup	FAUNAL	Fauna, TP 5, 210 cm below surface
0995	Ainu Creek	Urup	FAUNAL	no information (collected by Amano- get information)
0998	Ainu Creek	Urup	POTTERY	TP5/Profile 2, from bulk midden sample 190-200 (ID# 0504)
0999	Ainu Creek	Urup	BONE, WORKED	TP5/Profile 2, from bulk midden sample 190-200 (ID# 0504)
1007	Ainu Creek	Urup	FAUNAL	Urchin midden, TP1, L3
1017	Ainu Creek	Urup	BONE, WORKED	bone harpoon, TP4, L7
1029	Ainu Creek	Urup	LITHICS	TP5, Profile 2, from bag ID# 0504
1030	Ainu Creek	Urup	CARBON	TP5, Profile 2, from bag ID# 0504
1031	Ainu Creek	Urup	CARBON	TP 1, 60 cm below surface, from bag ID# 0291
1032	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, from bag ID# 0503
1033	Ainu Creek	Urup	CARBON	TP 5, Profile 2, from bag ID# 0503
1034	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, from bag ID# 0503
1048	Ainu Creek	Urup	CARBON	TP 5, Profile 2, from bag ID# 0503
1049	Ainu Creek	Urup	LITHICS	TP 5, Profile 2, from bag ID# 0503
1058	Ainu Creek	Urup	POTTERY	TP 5, Profile 2, from bag ID# 0503
1069	Ainu Creek	Urup	LITHICS	TP 2, Level 2, from bag ID# 0304
1070	Ainu Creek	Urup	CARBON	TP 5, from bag ID# 0500
1071	Ainu Creek	Urup	STONE TOOLS	TP 1, from bag ID# 0286
1076	Ainu Creek	Urup	CARBON	TP 4, Level 6, from bag ID# 0383

1080	Ainu Creek	Urup	LITHICS	TP 4, Level 5, from bag ID# 0364
1081	Ainu Creek	Urup	LITHICS	TP 4, Level 3, from bag ID# 0351
1082	Ainu Creek	Urup	CARBON	TP 4, Level 3, from bag ID# 0351
1083	Ainu Creek	Urup	POTTERY	TP 4, Level 3, from bag ID# 0351
1095	Ainu Creek	Urup	CARBON	TP 2, Level 2, from bag ID# 0307
1099	Ainu Creek	Urup	LITHICS	TP 4, Level 5, from bag ID# 0382
1100	Ainu Creek	Urup	CARBON	from bag ID# 0995 no information (collected by Amano- get information)
1102	Ainu Creek	Urup	LITHICS	TP1, from bagID # 0283
1103	Ainu Creek	Urup	CARBON	TP1, from bag ID# 0283
1105	Ainu Creek	Urup	LITHICS	TP1-2, profile 1, from bulk midden, sample 80-100cm below surface
1106	Ainu Creek	Urup	POTTERY	TP1-2, profile 1, from bulk midden, ample 80-100 cm below surface
1107	Ainu Creek	Urup	CARBON	TP1-2, profile 1, from bag ID #0502
1111	Ainu Creek	Urup	CARBON	TP4, L5, sample from fireplace, from bag ID #0361
1112	Ainu Creek	Urup	WOOD	TP4, L5, sample from fireplace, from bag ID #0361
1113	Ainu Creek	Urup	WOOD	TP4, L5, sample from fireplace, from bag ID #0361
1115	Ainu Creek	Urup	CARBON	TP5, profile 2, from bag ID #0970
1116	Ainu Creek	Urup	LITHICS	TP5, profile 2, from bag ID #0970
1117	Ainu Creek	Urup	LITHICS	TP1, midden sample, from bag ID #0267
1118	Ainu Creek	Urup	CARBON	TP1 midden sample from bag ID #0267 charcoal
1121	Ainu Creek	Urup	LITHICS	TP 5, Profile 2 lithics from ID # 0542
1122	Ainu Creek	Urup	CARBON	charcoal from ID # 0543
1123	Ainu Creek	Urup	BONE TOOL	bone harpoon from ID #0543
1124	Ainu Creek	Urup	LITHICS	flakes from ID # 0501, TP5, Profile 2, 210-215cm
1125	Ainu Creek	Urup	CARBON	charcoal from ID # 0501 TP5, Profile 2, 210-215cm
1126	Ainu Creek	Urup	POTTERY	ceramics from ID #0501, TP5, Profile 2, 210-215cm
1127	Ainu Creek	Urup	WOOD	wood from ID #0501, TP5, Profile 2, 210-215cm
1128	Ainu Creek	Urup	CARBON	charcoal from ID #0549, TP5, Profile 2, 200-215cm
1187	ainu creek	urup	LITHICS	piece of red ocre
1132	Ainu Creek	Urup	CARBON	Okhotsk charcoal from #0455, TP5, P2, 145-205cm
1133	Ainu Creek	Urup	LITHICS	Lithics from ID #0533, TP5, P2, 210-225cm
1135	Ainu Creek	Urup	POTTERY	Ceramics from ID #0649, surface collected

1136	Ainu Creek	Urup	LITHICS	Lithics from ID #0649, surface collected
1134	Ainu Creek	Urup	CARBON	Charcoal from ID #0533, TP5, P2, 210-225cm below surface
1137	Ainu Creek	Urup	CARBON	Charcoal from ID#0649, surface collected
1140	Ainu Creek	Urup	LITHICS	Lithics from bulk midden, from ID #0503, TP5, P2, 150-160cm below surface
1141	Ainu Creek	Urup	CARBON	Charcoal from bulk midden, from ID #0503, TP5, P2, 150-160cm below surface
1142	Ainu Creek	Urup	FLORA	Seed from bulk midden, from ID #0503, TP5, P2, 150-160cm below surface
1143	Ainu Creek	Urup	LITHICS	Lithics from bulk midden from ID #0521, TP5, P2, 190-205cm below surface
1143a	Ainu Creek	Urup	CARBON	Charcoal from bulk midden from ID #0521, TP5, P2, 190-205cm below surface
1144	Ainu Creek	Urup	POTTERY	Ceramics from bulk midden from ID #0521, TP5, P2, 190-205cm below surface
1148	Ainu Creek	Urup	WOOD	Wood from ID #0508, TP5
1149	Ainu Creek	Urup	LITHICS	Flakes from ID#0508, TP5
1150	Ainu Creek	Urup	CARBON	Charcoal from ID #0508, TP5
1153	Ainu Creek	Urup	LITHICS	Lithics from ID #1007, TP1, L1
1154	Ainu Creek	Urup	CARBON	Charcoal from ID #1007, TP1, L1
1156	Ainu Creek	Urup	CARBON	Charcoal from ID #0353, from TP4, L3, 45-56cm below surface
1157	Ainu Creek	Urup	LITHICS	Lithics from ID #0535, from TP4, L2, 45-56cm below surface
1159	Ainu Creek	Urup	CARBON	Charcoal from ID #0513, TP5, Profile 2
1160	Ainu Creek	Urup	CARBON	Charcoal from ID #0657, TP4
1161	Ainu Creek	Urup	LITHICS	Flakes from ID #0657, TP4
1162	Ainu Creek	Urup	LITHICS	Lithics from ID #0513
1166	Ainu Creek	Urup	CARBON	Charcoal from ID #0506
1167	Ainu Creek	Urup	LITHICS	Flakes from ID #0506
1168	Ainu Creek	Urup	WOOD	Wood from ID #0655
0477	Ainu Creek	Urup	HISTORIC, LEATHER (?)	TP 5, 260-270 cm below surface, basal black layer, leather
0879	Ainu Creek	Urup	WOOD	Wood, surface collected from road cut
0954	Ainu Creek	Urup	BONE TOOLS	possible atlatl hook , surface collected from road cut
0642	Ainu Creek	Urup	POTTERY	Surface collected ceramics
0643	Ainu Creek	Urup	LITHICS	Surface collected lithics
0644	Ainu Creek	Urup	STONE TOOLS	Surface collected stone tools

0645	Ainu Creek	Urup	STONE TOOLS	Surface collected perforated rocks (net wieghts)
0646	Ainu Creek	Urup	STONE TOOLS	Surface collected battered cobbles
0647	Ainu Creek	Urup	STONE TOOLS	Surface collected grooved net wieghts
0648	Ainu Creek	Urup	BONE TOOLS	Surface collected bone tools
0649	Ainu Creek	Urup	FAUNAL	Surface collected FAUNA
0650	Ainu Creek	Urup	GEOLOGIC	TP 4, sand sample from 35cm below surface
0651	Ainu Creek	Urup	BONE TOOLS	TP 4, pendant from 104cm below surface
0652	Ainu Creek	Urup	GEOLOGIC	TP 4, Tephra sample from 68-77cm below surface
0653	Ainu Creek	Urup	BONE TOOLS	TP 4, bone harpoon foreshaft from 45cm below surface
0654	Ainu Creek	Urup	POTTERY	TP 4, Jomon pottery from 75-90cm below surface
0655	Ainu Creek	Urup	FAUNAL	TP 4, Level 3, FAUNA from 125-150cm below surface
0656	Ainu Creek	Urup	FAUNAL	TP 4, bones from 75-90cm below surface
0657	Ainu Creek	Urup	FAUNAL	TP 4, Fauna from 40-55cm below surface
0658	Ainu Creek	Urup	WOOD	TP 4, level 3, preserved wood from 125-150cm below surface
0659	Ainu Creek	Urup	LITHICS	TP 4, level 3, flakes, etc from 125-150cm below surface
0660	Ainu Creek	Urup	LITHICS	TP 4, flakes from 75-90cm below surface
0661	Ainu Creek	Urup	LITHICS	TP 4, flakes from 40-55cm below surface
0662	Ainu Creek	Urup	FAUNAL	TP 4, Fauna from 40-55cm below surface
0663	Ainu Creek	Urup	CARBON	TP 4, charcoal from 75-90cm below surface
0664	Ainu Creek	Urup	CARBON	TP 4, level 4,5 or 6, carbonized plant remains
0675	Ainu Creek	Urup	POTTERY	Surface collection - Okhotsk(?) ceramic sherd

Geological Field Studies Report

Observations and Interpretations:

Small creek valley surrounded by outcrops of columnar basalt

Tsunami: No distinguishable tsunami.

Volcanic activity: some identifiable tephra in and out of archeological excavations. Most tephra in archeological excavations are redeposited and mixed.

General vegetation: Beach grass, celery, medium grass, few small flowers

Ainu Creek 1 Map showing the lower (NW) portions of the side and location of Test Pits 1 and 2

Ainu Creek 1Test Pit 1/2 stratigraphy. Photo: S.C. Phillips

East wall stratigraphy of Ainu Creek 1Test Pit 3. Photo: S.C. Phillips

View of Ainu Creek 1Test Pit 4 being excavated in the road bed. Photo: K. Ito.

Archaeological Site: Sernovodsk 1 [SER1]
Dates visited: 26 July, 2006

Sernovodsk 1 is located on the southeast coast of Kunashir along the Pacific shore along the northeast bank of the Sernovodsk River. The river drains from Peschanoye Lake to the northwest and a relatively large road is still in use nearby. At least 41 house pits were mapped within the site and a few large excavations had been conducted in areas of the site by I. Samarin and O. Shubina in previous years. In 2006 four test pits were excavated between pit features. Although anthropogenic materials were noted in all test pits, Test Pit 1, which was 1m x 3m, contained numerous examples of Epi-Jomon and/or Middle Okhotsk pottery. Also collected from this unit were chert and obsidian flakes and tools. Very little faunal material was found at the site. Radiocarbon dates have yet to be processed and further recommendations for research here are not yet available.

Sernovodsk 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Sernovodsk 1 Test Pit 1	26 July 2006	N43 54.587, E145 38.691
Servovodsk 1 Test Pit 2	26 July 2006	N43 54.584, E145 38.722

Sernovodsk 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-20	Sod layer
2	20-42	Black sandy to dark brown loamy sand
3	42-69	Sandy layer, light orange in color with high pumice content, culturally sterile

Sernovodsk 1 Test Pit 2

Level	Depth (cm below surface)	Description
1		Sod/vegetation layer
2		Cultural zone with medium-brown soily sand
3		Thin layers of tephra, dark sandy soil, and pumice-rich sand
4		Dark grayish-brown compact sandy soil
5		Transition from sandy soil to clean sand

Sernovodsk 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0086	Sernovodsk 1	Kunashir	GEOLOGIC	test pt 2, 28 - 29 cm, salt & pepper tephra? Described in MNO book #1
0087	Sernovodsk 1	Kunashir	GEOLOGIC	TP #2, 36 - 36.5 cm, probably cont. tephra, described in MNO book #1
0088	Sernovodsk 1	Kunashir	GEOLOGIC	TP #2, 39 - 40 cm; tsunami?
0089	Sernovodsk 1	Kunashir	LITHICS	TP #2, cultural zone 10 - 30 cm below surface; flakes and point
0090	Sernovodsk 1	Kunashir	GEOLOGIC	TP 2, pumice rich sand below black sediment at 33cm below surface, 34-36; in MNO's field book

0091	Sernovodsk 1	Kunashir	POTTERY	2 pottery sherds, 2 flakes from TP 3, near pit 24, Epi-Jomon
0092	Sernovodsk 1	Kunashir	CARBON	TP 2, charcoal from cultural zone 10-30 cm, small sample
0093	Sernovodsk 1	Kunashir	LITHICS	TP 1, lithics, level 2
0095	Sernovodsk 1	Kunashir	WATER SAMPLE	Water Sample #1, Sernevodsk River
0096	Sernovodsk 1	Kunashir	OSL SAMPLE	TP 1, Level 2, OSL 1
0097	Sernovodsk 1	Kunashir	CARBON	TP 1, Level 2, Charcoal 30 - 64cm
0098	Sernovodsk 1	Kunashir	POTTERY	TP 1, level2 pottery, 30 - 64 cm below surface
0099	Sernovodsk 1	Kunashir	POTTERY	TP 1, level 2, pottery from one vessel
0100	Sernovodsk 1	Kunashir	CARBON	TP 1, level 2, Charcoal from (99)
0101	Sernovodsk 1	Kunashir	POTTERY	TP 1, level 2, ceramics, 0 - 30 cm below surface
0103	Sernovodsk 1	Kunashir	LITHICS	TP 1, Level 1, lithics, flakes
0104	Sernovodsk 1	Kunashir	FAUNAL	TP 1, level 2, faunal remains
0105	Sernovodsk 1	Kunashir	POTTERY	Epi-Jomon ceramic fragment SE side Glukhoe Lake, near Sernevodsk 1
0207	Sernovodsk 1	Kunashir	STONE TOOLS	TP 2, 10 - 30cm below surface, point
0208	Sernovodsk 1	Kunashir	LITHICS	TP 3, 30cm below surface, lithics

Geological Field Studies Report

Broad marsh behind beach ridges: The two cores in the marsh showed soil below a peat. This would indicate subsidence that is either episodic or gradual. There is a relatively sharp boundary in one core, but not the other. The peat above the soil is only ~ 20 cm thick, indicating peat production most likely began recently.

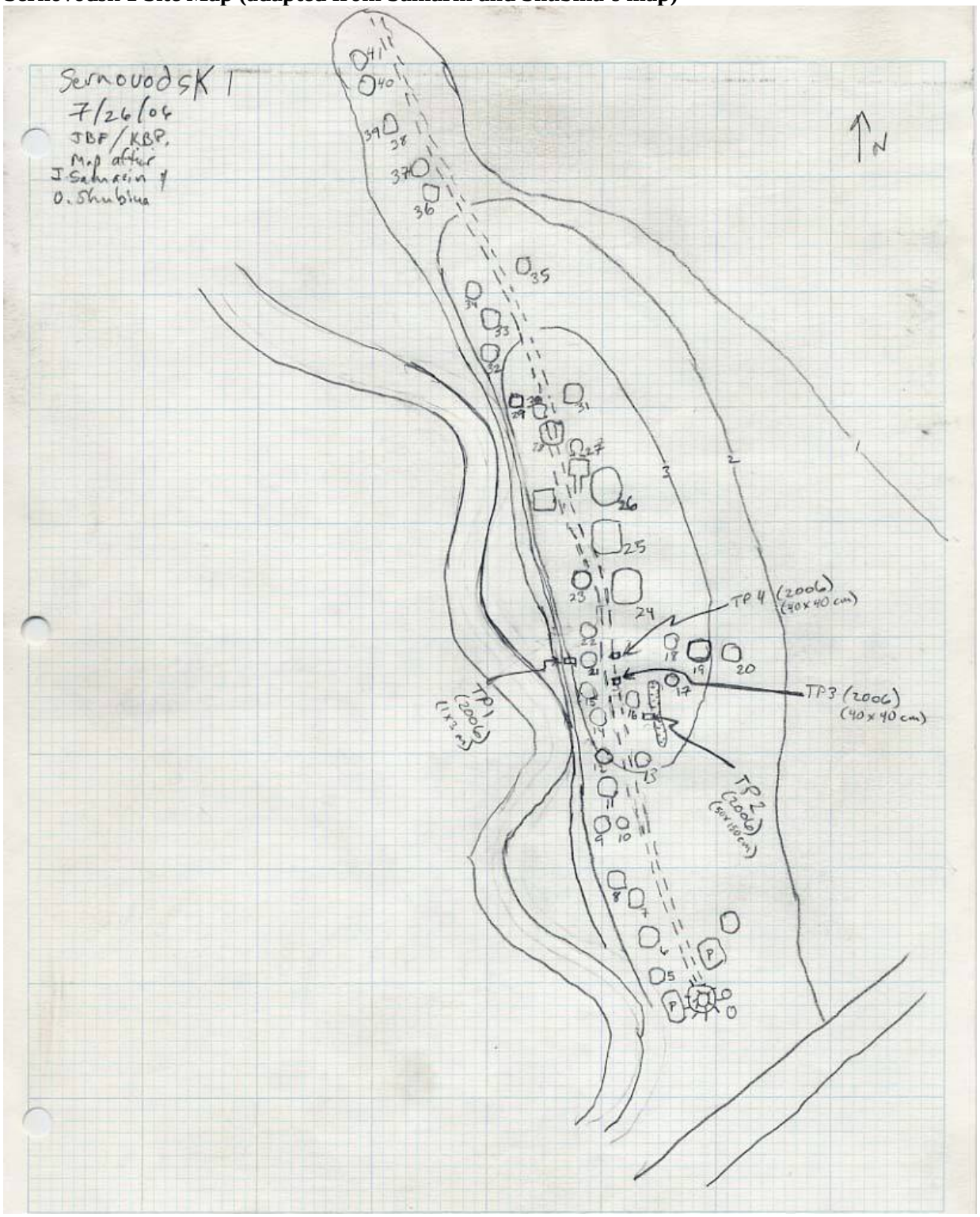
Beach ridges: There are approximately 5 low beach ridges 1 to 2 meters in elevation with marshy troughs. These ridges are relatively short, possibly indicating the lower limit of the necessary wave climate needed to create beach ridges. No distinct tephra were found in the excavations on the profile, potentially indicating a young age for the beach ridge plain.

Tsunami: One or two tsunamis is represented by a distinct sand or pebble layers in the topographic profile and 3-4 in Test Pit 2.

Volcanic activity: Only one to two tephra were found in our excavations, and no distinct tephra in the profile.

View northwest from Sernevodsk 1 near Test Pit 1. Photo: James Taylor

Sernovodsk 1 Site Map (adapted from Samarin and Shubina's map)



Archaeological Site: Golovnina Beach Terrace [GOL1]
Dates visited: 27 July 2006

The Golovnina Beach Terrace site is located on the southern end of Kunashir Island near the fishing village of Golovnina on a terrace approximately 7 m above Golovnina Beach. The site is in an area 500 m south of a cliff exposure at the beach in a region of 20th century military disturbance. Pottery and lithic flakes were collected from the surface and from an eroding road cut by the geology team when they were investigatind paleobeach formation. Archaeologists did not visit this location in 2006.

Golovina Beach Terrace Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Golovina Beach Terrace Site	27 July 2006	N43 44' 50.7, E145 33' 50.8

Golovina Beach Terrace Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0119	Golovnina Beach Terrace 1	Kunashir	POTTERY	Surface pottery from reworked militarized area
0192	Golovnina Beach Terrace 1	Kunashir	LITHICS	obsidian flake, surface find in military area

Geological Field Studies Report
Observations and Interpretations:
7 m terrace north of beach ridge sequence

This terrace appears to be marine due to beach stratigraphy beginning at 100 cm depth. It must be older than the beach ridge sequence, although no tephra could be distinguished in the upper stratigraphy of the terrace. The stratigraphy is to too young to be Pleistocene, so the terrace most likely formed sometime after ~7ka.

The terrace has a seemly flat surface, therefore was not itself a beach ridge plain. Also, after uplift, the terrace was cut by waves, forming a cliff, before the initiation of the present beach ridge sequence. These observations indicate that there was a change in the wave climate and/or sediment budget of the area between its formation and the present.

Beach ridge sequence

The beach ridge sequence changes shape and orientation from the edge of the terrace to the end of the long spit. A brief glance shows at least two phases of beach ridge development, as the northern ridges (with the house-pits) are now truncated by the Pacific shoreline. The age is still uncertain, but there are at least 3 possible tephra younger than the northern ridges.

The ridges studied are very low in elevation, with many of the troughs as marshes or marshy lakes and crests only a couple meters in elevation. While much of the area is on the Pacific Ocean, it appears to be protected from most storms by Hokkaido. Therefore, the wave climate could be smaller than a normal beach ridge system.

Modern artifact at 115cm in Ex 1

The excavations of beach ridges on Golovino Beach show rapid accumulation in the upper meter. Ex 1 had a pink plastic compass at 115 cm. Being so close to the shoreline, the upper sands could easily be storm deposits; they contain more heavy mineral deposits than the beach.

Tsunami

Rikorda test pit 1 has one potential tsunami deposit immediately above a tan tephra. Otherwise, there are no obvious tsunami deposits. Because the Golovino area is in a region of high seismicity and tsunami occurrence, this may indicate that tsunamis do not have a large runnup here. However, it may just be an issue with preservation.

Volcanic activity

Tephra preservation is generally poor in our excavations. Only 3 tephra were found in any excavation. We expected more after reading previous work done by scientists on Kunashir and Hokkaido. There may be better preservation in the marshy troughs between ridges.

Archaeological Site: Rikorda 1 [RIK1]
Dates visited: 27 July, 2006

The Rikorda 1 site is situated at the southern end of Kunashir, just northeast of the village of Golovnino, on a slight terrace west of the Rikorda River. The area near the Rikorda 1 site is relatively flat terrain comprised of river terraces and flood plain, with numerous pockets of house pits noted from satellite imagery. At least thirty house pits were noted and mapped with compass and tape at the Rikorda 1 site location and three test pits were excavated between pit features at this site.

Test pits contained both obsidian and chert artifacts, including obsidian projectile points. Two examples of Epi-Jomon pottery were found below 28cm below surface in Test Pit 1. Additionally, two radiocarbon dates were analyzed from charcoal (carbon) in Levels 1 and 2 of Test Pit 1. The first was collected between 0cm and 28cm below the surface and returned an uncalibrated radiocarbon age of 2,250 +/- 25 years before present. The second, collected below 28cm, returned a very similar age of 2,210 +/- 30 years before present. The calibrated ages for the dated material from Level 1 (2325 – 2149 cal bp at two sigma) and Level 2 (2340 – 2158 cal bp at two sigma) show them to be essentially same age. Although the KBP does not currently plan to return to Kunashir, the Rikorda 1 site and the general vicinity are promising for further archaeological work, especially given the observation from new satellite images of the presence of hundreds of house pits on other terraces and paleo-beach ridges.

Rikorda 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0107	OS-58975	TP1, Level 1	2250	25
0115	OS-58967	TP1, Level 2	2210	30

Rikorda 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Rikorda Test Pit 1	27 July 2006	N43 44.230, E145 31.941
Rikorda Test Pit 2	27 July 2006	N43 44.213, E145 31.946
Rikorda Test Pit 3	27 July 2006	N43 44.222, E145 31.940

Rikorda 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-28	Organic rich black silty loam
2	28-45	Dark grey sandy loam ending with tephra layer, tephra sampled
3	45-65	Similar content as layer 2 except below tephra
4	65-106	Beach/dune sand with discrete depositional events, color alternate between grey and orange, compacted

Rikorda 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-10	Black humus
2	10-20	Black soil
3	20-40	Black soil with sand
4	40-45	Reddish sand with pebbles

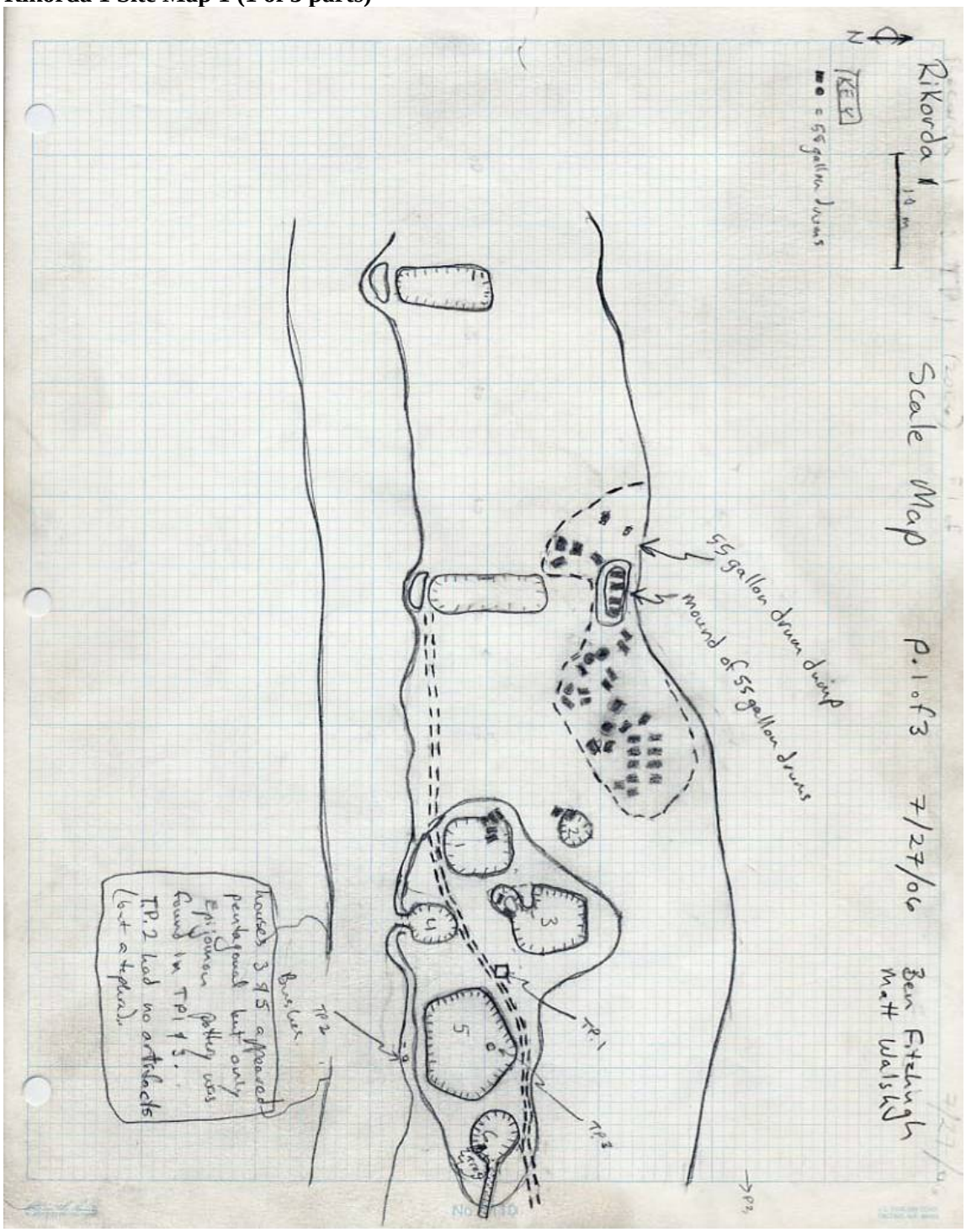
Rikorda 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-10	Black humus
2	10-12	Tephra
3	12-18	Black soil
4	18-30	Reddish sand

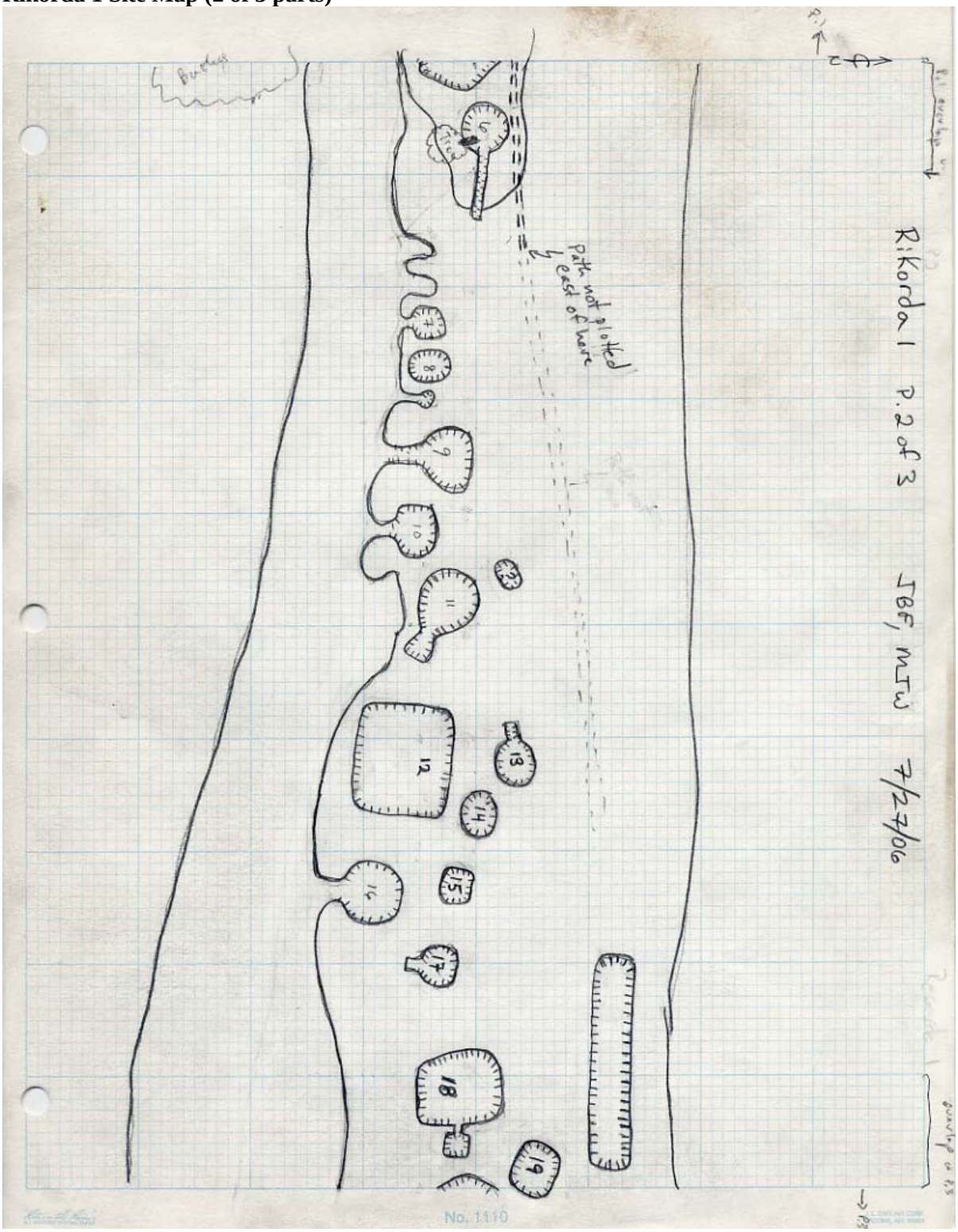
Rikorda 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0107	Rikorda 1	Kunashir	CARBON	TP 1, Level 1, 0 - 28cm
0108	Rikorda 1	Kunashir	POTTERY	Ceramics (pot bottom), TP 1, Level 1, 0 - 28cm
0109	Rikorda 1	Kunashir	POTTERY	TP 1, Level1, ceramics from dark rich soil beneath sand
0110	Rikorda 1	Kunashir	STONE TOOLS	TP 1, Level 1, obsidian biface
0111	Rikorda 1	Kunashir	LITHICS	TP 1, Level 1, lithics
0112	Rikorda 1	Kunashir	POTTERY	TP 1, Level 2, ceramics
0113	Rikorda 1	Kunashir	GEOLOGIC	TP 1, Level 2, Sediment Sample 45cm
0114	Rikorda 1	Kunashir	GEOLOGIC	TP 1, Level 2, Tephra 45cm
0115	Rikorda 1	Kunashir	CARBON	TP 1, Level 2, charcoal
0116	Rikorda 1	Kunashir	POTTERY	TP 1, Level 3 ceramics, 45 - 70cm below surface
0117	Rikorda 1	Kunashir	GEOLOGIC	TP 3, Level 1, tephra 10cm below surface
0118	Rikorda 1	Kunashir	LITHICS	TP 1, Level 3, 45 - 70cm below surface, lithics
0120	Rikorda 1	Kunashir	OSL SAMPLE	TP 1, Level 4, OSL 1, 70cm below surface
0122	Rikorda 1	Kunashir	POTTERY	Pottery sherd, Epi-Jomon, TP2
0137	Rikorda 1	Kunashir	STONE TOOLS	TP 1, Level 2, Lithics (flakes)
0160	Rikorda 1	Kunashir	WATER SAMPLE	River water, Water Sample #3
0182	Rikorda 1	Kunashir	POTTERY	TP 1, layer 2, pottery
0186	Rikorda 1	Kunashir	STONE TOOLS	TP 1, level 3, 45 - 70cm below surface, lithic tools
0190	Rikorda 1	Kunashir	POTTERY	TP 1, level 1, 0 - 28cm below surface, pottery
0194	Rikorda 1	Kunashir	STONE TOOLS	lithic tools from TP 1, 0 - 28cm
0206	Rikorda 1	Kunashir	LITHICS	TP 1, level 1, Lithics
0599	Rikorda 1	Kunashir	LITHICS	TP 1, layer 2, lithics-flakes (tools?) taken from #0137
0888	Rikorda 1	Kunashir	LITHICS	TP 1, Level 1, 0-28 cm below surface, flakes
1019	Rikorda 1	Kunashir	FAUNAL	TP 1, Level1, urchin midden found bagged with ceramics in Bag ID# 0109
1114	Rikorda 1	Kunashir	CARBON	TP1, Level 1, from bag ID #1019

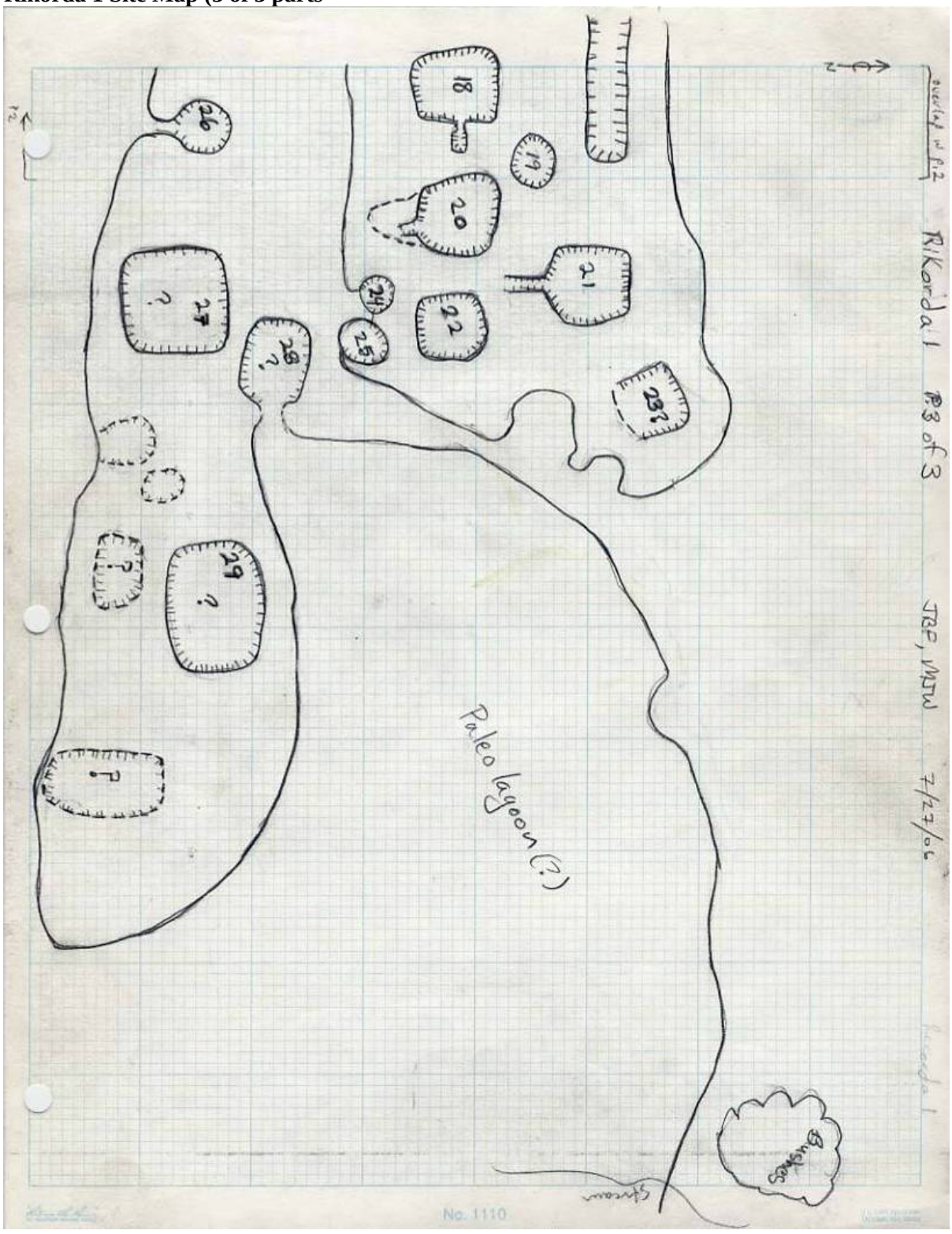
Rikorda 1 Site Map 1 (1 of 3 parts)



Rikorda 1 Site Map (2 of 3 parts)



Rikorda 1 Site Map (3 of 3 parts



Rikorda 1 site and vicinity from satellite imagery. Note the presence of numerous house pits on this terrace and others nearby. Image courtesy of Google Earth, 2007.

