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DEPARTMENT OF NATURAL RESOURCES

Alaska Geologic Materials Center *Data Report No. 408*

No. 408

Andover Mining Corp. and ALS Minerals, 2012, Current and historical assay results, core photos, drill collar locations, and sampling report for the Picnic Creek/Hot (boreholes 1, 2, and 7) and Sun (boreholes 2, 3, 4, 9, 11, 12, 14, and 22) mineral prospects, Ambler Mining District, Survey Pass Quadrangle, Alaska

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**Picnic Creek (Hot) and Sun Prospects
Core Sampling Project
From the Alaska Geologic Materials Center
Summary Review**

August 3, 2012

**Prepared for
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Introduction

Andover Mining Corporation, in cooperation with the Alaska Department of Natural Resources, is attempting to verify assay values from key mineralized rock core intervals from the Picnic Creek (HOT) and SUN copper-zinc-lead-silver-gold mineral prospects, located in the south-central Brooks Range, Ambler Mining District, Survey Pass Quadrangle, Alaska. The SUN prospect was discovered by the Sunshine Mining Company in the mid 1970's and further evaluated by the Anaconda Company, Noranda Exploration, and Teck Cominco. The core selected for sampling was drilled in 1974 and 1975 by Anaconda and Noranda. Core from these prospects was later donated to the State of Alaska Department of Natural Resources (D.N.R.) under the supervision of the Division of Geological and Geophysical Survey (D.G.G.S.) at the Alaska Geologic Materials Center (Alaska G.M.C.) in Eagle River, Alaska. These properties are currently under evaluation by Andover Ventures, Inc.

In 1977, Canadian Mine Services, Ltd., Kilborn Engineering (B.C.) Ltd., and Swan Wooster Engineering Co. Ltd. conducted a preliminary feasibility study on data from the Sun Deposit for the Anaconda Copper Mining Company (Andover Mining Corp., 2011-2012). The Anaconda Company evaluation falls into the "historical" classification (information developed prior to February 1, 2001) as defined by the Ontario Securities Commission (OSC) and as such, this study must be excluded from in the present resource. Current assay data supporting the historic data may be submitted to the OSC for review and consideration for National Instrument 43-101 compliant mineral resource reclassification. The objective of this sampling project is to select and collect representative samples from previously split and sampled core for direct comparison with the 1970's assay data in an attempt to verify and incorporate historic reserves to Andover Mining Corporation's NI 43-101 compliant resource.

Sampling Agreement #66, 2012 between the Alaska State D.N.R. and Andover Mining Corp. provided the opportunity to sample archived core from the Picnic (HOT) and SUN Prospects stored at the Alaska G.M.C. for the purpose of verifying historic assays and collecting additional information that benefits the data set and understanding of the mineral deposit. The original list for consideration is in Appendix I. The final list of intervals sampled is detailed in Table 1.

The initial evaluation conducted on June 20, 2012 by Kent Turner, Chief Operating Officer for Andover Mining Corp. & Kerry Adler, Senior Geologist for On-Line Exploration Services, Inc. determined a positive viability of the project based on inspection of core integrity.

The detailed core review and sampling project was conducted from June 25 through July 26, 2012 by On-Line Exploration Services, Inc. personnel under service agreement with Andover Mining Corp. On-Line Exploration Services, Inc. is based in Anchorage, Alaska, and has

provided mineral exploration and mining services since 1982. Senior Geologist, Kerry M. Adler (A.I.P.G. CPG-10634) provided on-site supervision of core handling, the cutting of “B” size core, photography, and packaging for storage archival. Mr. Adler evaluated the core intervals of interest for completeness and continuity prior to cutting, cut the “E” and “N” size core, collected all samples (including control samples), and photographed core as necessary. Project labor support was provided when needed by various student interns and laborers from On-Line Exploration Services, Inc. including Mason Gregorius, John (Paul) Bezousek, Stephen Bezousek, Drew Flitton, Kieran Adler, and Natasha Adler as well as UAA interns Kjol Johnson and Joe Skutca who provided core transfer duty through the Alaska G.M.C. All work was performed at the Eagle River, Alaska “Green House” Alaska G.M.C. facility.

Table 1. Final Revised Sample Interval List

Prospect Name	Hole Name	Sample Interval	Core Diameter
Picnic Creek (Hot)	Hot 1	158.5 - 162.5'	B
	Hot 2	146 - 149'	B
	Hot 2	155.5 - 168'	B
	Hot 7	173 - 194'	B
SUN Prospect	SUN 2	52 - 76'	E
	SUN 3	123 - 155'	E
	SUN 4	276 - 291'	B
	SUN 9	324 - 355'	B
	SUN 11	120.2 - 126.8'	N
	SUN 11	261.5 - 263'	N
	SUN 12	106 - 118.5'	N
	SUN 12	144 - 154'	N
	SUN 12	169 - 176.5	N
	SUN 12	190.5 - 211	N
	SUN 14	357 - 359.5	N
	SUN 14	366 - 368.5	N
	SUN 22	628 - 707.5	B

Scope of Work

The Picnic Creek (HOT) and SUN Prospect core sampling project includes the following parameters:

- 1.) Determine core integrity and create a photographic record prior to sampling.
- 2.) Mark, cut, and collect representative samples from previously sampled intervals using driller’s breaks and geologic breaks as guides.

- 3.) Record and report core integrity, box numbers, sample intervals, sample numbers, and other information gathered pertinent to the sampling project.
- 4.) Record remaining sample in photographic form for archival records.
- 5.) Submit samples for analysis of 36 elements including gold, copper, zinc, lead, and silver to ALS Minerals Laboratory.
- 6.) Return residue and or pulps in a timely manner to the Alaska G.M.C.
- 7.) Return new assay/analytical data to the Alaska G.M.C.

Procedures

Sampling criteria was established to meet the rigorous intent of the project. Core integrity was evaluated and recorded according to the following conditions:

- 1.) Collect data from core boxes. Collect information regarding general core condition, sample tag numbers (sometimes on paper tags, otherwise collected from the box lid or box slot side), and notes within the box. Record pertinent information in the Sample Log, and on a tracking sheet for each box. Label photograph files records to include drill hole number, box number, and drilled depth interval (feet).
- 2.) Compare lithologic continuity of proposed sample intervals with copies of Anaconda's and Noranda's original lithologic logs provided by Andover thorough the Alaska G.M.C. (D.G.G.S. Report # GMC 396, 2011). Note box end marks, run block marks, and internal marks, including sample break marks and compare this information to lithologic and analytical logs to confirm previous sample intervals for present sample breaks and determine core completeness, position, and comparative accuracy to the logs. Consider run blocks/markers as having floating positions, subject to shifting until confirmed by box interval and internal sample break marks.
- 3.) Observe sample break marks on core or along the slots of the box (typically black arrows in opposite direction from a center line marked perpendicular to the core) and compare these to assay data sheets and lithologic logs to verify core position and sample completeness.
- 4.) Check core within sampled intervals for end-to end matching characteristics, including rock type & mineral character, structure, and alteration style to establish continuity. Core-end-matching is subject to impact split orientation and end preservation after the initial split.
- 5.) Measure sample intervals and compared to the lithologic logs to determine potential sample length discrepancies.
- 6.) Place orange flagging at all prospective sample interval breaks. Mark the beginning and end of sample series where necessary.
- 7.) Composite sample intervals with adjacent sample intervals of interest when small sample size is a concern or when an end sample break is missed. Whenever possible, composite smaller samples that have similar rock type or mineral character.

