Report of the Skagafjörður Archaeological Settlement Survey 2009:

Coring and Test pit at Litla-Gröf (60)

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Goals

The goal of the work at Litla-Gröf (60) was straightforward. We used cores to identify any areas away from the farm mound that may be areas of early occupations. If any of these earlier occupations were identified, and were substantial, they would be targets for geophysics and further archaeological exploration. None of these areas were encountered at Litla-Gröf. We also sought to date 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 Litla-Gröf began on 7/21/2009 and went through 7/22/2009. Joanna Curtis, Kathryn Catlin, Heather Trigg, Susan Ann Jacobucci, 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 137 cores at Litla-Gröf (Figure 1). The eastern edge of the coring grid contained bog deposits. In general tephra preservation was poor. Of the 137 cores taken some identifiable tephra was found in 78 of them (56%): 6 with 1776, 17 with 1300, 80 with H1, 9 with 1000 and only 11 with the LNL/LNS. Of those cores, there were no spots off the mound had cultural material (Figure 2).

In order to locate the oldest part of the midden we took 35 cores around the farm mound (Figure 3). We wanted to identify the area where there was substantial midden under the 1000 tephra layer or midden deposits very close to the LNL (Figure 4). The cultural deposits on top of the area also had to be less than 3 m, as test pits become difficult after that depth. 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 well down the farmmound (almost at its base) to the south of the barn building.

Test pit

Test pitting began 7/23/2009 and went through 7/27/2009, excavated by Emily Button & Rita Shepard. The location (E 475891.25 N 571560.12) was determined by the cores (core 2101 was used as the best location for a test pit). In general, the midden was surprisingly homogeneous all the way down. There was about 25 cm of midden between the 1000 tephra and the LNS tephra. It is surprisingly large, considering how far down from the crest of the mound the test pit was placed. The LNS is also surprisingly well preserved on the north and west wall with several

distinct tephra layers presented. The lowest midden deposits [111] rest on the LNS and on H3/H4. Suggesting an early date.

Floatation

Samples for flotation from all pre 1300 AD contexts were taken. Whenever possible, samples were taken during excavation. Most samples from Litla-Gröf were taken from the sidewalls and precautions were taken never to contaminate samples. The flotation sample from contexts 104, 105, 106,107, 108, 109, 110, 111, 112, and the LNS were analyzed. In some cases, multiple samples from the same context were taken. If this occurred they were floated and analyzed separately.

Context 110, well below the 1000 tephra and just above the LNS contained Emptrum and Caryophyllaciea seeds which was AMS dated. The sample (77357) 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 1105 ± 15 radiocarbon years before present. Calibrated this comes out to 894-984 AD (95.4%). The LNS sample 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 2962 m^2 (the area under the H1 tephra). The test pit profile, the cores around the test pit, and the date on the charred Emptrum and Caryophyllaciea seeds yielded a date somewhere between 894 and 984. Therefore, based on the test pit, we estimate that the farm was founded in about 939 AD.

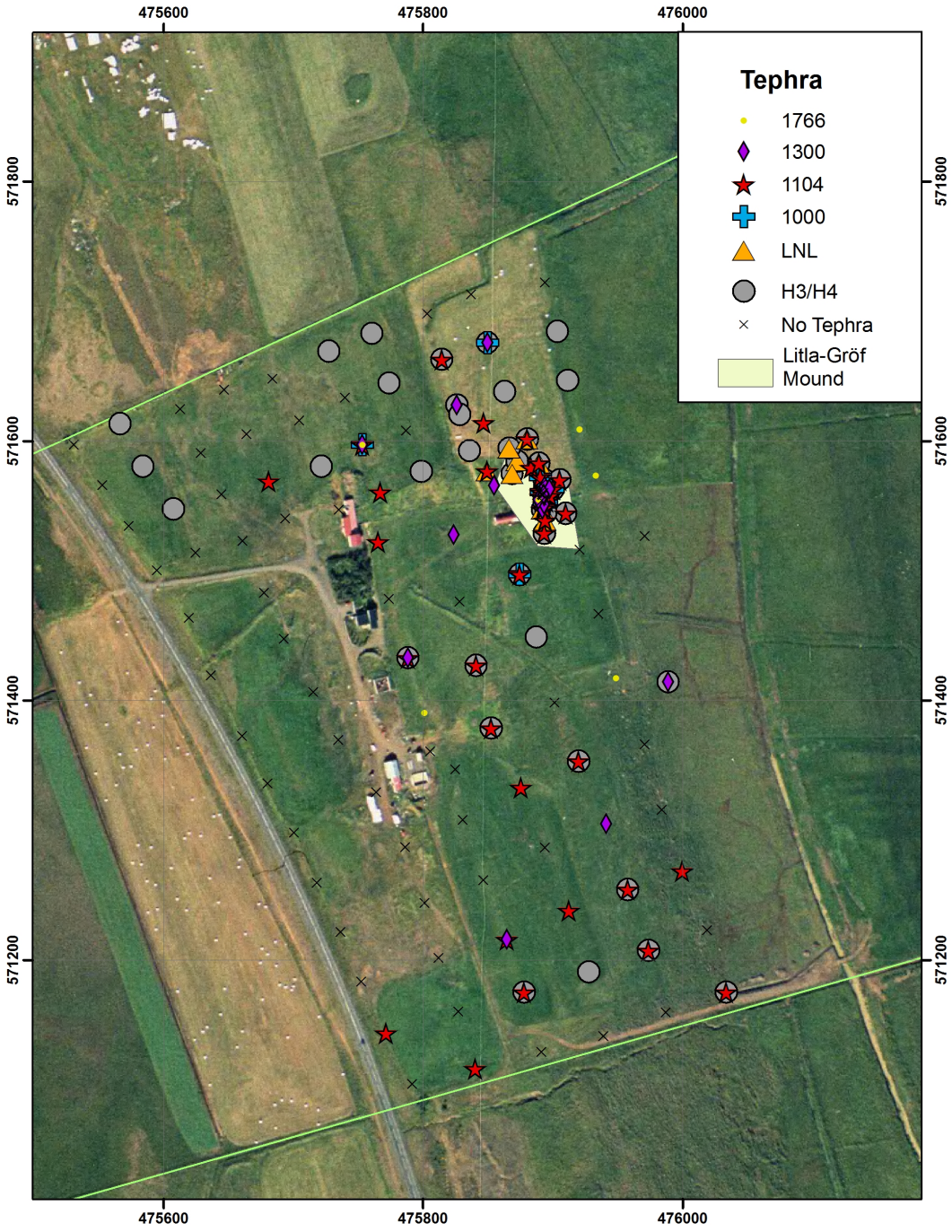

Figure 1. Tephra distribution.