Archaeological Site: Danilova 2 [DAN2]
Dates visited: 28 July, 2006

The Danilova 2 site is located about 15m above the abandoned Danilova military station (and Danilova 1 site). The archaeological site was found on a small ledge overlooking the south / left bank of a small stream where it drops down to the Danilova station. The remnants of a small foot trail climbs to this site from the valley below along the face of the bluff climbing from south to north behind decaying structures of the historic military outpost. About 15 meters inland from the bluff edge on the left bank of the stream we could see a series of supporting posts (iron) that may have held a water supply line, perhaps supplying a series of buried gun turrets that still sit along the southern slope of the bluff about 100 meters southeast of Danilova Station.

Danilova 2 contains at least two small house pits visible on the surface. A small (40x40 cm) Test Pit was excavated between the two pit house depressions. Test Pit 1 contained deep stratigraphic layers of cultural material divided in at least two places by lenses of tephra or fire ash. A few artifacts were recovered from the excavation including fragments of Epi-Jomon pottery and stone flakes. The initial layer 0-15 cm below surface was the vegetation mat; the second layer from 15-20 cm below surface was dark, fine-grained silt that contained one undecorated pot sherd. From 20-55 cm below surface there was fine-grained, medium gray silt with some charcoal and pumice mixed in, followed by a discontinuous layer of coarse cinders from 54-56 cm below surface. The next layer, 56-65 cm below surface contained medium grey, fine-grained silt and a piece of cord-marked pottery. The deposit was excavated down about 70 cm before the excavation was discontinued and the pit filled back in. The site may continue on the terrace above the right bank of the stream, but the team did not have time to investigate that area in 2006.

Danilova 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Danilova 2 TP1	28 July 2006	N43 57.282 E145 35.634

Danilova 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-15	Vegetation matter
2	15-20	Dark fine grained silt with roots, possible source for undecorated potsherd (Okhotsk? Ainu? Overturned?)
3	20-37	Medium grey, fine grained silt, 1st charcoal sampled from here or above
4	37-54	Medium grey fine-grained silt with pumice pieces mixed in
5	54-56	Discontinuous cinder layer/pockets, coarse-grained, sampled for JB
6	56-65	Medium grey fine grained silt with cord-marked Jomon pottery
7	65-70	Fire ash (?), sampled for JB, in discontinuous patches, appears light grey, below cultural layer extends containing pottery, some charcoal

Danilova 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0127	Danilova 2	Kunashir	POTTERY	TP 1, 15 - 20cm, pottery
0128	Danilova 2	Kunashir	CARBON	TP 1, 20 - 37 cm or higher, charcoal
0129	Danilova 2	Kunashir	GEOLOGIC	TP 1, 54 - 56 cm, cinders - discontinuous/pockets
0130	Danilova 2	Kunashir	POTTERY	TP 1, 56 - 65cm below surface,

				Pottery
0131	Danilova 2	Kunashir	GEOLOGIC	TP 1, fire ash (?), 65 - 70cm
0132	Danilova 2	Kunashir	POTTERY	TP 1, apx. 70cm, pottery
0133	Danilova 2	Kunashir	CARBON	TP 1, apx. 70cm, charcoal, small sample
0134	Danilova 2	Kunashir	CARBON	TP 1, 66 - 70cm, sediments for charcoals extraction from below grey ash

Geological Field Studies Report

Observations and Interpretations:

Cobble beach ridge:

Seaward of the deflating dune field, approximately 50 meters from the current shore and a meter or two in elevation, there is a cobble berm approximately 1 m high. This feature is older (below) any of the overlying dunes. This indicates a sediment change in the early history of the infilling of the bay. Assuming no land-level change, the minimal difference between today's 0 elevation and the height of the berm may indicate that the berm was created during the Holocene Optimum. Before the formation of the cobble berm, there first developed a wave-cut cliff into the surrounding hills, as evidenced by their continuously steep faces all the way into the lake.

Deflating sand dunes:

The stratigraphy of individual dunes can be generally correlated. Also, the position of soil development relative to tephra is not uniform. These indicate that the dunes formed at different times. The dunes today are vegetated and do not appear to be actively forming, only eroding.

Dune field/beach ridges in front of the cobble beach ridge:

In the south, the current beachface contains modern artifacts at ~75 cm depth and there is a storm wrackline tens of meters from the shore indicating the ridge/berm is still experiencing growth. In the center of the bay (in front of the cobble beach ridge) there appears to be at least two ridges behind the beach berm.

Northern "terrace":

There is a planar surface to the north of the bay. As it was not investigated to test the hypothesis of it being a terrace, no conclusions can be drawn about its origin. However, because the southern hills are formed by a debris flow, the northern "terrace" may have been as well, and no conclusion about uplift can be drawn.

Tsunami:

This information can not be differentiated due to the prevalence of sand.

Volcanic activity:

There are at least 6 tephra preserved in the dune field; no older tephra were found in theoretically older sections. Flakes and charcoal was found below the oldest tephra. Jomon pottery was found between the oldest and the second oldest tephra. The surrounding hills appear to have been formed by a volcanic debris flow.

Danilova 2 Site Map

Danilova station view to the south showing abandoned buildings and location of Danilova 2. Photo: Ben Fitzhugh

Archaeological Site: Peschanoye 1 and 2 [PES1 and PES2]
Dates visited: 28 July, 2006

Peschanoye 1 and 2 are located on the southwestern shore of Kunashir facing the Shiretoko Peninsula of Hokkaido, Japan. These two sites, separated by approximately 200m of culturally sterile dunes, are the remnants of two dune deflations which have left lithic and ceramic artifacts scattered along the surface. The sites are bordered on the southeast by Peschanoye Lake and to the northwest by the Sea of Okhotsk. A 2m x 2m plot was 100% sampled for lithic materials. Most pot sherds were unidentifiable or identified as Epi-Jomon and one Middle Jomon sherd was also found. Very little remained intact and buried from this site and is relatively uninteresting for future KBP research.

Peschanoye 2 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Peschanoye 2 SP 1	28 July 2006	N43 56.986, E145 35.427

Peschanoye 2 Sample Plot 1

Level	Depth (cm below surface)	Description
1	0	Surface collection – NE portion of site deflation zone, composed primarily of dune sand, rounded cobbles, and lithic artifacts. Majority of lithics were flakes and shatter, made of mostly grey cryptocrystalline stone; other raw materials such as obsidian was also noted.

Peschanoye 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0180	Peschanoye 2	Kunashir	POTTERY	surface collection NE portion, sherd
0189	Peschanoye 2	Kunashir	LITHICS	sample plot 1, 2m x2m, retouched flakes
0550	Peschanoye 2	Kunashir	STONE TOOLS	Surface collection, NE portion, projectile point from bag ID #0124
0551	Peschanoye 2	Kunashir	STONE TOOLS	Surface collection, NE portion, projectile point from bag ID #0124
0552	Peschanoye 2	Kunashir	STONE TOOLS	Surface collection, stone tools from bag ID #0125
0553	Peschanoye 2	Kunashir	STONE TOOLS	Surface collection, NE portion, flake tools from bag ID #0124
0673	Peschanoye 2	Kunashir	STONE TOOLS	sample plot 1, 2m x2m, controlled surface collection, retouched stone flakes
0674	Peschanoye 2	Kunashir	STONE TOOLS	Sample plot 1, 2m x2m, controlled surface collection, lithic tools
0162	Peschanoye	Kunashir	CARBON	From GEO group, charcoal, Hill excavation, 323 - 348cm
0126	Peschanoye 1	Kunashir	POTTERY	surface collection, pottery
0121	Peschanoye 2	Kunashir	LITHICS	2m x 2m surface collection, all artifacts collected
0123	Peschanoye 2	Kunashir	FAUNAL	Surface collection bone

0124	Peschanoye 2	Kunashir	LITHICS	Surface collection NE portion, lithics
0125	Peschanoye 2	Kunashir	LITHICS	Surface collection, lithics

Peschanoye 1 and 2 view west to Shiretoko Peninsula, Japan. Note that the site is almost entirely deflated with very few remnants of intact archaeological deposition. Photo: James Taylor

Archaeological Site: Olya 1 [OLY1]
Dates visited: 29 July 2006

Olya 1 is located on the top of an eroding bluff, approximately 18 masl, on the east shore of Olya Bay in the settlement of Redova, on the southern Kuril island of Iturup on the Okhotsk Sea side. The site is badly eroded and the surface damaged by military activity and subsequent turf removal by the residents of Redova.

Four Test Pits were dug at Olya 1. Test Pit 1 was excavated on a cove site to the north that had been previously excavated, but no cultural materials were found and Test Pit 1 was not described. Test Pit 2 was placed 50 cm back from the eroding bluff edge over the cove directly across Olya Bay from the cannery building. Test Pit 2 came quickly down into a cultural layer with charcoal and Epi-Jomon ceramics. This was a very deep Test Pit, down to 100 cm without reaching the end of the cultural deposit.

Test Pit 3 was placed on the north side of the point, and was a profile exposed in a military trench adjacent to a gun emplacement. Three tephra levels with cultural material in between were observed and sampled. Test Pit 4 was an erosion face cleaning about 2 m west of Test Pit 2. A number of ceramic sherds were collected from Test Pit 4.

Olya 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Olya 1 Test Pit 2	29 July 2006	N45 16.736, E148 01.413
Olya 1 Test Pit 3	29 July 2006	N45 16.795, E148 01.615

Olya 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-5	Vegetation/grass with two thin (1cm thick) tephras
2	5-35	First cultural level above a patchy, beige tephra
3	35-37	Patchy beige tephra broken by cultural material
4	37-59	Medium brown mottled, second cultural level with ceramics and charcoal
5	59-77	Dark black cultural level soil, few artifacts
6	77-82	Based of black soil with rocks and pottery below
7	82-100	Medium brown cultural level with small pottery sherds, one biface, charcoal

Olya 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-12	Sod Layer
2	12-15	Tephra (yellow) (Tephra sample 1)
3	15-33	Organic rich silt, dark brown
4	33-38	Tephra (yellow) (tephra sample 2)
5	38-92	Dark brown silt with cultural material (one flake, some ceramics) and charcoal
6	92-111	Very compact, sticky yellowish tephra (tephra sample 3)

Olya 1 Test Pit 4

Level	Depth (cm below surface)	Description
1	0	short grass, clover, geranium
2	0-3	light creamy brown tephra, silty
3	3-22	medium brown loamy soil; lots of fine roots; cultural material
4	22-44	dark brown loamy soil; some angular granuales to pebbles, 3cm
5	44-60	dark brown soil; becomes more red downward; near base some orange brown silt clumps up to .5 cm
6	60-71	tan orange silty tephra; granuale sized degraded pumice at top
7	71-72	Medium sand salt and pepper tephra; more salty, black very coarse sand; discontinuous, thin soil underneath, dark brown, .5 cm
8	72-80	orangey tan silt

Olya 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0138	Olya 1	Iturup	POTTERY	Erosion Face, cut 2.5SW of TP 2, Okhotsk, Satsumon blend
0139	Olya 1	Iturup	CARBON	TP 4, Charcoal, Bottom cultural layer, Epi-Jomon
0140	Olya 1	Iturup	STONE TOOLS	TP 2, lithic from 96cm below surface
0141	Olya 1	Iturup	GEOLOGIC	TP 2, Tephra from 35 - 37cm below surface
0142	Olya 1	Iturup	GEOLOGIC	TP 2, Tephra from 0 - 1cm below surface
0143	Olya 1	Iturup	CARBON	TP 2, charcoal from 94cm below surface
0144	Olya 1	Iturup	CARBON	TP 4, charcoal from 10cm in root mat in association with Okhotsk Pottery
0145	Olya 1	Iturup	CARBON	TP 2, charcoal below 83cm below surface
0146	Olya 1	Iturup	POTTERY	TP 2, ceramics from top 25cm
0147	Olya 1	Iturup	CARBON	TP 2, charcoal from top 30cm
0148	Olya 1	Iturup	CARBON	TP 2, charcoal below 30cm-80cm below surface
0149	Olya 1	Iturup	POTTERY	TP 2, ceramics from level (black and below) 50 - 80cm below surface
0150	Olya 1	Iturup	POTTERY	Surface collection, pottery
0151	Olya 1	Iturup	POTTERY	TP 3, pottery, level 5
0152	Olya 1	Iturup	CARBON	TP 3, charcoal, level 5
0153	Olya 1	Iturup	GEOLOGIC	TP 3, tephra sample, 12 -15cm below surface
0154	Olya 1	Iturup	GEOLOGIC	TP 3, tephra sample 2, 33 - 38cm below surface
0155	Olya 1	Iturup	GEOLOGIC	TP 3, tephra sample 3, >/_ 92cm below surface
0156	Olya 1	Iturup	GEOLOGIC	Tephra Sample 4, 40cm below

				surface
0157	Olya 1	Iturup	GEOLOGIC	TP 3, tephra sample 5, top 31 - 32cm
0158	Olya 1	Iturup	GEOLOGIC	TP 3, tephra sample6 34 - 36cm
0195	Olya 1	Iturup	LITHICS	from top 25 cm, lithics
0196	Olya 1	Iturup	STONE TOOLS	TP 3, level 5, tool
0197	Olya 1	Iturup	POTTERY	TP 4, bottom cultural layer, epi-jomon

Geological Field Studies Report

Observations and Interpretations:

The area was heavily militarized and in many areas the top layer of soil has been removed for sod.

Marine Terrace: Mafic, solidified debris flow deposit truncated at ~8m with 2.5-3 m of sediment on top.

Tsunami: no apparent tsunami though all excavations were done above 10 m.

Volcanic activity: There are 17 samples identified as "tephra" in the oldest excavation. The area is a "giant pile of tephra".

General Vegetation: Short carex and grass, some berries and rose.

Late Okhotsk pottery from Olya 1, erosion face near Test Pit 3

Archaeological Site: Glush 1 [GLU1]
Dates visited: 30 July 2006

Glush 1 is located on the north side of the Glush River on Slavnoye Bay, northwestern Iturup Island. The site lies on a road cut at about 24 m asl about 150 m back from an active beach and east of a high dune area. Test Pit 1 was created by cleaning off an eroding road cut where a road paralleling the river starts to level off after climbing uphill from the dune area to the west. The Test Pit 1 exposure was about 100 cm long and 75 cm deep from the bank at the top to the road surface. Vegetation and non-cultural sediments extended from the top down to 56 cm below surface. Two cultural strata were located in close superposition from 56 to 80 cm below surface. The top cultural strata extended from about 56 cm to 62 cm below surface and was diffuse with black sediment. The second cultural strata was more definitive with dark charcoal chunks. The stratagraphic break between these layers was not seen until the section was cleaned and described and pottery and lithics from the two strata were mixed.

Glush 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Glush 1 Test Pit 1	30 July 2006	N45 29.963, E148 37.925

Glush 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0590	Glush	Iturup	POTTERY	Pottery from erosion in front of TP 1
0591	Glush	Iturup	STONE TOOLS	Erosion face lithic
0592	Glush	Iturup	POTTERY	Pottery from cultural layer 56-80 cm below surface - two layers mixed, TP 1
0593	Glush	Iturup	LITHICS	Lithic from cultural level 56-80 cm below surface - two layers mixed, TP 1
0594	Glush	Iturup	CARBON	Sed. Sample for possible charcoal 56-62 cm below surface, between tephras - probably not cultural, TP 1
0595	Glush	Iturup	CARBON	TP 1 (erosion section), Charcoal from cultural layer from 56-80 cm below surface - two layers mixed
0716	Glush	Iturup	LITHICS	Flake from cultural level 56-80cm below surface(two layers mixed)

Geological Field Studies Report
Observations and Interpretations:
Cut through active berm: The river comes very close to the beach in a meander bend before the mouth. Adjacent to this bend, the active berm has been cut through and filled in again (there is currently no vegetation). This may be due to scour from a tsunami or from a very large flood.

Tsunami: Both excavations were too high to record tsunamis

Volcanic activity: There are at least 7 tephra (3 of which are cinders)

Archaeologial Site: Vasino 1 [VAS1]
Dates visited: 31 July, 2006

The Vasino 1 site is situated on the southwestern coast of Urup Island on Shukino Bay facing the Sea of Okhotsk. KBP researchers made an encampment on this bay near metal footings for a dock and two remnant concrete structures, which are easily visible. From this encampment the Vasino 1 site is approximately 250m northeast along the road, where artifacts were visible along the west edge of the road eroding from active dunes.

Archaeological materials discovered include fire modified rock, lithic flakes, and small amounts of undiagnostic pottery. Two test pits were excavated and artifacts were noted within an easily identifiable layer of dark sediment containing large quantities of charcoal. Trace amounts of calcined bone were also collected from this dark layer, along with charcoal samples. No radiocarbon dates were made for this site. Vasino 1 appears to contain a relatively low density of artifacts and has been heavily damaged by the road and nearby mining activities.

Vasino 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Vasino 1 Test Pit 1	31 July 2006	N45 36.979, E149 27.689
Vasino 1 Test Pit 2	31 July 2006	N45 37.013, E149 27.737

Vasino 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-8	Turf, sandy medium grains, mixed mineralogy, sub-rounded to sub-angular
2	8-10	Rooty sand, medium grained, dark brown-black, individual grains vary-salt and pepper.
3	10-14	Light brown-tan, medium grained sand, mixed mineralogy
4	14-15	(Sampled) Light colored tephra
5	15-26	Dark brown sandy soil, medium grains, mixed mineralogy, high rock content
6	26-37	Dark orangey brown soily sand, medium grains, mixed mineralogy, well sorted (32-35 (sampled) had lower soil content)
7	37-50	Dark orange brown soily sand, silt-medium grains, mixed mineralogy, root matter
8	50-52	(Sampled) Dark brown sandy silt, silt-medium grains, poorly sorted
9	52-61	Dark orangey brown silty sand

Vasino 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	75-130 (cm below datum)	Sterile sand, coarse dune sand, medium grain
2	130-147	Dark brown to black sand, medium grain, compacted, lots of charcoal, fine modified rounded cobble
3	147-160	Same as level 1

Vasino 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0199	Vasino 1	Urup	POTTERY	TP 1, 138cm below surface, pottery
0200	Vasino 1	Urup	CARBON	TP 1, 138cm below surface, charcoal
0201	Vasino 1	Urup	GEOLOGIC	TP 1, 14-15cm Sediment sample
0202	Vasino 1	Urup	GEOLOGIC	TP 1, 32 - 35cm, sed sample
0203	Vasino 1	Urup	GEOLOGIC	TP 1, 50 - 52cm, sed sample
0204	Vasino 1	Urup	GEOLOGIC	TP 1, 112 - 114cm, sed sample
0205	Vasino 1	Urup	GEOLOGIC	TP 1, 72 - 74cm, sed sample
0228	Vasino 1	Urup	FAUNAL	TP 2, level 2, 130cm below surface, bone
0229	Vasino 1	Urup	LITHICS	TP 2, level 2, 130 cm below surface, litchics
0230	Vasino 1	Urup	CARBON	TP 2, level 2, 130 cm below surface, charcoal
0438	Vasino 1	Urup	CARBON	TP2, level 2, 135 - 147cmbd, 142cm below surface, charcoal
0889	Vasino 1	Urup	STONE TOOLS	surface collection, lithic tool
0979	Vasino 1	Urup	POTTERY	Surface collection, pottery

Geological Field Studies Report

Observations and Interpretations

Eolian deposits. May be interesting comparison with other eolian areas.

Satellite image showing the location of Vasino 1 in relation to the road and KBP 2006 encampment. Courtesy of Google Earth 2007

Archaeological Site: Osma 1 [OSM1]
Dates visited: 1 August 2006

Osma 1 is located at Osma Bay, on the south end of Urup Island on the Pacific Ocean side. The site was tested in an exposed section along an eroding bank of Osma Creek on the west side of the bay. A dense and apparently cultural layer made up of of large pieces of charcoal was encountered at 46-48 cm below surface, but no definitive artifacts or fauna were encountered.

Osma 1 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Osma 1 Test Pit 1	1 August 2006	N45 35'.004, E149 27' 01.5

Osma 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	beach grass serna, peas, onions, large buttercup
2	0-8	medium brown turf with some medium grained sub-angular sand. Slightly soily at bottom
3	8-19	clean fine-medium sand with some roots in it; grains are sub-angular, some granular-sized pieces of pumice
4	19-20	dark black/brown slightly sandy soil
5	20-22	medium brown sandy soil, possibly tephra
6	22-30	medium brown gray slightly soily sand - unless otherwise noted, all sand is fine-medium sub-angular
7	30-32	sandy soil med brown, possible tephra
8	32-41	slightly soily sand, medium brown-gray
9	41-46	slightly yellow brown gray sand,some coarse grains (orange) possible tephra
10	46-48	dark gray charcoaly (lots of charcoal, big chunks) soily sand
11	48-53	slightly soily gray-brown sand
12	53-82	pretty clean sand
13	82-82+	rounded boulders and sand, probably stream channel remnants

Osma 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0402	Osma	Urup	CARBON	charcoal, osma creek section

Geological Field Studies Report
Observations and Interpretations:
Pleistocene terraces: Pleistocene terraces were present here. See Kapsyul for the discussion.

Holocene terraces in north: The profile and surrounding area is a sequence of 5-6 low terraces. These are determined to be terraces, as opposed to beach ridges, due to their shape (a "staircase", as opposed to a ridge and trough). The difference between terraces is 1-2 meters, indicating earthquakes with 1-2 m vertical offset. The terraces lose elevation towards the river and towards the north, indicating the uplift events are probably local. These terraces are Holocene in age. This is judged from their young stratigraphy.

Holocene terraces in south: The terraces south of the stream have a different sequence than those in the north. They appear to be more erosional than depositional, although no excavations were dug. There at least 3 terraces, the highest being 12 m in elevation. Because these terraces are currently at different elevations than the terraces in the north, they have experienced a different uplift history, indicating the earthquakes are produced along small local faults.

Tsunami: There were 2-3 possible tsunami deposits found along the profile.

Volcanic activity: There was a total of 3-5 tephra.

Archaeological Site: Okhonichki Creek 1 [OKH1]
Dates visited: 2 Aug 2006

The Okhonichki Creek 1 site is located on central Urup Island, approximately 6 km north of Tokotan Lake, and just to the north of Okhonichki Creek. This is an area damaged by 20th century military trenching and other disturbance. Two test pits were excavated at the site. Test Pit 1, located approximately 20 m from the beach, was a 50 cm x 100 cm pit that was all sand down to a depth of 80 cm below surface, and no artifacts or charcoal were observed or recovered. Test Pit 2, located approximately 50 m from the beach and beyond the first trench and berm feature, was a 1 m x 1 m pit with sand that included two distinct tephra layers. No charcoal or artifacts were observed or recovered from Test Pit 2 either. This site is known to include archaeological remains based on reports by V. Shubin. KBP researchers were unable to located the cultural material.

Okhonichki Creek 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-65	No stratigraphy, all sand

Okhonichki Creek 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0	beach grass, thistle, some putchka, wild geranium, onion, miscillaneus medium flowers and grasses
2	0-10	sandy grassy turf; dark gray; sand is fine-medium subangular to subrounded
3	10-26	slightly compact, slightly soily dark gray fine-medium sand
4	26-30	medium tannish brown silty tpehra; fairly clean
5	30-36	slightly soily fine-medium dark gray sand
6	36-39	medium brown silty tephra with mixed in sand; slightly creamy in color
7	39-50	dark gray fine-medium sand; slightly soily
8	50-74	black fine sand

Archaeological Site: Tokotan 1 [TOK1]
Dates visited: 2 August 2006

The Tokotan 1 site on central Urup Island is located 30 m up from Tokotan Lake along a small stream that runs into the lake. One Test Pit was dug on the right side of the stream. The first level, from 0-7 cm below surface was mostly sod and roots. The next level, 7-15 cm below surface was medium brown fine soil with roots. The third level, 15-34 cm below surface was dark brown soil with cobbles and charcoal. One ceramic shert was recovered at about 32 cm below surface from this third level. From 34-90 cm below surface, the sandy soil was reddish-yellow to beige with cobbles. At 90 cm below surface the pit contained many flat rocks and sandy soil, and this as the maximum depth of the pit.

Tokotan 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	Vegetation: shelomanik, tall flowers
2	0-3	Medium brown turf
3	3-5	0-3 cm of turfy sand with charcoal
4	5-7	med tan-gray silt-very fine sand tephra
5	7-30	red-brown sandy soil
6	30-30+	vertical rock

Tokotan 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0396	Tokotan 1	Urup	POTTERY	Ceramic sherd, 30cm below surface
0398	Tokotan 1	Urup	CARBON	charcoal from 20 - 25cm below surface sod, just belowturf level from creek erosion cut 30m up along creek from M lake

Geological Field Studies Report
Observations and Interpretations:
Tokotan 3/4 area: accretional beach sequence- either 3-4 beach ridges or Holocene marine terraces. It was difficult to tell due to military influence of the landscape. Older ridges/terraces were higher, indicating active uplift. Also, the back beach cliff was quite high (~3 m) and had an erosional profile, indicating either a recent uplift event or large storm waves causing recent erosion of the beach. There was also a higher, potentially Pleistocene, marine terrace in this area, indicating more long term uplift

Tsunami: Tsunamis could not be accurately identified as excavations either had too much sand or were too high.

Volcanic activity: There were a minimum of 4 tephras identified.

Archaeological Site: Tokotan 3 [TOK3]
Dates visited: 2 August 2006

The Tokotan 3 site on central Urup is located south of Tokotan Lake. A test pit was dug across a creek from a beach and hillside with a sequence of four ridges/terraces running parallel to the beach. The terraces are bisected at various points by trenches that appear to be 20th century military in nature. There are also numerous pit features in and among the ridges, so of which are large, deep, and steep-walled.

Tokotan 3 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Tokotan 3 TP1	8/2/06	N45 51.223 E149 46.164

Tokotan 3 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	beach grass, tistle, bird's foot composite, putchka, orange lily, chiramsha, "thicket plant"
2	0-4	very sandy turf, medium sand, light grey; 60% feldspars, 40% dark
3	4-11	very slightly soily sand; slightly brownish light grey; still turfy
4	11-15	clean turfy sand; upper medium sand; subangular; 60/40 feldspars
5	15-32	slightly soily sand; fine-medium; slightly brownish light grey; 60/40 dark; dense roots; cleaner zones at 19-21, 24-27, 30-32 but may be areas with less roots
6	32-48	brownish light grey- darker downward soily sand; medium sand; subangular; 50/50 feldspars/dark; slightly yellowy and maybe cleaner at 35-37 and 41-43
7	48-50	yellowy medium brown silty sand (dirty tephra?); medium sand subrounded
8	50-59	yellowy light grey, clean medium-coarse sand 50/50 fledspar/dark; subrounded-subangular
9	59-64	grey-yellow brown silty sand; diffuse boundaries
10	64-69	clean yellowy lt gray medium-coarse sand; moderately rounded; 60/40 dark
11	69-72	dark brown grey slightly soily fine-medium sand; 70/30 dark; subangular
12	72-78	like 64-69 but rounder; also more dark and finer downward
13	78-80	above dark grey brown sand but with lots of very fine sand brown sand
14	80-150	clean yellowy light gray medium-coarse sand; 50/50 feldspars/dark; zones where finer/darker sands dominate- 83-85; 105-106; 116-118; 140-150cm

Tokotan 3 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0400	Tokotan 3	Urup	CARBON	30 - 35cm, shabarlinka creek, ch 3

View of terraces behind beach near Tokotan 3 site. Photo: K. Ito.

Archaeological Site: Tokotan 4 [TOK4]
Dates visited: 2 August, 2006

Tokotan 4 is located on the west-central shore of Urup approximately 1.6km southwest of Lake Tokotan on the southwest side of a small river. The site is atop the second beach ridge overlooking both the river and bay. At least three possible house pits were noted amongst apparent 20th century/World War II military trenches and bunkers. One test unit was excavated between these three house pits.

Test Pit 1 was excavated using a shovel and sediment was screened through ¼ inch (0.6 cm) mesh screen. Strata 1 (0-30cm below surface) contained one projectile point, a few lithic flakes, and numerous plainware pot sherds. Strata 2 (30-42cm below surface) also contained pot sherds, lithics, ample charcoal and one calcined bone fragment, as well as a large, flat stone. Middle Okhotsk pottery was identified in both strata.

Satellite imagery for the Tokotan area shows a number of locations with apparent house pits, although KBP survey in 2006 was unable to locate many of these. Tokotan 4 appears to have some intact stratigraphy and diagnostic material and may be suitable for future research. Further survey of the embayment may also be desirable.

Tokotan 4 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Tokotan 4 Test Pit 1	2 August 2006	N45 51.043, E149 46.163

Tokotan 4 Test Pit 1

Level	Depth (cm below surface)	Sedimentological Description
1	0	Vegetation, not described
2	0-7	medium grey sandy turf
3	7-11	patchy salt and pepper silt-medium sand tephra
4	11-24	dark red-brown soily sand; root matter; gradational contact below
5	24-32	dark brown compact soily sand with charcoal fragments 1-10mm (avg 6mm)
6	32-40	medium orangey brown ms with minor silt
7	40-43	dark brown soily sand; minor charcoal content
8	43-80	dark orange brown medium sand with silt; indistinct organic rich horizons at 48-50 and 56-58

Tokotan 4 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0413	Tokotan 4	Urup	POTTERY	TP 1, level 2, ceramics
0414	Tokotan 4	Urup	POTTERY	TP 1, level 1, ceramics
0415	Tokotan 4	Urup	LITHICS	TP 1, level 1, lithic
0416	Tokotan 4	Urup	FAUNAL	TP 1, level 2, bone
0417	Tokotan 4	Urup	LITHICS	TP 1, level 2, Lithics
0418	Tokotan 4	Urup	CARBON	TP 1, level 1, charcoal
0419	Tokotan 4	Urup	CARBON	TP 1, level 2, charcoal
0891	Tokotan 4	Urup	STONE TOOLS	TP 1, level 2, 30-42 cm below surface, biface take from #0417

Satellite image of the Tokotan 4 site and surrounding area. Lake Tokotan is 1.6km to the northeast and Ainu Creek 1 is 37km southwest. Image from Google Earth 2007

Archaeological Site: Kompaniskiy 1 [KOM1]
Dates visited: 3 August 2006

The site of Kompaniskiy 1 is on northwest Urup Island at Novaya Kurilsk Bay. The site is a large eroding dune complex with several high and long erosional scarps full of tephra and cultural layers. The site is very large and appears to be spread out widely, and eroded/deflated sections contained sparse amounts of cultural materials. Six KBP participants visited the site in a stormy afternoon. After walking over much of the site north of the main stream, teams of two split off to work on documenting different dimensions of this large site.

A large surface collection of pottery and stone tools was made primarily in a large (50 meter diameter and 15 meter deep) deflation basin inside the erosion face by V. Shubin and V. Golubtsov. B. Fitzhugh and M. Etnier cleaned a section of eroding dune inside and on the west side of the same deflation basin. They found several layers including a historical layer in the top meter and a half of the eroding section. The historic layer contained a fragment of leather shoe. Early Epi-Jomon pottery fragments were actively eroding from the sand below this historic deposit down to about about 4 meters below surface. J. Bourgeois and T. Pinegina described the geological strata of this section.

Kompaniskiy 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Kompaniskiy 1 Test Pit 1	3 August 2006	N46 12.706, E150 19.007

Kompaniskiy 1 Test Pit 1 – stratigraphy measured across angular unconformity

Level	Depth (cm below vegetation slump)	Description
1	0-20	Mixed layers including three major tephra horizons
2	20-27	Green-gray layer
3	27-30	Coarse tephra
4	30-50	Sand
5	50-100	Cultural layer
6	100-240	Sand
7	240-300	Tephra

Kompaniskiy 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0429	Kompaniskiy Deflation Basin	Urup	POTTERY	surface collected ceramics
0430	Kompaniskiy Deflation Basin	Urup	LITHICS	surface collected lithics
0431	Kompaniskiy Deflation Basin	Urup	STONE TOOLS	surface collected net weights
0432	Kompaniskiy Deflation Basin	Urup	HISTORIC, OTHER METAL	surface collected hist material (oar lock, metal hinge)
0420	Kompaniskiy Deflation Basin (NW)	Urup	HISTORIC, LEATHER	leather from historic deposit from green grey tephra
0421	Kompaniskiy Deflation Basin (NW)	Urup	CARBON	charcoal from below green grey tephra (dated to 170+/-30 bp, NOSAMS # OS 59415)

0422	Kompaniskiy Deflation Basin (NW)	Urup	CARBON	charcoal from post hole, Epi-Jomon, could be used to date stratigraphic angular conformity
0423	Kompaniskiy Deflation Basin (NW)	Urup	CARBON	charcoal from cultural level w/ posthole, above angular unconformity
0424	Kompaniskiy Deflation Basin (NW)	Urup	CARBON	charcoal sample from above unit 13 (tephra)
0425	Kompaniskiy Deflation Basin (NW)	Urup	CARBON	charcoal sample from below tephra 13
0426	Kompaniskiy Deflation Basin (NW)	Urup	POTTERY	ceramics from above tephra 13
0427	Kompaniskiy Deflation Basin (NW)	Urup	STONE TOOLS	lithic artifact from above tephra 13
0428	Kompaniskiy Deflation Basin (NW)	Urup	POTTERY	ceramics from cultural level w/ posthole, above angular unconformity
0433	Kompaniskiy Deflation Basin (NW)	Urup	OSL SAMPLE	OSL sample 1, 14cm below green grey tephra
0434	Kompaniskiy Deflation Basin (NW)	Urup	OSL SAMPLE	OSL sample 2, 5cm below unit 13 tephra

Geological Field Studies Report

Observations and Interpretations:

Very windy and rainy day, working in blowing sand from eroded dunes. All observations were in eroded dunes. Excellent exposures. Strong variation in stratigraphy between dunes [as expected]. Historical artifacts buried in dunes; dunes still active. Possible river outcrops as well, no time to explore. Possible peat? A lot of disturbance of sites, still occupied by fisherman. Cabin, barbed wire, etc.

Tsunami: No record apparent in dunes [and we were some distance from shore]; but other excavations in coastal plain could reveal tsunami history. [We are on Okhotsk side, though].

Volcanic activity: Six distinctive tephra, including a "gray-green" tephra Tanya thinks might correlated with one at Tokotan.

Kompaniskiy - West wall of the deflation basin. Stratigraphy visible includes sand matrix divided by a green-grey layer above yellow tephra. Stained black laminated cultural deposits extend down to approximately 3 meters below surface, where black grades into medium brown sand. Early Epi-Jomon material was recovered from below the green-grey level down to the base of the black stained sand just above the head of the yellow-white jacket.

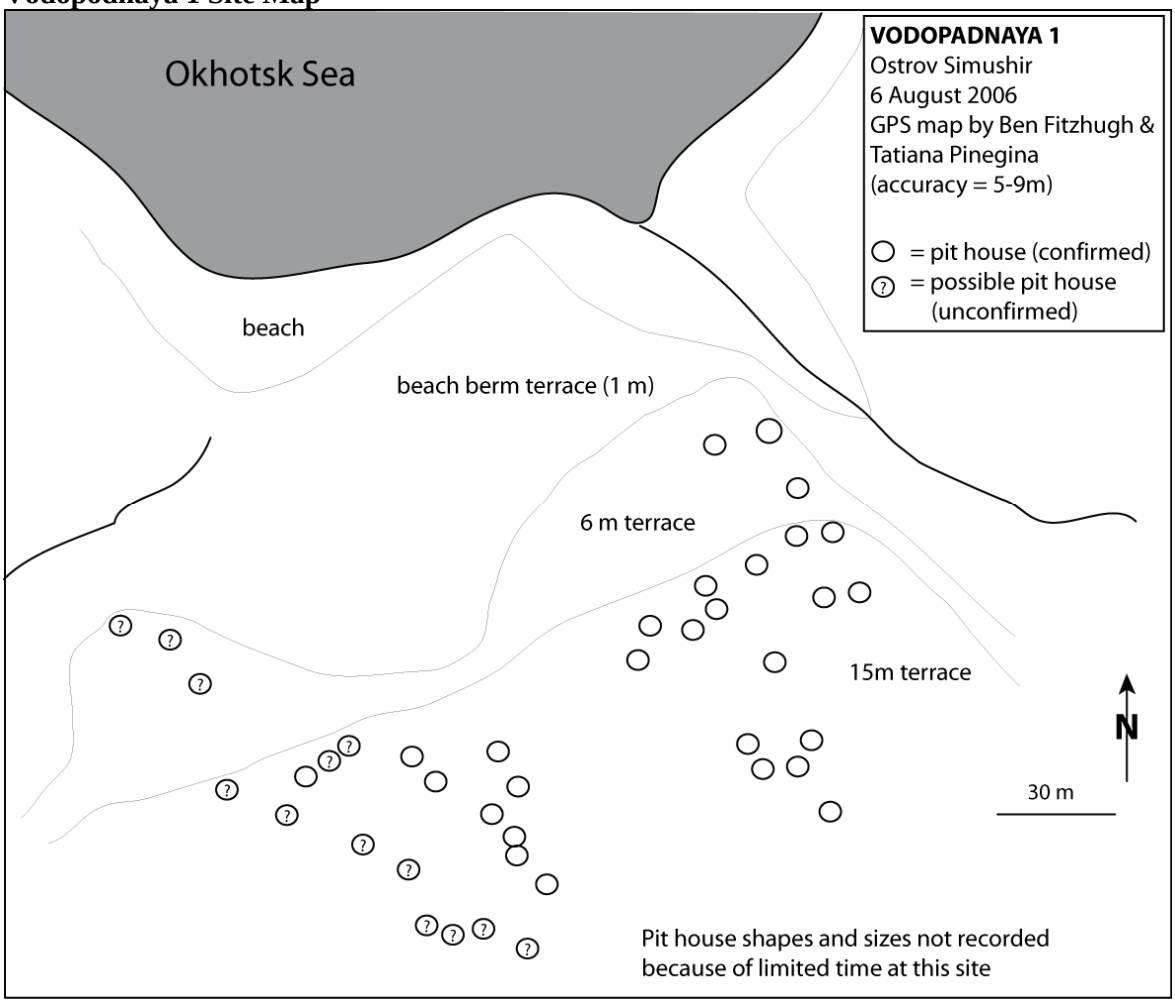
Archaeological Site: Vodopodnaya 1 [VOD1]
Dates visited: 6 Aug 2006

The Vodopodnaya 1 site is located at the northern end of Simushir Island on the Okhotsk Sea side, about 6 km southwest of the mouth of Broutona Bay. The site is approximately 1 km north of the "Vodopodnaya 3" site and 2 km north of "Vodopodnaya 2" site. Vodopadnaya 1 is situated on two successive terraces at 6 and 15 m above sea level on the left (south) bank of a small but fast stream near its outlet at the coast. A minimum of 27 house pits were mapped with a GPS, and many pits were tested with a soil probe, but no test pits were excavated or collections made. Many military features are present at the site, particularly on the lower (6 masl) terrace. This site was visited during only about 1 hour for GPS mapping. No excavations were made at this location.

