60001481

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud Drill Hole File - Hole No. 94-302C
AUTHOR	C. Muerhoff; S. Fairclolh
DATE OF DOC(S)	1994
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Rosebud Project; Hecla Mining Co. South Zone
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 542' handwritten notes; down hole camera images 18p. 5 down hole camera images

Keep docs at about 250 pages if no oversized maps attached (for every 1 oversized page (>11x17) with text reduce the amount of pages by ~25)

SS: DD 5/29/08
Initials Date

DB: Mah
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

94-302 C SOUTH ZONE

60001481 4010

60001481

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-302 C	LOCATION	South Zone	REMARKS	Downhole survey
PAGE 1 OF 8		NORTHING	2,203,280.0	~~40': -88.5° @ S20°E~~	
DATE	April 24, 1994	EASTING	481,190.0	~~140': -88° @ S55°W~~	
LOGGED BY	C. Muerhoff	ELEVATION	5414.0	~~240': -89° @ N63°E~~	
SCALE	1" = 10'	AZIMUTH	178.5°	~~340': -88° @ N30°W~~	
TOTAL DEPTH	542'	INCLINATION	-88.3°	~~542': -88° @ S28°W~~	

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0'-63' BUD VOLCANICS. PERVASIVELY SILICIFIED (SILICA-REPLACED) VERY FINE-GRAIN TUFF. PRACTICALLY ALL ORIGINAL TEXTURE IS OBLITERATED BY SILICA ALTERATION. UNIT IS STRONGLY IN-SITU BRECCIATED W/ NO OBVIOUS ROTATION OF FRAGMENTS. ALL FRACTURES/FAULTS/GROUNDMASS IS STRONGLY LIMONITIC. CORE IS VERY BROKEN UP. DIFFICULT TO DETERMINE NATURAL & DRILL-INDUCED FRACTURES.	10, 20, 30, 40, 50			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
0'	7'	7'	NO RECOVERY			
			ppb	ppm		
7'	12'	5'	25	2.3		
12'	17'	5'	50	1.8		
17'	22'	5'	42	1.6		
22'	27'	5'	51	2.1		
27'	32'	5'	51	2.0		
32'	37'	5'	36	1.6		
37'	42'	5'	42	1.2		
42'	47'	5'	50	1.9		
47'	52'	5'	88	1.7		

HOLE NUMBER 94-302C PAGE 2 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au (ppb)	Ag	Au2	Ag2
							52	57	5'	35	1.6		
							57	63	5'	30	1.9		
		63' - 104.5' BUD VOLCANICS. PROPYLITIZED CRYSTAL TUFF W/ ± 20% EUHEDRAL FELDSPAR PHENOS (ALTERED TO CLAY - ILLITE?) & ~2% CHLORITIZED MAFICS IN GREEN, VERY FINE-GRAIN TUFFACEOUS GROUNDMASS. VERY WEAKLY BRECCIATED.	60			@63', SILICIFICATION RAPIDLY DECREASES; BECOMES VERY SPOTTY & BECOMES ABSENT ~ 77'.	63'	68'	5'	27	1.3		
			70				68'	73'	5'	62	1.6		
					78.1' FAULT W/ 8" WHITE> GREEN CLAY GOUGE & ROCK FRAGMENTS. 50° TO C.A.		73'	78.1'	5.1'	57	1.6		
		84.4' - 90.0' HEALED FAULT ZONE(?). ENTIRE CORE CONSISTS OF LIGHT GREEN SOAPY CLAY W/ TUFF FRAGS (≤ 1/4") 45/40	80				78.1	84.4'	6.3'	318	9.9		
					PAST 79', BEGIN TO PICK UP 2 DISTINCT FRACTURE/ JOINT SETS. 30° TO C.A. & 50°-60° TO C.A.		84.4'	90'	5.6'	48	3.1		
			90		FRACTURES ARE FILLED W/ WHITE SOAPY CLAY OR LIMONITIC CLAYS & ROCK FRAGMENTS.		90'	95'	5'	24	2.5		
							95'	100'	5'	112	1.4		
		104.5' - 178.7' BUD VOLCANICS. TUFF/ TUFF BRECCIA W/ ARGILLIZED SUB-ROUNDED TO ANGULAR TUFFACEOUS FRAGMENTS (UP TO 2" IN DIAMETER) FLOATING IN CRYSTAL-RICH GROUNDMASS; CLAY-ALTERED FELDSPAR PHENOS IN PROPYLITIC FINE-GRAIN TUFFACEOUS MATERIAL.	100				100	104.5'	4.5'	150	1.3		
					104.5' 0.4' FAULT W/ GREEN CLAY & ROCK FRAG GOUGE 40° TO C.A.	WEAK TO LOCALLY MODERATE SILICIFICATION PAST FAULT @ 104.5', DISSIPATES GRADUALLY AROUND 117'.	104.5'	110'	5.5'	137	8.1		
			110				110'	115'	5'	124	4.1		
						115.4' 1" MILKY-WHITE TO GREY CHALCEDONY VEIN. ⊥ TO C.A.	115'	120'	5'	181	1.2	206	
			120										