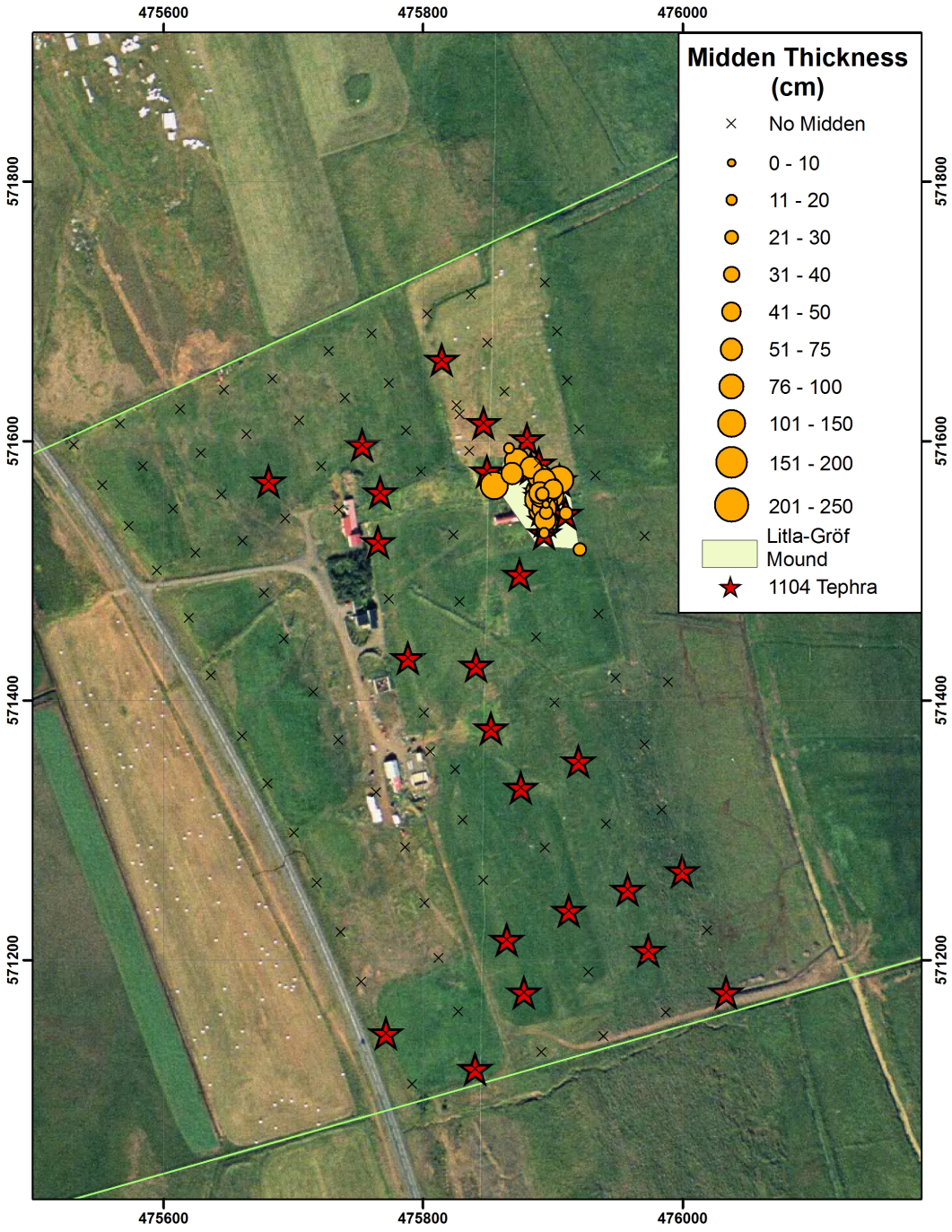

Figure 2. Distribution of midden.

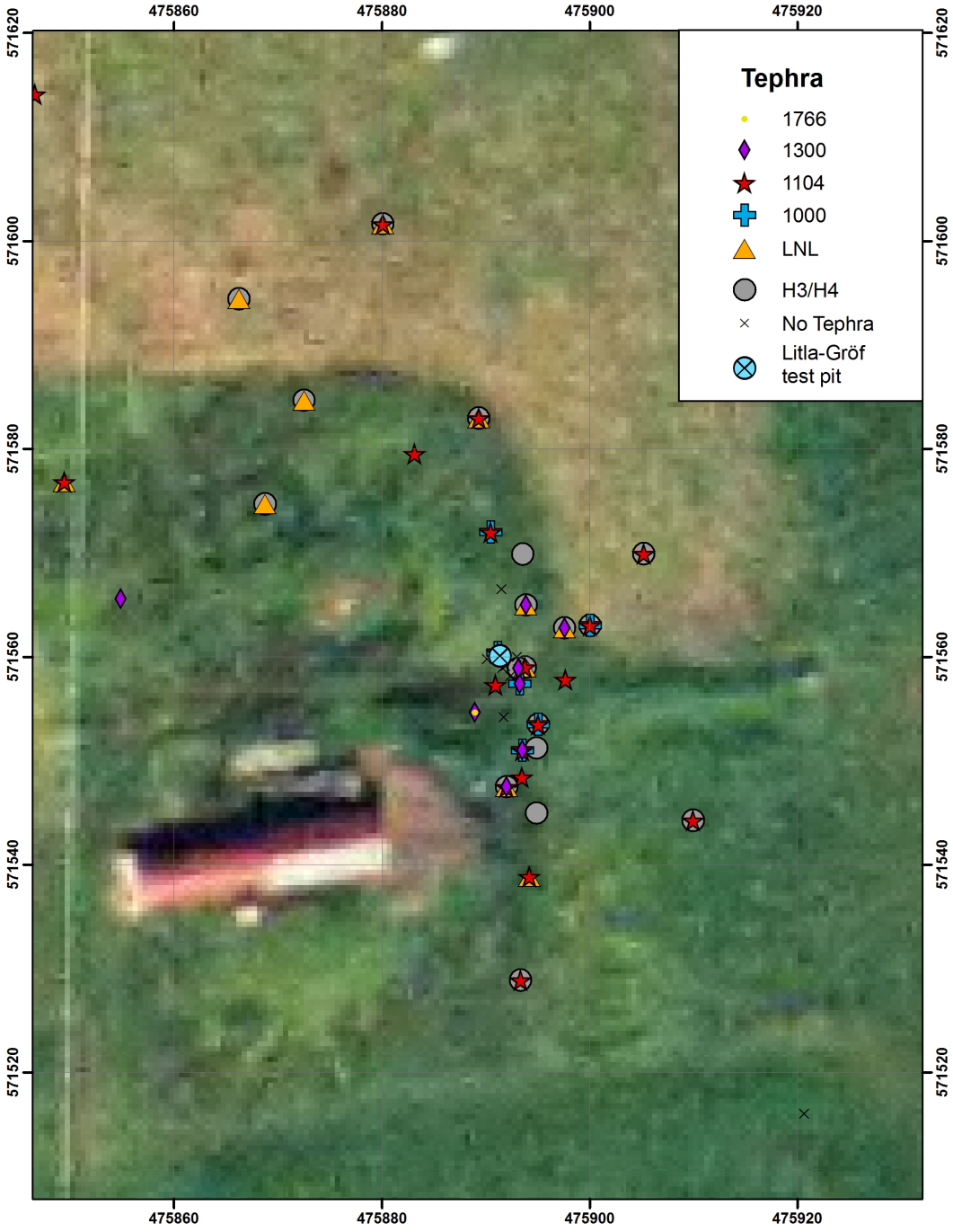

Figure 3. Distribution of tephra layers around farmmound.