Vodopodnaya 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Vodopodnaya 1 House Pits	5 August 2006	N47 05.449, E152 08.228
Vodopodnaya 1 House Pits	5 August 3006	N47 06.167, E152 08.763

Vodopodnaya 1 Site Map



Archaeological Site: Vodopadnaya 2 [VOD2]
Dates visited: 5 – 6 Aug 2006

The Vodopodnaya 2 site is located on northwestern side of Simushir Island, situated on top of a terrace 30 m above the beach. Though this site was previously known to have a small number of house pits, it was believed that no prior excavation had taken place at this site. A total 59 house pits were identified and mapped by GPS, and five Test Pits were dug at the site.

Test Pit 1 was a 1 m x 1 m test pit dug outside a house pit structure in the central section of the site east of the stream and waterfall that runs through the site. The pit was dug in 20 cm levels, and charcoal and flakes were found within the first few centimeters under the sod layer. Many flakes were made from a distinctive red chert lithic raw material. Charcoal and flakes were recovered at every level down to a depth of 50 cm below surface, which was the maximum depth of the pit.

Test Pit 2 was dug on a southern promontory west of the stream and waterfall. A number of lithic and ceramic artifacts, bones, and charcoal samples were recovered from Test Pit 2 down to its maximum depth of 52 cm below surface. The tephra stratigraphy present in the pit was also recorded.

A second Test Pit was also placed on the west of the stream near Test Pit 2. Test Pit 3 was excavated between two house pit features. The top 20-30 cm consisted of cultural fill with charcoal, ceramic sherds, and lithic flakes. At 30 cm below surface, a midden deposit was encountered with bones and shell (mostly sea urchin). Within the midden a bone disc was recovered, 6 cm in diameter and 5 mm thick, with a hole in the center and concentric rings and other designs engraved onto the surface. Additional materials in and below the midden level included bones from sea lions and whales, battered cobbles, charcoal, lithic flakes, and a broken pot that was mostly complete. The radiocarbon date reversals that are present in Test Pit 3 are probably due to the mixing of materials that fell out of the dense sea urchin lense during excavation.

Test Pit 4 was located near the western edge of the southern promontory, approximately 50 m north/northwest of Test Pit 3. Test Pit 4 was dug down to a maximum depth of 55 cm below surface, and lithic flakes and charcoal were recovered.

Test Pit 5 was located at the northern boundary of the mapped site, north of the northernmost stream at the site, 10 m from the streambed and 100 m east of the beach bluff. This pit was dug to a maximum depth of 83 cm below surface and contained no charcoal or cultural materials.

Vodopodnaya 2 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
1013	OS-59204	TP 1, Level 1	1820	30
0462	OS-59199	TP 2, Level 1, 15-23 cm below surface	1940	40
0474	OS-59197	TP 2, 45-52 cm below surface	1600	25
0479	OS-59381	TP 3, Level 2	1090	25
0483	OS-59421	TP 3, Level 3, from inside pot at base of Level 3	1300	30
0576	OS-59346	TP 3, Level 4	1740	30
0582	OS-59202	TP 3, Level 5	1260	30
0581	OS-59201	TP 3, Level 6	1650	25
0584	OS-59203	TP 3, Level 7	1700	30

Vodopodnaya 2 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Vodopodnaya 2 TP 1	5 August 2006	N47 05.422, E152 08.208
Vodopodnaya 2 TP 2	5 August 2006	N47 05.350, E152 08.105
Vodopodnaya 2 TP 3	5 August 2006	N47 05.357, E152 08.110
Vodopodnaya 2 TP 4	5 August 2006	N47 05.378, E152 08.094

Vodopodnaya 2 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-20	Dark brown soil, charcoal, flakes, and fire-cracked rock present
2	20-40	Dark brown soil, charcoal, flakes, and fire-cracked rock present
3	40-60	Dark brown soil, charcoal and flakes present
4	60-83	Dark brown soil, charcoal and flakes present

Vodopodnaya 2 Test Pit 2

Level	Depth (cm below surface)	Description
1	0	medium grasses, thistle, thicket plant "spinach looking"
2	0-8	slightly soil veg mat, very springy and tightly woven; orangey-yellowy brown
3	8-13	soily turf, some sand-coarse, some gran (cinders?); slightly dark, medium-brown
4	13-15	soily cinders; light. grey-medium brown; btm irregular, coarse-granuale; some layers also seems silty (soil?)
5	15-17	lenses of a slatey colored silt-medium sand; possibly a tephra, but I think its just a soil, couldn't get a good sample
6	17-30	silty soil, some very fine sand; medium brown; cultural level 1 and (2?); not compact
7	30-37	loam (more equal dist sand, silt, clay than above); medium brown; compact; cultural level 3
8	37-42	"hearth"; blackish medium brown soil; many pieces of charcoal and angular rocks; pockets of sandy soil (as opposed to loam)
9	42-47	slightly yellowy brown (silt-very fine sand, lots of, maybe a tephra/maybe not?) soil; compact
10	47-53	blackish brown soily silt-very fine sand; also a tephra/maybe not?
11	53-56	yellowy tan brown; clean silt-very fine sand; tephra; uneven surface~56.5 in NE crnr~64 in SW
12	56-69	slightly yellow medium brown; compact loam

Vodopodnaya 2 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-20	Sod and turf with a 1-2cm-thick layer of cinders; no cultural material above the cinders
2	20-30	Dark brown silty soil
3	30-45	Urchin midden present at 31-32cm below surface; edge of urchin lens defined by heavy concentration of charcoal
4	45-60	Urchin midden in southern 1/3 of unit excavated separately from non-midden sediments
5	60-80	Excavated southern 1/3 of unit only, through urchin lens, ending at

		tephra
6	80-90	Urchin lens 5-10cm thick
7	90-95	Culturally sterile tephra

Vodopodnaya 2 Test Pit 4

Level	Depth (cm below surface)	Description
1	0-20	Sod/humus layer
2	20-25	Reddish sand
3	25-50	Brown soil, first cultural layer
4	50-60	Reddish-brown soil, second cultural layer

Vodopodnaya 2 Test Pit 5

Level	Depth (cm below surface)	Description
1	0-20	Overburden and cinders, no charcoal or artifacts observed
2	20-40	Dark brown, very compact soil, no charcoal or artifacts observed
3	40-60	Dark brown, very compact soil, no charcoal or artifacts observed
4	60-83	Dark brown, very compact soil, no charcoal or artifacts observed

Vodopodnaya 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0460	Vodopadnaya 2	Simushir	FAUNAL	TP 2, level 1, 15-23 cm below surface, bone
0461	Vodopadnaya 2	Simushir	POTTERY	TP 2, 15-23 cm below surface, ceramics, level 1
0462	Vodopadnaya 2	Simushir	CARBON	TP 2, level 1, 15-23 cm below surface, charcoal sample
0463	Vodopadnaya 2	Simushir	LITHICS	TP 2, level 1, 15-23 cm below surface, lithics
0464	Vodopadnaya 2	Simushir	POTTERY	TP 2, level 2, 23-30 cm below surface, ceramics
0465	Vodopadnaya 2	Simushir	LITHICS	TP 2, level 2, 23-30 cm below surface, lithics
0466	Vodopadnaya 2	Simushir	CARBON	TP 2, level 2, 23-30 cm below surface, charcoal
0467	Vodopadnaya 2	Simushir	FAUNAL	TP 2, level 2, 23-30 cm below surface, bones
0468	Vodopadnaya 2	Simushir	LITHICS	TP 2, level 2, 23-30 cm below surface, lithics
0469	Vodopadnaya 2	Simushir	POTTERY	TP 2, level 3, 30-45 cm below surface, ceramics
0470	Vodopadnaya 2	Simushir	FAUNAL	TP 2, level 3, 30-45 cm below surface, bone
0471	Vodopadnaya 2	Simushir	STONE TOOLS	TP 2, level 3, 30-45 cm below surface, tool
0472	Vodopadnaya 2	Simushir	CARBON	TP 2, level 3, 30-45 cm below surface, charcoal
0473	Vodopadnaya 2	Simushir	LITHICS	TP 2, hearth, 45-52 cm below surface, lithics

0474	Vodopadnaya 2	Simushir	CARBON	TP 2, hearth, 45-52 cm below surface, charcoal
0475	Vodopadnaya 2	Simushir	FAUNAL	TP 2, hearth, 45-52 cm below surface, bones
0479	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 2, Charcoal
0480	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 2, Lithics
0481	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 2, Ceramics
0482	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 2, Faunal
0483	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 3, Charcoal from inside pot at base of level 3
0484	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 3, Lithics
0485	Vodopadnaya 2	Simushir	FAUNAL	TP 3, level 3, faunal
0486	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 3, Ceramics
0487	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 3, Charcoal from above and in midden layers
0488	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, Level 3, Battered Cobbles
0489	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 3, Midden SW corner at 43 cm below surface, 1 of 2
0490	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 3, Midden SW corner at 43 cm below surface, 2 of 2
0491	Vodopadnaya 2	Simushir	BONE TOOLS	TP 3, Level 4, Bone tools
0492	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 4, Midden from South central quadrant, 1 of 2
0493	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 4, Midden from South central quadrant, 2 of 2
0494	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 3, nearly complete ceramic vessel
0495	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal
0496	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 4, Lithics
0497	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 4, Ceramics
0498	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 4, Faunal - Bones, Teeth, Shells
0554	Vodopadnaya 2	Simushir	LITHICS	TP 4, Layer 1, Flakes
0555	Vodopadnaya 2	Simushir	CARBON	TP 4, Layer 1, Charcoal
0556	Vodopadnaya 2	Simushir	LITHICS	TP 4, Layer 2, Flakes
0557	Vodopadnaya 2	Simushir	CARBON	TP 4, Layer 2, Charcoal
0558	Vodopadnaya 2	Simushir	LITHICS	TP 1, Level 1, Lithics from 0-20 cm below surface
0559	Vodopadnaya 2	Simushir	CARBON	TP 1, Level 1, Charcoal from 0-20 cm below surface
0560	Vodopadnaya 2	Simushir	LITHICS	TP 1, Level 2, Lithics from 20-30 cm below surface
0561	Vodopadnaya 2	Simushir	CARBON	TP 1, Level 2, Charcoal from 20-30 cm below surface
0562	Vodopadnaya 2	Simushir	LITHICS	TP 1, Level 3, Lithics from 30-40 cm below surface
0563	Vodopadnaya 2	Simushir	CARBON	TP 1, Level 3, Charcoal from 30-40 cm below surface
0564	Vodopadnaya 2	Simushir	STONE TOOLS	TP 1, Level 3, Adze
0565	Vodopadnaya 2	Simushir	FAUNAL	TP 1, Level 3, Bone

0566	Vodopadnaya 2	Simushir	LITHICS	TP 1, Level 4, Lithics from 40-50 cm below surface
0567	Vodopadnaya 2	Simushir	CARBON	TP 1, Level 4, Charcoal from 40-50 cm below surface
0568	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 4, Urchin lens - "Mike's Big Bag o' Bones"
0569	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, Battered Cobbles from base of urchin lens
0570	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, Level 5, Battered Cobble
0571	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, Level 4, Battered Cobble
0572	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal (two bags)
0573	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal from below urchin lens, 68 cm below surface in SE corner
0574	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal from directly above tephra at 75 cm below surface in SE corner
0575	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal from 40 cm below surface
0576	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, Charcoal from below tephra (?) at 42 cm below surface in North wall
0577	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 3, Bulk midden sample
0578	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 6, Fauna
0579	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 6, Ceramics
0580	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 6, Lithics
0581	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 6, Charcoal
0582	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 5, Charcoal
0583	Vodopadnaya 2	Simushir	LITHICS	TP 3, Wall slump flake
0584	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 7, Charcoal
0585	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 5, Lithics
0586	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 5, Faunal
0587	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 4, North 40 cm, lithic
0588	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 4, North 40 cm, ceramics
0589	Vodopadnaya 2	Simushir	FAUNAL	TP 3, Level 4, North 40 cm, fauna
0637	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, level 4, biface
0638	Vodopadnaya 2	Simushir	FAUNAL	TP 3, level 3, fauna (unsorted)
0639	Vodopadnaya 2	Simushir	FAUNAL	TP 3, level 4, fauna (unsorted)
0640	Vodopadnaya 2	Simushir	FAUNAL	TP 3, level 6, fauna (unsorted)
0676	Vodopadnaya 2	Simushir	LITHICS	Trench section, lithics
0677	Vodopadnaya 2	Simushir	CARBON	Trench section, charcoal
0678	Vodopadnaya 2	Simushir	FAUNAL	Trench section, fauna
0734	Vodopadnaya 2	Simushir	WATER SAMPLE	Freshwater, WS#9
0781	Vodopadnaya 2	Simushir	STONE TOOLS	TP3, Level 3, lithic tools
0894	Vodopadnaya 2	Simushir	STONE TOOLS	TP 2, 30-45 cm below surface, groundstone tool
0895	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, level 3, cores

0939	Vodopadnaya 2	Simushir	LITHICS	TP 2, level 1, 15-23 cm below surface, lithic
1013	Vodopadnaya 2	Simushir	CARBON	TP1, L1 (0-20 cm below surface), charcoal
1016	Vodopadnaya 2	Simushir	BONE, WORKED	bone ornament (disk), TP3, L3
1018	Vodopadnaya 2	Simushir	BONE, WORKED	bone harpoon, TP3, L4
1022	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, from bag ID# 0568
1023	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 4, from bag ID# 0568
1024	Vodopadnaya 2	Simushir	POTTERY	TP 3, Level 4, from bag ID# 0568
1025	Vodopadnaya 2	Simushir	STONE TOOLS	TP 3, Level 4, from bag ID# 0568
1026	Vodopadnaya 2	Simushir	CARBON	TP3, Level 3, from bag ID# 0638
1027	Vodopadnaya 2	Simushir	POTTERY	TP3, Level 3, from bag ID# 0638
1028	Vodopadnaya 2	Simushir	LITHICS	TP3, Level 3, from bag ID# 0638
1035	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 4, from bag ID# 0498
1036	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 4, from bag ID# 0498
1045	Vodopadnaya 2	Simushir		TP 3, bulk midden, <1/4in screen from ID# 0577
1046	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 6, from bag ID# 0578
1047	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 6, from bag ID# 0578
1055	Vodopadnaya 2	Simushir	CARBON	TP3, Level 3, from bag ID# 0577
1056	Vodopadnaya 2	Simushir	LITHICS	TP3, Level 3, from bag ID# 0577
1057	Vodopadnaya 2	Simushir	POTTERY	TP3, Level 3, from bag ID# 0577
1059	Vodopadnaya 2	Simushir	CARBON	TP 3, Level 6, from bag ID# 0640
1060	Vodopadnaya 2	Simushir	LITHICS	TP 3, Level 6, from bag ID# 0640
1084	Vodopadnaya 2	Urup	CARBON	TP 3, Level 4, from bag ID# 0639
1085	Vodopadnaya 2	Urup	LITHICS	TP 3, Level 4, from bag ID# 0639
1086	Vodopadnaya 2	Urup	POTTERY	TP 3, Level 4, from bag ID# 0639
1087	Vodopadnaya 2	Urup	LITHICS	TP 3, Level 4, from bag ID# 0589
1088	Vodopadnaya 2	Urup	POTTERY	TP 3, Level 4, from bag ID# 0589
1089	Vodopadnaya 2	Urup	LITHICS	TP 3, Layer 3, from bag ID# 1045
1090	Vodopadnaya 2	Urup	CARBON	TP 3, Layer 3, from bag ID# 1045
1104	Vodopadnaya 2	Urup	CARBON	TP3, Level 3, from bag ID # 0493
1108	Vodopadnaya 2	Urup	CARBON	TP3,L3, 5 cent., from bulk midden, bag's ID # 0492, 0493
1109	Vodopadnaya 2	Urup	LITHICS	TP3, L3, 43 cm, SW corner, bag ID #0489
1110	Vodopadnaya 2	Urup	CARBON	TP3,L3, 43 cm, SW corner, from bag ID #0489
1119	Vodopadnaya 2	Simushir	LITHICS	lithic flake from ID #0678
1120	Vodopadnaya 2	Simushir	LITHICS	lithics from ID # 0967
1180	Vodopadnaya 2	Simushir	LITHICS	core from ID #0465

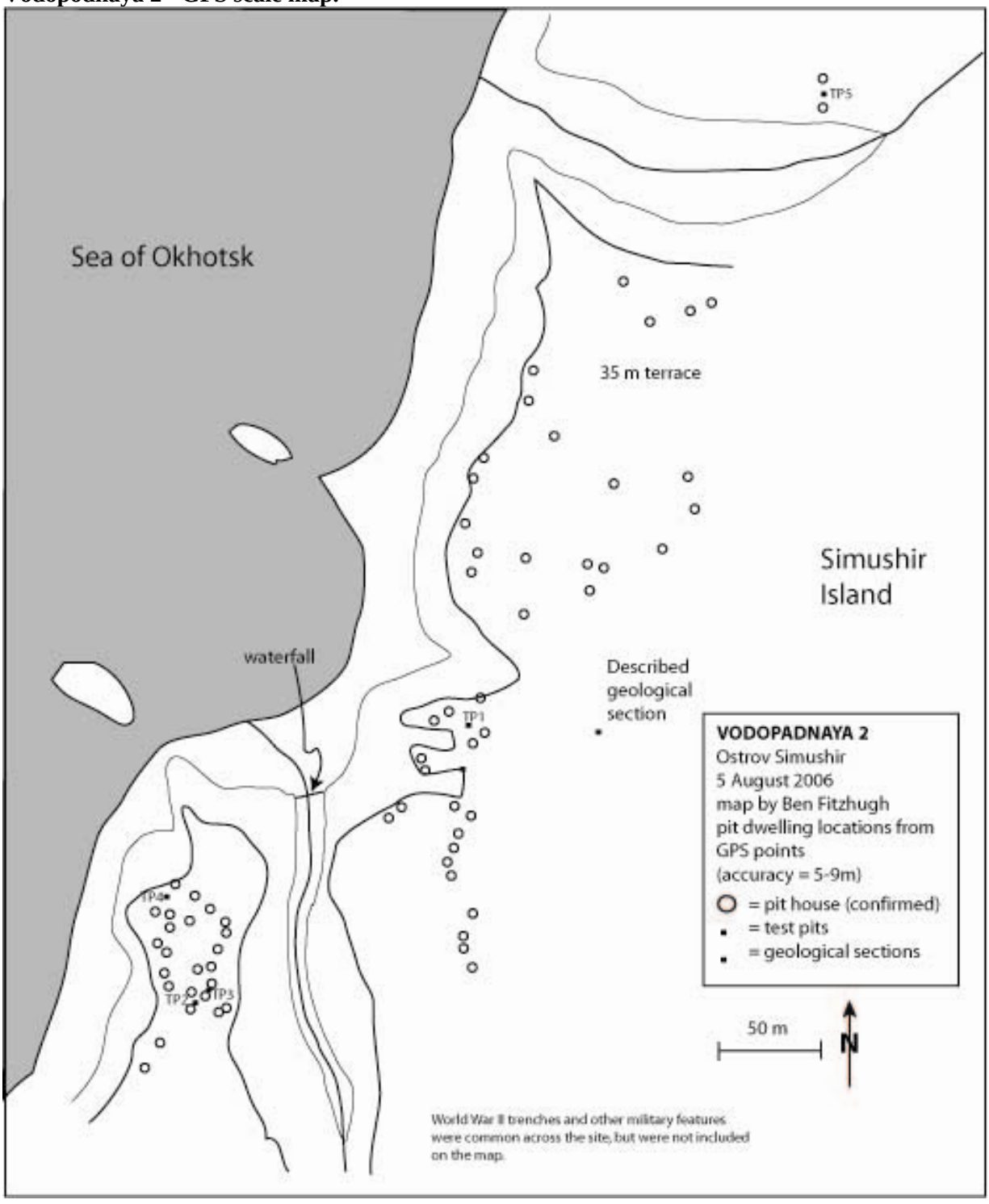
Geological Field Studies Report

Terrace or no terrace: It was too foggy to really get a good idea if the cliff on which we were digging was the edge of a terrace or not. In the short bouts of fog-breaks, it did not seem very flat once one was not immediately adjacent to the cliff. I cannot remember the bedrock orientation in the cliff and the deepest excavation was into silty-clay, not a beach-type deposit.

Tsunami: We were too high to expect tsunamis.

Volcanic activity: In the two peat excavations were there at least 11 tephra layers (or at least tephra with peat in between; some may be amalgamations).

Vodopodnaya 2 - GPS scale map.



View east of terrace where pit houses are located at Vodopodnaya 2. Houses are found on both sides of the stream and waterfall. Photo: S.C. Phillips

Vodopadnaya 2, Test Pit 3, shell and bone midden in west excavation profile. Photo by M. Etnier.

Archaeological Site: Vodopodnaya 3 [VOD3]
Dates visited: 6 Aug 2006

The Vodopodnaya 3 site is located roughly equidistant between Vodopodnaya 1 and Vodopodnaya 2, on the northern end and Okhotsk coast of Simushir Island. Several house pits were located on top of a 25 m terrace above the beach. On the north end of a bluff overlooking a tombolo spit (isthmus) that connects a sea stack to the beach, three large pit houses were located. No test excavations were made at this location. About 300 meters to the southwest, above the south end of the cove and looking down on the small islet (sea stack island),

T. Amano and K. Tezuka discovered three house pits with ring-ditches around them (see sketch map). Amano and Tezuka recognized these to be possible Ainu shaped house structures. They excavated two test pits outside of two of the houses but found no artifacts. A thick volcanic tephra was observed about 10-15 cm below surface. Test Pit 2 was placed across a trench that seemed to be an entrance tunnel or passage into a house pit. A cindery tephra capped the trench fill, clearly indicating a pre-cinder (and by inference from evidence at other sites), a pre-WWII date for the house. The original trench excavation had fill covered by about 7 cm of horizontally-bedded, organic-rich sediment that might have been anthropogenic or natural in origin, and which was in place before the cinder tephra fell. The stratigraphy beyond this was not easily interpreted, and may have been disturbed, due to the lack of a grey ash normally associated at the bottom contact of the cinder tephra, which was sitting on top of a silty layer. This potentially indicates an artificial thickening of the strata at that point, causing a separation of what may be two separate tephra events (the fine grey ash and coarse cinders).

There were many Japanese military trenches from World War II in this area, and Test Pit 3 was excavated across one of the ring trenches by B. Fitzhugh to learn if the trenches were recent (from World War II) or older and associated with the pit house. The stratigraphy of this trench was similar to Test Pit 2 and included an undisturbed vegetation and grey cinder/tephra layer in the top 13-15 cm, followed by a black sediment, about 10 cm thick. The three top stratigraphic layers had filled in the ditch that was already in place, similarly to the stratigraphy of Test Pit 2. Below this a brown and red stratigraphic layer appear to have been truncated by the excavation of the ditch.

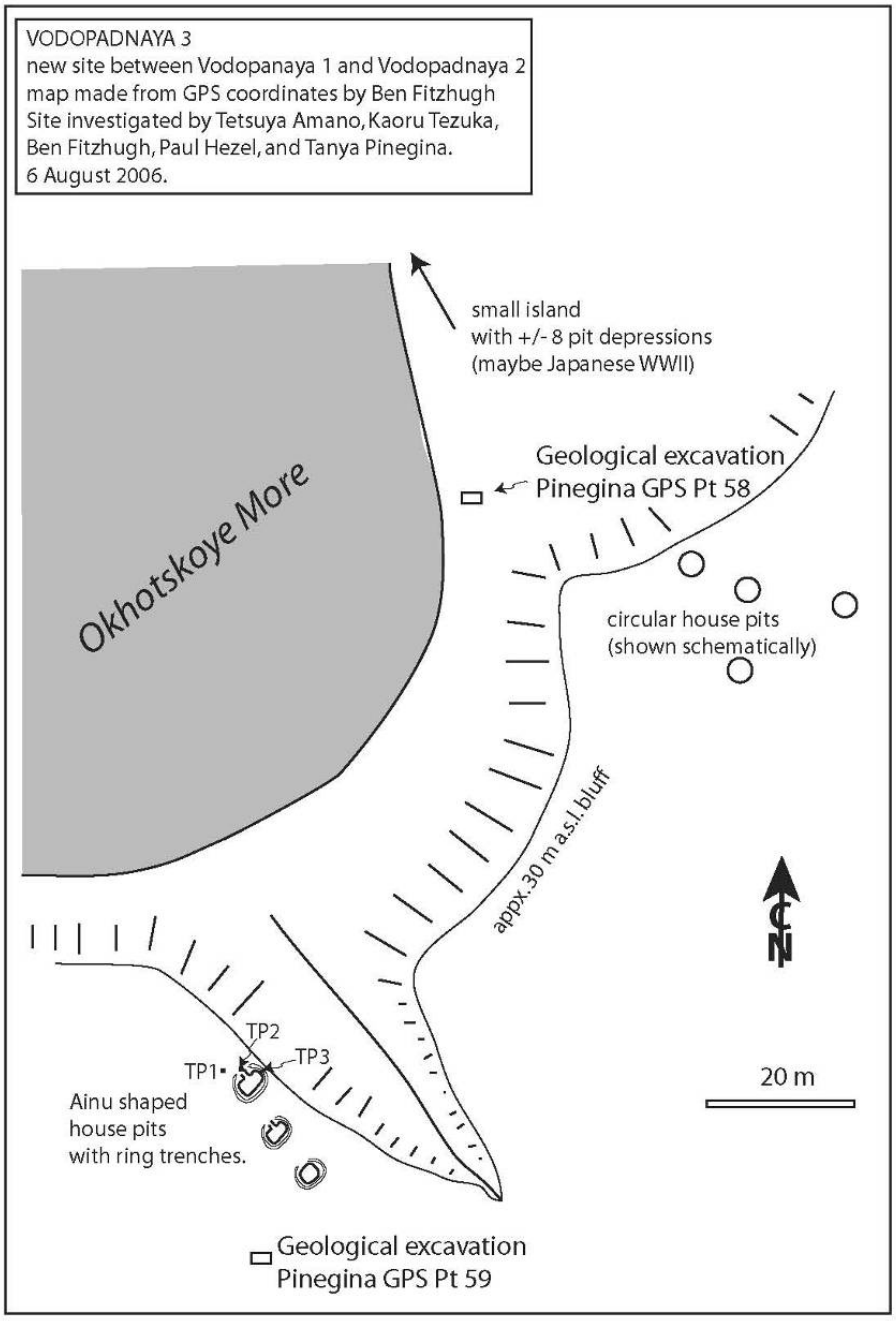
Vodopodnaya 3 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Vodopodnaya 3 Site	6 August 2006	N47 06’ 02.0, E152 08’ 35.8

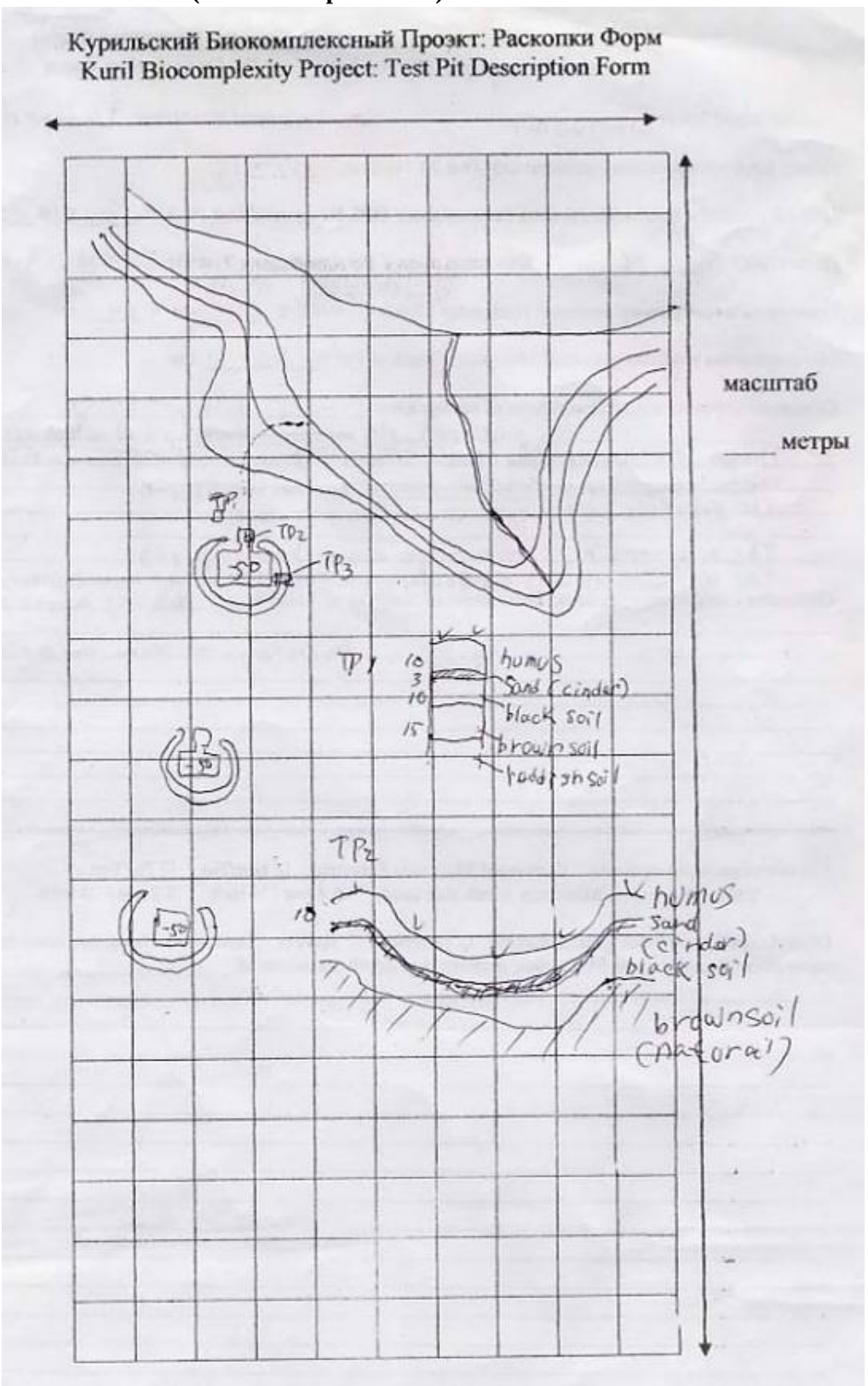
Vodopodnaya 3 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-10	Humus
2	10-13	Sand with cinders
3	13-23	Black soil
4	23-38	Brown soil
5	38-90	Reddish soil

Vodopadnaya 3 site, GPS scale map. Shape and size of houses are not indicated.



Vodopodnaya 3 site. Sketch map of southern section showing schematic drawings of the "ring-ditch" stuctures, and schematic drawings of excavation profiles for Test Pits 1 and 2 (see GPS map for scale).



Vodopadnaya 3. Pit house depression in the northern section of the site. Photo by B. Fitzhugh.

Vodopadnaya 3, Test Pit 3. Trench across the outer "ring-ditch" of the westernmost house in the southern portion of the site. This excavation is 150cm by 50 cm in size and was excavated to a depth of approximately 90cm. Photo by B. Fitzhugh

Archaeological Site: Ainu Bay 1 and 2 [AIB1 AIB2]
Dates visited: 9 August, 2006

Ainu Bay is located on the southwest of Matua Island predominately facing the Sea of Okhotsk. The shore is mostly sand, with rocky headlands bordering the bay on both the northwest and southeast ends. The beach here is backed by dunes and beach ridges, with a volcano to the north, and small streams and a wetland which drain to the sea near the middle of the bay. These wetlands support a variety of bird species, which were present during our visit. Likewise, the headlands to the southeast act as a haul-out or rookery for sea lions, which were also in abundance during our survey. The landscape surrounding the bay is heavily impacted by military activities during and since World War II. Further to the northeast are the remnants of an airfield. Concrete bunkers, trenches, and bomb craters are also apparent. This area was the scene of fierce bombardment and ground fighting during the Second World War.

During our visit teams of Russian, Japanese, and American archaeologists and geologists conducted scientific survey of the area for three days. A team of geologists and archaeologists also visited the area with the International Kuril Island Project in 2000. Some prehistoric archaeological remains were noted on the surface around the headland ridgetop to the southeast, but most archaeology was found during sub-surface testing. Currently, both Epi-Jomon and Naiji (Ainu) pottery have been identified within intact buried contexts, and two radiocarbon dates have been processed from geological/archaeological excavations. Although two archaeological sites have been designated, Ainu Bay 1 (AIB1) and Ainu Bay 2 (AIB2), the boundary between the two is poorly defined. Most of the area around the bay contains evidence of prehistoric occupation, although locating material in intact stratigraphic context was complicated by the high level of 20th century military disturbance. This island was the site of major Japanese-Russian fighting in World War II.

Ainu Bay 1 - In general, Ainu Bay 1 encompasses all archaeological materials found in the central part of the bay along the dunes, low beach ridges, and wetlands. Four possible house pits were identified in 2006. These houses contained trace amounts of marine gastropods revealed by rodent burrows and soil probes (diameter 2.5 cm). Four test units were excavated and archaeological materials were found in relatively low densities within these units. A series of possible house pits were mapped at this site in 2000 by V. O. Shubin's team, although none of the depressions mapped at that time were confirmed with subsurface testing or probes. Test Pit 1 was dug by the IKIP team in 2000.

Test Pit 2 was excavated in 2006 on a small mound which seemed to be an intact relict of the former terrain left behind by the heavy military trenching surrounding it. During excavation investigators came upon a circular rock alignment that contained dark stained sediment that seemed to dip in a 'pit' like manner. This depression feature might cover a human burial. Due to time constraints, excavation was stopped, the feature covered with plastic, and reburied for preservation and future investigation.

Test Pit 3 was a geological excavation which contained rounded beach cobbles that geologists determined were unlikely to have been deposited naturally. A shovel probe nearby uncovered one piece of fine-grained, worked basalt.

Test Pit 4, excavated into a cut-bank road, contained a stone alignment, lithics, bone, metal, and pottery. The later is most likely Naiji (Ainu), given its form and identification by Dr. Tetsuya Amano.

Ainu Bay 2 extends along the main ridge beginning at the southeast headland of Ainu Bay and is oriented generally northward from there. Along the very top of this ridge, small amounts of lithic material were noted where 20th century military trenching had disturbed buried materials. Our subsurface testing was conducted on the western slope of this ridge where a geological profile cleaning from 2000 revealed an Epi-Jomon pottery sherd in a cultural layer dated to 2345+/-37 bp (Fitzhugh et al 2002).

In 2006, three test pits were excavated in this area to better understand the extent and antiquity of human occupation at the site. Test Pit 1 contained some lithic material and a quantity of marine gastropod shells. A small number of bird bones were also collected. Test Pit 2 included small quantities of Epi-Jomon pottery, identified by Drs. Tezuka and Amano. Test Pit 3 contained one possible Okhotsk period pot sherd.

Although the Ainu Bay sites will be useful for further solidifying the chronology of various culture groups in the Kurils, especially the Ainu, further work here may not be necessary. The level of disturbance made finding intact deposits difficult, and those intact deposits found contained little cultural material. However, Ainu Bay 1 was one of the few sites we identified this summer that contained Ainu period material, and investigators may wish to revisit the site in the future to reopen the possible burial in Ainu Bay 1 (Test Pit 2 from 2006). Human remains are relatively rare in the Kuril Islands and analysis of those that do exist can contribute to understanding the genetic, morphological, and temporal relationship between Kuril occupants and those of neighboring Hokkaido and Kamchatka.

Ainu Bay 1 and 2 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Ainu Bay 1 Test Pit 2	9 August 2006	N48 02.623, E153 13.750
Ainu Bay 1 Test Pit 3	9 August 2006	N48 02.676, E153 13.621
Ainu Bay 1 Test Pit 4	9 August 2006	N48 02.751, E153 13.555
Ainu Bay 2 Test Pit 1	9 August 2006	N48 02.560, E153 13.801
Ainu Bay 2 Test Pit 2	9 August 2006	N48 02.506, E153 13.758
Ainu Bay 2 Test Pit 3	9 August 2006	N48 02.616, E153 13.811

Ainu Bay 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-30	O-horizon and cinder zone, layer is generally medium brown, organic rich soily cinders sediment is sand to gravel sized cinders, base of layer dark brown to black
2	30-40	Tan to light brown cinders with roots, cinders are more sorted and range from coarse sand to small gravel
3	40-45	Light grey tephra, sediment is clean and silty
4	45-55	Light brown cinders with some orange-red oxidized cinders grain sizes sand to small gravel
5	55-60	Soily sand, sand grains medium to course, small amounts of charcoal
6	60-85	Reddish brown silty sand with pounded cobble

Ainu Bay 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-20	Silky sand, dark brown grey, 50-75% roots, no rocks, no shell, o-horizon
2	20-24	Dark grey cinder layer
3	24-32	Silty sand, dark brown 0-25% roots, no rocks
4	32-36	Dark grey cinder layer
5	36-41	Dark brown sandy silt, 0-25% root, no rocks or shell
6	42-48	Cinder layer, silty sand, dark brown
7	48-52	Light brown sandy silt
8	52-56	Light brown cinders
9	50-61	Tan-grey sandy silt
10	61-65	Sand and Cinder, reddish brown
11	65-69	Tannish, grayish sand, compact
12	69-73	Yellowish grey sand
13	73-77	Medium brown silty sand
14	77-93	Dark grey with red-orange mottles (iron-oxide?)
15	93-127	Mottled dark grey and reddish sand with some cinders

Ainu Bay 1 Test Pit 4

Level	Depth (cm below surface)	Description
1	0-10	Sandy turf, more soily toward bottom (med to very coarse sand)
2	10-14	Dark grey sand layer, possible tsunami (cinders)
3	14-21	Dark grey brown soil
4	21-24	Cinders – dark brown to grey (cinders = dark grey/tan), coarse sand – 1cm dia cinders
5	24-30	Silty tephra
6	30-33	Cinders
7	33-35	Silty tephra – light to medium brown-grey
8	35-45	Gravel mixed min, sub-angular, possible tsunami, fine sand to 1cm, fine sant to about 1.5cm
9	45-47	Dark black brown soil
10	47-50	Black charcoal layer mit midden bones
11	50-55	Med brown silty soil – more grey on top
12	55-57	Med grey brown soil with cinders (1cm)
13	57-60	Dark/med brown silty soil
14	60-62	Med gray/brown silty soil
15	62-64	Med brown sandy soil (MM, sub-A), fine sand, possible tsunami
16	64-66	Med brown silty soil

Ainu Bay 2 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-15	Turf and root layer with lots of snail shells and large pieces of charcoal
2	15-18	Urchin lens with some snail shells and large pieces of charcoal
3	18-22	Grayish coarse tephra on top of layers of large cinders (1-3 cm, a few to 7 cm diam.) A few of the snails in the L3 faunal bag may be intrusive via rodent burrows.
4	22-33	Gray tephra overlying coarse cinder layer. L4 is culturally sterile.
5	33-37	Several small pieces of charcoal in fine grained silty brown sediment. Some caleined bone also encountered. Below L5 is culturally sterile.