HOLE NUMBER 94-302C PAGE 3 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	ppb Au	ppm Ag	Au2	Ag2
		BUD TUFF/TUFF BRECCIA CONTINUES.					120'	125'	5'	74	3.7		
		PAST 120', OCCASSIONAL LARGE (≤ 6" DIAMETER) ARGILLIZED, VERY ANGULAR TUFFACEOUS BRECCIA FRAGMENTS.			LIMONITIC FRACTURE/JOINT SETS (35° & 50°) CONTINUE, APPROXIMATE FREQUENCY: 8/10 FT.	MINOR ADDED SILICA CONTINUES	125'	130'	5'	82	2.3		
		CRUDE "BEDDING" OF BRECCIA @ ~50° TO C.A.	130			125.1' FRACTURE @ 35° TO C.A. CONTAINS 1/4" WHITE CLAY GOUGE & SMALL (≤ 1/2 mm) EUHEDRAL PYRITE XTALS & EXTREMELY FG BLACK SULFIDE (?).	130'	135'	5'	225	1.9		
							135'	139.3'	4.3'	166	1.6	142	
			140		139.3' - 142.5' FAULT ZONE (?). CORE IS GROUND UP & CONSISTS OF 50% TUFF FRAGMENTS & 50% GREENISH CLAYS.		139.3'	142.5'	3.2'	43	2.4		
							142.5'	148'	5.5'	54	4.0		
			150		POSSIBLE FOOTWALL CONTACT @ 35° TO C.A.		148'	154.3'	6.3'	114	4.2		
					154.3' FAULT W/ 6" GREEN/LIMONITIC CLAY GOUGE. 60° TO C.A. THIN (1/4") WHITE CHALCEDONY VEINLET MARKS HW.		154.3'	158'	3.7'	307	4.9		
		164.2' - 178.7' UNPREFERENTIAL SILICIFICATION INCREASES. ALSO FREQUENT 1/4" - 1/2" WHITE CHALCEDONY VEINLETS @ 40°-70° TO C.A.	160				158'	163'	5'	69	4.7		
					163' - 164.2' FAULT @ 40° TO C.A. (HW) W/ GRADATIONAL FW. CORE CONSISTS OF 25% TUFF FRAGS IN LIMONITIC CLAY.	164.2' - 178.7' SEE LITHOLOGY COMMENTS.	163'	168'	5'	108	3.5		
			170				168'	173'	5'	62	2.2		
					178.7' - 188.1' SEE LITHOLOGY COMMENTS.		173'	178.7'	5.7'	49	1.6		
		178.7' - 188.1' INTENSE FAULT ZONE. HW CONTACT GROUND UP / FW CONTACT @ 40° TO C.A. ZONE CONSISTS OF GREEN, SOFT ROCK FRAGMENTS IN WHITE SOFT SOAPY CLAY (ILLITE-SMECTITE ?) & GRADES INTO SILICIFIED TUFF FRAGMENTS IN LIMONITIC CLAYS. SEVERAL COMPETENT HORSES OF DISTINCT HYDROTHERMAL BRECCIATION.	180		INTERNAL SLICKS RANGE FROM 30°-60° TO C.A.		178.7'	183'	4.3'	172	4.7		
							183'	188.1	5.1'	96	4.2		
		TECTONIC BRECCIATION CONTINUES INTO FW TO 192' (60°)	190				188.1'	192'	3.9'	90	2.8		

