Report of the Skagafjörður Archaeological Settlement Survey 2009:

Coring and Test pit at Holtsmúli (62)

By John M. Steinberg, Rita S. Shepard, Kelly R. Hale, Joanna E. Curtis, & Kathryn A. Catlin

With the help of
Amanda Schreiner, Ayshe Yeager, Brian Damiata, Christa Beranek, Dennis Piechota, Douglas Bolender, Emily Button, Gregory Bailey, Heather Trigg, John Schoenfelder, Katharine Corwin, Katharine Johnson, Katherine Goldberg, Laura Ng, Marisa Patalano, Michael Way, Peter Gangemi, Robert de Picciotto, Robert Yeager, Rosie Taylor, Sam Mrozowski, Stephen Mrozowski, Susan Jacobucci, & Véronique Forbes

Funded by
United States National Science Foundation
ARC 0909393 (Arctic Social Sciences)

With the institutional assistance of
Byggðasafn Skagfirðinga Glaumbæ
Árskóli Sauðárkróki

Permit issued by
Kristín Huld Sigurðardóttir, **Forstöðumaður Fornleifaverndar ríkisins**

Under the guidance of
Þór Hjaltalín, **Fornleifavernd ríkisins**

In collaboration with
Sigríður Sigurðardóttir, **Byggðasafn Skagfirðinga Glaumbæ**

Additional copies of this report and other reports, as well as much of the raw data can be downloaded from http://www.fiskecenter.umb.edu/SASS.htm

Acknowledgements

This material is based upon work supported by the National Science Foundation under Grants ARC 0909393 (Arctic Social Sciences) & BCS 0731371 (Archaeology). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation. The permit was issued by Archaeological Heritage Agency of Iceland on June 19, 2009. Landowner permission was obtained with the assistance of Hjalti Pálsson of Hof. We thank the new landowner Sigurður Skarphéðinsson for his kindness in letting us investigate his land. Christine Campbell helped put together this report.

Goals

The goal of the work at Holtsmúli (62) was straightforward. We used cores to identify the earliest occupation of the visible farmmound by placing and excavating a 1x1 m test pit in the oldest part of the midden.

Coring

Coring at Holtsmúli took plance on 8/11/2009. Joanna Curtis, Kelly Hale, and John Steinberg took the cores. We used a JMC backsaver core with two extensions if necessary. For deep midden exploration we sometimes used the N-3 handle, but mostly the standard backsaver handle. We employed the 18 in long 1.5 in wide JMC large diameter sampling tubes. The sample tube was cleaned between each sample and grass placed in the core hole between samples of the same core hole so as to distinguish loose soil fall from in situ deposits. Core locations were recorded with a sub-meter GPS in Real time. These coordinates were post-processed and those post-processed coordinates are the ones associated with the cores in this report. Tephra layers were recorded along with natural and cultural deposits and any inclusions.

We took 33 cores at Holtsmúli (Figure 1) to identify the area where there was substantial midden under the 1000 tephra layer or midden deposits very close to the LNL (Figure 2). Just beyond eastern edge of the cores we identified drained bog deposits. Of the 33 cores taken some identifiable tephra was found in 24 of them (72%): 9 with 1776, 9 with 1300, 13 with H1, 6 with 1000 and only 1 with the LNL/LNS. In general we first placed cores on a 10m grid. The spacing was then confined to identify the deepest part of the midden as well as the oldest part of the midden (close to the LNS). We took several cores that had those characteristics just to the north of a small shed across a fence from the garden around the farmhouse.

Test pit

Test pitting began 8/11/2009 and went through 8/12/2009, excavated by Joanna Curtis and Kelly Hale. The location (E 474650.40, N 572104.50, 36.35 m asl) was determined by the cores. In general, the midden was surprisingly homogeneous all the way down. There was about 5 to 7 cm of midden between the 1000 tephra and a thin (3-5 cm) layer of aeolian deposition above the NLS which seemed to be either in or right on top of a very boggy deposit which rested on the H3 tephra layer (Figure 3). The LNS is extraordinary well preserved. No finds (other than animal bones) were recovered from this test pit.