Ainu Bay 2 Test Pit 2

Level	Depth (cm below surface)	Description
1	0	dogwood plant, short grasses and carex, crowberry, gentgen
2	0-12	soily dark red brown turf
3	12-20	black cinders coarse-up to 2 cm; mixed with turf and dark red soil
4	20-28	black grey coarse with gran of cinders; subangular mixed mineralogy; becomes more cindery, coarser, and tan downwards
5	28-34	tan gray silty tephra
6	34-36	tan gray medium sand-very coarse sand tephra (same as above)
7	36-37	dark brown black soily fine-coarse sand
8	37-38	tan gray silt; tephra?; bottom layer that cuts into lower layers
9	38-45	soil dark brown gray sand; medium sand; subangular
10	45-52	dark gray brown sandy soil; medium sand
11	52-55	dark black brown slightly sandy soil; medium sand
12	55-59	dark red brown silty soil

13	59-63	dark brown black sandy soil; fine-medium sand
14	63-66	top 1 cm orange tan silt; mid 1cm med brown silt-fine sand; bottom 1 cm gray tan silt; all layers discontinuous (rodent intrusion?)
15	66-67	dark red brown soil- layers no longer truncated or disturbed
16	67-69	dray brown fine sand sandy soil
17	69-70	orange tan patchy coarse silt
18	70-71	dark black brown clayey soil
19	71-93	medium orange brown tephra; more red at top, tan at btm; granules and cinders at top and bottom, rest silt
20	90-94	dark black brown silty soil
21	94-112	medium red brown fine sandy soil
22	112-114	black brown clayey soil
23	114-117	medium tan brown silty tephra
24	117-127	dark red brown fs sandy soil
25	127-152	medium orange red brown silty soil with medium sand-coarse; lower are pebbles up to 1.5 cm, pumice and rock

Ainu Bay 2 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-10	Cinder layer in black soil with roots
2	10-20	Cinders in grey-brown soil
3	20-24	Cinders volcanic rocks 2-5cm in diameter
4	24-40	Brown soil with sandy cinder layers on top of a grey-white tephra
5	40-58	Brown cinder layer
6	58-68	Black soil
7	68-72	Brown soil with charcoal
8	72-77	Brown soil on top of brown cinder layer
9	77-80	Red soil

Ainu Bay 1 and Ainu Bay 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0679	Ainu Bay 1	Matua	FAUNAL	TP 4, Level 1, bulk midden from 50-56cm below surface
0684	Ainu Bay 1	Matua	CARBON	TP 4, Level 2, charcoal from 56-66cm below surface
0686	Ainu Bay 1	Matua	LITHICS	TP 4, Level 1, lithics from 50-56cm below surface
0690	Ainu Bay 1	Matua	HISTORIC, OTHER METAL	TP 4, metal from 50-56cm below surface
0691	Ainu Bay 1	Matua	FAUNAL	TP 4, level 1, bone 56-66cm below surface
0692	Ainu Bay 1	Matua	HISTORIC, OTHER METAL	TP 2, Level 5, metal above burial, 57cm below surface
0693	Ainu Bay 1	Matua	FAUNAL	TP 4, level 2, bone, 56-66cm below surface
0694	Ainu Bay 1	Matua	CARBON	TP 4, level 1, charcoal assoc with naiji, 50-56cm below surface
0695	Ainu Bay 1	Matua	HISTORIC, OTHER METAL	TP 4, level 2, metal from 56-66cm below surface
0696	Ainu Bay 1	Matua	CARBON	TP 3, charcoal, 60cm below

				surface
0697	Ainu Bay 1	Matua	POTTERY	TP 4, level 1, ceramics 50-56cm below surface
0698	Ainu Bay 1	Matua	FAUNAL	TP 3, bone 67cm below surface
0699	Ainu Bay 1	Matua	CARBON	TP 2, Level 5, charcoal in dark grey soily sand, 57cm below surface
0700	Ainu Bay 1	Matua	GEOLOGIC	Shovel Probe near TP 5, basalt, approx55-70cm below surface
0736	Ainu Bay 1	Matua	WATER SAMPLE	Creek near TP4, water sample #11
1073	Ainu Bay 1	Matua	CARBON	TP 1, Level 1, from bag ID# 0606
1101	Ainu Bay 1	Matua	LITHICS	TP 4, Level 2, from bag ID# 0693
1129	Ainu Bay 1	Matua	CARBON	charcoal from ID #0679, TP4, cultural level 1, 50-56cm
0601	Ainu Bay 2	Matua	CARBON	Charcoal from sod, TP 1
0602	Ainu Bay 2	Matua	FAUNAL	TP 1, surface collected bone
0603	Ainu Bay 2	Matua	FAUNAL	TP 1, surface collected shell from back dirt of rodent burrow
0604	Ainu Bay 2	Matua	LITHICS	TP 1, level 1, flakes
0605	Ainu Bay 2	Matua	HISTORIC, OTHER METAL	TP 1, level 1-sod, metal
0606	Ainu Bay 2	Matua	FAUNAL	TP 1, level 1-sod, fauna
0607	Ainu Bay 2	Matua	FAUNAL	TP 1, level 2, fauna, 15-18 cm below surface
0608	Ainu Bay 2	Matua	CARBON	TP 1, level 2, charcoal, 15-18 cm below surface
0609	Ainu Bay 2	Matua	CARBON	TP 1, level 3, 18-22 cm below surface, charcoal
0610	Ainu Bay 2	Matua	LITHICS	TP 1, level 3, 18-22 cm below surface, lithics
0611	Ainu Bay 2	Matua	FAUNAL	TP 1, level 3, 18-22 cm below surface, fauna
0612	Ainu Bay 2	Matua	CARBON	TP 1, level 5, charcoal
0613	Ainu Bay 2	Matua	FAUNAL	TP 1, level 5, fauna
0680	Ainu Bay 2	Matua	POTTERY	TP 2, ceramics from 60cm below surface
0681	Ainu Bay 2	Matua	POTTERY	TP 3, ceramics from 75cm below surface, period unknown
0682	Ainu Bay 2	Matua	POTTERY	TP 2, ceramics from 110-120cm below surface
0683	Ainu Bay 2	Matua	CARBON	TP 2, charcoal from 160cm below surface
0685	Ainu Bay 2	Matua	CARBON	TP 3, Level 5(?), charcoal from 55-60cm below surface
0687	Ainu Bay 2	Matua	LITHICS	Surface collection above TP 2, lithics
0688	Ainu Bay 2	Matua	POTTERY	Surface collection from trench above TP 2, pottery
0689	Ainu Bay 2	Matua	POTTERY	TP 2, ceramics from 130 cm below surface
1044	Ainu Bay 2	Matua	CARBON	TP 1, Level 2, from bag ID# 0607

1130	Ainu Bay 2	Matua	CARBON	charcoal from ID #0603, surface collected shell from burrow

Geological Field Studies Report

Observations and Interpretations:

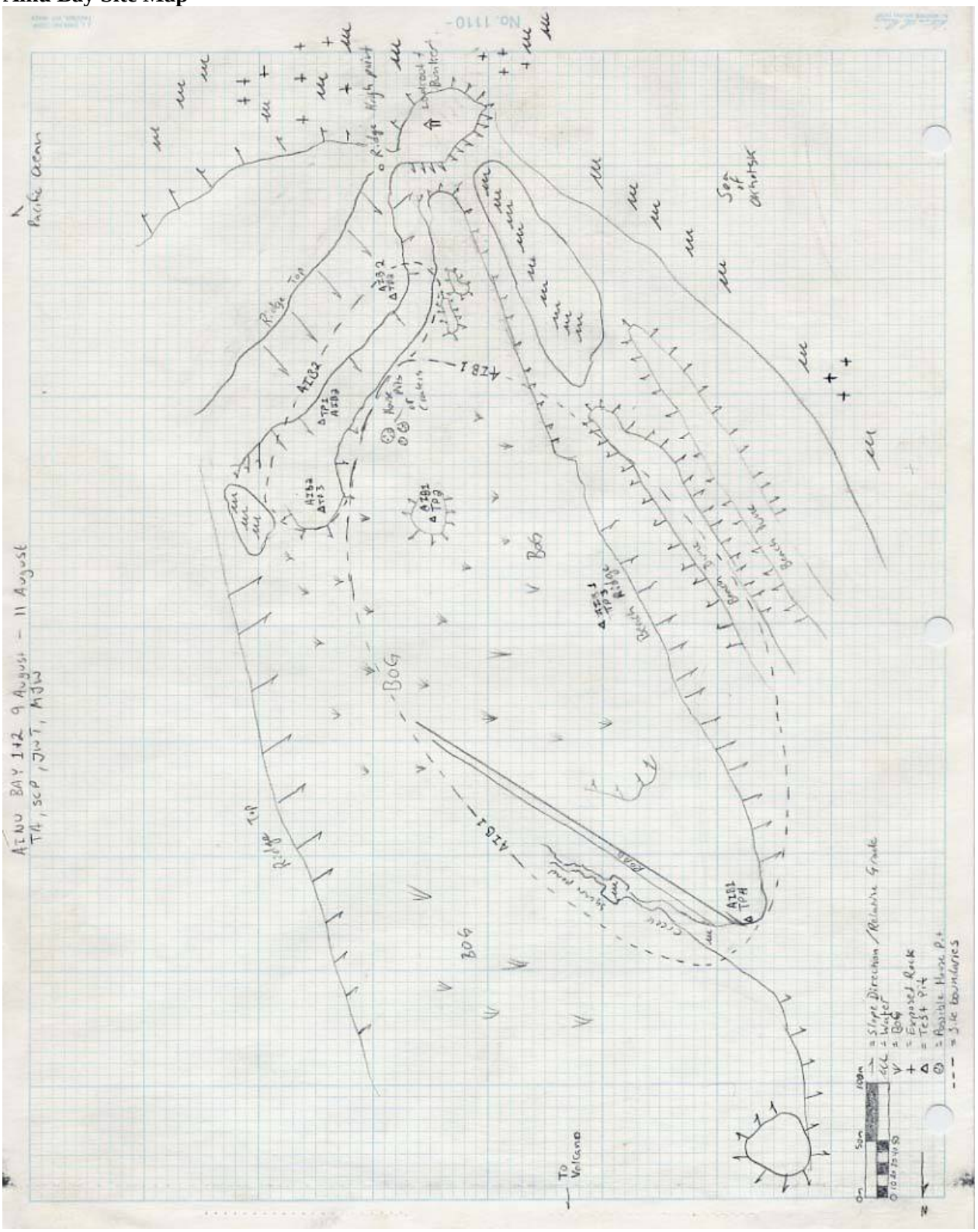
Surface between Ainu Bay and the Pacific Side: The surface between the two sides is a gentle inclined surface that extends from a few meters to 50 meters in elevation. What this surface was originally is unclear, but now it is very thick pile of tephra, suggesting it is old. The impression from Ainu Bay is that it is an alluvial fan.

2 wave-cut cliffs: There are two wave cut cliffs on either side of a peaty marsh. In the north, a few small discontinuous beach ridges are in front of the lower cliff. They disappear to the south and the storm rack-line comes all the way to the cliff. The ridges are distinctly younger in age than the marsh, and younger (but barely) than the cultural layers. The shoreline could have been at the marsh during human occupation, although there could have been an episode of erosion directly after the cultural occupation, moving the shoreline to the marsh.

Tsunami: There are 6-8 identifiable sand/rounded cinder layers along the profile. This is important information to compare with the 2006 and 2007 tsunamis.

Volcanic activity: The island is a giant pile of tephra! There are too many to count individually. There are 2-3 yellowy (alkaline) tephra, most likely to be from off-island. One of the youngest cinder/tephra/tsunami sequences intrigued Tanya, who was imagining a minor-cataclysmic event (volcanic eruption/tsunami combination).

Ainu Bay Site Map



View south into Ainu Bay. Note the high level of military disturbance. Photo: James Taylor

Ainu Bay 1, Test Pit 2. showing base of excavation and pounded cobbles where excavation was discontinued. The characteristics of this feature suggest a burial may lie below this level. Excavation tool points north; scale is 20 cm. Photo by T. Amano.

Archaeological Site: Ryponkicha 1 [RYP1]
Dates visited: 10 August 2006

Ryponkicha 1 is located on the northern tip of Ryponkicha Island in the Ushishir Group of islands in the central Kurils. The site is situated about 60 m above a cobble beach with no apparent access trail, and the site was reached via a steep slope 300 m southwest of the northern tip of the island. Two test pits were dug at the site.

Test Pit 1 was placed in a small depression among suspected house pits to see if the feature was cultural, and when a charcoal level was reached, excavation was stopped. Test Pit 1 was not described but was a shovel pit about 35 cm in diameter and about 30 cm deep where it was discontinued above a charcoal/cultural layer. Test Pit 2 was placed about 13 m northwest of Test Pit 1, between two house pit depressions. This test pit generated flakes, pottery, charcoal, and faunal remains. Test Pit 2 was excavated from surface down to 30 cm below surface, with one quarter taken down to 45-50 cm below surface to see if we could find the base of cultural deposits. Two cultural strata were found in Test Pit 2 separated by a lighter brown pumice-rich silt that looked culturally modified.

This site is very interesting for its location high up above water with no easy access to the shore. Radiocarbon dates from Test Pit 2 indicate an Okhotsk period occupation, consistent with the pottery found in the test pit. A feature of modified driftwood logs erected just north of the house pits and only a few meters from the northernmost point of the island appears to have been a support structure for a rope ladder or similar technology. This feature appears to remain from an early to mid-20th century activity and most certainly post-dates the Okhotsk house pits. It should be noted that the beach below this all along the western and northern rim of the island was densely covered with living fur seal. It is possible that past occupation of this site was for the purpose of hunting fur seals, although no fur seal bones were found in the small test pit. Instead preliminary faunal analysis suggests that birds were an important resource are this site. One additional fact is worth mentioning – there is no source of fresh water on this small, flat-topped island.

Ryponkicha 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0630	OS-59418	TP 2, level 1, 0-19 cm below surface	1090	30
0983	OS-59419	TP 2, Level 3, 30 - 45 cm below surface [from bulk midden sample 1/4" fraction]	1130	25

Ryponkicha 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Ryponkicha 1 Test Pit 1	10 August 2006	N47 32.886, E152 50.934
Ryponkicha 1 Test Pit 2	10 August 2006	N47 32.892, E152 50.930

Ryponkicha 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	Vegetation, not described
2	0-40	Sandy soil
	40-??	Black charcoal rich cultural deposit – non excavated

Ryponkicha 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-5	Sandy brown turf
2	5-10	Rich brown soil
3	10-20	Cultural layer – rich brown soil with charcoal, flakes, pottery
4	20-30	Rocky soil with pumice pieces up to 1cm in diameter, charcoal, flakes, pottery present
5	30-45	Reddish brown, finer soil with some granular-sized pieces; fish and bird bones, charcoal, flakes, and pottery present
	45-??	Unexcavated below level 5

Ryponkicha 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0626	Ryponkicha 1	Ushishir Group	CARBON	TP 1, charcoal from 10-40 cm below surface
0628	Ryponkicha 1	Ushishir Group	LITHICS	TP 2, level 1, 0-19 cm below surface, lithics
0634	Ryponkicha 1	Ushishir Group	LITHICS	TP 2, level 2, lithics
0636	Ryponkicha 1	Ushishir Group	CARBON	TP 2, level 2, charcoal
0773	Ryponkicha 1	Ushishir Group	FAUNAL	TP2, Level 3, Fauna from bulk midden material 30 - 45 cm below surface, 1/8" screened
0774	Ryponkicha 1	Ushishir Group	POTTERY	TP2, Level 3, ceramics from bulk midden sample 30 - 45cm below surface
0775	Ryponkicha 1	Ushishir Group	LITHICS	TP2, Level 3, lithics from bulk midden sample 30 - 45cm below surface
0967	Ryponkicha 1	Ushishir Group	FAUNAL	TP 2, L3, Bulk midden at 30-45 cm below surface
0968	Ryponkicha 1	Ushishir Group	FAUNAL	Tp 2, 1/4" fraction, L3, 30-45 cm below surface
0969	Ryponkicha 1	Ushishir Group	FAUNAL	TP 2, L3, 1/8" fraction
0983	Ryponkicha 1	Ushishir Group	CARBON	charcoal from TP 2, lvl 3, 30 - 45cm below surface from bulk midden sample 1/4" fraction
1138	Ryponkicha 1	Ushishir Group	CARBON	Charcoal from bulk midden, from ID #0969, TP2, L3
1139	Ryponkicha 1	Ushishir Group	LITHICS	Lithics from bulk midden, from ID #0969, TP2, L3, 30-45cm below surface
0627	Ryponkicha 1	Ushishir Group	POTTERY	TP 2, level 1, 0-19 cm below surface, ceramics
0629	Ryponkicha 1	Ushishir Group	FAUNAL	TP 2, level 1, 0-19 cm below surface, bones

0630	Ryponkicha 1	Ushishir Group	CARBON	TP 2, level 1, 0-19 cm below surface, charcoal
0631	Ryponkicha 1	Ushishir Group	POTTERY	TP 2, no level, pottery
0632	Ryponkicha 1	Ushishir Group	GEOLOGIC	TP 2, 20-30 cm, soil/tephra sample
0633	Ryponkicha 1	Ushishir Group	POTTERY	TP 2, level 2, ceramics
0635	Ryponkicha 1	Ushishir Group	FAUNAL	TP 2, level 2, fauna
0641	Ryponkicha 1	Ushishir Group	LITHICS	TP 1, flake

Geological Field Studies Report

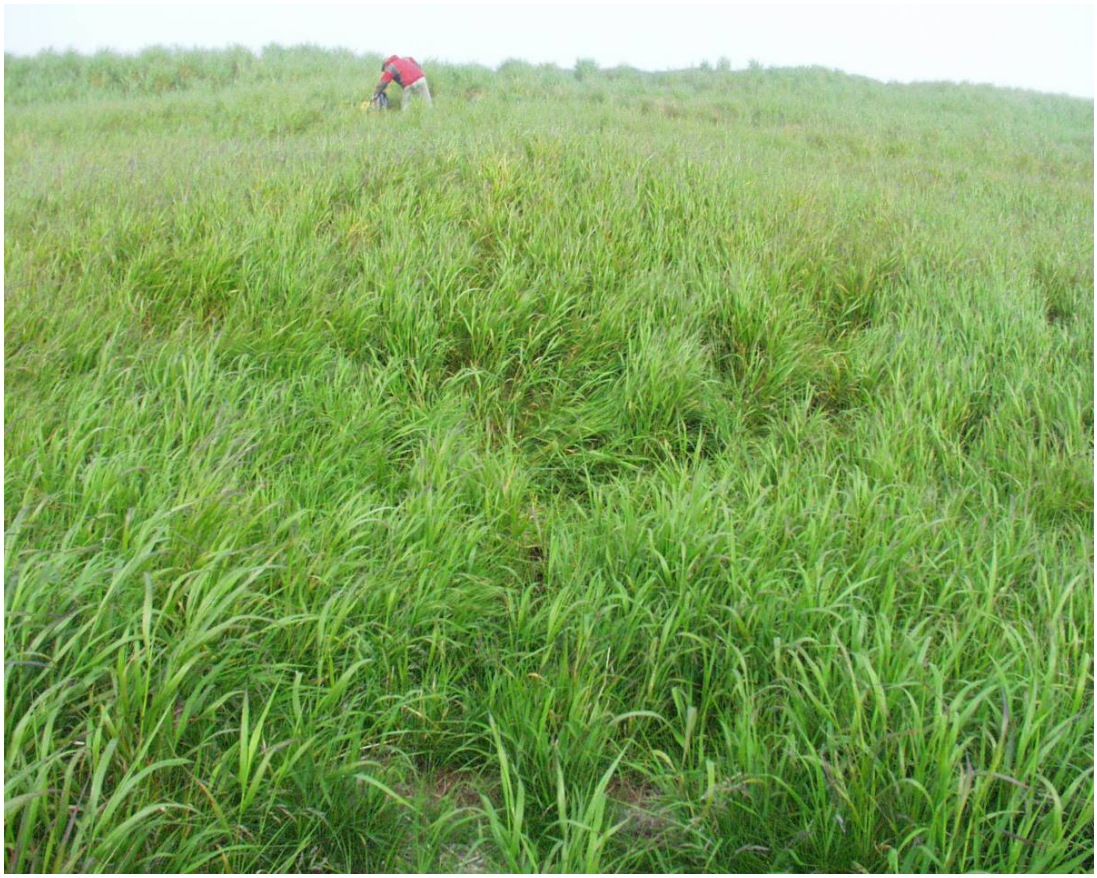
Observations and Interpretations:

Southern end of Ryponkicha – there appeared to be terraces that had been occupied, at least historically. I am not sure if the terraces are marine or fluvial [or both]. It was foggy and not much time. This is an interesting place to return to.

Northern end of Yankicha – just across a narrow, rocky, non-navigable neck from Ryponkicha, northern Yankicha is a narrow point that may be flooded during big storms and certainly by tsunamis. Quickly rising to eroded? terraces. Tall grass and lots of driftwood. Nearby cliffs eroded into pyroclastic flows. We didn't travel very far.

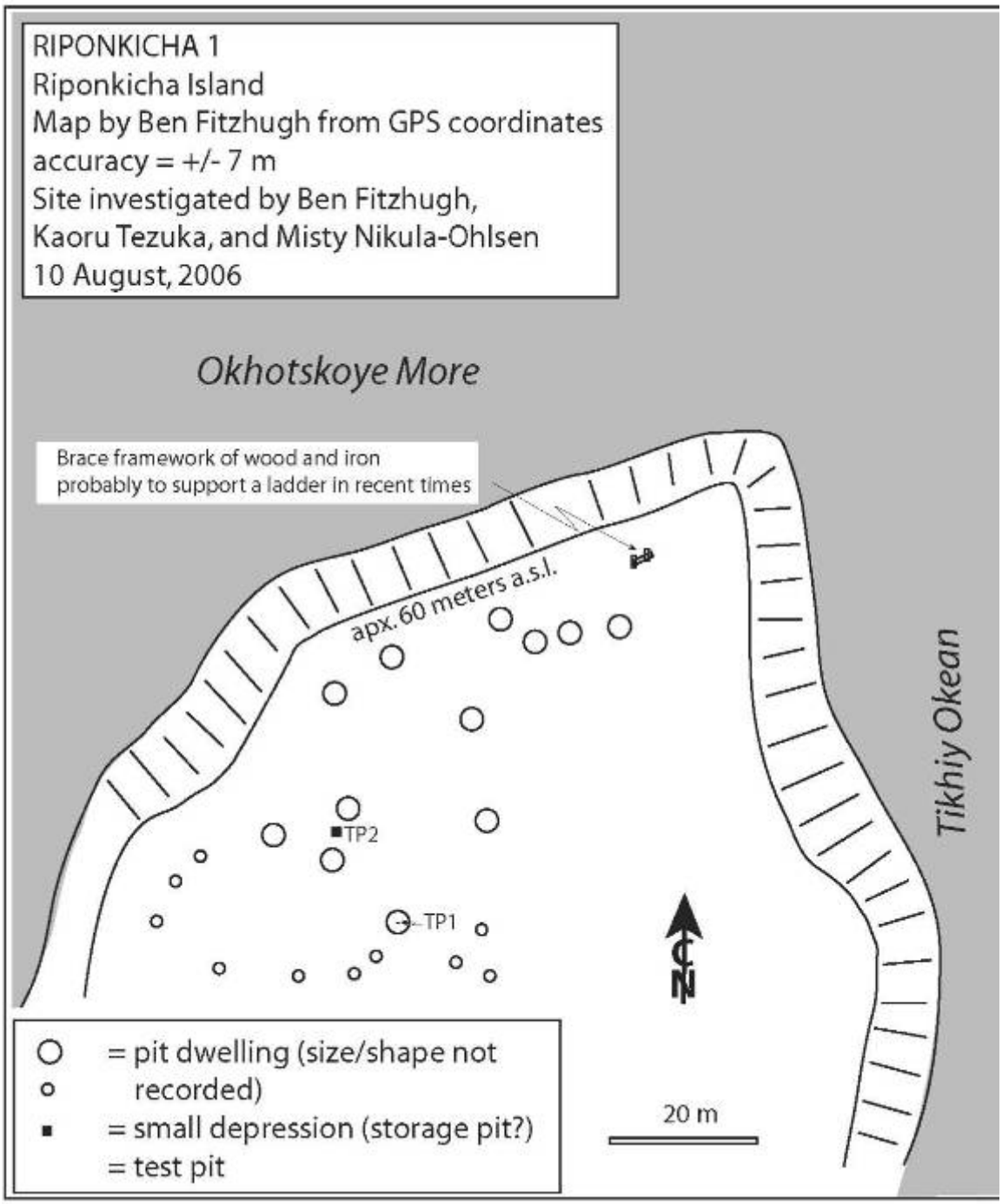
Tsunami: Between 6 and 8 tsunami deposits on south Ryponkicha. Good place to study tsunami deposits, though some disturbance, and irregular topography. Possibly several tsunami deposits on Yankicha, all excavations were archaeological, record more complex. Tsunamis likely to be erosive on point.

Volcanic activity: Ushishir caldera and pyroclastic flows [about 7500 B.P] At least three thin, potential marker tephra in excavations [probably less than 3000 years?]

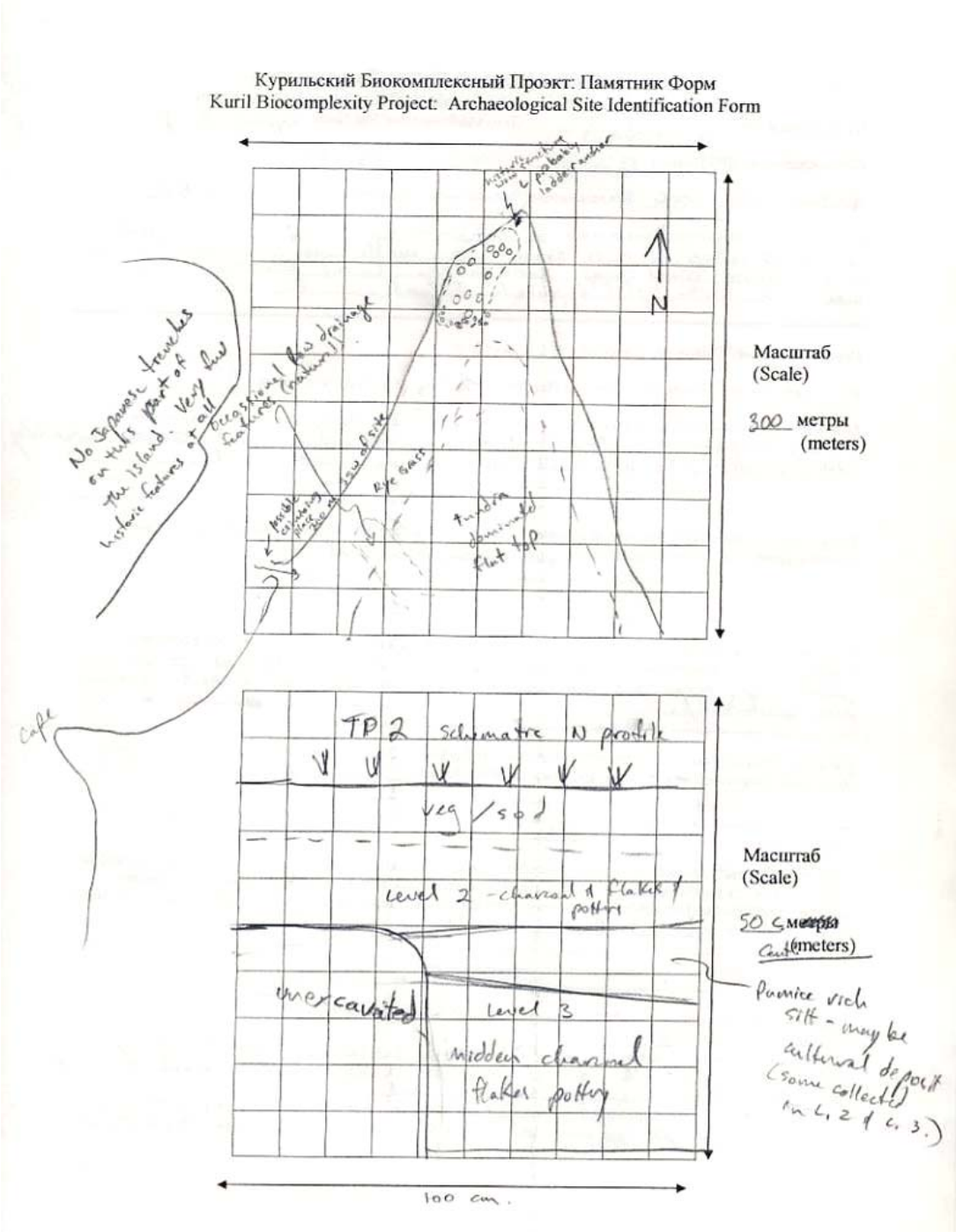


Rypponkicha site. Small hous pit with Test Pit 1 in foreground. K. Tezuka works at Test Pit 2 in the background. Photo by B. Fitzhugh.

Ryponkicha 1 GPS map of house depression, test pits, wooden feature, and island perimeter.



North Ryponkicha Island sketch map and stratigraphy from Test Pit 2



Wooden feature interpreted as a support for rope or ladder from beach 60 m below. Photo by B. Fitzhugh

Fur seals on beach below Ryponkicha 1 site. Photo by B. Fitzhugh

Archaeological Site: Yankicha 1 [YAN1]
Dates visited: 10 August 2006

The Yankicha 1 site is located on the northern tip of Yankicha Island, in the Ushishir group of in the central Kurils. The site is located approximately 1 to 4 m above sea level (asl), on the lowest portion of a ridge rising towards the outer rim of the Yankicha caldera. Most of this site, especially the parts above 2 m asl, seems to be covered by deteriorated military or Russian settlement construction of the past century.

Two test pits were excavated at Yankicha 1. Test Pit 1 was placed about 12 m south of the northern point, 2 m asl above the western beach. Test Pit 1 was dug in the side of an eroding bluff, next to possible house pit feature, and included concentrations of charcoal and bone as well as a few lithic flakes. Test pit 2 was excavated at the northern tip of the point where animal bones were observed eroding out of the turf. This test pit was made by cleaning off the overhanging vegetation to expose the eroding bank. Fauna was found in the vegetation just below surface. No other potentially cultural material was observed. Test Pit 3 was a simple cleaning of the eroding bank where the western side of the promontory is eroding onto the beach and about 2 meters west and below Test Pit 1. This cleaning off of the overhanging vegetation and eroding bank was done to explore the stratigraphic nature of the point. 20th century iron and other material was observed sticking deep into layers of the sand, but were left in place. No older cultural material was found.

This site is constructed on a remnant sand dune feature. It appears to be heavily eroded and may once have had pre-20th century archaeological deposits that are now gone. Captain H.J. Snow (1897) indicates that an old village once stood on this point.

Yankicha 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Yankicha 1 Test Pit 1	10 August 2006	N47 31.564, E152 49.524
Yankicha 1 Test Pit 2	10 August 2006	N47 31.572, E152 49.525

Yankicha 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-5	Sandy turf, possible tsunami, not very old
2	5-10	Compact turfy-soil, medium brown-slightly reddish
3	10-23	Very turfy sand, contains granule pumice grains, some charcoal, also seen in TP 2
4	23-33	Pretty clean sand with few roots, fine-medium-coarse grains, pumice bubbles , bone and charcoal, very thin to north and thickens into house pit to the south, likely a tsunami which eroded underlying cultural layer
5	33-45	Cultural level, soil, medium red-brown, turfy, top is darker, thinner to the North, thickens into the house pit to the S. (N-5-6cm, S-15cm), contains charcoal and bone

Yankicha 1 Test Pit 2

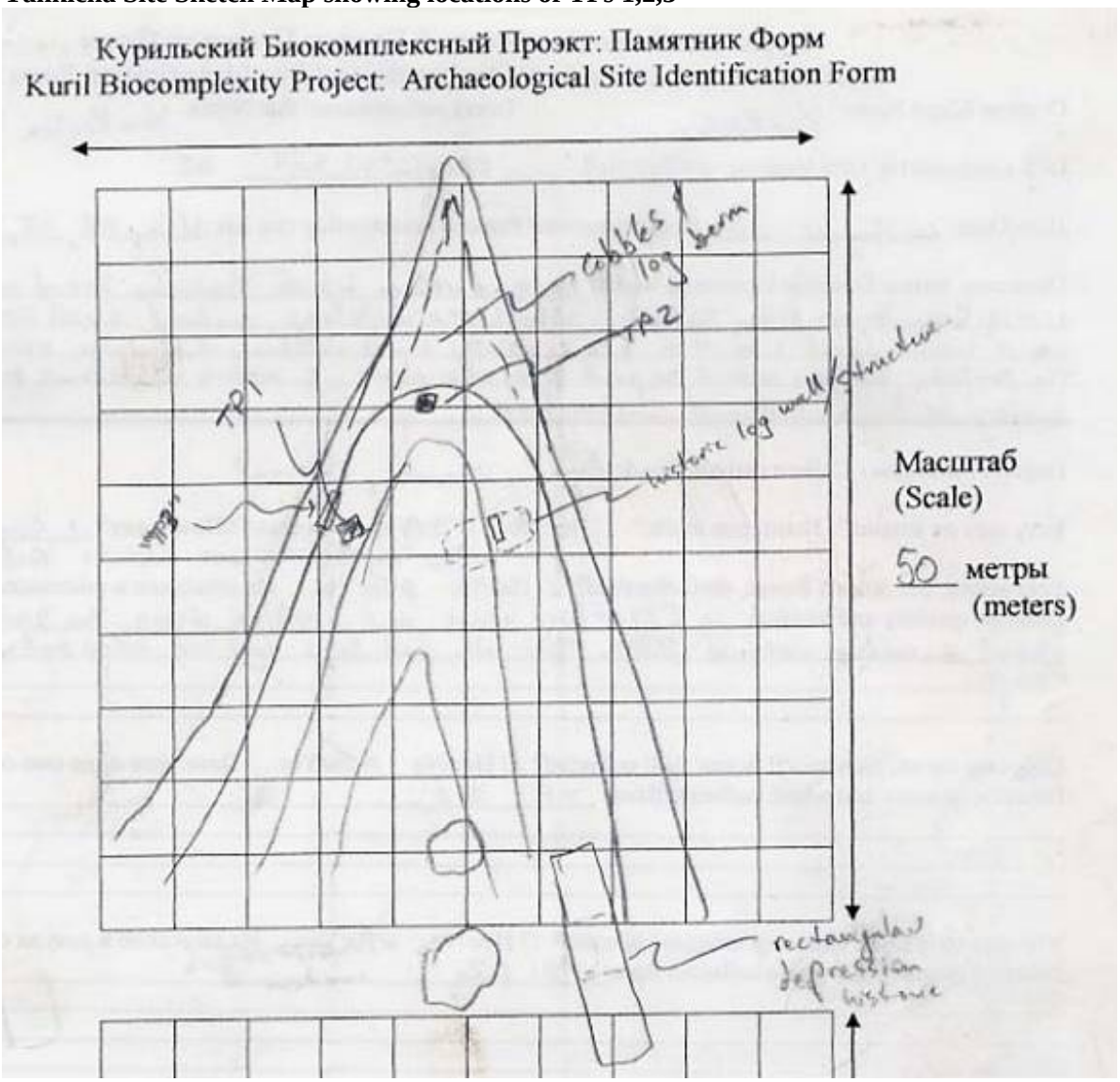
Level	Depth (cm below surface)	Description
1	0	fresh grass turf
2	0-12	lt grey turfy fine-medium sand sandy soil, rich in pumicesous grains; includes cm-scale acid cinders/lapilli; some charcoal; tsunami
3	12-20	lt red-brown turf with charcoal, bones and fine sand
4	20-30	medium brown-red conpact turf with charcoal, bones, irregular

		stratigraphy
5	30-35	wedge of light brown soily, turfy sand; pumice-rich, contains charcoal
6	35-45	sandy, soily turf to soily, turfy sand
7	45-56	turfy fine-medium sand with coarse-gray pumice; top irregular, base sharp; tsunami?
8	56-59	compact red-brown turfy soil
9	59-94	light brown slightly compact sandy turfy soil; large cobble at 70-80 cm
10	94-120	loose lt brown-grey (tan) turfy sand
11	120-122	grey clean sand
12	122-123	orange-yellow-brown fine-medium sand tephra; mised with sand? or salt and pepper?
13	123-142	grey clean fine-medium-coarse sand; lots of round pumice, several cms in diameter; a few lithic pebbles

Yankicha 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0622	Yankicha 1	Ushishir Group	HISTORIC, OTHER METAL	TP 2, turf layer, iron
0623	Yankicha 1	Ushishir Group	CARBON	TP 2, turf layer, charcoal
1091	Yankicha 1	Ushishir Group	CARBON	TP 1, from bag ID# 0621
1096	Yankicha 1	Ushishir Group	CARBON	TP 2, from bag ID# 0624
1097	Yankicha 1	Ushishir Group	LITHICS	TP 2, from bag ID# 0624
1171	Yankicha 1	Ushishir Group	CARBON	Charcoal from ID #0616
0616	Yankicha 1	Ushishir Group	FAUNAL	TP 1, Midden Concentration Sample, 41-51 cm below surface (surface slopes), sampled area: 50 cm wide, 20 cm in height
0617	Yankicha 1	Ushishir Group	WOOD	TP 1, 50-60 cm below surface - house pit level, wood
0618	Yankicha 1	Ushishir Group	STONE TOOLS	TP 1, 50-60 cm below surface - house pit level, tool
0619	Yankicha 1	Ushishir Group	CARBON	TP 1, 50-60 cm below surface - house pit level, charcoal
0620	Yankicha 1	Ushishir Group	LITHICS	TP 1, 50-60 cm below surface - house pit level, flakes
0621	Yankicha 1	Ushishir Group	FAUNAL	TP 1, 50-60 cm below surface - house pit level, fauna - ALSO possibly associated with puffin skeleton which DHB accidentally buried
0624	Yankicha 1	Ushishir Group	FAUNAL	TP 2, turf layer, fauna

Yankicha Site Sketch Map showing locations of TPs 1,2,3



Archaeological Site: Drobnyye 1 [DRO1]
Dates visited: 13 August 2006

The Drobnyye site is located in the northern section of Shiashkotan Island, at Drobnyye Point north of Zakatnaya Bay and west-south-west of Chuprova Mountain/ridge. This site is situated about 15 meters above sea level on a flat terrace on both sides of a deeply cut stream valley and vigorous stream. The site is about 1 km north of the southern edge of Drobnyye Point and about 1 km south of a mineral spring.