HOLE NUMBER 94-302C PAGE 4 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		188.1' - 235' VERY DISTINCT CHANGE IN ROCK TYPE ACROSS FAULT. TUFF BRECCIA W/ SUB-ROUNDED TO ANGULAR PROPYLITIZED TO INTENSLY ARGILLIZED FINE-GRAIN, PYRITIC TUFFACEOUS FRAGMENTS IN SOFT, GREY-TO-MILDLY HEMATITIC FRAGMENTAL GROUNDMASS. BOTH CLASTS & GROUNDMASS CUT BY: 1) THIN (≤ 1/8") INFREQUENT ILLITE-SMECTITE STRINGERS 2) VERY FREQUENT (~ 30/10 FT.) PYRITE (V. FINE GRAIN TO XTALLINE) STRINGERS (mm TO 1/2" IN THICKNESS) BRECCIA IS DOMINANTLY MATRIX-SUPPORTED. PYRITE STRINGERS HAVE NO DISTINCT PREFERRED ∡ TO C.A., BUT GENERALLY ARE > 30° TO C.A. @ 235', ENTIRE CORE (CLASTS & GROUNDMASS) HAS BEEN ALTERED TO LIGHT GREEN CLAY W/ ONLY RELIC OUTLINES & TEXTURES OF ORIGINAL BRECCIA. PYRITE STRINGERS PERSIST	190 200 210 220 230 240 250 260		PAST 188.1', FRACTURE/JOINT SETS MUCH LESS COMMON (2-3/10 FT.) W/ ILLITE-SMECTITE & PYRITE ON SURFACES. ~60° TO C.A. 219.2' - 221.9' HEALED FAULT W/ TUFF FRAGS CONSOLIDATED INTO GREENISH-GREY CLAY. HW: 75° TO C.A. FW: 50° TO C.A. 253' - 260.6' HEALED FAULT ZONE(?) SEE LITHOLOGY COMMENTS.	SEE LITHOLOGY COMMENTS. @ ~200' BRECCIA CLASTS ARE ALTERED TO GREEN SOAPY CLAY (CELADONITE) & ENTIRE CORE BECOMING VERY SOFT, BUT STILL COMPETENT.
		253' - 260.6' HEALED FAULT ZONE(?) CORE IS WEAKLY CONSOLIDATED & CONSISTS OF GREEN CLAY-ALTERED TUFF FRAGMENTS IN LIGHT GREY/PINK CLAY GROUNDMASS. 30°-50° TO C.A.				

ANALYTICAL DATA

FROM	TO	W	ppb Au	Ag	Au2	Ag2
192	197	5'	75	2.3		
197	202	5'	132	3.5		
202	207	5'	156	3.5		
207	212	5'	103	2.9		
212	217	5'	120	3.2		
217	222	5'	97	3.7		
222	228	6'	152	3.0		
228	235	7'	113	3.4		
235	240	5'	130	3.9		
240	245	5'	113	2.9		
245	250	5'	80	2.4		
250	253	3'	87	3.1		
253	260.6	7.6'	108	3.5		