- 8.) Closely inspect intervals having sawed halves, faced and slabbed pieces to determine sample interval completeness and assure adequate material availability for sampling.
- 9.) Note the location of skeletonized core, and determine if possible completeness of previously sampled intervals by measuring the sample's length compared to original logs and sample information.
- 10.) Reserve the option to eliminate a sample from cutting, collection, or submission if evidence to question the integrity of the interval is encountered at any phase of the project.
- 11.) Reserve the option to include lower grade samples at the end of an interval or within a sample series for comparison to lower grade assay in order to provide a more diverse sample population.
- 12.) Diligently clean working surfaces on a regular basis, change saw water after cutting highly mineralized intervals, and manage hygiene after handling highly mineralized rock to minimize potential cross contamination.
- 13.) Randomly include in the sample stream one individual 40 gram packet of standard sample material (PB 136 for copper, zinc, lead, and silver) provided by Andover Mining Corp. at a population density of approximately 18% (one for every group of 20 samples).
- 14.) Air dry crushed marble stone (Vigoro brand decorative marble chips) and place in sample bags by means of a clean plastic scoop. Randomly include this material as a blank sample in the sample stream at a population density of approximately 18% (one for every group of 20 samples).
- 15.) After the inspection and verification process, staple a paper sample tag from sample book and corresponding numbered aluminum tag to the left slot of the box as one faces the marked box at the beginning of the sample interval. Place standard and blank tags immediately after the previous numbered core sample tag marker and mark the metal tag as to sample type (blank or standard) to prevent confusion with short sample intervals.
- 16.) Photographs each box destined for sampling. Include a whole box photograph and photographs of each half of the box for detail.
- 17.) Cut core and return splits to the original position in the box. Allow to air dry.
- 18.) Sample cut core splits and hand split and sample smaller pieces and crushed or crumbly residue. Include the numbered paper sample tag in the bag with the sample (except for blanks).
- 19.) Place packing materials adjacent to sampled material to help prevent core from shifting, and take final photographs of sampled boxes for archival purposes.
- 20.) Fill open sections of the boxes with packing material, secure the boxes with tape, and return core boxes to their proper archived storage.
- 21.) Provide to the Alaska G.M.C. a copy of sample information, core condition descriptions and photographic record for archival and future reference.

Sample Evaluation

The core was pulled from the Alaska G.M.C. conex storage based on the initial list of mineralized intervals provided by Kent Turner of Andover Mining Corp (Appendix I). The listed intervals of core were reviewed during the selection process to evaluate obvious problems such as missing segments, insufficient core, or other integrity concerns that would eliminate the interval(s) or holes of interest for sample consideration. Core outside the selected intervals of interest were also reviewed and pulled to compare adjacent depth locations based on run markers and sample markers. After the initial review, core was transported to the “Green House” at the Alaska G.M.C. for further evaluation and processing.

A photograph station was arranged and all core pulled for review was photographed on a box-by-box basis to display the original state and condition of contents (Figure 1). Box lid information was also included in the initial photographic record when available. This phase of photography included reference core and core that had been intended for sampling and later disqualified or substituted following the evaluation process. A second set of photographs were taken after sample intervals were selected for cutting. Sample intervals 846212-846214, 846247, and 846253 were later removed from the sample list.

Each box of core and each sample interval were inspected prior to selection for cutting. Observations and comments are recorded in the sample log (Table 2) and in the box descriptions in Appendix II. Sample tags were stapled in the box as prescribed in procedure #15.



Figure 1. Core photographing station.

Table 2. Alaska G.M.C. SUN & Picnic Creek (HOT) Prospects Sample Log June - July, 2012.

Series #	Drill Hole #	Core Size	Sample #	Interval (ft.)		Box # (s)	Previous Sample #(s)	Sample Wt. (grams)	Comments
				From	To				
1	SUN 2	E	846212	41	46	1	?	210	Sample not taken; insufficient material within sample interval. Sulfides begin at the 40' run marker. Split core is generally in ~ 1" pieces and in good condition.
2	SUN 2	E	846213	46	50	1	?		Sample not taken; insufficient material within sample interval.
3	SUN 2	E	846214	50	52	1	?		Sample not taken; insufficient material within sample interval. **Small sample size.
4	SUN 2	E	846215	52	59	1 & 2	?	210	Massive sulfides (MS). **Small sample size.
5	BLANK		846216	BLANK		X	X	1440	
6	SUN 2	E	846217	59	69	2	?	100	Gray chl sch. w/ local py +/- cpy in narrow qtz bands. Core not well contained at the 69' sample break (there could have been some core shifted near this mark). **Small sample.
7	SUN 2	E	846218	69	76	2	?	190	Composite samples from 69'-75' and 75'-76' due to small quantity (0.6' equivalent material from 75'-76') in the 2nd interval. Massive sulfides begin at the 70' run marker. Notable sphalerite (black jack) in lower part of this interval.
8	SUN 3	E	846219	123	127	6	7659 & 7660	150	Composite sample (123'-125' & 125'-127') with a reliable mark at the beginning of the 4th divider. MS. **Very small sample (may need to consider compositing with sample 846220).
9	SUN 3	E	846220	127	130	6	7661 & 7662	225	Composite sample (127'-127.5' & 127.5'-130'). The interval from 127'-127.5' is chlorite schist w/ banded sulfs, and interval length is consistent with logging. The lower interval is MS. This interval is well-marked on the box. **Small sample.
10	SUN 3	E	846221	130	135	7	7663	270	Slightly jumbled core but is generally in good shape. Box is packed well. MS. **Small sample.
11	STANDARD		846222	STANDARD		X	X	40	
12	SUN 3	E	846223	135	140	7	X	350	Somewhat jumbled (consistent lithology). MS to semi-MS w/chl content increasing down-hole.
13	SUN 3	E	846224	140	146	7 & 8	7664	435	Scrunched/crowded/shifted core to the back end of the box slot, especially after the 145' run marker (possibly doubled up when box was initially loaded?). 140'-145' approx. 3.8' of core. Box is well packaged. 0.02' whole core piece mid-sample was not included. Semi-MS to MS w/marble matrix (consistent lithology). Sample interval end is based on mark on the box.
14	SUN 3	E	846225	146	150	8	?	245	Core is centrally crowded in a 2.5' segment (possibly doubled up when box was initially loaded?). Semi-MS to MS w/blk chl sch matrix (consistent lithology). **Small Sample.
15	SUN 3	E	846226	150	152	8	?	105	0.1' Q-ser sch at beginning of sample followed by semi-MS to MS w/mbl matrix. Short segment (approx. 1.3'). **Very small sample.

Table 2 (continued). Alaska G.M.C. SUN & Picnic Creek (HOT) Prospects Sample Log June - July, 2012.

Series #	Drill Hole #	Core Size	Sample #	Interval (ft.)		Box # (s)	Previous Sample # (s)	Sample Wt. (grams)	Comments
				From	To				
16	SUN 3	B	846227	152	155	8	?	110	qtz -musc sch. Crowded core in the front of last box slot (consistent lithology). Very small sample.
17	SUN 4	B	846228	276	278.5	25	9858	510	Box lid marked "Dropped". Box packed in styrofoam peanuts. The lithologic continuity appears to be intact. 278.5' end sample mark is on box side. Massive sulfide.
18	SUN 4	B	846229	278.5	280.5	25 & 26	9859	425	Gray chlorite schist and white albite-quartzite with calcite veins. Misplaced "N" core and "B" core marked "310.5" (foreign to this interval) were not included in the sample.
19	SUN 4	B	846230	280.5	283	26	9860	615	Semi-massive sulfides and banded sulfides in quartzite cut by 1 cm wide calcite vn. Box 26 is reversed (turned around).
20	SUN 4	B	846231	283	288	26	9861	820	Semi-massive and massive sulfides with occasional MG marble bands conformable to foliation/sulfide banding.
21	SUN 4	B	846232	288	291	26	9862	415	Qtz-chl sch (0.2-0.3') capping massive sulfides with MG marble bands.
22	SUN 9	B	846233	324	326.5	13	760	380	marble w/interfoliated lt grn chl sch intervals
23	SUN 9	B	846234	326.5	329.4	14	761	830	Massive sulfides.
24	SUN 9	B	846235	329.4	335.4	14	762	1370	Massive sulfides.
25	SUN 9	B	846236	335.4	338.6	15	763	565	Q-graphite sch interfoliated w/ q-ser sch. Upper sample break based on measured interval, dissem. Sulfide content, and graphite schist contact.
26	BLANK		846237	BLANK		X	X	1470	
27	SUN 9	B	846238	338.6	342.9	15	764	850	Dk gry qtz-chl-graph sch & local qtz-chl sch w/ dissem sulfs.
28	SUN 9	B	846239	342.9	349.5	15 & 16	765	1440	0.2' interval of MS followed by banded and dissem sulfs w/in dark gry qtz-chl sch & interfoliated lt grn qtz-chl sch.
29	SUN 9	B	846240	349.5	351.5	16	766	410	0.5' MS-semi massive sulf w/in lt grn qtz-chl sch
30	SUN 9	B	846241	351.5	355	16	767	695	dk gry grph-chl-qtz sch
31	SUN 11	N	846242	120.2	123	12	?	625	Logging vs. sample discrepancy: 120.2' sampled=120.5' logged. MS w/green staining along fract.
32	SUN 11	N	846243	123	125	12	?	545	Logging vs. sample discrepancy: 123.0' sampled=123.5' logged. "Graph Qtzite" W/ dissem. Sulfides.
33	SUN 11	N	846244	125	126.8	12	?	635	125.0' sampled=124.7 measured. MS w/interfoliated gneiss (meta-rhyo?).
34	STANDARD		846245	STANDARD		X	X	40	
35	SUN 11	N	846246	261.5	263	26	?	465	MS bound by silvery gry ser-talc-chl-qtz sch.
36	SUN 12	N	846247	105	106	10	1255		MS - Questionable to probable 0.2' slabbed segment missing based on unmatched remnant within interval. Sample would be too small for accurate assessment.
37	SUN 12	N	846248	106	109	10 & 11	1256	775	MS