Floatation

Samples for flotation from all pre 1300 AD contexts were taken. Whenever possible, samples were taken during excavation. Most samples from Holtsmúli were taken from the sidewalls and precautions were taken never to contaminate samples. The flotation sample from contexts 1, 2, 3, and 4 (LNS) were analyzed. In some cases, multiple samples from the same context were taken. If this occurred they were floated and analyzed separately.

Context 3, well below the 1000 tephra and just above the LNS contained 1 charred Hordeum seed which was AMS dated. The sample (77365) was run by Brian Damiata at the W. M. Keck Carbon Cycle Accelerator Mass Spectrometry Laboratory at the University of California, Irvine. The date came back at 1020 ± 15 radiocarbon years before present. Calibrated this comes out to 990-1027 AD (95.4%). The LNS sample (4) had one charred seed but no cultural material.

Interpretation

Based on the spread of cores with midden under the 1104 tephra we estimate that in about 1104 that the mound size was about 1656 m^2 (the area under the H1 tephra). The test pit profile, the cores around the test pit, and the date on the charred Hordeum seed yielded a date somewhere between 990 and 1000. Therefore, based on the test pit, we estimate that the farm was founded in about 995 AD.

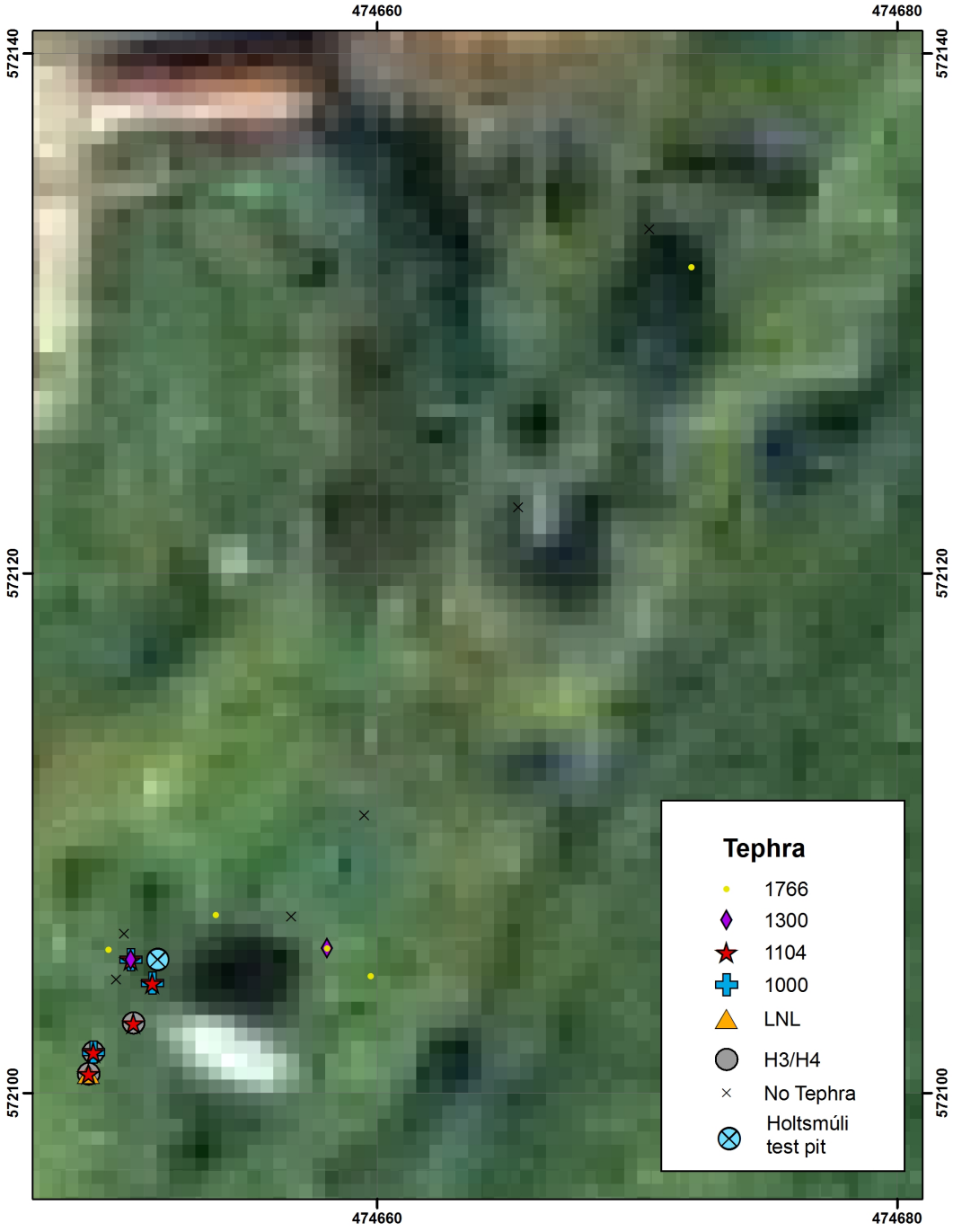

Figure 1. Tephra distribution.