HOLE NUMBER 94-302 C PAGE 5 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		260.6' - 333' TAN, V. FINE-GRAIN IN-SITU (FOR THE MOST PART) BRECCIATED TUFF. CRYSTAL POOR & CUT BY NUMEROUS (UP TO 20% LOCALLY) YELLOW (SULFUR?) & WHITE (ILLITE/SMECTITE) CLAY STRINGERS. PYRITIC STRINGERS CONTINUE, BUT TO A LESSER DEGREE THAN PREVIOUSLY. ENTIRE CORE IS SOFT & CLAY-ALTERED. A FEW EXOTIC, UNALTERED CLASTS CONTAINED IN BRECCIA LOCALLY. CORE IS VERY BROKEN UP IN PLACES, BUT APPEARS TO BE BECAUSE OF INCOMPETENCY RATHER THAN FAULTING. V. COARSE, PLATY PYRITE ON FRACTURE SURFACES. ⇓ BRECCIA GRADES INTO MATRIX-SUPPORTED W/ LIGHT GREEN CLAY ALTERED FRAGS FLOATING IN SLIGHTLY HEMATITIC, V. FINE-GRAIN TUFFACEOUS GROUNDMASS. @ 310, CLAY ALTERATION BEGINS TO SUBSIDE IN GROUNDMASS, BUT CONTINUES IN BRECCIA FRAGMENTS 320'-333' BRECCIA GRADES INTO BEDDED TUFF (AS DESCRIBED BELOW)	260 270 280 290 300 310 320 330		297.1' - 301.3' FAULT (?) CORE IS EXTREMELY BROKEN UP & POORLY CONSOLIDATED 60° TO CA.	SEE LITHOLOGY COMMENTS.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
260.6	266	5.4'	176	2.7		
266	271	5'	154	3.5		
271	276	5'	137	2.9		
276	281	5'	111	3.0		
281	286	5'	133	2.9		
286	291	5'	107	2.8	127	
291	297.1	6.1'	170	3.0		
297.1	301.3	4.2'	157	2.8		
301.3	306	4.7'	192	4.0		
306	311	5'	240	3.5		
311	316	5'	225	2.6		
316	321	5'	271	2.6		
321	326	5'	462	5.3		
326	331	5'	182	3.3		

HOLE NUMBER 94-302 C PAGE 6 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		331' - 337.6' V. FINE GRAIN WATERLAIN (?) TUFF. ALTERNATING THIN (≤ 1/4") TAN & LIGHT GREEN BEDS. MINOR (<< 1%) DISSEMINATED FINE-GRAIN PYRITE. 337.6' - 345.8' TUFF BRECCIA W/ SMALL (≤ 1/4" DIAMETER) LIGHT GREEN CLAY-ALTERED (CELADONITE ?) CLASTS THAT ARE SUB-ANGULAR TO SUB-ROUNDED FLOATING IN TAN/PINK V. FINE GRAIN GROUNDMASS. 345.8' - 384.8' EXTREMELY FINE-GRAIN WATERLAIN (?) THINLY BEDDED TUFF. ALTERNATING GREEN >> TAN BEDDING, CUT BY CALCITE VEINS & GREEN CLAY STRINGERS. CALCITE VEINS ALSO OCCUR ALONG BEDDING (AS NOTED) WHERE FRACTURED & FILLED BY DARK GREEN CLAYS, THERE IS A SLIGHT GREEN 'HALO' PERIPHERAL TO FRACTURES. COARSE, PLATY PYRITE ON FRACTURES	340 350 360 370 380 390 400	35° 35 50 45 60	GRADATIONAL CONTACTS 352.5' BEDDING PLANE 1/2" CALCITE VN 384.8' - 395' FAULT ZONE ? CORE IS EXTREMELY CRUSHED UP. CONSISTS OF BEDDED TUFF FRAGS (UNIT ABOVE) & WHITE CLAYS (ILLITE-SMECTITE) CANNOT DETERMINE ∡'S TO CORE AXIS.	29' @ 969 ppb, 9.92 ppm ≈ .029, .29

ANALYTICAL DATA

FROM	TO	W	Au (ppb)	Ag (ppm)	Au2	Ag2
331	337.6	6.6'	800	4.3		
337.6	341	3.4'	1067	3.4		
341	345.8	4.8'	776	7.7	724	
345.8	350	4.2'	1509	21.7		
350	355	5'	761	14.8		
355	360	5'	1067	9.1		
360	365	5'	109	1.7		
365	370	5'	32	0.8		
370	375	5'	46	0.9		
375	380	5'	10	0.7		
380	384.8	4.8'	28	1.6		
384.8	390	5.2'	91	2.3		
390	395	5'	336	1.6		
395	400	5'	23	0.6		