This is a large site with at least 18 house pits of various sizes and shapes. Most houses are roughly circular and 5-8 m in diameter, though some were smaller and had a more rectangular shape. Soil probe holes of 2 cm in diameter were made in each house pit to ensure that they were archaeological features. All houses revealed charcoal below the surface underneath a light grey tephra confirming their archaeological character. Most houses had floors with charcoal in and above them at about 25-50 cm below surface. K. Tezuka identified a "V"shaped trench feature at the western end of the northern section of the site that could have been a defensive feature of the Okhotsk or Ainu period. This "V" shaped depression or notch cuts turns the tip of the promontory into an easily defensible location with cliffs on three sides and the notch, like a moat, protecting against attack from the land site. The notch might also be naturally formed, but would have served equally well for defense if necessary.

Two test pits were excavated at the site. Test Pit 1 was placed near the bluff edge in the south sector of the site (south side of the stream: see map), and was excavated down to 45 cm below surface, where the excavation was discontinued without reaching the bottom of the cultural deposit. Cord-marked pottery, flakes, stone tools, and charcoal with some calcined bone were recovered from the pit. An apparent age radiocarbon age reversal in Test Pit 1, with an uncalibrated date from Level 2 reported as 1110 +/- 25 and Level 3 at 750 +/- 30, may be due to bioturbation from significant rodent activity that was described in the field notes. Test Pit 2 was excavated north of the stream near the top of a promontory 30 m northeast of a V-shaped cut at the western tip of a small peninsula. Epi-Jomon pottery, many flakes, several stone tools, and a large amount of charcoal were recovered from Test Pit 2.

This site appears to be a very important location for the study of Central Kuril archaeology. Radiocarbon dates from Test Pit 1 match ceramic styles that indicate that the site was occupied by Epi-Jomon, and Okhotsk groups. The possible defensive notch could also reflect an Ainu occupation, although Ainu occupation was not confirmed. We were told of reports that an Ainu village was situated on the northern end of Shiashkotan in the 17th or 18th century before it was destroyed by the eruption of Sinarka Volcano.

Drobnyye 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0715	OS-59036	TP 1, Level 2	1110	25
0750	OS-59106	TP 1, Level 3	750	30
0758	OS-59190	TP 1, Level 4	1460	35
0765	OS-59107	TP 1, Level 5	1470	35
0770	OS-59195	TP 1, Level 6	2130	35
0723	OS-58974	TP 2, Level 2	960	25

Drobnyye 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Drobnyye 1 House Pit	13 August 2006	N48 50.996, E154 05.727
Drobnyye 1 Test Pit 1	13 August 2006	N48 51.098, E154 05.767
Drobnyye 1 Test Pit 2	13 August 2006	N48 51.223, E154 05.637

Drobnyye 1 Test Pit 1

Level	Depth (cm below surface)	Description
0	0-5	Vegetation/sod. material
1	5-8	Fine grain beige tephra with roots
2	8-28	Dark brown silt with charcoal and artifacts (pottery, lithics)
3	28-30	Light grey-tan fine grain silt tephra
4	30-45	Dark brown silt with cultural material
	45-?	Cultural deposit continues – unexcavated below level 4

Drobnyye 1 Test Pit 2

Level	Depth (cm below surface)	Description
0	0-14	Sods and two tephras (close together)
1	14-40/45	Dark brown cultural soil with lots of charcoal, flakes, a few burned bones and ceramics
2	40/45-52	Dark medium brown soil with charcoal, rocks, pottery and small amount bone.
3	52-102	Medium brown silty/cinder sand? Soil with fcr, flakes, charcoal- becoming lighter brown and wetter by 75 cm- Level 3 excavated with shovel only in SW quadrant (25x25 cm)
	102-??	Cultural deposit continues below 102 cm. Unexcavated below Level 3

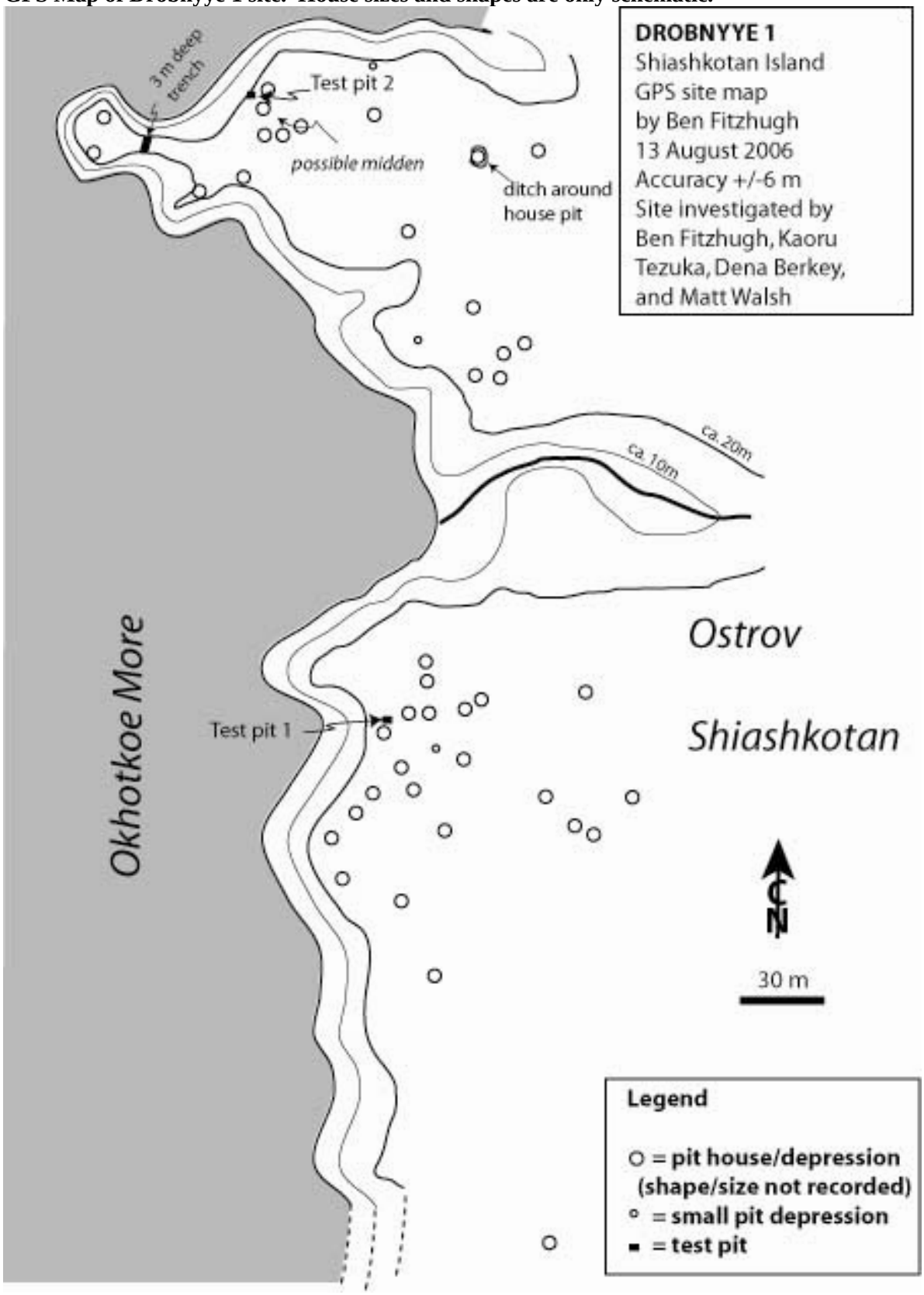
Drobnyye 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0701	Drobnyye 1	Shiashkotan	LITHICS	TP 1, level 2 lithic from 20-40cm below surface
0702	Drobnyye 1	Shiashkotan	GEOLOGIC	TP 1, tephra, 5-8cm below surface
0703	Drobnyye 1	Shiashkotan	POTTERY	TP 1, ceramics above tephra (tephra at 5-8cm below surface)
0704	Drobnyye 1	Shiashkotan	CARBON	TP 1, carbon above tephra
0705	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 1, lithics, biface prob above tephra
0706	Drobnyye 1	Shiashkotan	POTTERY	TP 1, level 2, ceramics 20-40cm below surface
0707	Drobnyye 1	Shiashkotan	FAUNAL	TP 1, level 2, bone, 20-40cm below surface
0708	Drobnyye 1	Shiashkotan	LITHICS	TP 1, level 2, lithics, 20-40cm below surface
0709	Drobnyye 1	Shiashkotan	POTTERY	TP 1, level 1, sod, pottery
0710	Drobnyye 1	Shiashkotan	LITHICS	TP 1, Level 1, flakes
0711	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 1, Level 3, tool, 40-60cm below surface
0712	Drobnyye 1	Shiashkotan	LITHICS	TP 1, level 3, flakes, 40-60cm below surface
0713	Drobnyye 1	Shiashkotan	POTTERY	TP 1, level 3, pottery, 40-60cm below surface
0714	Drobnyye 1	Shiashkotan	FAUNAL	TP 1, level 3, bone, 40-60cm below

				surface
0715	Drobnyye 1	Shiashkotan	CARBON	TP 1, level 2, carbon
0717	Drobnyye 1	Shiashkotan	POTTERY	TP 2, level 1, ceramics
0718	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 2, level 1, biface
0719	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 2, level 2, hammer stone
0720	Drobnyye 1	Shiashkotan	POTTERY	TP 2, level 2, ceramics
0721	Drobnyye 1	Shiashkotan	LITHICS	TP 2, level 2, flakes
0722	Drobnyye 1	Shiashkotan	CARBON	TP 2, level 1 (lower part), charcoal from bottom half of layer
0723	Drobnyye 1	Shiashkotan	CARBON	TP 2, level 2, charcoal from base of level 2 near epi jomon ceramic
0724	Drobnyye 1	Shiashkotan	CARBON	TP 2, level 2, 40-60cm below surface, charcoal from top 15 cm of level near south wall
0725	Drobnyye 1	Shiashkotan	CARBON	TP 2, level 1, charcoal from top of cultural level
0726	Drobnyye 1	Shiashkotan	CARBON	TP 2, level 3, SW quadrant shovel extension, charcoal from shovel probe
0727	Drobnyye 1	Shiashkotan	LITHICS	TP 2, level 1, flakes
0728	Drobnyye 1	Shiashkotan	LITHICS	TP 2, level 3 shovel probe, flakes
0729	Drobnyye 1	Shiashkotan	FAUNAL	TP 2, level 3 shovel probe SW quad, bone
0730	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 2, level 2, scraper
0731	Drobnyye 1	Shiashkotan	FAUNAL	TP 2, level 2, fish scales
0732	Drobnyye 1	Shiashkotan	FAUNAL	TP 2, level 2, bone
0733	Drobnyye 1	Shiashkotan	FAUNAL	TP 2, level 1, bone
0739	Drobnyye 1	Shiashkotan	CARBON	TP 1, Charcoal below tephra
0740	Drobnyye 1	Shiashkotan	FAUNAL	TP 1, fish scale below tephra
0741	Drobnyye 1	Shiashkotan	LITHICS	TP 1, Lithics below tephra
0742	Drobnyye 1	Shiashkotan	FAUNAL	TP 1, fauna below tephra
0743	Drobnyye 1	Shiashkotan	LITHICS	TP1, No Provenience, Lithics
0744	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, No Provenience, Microblade
0745	Drobnyye 1	Shiashkotan	POTTERY	TP1, No Provenience, ceramic
0746	Drobnyye 1	Shiashkotan	FAUNAL	TP1, No Provenience, Fauna
0747	Drobnyye 1	Shiashkotan	LITHICS	TP1, Burrow, Level 3, cobble
0748	Drobnyye 1	Shiashkotan	POTTERY	TP1, Level 3, Above Tephra, Ceramics
0749	Drobnyye 1	Shiashkotan	LITHICS	TP1, Level 3, Above Tephra, Flakes
0750	Drobnyye 1	Shiashkotan	CARBON	TP1, Level 3, Above Tephra, Charcoal
0751	Drobnyye 1	Shiashkotan	LITHICS	TP1, Level 3, Below Tephra, Lithics
0752	Drobnyye 1	Shiashkotan	POTTERY	TP1, Level 3, Below Tephra, Ceramics
0753	Drobnyye 1	Shiashkotan	STONE	TP1, Level 3, Below Tephra, Lithic

			TOOLS	Tool
0754	Drobnyye 1	Shiashkotan	CARBON	TP1, Level 3, Below Tephra, Charcoal
0755	Drobnyye 1	Shiashkotan	FAUNAL	TP1, Level 3, below tephra, fauna
0756	Drobnyye 1	Shiashkotan	LITHICS	TP1, Level 4, lithics
0757	Drobnyye 1	Shiashkotan	POTTERY	TP1, Level 4, Ceramics
0758	Drobnyye 1	Shiashkotan	CARBON	TP1, Level 4, Charcoal
0759	Drobnyye 1	Shiashkotan	FAUNAL	TP1, Level 4, fauna
0760	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, Level 4, lithic tools
0761	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, Level 4, microblades
0762	Drobnyye 1	Shiashkotan	POTTERY	TP1, Level 5, ceramics
0763	Drobnyye 1	Shiashkotan	LITHICS	TP1, Level 5, lithics
0764	Drobnyye 1	Shiashkotan	FAUNAL	TP1, Level 5, fauna
0765	Drobnyye 1	Shiashkotan	CARBON	TP1, Level 5, charcoal
0766	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, Level 5, biface from 70cm below surface, N Wall
0767	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, Level 5, Biface Point, 70cm below surface, S Wall
0768	Drobnyye 1	Shiashkotan	STONE TOOLS	TP1, Level 5, lithic tool
0769	Drobnyye 1	Shiashkotan	LITHICS	TP1, Level 6, lithics
0770	Drobnyye 1	Shiashkotan	CARBON	TP1, Level 6, charcoal
0771	Drobnyye 1	Shiashkotan	GEOLOGIC	TP1 upper 6 - 8, tephra sample
0772	Drobnyye 1	Shiashkotan	GEOLOGIC	TP1, 20 - 22 cm below surface tephra sample
0901	Drobnyye 1	Shiashkotan	STONE TOOLS	TP 1, Level 1, 0-20 cm below surface, point
1010	Drobnyye 1	Shiashkotan	CARBON	TP1, L3 charcoal
1011	Drobnyye 1	Shiashkotan	CARBON	TP1, L1 (sod), charcoal
1155	Drobnyye 1	Shiashkotan	CARBON	Charcoal from ID #0729, from TP2, L3 SW quad
1158	Drobnyye 1	Shiashkotan	CARBON	Charcoal from ID #0759, from TP1, L4

GPS Map of Drobnyye 1 site. House sizes and shapes are only schematic.



Drobnyye 1 site. Vew south to the southern portion of the site. Photo by B. Fitzhugh

Drobnyye 1. View west showing promontory on the western edge of the northern section of the site. A possibly artificial "V"-shaped notch can be seen to the right of the promontory. Ekarma Island is visible in the distance. Photo by B. Fitzhugh

Drobnyye 1, Test Pit 2 stratigraphyvisible upon termination of excavation Scale is marked in 1 and 10 cm increments. Arrow points to magnetic north. Photo by B. Fitzhugh

Drobnyye 1. Epi-Jomon pottery fragments from Drobnyye 1. Photo by B. Fitzhugh

Archaeological Site: Grotovyye 1 [GRO1]
Dates visited: 13 & 14 August 2006

Grotovyye 1 is located on the northwestern shore of the southern section of Shiashkotan Island, on the northwest side of Kuntamintar Volcano and approximately 1.5 km south of Cape Grotovyye and 2.5 km west-south-west of Zakatnaya Bay. The archaeological deposit is situated on the second terrace about 20 meters back from the shore of a small cove. The site is surrounded on three sides by steep cliffs and slopes rising to approximately 200 m above the site. A nearby stream with mineral rich water drains into the ocean about 40 meters southwest of the site. This stream emerges from the slopes on the southern side of the cove and the stream water here turns white when it enters the salt water. The rocks around the outlet of this spring are coated with white mineral deposits from the water. For this reasons, in some of our records, this site was called "Beli Rouchey" or "White Stream."

The archaeological site is located on a second terrace just a few meters south of a scree or talus deposit. Two test pits were dug at the site, and both contained stone artifacts of various raw materials. Test Pit 2 also contained some pottery fragments within a charcoal layer.

This site was discovered by a shore team deposited at this location in the fog by V. Shubin on 13 August. On the 14th of August, Shubin, Golubtsov, Fitzhugh, Amano, and geologist Jody Bourgeois revisited this site. They examined the lower terrace and excavated two more shovel tests closer to the stream but found no evidence of additional archaeological material.

Grotovyye 1 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Grotovyye 1 Test Pit 1	13 August 2006	N48 46.645, E 154 00.371
Grotovyye 1 Test Pit 2	13 August 2006	N48 46.645, E 154 00.371

Grotovyee 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	Vegetation: grasses, thistle, lily, louse wart
2	0-1	clean turf - sod
3	1-2	dark brown, slightly soily sod
4	2-4	turfy dark brown clay-rich soil
5	4-10.5	dark med brown clay-rich soil; slightly sandy (fine to very coarse sand, rounded); includes some small lenses that are sandier than the rest of the seds.
6	7-8	distinctly sandier lens in 4-10.5
7	10.5-12	yellowish medium brown silty clay tephra
8	12-13	silty clay, possible tephra; dark brown
9	13-18	very sandy clay; dark brown; fine to very coarse sand, mostly sub-angular with mixed mineralogy
10	18-20	slightly silty dark grey brown clay
11	20-24.5	dark brown, very sandy clay; fine-coarse-(very coarse sand); rounded pumice weathered to orange crumbly grains
12	24.5-26.5	gray brown snady clay; fine-coarse, subangular to sub rounded; large pieces of charcoal
13	26.5-27	lenses of medium gray silty clay
14	27-34	clayey sand; fine-granule; granules are rounded, others show all kinds of rounding
15	34-35	dark gray slit-very fine sand, possible tephra
16	35-39	clayey sand; fine-gran; granules are rounded, others show all kinds of rounding

17	39-55	slightly yellow gray med brown sandy silty clay with large pieces of rock from a few mm to 25 cm, rounded and angular, lithic and pumice; highly weathered (most can be cut with shovels); very dense root mass growing around the rocks; possible regolith

Grotovyye 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-31	Peat-like, brown, organic-rich sediment with multiple tephras
2	31-35	Dark brown to black soily sand with large amounts of cultural material including dense concentrations of charcoal, cobbles, lithics, and pottery
3	35-66	Culturally sterile

Grotovyye 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0857	Grotovyye 1	Shiashkotan	LITHICS	TP 1, L2, flake, ~30 cm below surface
0858	Grotovyye 1	Shiashkotan	CARBON	TP1, L2, charcoal
0863	Grotovyye 1	Shiashkotan	LITHICS	TP 2, 31-35 cm below surface, lithics
0865	Grotovyye 1	Shiashkotan	CARBON	TP 1, charcoal, 24.5-26.5 cm below surface
0867	Grotovyye 1	Shiashkotan	CARBON	TP 2, 31-35 cm below surface, 1 piece of charcoal
0868	Grotovyye 1	Shiashkotan	CARBON	TP 2, 31-35 cm below surface, bulk charcoal

Geological Field Studies Report

Observations and Interpretations:

2 wave-cut cliffs in Beliruchka: There are two wave cut cliffs into debris flow/talis slopes in the north side of Beliruchka. The higher surface, below the upper cliff has cultural material and the lower one is below the storm rack-line. The difference between the two cliffs is most likely due to uplift.

Terrace: The surface we walked on at Grotovyye and Drobnyye seems to be a terrace. The bedrock is not parallel to the surface (especially noticeable at and north of Drobnyye). Many of the test pits end in particularly sandy soil, especially in Drobnyye. This may be tephra but it also could be marine sand. Generally, the terrace is 80 m in elevation, but it increases in height to 160 m at Beliruchka. If the terrace is 5a, this would be an uplift rate of 1.1 mm/yr increasing to 2.1 mm/yr. If it was 5e, this would be an uplift rate of 0.6 mm/yr, increasing to 1.3 mm/yr.

Tsunami: There are 1-3 tsunamis recorded as sand layers in Beliruchka. The other locations are too high.

Volcanic activity: The young surface at Belirucka has only 2-3 tephra. The deepest section at Grotovyye has ~10 tephra. The cultural sections at Drobnyye have only 1-2 tephra (the lower tephra is missing in one, suggesting it was disturbed by humans).

Archaeological Site: Grotovyye 2 [GRO2]
Dates visited: 13 August 2006

Grotovyye 2 is located on the western coast of Shiashkotan Island on top of a platform more than 40 m above a small northwest-facing beach immediately west of Cape Grotovyye. The beach provides a relatively safe landing area and access to fresh water in the form of a waterfall that drains to the beach. This site was discovered during a pedestrian survey of Cape Grotovvye. One 30x30 cm shovel test pit was dug next to a probable house pit depression. Charcoal was collected from 23-30 cm below the surface, but no artifacts were found.

Grotovyee 2 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Grotovyye 2 Test Pit 1	13 August 2006	N48 46.947, E154 01.398

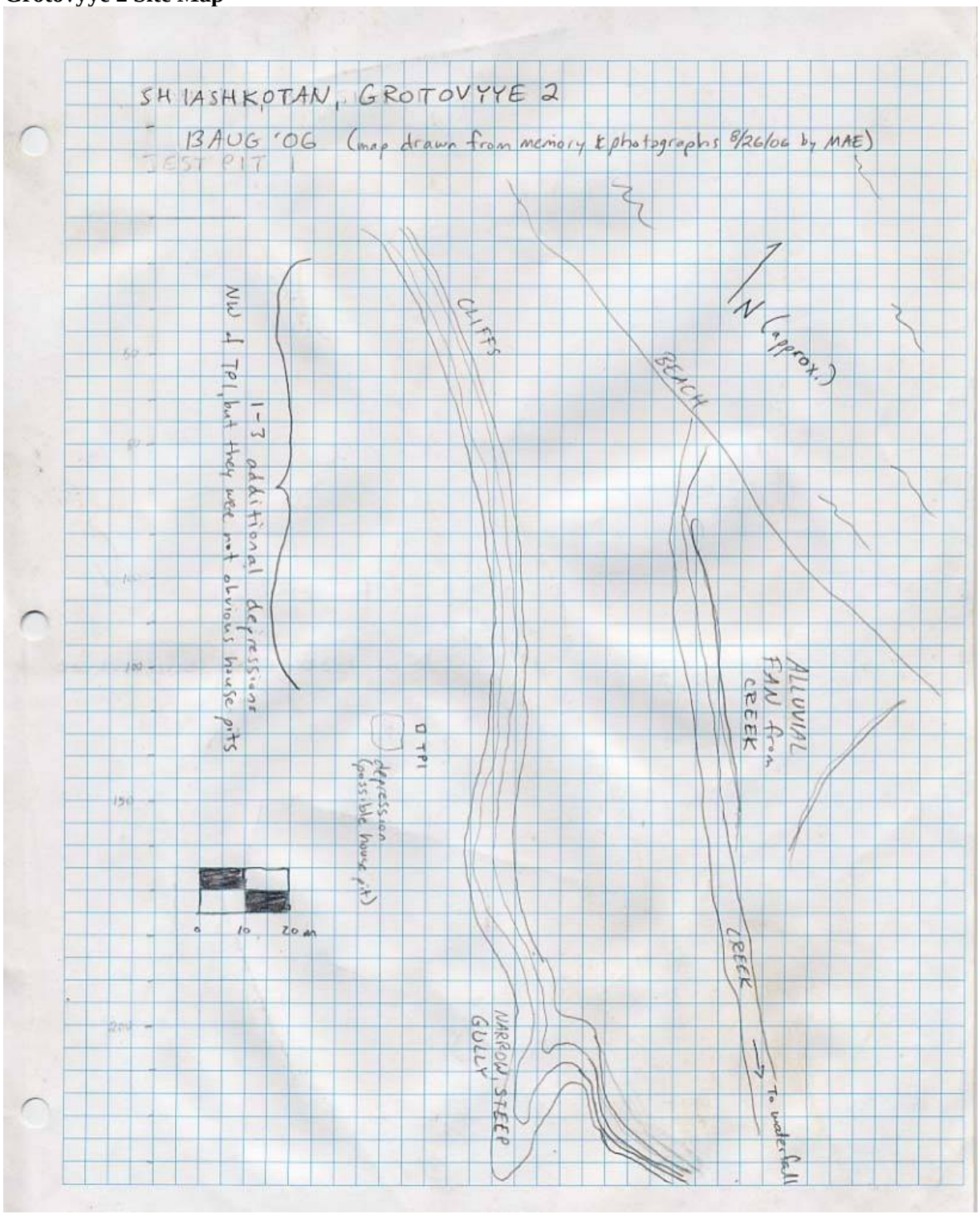
Grotovyye 2 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	not described (tall grasses, scrub alder, kadrach)
2	0-8	clean turf
3	8-13	medium brown silty turf
4	13-17	medium brown turfy silty soil
5	17-19	slightly yellow m brown clayey silt (tephra)
6	19-24	dark medium brown slightly clayey silt
7	24-30	dark brown charcoaly silty soil; some granuales of round pumice
8	30-39	medium brown clayey silt with a little bit of sand
9	39-47	slightly yellow medium brown sandy clay; sand is very fine to fine and yellow; some granuales of rounded pumice

Grotovyye 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0866	Grotovyye 2	Shiashkotan	CARBON	TP 1, charcoal, 24-30 cm below surface

Grotovyye 2 Site Map



Archaeological Site: Baikova 1 [BAI1]
Dates visited: 18 August, 2006

The Baikova 1 site is situated on Baikova Bay along the southwest shore of Shumshu on the strait between Shumshu and Paramushir Islands. Here there is a small river which drains into the bay and on the north side of the river is the abandoned village of Baikova. Archaeological materials were found concentrated on the bluff overlooking the bay on the southern side of the river. Large abandoned military structures and equipment can still be found strewn across the landscape, including large holding tanks, tracked vehicles, and landing boats.

The Baikova 1 site has been widely impacted by 20th century military activity and natural erosion. Pottery and lithic materials can be found sporadically around the surface. The southern edge of the bluff also had midden eroding out of it and this is where we chose to place two test units. Test Pits 1 and 2 contained dense quantities of faunal material and some lithic artifacts. Fauna was collected in bulk from each excavation and appears to contain both univalve and bivalve shells, and bones of sea mammal, fish, and birds. This midden deposit extended down to depths greater than 1m. Abundant charcoal fragments were also collected for radiocarbon dating. This site was visited in 2000 by the IKIP (International Kuril Island Project) team, and a 1x2m test excavation (TP 1 - 2000)[1] was made at that time. Faunal material was collected and analyzed. A single charcoal radiocarbon date associated with the midden revealed a late Okhotsk occupation for the deposit of 975+/- 35 bp (AA-40941).

Excavations into Test Pit 1 - 2006 uncovered exceptionally dense faunal deposits. Radiocarbon dating of one charcoal sample collected from Level 4 between 77cm and 93cm below the surface returned a radiocarbon age of 2190 +/-30 bp. Several of the stratigraphic levels above Level 4 seem to show a radiocarbon age reversal, specifically Levels 2 and 3, which may be due to the mixing of materials from the two levels caused by the steep slope where the excavation took place. When calibrated using the OxCal calibration curve, these dates overlap – Level 2 has a two sigma range of 2148 – 2002 cal bp and Level 3 has a two sigma range of 2055 – 1879 cal bp, and so the dated material from Levels 2 and 3 may essentially be the same age. Test Pit 2 also contained large amounts of faunal material, but the deposits appeared disturbed and mixed because modern historical material was found below ceramic and faunal material. One piece of pottery (level two, no depth) was identified as Okhotsk period by T. Amano. Test Pit 3 was excavated near the village of Baikova. Charcoal recovered from a depth of 79cm returned an uncalibrated age of 2440 +/-30 years before present.

Although moderately disturbed by military activities, Baikova 1 appears to retain many areas of undisturbed archaeological deposits with dense pockets of faunal material. The IKIP 2000 and KBP 2006 teams were only able to test a small portion of the site, even though surface materials were found in other areas. Radiocarbon dates indicate that the area was occupied around the time of Final Jomon or Early Epi-Jomon and subsequently by Okhotsk or a related cultural group. The only diagnostic pottery recovered in 2006 was of Okhotsk type according to Amano. Further work at this site in the future would be useful.

Baikova 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0941	OS-59193	TP 1, Level 1	1970	35
0944	OS-59194	TP 1, Level 2	2110	25
0948	OS-59192	TP 1, Level 3	2010	35
0949	OS-59037	TP 1, Level 4	2190	30
0963	OS-59038	TP 3, 79 cm below surface	2440	30

[1] Unfortunately the 2006 crew used the same Test Pit 1 number that had previously been used in 2000. As a result there are two Test Pit 1 designations for separate pits. We distinguish them here by including the year they were excavated.

Baikova 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
BAIKOV TP1	18 August 2006	N50 43.037, E156 11.544
BAIKOV TP2	18 August 2006	N50 43.040, E156 11.562
BAIKOV TP3	18 August 2006	N50 43.118, E156 11.707

Baikova 1 Test Pit 1

Level	Depth (cm below surface)	Description
0	0-20	Sod layer, Roots and organic rich silty loam, dark brown
1/2	20-50	Upper 4cm is charcoal lense with a second possible charcoal lense around 35cm, medium brown loamy-silty sand
	87-94	Dense charcoal rich midden with high quantities of bone and FCR
	94 and below	Sterile organish tan thin compact silty soil

Baikova 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-20	Redeposited midden from military trench excavation
2	20-30	Redeposited midden from military trench excavation
3	30-50	Redeposited midden from military trench excavation
4	50-60	Faunal remains, charcoal, lithics
5	60-80	Faunal remains, charcoal, lithics
6	80-100	Faunal remains, charcoal, lithics
7	100-130	Faunal remains, charcoal, lithics

Baikova 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-30	Disturbed soil
2	30-36	Black-brown soil
3	36-60	Brown soil
4	60-78	Black-brown soil on top of thin tephra
5	78-85	Black-brown soil with flakes and charcoal
6	85-89	Black grey sand
7	89-96	Brown soil
8	96-100	Reddish soil

Baikova 1 Test Pit 4

Level	Depth (cm below surface)	Description
1	0-20	Humus layer
2	20-30	Black-brown soil
3	30-120	Yellowish-brown soil on top of a tephra layer, included charcoal and flakes
4	120-130	Reddish-brown soil

Baikova 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0854	Baikova 1	Shumshu	CARBON	TP 4, Point B, 120 cm, charcoal
0855	Baikova 1	Shumshu	STONE TOOLS	Surface collected near large tanks on bluff
0856	Baikova 1	Shumshu	LITHICS	TP 4, obsidian flakes, point B, 120 cm below surface
0870	Baikova 1	Shumshu	POTTERY	TP 2, (probably) level 5, potsherd
0903	Baikova 1	Shumshu	FAUNAL	TP 1, Level 5, 93-100 cm below surface, bulk midden sample, 3 bags
0940	Baikova 1	Shumshu	LITHICS	TP 1, sod layer, lithics
0941	Baikova 1	Shumshu	CARBON	TP 1, Layer 1, 20-47 cm below surface, charcoal
0942	Baikova 1	Shumshu	LITHICS	TP 1, layer 1, 20-47 cm below surface, lithics
0943	Baikova 1	Shumshu	LITHICS	TP 1, level 2, 47-57 cm below surface, lithics
0944	Baikova 1	Shumshu	CARBON	TP 1, level 2, 47-57 cm below surface, charcoal (bulk)
0945	Baikova 1	Shumshu	FAUNAL	TP 1, level 2, 47-57 cm below surface, bone
0946	Baikova 1	Shumshu	LITHICS	TP 1, level 3, 57-77 cm below surface, lithics
0947	Baikova 1	Shumshu	FAUNAL	TP 1, level 3, 57-77 cm below surface, bone
0948	Baikova 1	Shumshu	CARBON	TP 1, level 3, 57-77 cm below surface, charcoal (bulk)
0949	Baikova 1	Shumshu	CARBON	TP 1, level 4, 77-93 cm below surface, charcoal (bulk)
0950	Baikova 1	Shumshu	FAUNAL	TP 1, level 4, 77-93 cm below surface, bone/shell
0951	Baikova 1	Shumshu	LITHICS	TP 1, level 4, 77-93 cm below surface, lithics
0953	Baikova 1	Shumshu	FAUNAL	TP 2, level 4, bulk midden
0961	Baikova 1	Shumshu	LITHICS	TP 3, lithics, 78-85 cm below surface
0962	Baikova 1	Shumshu	LITHICS	TP 3, flakes, 79 cm below surface
0963	Baikova 1	Shumshu	CARBON	TP 3, charcoal, 79 cm below surface
0964	Baikova 1	Shumshu	GEOLOGIC	TP 3, tephra, 78 cm below surface
1037	Baikova 1	Shumshu	LITHICS	TP 2, Level 4, from bag ID# 0926
1040	Baikova 1	Shumshu	LITHICS	TP 2, wall cleaning, from bag ID# 0905
1041	Baikova 1	Shumshu	POTTERY	TP 2, wall cleaning, from bag ID# 0905
1051	Baikova 1	Shumshu	CARBON	TP 2, Sod Layer, from bag ID# 0911
1052	Baikova 1	Shumshu	LITHICS	TP 2, Sod Layer, from bag ID# 0911
1053	Baikova 1	Shumshu	POTTERY	TP 2, Sod Layer, from bag ID#

				0911
1054	Baikova 1	Shumshu	CARBON	TP 1, Level 5, from bag ID# 0903
1064	Baikova 1	Shumshu	CARBON	TP 2, Level 2, from bag ID# 0922
1065	Baikova 1	Shumshu	LITHICS	TP 2, Level 2, from bag ID# 0922
1066	Baikova 1	Shumshu	POTTERY	TP 2, Level 2, from bag ID# 0922
1067	Baikova 1	Shumshu	CARBON	TP 2, Level 4, from bag ID# 0953
1068	Baikova 1	Shumshu	LITHICS	TP 2, Level 4, from bag ID# 0953
1078	Baikova 1	Shumshu	CARBON	TP 2, Level 4, from bag ID# 0953
1079	Baikova 1	Shumshu	LITHICS	TP 2, Level 4, from bag ID# 0953
1092	Baikova 1	Shumshu	CARBON	TP 1, Level 3, from bag ID# 0947
1093	Baikova 1	Shumshu	CARBON	TP 2, Level 3, from bag ID# 0923
1094	Baikova 1	Shumshu	LITHICS	TP 2, Level 3, from bag ID# 0923
1098	Baikova 1	Shumshu	CARBON	TP 1, Level 4, from bag ID# 0950
1145	Baikova 1	Shumshu	CARBON	Charcoal from ID #0927, TP2, L5
1146	Baikova 1	Shumshu	LITHICS	Lithics from ID #0927, TP2, L5
1147	Baikova 1	Shumshu	LITHICS	Flakes from midden ID #0953, TP2, L4
1151	Baikova 1	Shumshu	CARBON	Charcoal from ID #0953, TP2, L4
1163	Baikova 1	Shumshu	CARBON	Charcoal from ID #0903
1164	Baikova 1	Shumshu	LITHICS	Flakes from ID #0903
1170	Baikova 1	Shumshu	FLORA	seed(?) from ID #0953
0853	Baikova 1	Shumshu	STONE TOOLS	TP 1, surface collection, lithic tools
0904	Baikova 1	Shumshu	LITHICS	TP 2, net weight, historic wall cleaning
0905	Baikova 1	Shumshu	FAUNAL	TP 2, wall cleaning, fauna
0906	Baikova 1	Shumshu	CARBON	TP 2, sod layer, charcoal
0907	Baikova 1	Shumshu	HISTORIC, OTHER	TP 2, sod layer, historic
0909	Baikova 1	Shumshu	LITHICS	TP 2, sod layer, lithics
0910	Baikova 1	Shumshu	STONE TOOLS	TP 2, sod layer, modified cobbles
0911	Baikova 1	Shumshu	FAUNAL	TP 2, sod layer, fauna
0912	Baikova 1	Shumshu	BONE, WORKED	TP 2, Level 2, worked bone, 27cm below surface, NE corner
0913	Baikova 1	Shumshu	STONE TOOLS	Tp 2, level 2, biface, 25 cm below surface, N. Wall
0914	Baikova 1	Shumshu	BONE, WORKED	TP 2, Level 2, worked bone, 27cm below surface, NE corner
0915	Baikova 1	Shumshu	POTTERY	TP 2, level 2, ceramics
0916	Baikova 1	Shumshu	BONE TOOLS	TP 2, level 2, bone shaving
0917	Baikova 1	Shumshu	WOOD	TP 2, level 2, wood
0918	Baikova 1	Shumshu	HISTORIC, OTHER	TP 2, level 2, historic
0919	Baikova 1	Shumshu	LITHICS	TP 2, level 2, lithics
0920	Baikova 1	Shumshu	STONE TOOLS	TP 2, level 2, lithic tool, drill
0921	Baikova 1	Shumshu	CARBON	TP 2, level 2, charcoal
0922	Baikova 1	Shumshu	FAUNAL	TP 2, level 2, fauna, 1/4" fraction
0923	Baikova 1	Shumshu	FAUNAL	TP 2, level 3, fauna
0924	Baikova 1	Shumshu	LITHICS	TP 2, level 3, lithics

0925	Baikova 1	Shumshu	HISTORIC, OTHER	TP 2, level 3, historic
0926	Baikova 1	Shumshu	FAUNAL	TP 2, level 4, fauna
0927	Baikova 1	Shumshu	FAUNAL	TP 2, level 5, fauna
0928	Baikova 1	Shumshu	FAUNAL	TP 2, level 6, fauna
0929	Baikova 1	Shumshu	CARBON	TP 2, level 6, charcoal
0930	Baikova 1	Shumshu	LITHICS	TP 2, level 6, lithics
0931	Baikova 1	Shumshu	STONE TOOLS	Bifaces, surfact collected from beach
0932	Baikova 1	Shumshu	FAUNAL	Surface collected from near TP 2, fauna
0933	Baikova 1	Shumshu	POTTERY	Surface collected from near TP 2, ceramics
0934	Baikova 1	Shumshu	FAUNAL	Surface collected, fauna, TP 1
0935	Baikova 1	Shumshu	POTTERY	Surface collected, ceramics, TP 1
0936	Baikova 1	Shumshu	LITHICS	Surface collected, lithics, TP 1
0937	Baikova 1	Shumshu	HISTORIC, OTHER METAL	TP 1, sod layer, metal
0938	Baikova 1	Shumshu	FAUNAL	TP 1, sod layer, fauna
0994	Baikova 1	Shumshu	POTTERY	TP2, Lv 4, Pottery
0996	Baikova 1	Shumshu	BONE, WORKED	worked bone
0997	Baikova 1	Shumshu	STONE TOOLS	biface

Geological Field Studies Report

Observations and Interpretations:

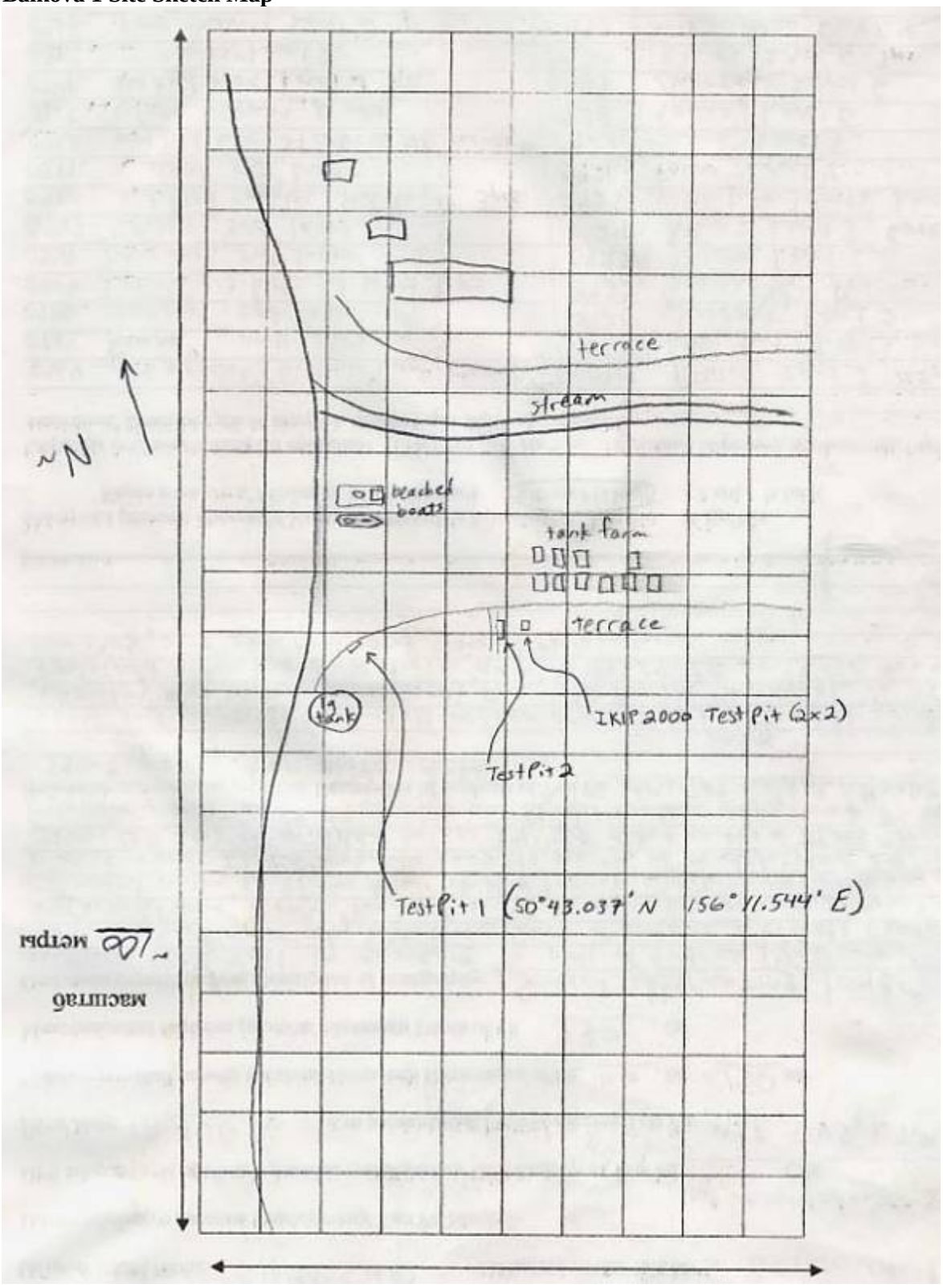
Origin of high area: The area with cultural test pits contain angular gravels at depth, potentially suggesting a distal end of debris flow, probably originating from the nearby Paramushir volcanoes.