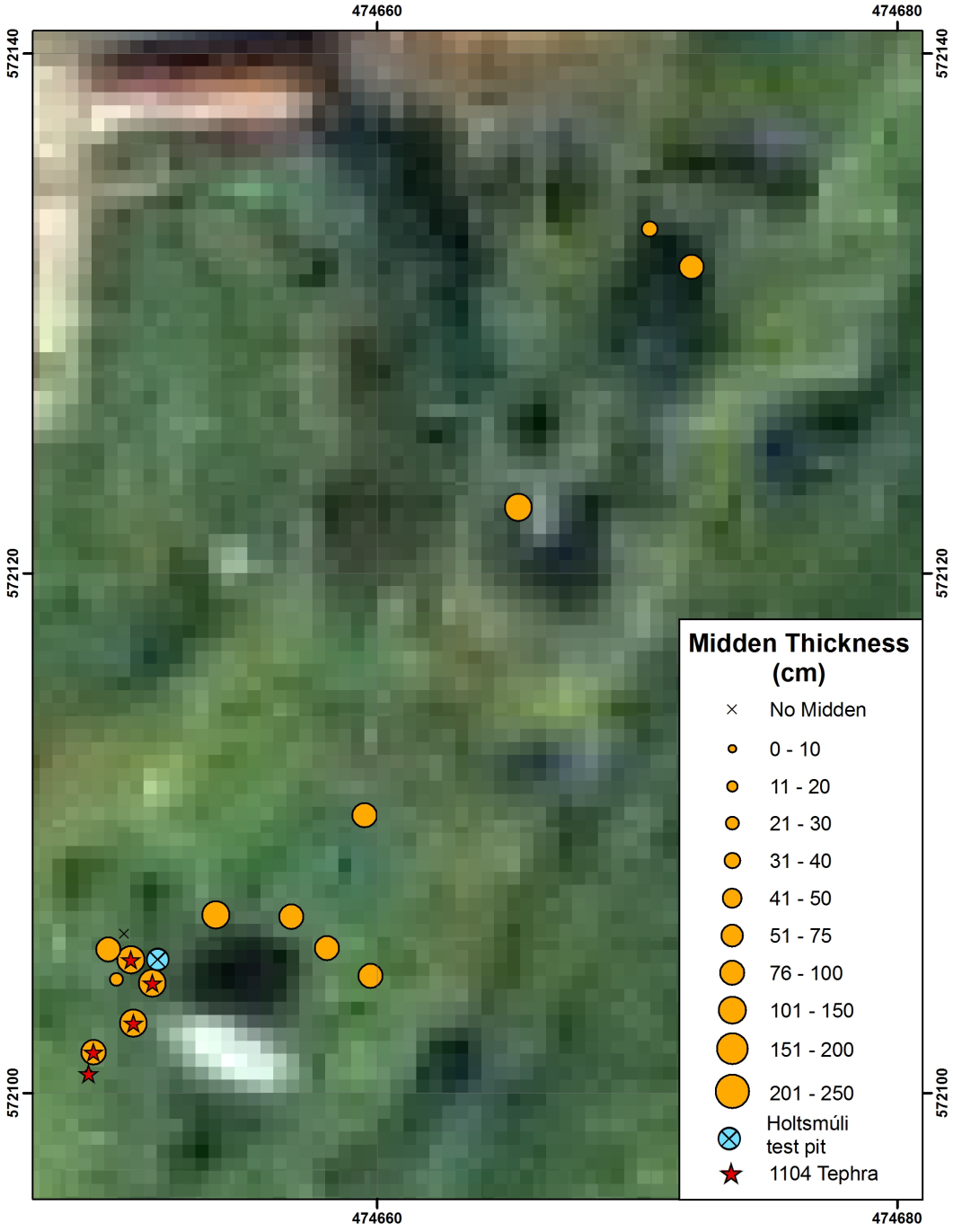

Figure 2. Distribution of midden.