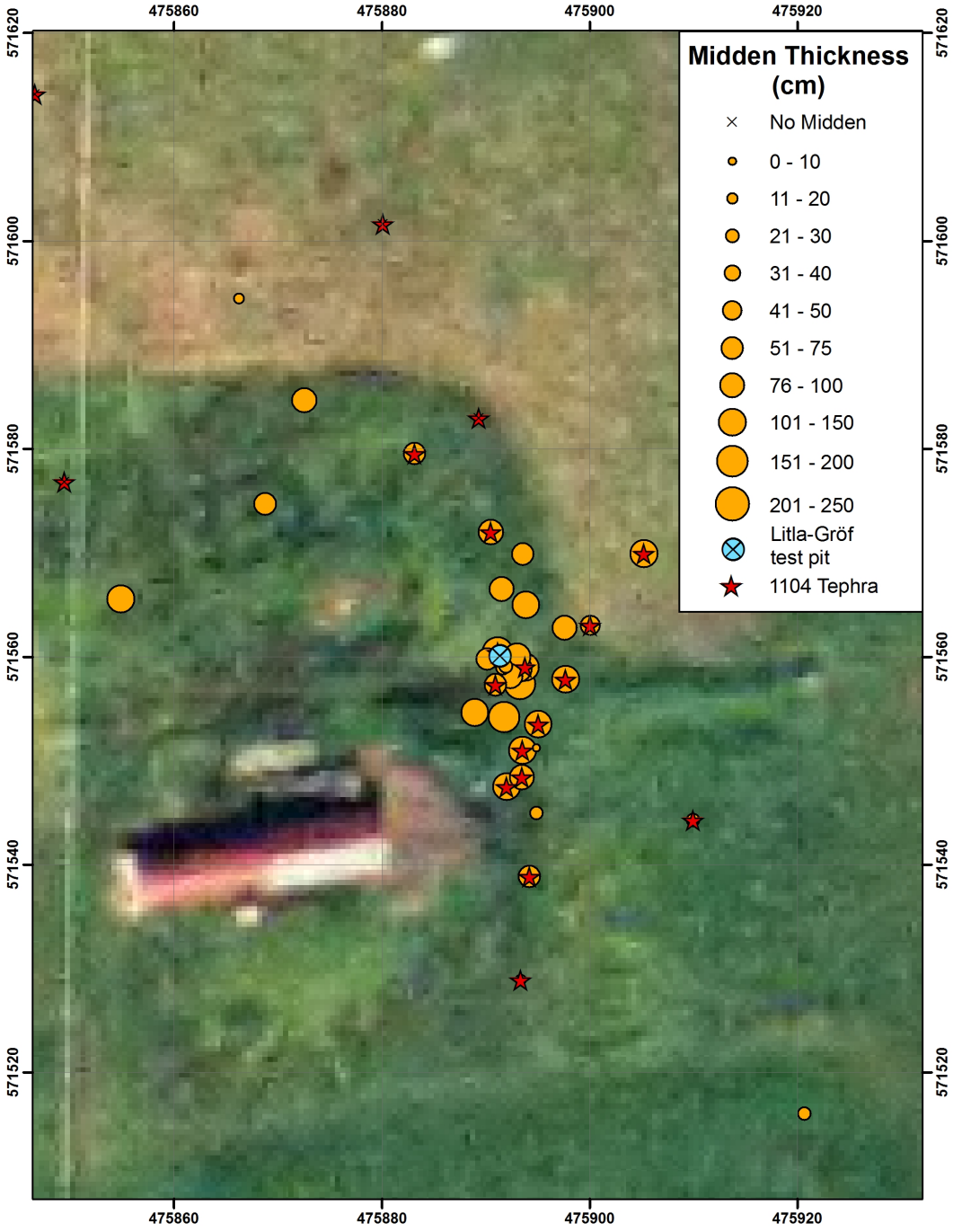

Figure 4. Distribution of midden around farmmound.

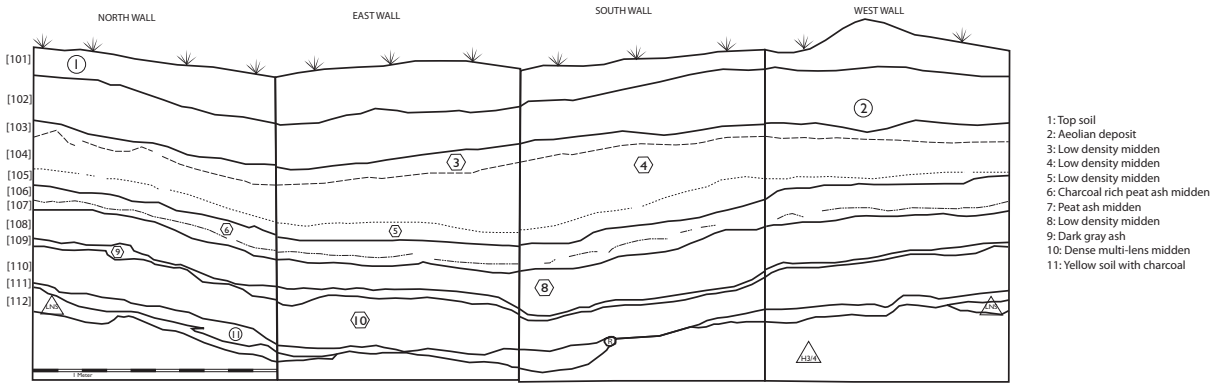

Figure 5. Profile of test pit

Figure 6. North wall test pit profile.

Figure 7. West wall test pit profile.

Site 60		Tephra Layer	Depth	East	North
Core	1991			475566.589	571613.478
		H3	27		
		H4	35		
Core	1992			475584.17	571580.601
		H3	26		
Core	1993			475607.706	571547.848
		H3	27		
Core	2001			475681.092	571568.945
		H1	20		
Core	2004			475721.567	571580.493
		H3	35		
Core	2014			475903.587	571684.452
		H3	30		
Core	2015			475911.505	571646.742
		H3	60		
		H4	67		
Core	2016			475920.648	571608.911
		1766	13		
Core	2017			475932.986	571573.464
		1766	13		
Core	2018			475880.092	571601.628
		H1	30		
		LNL	60		
		H3	70		
		H4	75		
Core	2019			475863.015	571638.221
		H1	33		
		H1	37		
		H3	70		
		H4	75		
Core	2020			475849.862	571675.708
		1300	30		
		H1	33		
		H1	38		
		1000	60		
		H3	76		
Core	2023			475814.402	571662.922
		H1	20		
		H1	22		