Series #	Drill Hole #	Core Size	Sample #	Interval (ft.)		Box # (s)	Previous Sample # (s)	Sample Wt. (grams)	Comments
				From	To				
38	SUN 12	N	846249	109	110.8	11	1257	625	MS
39	SUN 12	N	846250	110.8	113.2	11	1258	1065	MS
40	BLANK		846251	BLANK		X	X	1425	
41	SUN 12	N	846252	113.2	118.5	11	1259	2230	MS. Composited with next sample (846252) interval (115.9-118.5') due to end interval overshot collection error.
42	SUN 12	N	846253	115.9	118.5	11 & 12	1260		This sample interval composited with previous sample (#846252) due to collection interval break error. Box 12: 118.0' - 118.3' two massive sulf. pieces with similar character as observed in box 11. Next interval not sampled because core is jumbled (dropped box) and several pieces were skeletonized and/or trimmed by saw.
43	SUN 12	N	846254	144	149	14	1267	2055	Sch. w/ dissem sulfide bands.
44	SUN 12	N	846255	149	154	14 & 15	1268	1980	Sch. w/ dissem sulfide bands.
45	SUN 12	N	846256	169	174	17	1272	1830	Competent gry chl sch w/ patchy mbl & dissem sulfs.
46	SUN 12	N	846257	174	176.5	17 & 18	1273	1005	Competent gry calcareous chl sch w/ dissem & patchy sulfs.
47	SUN 12	N	846258	190.5	191.3	19	1277	325	MS
48	SUN 12	N	846259	191.3	196	19 & 20	1278	1790	Gry calcareous chl sch verging on mbl. Dissem & local py bands .
49	SUN 12	N	846260	196	201	20	1279	1825	Gry calcareous chl sch. Dissem & local py bands .
50	SUN 12	N	846261	201	206	20	1280	1780	Gry calcareous chl sch. Dissem & local py-cpy bands .
51	SUN 12	N	846262	206	211	20	1281	1940	Gry calcareous chl sch. w/ Dissem & banded sulfs .
52	STANDARD		846263	STANDARD		X	X	40	
53	SUN 14	N	846264	357	359.5	34	?	1005	MS w/in qtz-ser sch. Sample width adjusted to equalize numerous faced pieces.
54	SUN 14	N	846265	366.2	368.5	35	?	650	Reliable end marks on core. Banded cu sulfs. In qtz-ser-chl sch. Previous interval (359.5-366.2' skipped due to probable missing core (0.8'/1.1' recovered).
55	SUN 22	B	846266	628	630	60	?	375	Banded & patchy sulfides.
56	SUN 22	B	846267	630	632	60	?	360	MG MS - py
57	SUN 22	B	846268	632	636	61	?	860	MG MS 0.2' gap
58	SUN 22	B	846269	636	642	61 & 62	?	1810	MG MS w/carbonate matrix?
59	SUN 22	B	846270	642	648.5	62	?	1440	MG MS w/ 0.3' gap
60	SUN 22	B	846271	648.5	650.2	62	?	220	blk Q-Carb sch
61	SUN 22	B	846272	650.2	652	62 & 63	?	485	MG MS w/ser sch
62	SUN 22	B	846273	652	656	63	?	840	MG MS w/ser sch
63	BLANK		846274	BLANK		X	X	1380	
64	SUN 22	B	846275	656	660	63	?	780	chl sch w/ banded & dissem py

Series #	Drill Hole #	Core Size	Sample #	Interval (ft.)		Box # (s)	Previous Sample # (s)	Sample Wt. (grams)	Comments
				From	To				
64	SUN 22	B	846275	656	660	63	?	780	chl sch w/ banded & dissem py
65	SUN 22	B	846276	660	663	63 & 64	?	1055	MS. Previous aluminum assay marker in box marked 660'-662'. Next marker is at 663'. Run block 662'. Massive sulfide section ends @ 663'. Composite from 660'-663'
66	SUN 22	B	846277	663	667	64	?	795	chl sch & semi-massive sulfs
67	STANDARD		846278	STANDARD		X	X	40	
68	SUN 22	B	846279	667	673	64 & 65	?	1060	gry Q-chl sch w/ dissem sulf
69	SUN 22	B	846280	673	680	65	?	1410	gry Q-chl sch w/ dissem sulf. 0.1' of whole core at the end of the interval was not sampled.
70	SUN 22	B	846281	680	684.2	66	?	635	lt grn Q-ser sch
71	SUN 22	B	846282	684.2	689.2	66	?	1405	MS
72	SUN 22	B	846283	689.2	693	66 & 67	?	1175	MS
73	SUN 22	B	846284	693	697.8	67	?	1220	MS w/ sugary qtz matrix. 0.1' of whole core at the beginning of this interval was not sampled.
74	SUN 22	B	846285	697.8	700.4	67 & 68	?	760	MS w/ sugary qtz matrix
75	SUN 22	B	846286	700.4	703	68	?	620	semi MS w/patchy MS
76	SUN 22	B	846287	703	707.5	68	?	785	blk Q-chl sch. Whole core follows this sample
77	HOT 1	B	846288	158.5	162.5	10 & 11	14223/10761?	1085	MS. 0.2' whole core segment (massive sulfide w/cpy) at the end of the sample interval was not included in current sampling. This piece was marked for original sampling, but was missed or excluded.)
78	HOT 2	B	846289	146	149	10	14234/10757	730	MS. 3' logged interval is actually 2.5' long (logging discrepancy?)
79	HOT 2	B	846290	155.5	160	11	14235/10758	1295	MG MS. 0.05' of whole core (massive sulf w/ mt, sphl & bladed bio) at the end of the sample interval was not included in the sample.
80	HOT 2	B	846291	160	164	11	10759	1085	MG MS
81	HOT 2	B	846292	164	168	12	10760	1130	"Submassive" sulfides to MS. 0.03' whole core (talch sch) at 166.5' not included.
82	HOT 7	B	846293	173	176.5	15	10751	515	MS. 3.5' logged interval vs. 2.5' measured: possible logging discrepancy.
83	STANDARD		846294	STANDARD		X	X	40	
84	HOT 7	B	846295	176.5	178	15	10752	230	MS w/0.6' meta-rhyo segment
85	HOT 7	B	846296	178	184	15 & 16	10753	1075	MS
86	HOT 7	B	846297	184	188.5	16	10754	840	Fractured & crumbly, sulfate-coated MS
87	HOT 7	B	846298	188.5	194	16	10755	695	30% fractured & mild sulfate w/ MS. Based on end-to-end continuity of semi-massive sulfide section, the 0.3' light green ser sch interval @ 193-193.3' is likely reverse loaded to the end of the 194' run and is included in the current sample as logged.

Table 2 (continued). Alaska G.M.C. SUN & Picnic Creek (HOT) Prospects Sample Log June - July, 2012.	
Table 2 Key	
Sample not collected	
Sample weight scale accuracy = +/- 5 grams	Alternating drill hole indicator
Standard Sample	MS or significant banded sulfide interval indicator
Marble Blank	Small sample indicator

Core Cutting & Splitting

A majority of the core was split initially by impact method. Occasional sawed halves were included in samples. All core sizes (N, B, & E) were cut with the use of a Covington Engineering Co. Platinum Series #303, 10" diameter x 0.032" wide blade with a 5/8" arbor for use on a MK-101 (MK Diamond Products, Inc.) tile saw provided by the Alaska Geologic Materials Center. The thin blade was preferred so as to minimize core material loss. Drew Flitton and Kieran Adler were "B" core sawyers and Kerry Adler cut "E" and "N" core.

All operating surfaces were wiped clean with paper towels and water after each round of core handling to minimize the potential for cross contamination. The tile saw table was cleaned with fresh water spray after each sample to prevent accumulation of fine material. Saw tray water was changed after cutting massive sulfide zones to prevent cross contamination. Tray water was also changed when cutting core from different holes.