HOLE NUMBER 94-302 C PAGE 7 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		395'- 406' LIGHT GREEN - GREY MASSIVE V. FINE-GRAIN TUFF. WEAKLY BRECCIATED W/ HAIRLINE FRACTURES FILLED W/ DARK GREEN CLAY + CALCITE ± PYRITE. PYRITE ALSO WEAKLY DISSEMINATED THROUGHOUT.				
		407.7'- 419.2' SAME ROCK TYPE AS ABOVE, BUT NOW INCREASINGLY BRECCIATED. CALCITE VEINS CONTINUE W/ V. IRREGULAR ∡'s TO C.A. ~30°-50°	410		406'- 407.7' FAULT (?) CORE IS V. BROKEN UP; CONSISTS OF ROCK FRAGS LOOSLY CONSOLIDATED IN GREEN/GREY CLAY. 4" CALCITE VEIN ON HW @ 55° TO C.A.	
		419.2'- 438' SAME AS 395'-406'	420			
			430			62' @ 519 ppb, 2.71 ppm & .015, .08
		@ 435'- 438' THIN X-CUTTING HYDROTHERMAL BRECCIA VEINS - WALLROCK FRAGS FLOATING IN BLACK CHALCEDONY.	440		438'- 438.7' FAULT W/ 2" BLACK CHALCEDONY VEIN IN CRUSHED ROCK FRAG & WHITE CLAY (ILLITE-SMECTITE) GOUGE. 45° TO C.A.	
		438.7'- 448.2' SAME AS 419.2'-438, EXCEPT GREEN CLAY-FILLED FRACTURES HAVE PREFERRED ORIENTATION @ 40° TO C.A. & INTERVAL IS WEAKLY SILICIFIED.				
		449.2'- 453.5' TUFF BRECCIA W/ WELL ROUNDED BLACK CHALCEDONY FRAGMENTS (~5% OF MASS) & LIGHT TAN V. FINE GRAIN TUFFACEOUS FRAGMENTS IN LIGHT GREY GROUNDMASS (~5% OF MASS). CLAST-SUPPORTED.	450			448.2'- 449.2' BLACK MASSIVE CHALCEDONY VEIN @ 65° TO C.A. W/ 1/2" X-CUTTING CALCITE VEIN.
		455'- 532.5' TUFF BRECCIA. GREEN CLAY-ALTERED SUB-ROUNDED V. FINE GRAIN TUFF CLASTS > TAN/BROWN SUB-ANGULAR TO SUB-ROUND FINE-GRAIN TUFF CLASTS WITH CLAY-ALTERED "REACTION RIMS" (con't)	460		453.5'- 455' FAULT W/ ROCK FRAGS FROM ABOVE UNIT WEAKLY CONSOLIDATED IN GREY-GREEN PYRITIC CLAY. OCCASSIONAL SILICIFIED TUFF(?) FRAGS INCORPORATED. 60° TO C.A. FAULT BRECCIATION CONTINUES TO 458.5	
			470		466.8' 4" FAULT W/ GREEN CLAY GOUGE @ 45° TO CA	

ANALYTICAL DATA

FROM	TO	W	Au (ppb)	Ag (ppm)	Au2	Ag2
400	406	6'	35	0.6		
406	411	5'	418	1.9		
411	416	5'	102	1.4		
416	419.2	3.2'	1673	2.4	2226 ≈.065 opt	
419.2	424	4.8'	40	0.8		
424	429	5'	256	1.3		
429	435	6'	276	1.3		
435	438	3'	180	1.5		
438	438.7	0.7'	337	1.3		
438.7	443	4.3'	1093	1.8		
443	448.2	5.2'	90	2.8		
448.2	449.2	1.0'	23	0.6		
449.2	453.5	4.3'	585	3.2		
453.5	458.5	5'	1739	15.4	1800	
458.5	463	4.5'	236	1.4		
463	468	5'	366	3.5		
468	473	5'	70	0.9		