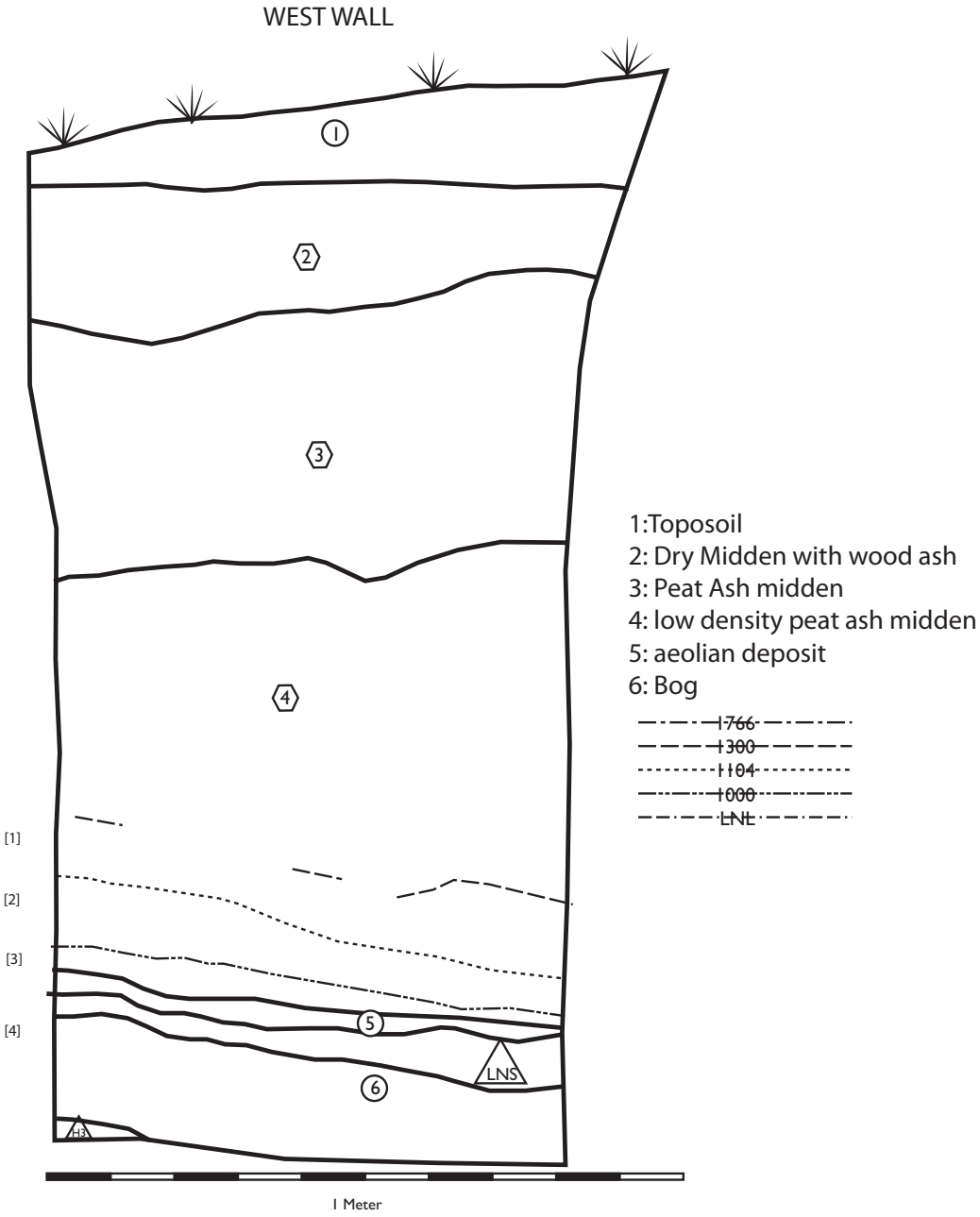

Figure 3. Profile of test pit

Figure 4. West wall test pit profile.