Prior to cutting, each sample interval was inspected for faced and slabbed pieces so that the volume of the sample could be adjusted to meet a representative ratio of sampled material. Visual estimates of equivalent material were made in these circumstances. In most cases, an adjustment of approximately 1/3 of the volume of the unfaced core was equivalent to approximately one-half to two-thirds of the faced pieces. Both sawed core halves were placed in the original position in the box and allowed to air dry before sampling commenced.

Core with characteristics offering difficult cutting potential such as crushed, wafers, highly fractured, pebbly, decrepitated due to oxidation, or loosely cemented rock were bypassed for hand splitting. Hand splitting included the use of a 10" Kobalt brand chrome-nickel concrete nippers for small pieces and a 1 1/2" wide putty knife for sandy segments (Figure 2). Hand splitting was performed concurrent with sampling. The hand sampling equipment was cleaned between samples. Low sulfide bearing samples were wiped clean with paper towels and water. The nippers was cleaned after each sample interval with a combination of emery cloth, paper towels, and water following sulfide-rich and oxidized (sulfate-bearing samples) samples.

Whole core pieces were not included unless an obvious correlation was made with an incomplete split, such as a wafer of schist within a crushed segment, where the whole piece could be considered a representative part of the segment. Whole core pieces not meeting this criterion were noted and left in the box uncut.

Sampling

Cut core from a given interval was placed in a sample bag marked with sample numbers corresponding to those stapled in the box (Figure 3). Smaller pieces that could not be cut by the saw were hand split as previously described. The paper sample tag was removed from core box & placed in sample bag. The underlying aluminum tag was left stapled in the box at the beginning of the sample interval.



Figure 2. Hand sampling tools.



Figure 3. Cut "E" size core ready for sampling. Note sample marker and control tag position.

The numbered paper sample tag and one 40 gram sealed standard sample packet (PB136) was placed in a heavy 7"x12" plastic bag, folded at the top, and stapled closed before placing it in a correspondingly labeled 5 ½" x 10 ½" polyester sample bag (Figure 4).

Crushed marble stone blank material was air dried (Figure 5) and with a clean plastic scoop placed in 5 ½" x 10 ½" polyester sample bags labeled with the appropriate sample number. The corresponding paper tags were not included in the bags with the standard because residue on the tag from highly mineralized intervals had the potential for cross contamination.



Figure 4. Standard control samples.



Figure 5. Marble blank sample material.

Sample weights were measured with a model SA-110A Cuisinart Precision Electronic Scale. This scale has an accuracy of +/- 5 grams. Sample weights, less the bag, weight were recorded in the Sample Log (Table 2).

All samples were under secured storage under the control of Alaska G.M.C. staff until sampling was complete. Samples were then transferred to secure storage at the On-Line Exploration, Inc. office until personally submitted to ALS Minerals for analysis.

Core Preservation/Packing

Styrofoam or bubble wrap packing material was positioned and secured in box slots next to sampled segments within sampled intervals boxes to preserve spatial placement of the remaining quartered core (Figures 6 & 7). Final photographs of the condition of the remaining quartered core were photographed for archival recordation. Packing material was then placed over the top of the core. Final packing material included styrofoam, bubble wrap, newspaper, paper towels, and 1" x 1/2" wooden boards (Figure 8). The newspaper and wooden boards are packing materials from earlier sampling and shipping efforts. Once packing was complete, core boxes were taped closed and transferred to conex for storage.



Figure 6. Bubble wrap-packed quartered core. Figure 7. Styrofoam-packed quartered core.



Figure 8. Top-packed core.

Project Findings

Seventy-three core samples were submitted for assay. Sixty-two of these samples were included from the original list. Five of the 62 samples from the original list submitted are composite samples. This provides the equivalent of 67 intervals from the original list of 108 intervals. This equates to a sample rate of 62% of the original proposed sampling program. 30% of the reviewed core did not meet the necessary sample integrity criteria. Nine lower grade samples from the original sample list (8%) were substituted with eleven other samples that were not on the initial list. These substitutions are adjacent to or between higher grade sampled intervals and are collected for comparison to more highly mineralized rock. With the addition of the 11 samples, 78 total intervals were included in the project (Table 3).

Sample 846252 was composited with 846253 as sample 846252 due to a bypassed sample interval break. Composites of original sample intervals from drill holes SUN 2 and SUN 3 included samples 846218-846220 due to the low volume of material associated with short intervals of split "E" size core. Sample 846276 combines massive sulfides in drill hole SUN 22 from intervals 660'-662' and 662'-663'. Similar material was composited when possible.

The majority of the impact split core was in fairly good condition. Core in some insufficiently packed boxes were shifted and locally jumbled within box slots. Competent core packed with ½" x 1" wooden boards fared very well. Dropped, jumbled, or severely shifted core was encountered from DDH-SUN 4, box 25, DDH-SUN 9, Box 3 and box 4, and DDH-SUN 12, boxes 12 and 22. Several of the boxes had obvious mild shifting of core from adjacent slots, but often did not impact sample interval integrity. Box 22 from drill hole DDH-SUN 12 (214'-224') had sprung dividers resulting in jumbled core. This massive sulfide section could not be reconstructed due primarily to the loss of core due to skeletonization. Comments regarding core condition are recorded in Table 2 and Appendix II. Attempts were made to reconstruct proper placement by using end to end matching techniques, lithologic characterization, and comparison to original logs). These attempts ended with a majority of core in better placement but not complete enough to reach a level of confidence suitable for the purpose of this sampling program. Except for core removed for the purpose of sampling, no core was compromised during this program. Other discrepancies included: 1.) reverse-loaded core in box 14 of drill hole HOT 1, 2.) a suspected inverted 0.3' segment of core from drill hole HOT 7 in slot five of box 16, 3.) core segments out of place (and character?) in box 10 of drill hole HOT 2, 4.) two pieces of core that are foreign to that in box 25 of drill hole SUN 4, and 5.) sample information gathered from sample breaks and lithology in the core boxes from drill hole SUN 11 (120.2'-126.8') indicate a 0.3-0.5 foot difference in logs and assay sheets. Other differences are noted on Table 2 and Appendix II.

Short sample intervals and low volumes tied to split small diameter core curtailed several sampling efforts. Four samples initially marked for cutting were eliminated. Samples 846512-846514 were removed from the cutting list due to small sample size and vast differences in rock character that would make a less than optimal composite sample. Sample 846247 was removed from the list due to the likelihood of a suspected missing piece of (skeletonized?) core in a short interval that would constitute 20% of the sample.

The remaining quarter core is in most cases very usable for future reference and thin and polished section studies.

Table 3. Sampled Intervals Compared to Proposed Sample Intervals.

Drill Hole	Preferred Sample Interval* (ft.)	Number of Original Samples	Proposed From (ft.)	Proposed To (ft.)	Sampled From (ft.)	Sampled To (ft.)	Comment
Hot 1	158.5 - 162.5	1	158.5	162.5	158.5	162.5	
Hot 1	198 -198.5	1	198	198.5	X	X	Insufficient material
Hot 2	133-134	1	133	134	X	X	Insufficient material
Hot 2	146-149	1	146	149	146	149	
Hot 2	155.5 -168	3	155.5	160	155.5	160	
Hot 2			160	164	160	164	
Hot 2			164	168	164	168	
Hot 7	173 -194	5	173	176.5	173	176.5	
Hot 7			176.5	178	176.5	178	
Hot 7			178	184	178	184	
Hot 7			184	188.5	184	188.5	
Hot 7			188.5	194	188.5	194	
SUN 1	50 -60	2	50	55	X	X	Insufficient material
SUN 1			55	60	X	X	Insufficient material
SUN 2	35-80	7	41	46	X	X	Insufficient material
SUN 2			46	50	X	X	Insufficient material
SUN 2			50	52	X	X	Insufficient material
SUN 2			52	59	52	59	
SUN 2			59	69	59	69	
SUN 2			69	75	69	-	
SUN 2			75	76	-	76	
SUN 3	123-150	8	123	125	123	-	
SUN 3			125	127	-	127	
SUN 3			127	127.5	127	-	
SUN 3			127.5	130	-	130	
SUN 3			130	135	130	135	
SUN 3			135	140	135	140	
SUN 3			140	146	140	146	
SUN 3			146	150	146	150	
SUN 3					150	152	
SUN 3					152	155	
SUN 4	276-291	5	276	278.5	276	278.5	
SUN 4			278.5	280.5	278.5	280.5	
SUN 4			280.5	283	280.5	283	
SUN 4			283	288	283	288	
SUN 4			288	291	288	291	
SUN 9	210-240	6	212.5	216.2	X	X	Uncertain continuity & completeness
SUN 9			216.2	219.4	X	X	Uncertain continuity & completeness
SUN 9			219.4	222.1	X	X	Uncertain continuity & completeness