Tsunami: There are 3 possible tsunami layers up on the cliffs.

Volcanic activity: Only a few tephra layers are preserved here- 1981, KO, 1-2 tephra between those two, and 1 below KO. 1981 Alaid is only a couple of centimeters thick.

Researchers excavate Test Pit 1 with a view to the Northwest. Note the abandoned village of Baikova in the background. Photo: Kenji Ito

Baikova 1 Site Sketch Map



Archaeological Site: Savushkina 1 [SAV1]
Dates visited: 18 August 2006

The Savushkina 1 site is located at the northern end of Paramushir Island, at the eastern end of a large bay and on the western edge of the Savushkina Peninsula, NW of the town of Severo-Kurilsk. The site is located along a roadcut at the edge of a small terrace 3-5 m in height overlooking the bay. An abandoned metal military wagon was located about 25 m east of the site. No house pit features were observed, and two test pits were excavated by clearing eroded earth from the north side of the road cut (essentially erosion faces that were cleaned off).

Test Pit 1 was approximately 2 m long and 1.5 m deep, located about 10-12 m from the shoreward edge of the terrace overlooking a small marsh and stream. Charcoal and lithics were collected, and iron and wire objects were found in the upper cultural layer which appeared to be World War II related. No pottery was found in the Test Pit 1 excavation.

Test Pit 2 was located on the road about 10 m east of Test Pit 1, and 1 m east of an unusually large and deep Japanese military trench paralleling the marsh/terrace boundary. Test Pit 2 was approximately 2 m wide and 2 m deep, and contained two cultural levels. The first cultural layer extended from the surface to 80 cm below surface, and contained some iron objects as well as lithics. The second cultural layer, from 80 to 120cm below surface contained a large amount of charcoal and lithics (chipped stone flakes), including a distinct lens of obsidian flakes and shatter as well as very small red and yellow chert flakes. Several small projectile points were also recovered from the second cultural layer. Between 80 and 100 cm below surface in the second cultural layer there were several interesting dark charcoal and pit features. These features looked like pits or postholes filled with sand and charcoal-stained soil prior to the deposition of the lowest horizontal cultural layer. This suggests that a house pit in Level 2 cut into an older feature, leaving only the bottom of the older pits in place. However, we did not observe any other evidence of a pit house structure such as a bisected wall.

V. Shubin had visited this site years ago and claims to have found Epi-Jomon ceramics here, although no diagnostic artifacts were found in 2006. A single radiocarbon date of 1160 +/- 80 is reported for a site called “Savushkino” by Zaitseva et al. 1993.

Savushkina 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Savushkina 1 Test Pit 1	18 August 2006	N50 44.804, E156 07.389
Savushkina 1 Test Pit 2	18 August 2006	N50 44.808, E156 07.381

Savushkina 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-25	Dark brown, sandy silt, 50-75% roots, 0-25% rocks, 0-25% shell
2	26-31	Light grey tephra layer, 50-75% roots, 0-25% rocks, 0-25% shell
3	32-104	Banded/mixed medium brown sandy sit with grey tephra layers 0-25% roots/rocks/shell
4	104-107	Dark black/charcoal layer
5	107-118	Dark brown sandy silt, 0-25% roots/rocks/shell
6	118-135	Med brown sandy silt 0-25%
7	135-155	Brown sandy

Savushkina 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-30	Disturbed turf, slumped down towards the road cut
2	30-60	Cultural layer
3	60-64	4cm-thick discontinuous sand lens
4	64-95	Medium-brown silty soil with lots of light organics
5	95-150	Dune sand with coarse orange and black grains with some horizontal bedding

Savushkina 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0803	Savushkina 1	Paramushir	CARBON	TP2, cultural level 1, charcoal
0804	Savushkina 1	Paramushir	LITHICS	TP2, on road cut, flakes, erosion surface collections
0805	Savushkina 1	Paramushir	CARBON	TP1, cultural level 2, charcoal
0806	Savushkina 1	Paramushir	LITHICS	TP1, cultural level 2, lithics
0807	Savushkina 1	Paramushir	FAUNAL	TP1, surface collection from erosion, bone
0808	Savushkina 1	Paramushir	LITHICS	TP2, level 2, (base L.I.) lithics
0809	Savushkina 1	Paramushir	FAUNAL	TP1, cultural Level 2, bones
0810	Savushkina 1	Paramushir	HISTORIC, OTHER METAL	TP1, metal, cultural level 1
0811	Savushkina 1	Paramushir	POTTERY	TP2, surface erosion ceramics
0812	Savushkina 1	Paramushir	LITHICS	TP2, cultural level 1, flakes
0813	Savushkina 1	Paramushir	FAUNAL	TP1, cultural Level 1, bones
0814	Savushkina 1	Paramushir	LITHICS	TP1, cultural level 1, lithics
0815	Savushkina 1	Paramushir	CARBON	TP1, cultural level 1, charcoal
0816	Savushkina 1	Paramushir	FLORA	TP1, wood, cultural level 1
0817	Savushkina 1	Paramushir	HISTORIC, OTHER METAL	Sod layer in erosion slump, exploded artilery shell
0957	Savushkina 1	Paramushir	LITHICS	road cut lithics
0966	Savushkina 1	Paramushir	FAUNAL	TP 2, bone from cultural level 1
0971	Savushkina 1	Paramushir	STONE TOOLS	Surface Collection, road cut, core
0989	Savushkina 1	Paramushir	TEPHRA	(GEO-KHABAROVSK) tephra from 5-17cm bs.
0990	Savushkina 1	Paramushir	TEPHRA	(GEO-KHABAROVSK) tephra from 99-115 cm bs.
1165	Savushkina 1	Paramushir	CARBON	Charcoal from ID #0813
1169	Savushkina 1	Paramushir	LITHICS	Flakes from ID #0813

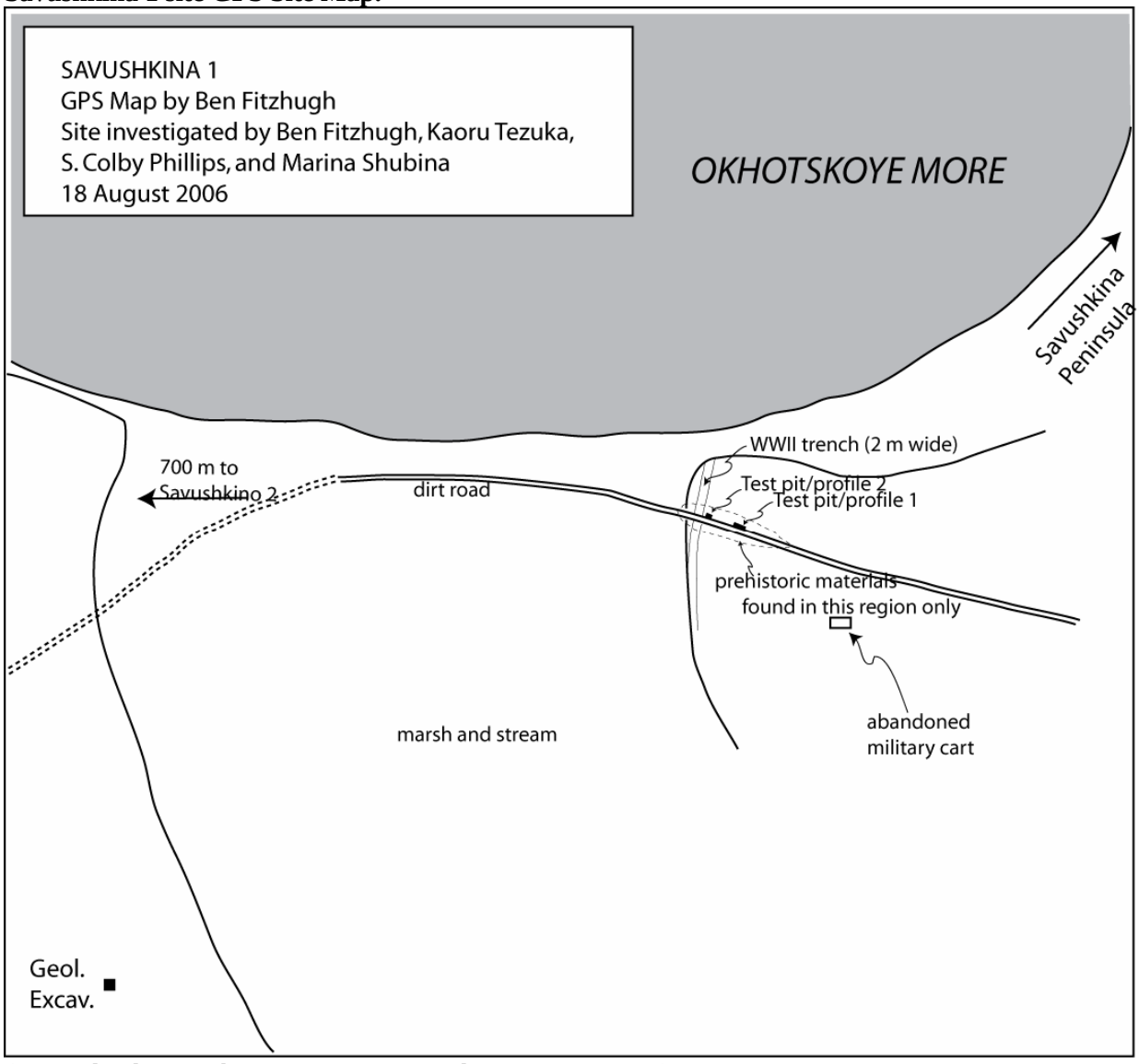
Geological Field Studies Report
Observations and Interpretations:
The area is heavily militarized. Low areas but no peat was found.

Tsunamis: 3-4 tsunami. Probable 1952 tsunami in Hill excavation.

Volcanic activity: Tephras are well preserved in areas though the area was highly militarized. Probable 1981 Alaid and Kuril Lake eruptions.

General Vegetation: Mixed vegetation. Mostly crowberries with some tall flowers. Beach grass near water.

Savushkina 1 site GPS Site Map.



(For scale: distance between Test Pit 1 and Test Pit 2 = 10 m)

View of the Savushkina 1 site along the road cut where the sections were excavated. Photo: S.C. Phillips.

Photo of potential pit feature in cultural level 2 of Savushkina 1 Test Pit 2. Photo: S.C. Phillips.

Archaeological Site: Savushkina 2 [SAV2]
Dates visited: 19 August 2006

Savushkina 2 is located on the north end of Paramushir Island, 1 km west of the western end of the Savushkina Peninsula and approximately 750 m west of the Savushkina 1 site. The site is located on top of a 5-7 m bluff in an area of heavy World War II military trenching. Ten house pits were found and mapped with GPS coordinates. A still active dirt road with a fairly dense lithic scatter runs south of the house pits. A very fine obsidian projectile point about 10 cm long with a flat base and fine serrated edges was picked up off the surface of the road.

In an attempt to locate intact (uneroded) and dateable archaeological deposits related to the obsidian point 3 test pits were excavated at the site on both sides of the road near where the artifacts were found. Test Pit 1 was placed one meter north of the road in the side of a World War II military trench. A few pieces of charcoal and a few flakes were recovered from this test pit. Test Pit 2 was excavated one meter south of the road in the side of the military trench but no stratigraphy was observed, no archaeological material was found, and the excavation was not described. Test Pit 3 was dug in the north side of the road itself and extended 3 m along the 20 cm deep road cut. It was not described but noted that the stratigraphy for Test Pit 3 was similar to Test Pit 1. In all cases these test pits were made by cleaning off existing trenches and the road cut. Very little sediment was removed and the goal was to expose stratigraphy.

Given that the two Savushkina sites (Savushkina 1 and Savushkina 2) sites are located at the extreme northern end of Paramushir Island, they may be representative of cultures that existed on the southern Kamchatka peninsula. Further research at these sites may be relevant for building an understanding of the migration and occupation of the northern Kuril Islands by hunter-gatherer groups from Kamchatka.

Savushkina 2 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Savushkina 2 Big House Pit	19 August 2006	N50 44.981, E156 06.638
Savushkina 2 House Pit	19 August 2006	N50 44.954, E156 06.592

Savushkina 2 Test Pit 1

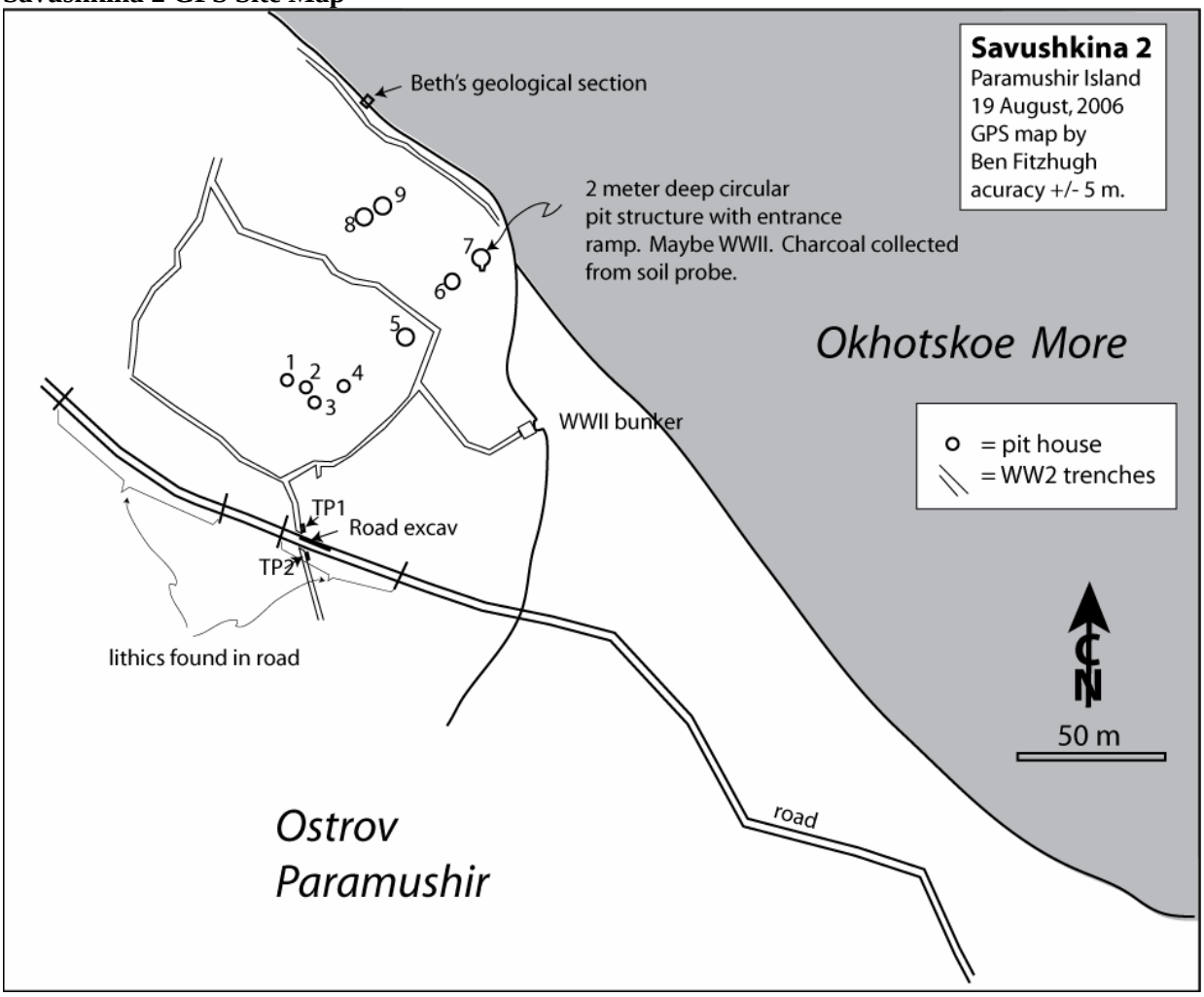
Level	Depth (cm below surface)	Description
1	0	crow berry, rose, caterpiller
2	0-2	turf
3	2-5	black fine sand tephra
4	5-13	dark brown soil
5	13-18	med brown soil with medium to coarse sand scatted throughout
6	18-39	medium brown soil -- mixed from military. Patched of cinders and sandier soil but not continuous
7	39-41	tannish brown silt with some sand; sand is medium to coarse and subangular
8	41-43	dark brown black soil, a little charcoal
9	43-48	dark brown or black soil with definite small granule-sized chunks of charcoal
10	48-50	medium red brown granules, tephra
11	50-53	medium gray brown silty soil
12	53-65	medium tan brown sandy soil, sandier downward, fine to medium grained
13	65-75	dark gray sand, cleans downward; fine to granules. Subangular, probably tsunami

14	75-85	medium brown sandy soil, grains fine to very coarse
15	85-85+	medium brown clayey silty soil with speckles that are possibly degrading tephra granules

Savushkina 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0787	Savushkina 2	Paramushir	STONE TOOLS	Surface collection, obsidian point
0788	Savushkina 2	Paramushir	LITHICS	Surface collection, lithics
0789	Savushkina 2	Paramushir	LITHICS	Road surface collection
0790	Savushkina 2	Paramushir	CARBON	Road profile, charcoal
0791	Savushkina 2	Paramushir	LITHICS	road profile, flakes associated with charcoal
0792	Savushkina 2	Paramushir	STONE TOOLS	Road surface collection, lithic tool
0793	Savushkina 2	Paramushir	LITHICS	TP1, flake from cultural level
0794	Savushkina 2	Paramushir	CARBON	TP1, charcoal from cultural level
0795	Savushkina 2	Paramushir	CARBON	charcoal from soil probe, big house, maybe WWII

Savushkina 2 GPS Site Map



Projectile point surface collected from Savushkina 2 site.
Photo: S.C. Phillips.

Archaeological Site: Bol'Shoy 1 [BOL1]
Dates visited: 20 August, 2006

This large site is located on Bolshoya Bay on the northwestern shore of Shumshu facing the Sea of Okhotsk, northwest of Baikova. The area is dominated by semi-artificial lakes formed by a dam built nearby. Elevated roads, trenches, and remnants of an airstrip are evidence of significant 20th century military activity. Two teams surveyed this large area, with one group circumnavigating two of the lakes and another working on a portion of the site near the northwest end of the area near the shore. Designation of this area as one 'archaeological site' is arbitrary and based solely on the presence of apparent lithic artifacts scattered over the surface throughout most of the area. Although intact stratigraphic layers were found in the northwest region, where test pits 1-3 were excavated, most of the remaining area was eroded/deflated with material laying on the surface.

Surface artifacts observed throughout the site were primarily volcanic, either of fine grained basalt or coarse obsidian. The area could have served as a raw material source or tool manufacturing area, based on the observation that very few retouched or worked tools were found but large quantities of cobble, cores (nucleus), and crude flakes were seen.

Three Test Pits were excavated at the site, though the area was extremely disturbed. Test Pit 1 was dug approximately 50 m northeast of a military gun emplacement feature, and included a shell, bird and fish bone midden, as well as loose shell and fish bones in other layers. Test Pit 2 was dug on the side of a road cut approximately 1 km from the coast, and included a shell lens 10 cm thick with shells and sea lion bones above a tephra level. Test Pit 3 included a gray sandy tephra layer just below the surface situated above a shell/bone midden above several other tephra layers throughout the Test Pit.

Bol'Shoy 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0831	OS-59349	TP 2, from around sea lion skull	1180	30
0828	OS-59198	TP 3, Level 2	3330	35

Bol'Shoy 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
BOLS OBS1	8/20/2006 14:33	N50 45.500 E156 14.073
BOLS1 OBS2	8/20/2006 14:35	N50 45.438 E156 14.264
BOLS1 OBS3	8/20/2006 14:38	N50 44.722 E156 15.224
BOLSHO1BN	8/20/2006 14:29	N50 45.967 E156 13.949

Bol'Shoy 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-11	Black soil and sand
2	11-31	Brown sandy soil
3	31-50	Black sandy soil
4	50-62	Brown soil
5	62-92	Black sandy soil
6	92-95	Black soil
7	95-100	Brown soil
8	100-104	Grey sand with tephra at 102-103cm
9	104-110	Brownish sand, archaeological layer with pottery
10	110-112	Grey sand

11	112-113	Black sand
12	113-124	Brown soil
13	124-126	Black soil
14	126-129	Red cinder layer
15	129-130	Brown soil
16	130-180	Reddish soil with tephra and cinder layers

Bol'Shoy 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-13	Sod layer
2	13-40	Dense shell midden, developed soils and possible tephras

Bol'Shoy 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0-20	Sod layer
2	20-30	Dense shell midden overlaying a thin, patchy tephra
3	40-44	Cultural layer with charcoal, some fauna, and a few flakes
4	44-75	Sequence of soil and tephra layers

Bol'Shoy 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0826	Bol'shoy 1	Shumshu	STONE TOOLS	Surface collection (sites Bolshoi 1 - 3).
0827	Bol'shoy 1	Shumshu	LITHICS	Surface collection, lithics for sourcing
0840	Bol'shoy 1	Shumshu	POTTERY	TP1, ceramics, surface collection from erosional face
0829	Bol'shoy 1	Shumshu	LITHICS	TP1, lithics, surface coll from erosional face
0830	Bol'shoy 1	Shumshu	POTTERY	TP1, ceramics from below tephra
0837	Bol'shoy 1	Shumshu	CARBON	TP1, charcoal from below tephra
0859	Bol'shoy 1	Shumshu	LITHICS	TP1, lithic from below tephra
0833	Bol'shoy 1	Shumshu	CARBON	TP1, charcoal from inside ceramic sherd
0839	Bol'shoy 1	Shumshu	GEOLOGIC	TP1, sediment samples
0831	Bol'shoy 1	Shumshu	CARBON	TP2, charcoal around sea lion skull
0832	Bol'shoy 1	Shumshu	CARBON	TP2, charcoal 1/4" screens
0834	Bol'shoy 1	Shumshu	BONE TOOLS	TP2, bone tools grab samples
0835	Bol'shoy 1	Shumshu	LITHICS	TP2, lithics around sea lion skull
0820	Bol'shoy 1	Shumshu	STONE TOOLS	TP2, surf collection
0841	Bol'shoy 1	Shumshu	LITHICS	TP2, lithics, grab sample
0842	Bol'shoy 1	Shumshu	LITHICS	TP2, lithics 1/4" fraction
0843	Bol'shoy 1	Shumshu	CARBON	TP2, charcoal grab sample
0822	Bol'shoy 1	Shumshu	GEOLOGIC	TP2, midden A 103cm below surface, geosample
0823	Bol'shoy 1	Shumshu	GEOLOGIC	TP2, midden A 77 - 85cm below

				surface, geosample
0824	Bol'shoy 1	Shumshu	CARBON	TP2, midden A 77cm below surface, charcoal
0848	Bol'shoy 1	Shumshu	FAUNAL	TP2, midden A, fauna, 1/4" screened from around sea lion skull
0880	Bol'shoy 1	Shumshu	FAUNAL	TP2, fauna from 1/4" screen
0881	Bol'shoy 1	Shumshu	FAUNAL	TP2, unsorted midden from 1/4" fraction
0902	Bol'shoy 1	Shumshu	FAUNAL	TP2, midden A, stellar sea lion skull
1042	Bol'shoy 1	Shumshu	CARBON	TP2, unsorted midden, from bag ID# 0881
1043	Bol'shoy 1	Shumshu	LITHICS	TP2, unsorted midden, from bag ID# 0881
0972	Bol'shoy 1	Shumshu	FAUNAL	TP2, fauna, 1/4" fraction
0849	Bol'shoy 1	Shumshu	FAUNAL	TP2, midden A, fauna, grab sample
0825	Bol'shoy 1	Shumshu	CARBON	TP2, charcoal
0828	Bol'shoy 1	Shumshu	CARBON	TP3, LVL2, Midden B Charcoal
0818	Bol'shoy 1	Shumshu	FAUNAL	TP3, LVL 1 Fauna Midden B
0819	Bol'shoy 1	Shumshu	FAUNAL	TP3, LVL 1, midden B, shell w/tephra inside
0821	Bol'shoy 1	Shumshu	CARBON	TP3, lvl 1, charcoal
0836	Bol'shoy 1	Shumshu	GEOLOGIC	TP3, midden B, sediment samples
0838	Bol'shoy 1	Shumshu	FAUNAL	TP3, lvl2, fauna
0844	Bol'shoy 1	Shumshu	HISTORIC, IRON	TP3, level 1, iron
0845	Bol'shoy 1	Shumshu	BONE TOOLS	TP3, Level 1, bone harpoon fragment
0846	Bol'shoy 1	Shumshu	HISTORIC, OTHER	TP3, Level 1, rifle cartridge
0847	Bol'shoy 1	Shumshu	STONE TOOLS	TP3, level 1, biface
0850	Bol'shoy 1	Shumshu	LITHICS	TP3, L2, lithics, midden b
0851	Bol'shoy 1	Shumshu	LITHICS	TP3, L1, lithics
1038	Bol'shoy 1	Shumshu	CARBON	TP3, Midden B, from bag ID# 0818
1039	Bol'shoy 1	Shumshu	LITHICS	TP3, Midden B, from bag ID# 0818

Geological Field Studies Report

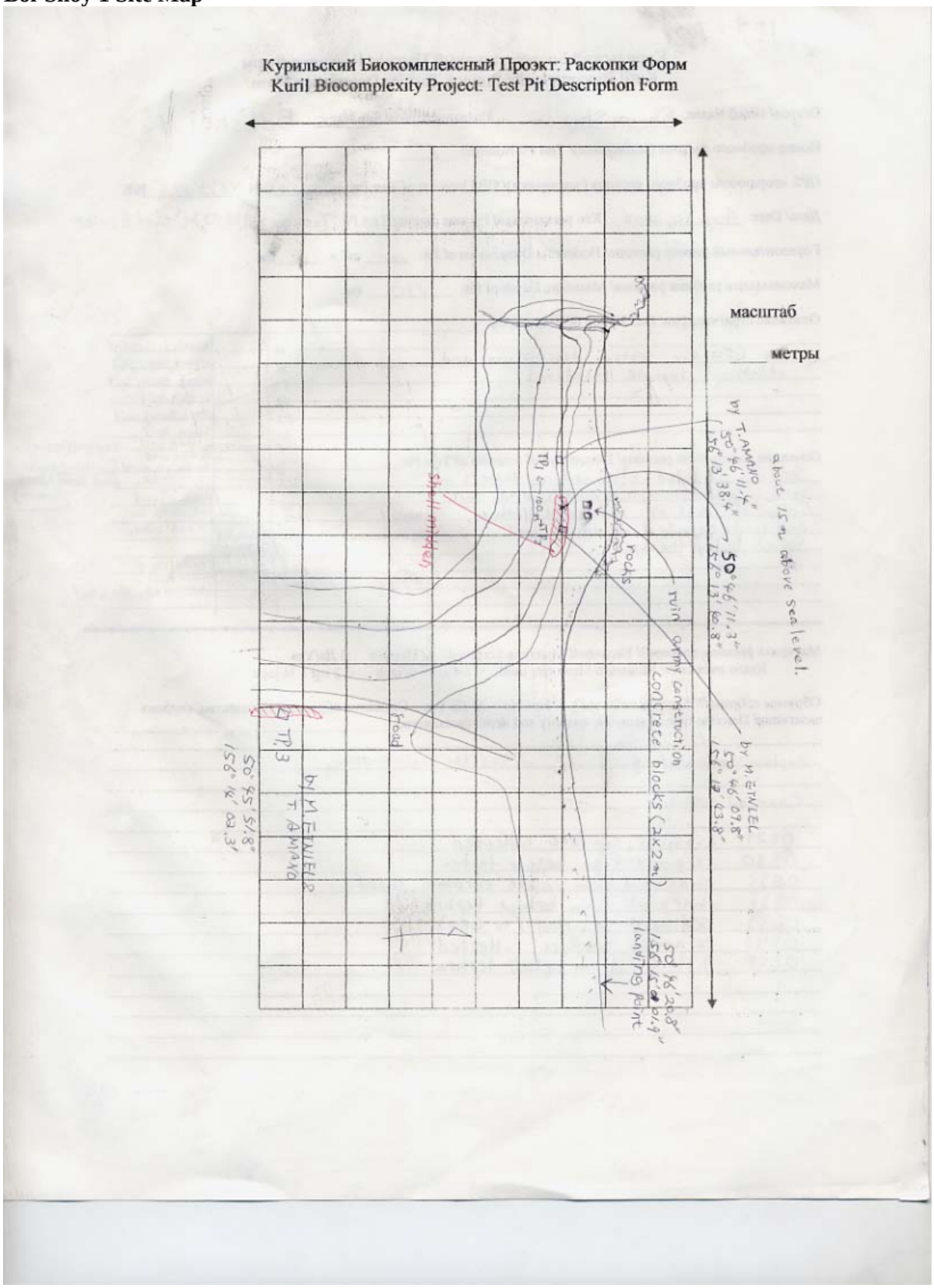
Observations and Interpretations:

Tsunami: The area in the middle of the bay is mostly dunes and therefore it was impossible to interpret tsunami deposits.

Volcanic activity: Tephras are well preserved in areas though the area was highly militarized. Probable 1981 Alaid and Kuril Lake.

General Vegetation: Mostly (ripe) berries. Some alder. The area was heavily militarized and there were large fields (airstrips) of disturbance vegetation such as fireweed.

Bol'Shoy 1 Site Map



Stratigraphy of Bol'Shoy 1 Test Pit 3 (roughly 1m across). Photo: M. Etnier

View west from airstrip. An example of one lake in the area. Photo: J. Taylor

Archaeological Site: Bol'Shoy 2 [BOL2]
Dates visited: 20 August, 2006

Bolyshoya 2 is located on Bolshoya Bay on the northwestern shore of Shumshu Island. The area is dominated by semi-artificial lakes formed by a dam built nearby. Elevated roads, trenches, and remnants of an airstrip are also evident. Bolshoya 2 is situated on a large dune ridge along the southern bank of the river that flows into Bolshoya Bay. This was primarily a survey of a deflation zone, which produced mostly surface finds. Two Test Pits were dug into dune profiles, producing several charcoal samples as well as lithic flakes and pieces of bone.

Bol'Shoy 2 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Bol'Shoy 2 Test Pit 1	20 August 2006	N50 46'15.8, E156 15'05.4

Bol'Shoy 2 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-40	Turf, v. sandy, grains medium-coarse, dark. Grey
2	40-73	Includes organic, mainly sandy, grey fine-medium-coarse, some lighter colored patches
3	73-76	Light colored 60% white sand, same grain size, thickness varies
4	~76~78	Dark layer red brown silty sand, tephra
5	78-84	Black sand
6	84-154	fine-medium-coarse grains, tannish dark. Grey sand, includes organics at 134cm
7	154-156	Light colored sand, shelly
8	156-186	Sand, dark grey
9	186-196	Lighter sand sloping to the N
9	196-201	Grey fine sand possibly a tephra
10	201-209	Still sloping to N two thin dark layers of sand, bone beneath lower layer
11	209-224	Black, grey

Bol'Shoy 2 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
1004	Bolshoy 2	Shumshu	GEOLOGIC	TP1, 247cm below surface, diatom sample
0782	Bol'shoy 2	Shumshu	CARBON	TP1, 209cm below surface, charcoal
0783	Bol'shoy 2	Shumshu	FAUNAL	TP1, 209cm below surface, bone
0784	Bol'shoy 2	Shumshu	FAUNAL	TP1, 280cm below surface, bone
0785	Bol'shoy 2	Shumshu	CARBON	TP1, 280cm below surface, charcoal
0786	Bol'shoy 2	Shumshu	FAUNAL	TP1, surface collected fauna
0796	Bol'shoy 2	Shumshu	FAUNAL	TP2, 25 - 40cm below surface, bone
0797	Bol'shoy 2	Shumshu	FAUNAL	TP2, 25 - 40cm below surface, bone & shell
0798	Bol'shoy 2	Shumshu	FAUNAL	TP2, 50 - 60cm below surface, shell?
0799	Bol'shoy 2	Shumshu	LITHICS	TP2, 50 - 60cm below surface,

				obsidian flake
0800	Bol'shoy 2	Shumshu	CARBON	TP2, 25 - 40cm below surface, charcoal
0801	Bol'shoy 2	Shumshu	CARBON	TP2, 50 - 60cm below surface, charcoal
0802	Bol'shoy 2	Shumshu	LITHICS	TP, back dirt, flakes
0860	Bol'shoy 2	Shumshu	LITHICS	Surface collection (historic)
0882	Bol'shoy 2	Shumshu	FAUNAL	surface collected bone
1061	Bol'shoy 2	Shumshu	CARBON	from bag ID# 0797
1062	Bol'shoy 2	Shumshu	BONE, WORKED	from bag ID# 0797
1063	Bol'shoy 2	Shumshu	LITHICS	from bag ID# 0797
1074	Bol'shoy 2	Shumshu	CARBON	TP 2, from bag ID# 0796
1075	Bol'shoy 2	Shumshu	LITHICS	TP 2, from bag ID# 0796
1077	Bol'shoy 2	Shumshu	CARBON	TP 1, from bag ID# 0784

Archaeological Site: Zemliprokhodets 1 [ZEM1]
Dates visited: 20 August 2006

The Zemliprokhodets 1 site is located 2 km east of Zemliprokhodets Cape on the northern coast of Paramushir Island. The site consists of two house pits on a terrace about 15 m above sea level on the left (west) bank of a stream opposite from a modern cabin. This site was discovered by Ben Fitzhugh and Volodya Golubtsov during a pedestrian survey of the coast of northwest Paramushir. The location of the pit houses was recorded by GPS. No excavations were made and no archaeological materials were found.