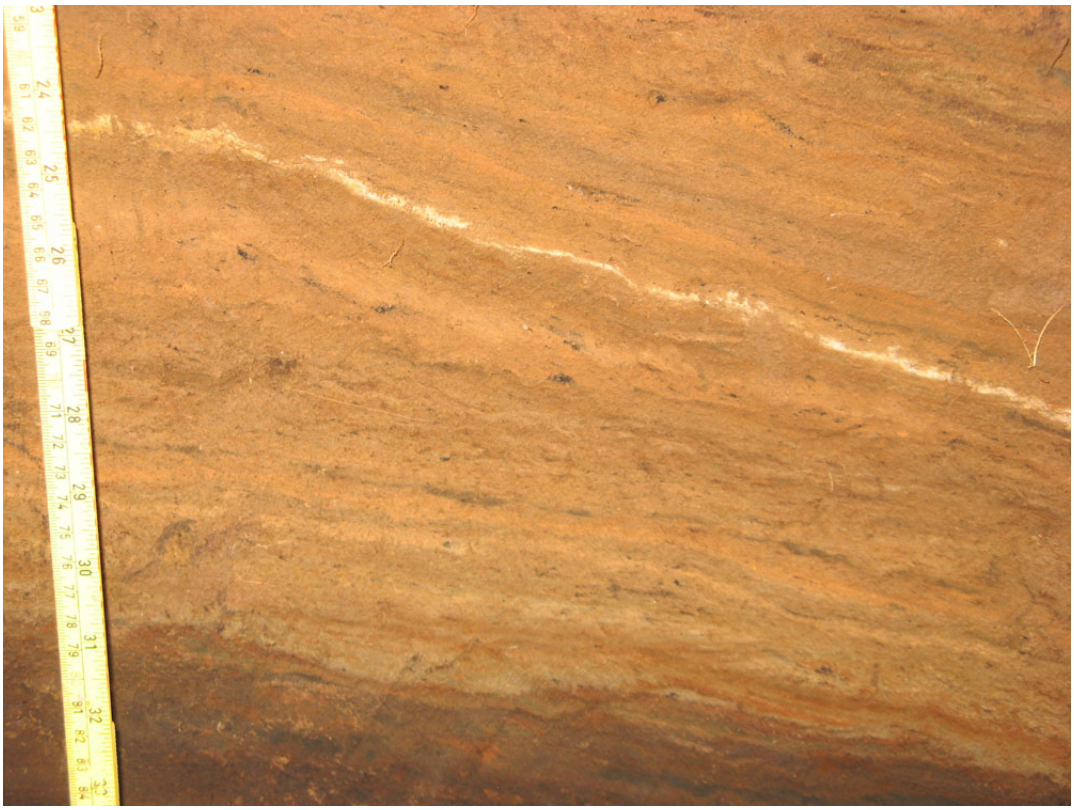

Figure 5. close up of west wall test pit profile.