Table 3 (continued). Sampled Intervals Compared to Proposed Sample Intervals.							
Drill Hole	Preferred Sample Interval* (ft.)	Number of Original Samples	Proposed From (ft.)	Proposed To (ft.)	Sampled From (ft.)	Sampled To (ft.)	Comment
SUN 9			222.1	225.3	X	X	Uncertain continuity & completeness
SUN 9			225.3	228.6	X	X	Uncertain continuity & completeness
SUN 9			228.6	230.8	X	X	Uncertain continuity & completeness
SUN 9					324	326.5	
SUN 9	325-350	2	326.5	329.4	326.5	329.4	
SUN 9			329.4	335.4	329.4	335.4	
SUN 9					335.4	338.6	
SUN 9					338.6	342.9	
SUN 9					342.9	349.5	
SUN 9					349.5	351.5	
SUN 9					351.5	355	
SUN 11	120 -130	3	120.2	123	120.2	123	
SUN 11			123	125	123	125	
SUN 11			125	126.8	125	126.8	
SUN 11	260-265	1	261.5	263	261.5	263	
SUN 12	96.5 -234	38	96.5	100	X	X	Low grade sample
SUN 12			100	104	X	X	Low grade sample
SUN 12			104	105	X	X	Lower grade short sample
SUN 12			105	106	X	X	Possible missing core
SUN 12			106	109	106	109	
SUN 12			109	110.8	109	110.8	
SUN 12			110.8	113.2	110.8	113.2	
SUN 12			113.2	115.9	113.2	-	
SUN 12			115.9	118.5	-	118.5	
SUN 12			118.5	121	X	X	Jumbled Core
SUN 12			121	124	X	X	Jumbled Core
SUN 12			124	129	X	X	Jumbled Core
SUN 12			129	134	X	X	Jumbled Core
SUN 12			134	139	X	X	Jumbled Core
SUN 12			139	144	X	X	Jumbled Core
SUN 12			144	149	144	149	
SUN 12			149	154	149	154	
SUN 12			154	159	X	X	Low grade sample
SUN 12			159	164	X	X	Low grade sample
SUN 12			164	169	X	X	Low grade sample
SUN 12			169	174	169	174	
SUN 12			174	176.5	174	176.5	
SUN 12			176.5	180	X	X	Low grade sample
SUN 12			180	185	X	X	Low grade sample
SUN 12			185	190.5	X	X	Low grade sample

Table 3 (continued). Sampled Intervals Compared to Proposed Sample Intervals.							
Drill Hole	Preferred Sample Interval* (ft.)	Number of Original Samples	Proposed From (ft.)	Proposed To (ft.)	Sampled From (ft.)	Sampled To (ft.)	Comment
SUN 12			190.5	191.3	190.5	191.3	
SUN 12			191.3	196	191.3	196	
SUN 12			196	201	196	201	
SUN 12			201	206	201	206	
SUN 12			206	211	206	211	
SUN 12			211	217	X	X	Extends into jumbled core
SUN 12			217	218.8	X	X	Jumbled & missing core
SUN 12			218.8	220.6	X	X	Jumbled & missing core
SUN 12			220.6	222.1	X	X	Jumbled & missing core
SUN 12			222.1	223	X	X	Jumbled & missing core
SUN 12			223	226	X	X	Extends into jumbled core
SUN 12			226	229	X	X	Insufficient material
SUN 12			229	233	X	X	Insufficient material
SUN 12	260-265	1	260	264.5	X	X	Missing core
SUN 14	357-375	6	357	359.5	357	359.5	
SUN 14			359.5	363	X	X	Probable missing core
SUN 14			363	365	X	X	Probable missing core
SUN 14			365	366.2	X	X	Probable missing core
SUN 14			366.2	368.5	366.2	368.5	
SUN 14			368	373	X	X	Missing core
SUN 22	625-677	13	628	630	628	630	
SUN 22			630	632	630	632	
SUN 22			632	636	632	636	
SUN 22			636	642	636	642	
SUN 22			642	648.5	642	648.5	
SUN 22			648.5	650.2	648.5	650.2	
SUN 22			650.2	652	650.2	652	
SUN 22			652	656	652	656	
SUN 22			656	660	656	660	
SUN 22			660	662	660	-	
SUN 22			662	663	-	663	
SUN 22			663	667	663	667	
SUN 22			667	673	667	673	
SUN 22					673	680	
SUN 22					680	684.2	
SUN 22	685-705	4	684.2	689.2	684.2	689.2	
SUN 22			689.2	693	689.2	693	
SUN 22			693	697.8	693	697.8	
SUN 22			697.8	700.4	697.8	700.4	
SUN 22					700.4	703	
SUN 22					703	707.5	

Table 3 (continued) Sampled Intervals Compared to Proposed Sample Intervals.	
Table 3 Key	
X = Samples removed from original sample list	
Samples added to sample list	
Composite Samples	
Total samples for review	108
Total core samples submitted for assay	73
# Samples from original list	62
Total samples added	11
Total equivalent intervals w/ composites	78
# Sample intervals from original list (with composites)	67
% sampled from original list including composites	62

Submitted Samples

This program yielded 82 total samples of which 49 core samples are defined as massive sulfide or intervals hosting massive sulfide bands (“banded sulfides”), and 24 are characterized as low to moderate grade core samples. Five standards and four marble blank samples were also submitted. Five of the core samples were composites. Standard samples (PB136) and the crushed marble blank samples were labeled as “core” samples despite their obvious differences.

Five samples (846217-846219 & 846226-846227) were in the 100 to 200 gram weight range. Given the potential for additional lab samples selected for internal quality control, a concern arose regarding sufficient sample size. Upon conferring with Mike Hughes, manager of the ALS Mineral prep lab in Anchorage, Alaska, Brad Peek, Senior Geologist with Andover Mining Corp, and Kent Turner. A submittal plan was derived to submit pulps to the Vancouver, B.C. lab for processing to assay for base metals as well as for gold. As gold is of secondary interest to the project, a 30 gram aliquot for gold was substituted for the normal 50 gram aliquot taken from half core splits to provide the option for multiple internal lab analyses if required.

The ALS Global ME-ICP41 analytical method requires a five gram aliquot with aqua regia digestion followed by inductively coupled plasma – atomic emission spectrometry. This analyses returns results for 35 elements, including copper, zinc, lead, and silver. Gold assays include fire assay by fusion followed by atomic spectroscopy (Au-AA23) for gold. A copy of the sample submittal form and chain of custody (COC) is included in Appendices III and IV respectively.

As these quartered samples are deemed the equivalent to smaller volume field duplicates, variable analytical results characterizing this type of sample is expected. The greatest potential difference expected is from a combination of small sample size, particularly from the smallest “E” size core, and mineral distribution within the sampled sections. Analytical values more closely comparable to earlier sampling is expected from rock hosting an even distribution of disseminated sulfide minerals. The nature of the sulfides in much of the core observed during the sampling effort was medium-grained and fairly evenly distributed, however local variations included sulfide clots and patches, and fine to coarse-grained mineral sizes. The distribution of sulfides varies as disseminations, partings in schist, bands, semi massive, and massive forms.

The nature of the impact split core varied as well. The most competent core had a fairly even split while graphite and talc schist tended to crush into wafers. Uneven and incomplete impact splits is expected to introduce a degree of variance in the assays through volume differences from piece to piece and even along unevenly split pieces. One cannot discount the possibility of error introduced due to missing core. Once core is impact split, the half core length should increase due to introduced fractures. This tends to mask the possibility of removed (skeletonized) core pieces within a sample interval. The larger samples and larger sized core is expected to provide more consistent and comparable values to previous sampling efforts.

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**Appendix I
Initial Sample List June 2012**

Andover Mining
Incorporated Core Re-
Sampling Request List

Prospect Name	Hole Name	DDH Top	DDH Bottom	Desired Sample Interval[*]	Listed Diameter	Lat	<u>Long</u>
Picnic Creek (Hot)	Hot 1	59.8	400	158.5-162.5	B/E	67.0703	-155.0428
	Hot 1			198-198.5			
	Hot	58	400	133-134	B/E		
	Hot			146-149			
	Hot 2			155.5-168			
	Hot 7	0	300	173-194	B/E		
SUN Prospect	SUN 1	0	70	50-60	B/E	67.07	-155.04
	SUN 2	0	80	35-80	B/E		
	SUN 3	0	155	123-150	B/E		
	SUN 4	13	342	276-291	N		
	SUN 9	198	641	210-240	B/E		
	SUN 9			325-350	B/E		
	SUN 11	0	557	120-130	N		
	SUN 11			260-265	N		
	SUN 12	0	427	96.5-234	N		
	SUN 12			260-265	N		
	SUN 14	0	833	357-375	N		
	SUN 22	595	719	625-677	B/E		
	SUN 22			685-705	B/E		

***Note:** Desired sample range will commonly include multiple samples collected over the indicated interval. Intervals to be re-sampled will mimic those previously sampled.