Site 60		Tephra Layer	Depth	East	North
		H3	56		
		H4	58		
Core	2024			475825.975	571627.538
		1300	30		
		H3	66		
Core	2025			475835.93	571592.557
		H3	65		
Core	2026			475798.42	571576.547
		H3	60		
		H4	70		
Core	2028			475773.919	571644.535
		H3	35		
		H4	40		
Core	2029			475760.512	571682.675
		H3	31		
		H4	35		
Core	2030			475727.478	571669.389
		H3	37		
		H4	50		
Core	2032			475753.362	571597.087
		1766	31		
		1300	33		
		H1	36		
		1000	55		
Core	2033			475767.198	571560.474
		H1	50		
Core	2042			475771.584	571143.628
		H1	45		
Core	2044			475840.369	571116.242
		H1	30		
Core	2054			475765.516	571522.212
		H1	35		
Core	2056			475788.358	571432.75
		1300	23		
		H1	32		
		H3	55		
		H4	61		
Core	2057			475801.006	571390.436
		1766	19		

Site 60		Tephra Layer	Depth	East	North
Core	2062			475864.587	571215.974
		1300	32		
		H1	53		
Core	2063			475877.89	571175.027
		H1	28		
		H3	70		
		H4	75		
Core	2066			475927.736	571190.668
		H3	35		
		H4	50		
Core	2067			475912.296	571238.287
		H1	18		
Core	2068			475893.958	571286.462
		H1	20		
		H1	25		
Core	2069			475875.367	571332.929
		H1	30		
		H1	55		
Core	2070			475852.59	571378.704
		H1	20		
		H3	30		
		H4	35		
Core	2071			475841.022	571427.237
		H1	25		
		H3	30		
Core	2073			475823.527	571527.843
		1300	30		
Core	2074			475874.364	571497.112
		H1	30		
		1000	35		
		H3	57		
		H4	64		
Core	2075			475887.166	571448.89
		H3	25		
		H4	30		
Core	2077			475919.819	571353.225
		H1	22		
		H3	35		

Site 60		Tephra Layer	Depth	East	North
Core	2078			475941.085	571304.722
		1300	15		
Core	2079			475957.913	571254.467
		H1	35		
		H3	60		
		H4	67		
Core	2080			475973.643	571207.459
		H1	15		
		H3	40		
Core	2082			476033.535	571175.309
		H1	17		
		H3	35		
Core	2084			475999.682	571268.775
		H1	18		
Core	2086			475970.886	571366.328
		1300	15		
		H1	20		
Core	2087			475948.516	571417.481
		1766	32		
Core	2091			475989.012	571414.312
		1300	25		
		H3	70		
Core	2092			475909.955	571544.295
		H1	51		
		H3	95		
		H4	102		
Core	2093			475892.017	571547.474
		1300	105		
		H1	180		
		LNL	186		
		H3	189		
Core	2094			475893.344	571528.922
		H1	65		
		H3	105		
		H4	110		
Core	2095			475890.483	571572.025
		H1	37		
		1000	63		

Site 60		Tephra Layer	Depth	East	North
Core	2096			475894.214	571538.873
		H1	73		
		LNL	105		
Core	2098			475893.5	571551.017
		1300	32		
		H1	75		
		1000	118		
Core	2099			475895.05	571553.516
		H1	50		
		1000	63		
		H3	153		
Core	2100			475888.932	571554.662
		1766	27		
		1300	35		
Core	2101			475891.14	571560.426
		H1	70		
		1000	105		
Core	2102			475883.162	571579.528
		H1	60		
Core	2103			475893.757	571559.024
		H1	37		
		LNL	145		
		H3	150		
Core	2104			475872.531	571584.678
		LNL	90		
		H3	110		
		H4	115		
Core	2105			475866.247	571594.435
		LNL	68		
		H3	75		
Core	2106			475868.768	571574.71
		H3	67		
		LNL	70		
		H4	73		
		unknown	90		
Core	2107			475846.606	571614.112
		H1	40		
Core	2108			475828.514	571620.484
		H3	55		

Site 60		Tephra Layer	Depth	East	North
Core	2109			475849.449	571576.815
		H1	68		
		LNL	70		
Core	2110			475854.874	571565.581
		1300	40		
Core	2111			475889.315	571582.96
		H1	35		
		LNL	60		
		H3	80		
Core	2112			475893.848	571564.994
		1300	115		
		LNL	150		
		H3	160		
Core	2114			475893.579	571569.886
		H3	105		
Core	2115			475905.196	571569.947
		H1	75		
		H3	150		
		H4	155		
Core	2117			475900.039	571563.025
		H1	70		
		1000	80		
		H3	150		
Core	2118			475897.688	571557.827
		H1	115		
Core	2119			475897.576	571562.779
		1300	80		
		LNL	105		
		H3	120		
Core	2123			475893.284	571557.42
		1300	18		
		1000	74		
Core	2125			475890.122	571559.758
		H1	75		
		H1	90		
		H1	110		
		H1	107		
		H1	110		
Core	2126			475893.13	571558.87
		1300	75		

Site 60		Tephra Layer	Depth	East	North
		H3	155		
Core	2127			475890.918	571557.308
		H1	160		
Core	2128			475894.879	571551.226
		H3	150		
Core	2129			475893.492	571548.429
		H1	95		
Core	2130			475894.879	571544.937
		H3	80		

Site 60	description	top depth	bottom depth	Thickness
CORE 1987	475595.051	571500.311		
	Plow Zone	0	15	15
	Aeolian Deposit	15	30	15
	Iron Pan	30	60	30
	Rock	60	60	0
CORE 1988	475573.267	571534.361		
	Plow Zone	0	10	10
	Aeolian Deposit	10	30	20
	Rock	30	30	0
CORE 1989	475553.077	571565.997		
	Plow Zone	0	18	18
	Aeolian Deposit	18	36	18
	Silt	36	45	9
	Rock	45	45	0
CORE 1990	475531.165	571597.12		
	Plow Zone	0	20	20
	Aeolian Deposit	20	30	10
	Iron Pan	30	35	5
	Rock	35	35	0
CORE 1991	475566.589	571613.478		
	Plow Zone	0	10	10
	Bulldozed	10	27	17
	Aeolian Deposit	27	40	13
CORE 1992	475584.17	571580.601		
	Plow Zone	0	16	16
	Bulldozed	16	35	19
	Rock	35	35	0
CORE 1993	475607.706	571547.848		
	Plow Zone	0	13	13
	Aeolian Deposit	13	37	24
	Rock	37	37	0
CORE 1994	475624.782	571513.823		
	Plow Zone	0	13	13
	Bulldozed	13	35	22
	Rock	35	35	0
CORE 1995	475661.083	571523.007		
	Plow Zone	0	11	11