Site 62		Tephra Layer	Depth	East	North
Core	2657			474844.351	573245.374
		H1	109		
Core	2660			474844.387	573256.899
		1766	13		
Core	2662			474843.772	573250.01
		1766	13		
		1300	60		
Core	2663			474844.639	573252.348
		H1	80		
		1000	82		
Core	2664			474844.225	573243.341
		1300	61		
		H1	90		
		1000	100		
		Katla 850	118		
Core	2665			474843.084	573244.635
		1766	15		
Core	2666			474845.312	573248.802
		1300	60		
		H1	100		
Core	2667			474845.583	573241.754
		1766	15		
Core	2668			474846.013	573242.704
		1300	39		
Core	2669			474844.429	573243.81
		H1	60		
Core	2670			474844.057	573243.294
		1300	60		
		H1	70		
		1000	76		
Core	2671			474844.146	573243.162
		1300	64		
		H1	79		
Core	2672			474844.943	573242.949
		1300	65		
		H1	78		
		Katla 850	90		
Core	3002			474656.682	572106.792
		unknown	95		

Site 62		Tephra Layer	Depth	East	North
Core	3003			474658.064	572105.571
		1766	110		
		1300	116		
Core	3004			474653.77	572106.855
		1766	120		
Core	3005			474659.744	572104.5
		1766	105		
Core	3006			474650.615	572102.687
		H1	110		
		H3	140		
		H4	145		
Core	3008			474672.086	572131.79
		1766	110		
Core	3009			474648.875	572100.75
		H1	27		
		H1	110		
		LNL	115		
		H3	150		
Core	3010			474649.072	572101.568
		H1	104		
		1000	115		
		H3	140		
		H4	150		
Core	3011			474650.501	572105.13
		1300	135		
		H1	150		
		1000	155		
		Katla 850	160		
Core	3012			474651.338	572104.224
		H1	145		
		1000	150		
		Katla 850	158		
Core	3013			474649.639	572105.511
		1766	105		
		Katla 850	160		

Site 62	description	top depth	bottom depth	Thickness
CORE 2656	474840.173	573268.608		
	Bog	0	60	60
	Silt	60	61	1
	Bog	61	120	59
CORE 2657	474844.351	573245.374		
	Bog	0	120	120
CORE 2658	474841.327	573240.994		
	Bog	0	62	62
	Rock	62	62	0
CORE 2659	474853.285	573233.413		
	Bog	0	120	120
CORE 2660	474844.387	573256.899		
	Bog	0	40	40
CORE 2661	474847.275	573246.561		
	Bog	0	80	80
CORE 2662	474843.772	573250.01		
	Bog	0	120	120
CORE 2663	474844.639	573252.348		
	Bog	0	120	120
CORE 2664	474844.225	573243.341		
	Bog	0	120	120
CORE 2665	474843.084	573244.635		
	Bog	0	120	120
CORE 2666	474845.312	573248.802		
	Bog	0	120	120
CORE 2667	474845.583	573241.754		
	Bog	0	120	120
CORE 2668	474846.013	573242.704		
	Bog	0	120	120
CORE 2669	474844.429	573243.81		
	Bog	0	120	120
CORE 2670	474844.057	573243.294		
	Bog	0	100	100