Appendix II
SUN & Picnic Creek (HOT) Prospects Sampling Project
Andover Mining Corp. – Alaska Geologic Materials Center
Drill Core Description by Box

DDH-HOT 1

Box 10: 150' 9"-160' 3"; sampled.

Whole core from 150' 9"-160' 3". Impact split core from 154'-160' 3". Faced core at 158.9' & 156.7'. Sawed in half 156.5'-158.4'. A whole core segment from 159.5'-159.7' was not sampled.

Box 11: 160' 3"-168' 11"; sampled.

Impact split from 160.25'-162.0'. Virtually on sampled segment located at 162'-162.2'. Faced core at 160.4', 161.6', and 162.2'-162.7'. Sawed schist from 162.2'-164.1' (end sample). Whole core after 164.1'.

Box 14: 191'-201'; no sample collected (potentially insufficient material).

Core is slightly shifted to the back end of the box. Box slots 1, 4 and 5 are whole core. Box slots 3, 4 and 5 are marked in the box is reversed loaded ("backwards"). Sawed core half from 193.2'-198.5'. The massive sulfide segment from 198'-198.5' is intact and faced. There likely is insufficient material left for reliable sample.

DDH-HOT 2

Box 8: 125'-134'; not sampled (insufficient material).

The interval of interest at 133' ("0.75' section of massive sulfide") is actually 0.2' thick and is intact. The segment is part of a series of sawed samples (14228, 14229, and 14230) of which the massive sulfide is sample 14229. Good reliable core continuity. One half of the massive sulfide zone is faced. This interval is probably not an ideal sample due to potentially insufficient material.

Box 9: 134'-144'; not sampled.

Whole core.

Box 10: 144'-154'; sampled massive sulfide.

1.) There's a combination of impact split in sawed core with 0.2' at the end of the massive sulfide section located at 149' depth.

2.) A note in the box depicts the real possibility of a misplaced segment of black schist.

3.) The massive sulfide log interval is from 146'-149' (3' interval with 100% recovery). The measure interval is 2.5' in length (146.5'-149') and matches end to end through the section (100% reliable sample).

4.) Pieces of the fractured, gray porphyroblastic schist and carbonaceous schist are out of place (i.e. the core piece at 145.6' matches a piece at 152'). There is uncertainty as to the placement and overall integrity of the host rock in this box (possibly jumbled?). This is noted in the original log as well as in a note from 1998 left in the box.

DDH-HOT 2 (continued)

Box 10 (continued: 144'-154')

5.) The Hot-2 log by "J.M.Z." (J.M. Zdepski) correlates well with this hole. The Picnic Creek log of drill hole PC2-BMC DDH2 by J.J. Chulick does not correlate with the Hot-2 hole and is most likely from a hole other than the HOT-2 hole.

Box 11: 154'-164'; sampled.

Core is solid from 154'-155' and impact split from 155'-168' (box 12). Faced pieces are located at 154.3', 156.2', 157.5', 158.1', and 159.9', and slabbed at 163.2'. Good continuity.

Box 12: 164'-174'; sampled

Core is slabbed at 165' and faced out 168.5'. Impact split two 168'. Cut in half from 168'-174'. Good continuity.

DDH-HOT 7

Box 15: 173'-181.8'; sampled.

Impact split with slabbed and faced core at 173.1'. Faced core at 176', 177.5', 179.1', and 180.4'. Good continuity with a few gaps.

Box 16: 181.8'-195'; sampled.

Healed breccia and porous section from 184'-194'. Sulfate growth from 184.9'-188'. Impact split. Faced core at 187.5', 189.5', and 195'. Based on end-to-end core matching, the logged interval from 192.8'-194.0' is likely reversed. As with the original sampled interval, this reversed segment was included "as is" with the current sample interval (846298).

DDH-SUN 1

Box 1: 0'-70'; not sampled (insufficient material for sample)

Core was photographed but not sampled. Material is extensively oxidized and crumbly.

DDH-SUN 2

Box 1: 0'-58'; Intended samples 846212-846214 were pulled (insufficient sample size).

This box of "E" size core was well packed with bubble wrap. Information on the lid: "41'-46', 46'-50', 50'-52', & 52'-59'" ; "see next box". Original split was taken by impact splitter. Numerous small pieces are less than 1 inch in length. One third of the bottom run between 50' and 55' depth has crumbled in part to sulfide dust/particulates.

DDH-SUN 2 (continued)

Box 2: 58'-80'; sampled.

This box is well packed with paper towels and bubble wrap. Information on the lid: "59'-69', 69'-75', 75'-76'?" This box includes a sample packet labeled "Slug 55 SUN#2". Original split was taken by impact splitter. Numerous small pieces are less than 1 inch in length. Runs are well marked and easily defined.

DDH-SUN 3

Box 1: 0'-38'; not sampled (reference only)

Note on the lid: "Definitely disturbed with Box 2. Core is shifted and scrambled to the back end of the box.

Box 2: 38'-55'; not sampled (reference only)

Note on the lid: "Definitely disturbed with Box 1. Core is scrambled.

Box 3: 55'-70'; not sampled (reference only)

Core is mostly intact with a shift of core in slot #1 to the back of this slot.

Box 4: 70'-100'; not sampled (reference only)

Core is scrambled. This 75' run marker is loose.

Box 5: 100'-121'; not sampled (reference only)

Core is scrambled.

Box 6: 121'-130'; composite sampled.

Composite sample comprised of 123'-125' and 125'-127' due to low volume of material (interval 123'-125' has 0.6' core length). The run marker is close to being in place based on a side mark on the box. Red colored marks indicating sample placement are on the inside divider on left side of the next slot as one faces the marked end of the box (the next slot to the right).

Box 7: 130'-140.5'; sampled.

No sample breaks are marked on the box. Core run markers appear to be close to their proper position.

Box 8: 140.5'-155'; sampled.

Box end information is marked 150'-155' but should be marked 140.5'-155'. The end of sample 846224 at 146' depth is in the middle of a scrunched/jumbled 0.5' long segment after run marker 145'. Approximately 1/2 of the core was collected in the slot closest to the 145' marker to represent core from 145'-146' as part of this sample taken from 140'-146'. Sample 846225 (interval 146'-150') is approximately 2.6' long in the box.

DDH-SUN 4

Box 25: 263'-280'; sampled.

Boxwood information: "Dropped box", 9858 = 276'-270.5', 9859 = 270.5'-280.5'. Sample breaks are on the inside right of the slots. It appears that the rock is in suitable order. The massive sulfide segment from 276'-278.5' is approximately 1.9' in length. No markers are placed to indicate core skeletonization. A sample break mark is on the inside divider at 278.5'. At this mark, there is an "N" sized core piece as well as a "B" sized core piece labeled "310.5" that is of a different rock type than found at this location. These are misplaced pieces and were not sampled.

Box 26: 280'-291'; sampled.

Box 26 is reversed (box information is on the opposite side - the boxes turned around). Box lid information: sample #9860 = 280.5'-283', #9861 = 283'-288(?), #9862 = 288'-291'. Sample #846231 from 283'-288' includes approximately 3' of core (70% recovery). Sample breaks are on the inside right of the box slots. The upper part of sample 846232 from 288'-291' includes 0.2'-0.3' of quartz-chlorite schist.

DDH-SUN 9

Box 1: 198'-207'; not sample (reference only).

Occasional aluminum tag depth markers are loose in boxes. Box contains whole core with ends packed by newspaper. Core is intact.

Box 2: 207'-218'; not sampled.

Occasional aluminum tag depth markers are loose in boxes. Previous sample marks are in red ink located on the sides of box slots as follows: sample 751 = 212.5'-to 16.2' & sample 752 = 216.2'-219.4'. Marks indicated by "[C]" presumed to be locations of faced or skeletonized core, and are scattered in boxes 2-4. Core condition as packed: {3.8' whole core; 0.85' newspaper packing; 0.35' whole core; 1.1' newspaper packing; 0.5' impact split core; 0.4' Sawed core; 0.3' newspaper packing; 0.15' sawed core; and 1.3' of tightly packed, jumbled graphite schist mixed with 0.65' of impact split massive sulfide core}. It appears that the last three of five rows were sampled after the initial impact split sampling effort. The core was poorly packed and sloppily handled. Little effort was made to return a sawed segment of whole reference core to its proper position. Based on rock end fits, lithology, and oxide staining, the whole core and sawed half were reassembled and returned to original or near original position.