Site 60	description	top depth	bottom depth	Thickness
	Bulldozed	11	35	24
	Rock	35	35	0
CORE	1996	475644.705	571558.778	
	Plow Zone	0	10	10
	Rock	10	10	0
CORE	1997	475628.865	571590.582	
	Plow Zone	0	10	10
	Bulldozed	10	35	25
	Rock	35	35	0
CORE	1998	475613.03	571624.551	
	Plow Zone	0	15	15
	Rock	15	15	0
CORE	1999	475646.863	571639.323	
	Plow Zone	0	10	10
	Rock	10	10	0
CORE	2000	475664.231	571605.289	
	Plow Zone	0	10	10
	Rock	10	10	0
CORE	2001	475681.092	571568.945	
	Plow Zone	0	10	10
	Aeolian Deposit	10	85	75
	Rock	85	85	0
CORE	2002	475693.873	571540.205	
	Plow Zone	0	5	5
	Rock	5	5	0
CORE	2003	475735.378	571546.941	
	Plow Zone	0	15	15
	Rock	15	15	0
CORE	2004	475721.567	571580.493	
	Plow Zone	0	10	10
	Aeolian Deposit	10	65	55
	Rock	65	65	0
CORE	2005	475704.725	571615.679	
	Plow Zone	0	15	15
	Rock	15	15	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2006	475684.263	571647.876		
	Plow Zone	0	15	15
	Aeolian Deposit	15	35	20
	Rock	35	35	0
CORE 2013	475894.245	571722.088		
	Plow Zone	0	10	10
	Bog	10	30	20
	Rock	30	30	0
CORE 2014	475903.587	571684.452		
	Plow Zone	0	10	10
	Bog	10	30	20
	Iron Pan	30	40	10
CORE 2015	475911.505	571646.742		
	Plow Zone	0	6	6
	Bog	6	73	67
	Iron Pan	73	80	7
CORE 2016	475920.648	571608.911		
	Bog	0	80	80
CORE 2017	475932.986	571573.464		
	Bog	0	40	40
CORE 2018	475880.092	571601.628		
	Plow Zone	0	15	15
	Aeolian Deposit	15	80	65
CORE 2019	475863.015	571638.221		
	Plow Zone	0	10	10
	Turf	10	40	30
	Aeolian Deposit	40	80	40
CORE 2020	475849.862	571675.708		
	Plow Zone	0	15	15
	Aeolian Deposit	15	31	16
	Turf	31	40	9
	Aeolian Deposit	40	80	40
CORE 2021	475837.337	571713.05		
	Plow Zone	0	5	5
	Rock	5	5	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2022	475803.24	571698.136		
	Bog	0	55	55
	Iron Pan	55	60	5
	Rock	60	60	0
CORE 2023	475814.402	571662.922		
	Plow Zone	0	15	15
	Bulldozed	15	40	25
	Aeolian Deposit	40	65	25
	Rock	65	65	0
CORE 2024	475825.975	571627.538		
	Plow Zone	0	20	20
	Aeolian Deposit	20	80	60
CORE 2025	475835.93	571592.557		
	Plow Zone	0	30	30
	Bulldozed	30	80	50
CORE 2026	475798.42	571576.547		
	Plow Zone	0	15	15
	Aeolian Deposit	15	75	60
	Rock	75	75	0
CORE 2027	475787.023	571607.895		
	Plow Zone	0	20	20
	Aeolian Deposit	20	65	45
	River Sand	65	70	5
	Rock	70	70	0
CORE 2028	475773.919	571644.535		
	Plow Zone	0	25	25
	Aeolian Deposit	25	40	15
CORE 2029	475760.512	571682.675		
	Plow Zone	0	20	20
	Aeolian Deposit	20	40	20
	Rock	40	40	0
CORE 2030	475727.478	571669.389		
	Plow Zone	0	20	20
	Aeolian Deposit	20	65	45
CORE 2031	475739.866	571633.291		
	Plow Zone	0	15	15

Site 60	description	top depth	bottom depth	Thickness
	Aeolian Deposit	15	40	25
	Rock	40	40	0
CORE	2032	475753.362	571597.087	
	Plow Zone	0	15	15
	Aeolian Deposit	15	80	65
	Rock	80	80	0
CORE	2033	475767.198	571560.474	
	Plow Zone	0	10	10
	Bulldozed	10	55	45
	Aeolian Deposit	55	80	25
	Rock	80	80	0
CORE	2034	475619.824	571463.791	
	Plow Zone	0	10	10
	Aeolian Deposit	10	25	15
	Rock	25	25	0
CORE	2035	475636.662	571419.304	
	Rock	0	5	5
CORE	2036	475660.726	571372.725	
	Plow Zone	0	10	10
	Bulldozed	10	20	10
	Rock	20	20	0
CORE	2037	475680.417	571336.15	
	Plow Zone	0	10	10
	Aeolian Deposit	10	50	40
	Rock	50	50	0
CORE	2038	475700.811	571298.098	
	Rock	0	0	0
CORE	2039	475718.416	571259.628	
	Plow Zone	0	10	10
	Aeolian Deposit	10	50	40
	Rock	50	50	0
CORE	2040	475736.747	571221.509	
	Plow Zone	0	10	10
	Aeolian Deposit	10	20	10
	Rock	20	20	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2041	475752.541	571183.249		
	Bulldozed	0	18	18
	Rock	18	18	0
CORE 2042	475771.584	571143.628		
	Plow Zone	0	10	10
	Aeolian Deposit	10	50	40
	Rock	50	50	0
CORE 2043	475791.775	571104.412		
	Plow Zone	0	10	10
	Aeolian Deposit	10	37	27
	Rock	37	37	0
CORE 2044	475840.369	571116.242		
	Plow Zone	0	10	10
	Aeolian Deposit	10	40	30
	Rock	40	40	0
CORE 2045	475827.342	571160.199		
	Plow Zone	0	17	17
	Gravel	17	17	0
CORE 2046	475812.278	571201.423		
	Plow Zone	0	10	10
	Gravel	10	11	1
CORE 2047	475801.378	571243.77		
	Top Soil	0	15	15
	Rock	15	15	0
CORE 2048	475786.284	571286.766		
	Top Soil	0	5	5
	Rock	5	5	0
CORE 2049	475764.078	571329.104		
	Top Soil	0	5	5
	Rock	5	5	0
CORE 2050	475735.044	571369.509		
	Top Soil	0	5	5
	Rock	5	5	0
CORE 2051	475715.604	571406.57		
	Top Soil	0	15	15
	Rock	15	15	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2052	475693.08	571447.488		
	Plow Zone	0	15	15
	Bulldozed	15	40	25
CORE 2053	475677.709	571483.005		
	Top Soil	0	5	5
	Rock	5	5	0
CORE 2054	475765.516	571522.212		
	Plow Zone	0	10	10
	Aeolian Deposit	10	40	30
	Rock	60	60	0
	Iron Pan	40	60	20
CORE 2055	475773.739	571478.178		
	Aeolian Deposit	0	5	5
	Rock	5	5	0
CORE 2056	475788.358	571432.75		
	Plow Zone	0	12	12
	Bulldozed	12	35	23
	Aeolian Deposit	35	68	33
	Rock	68	68	0
CORE 2057	475801.006	571390.436		
	Plow Zone	0	11	11
	Aeolian Deposit	11	35	24
	River Sand	35	36	1
	Aeolian Deposit	36	60	24
CORE 2058	475805.582	571360.809		
	Aeolian Deposit	0	5	5
	Rock	5	5	0
CORE 2059	475824.938	571346.823		
	Plow Zone	0	10	10
	Bulldozed	10	32	22
	Rock	32	32	0
CORE 2060	475830.724	571307.783		
	Plow Zone	0	10	10
	Bulldozed	10	33	23
	Rock	33	33	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2061	475846.721	571261.487		
	Plow Zone	0	10	10
	Bulldozed	10	40	30
	Aeolian Deposit	40	65	25
	Iron Pan	65	70	5
	Rock	70	70	0
CORE 2062	475864.587	571215.974		
	Plow Zone	0	10	10
	Aeolian Deposit	10	65	55
	Clay	65	72	7
	Rock	72	72	0
CORE 2063	475877.89	571175.027		
	Plow Zone	0	15	15
	Aeolian Deposit	15	80	65
CORE 2064	475891.303	571129.155		
	Plow Zone	0	10	10
	Bog	10	80	70
CORE 2065	475939.007	571141.322		
	Plow Zone	0	10	10
	Bulldozed	10	25	15
	Rock	25	25	0
CORE 2066	475927.736	571190.668		
	Plow Zone	0	10	10
	Aeolian Deposit	10	75	65
	Rock	75	75	0
CORE 2067	475912.296	571238.287		
	Plow Zone	0	10	10
	Aeolian Deposit	10	56	46
	Sand	56	60	4
	Rock	60	60	0
CORE 2068	475893.958	571286.462		
	Plow Zone	0	15	15
	Turf	15	27	12
	Aeolian Deposit	27	37	10
	Iron Pan	37	40	3
	Aeolian Deposit	40	60	20
	Rock	60	60	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2069	475875.367	571332.929		
	Plow Zone	0	10	10
	Bog	10	75	65
	Iron Pan	75	80	5
CORE 2070	475852.59	571378.704		
	Plow Zone	0	15	15
	Aeolian Deposit	15	40	25
CORE 2071	475841.022	571427.237		
	Plow Zone	0	10	10
	Aeolian Deposit	10	36	26
	Iron Pan	36	40	4
CORE 2072	475828.36	571476.38		
	Aeolian Deposit	0	10	10
	Rock	10	10	0
CORE 2073	475823.527	571527.843		
	Plow Zone	0	10	10
	Aeolian Deposit	10	35	25
	Rock	35	35	0
CORE 2074	475874.364	571497.112		
	Plow Zone	0	10	10
	Bulldozed	10	32	22
	Aeolian Deposit	32	80	48
CORE 2075	475887.166	571448.89		
	Plow Zone	0	21	21
	Aeolian Deposit	21	40	19
CORE 2076	475901.455	571398.18		
	Plow Zone	0	10	10
	Rock	10	10	0
CORE 2077	475919.819	571353.225		
	Plow Zone	0	10	10
	Aeolian Deposit	10	40	30
CORE 2078	475941.085	571304.722		
	Plow Zone	0	10	10
	Aeolian Deposit	10	45	35
	Rock	45	45	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2079	475957.913	571254.467		
	Plow Zone	0	10	10
	Aeolian Deposit	10	80	70
	Rock	80	80	0
CORE 2080	475973.643	571207.459		
	Plow Zone	0	15	15
	Aeolian Deposit	15	40	25
CORE 2081	475987.097	571159.651		
	Plow Zone	0	20	20
	Iron Pan	20	25	5
	Rock	25	25	0
CORE 2082	476033.535	571175.309		
	Plow Zone	0	17	17
	Aeolian Deposit	17	40	23
CORE 2083	476019.005	571223.019		
	Plow Zone	0	20	20
	Rock	20	20	0
CORE 2084	475999.682	571268.775		
	Plow Zone	0	17	17
	Aeolian Deposit	17	70	53
	Rock	70	70	0
CORE 2085	475984.152	571315.583		
	Plow Zone	0	15	15
	Aeolian Deposit	15	20	5
	Rock	20	20	0
CORE 2086	475970.886	571366.328		
	Plow Zone	0	5	5
	Aeolian Deposit	5	12	7
	Turf	12	28	16
	Aeolian Deposit	28	47	19
	Rock	47	47	0
CORE 2087	475948.516	571417.481		
	Plow Zone	0	15	15
	Aeolian Deposit	15	70	55
	Rock	70	70	0