Zemliprokhodets 1 Feature GPS Coordinate

GPS Feature	Date	Lat/Lon coord
Zemliprokhodets 1 House Pits	20 August 2006	N50 45.281, E156 04.583

Geological Field Studies Report
Observations and Interpretations:
Origin of the surface: The surface above the beach (at ~30-40 m) is extremely hummocky. There are occasional rock mounds (larger than a person), found in low and high topographic positions. Erosional areas show a rocky substrate. These would indicate that the surface originated as the proximal end of a debris flow or alluvial fan. The surface today is covered by a fairly thick pile of "loess" (silty material). In some areas, the "loess" is blown out, exposing KO at the surface. Virtually no sediment smaller than cobbles is present on the beach. There appears to be a river terrace at 10-12 m along the Zelenaya River, suggesting some uplift of the area.

Tsunami: We were too high to expect tsunami deposits, and there was no sand on the beach.

Volcanic activity: Two tephra besides 1981 Alaid and KO were found (one a cinder layer). 1981 Alaid is 2-3 cm thick.

Archaeological Site: Kokina 1 [KOK1]
Dates visited: 21 August 2006

The Kokina 1 site is located on southern Raduga Bay, approximately 1.5km north of the Kokina Cape, on southeastern coast of Paramushir Island. Ben Fitzhugh, Colby Phillips, and Dena Berkey discovered this site during pedestrian survey of southern Raduga Bay. They mapped two house pits on the inland side of a relict/vegetated dune on the right bank of a small stream. The house pits are shallow, between 25-40 cm deep from the tops of the walls to the center of the house. Both houses were covered by low carpet of tundra plants (crowberry, etc.). One house was less clearly defined than the other on the surface. Using a 2 cm soil probe the investigators confirmed that both houses had charcoal (carbon) floors located about 30-40 cm below the surface, underneath a medium grained tephra near the surface. Throrough investigation of the eroding dunes and wind blown surfaces did not reveal any artifacts.

Kokina 1 Feature GPS Coordinates

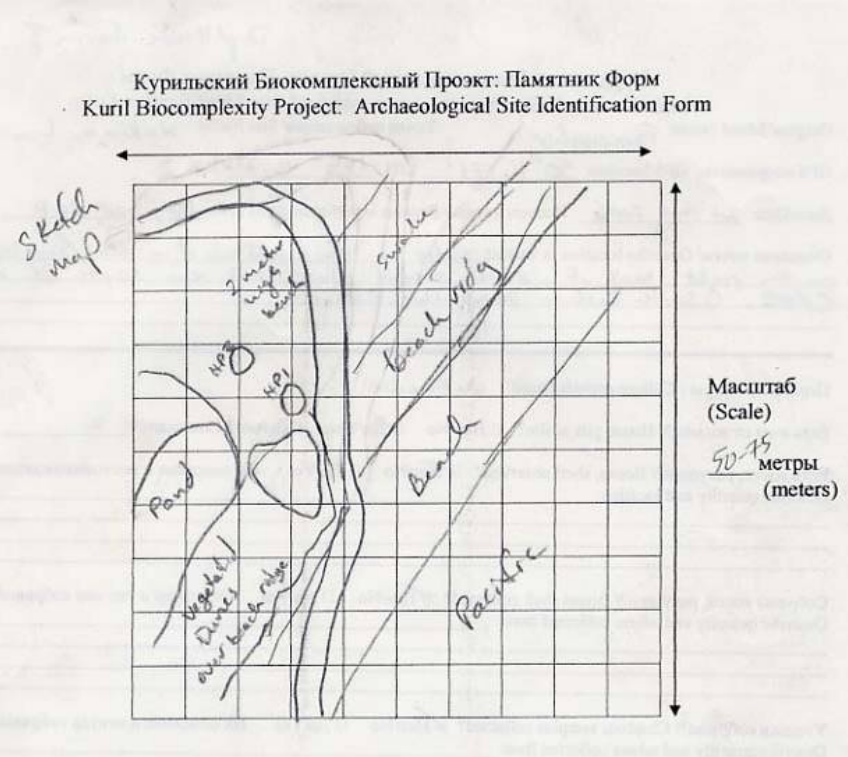
GPS Feature	Date	Lat/Lon coord
Kokina 1 House Pit 1	21 August 2006	N50 12.272, E155 47.627
Kokina 1 House Pit 2	21 August 2006	N50 12.276, E155 47.617

Kokina Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0887	Kokina 2	Paramushir	LITHICS	flakes, surface collected from Kokina Cape area

Dena Berkey and Colby Phillips stand in house pits at Kokina 1. Photo by B. Fitzhugh.

Kokina 1 Site Sketch Map (North up)



Archaeological Site: Tukharka River 1 [TUK1]
Dates visited: 22 August, 2006

The Tukharka River drains into the Pacific Ocean on the southeast coast of Paramushir. On a headland and bluff near the mouth of the river, on the east (left) bank, approximately 300m northwest of the present shoreline is the Tukharka River 1 site. On the east shore of the river mouth is a rocky headland (promontory). From this headland, the site is found by walking north along the river bank past two small streams and then up hill when the slope first becomes less steep.

The Tukharka River 1 site has two main areas. The first is near the edge of the headland where a possible Ainu fortification was identified by T. Amano. This 'fortification' is triangular in shape, where the base of the triangle is formed by the cliff's edge and the sides are two trenches or ditches. Test Pit 1 was excavated within this formation. Cultural materials were found within the second stratigraphic layer of Test Pit 1, approximately 40cm below a tephra believed to come from a 1981 volcanic eruption. These materials included bone, charcoal, and a small piece of copper. A single radiocarbon date processed from a charcoal sample collected 40cm below the surface returned an uncalibrated age of 60 +/-30 years before present (where 'present' is 1950 AD). Calibration via Calib 5.0.2 indicates a calendar date of between AD 1700 and AD 1900 (2 sigma/ standard deviation), consistent with the possibility of an Ainu fortification.

The second area of the site is northwest of the 'fortification' on a bluff overlooking the east (left) bank of the Tukharka River. This portion of the site contains at least seventeen house pits, some of which appeared to have been connected by trenches or passage ways. Here two test excavations were made very close together and a 2 cm soil probe tool was pushed into the center of each house depression to confirm the archaeological interpretation of the house. Test Pit 2 contained a single obsidian tool at 50cm below surface, while Test Pit 3 contained lithics, charcoal, and bone. Although no pottery was found, radiocarbon dating of a single sample from Test Pit 3 indicates an uncalibrated age of 2,560 +/- 30 years before present. This date falls along the Final Jomon / Early epi-Jomon transition, although no evidence was found that people associated with the Jomon culture were present at this site.

As one of the few Ainu sites located during KBP 2006, Tukharka River may be a target location for future research. The site is also promising for future work also because the archaeology appears well preserved (there is relatively little evidence of 20th century military activity) and because the site was clearly occupied at different time periods in the past.

Tukharka River 1 Radiocarbon Dates

KBP Catalog #	NOSAMS #	Provenience	^{14}C date	Error (1 sigma)
0872	OS-59028	TP 1, 40 cm below surface	60	30
0873	OS-59029	TP 3, 70 cm below surface	2560	30

Tukharka River 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Tukharka River 1 TP 1	22 August 2006	N50 11.176, E155 37.210
Tukharka River 1 TP 2	22 August 2006	N50 11.260, E155 37.114
Tukharka River 1 TP 3	22 August 2006	N50 11.259, E155 31.114

Tukharka River 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0	Vegetation: labaznik, monk's hood, thistle, tall yellow composite medium grass

2	0-4	light gray-brown turfy soil
3	4-13	ms black angular tephra
4	13-35	med tan brown loamy soil; looks disturbed; some angular pebbles
5	35-43	dark brown soil
6	43-54	dark black brown soil – archaeological deposit.
7	54-63	dark red brown tephra with cinders and pumice (degraded) but hard (iron pan)
8	63-76	med tan brown silty clay with orange organics, roots ~ 3-4 cm long and 0.5 cm diameter
9	76-81	same as level 8 but more gray in color
10	81-88	medium tan brown clayey silt with organics
11	88-95	medium red-brown silt with very coarse sand and dark gray cinders
12	95-113	medium tan-brown silty clay with some charcoal at 107 cm
13	113-126	medium gray brown silt with fine sand; subangular & mixed minerology
14	126-130	medium orange-brown clay-rich silt with fine to coarse sand; angular and mixed minerology

Tukharka River 1 Test Pit 3

Level	Depth (cm below surface)	Description
1	0	tall yellow composite, labaznik, mixed medium grass and flowers
2	0-3	turfy medium gray brown silty soil
3	3-12	black ms tephra
4	12-18	medium red brown soil with fine to medium sand lenses in NE corner
5	18-30	dark black brown soil
6	30-66	dark brown slightly red soil with fine sand to granule. Top contact is gradational, more sandy downward.
7	66-74	tephra. Med red brown very coarse sand -- gray
8	74-80	medium gray brown soil with charcoal and some medium to coarse sand and very coarse pumice –archaeological layer
9	80-86	black charcoaly soil localized in NE corner – archaeological layer
10	86-96	medium tan brown soily sand; fine to very coarse; angular to sub-angular
11	96-99	medium gray brown clayey soil
12	99-101	medium brown gray soil
13	101-112	medium brown soil
14	112-120	medium red brown silty clayey soil

Tukharka River 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0871	Tukharka River 1	Paramushir	LITHICS	TP 3, Level 2, lithics
0872	Tukharka River 1	Paramushir	CARBON	TP 1, 40 cm, charcoal
0873	Tukharka River 1	Paramushir	CARBON	TP 3, level 1 (cultural), charcoal, 70 cm
0874	Tukharka River 1	Paramushir	CARBON	TP 3, level 2 (top), charcoal
0875	Tukharka River 1	Paramushir	STONE TOOLS	TP 2, 50 cm, lithic tool
0876	Tukharka River 1	Paramushir	LITHICS	TP 3, level 1 (cultural), 50-70 cm, lithics
0877	Tukharka River 1	Paramushir	HISTORIC, OTHER METAL	TP 1, 40 cm, metal

0878	Tukharka River 1	Paramushir	FAUNAL	TP 3, level 2 (top), fauna
0955	Tukharka River 1	Paramushir	GEOLOGIC	TP 1, sediment samples
0956	Tukharka River 1	Paramushir	GEOLOGIC	TP 3, sediment samples
1152	Tukharka River 1	Paramushir	CARBON	TP 3, L2. Charcoal from ID #0878

Geological Field Studies Report

Observations and Interpretations:

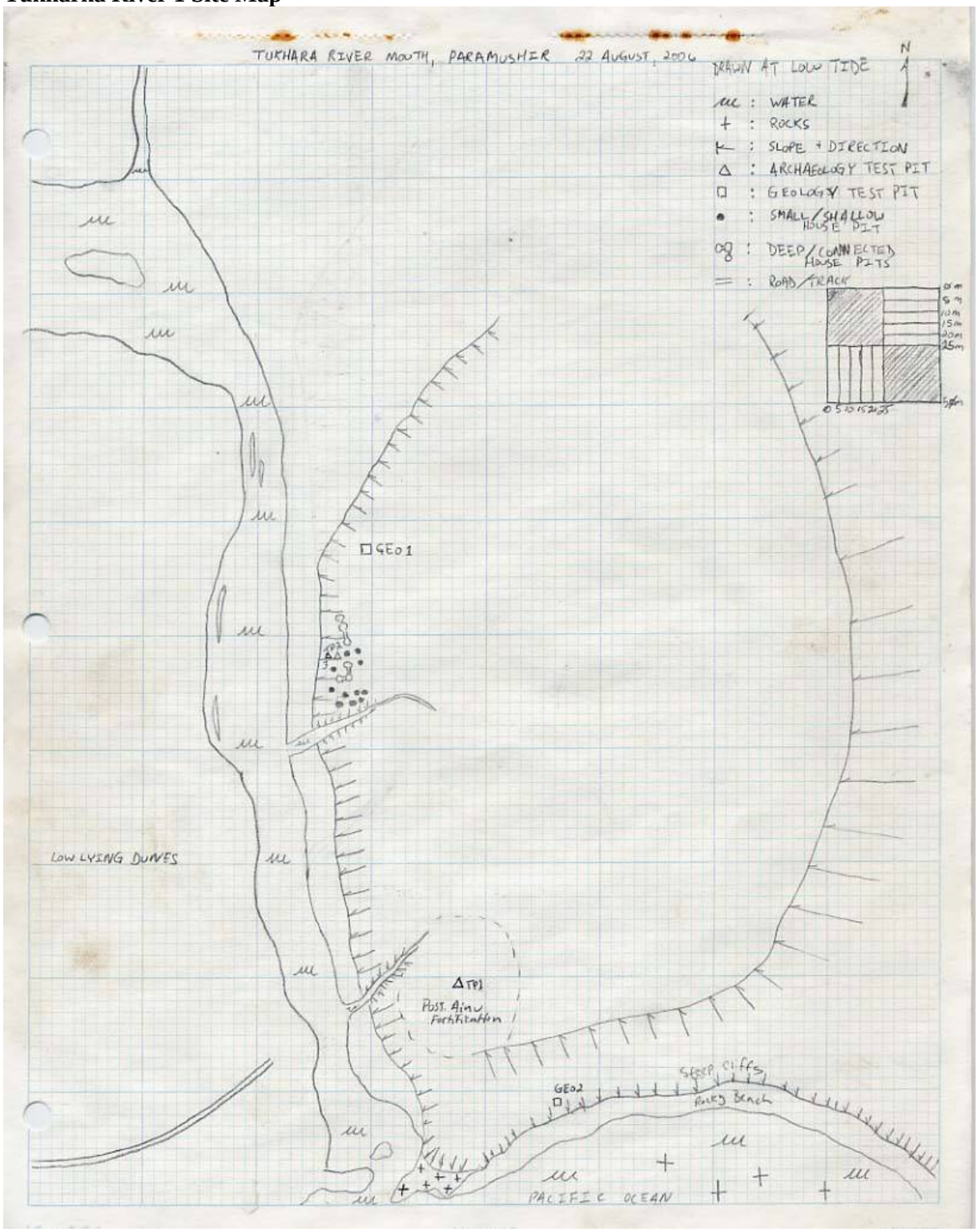
River excavation: At the bottom of the river excavation, the sediment is peaty and sandy, then peaty and clayey with some sand layers. This would indicate a different environment than today. Above that is a large pile of river sands. The river sands, combined with a local oxbow scar would indicate that the river is actively meandering through the coastal plain.

Tsunami: There is potential evidence of 1952 in this bay- there is a trench that was erosively widened towards the river, indicating flow towards the river, not away. There is also inversely graded sand just below the surface of the scour stratigraphy. Other than the inversely graded layer, the excavation is too close to the river to distinguish between river and tsunami sands, and the test pits are too high.

Volcanic activity: There are 3-4 tephra in the test pits on the hill. In the river excavation there were 4 tephra, although many layers were confusing.

Tukharka 1, Test Pit 3. Stratigraphy. Vertical depth is 120 cm.
Photo by T. Amano

Tukharka River 1 Site Map



View North-Northwest from Tukharka River 1 site. Photo: James Taylor.

Archaeological Site: Okeanskoye 1 [OKE 1]
Dates visited: 23 August 2006

Okeanskoye 1 site on the southerneast coast of Paramushir Island is situated on a bluff on the south side of a small cove on the south side of the Kokina peninsula. The site is situated in a disturbed area amidst remains of heavily fortified Japanese military features and interconnected trenches (World War II). Six house pits were mapped at this site, and two test pits were excavated outside of the houses (see map). This site was mapped and tested by Ben Fitzhugh, Colby Phillips, Tetsuya Amano, and Marina Shubina.

Test Pit 1 was a small (50 cm x 50 cm) pit placed near the western side of the site between two house pits. This test pit was dug to a depth of 65 cm below surface. Charcoal, several flakes and a small core (nucleus) were collected between 8 and 35 cm below surface (Levels 2 and 3). Below 35 cm below surface there were no other cultural materials found.

Test Pit 2 was located near the eastern end of the site near the sea cliff. Several pieces of charcoal and flakes were recovered from from this test pit, which was excavated to 75 cm below surface.

The heavily disturbed nature of this site probably makes it unattractive for future KBP research.

Okeanskoye 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Okeanskoye 1 Test Pit 1	23 August 2006	N50 11.174, E155 46.236
Okeanskoye 1 Test Pit 2	23 August 2006	N50 11.155, E155 46.265

Okeanskoye 1 Test Pit 1

Level	Depth (cm below surface)	Description
1	0-8	6-8 cm of turf on top
2	8-28	20 cm Dark brown sandy silt
3	28-41	13 cm orange brown silty sand
4	41-49	Very dark/ black sandy silt
5	49-59	Reddish brown sand
6	59-65	Med. Brown silty clay

Okeanskoye 1 Test Pit 2

Level	Depth (cm below surface)	Description
1	0-6	Roots
2	6-12	Black sandy soil
3	12-36	Brown soil
4	36-45	Black soil
5	45-65	No information- not black soil (36-45) and not black soil with charcoal (65-70)
6	65-70	Black soil with charcoal
7	70 and below	Red sand

Okeanskoye 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0958	Okeanskoye	Paramushir	LITHICS	TP 1, lithics
0959	Okeanskoye	Paramushir	CARBON	TP 1, charcoal
0965	Okeanskoye	Paramushir	CARBON	TP 2, charcoal, 70 cm below surface

Geological Field Studies Report

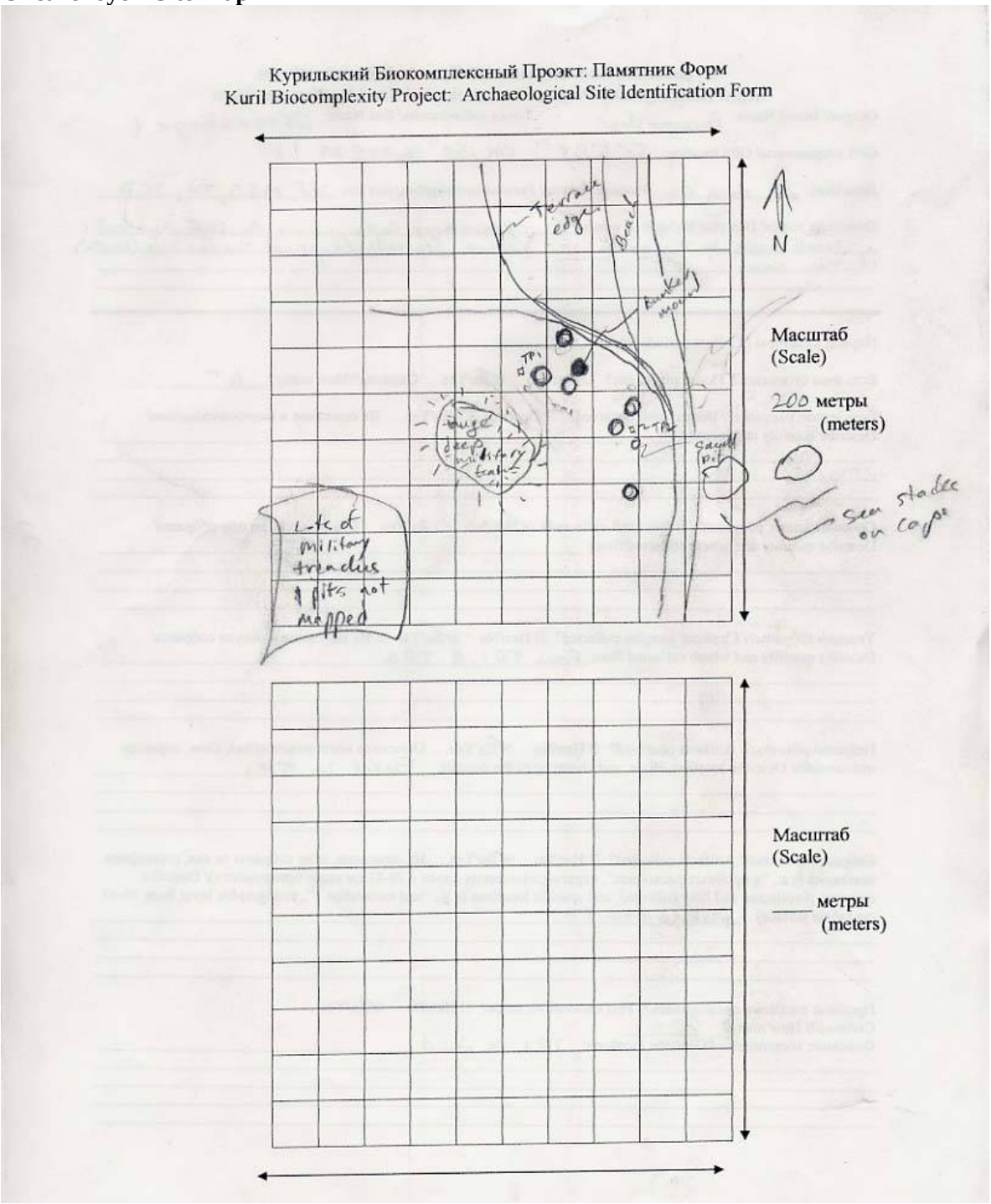
Observations and Interpretations:

Beach profile: The profile away from the beach is composed of a plain that slopes slightly up away from the water. It comes to an abrupt, but short, wave-cut cliff. The cliff separates old stratigraphy from very young. The cliff is low at the profile, but it increases in height to the north and south. The cliff is followed by a long flat area (now a runway). The flat area maybe artificial (it's currently asphalt), or it might have originally been flat.

Tsunami: There is evidence of scour at the edge of trenches that may have been caused by 1952. If 1952 is present in the stratigraphy, it is the unit labeled "The Mess". This unit is a layer of rip-up clasts and patchy sediment types with an erosional base that is equally explained as a 1952 deposit or as military disturbance. There are also 4 other potential tsunami deposits.

Volcanic activity: There are 4 or 5 tephra preserved in the stratigraphy. The lowest one is potentially KO. The 1986 Chikurachi deposit is 10 cm.

Okeanskoye 1 Site Map



View of Kokino Cape from Okeanskoye 1 site. Photo: S.C. Phillips.

Archaeological Site: Trudnaya 1 [TRU1]
Dates visited: 23 August 2006

The Trudnaya 2 site, located on southern Paramushir Island, is located on an eroded road cut about 20 m asl, 100 m from the beach and 100 m north of a freshwater stream and pond that opens into marshlands. The site is extremely disturbed by vehicle activity, and only a few flakes and microblades were recovered from the surface. The presence of microblades makes this site potentially older than any other well documented site in the Kurils and could relate to a phase of the late Paleolithic or early Mesolithic from Kamchatka. Unfortunately brief examination was not sufficient to locate any intact stratified archaeological layers. This site was discovered by Volodya Golubtsov, Natasha Topropova and Matt Walsh during pedestrian survey of Trudnaya Bay.

Trudnaya 1 Feature GPS Coordinates

GPS Feature	Date	Lat/Lon coord
Trudnaya 1	23 August 2006	N50 08.807 E155 31.562

Trudnaya 1 Artifact Catalog List

Catalog ID Number	Site	Island	Artifact Type	Context and Description
0883	Trudnaya 1	Paramushir	LITHICS	surface collected lithics (flakes) (microblades separated into ID 1021 and left at the Sakhalin Museum)
1021	Trudnaya 1	Paramushir	STONE TOOLS	microblades from surface collection, N50 08.807, E155 31.562 (separated from flakes in ID # 0883)

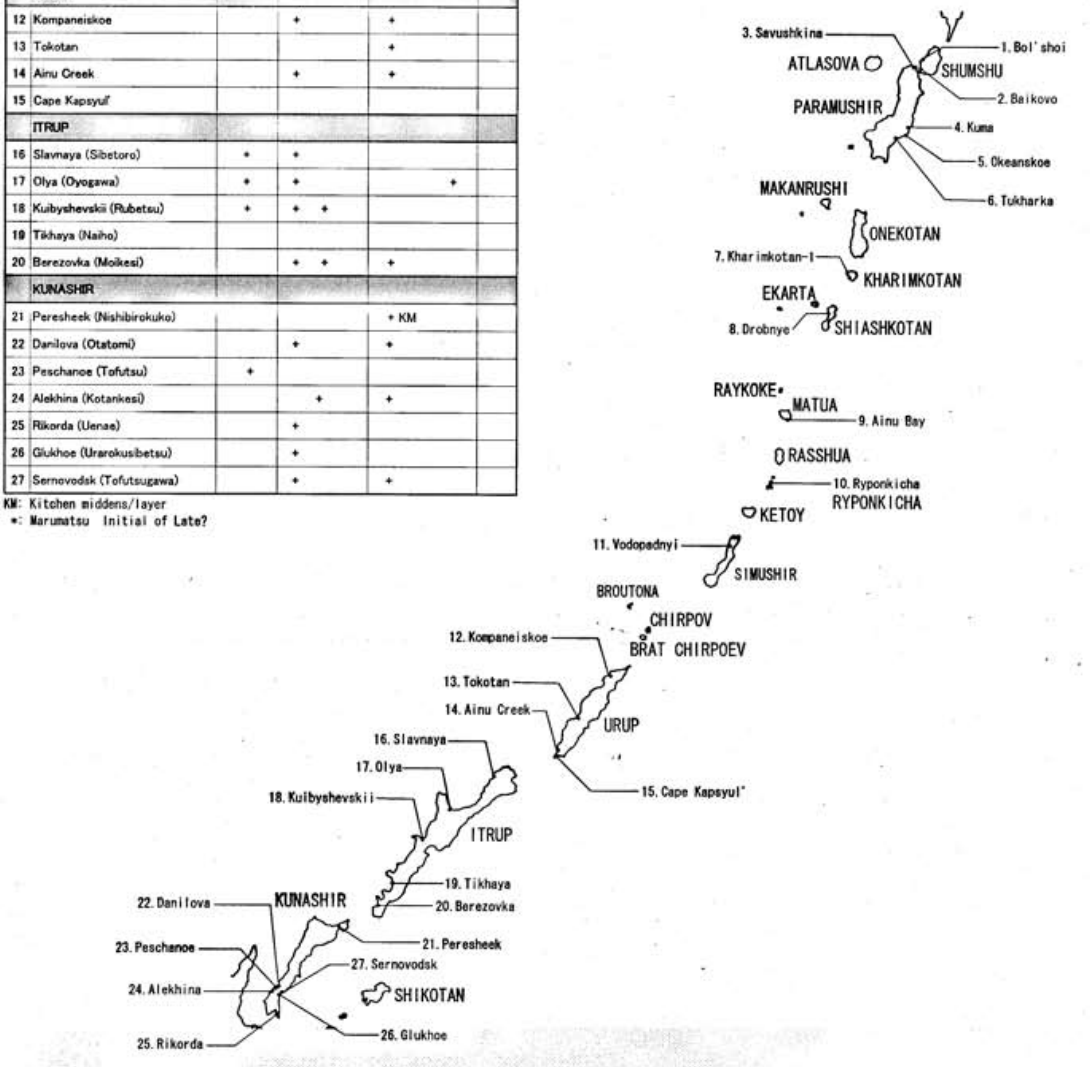
Trudnaya 1 microblades (ID # 1021) from surface collected context.

APPENDIX A:
KURIL POTTERY ANALYSIS BY TETSUYA AMANO

KBP KURIL 2006 Tentative Analysis of Potteries T. AMANO

	ISLANDS	JOMON Late*	EPI-JOMON Early/Late	OKHOTSK Middle/Late/Final	AINU
	SHUMSHU				
1	Bol'shoi (Bettobu-Shiomikawa)			+ KM	
2	Baikovo (Katackawan)			+ KM	
	PARAMUSHIR				
3	Savushkina				
4	Kuma				
5	Okeanskoe				
6	Tukharka (Suribachiwan)				
	KHARIMKOTAN				
7	Kharimkotan-1			+	
	SHIASHKOTAN				
8	Drobnye		+	+	
	MATUA				
9	Ainu Bay (Ainuwan)		+		+
	RYPONKICHA-USHISHIR				
10	Ryponkicha (Kitajima)		+	+ KM	
	SIMUSHIR				
11	Vodopadnyi			+	
	URUP				
12	Kompaneiskoe		+	+	
13	Tokotan			+	
14	Ainu Creek		+	+	
15	Cape Kapsyul'				
	ITRUP				
16	Slavnaya (Sibetoro)	+	+		
17	Olya (Oyogawa)	+	+	+	
18	Kuibyshevskii (Rubetsu)	+	+ +		
19	Tikhaya (Naiho)				
20	Berezovka (Moikesi)		+ +	+	
	KUNASHIR				
21	Peresheek (Nishibirokuko)			+ KM	
22	Danilova (Otatomi)		+	+	
23	Peschanoe (Tofutsu)	+			
24	Alekhina (Kotankesi)		+	+	
25	Rikorda (Uenae)		+		
26	Glukhoe (Urarokusibetsu)		+		
27	Sernovodsk (Tofutsugawa)		+	+	

KM: Kitchen middens/layer
*: Marumatsu Initial of Late?



APPENDIX B:
Kuril Biocomplexity Report on Lithic Debitage Analysis

Prepared by S. Colby Phillips
June 2007

During the Kuril Biocomplexity Project's 2006 field season, the survey and testing of archaeological sites in the Kuril Islands included the collection of lithic artifacts and debitage material for further analysis. Approximately 300 finished tools, and 252 bags containing over an estimated 5,000 pieces of debitage (flakes and shatter) were recovered over the summer of 2006. The finished lithic tools were curated at the Sakhalin Regional Museum in Yuzhno-Sakhalinsk for preservation and study. The remaining non-tool debitage materials were transported to the University of Washington in Seattle for further analysis.

Debitage analysis will be used to provide insight into the procurement, production, and use of chipped stone tools as a function of migration, mobility, and trade in the Kuril Islands. An analysis of the variability that exists in the debitage assemblage will be used to make inferences about past human behavior, and will include a focus on the different raw materials used to make stone tools, the presence of retouched versus un-retouched flakes, and other forms of attribute analysis aimed at characterizing the assemblage. Additionally, a significant amount of obsidian debitage was recovered from archaeological sites in the Kuril Islands in 2006. The trace element composition of obsidian allows obsidian sources to be chemically characterized and archaeological samples to be traced to their geologic sources. Obsidian sourcing studies can be applied to research on prehistoric migration, mobility, trade, and social networks. Because there are currently no known geologic sources of obsidian in the Kuril Islands, tracing the archaeological obsidian debitage to its geologic source has the potential to provide information within a spatial and temporal framework about the movement of obsidian and people through the Kuril Islands.

In March 2007, work began in a laboratory at the University of Washington in Seattle to analyze the lithic debitage from the 2006 field season. Under the supervision of a graduate student working on the Kuril Biocomplexity Project, nine undergraduate students cleaned, sorted, and conducted an initial level of simple analysis on each stone flake. Basic measurements for flake length, width, and thickness were made, the weight was recorded, and each flake was assigned to a general raw material type. To date, 2699 flakes from 16 sites have been processed, including 282 obsidian flakes that have been identified. Tables 1 and 2, and Figures 1 and 2, provide a basic breakdown on the abundance of different lithic raw material types that have been identified in the assemblage so far. Additionally, each obsidian flake was separated from all other raw material types, and was re-bagged and labeled separately for further analysis. A sample of obsidian flakes has been prepared to send to the Smithsonian Institution's Museum Conservation Institute (MCI), where each flake will be chemically characterized using X-ray fluorescence (XRF) in an attempt to trace the archaeological obsidian to its geologic source. This pilot project will be the first time that any archaeological obsidian from the Kuril Islands has been sourced, and will provide initial information on the origin and movement of obsidian throughout the islands.

Table B-1: Lithic Raw Material Types by Count and Percentage

Material	Number	Percent
Basalt	974	36.1
All Other Chert	578	21.4
Red Chert	316	11.7
Obsidian	282	10.5
Chalcedony	213	7.9
Unknown	181	6.7
Tan Chert	95	3.5
Quartz	49	1.8
Granite	8	0.3
Quartzite	3	0.1
Total	2699	100

Figure B-1: Lithic Raw Material Types by Count

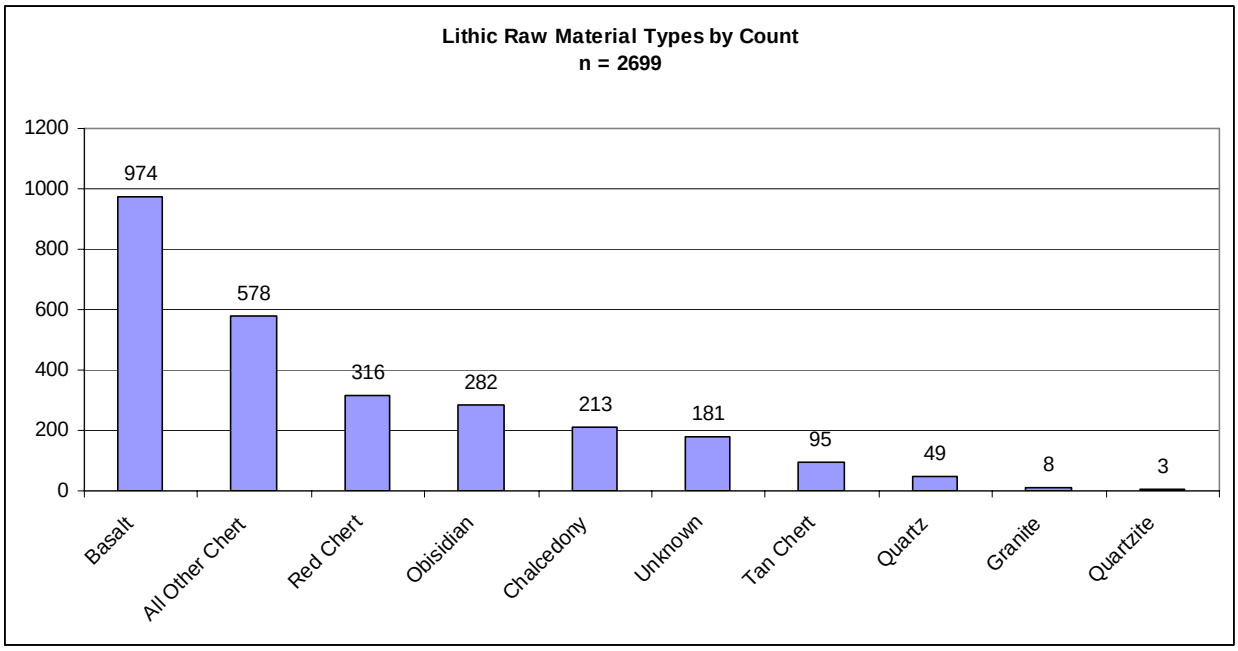
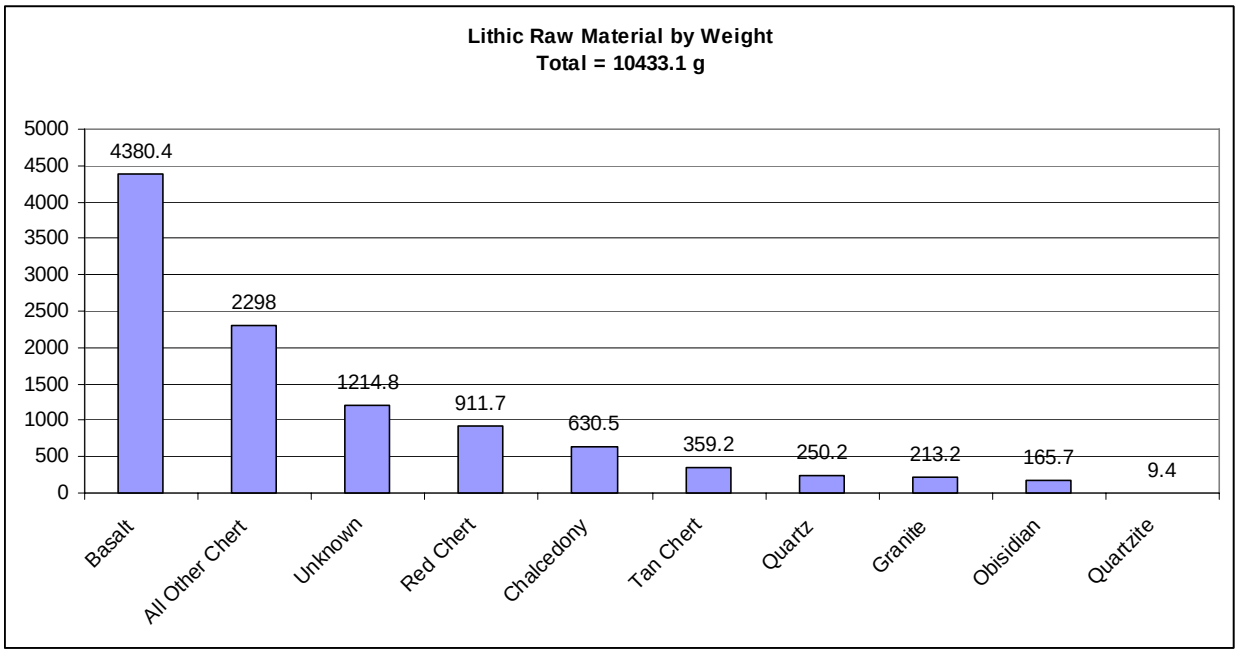


Table B-2: Lithic Raw Material Types by Weight

Material	Weight	Percent
Basalt	4380.4	42
All Other Chert	2298	22.1
Unknown	1214.8	11.6
Red Chert	911.7	8.8
Chalcedony	630.5	6
Tan Chert	359.2	3.4
Quartz	250.2	2.4
Granite	213.2	2
Obsidian	165.7	1.6
Quartzite	9.4	0.1
	10433.1	100

Figure 2: Lithic Raw Material Types by Weight



While the current lithic debitage sample is small and not equitably balanced in terms of the amount of material recovered from each site or island, some initial conclusions can be formulated based on analysis of abundance specific raw material types from specific islands. Tables 3-18 list the abundance of ten types of raw material for eight islands both by the number of individual pieces (count) and the total weight of each raw material type, and includes the percentage of the island sample and the percentage of the total assemblage (n=2699).

Basalt is present in high abundance on many islands as the top ranked raw material by count (for Simushir, Ushishir Group, Shiashkotan, and Shumshu) or by weight (for Kunashir, Iturup, Simushir, Ushishir Group, Shiashkotan, Paramushir, and Shumshu) or both (Simushir, Ushishir Group, Shiashkotan, and Shumshu). Based on its high occurrence across the island chain, basalt was a highly available and highly utilized raw material type. In some cases basalt occurs in lower counts than other raw materials, but with higher total weight indicating a larger flake size,

and pointing towards a conclusion that basalt was not reduced as economically as other raw material types.

Chert is also present across all of the islands except for the Ushishir Group (represented by a small excavation at only one site). Chert debitage occurs as two distinctive types, red chert and tan chert, in significant amounts on some islands, and also as a number of other varieties (yellow, brown, pink, black, banded, variegated) that make up the All Other Chert material type. When the red and tan chert material types are combined with all other chert, chert overall becomes the most abundant raw material by count or weight on many of the islands. This indicates that while chert was either widely available locally or was widely traded throughout the islands, specific varieties such as red or tan chert may have been more available on specific islands, such as Simushir where red chert is the second most abundant raw material by count and by weight after basalt.