Due to poor packing and subsequent jostling, much of the graphite schist/ quartz-chlorite schist that was impact split shifted to the right end of the box thus covering the massive sulfide section. The core covering the sulfide section probably came from the adjacent slot (slot #4 of 5). Core in this portion of the box was adjusted according to composition, foliation attitude, and core end-to-end fit where possible. This segment of core, while it is likely in its proper interval, absolutely cannot be relied upon for uninterrupted continuity.

Ten faced cuts were made from the massive sulfide section located in boxes 2-4 from 216.2'-230.8'.

DDH-SUN 9 (continued)

Box 3: 218'-227'; not sampled (lack of continuity & missing core)
Occasional aluminum tag depth markers are loose in boxes. Previous sample marks are in red ink located on the sides of box slots as follows: sample 753' = 219.4'-222.1', sample 754 = 222.1'-225.3', & sample 755 = 225.3'-228.6'. Marks indicated by "[C]" presumed to be locations of faced or skeletonized core, and are scattered in boxes 2-4.

The dividers in this box folded. As a result core was jostled from slots 2-5, and landed in slots 1-3. Piece by piece core integrity is splendid; however core end matching is difficult. Much of this section of massive sulfide has been faced, and in places, the ends are trimmed. It is suspected that numerous intervals of core were removed for other petrographic work. Out of 11.5' logged core from this massive sulfide, 6.5' was measured in the boxes. There is undoubtedly missing core from this zone.

Ten faced cuts were made from the massive sulfide section located in boxes 2-4 from 216.2'-230.8'.

Box 4: 227'-235'; not sampled (lack of continuity & missing core)
The dividers and sponsor supported by two 2" x 2" blocks and intervals of newspaper. The stringer sulfide section that extends from jumbled box #3 appears to have had core pulled and replaced by newspaper. The massive sulfide section, hosted in sericite-chlorite schist with a high foliation angle relative to the core axis appears to be about 0.3' short of the 1.6' originally logged. In an effort to block all pieces together to verify continuity was not successful. One faced piece is at about 232' depth. This is an unreliable section for verification assay.

Box 5: 235'-247'; not sampled (reference only)
Aluminum tag depth markers are loose in the box. Whole core for the most part. Sample tag 757 four interval 246.0'-247' is located near the end of the box.

Box 13: 315'-326'; sampled.
318.4' -318.8' sawed in half. Whole core to 324.0'. Impact split from 324.0' to the box end (326.5'). RAA sample tag #0760 (324'-326.5') is in the box next to aluminum tag at 325'. Newspaper is placed to adjust the core to the end of the box where a "[C]" is in place from 326.0'-326.5'.

Box 14: 326'-335'; sampled.
Newspaper packing is in the fifth slot and covers the first slot of the box. RAA sample tags are as follows: #0761 (326.5'-329.4') & #0762 (329.4'-335.4'). Impact split massive sulfide and quartzite/quartz-chlorite schist. Quartzite +/- chlorite schist contacts at 326.5' and at the sample break located at 335.4'. Faced pieces are at the following locations: 326.9' (MS), 329.4' (MS), 333.8' (MS), & 335.5' (contact).

Box 15: 335'-344'; sampled.
Core is slightly shifted to the back end of the box. Newspaper is at the beginning of the third slot. RAA sample tags are as follows: #0763 (335.4'-338.6'), #0764 (338.6'-342.9'), & #0765 (342.9'-349.5') Impact split core with faced pieces at 338.7' & 343.2'.

DDH-SUN 9 (continued)

Box 16: 344'-355'; sampled.

Slightly disturbed impact split core. Disturbance is confined to individual slots and is likely due to shifting. RAA sample tags are as follows: #0766 (349.5'-351.5') & #0767 (351.5'-355'). Faced core pieces are at the following locations: 349.4' (Q-ser sch), 350.2' (MS), 350.6' (MS) and 352.4' (Graphite schist).

DDH-SUN 11

Box 11: 110'-119'; not sampled (reference only)
Impact split core is in good shape.

Box 12: 119'-132'; sampled.

A few pieces of carbonate or out of place in row one. These were pieced together and repositioned. Faced core pieces are at 120.6' & 125.7'. Based lithologic logs and previous assay sheets, there appears to be a slight sample position discrepancy compared to the logs from 120.2'-126.8'. The mark on the box and the lithology break is at 123.5' while the sample break according to the assay sheet is at 123.0' (this is slightly different). The sample break at 120.2' at the contact with the sulfides is logged at 120.5'. The 125.0' position is marked on the box and has an equivalent measured position of 124.7' depth. The position measured at 126.3' is equal to 126.8' logged. There appears to be about a 0.3-0.5' relative shift between logged and sampled positions (possibly shifted core?). Current sampling depth designations used previously recorded sample intervals but used lithologic breaks and sample guides within the core box to break sampled intervals.

Box 13: 132'-142'; not sampled (reference only)
Impact split core is in good shape.

Box 25: 249'-258'; not sampled (reference only).
Whole core is in good condition.

Box 26: 258'-268'; sampled.

Core is shifted to the back end of the box. Impact split. Sawed half is at 266'. The rock is dominantly composed of sericite schist with a semi-massive sulfide section at 261.5'-263.0' followed by quartz-albite-chlorite schist.

Box 27: 268'-276'; not sampled (reference only).

Core is shifted to the back of the box and locally jumbled. Impact split core. Core is sawed in half at 268'.

DDH-SUN 12 (continued)

Box 9: 88'-98'; not sampled (reference only).

Whole core is in slots 1 & 2. Sawed/slabbbed piece at 89.5' and faced at 96.8'. Impact split beginning at sample #1251 (91.5'-96.5'). Original sample intervals are well marked on the box and core.

Box 10: 98'-108'; not sampled (possible missing core in short sample interval)

Core is shifted slightly to the front of the box. Impact split core. Massive sulfide from 105.3'-106' is sawed/faced/slabbbed(?). A thin faced piece 0.2' piece does not fit with other faced core and may be missing most of this segment. Sample 846247 is removed from the list due to this uncertainty. Original sample intervals are well marked on the box and core.

Box 11: 108'-118'; sampled.

Impact split. Primarily massive sulfides. Faced core is taken at the following depths: 110.8', 111.2', 113.2', 117.0', & 117.8'. RAA sample tags #1256-1260 are in the box. Original sample intervals are well marked on the box and core.

Box 12: 118'-127'; selectively sampled/jumbled core.

Dropped box (Messed up!). The massive sulfides (MG. py/spl. +cpy) as logged at the beginning of this box are included in sample. Sawed/slabbbed 118'-119.2'. "Collection" (skeleton?) marked on the side of the box at approximately 119.5'. RAA sample tags #1261 & #1263 are in the box. Original sample intervals are well marked on the box and core.

Box 13: 127'-136'; not sampled (reference only).

Impact split. Core is in good shape. RAA sample tags #1264 & 1265 are in the box. Core piece sawed/slabbbed at 132.7'. Original sample intervals are well marked on the box and core.

Box 14: 136'-146'; sampled.

Impact split. Core is in good shape. RAA sample tag #1266 is in box. Original sample numbers and intervals are well marked on the left side of the box slot. Sawed/slabbbed at 145' & 145.3'. Original sample intervals are well marked on the box and core.

Box 15: 146'-156'; partially sampled.

Impact split. Faced core at 151' (cpy next to qtz band). RAA sample tag #1268 is in box. Original sample intervals are well marked on the box and core.

Box 16: 156'-166'; not sampled (reference only).

Impact split. Core is in good shape. RAA sample tags #1269 & #1270 are in the box. Original sample intervals are well marked on the box and core.

Box 17: 166'-175'; sampled.

Impact split. Core shifted to the back end of the box. RAA sample Tags #1271 & #1272 are in the box. Original sample intervals are well marked on the box and core.