Site 62	description	top depth	bottom depth	Thickness
CORE 2671	474844.146	573243.162		
	Bog	0	120	120
CORE 2672	474844.943	573242.949		
	Bog	0	105	105
CORE 3000	474665.423	572122.536		
	Midden	0	120	120
CORE 3001	474659.502	572110.679		
	Plow Zone	0	20	20
	Low Density Cultural	20	110	90
	Midden	110	120	10
CORE 3002	474656.682	572106.792		
	Plow Zone	0	30	30
	Midden	30	80	50
	Low Density Cultural	80	120	40
CORE 3003	474658.064	572105.571		
	Plow Zone	0	20	20
	Midden	20	100	80
	Aeolian Deposit	100	120	20
CORE 3004	474653.77	572106.855		
	Midden	0	120	120
CORE 3005	474659.744	572104.5		
	Plow Zone	0	30	30
	Midden	30	120	90
CORE 3006	474650.615	572102.687		
	Midden	0	120	120
	Bog	130	160	30
CORE 3007	474670.482	572133.243		
	Plow Zone	0	30	30
	Midden	30	65	35
	Aeolian Deposit	65	70	5
	Rock	70	70	0
CORE 3008	474672.086	572131.79		
	Midden	0	60	60
	Turf	60	80	20
	Midden	80	180	100

Site 62	description	top depth	bottom depth	Thickness
CORE 3009	474648.875	572100.75		
	Plow Zone	0	35	35
	Aeolian Deposit	35	55	20
	Low Density Cultural	55	60	5
	Aeolian Deposit	60	160	100
CORE 3010	474649.072	572101.568		
	Plow Zone	0	30	30
	Midden	30	35	5
	Aeolian Deposit	35	40	5
	Low Density Cultural	40	80	40
	Low Density Cultural	80	110	30
	Midden	110	130	20
	Bog	130	160	30
CORE 3011	474650.501	572105.13		
	Plow Zone	0	30	30
	Midden	30	65	35
	Low Density Cultural	65	80	15
	Midden	80	160	80
CORE 3012	474651.338	572104.224		
	Plow Zone	0	20	20
	Midden	20	40	20
	Low Density Cultural	40	110	70
	Midden	110	160	50
CORE 3013	474649.639	572105.511		
	Plow Zone	0	25	25
	Midden	25	60	35
	Aeolian Deposit	60	95	35
	Midden	95	160	65
CORE 3014	474649.945	572104.364		
	Plow Zone	0	20	20
	Low Density Cultural	20	35	15
	Aeolian Deposit	35	50	15
	Midden	50	65	15
	Aeolian Deposit	65	80	15
	Rock	80	80	0

SASS 2009

Site 62

DATE 8/11/2009

Sample 1 [1]

Vol 2 **Light Fraction grams** 0.97 **Heavy Fraction grams** 33.22

Analysist AA **Date Analized** 10/27/2009

Other present:

Content	%
Bone	25
Charcoal	5
Dung	15
Rock	50

under 1300

Family		Count	Charred
Cyperaceae		2	Yes
Cyperaceae		6	
Caryophyllaceae		6	Yes
Chenopodiaceae		2	
Violaceae	Viola	1	
Poaceae	Wild	1	Yes

Sample 2 [2]

Vol 2 **Light Fraction grams** 0.28 **Heavy Fraction grams** 10.71

Analysist AA **Date Analized** 10/27/2009

Other present: Insect parts: 3

Content	%
Bone	15
Charcoal	35
Dung	5
Rock	40

under H1/1104

Family		Count	Charred
Caryophyllaceae		35	Yes
Caryophyllaceae		12	
Poaceae	Wild	5	Yes
Ericaceae	Empetrum	1	Yes

SASS 2009

Site 62 **DATE** 8/11/2009

Sample 3 [3]

Vol 2 **Light Fraction grams** 0.33 **Heavy Fraction grams** 4.29

Analysist AA **Date Analized** 10/27/2009

Other present: Bone not collected, very small pieces

Content	%
Bone	10
Charcoal	20
Rock	65

under 1000

Family		Count	Charred
Cyperaceae		2	Yes
Cyperaceae		1	
Poaceae	Hordeum	1	Yes
Caryophyllaceae		17	Yes
Poaceae	Wild	7	Yes

Sample 4 [4]

Vol 2 **Light Fraction grams** 0.11 **Heavy Fraction grams** 0.48

Analysist AA **Date Analized** 10/27/2009

Other present:

Content	%
Rock	99

under LNL

Family		Count	Charred
Poaceae	Wild	1	