Obsidian is also present on each island except the Ushishir Group, though in mostly very small amounts by count and weight. The exceptions to this observation occur on the very southern and northern ends of the island chain. On the southernmost island of Kunashir, obsidian is the most abundant raw material by count, and the fourth most abundant raw material by weight. On the northern island of Paramushir, obsidian is also the most abundant raw material by count, but only the sixth most abundant type by weight. Graphs 3-5 show a general trend in the abundance of obsidian, which decreases from the extreme ends of the island chain towards the central islands. Also, even when the abundance of obsidian by count is high, its abundance by weight is lower than other raw materials, indicating a smaller flake size and a potentially more economical mode of consumption for obsidian than other raw material types.

During the fall of 2007, basic lithic analysis will continue in the University of Washington laboratory to process the debitage assemblage from the 2006 field season as well as begin analysis on the artifacts that are recovered from the upcoming 2007 field season. Additionally, more in-depth lithic analysis will take place in 2008 as part of graduate student dissertation research on the lithic artifacts of the Kuril Islands, including additional obsidian sourcing analysis.

Table B-3: Lithic raw material by count for the island of Kunashir

Material	Number	Percent	Percent of Total Sample
Basalt	11	5.9	0.4
Chalcedony	9	4.8	0.3
Granite	0	0.0	0.0
Quartz	6	3.2	0.2
Quartzite	0	0.0	0.0
Obsidian	**121**	**64.4**	**4.5**
Red Chert	0	0.0	0.0
Tan Chert	3	1.6	0.1
All Other Chert	27	14.4	1.0
Unknown	11	5.9	0.4
Total	188	100	7.0

Table B-4: Lithic raw material by wieght for the island of Kunashir

Material	Weight	Percent	Percent of Total Weight
Basalt	**81.3**	**23.0**	**0.8**
Chalcedony	25	7.1	0.2
Granite	0	0.0	0.0
Quartz	36.7	10.4	0.4
Quartzite	0	0.0	0.0
Obsidian	64.1	18.1	0.6
Red Chert	0	0.0	0.0
Tan Chert	1	0.3	0.0
All Other Chert	79.5	22.5	0.8
Unknown	66.4	18.8	0.6
Total	354	100	3.4

Table B-5: Lithic raw material by count for the island of Iturup

Material	Number	Percent	Percent of Total Sample
Basalt	41	16.9	1.5
Chalcedony	2	0.8	0.1
Granite	0	0	0.0
Quartz	1	0.4	0.0
Quartzite	0	0	0.0
Obsidian	15	6.2	0.6
Red Chert	38	15.6	1.4
Tan Chert	19	7.8	0.7
All Other Chert	**126**	**51.9**	**4.7**
Unknown	1	0.4	0.0
Total	243	100	9.0

Table B-6: Lithic raw material by weight for the island of Iturup

Material	Weight	Percent	Percent of Total Weight
Basalt	**505.4**	**46.7**	**4.8**
Chalcedony	3.7	0.3	0.0
Granite	0	0	0.0
Quartz	0.3	0.1	0.0
Quartzite	0	0	0.0
Obsidian	29	2.7	0.3
Red Chert	83.5	7.7	0.8
Tan Chert	33	3	0.3
All Other Chert	421.3	38.9	4.0
Unknown	6.1	0.6	0.1
Total	1082.3	100	10.4

Table B-7: Lithic raw material by count for the island of Urup

Material	Number	Percent	Percent of Total Sample
Basalt	258	28.5	9.6
Chalcedony	157	17.4	5.8
Granite	3	0.3	0.1
Quartz	22	2.4	0.8
Quartzite	1	0.1	0.0
Obsidian	19	2.1	0.7
Red Chert	44	4.9	1.6
Tan Chert	31	3.4	1.1
All Other Chert	**307**	**34.0**	**11.4**
Unknown	62	6.9	2.3
Total	904	100	33.5

Table B-8: Lithic raw material by weight for the island of Urup

Material	Weight	Percent	Percent of Total Weight
Basalt	975.8	23.3	**9.4**
Chalcedony	515.8	12.3	4.9
Granite	16.8	0.4	0.2
Quartz	127.2	3.0	1.2
Quartzite	4.2	0.1	0.0
Obsidian	14.5	0.3	0.1
Red Chert	120	2.9	1.2
Tan Chert	275.7	6.6	2.6
All Other Chert	**1557**	**37.2**	**14.9**
Unknown	578.4	13.8	5.5
Total	4185.4	100	40.1

Table B-9: Lithic raw material by count for the island of Simushir

Material	Number	Percent	Percent of Total Sample
Basalt	**188**	**48.1**	**7.0**
Chalcedony	1	0.3	0.0
Granite	4	1.0	0.1
Quartz	2	0.5	0.1
Quartzite	1	0.3	0.0
Obsidian	6	1.5	0.2
Red Chert	110	28.1	4.1
Tan Chert	5	1.3	0.2
All Other Chert	13	3.3	0.5
Unknown	61	15.6	2.3
Total	391	100	14.5

Table B-10: Lithic raw material by weight for the island of Simushir

Material	Weight	Percent	Percent of Total Weight
Basalt	**1003**	**48.0**	**9.6**
Chalcedony	0.1	0.0	0.0
Granite	36.7	1.8	0.4
Quartz	14.7	0.7	0.1
Quartzite	1.1	0.1	0.0
Obsidian	6.1	0.3	0.1
Red Chert	504.2	24.1	4.8
Tan Chert	14.3	0.7	0.1
All Other Chert	38.1	1.8	0.4
Unknown	472.7	22.6	4.5
Total	2091	100	20.0

Table B-11: Lithic raw material by count for the Ushishir Group

Material	Number	Percent	Percent of Total Sample
Basalt	**21**	**100.0**	**0.8**
Chalcedony	0	0.0	0.0
Granite	0	0.0	0.0
Quartz	0	0.0	0.0
Quartzite	0	0.0	0.0
Obsidian	0	0.0	0.0
Red Chert	0	0.0	0.0
Tan Chert	0	0.0	0.0
All Other Chert	0	0.0	0.0
Unknown	0	0.0	0.0
Total	21	100	0.8

Table B-12: Lithic raw material by weight for the Ushishir Group

Material	Weight	Percent	Percent of Total Weight
Basalt	**49.3**	**100.0**	**0.5**
Chalcedony	0	0.0	0.0
Granite	0	0.0	0.0
Quartz	0	0.0	0.0
Quartzite	0	0.0	0.0
Obsidian	0	0.0	0.0
Red Chert	0	0.0	0.0
Tan Chert	0	0.0	0.0
All Other Chert	0	0.0	0.0
Unknown	0	0.0	0.0
Total	49.3	100	0.5

Table B-13: Lithic raw material by count for the island of Shiashkotan

Material	Number	Percent	Percent of Total Sample
Basalt	**295**	**69.9**	**10.9**
Chalcedony	0	0.0	0.0
Granite	0	0.0	0.0
Quartz	1	0.2	0.0
Quartzite	0	0.0	0.0
Obsidian	31	7.3	1.1
Red Chert	44	10.4	1.6
Tan Chert	19	4.5	0.7
All Other Chert	9	2.1	0.3
Unknown	23	5.5	0.9
Total	422	100	15.6

Table B-14: Lithic raw material by weight for the island of Shiashkotan

Material	Weight	Percent	Percent of Total Weight
Basalt	**811.3**	**82.7**	**7.8**
Chalcedony	0	0.0	0.0
Granite	0	0.0	0.0
Quartz	0.7	0.1	0.0
Quartzite	0	0.0	0.0
Obsidian	9	0.9	0.1
Red Chert	72.2	7.4	0.7
Tan Chert	21.3	2.2	0.2
All Other Chert	25.9	2.6	0.2
Unknown	40.1	4.1	0.4
Total	980.5	100	9.4

Table B-15: Lithic raw material by count for the island of Paramushir

Material	Number	Percent	Percent of Total Sample
Basalt	39	17.8	1.4
Chalcedony	32	14.6	1.2
Granite	0	0.0	0.0
Quartz	1	0.5	0.0
Quartzite	1	0.5	0.0
Obsidian	**54**	**24.7**	**2.0**
Red Chert	32	14.6	1.2
Tan Chert	4	1.8	0.1
All Other Chert	53	24.2	2.0
Unknown	3	1.4	0.1
Total	219	100	8.1

Table B-16: Lithic raw material by weight for the island of Paramushir

Material	Weight	Percent	Percent of Total Weight
Basalt	**158.2**	**32.9**	**1.5**
Chalcedony	61.6	12.8	0.6
Granite	0	0.0	0.0
Quartz	30.2	6.3	0.3
Quartzite	4.1	0.9	0.0
Obsidian	19.4	4.0	0.2
Red Chert	72.6	15.1	0.7
Tan Chert	6	1.2	0.1
All Other Chert	92.1	19.2	0.9
Unknown	36.5	7.6	0.3
Total	480.7	100	4.6

Table B-17: Lithic raw material by count for the island of Shumshu

Material	Number	Percent	Percent of Total Sample
Basalt	**133**	**43.2**	**4.9**
Chalcedony	12	3.9	0.4
Granite	1	0.3	0.0
Quartz	16	5.2	0.6
Quartzite	0	0.0	0.0
Obsidian	35	11.4	1.3
Red Chert	47	15.3	1.7
Tan Chert	14	4.5	0.5
All Other Chert	43	14.0	1.6
Unknown	7	2.3	0.3
Total	308	100	11.4

Table B-18: Lithic raw material by weight for the island of Shumshu

Material	Weight	Percent	Percent of Total Weight
Basalt	**796.2**	**66.3**	**7.6**
Chalcedony	21.3	1.8	0.2
Granite	159.7	13.3	1.5
Quartz	40.4	3.4	0.4
Quartzite	0	0.0	0.0
Obsidian	22.1	1.8	0.2
Red Chert	54.8	4.6	0.5
Tan Chert	7.9	0.7	0.1
All Other Chert	84.2	7.0	0.8
Unknown	14.6	1.2	0.1
Total	1201.2	100	11.5

Table B-19: Obsidian Flake Count and Weight by Island

Island	Obsidian Flake Count	Obsidian Flake Weight
Kunashir	121	64.1
Iturup	15	29
Urup	19	14.5
Simushir	1	6.1
Ushishir Group	0	0
Shiashkotan	31	9
Paramushir	54	19.4
Shumshu	35	22.1
Total	**276**	**164.2**

Figure B-3: Obsidian Flake Count and Weight by Island

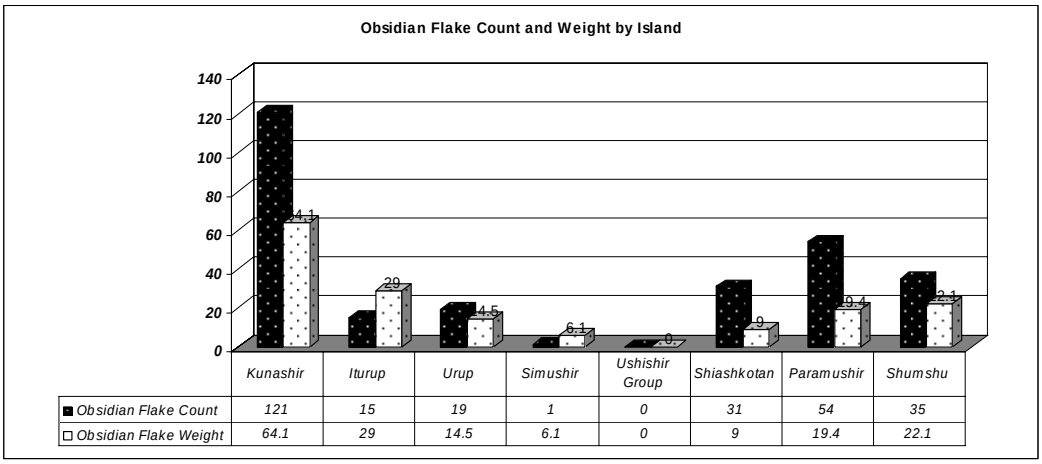


Table B-20: Percent of Total Obsidian Flake Count and Weight by Island

Island	% Total Obsidian Sample Count	% Total Obsidian Sample Weight
Kunashir	43.8	39.0
Iturup	5.4	17.7
Urup	6.9	8.8
Simushir	0.4	3.7
Ushishir Group	0.0	0.0
Shiashkotan	11.2	5.5
Paramushir	19.6	11.8
Shumshu	12.7	13.5
Total	100	100

Figure B-4: Perscent of Total Obsidian Flake Count and Weight by Island

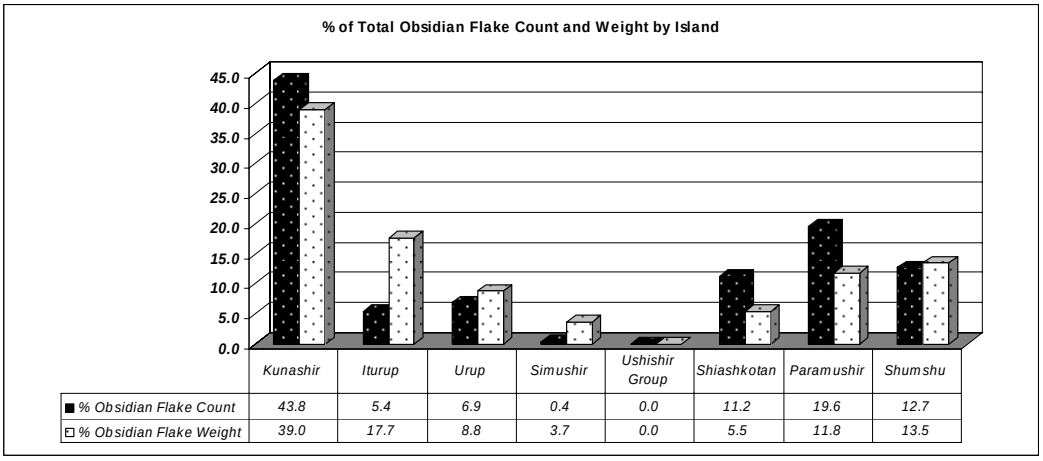
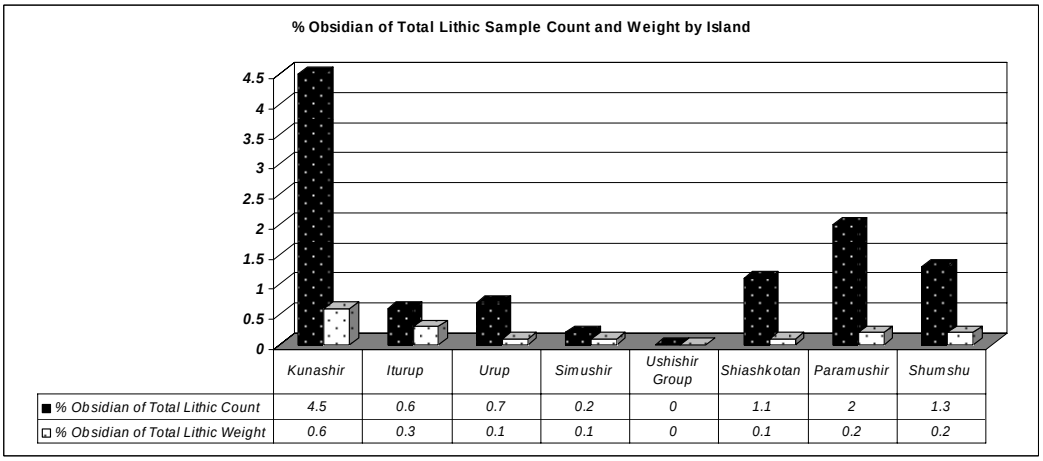


Table B-21: Percent Obsidian of Total Lithic Sample Count and Weight by Island

Island	% Total Lithic Sample Count	% Total Lithic Sample Weight
Kunashir	4.5	0.6
Iturup	0.6	0.3
Urup	0.7	0.1
Simushir	0.2	0.1
Ushishir Group	0	0
Shiashkotan	1.1	0.1
Paramushir	2	0.2
Shumshu	1.3	0.2

Figure B-5: Percent Obsidian of Total Lithic Sample Count and Weight by Island



APPENDIX C:
STATUS REPORT OF KBP 2006 FAUNAL ANALYSIS,
BY MICHAEL ETNIER AND BEN FITZHUGH

1. Current status of analyses:
The analysis of the faunal remains recovered in the 2006 KBP field season is progressing well. The primary accomplishments of the analysis thus far have been to

- clean and dry all samples
- sort samples by Class (mollusk, fish, bird, mammal)
- individually label identifiable bone specimens, each with a unique catalog number
- identify all mammalian remains from selected sites
- identify selected bird and fish remains opportunistically

Identification of mollusks, fish, and birds has not been systematic, but a few identifications have been made. Full analysis of these Classes will be postponed until after the 2007 Summer field season.

As of May 2007, nearly 2000 hours of work has been expended in the lab (Table 1). The bulk of this work was expended in cleaning, drying, sorting, and labeling the samples, or in supervising/directing these activities. Only ~40% of Etnier's time was devoted to identifications. Efforts will be made in Fall of 2007 to make the lab work (specifically the amount of time working on identifications) more efficient (see below).

Table C-1. Number of hours invested in analysis of KBP 2006 faunal samples.

Worker/s	Hours in lab
Etnier	450
High School intern	20
Student Supervisors	283
Undergraduate Students	1123
TOTAL	**1876**

The work expended thus far this analysis represents a large investment of effort, and it resulted in substantial accomplishments. Specifically, 181[2] faunal samples were fully processed in the lab, with approximately 3600 individual pieces of bone cleaned, sorted, and labeled (this count does not include ~1000 gastropod [snail] shells, which will not be individually labeled).

Thus far, only the mammalian remains from Ainu Creek, Kapsul, Vodopadnaya, Ryponkicha, Yankicha, Bol'Shoy, and Baikova have been systematically identified, resulting in an NISP (number of identified specimens) of approximately 700. Of the remaining ~2900 pieces of bone (primarily bird and fish), perhaps 1000 of these will be identifiable beyond Class. Other classes besides mammals have been rough sorted, allowing for general and provisional comclusions.

[2] The original Field Catalog listed 178 faunal samples. It was later determined that some of these were not faunas (e.g., wood, pumice, etc.). Other samples were identified as faunas only after closer examination in Seattle.

2. Preliminary results

Some preliminary patterns are evidence in the faunal data, despite the unfinished nature of the analyses. First, taxanomic richness (looking at combined marine mammal and birds) suggests that an expected relationship between the faunal diversity and the relative insularity of the different islands. Vodopadnaya on Simushir has the lowest richness compared to the sites from the southern and northern islands. A plot of richness against sample size however, leads us suspect that the richness (diversity) numbers could be largely a function of sample sizes, with the exception of Kapsyul. Larger samples will make it possible to better isolate geographic patterns in faunal variation. Kapsyul has a very low diversity of fauna considering its very large sample size. This pattern is driven largely by a high frequency of sea otter parts (50%). The late radiocarbon date and possible Aleut barbed-bone projectile found at this site suggest that this may have been an extraction location for commercial sea mammal harvesting by Russian American Company workers. This could explain the unusually high proportion of sea otters remains.

Table C-2: Faunal diversity by site and sample size.

Site Name	Richness (number of taxa)	Sample size (N)
AINU CREEK	12	65
BAIKOVA	7	75
BOL'SHOY	6	34
KAPSYUL	9	493
Kubushevskaya 1	2	4
VODOPADNAYA	2	15
Yankicha	3	20

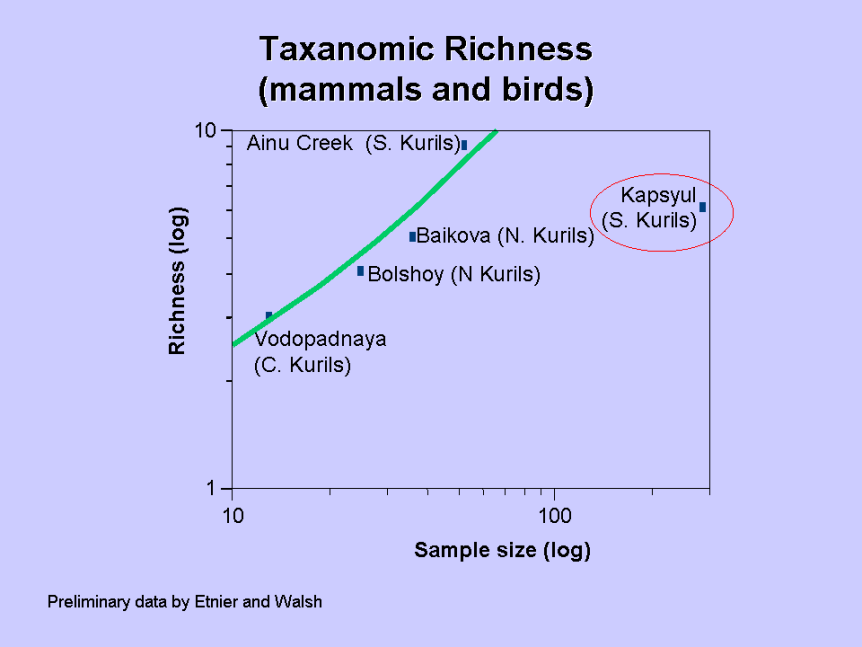


Figure C-1: Log-log plot of faunal richness, indicating that sample richness is likely a function of sample size in this collection, with the clear exception of Kapsyul, which is much lower in diversity than expected for its large sample size.

A ternary plot of the marine mammal fauna (Figure D-2) shows the relative importance of fur seal/sea lions, sea otter, and harbor seal. The anomalous Kapsyul data point is seen here. Baikova also distinguishes itself as a major sea otter producer, however, in this case the site was about 1000 years too old to be a Russian company settlement. Interestingly Ainu Creek, just a few miles around the corner of Urup from Kapyul Cape is almost devoid of sea otter remains. This difference is probably due to the local geography. According to Snow (1897), sea otters prefer the Pacific side of the archipelago and, during the late 19th century at least, were rarely seen in numbers on the Okhotsk sea side. Presently the zooarchaeological analyses are not strictly separated by time period (samples would be too small) so no further chronological comparisons are worth while, until we analyze a large enough set of samples to make this worthwhile.

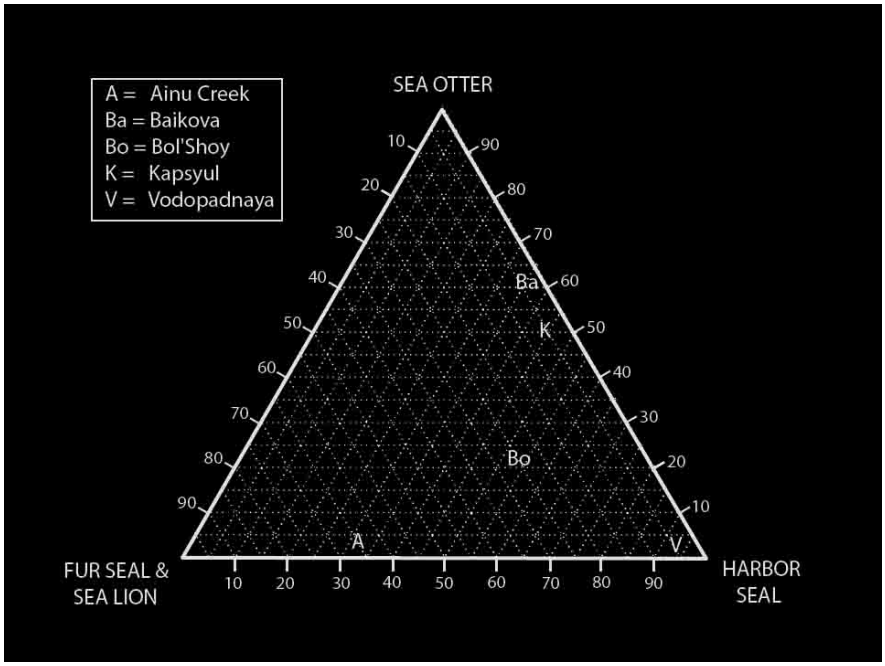


Figure C-2: Ternary plot showing the relative importance of Sea otter, Fur seal and Sea Lion, and Harbor seal in the faunal assemblages of the primary faunal bearing sites explored in 2006.

3. Future directions

In this first year of lab work, the sample processing sequence progressed from cleaning and drying all samples, to sorting all samples, followed by labeling all samples. In hindsight, this process was inefficient, but it was necessitated by the fact that few of the students had any prior experience with faunal analysis. Consequently, they required extensive supervision and instruction at all stages in the process. Hopefully a higher proportion of the students, student supervisors, and graduate student RAs working in the lab after the 2007 Summer field season will have had some level of experience with faunal analysis.

Regardless of the experience level of the students in the upcoming year, the sample processing sequence will be changed in an effort to make the work more efficient. For starters, field cleaning of the samples will be emphasized as much as possible. This will reduce the amount of time spent cleaning in the lab (and the requisite requirements regarding sediment containment),

but may increase the amount of time drying samples in Seattle. As with last year, the first priority for lab work will be to ensure that all samples are fully dried, or are stored in bags that will allow moisture to escape. Once that is accomplished, each sample will be fully processed (cleaned, sorted, and labeled) before moving to the next sample. Meanwhile, Dr. Etnier will be able to continue the identification process, starting with samples labeled the previous year.

In addition to the processing and analyses that have been accomplished in the lab so far, we have begun the process of selecting marine mammal samples for isotopic and trace element analyses to be conducted by Amy Hirons and Bruce Finney. These analyses will help us to identify the ecological conditions in which these animals lived. We are particularly interested in looking at the relationship between sea otters, urchins and kelp, and hope to do some pilot research into geochemical analyses of otter bones that could help us to determine the state of equilibrium between these three taxa, as evidence of the health of the ecosystem at the time of harvest. We hope that these insights will in turn help us to unlock some of the dynamic environmental conditions that people experienced when trying to harvest sea otters and other marine animals in the past.

APPENDIX D:
RADIOCARBON RESULTS FROM THE KURIL BIOCOMPLEXITY PROJECT'S 2006 EXPEDITION WITH A FOCUS ON ARCHAEOLOGICAL IMPLICATIONS.

Sampling goals

In the 2006 expedition, organic samples, especially wood charcoal, were collected from as many archaeological and geological strata of interest as possible. In total we accumulated 217 samples which were returned to the University of Washington for processing and subsampling. Of these, 60 were selected for dating in the fall and winter of 2006-2007. Forty-eight of these samples came from archaeological deposits, while an additional 12 samples were from purely geological contexts. Radiocarbon dates were generated at the Woods Hole Oceanographic Laboratories, in the NOSAMS facility. Samples were selected for AMS dating based on a combination of variables developed to balance archaeological and geological priorities and coverage through the islands. Additional dates will be run in the future from the samples that have not yet been selected, as future priorities determine.

Archaeological dates are presented with each site description in the body of this report. In this appendix I present a preliminary aggregate analysis of the archaeological radiocarbon dates as they provide a one kind of information about changes in human occupation intensity in the Kurils. For this analysis, previously published dates are included. Most of these dates come from the 2000 International Kuril Island Project expedition, as reported in Fitzhugh et al. 2002. Other dates, exclusively for the southern islands of Kunashir and Iturup have been produced by a number of scholars and compiled in several synthesis publications (Kuzmin 2006; Zaitseva et al. 2003).

Radiocarbon Chronology

Figure D-1 plots the frequency of dates per 250 year interval. This technique is commonly used as a proxy measure for relative population density. Such plots can only be used as for this purpose if we can assume that the dated samples are representative of the full archaeological record (samples are selected randomly with regard to age and are not biased by particularly heavy sampling of a particular time period – such as the earliest occupations). This particular analysis is preliminary and is presented only for its utility in raising questions and hypothesis for further examination.

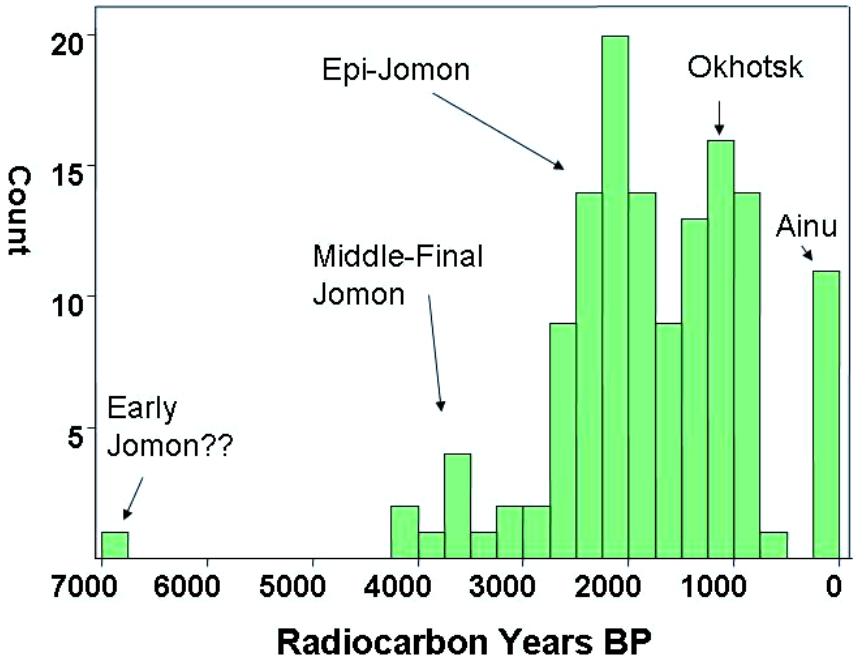


Figure D-1: Radiocarbon dates from the Kuril Islands plotted as a histogram in 250 year intervals. Dates from KBP 2006 as well as Fitzhugh et al. 2002; Kuzmin 2006; Zaitseva et al. 1993.

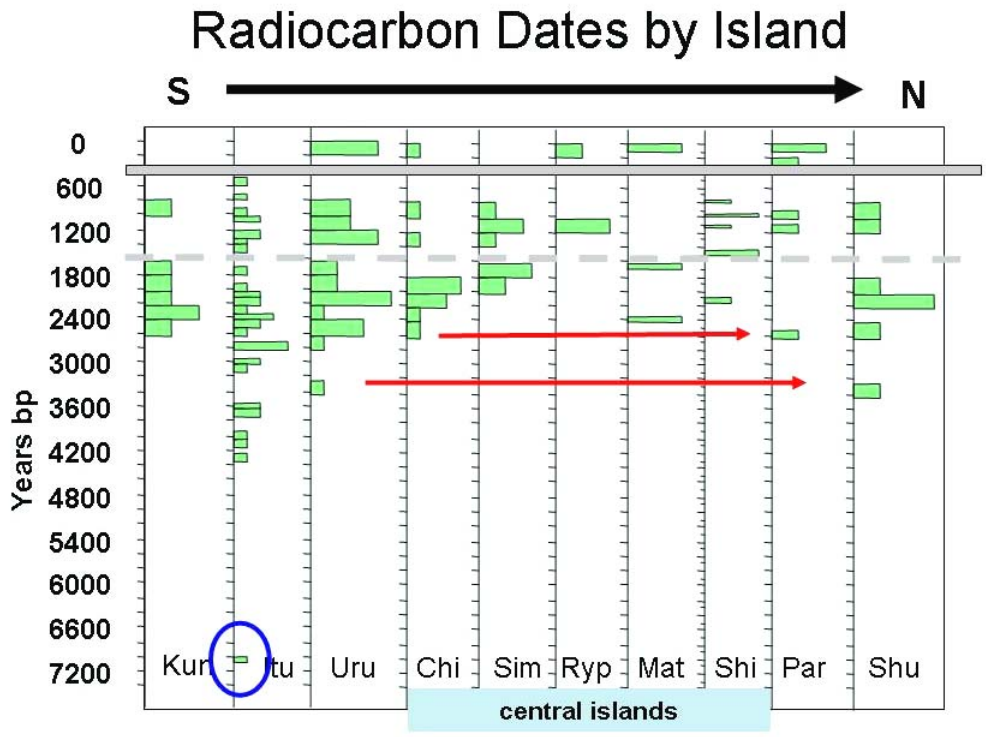


Figure D-2. Radiocarbon dates frequencies by island, including dates from KBP 2006 as well as dates in Fitzhugh et al. 2002; Kuzmin 2006; and Zaitseva et al. 1993.

The oldest date in Figure D-1 is a previously published date (6980+/-50 bp; LE-3230) from the site of Yankito (Zaitseva et al. 1993). I don't yet have the original site report in order to say if this date might be problematic. As a single outlier almost 3000 years earlier than the next oldest date, we should consider the possibility that this date may be in error. However, there is reason to expect occasional Early Jomon occupation of Kunashir and Iturup islands. The lack of continuous dates thus suggests that there was not very much motivation for Early Jomon people to permanently colonize the southern Kurils in any substantial numbers.

Several radiocarbon dates between 4250 and 2750 bp suggest a small but persistent Middle to Final Jomon period occupation. This appears to have been especially prevalent in the southern islands, but as seen in Figure D-2, one date from Shumshu Island (Bolshoye 1, Tp. 3, Level 2) at 3330 +/- 35 bp (OS-59198) shows that someone was in the Northern Kurils during the Final Jomon period. While we cannot exclude the possibility that the people who created this early date on Shumshu came from Kamchatka, my strong suspicion is that this represents an early movement through the Kuils from the south. The absence of archaeological dates in the central islands at this time suggests that something about the relative geographic isolation or ecological poverty of the central islands inhibited substantial settlement but not occasional through migration.

The onset of the Epi-Jomon period is represented in Figure D-1 as a significant increase in radiocarbon date frequencies. As suggested by Figures D-1 and D-2, the Epi Jomon represents the first substantial occupation of the Kurils in which archaeological evidence is abundant through much of the chain. Diagnostic Epi-Jomon ceramics are common in many of these sites from Kunashir to at least Shiashkotan. Epi-Jomon pottery is reported to come even from northern Paramushir and Shumshu (V. O. Shubin, personal communication, August 2006), although we did not find any in our 2006 survey. This pattern suggests that Epi-Jomon people were both able and eager to expand into the northern islands. Surprisingly, the central islands remain sparsely occupied during this time.

There is a faint suggestion of hiatus of occupation for a very short time at about the age of transition from Epi-Jomon to Okhotsk. It is unclear from either chart if the Ohkotsk would have been in contact with the last of the Epi-Jomon occupation anywhere in the Kurils.

The Okhotsk period is also well represented throughout the chain. Here we see the first substantial occupation of the central Kurils. Okhotsk-like archaeological materials are found all the way up onto the southern tip of Kamchatka (Dikova 1983) and in the previously poorly represented central islands. If the radiocarbon frequency distribution (Figure D-1) is actually marking the changes between cultural groups, it is interesting to note that the onset of Okhotsk would appear to be maybe 200 years too early, compared to its presence on northern Hokkaido. We will need to match the pottery typology to dated components to be sure that Okhotsk material actually occurs in the site components dated before 1300 bp.

The end of the Okhotsk period in the Kurils appears to fall right around 700 bp. On Hokkaido, the Okhotsk population is quickly replaced by the Ainu. In the Kurils, there is an apparent gap in occupation from 750 bp until only about 170 bp. Interestingly this pattern is replicated in both the radiocarbon data and the ceramic typology. All Ainu ceramics found (and there were very few), also suggested a late Ainu phase occupation (Appendix A).

One possible interpretation for the large gap in the radiocarbon dates is that the climate change that resulted from the so-called "Little Ice Age" somehow made the Kurils less hospitable. Certainly we can expect sea-ice to have expanded around the southern portions of the islands, during the peak of winter.

Another interpretation for the radiocarbon gap is that we have simply missed the early Ainu sites for some reason. Certainly the diagnostic pottery for Ainu is far less distinctive than that for the other time periods and this could have led to a bias against identifying early Ainu components; however, this should not have affected the radiocarbon dates. Perhaps a larger sample of dates will fill the gap. Archaeological evidence in southern Kamchatka, suggests that Ainu influence is expressed in material culture from Cape Lopatka north to at least the Avacha Bay area around modern Petropavlovsk-Kamchatski, and yet it is only late Ainu material that has been identified (Dikova 1983).

Ethnographically we know that the Kurils were occupied by the Ainu at the time of Russian contact (Krashenenikov 1972). Ethnohistoric evidence suggests the presence of well established Ainu groups, with divergent dialects living in the northern and southern Kurils in the early 18th century. This observation is difficult to bring to terms with the interpretation that the Ainu had themselves only just arrived recently in the northern islands. Perhaps the dialect difference arose from a process of intermarriage and exchange between the northern Ainu and the Itelemens of southern Kamchatka (Krashnenenikov 1972). The missing early Ainu in the Kurils remains one of the most intriquing and unexpected result of the Kuril project so far.

Finally the Ainu are represented by a relatively small number of "historic period" sites younger than 200 years. This is also the time of the Russian American company, Native Alaskans transplanted to the central Kurils, and growing competition over Kuril territory between Russia and Japan.

Conclusions

The number of radiocarbon dates now available for the Kurils provides a significant sample for beginning to piece together the settlement history – and periods of abandonment – of the Kuril Islands. It will be necessary to refine this analysis using calibrated dates to clarify any anomalies that are purely due to variation in the calibration curve at particular times. Additional dates will be collected to supplement the existing sample, and more detailed excavations in the future will provide higher resolution information about occupation histories for particular sites and islands.

References Cited

Dikova, T. M. (1983) *South Kamchatka Archaeology in Connection with the Ainu Occupation Problem*. Moscow: Nauka.

Fitzhugh, Ben, Valery O. Shubin, Kaoru Tezuka, Yoshihiro Ishizuka, and Carole A. S. Mandryk et al. (2002) "Archaeology in the Kuril Islands: Advances in the Study of Human Paleobiogeography and Northwest Pacific Prehistory." *Arctic Anthropology* 39(1-2):69-94.

Krasheninnikov, Stepan P. (1972) *Explorations of Kamchatka, 1735-1741*. Translation of the original 1955 Russian publication, translated by E. A. P. Crownhart-Vaughan. Oregon Historical Society, Portland.

Kuzmin, Y. (2006) Palaeoenvironment and Chronology. In *Archaeology of the Russian Far East: Essays in Stone Age Prehistory*, edited by S. M. Nelson, A. Derevianko, Y. Kuzmin and R. Bland, pp. 13-40. BAR International Series. vol. 1540. Archaeopress, Oxford, England.

Zaitseva, D. I., S. G. Popov, A. P. Krylov, Y. V. Knorozov, and A. B. Spevakovskiy. (1993) Radiocarbon chronology of archaeological sites of the Kurile islands. *Radiocarbon* 35:507-510.