HOLE NUMBER 94-302 C PAGE 8 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au (ppb)	Ag (ppm)	Au2	Ag2
		(CONTINUED FROM PREVIOUS PAGE)			471.6' FAULT W/ 2" GREEN PYRITIC CLAY GOUGE @ 55° TO C.A.		473	478	5'	25	0.8		
		>> LIGHT GREY CHALCEDONY CLASTS; ALL FLOATING IN A SOFT PROPYLITIC TUFFACEOUS TO CLAY GROUNDMASS W/ ≤ 1% DISSEMINATED PYRITE. INFREQUENT THIN (≤ 1/2") CALCITE STRINGERS. PLATY PYRITE XTALS OCCUR ON FRACTURE SURFACES. SPORADIC SILICIFICATION OF GROUNDMASS THROUGHOUT ENTIRE INTERVAL.	480		PAST 470', FRACTURE DENSITY IS ~ 4-5/10 FT. W/ CONSISTENT X'S TO C.A. OF 45°-55°.		478	483	5'	19	0.8		
							483	488	5'	30	0.6		
			490				488	493	5'	54	0.8		
		@ 500', BRECCIA INCLUDES LARGE (≤ 6") PERVASIVELY SILICIFIED ANGULAR FRAGMENTS OF THINLY-BEDDED WATERLAIN (?) FINE GRAIN TUFF.			495.3' - 497.8 FAULT W/ CLAY-ALTERED TUFF FRAGS > GREY CHALCEDONY FRAGS IN GREEN PYRITIC (± MARCASITE) CLAY GOUGE. 35° TO C.A.		493	498	5'	69	0.6		
			500				498	503	5'	18	0.7		
							503	508	5'	40	1.0		
			510		511.8' - 512.5' FAULT W/ GREEN PYRITIC CLAY GOUGE. 60° TO CA		508	513	5'	52	0.6	50	
							513	518	5'	82	0.8		
			520		514.4' - 515.3' FAULT W/ SILICIFIED TUFF FRAGS IN GREEN PYRITIC CLAY GOUGE. 50° TO CA		518	523	5'	47	0.7		
		@ 525.8 CORE BECOMING VERY CLAY-RICH & POORLY CONSOLIDATED. WORSENS W/ DEPTH. GRADATIONAL INTO HW OF SOUTH RIDGE FAULT (?) ⇓					523	528	5'	28	0.6		
			530				528	533	5'	15	0.5		
							533	538	5'	38	1.0		
		542 T.D. (IN FAULT)					538	542	4'	12	<0.5		

ANALYSIS REPORT

American Assay Laboratories Inc.

RENO: 1500 Glendale Ave,SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

HECLA MINING CO.

REPORT : SP 029028 2 Page(s) Date : 05/18/94

Client reference : 94-302C Project : ROSEBUD

Cost code :

Copies to : CHARLIE MUERHOFF

Samples : Type Preparation code
Received : 05/09/94

Analysis	Code	Quality Parameter	Detection	Units
Au	FA60	Acc. 15 %	5	ppb
Au(R)	FA60	Acc. 15 %	5	ppb
Ag	D210	Prec.10 %	0.5	ppm

QA Manager : Sue Faircloth M.S.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 029028

Sample	Au ppb		Au(R) ppb		Ag ppm	
94-302C 395-400	.001	23			0.6	.02
94-302C 400-406	.001	35			0.6	.02
94-302C 406-411	.012	418			1.9	.06
94-302C 411-416	.003	102			1.4	.04
94-302C 416-419.2	.049	1673	.065	2226	2.4	.07
94-302C 419.2-424	.001	40			0.8	.02
94-302C 424-429	.008	256			1.3	.04
94-302C 429-435	.008	276			1.3	.04
94-302C 435-438	.005	180			1.5	.04
94-302C 438-438.7	.01	337			1.3	.04
94-302C 438.7-443	.032	1093			1.8	.05
94-302C 443-448.2	.003	90			2.8	.08
94-302C 448.2-449.2	.001	23			0.6	.02
94-302C 449.2-453.5	.017	585			3.2	.09
94-302C 453.5-458.5	.051	1739	.053	1800	15.4	.45
94-302C 458.5-463	.007	236			1.4	.04
94-302C 463-468	.011	366			3.5	.10
94-302C 468-473	.002	70			0.9	.03
94-302C 473-478	.001	25			0.8	.02
94-302C 478-483	.001	19			0.8	.02
94-302C 483-488	.001	30			0.6	.02
94-302C 488-493	.002	54			0.8	.02
94-302C 493-498	.002	69			0.6	.02
94-302C 498-503	.001	18			0.7	.02
94-302C 503-508	.001	40			1.0	.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 029028

Sample	Au ppb	Au(R) ppb	Ag ppm
94-302C 508-513	.002 52	.001 50	0.6 .02
94-302C 513-518	.002 82		0.8 .02
94-302C 518-523	.001 47		0.7 .02
94-302C 533-528	.001 28		0.6 .02
94-302C 528-533	<.001 15		0.5 .02
94-302C 533-538	.001 38		1.0 .03
94-302C 538-542	<.001 12		<0.5

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

RENO: 1500 Glendale Ave,SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

HECLA MINING CO.