DDH-SUN 12 (continued)

- Box 18: 175'-185'; partially sampled.
Impact split. Core is slightly shifted to the back end of the box. Faced at 183.5'. RAA sample tags #1273, #1274 & #1275 are in the box. Original sample intervals are well marked on the box and core.
- Box 19: 185'-194'; sampled.
Impact split. RAA sample tags #1276 & #1277 are in the box. Faced at 190.8', 191.3' & 193.5'. Original sample intervals are well marked on the box and core.
- Box 20: 194'-204'; sampled.
Impact split. Core is slightly shifted to the back end of the box. Core appears to be in good shape. Partially sample 204'-214'. RAA sample tags #1278, #1279 & #1280 are in the box. Original sample intervals are well marked on the box and core.
- Box 21: 204'-214'; sampled.
Impact split. Sawed/slabbed core piece at 205.6'. RAA sample tag #1282 is in box. Original sample intervals are well marked on the box and core.
- Box 22: 214'-224'; not sampled (jumbled and missing core)
Impact split. RAA sample tag 1283 in core box. Core in this box is jumbled. Continuity based on logs particularly the massive sulfide segment (missing 50% of the massive sulfides) does not match well. An attempt was made to piece the core back together; however, this effort was less than fruitful due in part to missing core and the difficulty of matching smaller core pieces end-to-end.
- Box 23: 224'-239'; not sampled (jumbled, overlapping intervals & insufficient material)
Impact split. Original Samples #1288 & #1289 are short sample intervals due to poor core recovery and fault (fault @ 229'-233' with approx 0.4' recovered). These intervals were not resampled due to the possibility of insufficient material. Banded sulfides at 225' are faced. RAA sample tags #1287, #1288, & #1289 are in the box.
- Box 24: 239'-248'; not sampled (reference only)
Whole core is in good shape. The run marker at 239' is likely shifted approximately 0.4'. Sawed core halves are at 241' & 245'.
- Box 25: 248'-259'; not sampled (reference only)
Whole core is in good shape. Sawed core halves are at 248.5', 249.3', & 250.6'.
- Box 26: 259'-272'; not sampled (missing core)
Core is shifted slightly to the box end. Impact split. RAA sample tag #1290 is in the box and this sample interval is well marked. Duplicate sample of this interval was not collected due to the apparent loss of 50% of the massive sulfide at the beginning of this interval (0.25' of logged 0.5' massive sulfide zone).

DDH-SUN 14

Box 34: 350'-360'; not sampled (probable missing core)
Whole core to 351.5'. Impact split after 351.5'. Most of the massive sulfide section from 357'- 359.5' is face with a core saw. Slabbed at 358.1'. Core appears to be fairly intact and continuous except for a possible missing piece near the slabbed core (continuity is uncertain).

Box 35: 360'-370'; not sampled (probable missing core)
Impact split core. Core appears to be mostly intact. The run block at 366' was out of place and was measured and repositioned.

The massive sulfide section logged at 365.4'-366.5' was jumbled (mismatched ends within the section). The massive sulfide is measured 0.8' long. While a 0.4' long section of quartz-chlorite schist hosts patchy sphalerite at the top of the massive sulfide may account for the lower zinc values in the previous sample and potentially complete the 1.1' sampled interval, the continuity and end-to-end core matching, and the sphalerite-bearing pieces do not match. There appears to be 1-2 pieces missing in this interval (possibly skeletonized).

Box 36: 370'-380'; not sampled (probable missing core)
Impact split core. Core appears to be intact. Faced core at 371.0' (and slabbed), 376.4', and 378.7'.

Box 37: 380'-389'; not sampled (reference only)
Impact split core. Core appears to be intact for the most part. Faced core at 381.4'.

DDH-SUN 22

Box60: 623.0'-632'; sampled
Impact split core. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 628.5', 629.8', 630.25', & 631'. Fine to medium-grained massive sulfide sections in boxes 60-68 are fairly homogeneous with variations in matrix and sulfide type.

Box 61: 632.0'-641.0'; sampled
Impact split core. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 635.4'.

Box 62: 641.0'-651.0'; sampled
Impact split core. Core is slightly shifted to the center of the box. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 643.6'.

Box 63: 651.0'-661.0'; sampled
Impact split core. Core is slightly shifted to the front of the box. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 657.7' & 655.9'.

DDH-SUN 22 (continued)

Box 64: 661.0'-670.0'; sampled

Impact split core. Original sample numbers are on aluminum tag(s) within the box. The aluminum assay tag marker placed at the wooden 662' run block is marked "660'-662". This aluminum tag is mismarked as the massive sulfide and sample interval ends at 663' depth. Sample #846276 (duplicate quarter core) is sampled from 660'-663'. Core appears to be intact with few gaps. Faced core at 661.5' & 664.7'.

Box 65: 670.0'-680.0'; sampled

Impact split core. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps.

Box 66: 680.0'-690'; sampled

Impact split core. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 687'.

Box 67: 690.0'-699.0'; sampled

Impact split core. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 697'.

Box 68: 699.0'-709.0'; sampled

Impact split core. Whole core begins at 707.5' and continues to the end of the box. Original sample numbers are on aluminum tag(s) within the box. Core appears to be intact with few gaps. Faced core at 699.4' & 704.9'.

Appendix III Sample Chain of Custody to ALS Minerals



This form is utilized to assure Chain of Custody transfer of samples from a client to ALS Minerals, based on the number of items shipped.

This shipment consists of the following (Enter number of items):

_____ Super Sacks

 3 Zip-tied Rice Bags

_____ Bins - Locked/Covered/Uncovered

_____ Color identification: number, letter, etc.

_____ Pallets

 SSF & COC Paperwork Included (please specify): SSF/Client COC, etc.

_____ Other: Boxes/Bags

Comments _____

Company Name: Andover Mining Corp.

Client Code: _____

Project/Location: Sun Project

Courier and Weigh Bill number if applicable: Personal Delivery

Security Tag Numbers if applicable: NA

Released By:

Company Representative: Kerry M. Adler (Please Print) Date & Time: 7/26/12 1:25pm

Client Signature: Kerry M. Adler

 **Received By ALS Minerals Staff Name:** Lybba Ulena (Please Print)

ALS Staff Signature: [Signature] Date & Time: 7/26 1:25pm

** All Shipments received are subject to inspection upon layout.



Appendix IV Sample Submittal Form to ALS Minerals



Sample Submittal Form

Company Name: Andover Mining Corp.

Submitted by: Kerry Adler for Brad Peek

Telephone: Kerry: 907-345-4815/ Brad: 435-630-1495/970-984-7164

Courier/Waybill: _____

Containers: 3 Rice Bags

Date Shipped: To be delivered by Kerry Adler 7/26/2012

PO Number: _____

Internal Use Only

Date Received: _____

Client Code: _____

Workorder No: _____

Quote: _____

Template: _____

Standard Project: AK Geologic Materials Center Sun & Hot Sampling Project

Commodity: Cu, Zn, Pb, Ag, Au Ore Trace

Special Instructions: *Due to small sample size, please perform both analysis at the Vancouver, BC. laboratory if possible.*

Sample Type: Rock Pulp Percussion Soil Sediment Drill Core Other _____

Results to

Name: Brad Peek Invoice

Email: wellspeak@aol.com Certificate

Address: P.O. Box 905 QC Certificate

City: New Castle State: CO Data File

Country: USA Zip: 81647 Webtrieve Only

Sample Return

Pulps	Rejects
<input checked="" type="checkbox"/> Return after analysis	<input type="checkbox"/> Return after analysis
<input type="checkbox"/> Return after 90 days	<input checked="" type="checkbox"/> Return after 45 days
<input type="checkbox"/> Discard	<input type="checkbox"/> Discard
<input type="checkbox"/> Paid Storage	<input type="checkbox"/> Paid Storage

Failure to indicate pulp & reject instructions will result in disposal without notice

Return Address: _____
On-Line Exploration Services, Inc.
11900 Industry Way, Suite M-10
Anchorage, Alaska 99515

Attention: Kerry Adler (907) 345-4815

Copy to

Name: Kent Turner Webtrieve Only

Email: Kent@AndoverMining.com Certificate

Data File

Copy to

Name: Kenneth Papp Webtrieve Only

Email: kenneth.papp@alaska.gov Certificate

Data File

Authorized By:

Name: Kerry M. Adler

Signature: *Kerry M. Adler* (Please Print)

Samples ID's		Quantity	Sample Preparation Required (Prep Code)	Analytical (Elements or Method Code)	Check here for Rush Premium Service
Start No.	Finish No.				
846215	846246	32	Prep-31	Au-AA23 & ME-ICP41	<div style="border: 1px solid red; width: 30px; height: 30px; margin: 0 auto;"></div> <p style="font-size: x-small; color: red; text-align: center;">CONTACT LAB TO CONFIRM AVAILABILITY</p>
846248	846252	5	Prep-31	Au-AA23 & ME-ICP41	
846254	846298	45	Prep-31	Au-AA23 & ME-ICP41	
Total Samples		82			