Site 60	description	top depth	bottom depth	Thickness
CORE 2088	475935.282		571466.893	
	Plow Zone	0	15	15
	Aeolian Deposit	15	90	75
CORE 2089	475920.675		571516.042	
	Plow Zone	0	15	15
	Low Density Cultural	15	45	30
	Rock	45	45	0
CORE 2090	475971.083		571526.63	
	Bog	0	60	60
CORE 2091	475989.012		571414.312	
	Bog	0	80	80
CORE 2092	475909.955		571544.295	
	Plow Zone	0	25	25
	Aeolian Deposit	25	51	26
	Low Density Cultural	51	60	9
	Midden	60	75	15
	Aeolian Deposit	75	120	45
CORE 2093	475892.017		571547.474	
	Plow Zone	0	10	10
	Turf	10	25	15
	Aeolian Deposit	25	60	35
	Midden	60	180	120
	Aeolian Deposit	180	200	20
CORE 2094	475893.344		571528.922	
	Plow Zone	0	10	10
	Aeolian Deposit	10	55	45
	Low Density Cultural	55	65	10
	Aeolian Deposit	65	73	8
	Low Density Cultural	73	80	7
	Aeolian Deposit	80	90	10
	Turf	90	100	10
	Aeolian Deposit	100	120	20
CORE 2095	475890.483		571572.025	
	Midden	0	85	85
	Rock	85	85	0
CORE 2096	475894.214		571538.873	
	Plow Zone	0	40	40

Site 60	description	top depth	bottom depth	Thickness
	Low Density Cultural	40	60	20
	Midden	60	105	45
	Aeolian Deposit	105	115	10
	Rock	115	115	0
CORE	2097	475891.763	571554.202	
	Plow Zone	0	10	10
	Low Density Cultural	10	30	20
	Midden	30	40	10
	Low Density Cultural	40	50	10
	Midden	50	155	105
	Low Density Cultural	155	200	45
	Rock	200	200	0
CORE	2098	475893.5	571551.017	
	Turf	0	20	20
	Midden	20	80	60
	Low Density Cultural	80	105	25
	Rock	130	130	0
	River Sand	105	106	1
	Low Density Cultural	106	130	24
CORE	2099	475895.05	571553.516	
	Plow Zone	0	15	15
	Midden	15	153	138
	Aeolian Deposit	153	160	7
CORE	2100	475888.932	571554.662	
	Plow Zone	0	15	15
	Low Density Cultural	15	35	20
	Midden	35	40	5
	Low Density Cultural	40	65	25
	Midden	65	80	15
	Low Density Cultural	80	90	10
	Midden	90	120	30
CORE	2101	475891.14	571560.426	
	Low Density Cultural	0	50	50
	Midden	50	230	180
	Rock	230	230	0
CORE	2102	475883.162	571579.528	
	Plow Zone	0	30	30
	Midden	30	100	70

Site 60	description	top depth	bottom depth	Thickness
CORE 2103	475893.757	571559.024		
	Midden	0	90	90
	Turf	90	100	10
	Midden	100	120	20
	River Sand	120	121	1
	Midden	121	140	19
	Aeolian Deposit	140	160	20
CORE 2104	475872.531	571584.678		
	Plow Zone	0	15	15
	Midden	15	80	65
	Low Density Cultural	80	100	20
	Aeolian Deposit	100	120	20
CORE 2105	475866.247	571594.435		
	Top Soil	0	10	10
	Aeolian Deposit	10	55	45
	Midden	55	68	13
	Aeolian Deposit	68	80	12
CORE 2106	475868.768	571574.71		
	Plow Zone	0	15	15
	Midden	15	70	55
	Aeolian Deposit	70	105	35
	Diatoms	105	106	1
	Iron Pan	106	120	14
CORE 2107	475846.606	571614.112		
	Top Soil	0	10	10
	Aeolian Deposit	10	100	90
	Iron Pan	100	105	5
CORE 2108	475828.514	571620.484		
	Top Soil	0	10	10
	Aeolian Deposit	10	60	50
	Rock	60	60	0
CORE 2109	475849.449	571576.815		
	Top Soil	0	15	15
	Aeolian Deposit	15	110	95
	Bog	110	120	10
CORE 2110	475854.874	571565.581		
	Plow Zone	0	15	15

Site 60	description	top depth	bottom depth	Thickness
	Low Density Cultural	15	120	105
CORE	2111	475889.315	571582.96	
	Top Soil	0	10	10
	Aeolian Deposit	10	80	70
CORE	2112	475893.848	571564.994	
	Low Density Cultural	0	30	30
	Midden	30	145	115
	Aeolian Deposit	145	160	15
CORE	2113	475891.521	571566.511	
	Plow Zone	0	5	5
	Low Density Cultural	5	55	50
	Buried Humic	55	60	5
	Midden	60	67	7
	Low Density Cultural	67	95	28
	Buried Humic	95	105	10
	Low Density Cultural	105	120	15
	Rock	120	120	0
CORE	2114	475893.579	571569.886	
	Top Soil	0	25	25
	Midden	25	90	65
	Aeolian Deposit	90	120	30
CORE	2115	475905.196	571569.947	
	Top Soil	0	10	10
	Low Density Cultural	10	75	65
	Midden	75	110	35
	Low Density Cultural	110	120	10
	Bog	120	130	10
	Aeolian Deposit	130	160	30
CORE	2116	475892.361	571558.101	
	Plow Zone	0	30	30
	Low Density Cultural	30	37	7
	Midden	37	40	3
	Low Density Cultural	40	105	65
	Midden	105	130	25
	Bog	130	160	30
CORE	2117	475900.039	571563.025	
	Low Density Cultural	0	70	70
	Midden	70	120	50

Site 60	description	top depth	bottom depth	Thickness
	Aeolian Deposit	120	160	40
CORE	2118	475897.688	571557.827	
	Plow Zone	0	10	10
	Midden	10	65	55
	Low Density Cultural	65	120	55
	Aeolian Deposit	120	150	30
	Iron Pan	150	160	10
CORE	2119	475897.576	571562.779	
	Top Soil	0	12	12
	Low Density Cultural	12	105	93
	Aeolian Deposit	105	120	15
CORE	2120	475893.016	571559.987	
	Plow Zone	0	8	8
	Low Density Cultural	8	30	22
	Midden	30	40	10
	Low Density Cultural	40	70	30
	Midden	70	80	10
	Low Density Cultural	80	105	25
	Midden	105	120	15
CORE	2122	475891.898	571559.075	
	Plow Zone	0	3	3
	Low Density Cultural	3	5	2
	Aeolian Deposit	5	35	30
	Low Density Cultural	35	60	25
	Rock	60	60	0
CORE	2123	475893.284	571557.42	
	Top Soil	0	10	10
	Low Density Cultural	10	105	95
	Midden	105	170	65
	Rock	170	170	0
CORE	2124	475891.612	571558.912	
	Top Soil	0	20	20
	Aeolian Deposit	20	40	20
	Low Density Cultural	40	70	30
	Rock	70	70	0
CORE	2125	475890.122	571559.758	
	Plow Zone	0	35	35
	Low Density Cultural	35	55	20

Site 60	description		top depth		bottom depth	Thickness
	Midden		55		60	5
	Low Density Cultural		60		68	8
	Midden		68		75	7
	Turf		75		110	35
	Low Density Cultural		110		123	13
	Rock		123		123	0
CORE	2126	475893.13		571558.87		
	Top Soil		0		30	30
	Low Density Cultural		30		60	30
	Midden		60		150	90
	Aeolian Deposit		150		160	10
CORE	2127	475890.918		571557.308		
	Low Density Cultural		0		70	70
	Midden		70		140	70
	Aeolian Deposit		140		160	20
CORE	2128	475894.879		571551.226		
	Low Density Cultural		0		120	120
	Aeolian Deposit		120		130	10
	Midden		130		140	10
	Aeolian Deposit		140		160	20
CORE	2129	475893.492		571548.429		
	Plow Zone		0		30	30
	Midden		30		40	10
	Low Density Cultural		40		120	80
	Rock		120		120	0
CORE	2130	475894.879		571544.937		
	Cultural Layer		0		10	10
	Low Density Cultural		10		40	30
	Bulldozed		40		70	30
	Aeolian Deposit		70		80	10

SASS 2009

Site 60 **DATE** 7/23/2009

Sample 1 [104] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 9/29/2009

Other present: Botanicals overwhelmingly dominant in Caryphyllaceae. Two genera present with a small percentage charred. Very little charcoal or botanical matter. THe majority of the light fraction was made up of seeds of modern grassy materials. Some bone present

Content	%
Bone	1
Charcoal	5
Rock	2

Just under 1300

Family		Count	Charred
Caryophyllaceae	Spergula	264	
Caryophyllaceae	Silene	14	
Caryophyllaceae	Silene	4	Yes
Polygonaceae		1	
Cyperaceae		1	Yes

Sample 2 [104] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 10/9/2009

Other present: Light fraction is very small/. Overwhelmingly Spergula. THe Polygonaceae contain at least two different genera.

Content	%
Bone	5
Charcoal	2
Rock	5

Just above 1104

Family		Count	Charred
Caryophyllaceae	Spergula	144	
Caryophyllaceae	Silene	4	Yes
Caryophyllaceae	Silene	7	
Polygonaceae		3	Yes
Cyperaceae		1	Yes

SASS 2009

Site 60 **DATE** 7/23/2009

Sample 3 [105] **AREA** A

Vol 2 **Light Fraction grams** 1.74 **Heavy Fraction grams** 23.98

Analysist AA **Date Analized** 10/23/2009

Other present: insect parts: 3

Content	%
Bone	30
Charcoal	15
Dung	5
Rock	50

Midden just under 1104

Family		Count	Charred
Cyperaceae		4	Yes
Poaceae	Wild	27	Yes
Ericaceae	Empetrum	4	Yes
Caryophyllaceae		33	Yes
Caryophyllaceae		19	

Sample 4 [106] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 11/13/2009

Other present: Rock, calcined bone and wood charcoal found in heavy fraction. The Polygonaceae and cyperaceae are diverse. Very few of the seeds are charred. Silene in vial is a sample.

Content	%
Bone	2
Charcoal	2
Rock	2

Peat ash midden 5-10 cm under 1104

Family		Count	Charred
Caryophyllaceae	Stellaria	17	Yes
Caryophyllaceae	Stellaria	4	
Caryophyllaceae	Silene	84	
Polygonaceae		4	
Cyperaceae		1	Yes
Cyperaceae		6	
Ericaceae	Empetrum	11	
Undetermined		2	Yes

SASS 2009

Site 60 **DATE** 7/23/2009

Sample 5 [107] **AREA** A

Vol 2 **Light Fraction grams** 2.28 **Heavy Fraction grams** 8.93

Analysist CFM **Date Analized** 10/30/2009

Other present: Slag, rock, calcined bone, wood found in Heavy fraction. Many different types of polygonaceae included in count - unable to positively identify different taxa.

Content	%
Bone	20
Charcoal	10
Rock	65
Slag	1
Wood	1

Midden just under 1000

Family		Count	Charred
Ericaceae	Empetrum	19	
Polygonaceae		39	
Cyperaceae		7	
Fabaceae		1	
Caryophyllaceae	Stellaria	18	
Caryophyllaceae	Silene	52	
Poaceae	Wild	2	
Undetermined		3	

Sample 6 [108] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 11/20/2009

Other present: No Caryo. silene present. Most of the C. Stellaria is charred.

Content	%
Bone	2
Charcoal	1
Rock	2

Low density midden 5-10 cm under 1000

Family		Count	Charred
Caryophyllaceae	Stellaria	6	Yes
Caryophyllaceae	Stellaria	2	
Cyperaceae		1	Yes
Cyperaceae		6	
Polygonaceae		2	
Ericaceae	Empetrum	8	
Caryophyllaceae	Silene	1	Yes
Undetermined		1	

SASS 2009

Site 60 **DATE** 7/23/2009

Sample 7 [108] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 12/30/2009

Other present: Fairly high percentage of charcoal. Very little rock and no bone. No presence of cary. stellaria makes this bag unique thus far at Litla Grof. Most seeds have some charring.

Content	%
Charcoal	25
Rock	5

Low density midden 10-15 cm under 1000

Family		Count	Charred
Cyperaceae		9	Yes
Polygonaceae		4	Yes
Polygonaceae		2	
Ericaceae	Empetrum	22	Yes
Caryophyllaceae	Silene	6	Yes
Caryophyllaceae	Silene	1	

Sample 8 [109] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 9/15/2009

Other present: Charred leaves present.. Cyperaceae is predominant. Some calcined and green bone found in heavy fraction, some potentially identifiable.

Content	%
Bone	2
Charcoal	90
Rock	5

Gray ash layer under 1000

Family	Count	Charred
Caryophyllaceae	3	Yes
Cyperaceae	73	Yes
Poaceae	2	Yes

SASS 2009

Site 60 **DATE** 7/24/2009

Sample 9 [110] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 1/5/2010

Content	%
Bone	20
Charcoal	5
Rock	3

Other present: There is a very high instance of bone in both the light and heavy fractions. Some are large and well preserved. They are not calcined. Includes fish vertebrae, sheep incisor, many sheep green bones.

REMOVED for AMS dating: Charred Empetrum 6/610

multi-lens dense midden 5-10 cm under [109]

Family		Count	Charred
Caryophyllaceae	Silene	18	Yes
Caryophyllaceae	Silene	1	
Ericaceae	Empetrum	14	Yes
Polygonaceae		2	Yes
Cyperaceae		4	Yes

Sample 11 [110] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 1/25/2010

Content	%
Bone	30
Charcoal	50
Rock	2

Other present: A high level of charred wood present in the light fraction. Also very high levels of bone, mostly green with a minority calcined. High proportion of Caryophyllaceae Silene, mixed charred and uncharred.

REMOVED FOR AMS: Emptrum & Caryophyllaciea 6/6/10

ulti-lens dense midden 10-15 cm under [109]

Family		Count	Charred
Ericaceae	Empetrum	7	Yes
Caryophyllaceae	Silene	30	Yes
Caryophyllaceae	Silene	34	
Cyperaceae		7	Yes
Polygonaceae		4	
Poaceae		1	
Ranunculaceae	Ranunculus	1	Yes

SASS 2009

Site 60 **DATE** 7/24/2009

Sample 12 [110] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 1/28/2010

Other present: A lot of charcoal in light fraction, some in heavy fraction. Moderate amount of bone. Very few seeds for sample size.

Content	%
Bone	15
Charcoal	5
Rock	75

multi-lens dense midden 15-20 cm under [109]

Family		Count	Charred
Caryophyllaceae	Silene	4	Yes
Caryophyllaceae	Silene	1	
Cyperaceae		5	Yes
Cyperaceae		2	
Polygonaceae		1	
Juncaceae		2	Yes

Sample 13 [111] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized**

Other present: Tooth

Content	%
Bone	1.5
Charcoal	15
Rock	7.5

yellow dry soil with charcoal and no bone

Family		Count	Charred
Ericaceae	Empetrum	2	Yes
Cyperaceae		2	
Polygonaceae		1	Yes
Poaceae		1	Yes
Caryophyllaceae	Silene	11	
Caryophyllaceae	Silene	6	Yes

SASS 2009

Site 60 **DATE** 7/25/2009

Sample 14 [LNS] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 2/12/2010

Other present: Lots of charred spores, few seeds or bones

Content	%
Bone	2
Charcoal	5
Rock	2

LNS in NE corner, thin lens

Family	Count	Charred
Polygonaceae	1	Yes

Sample 15 [112] **AREA** A

Vol 2 **Light Fraction grams** **Heavy Fraction grams**

Analysist WAF **Date Analized** 12/2/2009

Other present:

Content	%
Bone	2
Charcoal	3
Rock	2

Clayey midden in south third of unit

Family		Count	Charred
Caryophyllaceae	Silene	1	Yes
Caryophyllaceae	Silene	15	

SITE	FIND	AREA	CONTEXT
60	1	A	106

MATERIAL TYPE	OBJECT TYPE	DESCRIPTION	ATTENTION
Metal	Iron	Possibly an iron nail	Y

DATE	ID	UNIQUE_ID	Conservation Date	Conservator
7/24/2009	ELB	60A106F1	7/25/2009	Gregory Bailey

Material Characteristics

Iron object, possibly spike or bar, 78 x 15 x 7mm, 15.0g

Condition

Dirt and corrosion present on all surfaces, damp.

Storage Location

SASS Other Sites 2009 Box Metals Container

Treatment

Object was cleaned mechanically using a bamboo skewer, scalpel, and a soft nylon bristle brush. The object was then scrubbed with a stiff nylon bristle brush under running tap water, wrapped in aluminum foil, and placed in a galvanic bath (5% by weight sodium carbonate in deionized water). After five days, object was removed and scrubbed with a nylon bristle brush. The object was allowed to dry over night, and then placed in a low concentration (~1% by weight) solution of tannic acid in deionized water. After three days, the object was removed and scrubbed once again, then left to dry. After drying, two final treatments of tannic acid solution (10% by weight in deionized water with a small amount of isopropyl alcohol) were applied, with approximately 3 hours between applications.

Storage Recommendations

Other Notes

Image

Before treatment