REPORT : SP 029001 4 Page(s) Date : 05/18/94

Client reference : 94-302C Project : ROSEBUD

Cost code :

Copies to : CHARLIE MUERHOFF

Samples : Type Preparation code
Received : 05/04/94

Analysis	Code	Quality Parameter	Detection	Units
Au	FA60	Acc. 15 %	5	ppb
Au(R)	FA60	Acc. 15 %	5	ppb
Ag	D210	Prec.10 %	0.5	ppm

QA Manager : Sue Faircloth M.S.

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American Assay Laboratories Inc.

REPORT : SP 029001 /34,000

Sample	Au ppb	Au(R) ppb	Ag ppm /34
94-302C 7-12	.001 25		2.3 .07
94-302C 12-17	.001 50		1.8 .05
94-302C 17-22	.001 42		1.6 .05
94-302C 22-27	.002 51		2.1 .06
94-302C 27-32	.002 51		2.0 .06
94-302C 32-37	.001 36		1.6 .05
94-302C 37-42	.001 42		1.2 .04
94-302C 42-47	.001 50		1.9 .06
94-302C 47-52	.003 88		1.7 .05
94-302C 52-57	.001 35		1.6 .05
94-302C 57-63	.001 30		1.9 .06
94-302C 63-68	.001 27		1.3 .04
94-302C 68-73	.002 62		1.6 .05
94-302C 73-78.1	.002 57		1.6 .05
94-302C 78.1-84.4	.009 318		9.9 .29
94-302C 84.4-90	.001 48		3.1 .09
94-302C 90-95	.001 24		2.5 .07
94-302C 95-100	.003 112		1.4 .04
94-302C 100-104.5	.004 150		1.3 .04
94-302C 104.5-110	.004 137		8.1 .24
94-302C 110-115	.004 124		4.1 .12
94-302C 115-120	.005 181	.006 206	1.2 .04
94-302C 120-125	.002 74		3.7 .11
94-302C 125-130	.002 82		2.3 .07
94-302C 130-135	.007 225		1.9 .06

Please refer to the cover sheet for further analysis details.

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Sample	Au ppb	Au(R) ppb	Ag ppm
94-302C 135-139.3	.005 166	.004 142	1.6 .05
94-302C 139.3-142.5	.001 43		2.4 .07
94-302C 142.5-148	.002 54		4.0 .12
94-302C 148-154.3	.003 114		4.2 .12
94-302C 154.3-158	.009 307		4.9 .14
94-302C 158-163	.002 69		4.7 .14
94-302C 163-168	.003 108		3.5 .10
94-302C 168-173	.002 62		2.2 .07
94-302C 173-178.7	.001 49		1.6 .05
94-302C 178.7-183	.005 172		4.7 .14
94-302C 183-188.1	.003 96		4.2 .12
94-302C 188.1-192	.003 90		2.8 .08
94-302C 192-197	.002 75		2.3 .07
94-302C 197-202	.004 132		3.5 .10
94-302C 202-207	.005 156		3.5 .10
94-302C 207-212	.003 103		2.9 .09
94-302C 212-217	.004 120		3.2 .09
94-302C 217-222	.003 97		3.7 .11
94-302C 222-228	.004 152		3.0 .09
94-302C 228-235	.003 113		3.4 .10
94-302C 235-240	.004 130		3.9 .12
94-302C 240-245	.003 113		2.9 .09
94-302C 245-250	.002 80		2.4 .07
94-302C 250-253	.003 87		3.1 .09
94-302C 253-260.6	.003 108		3.5 .10

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Sample	Au ppb	Au(R) ppb	Ag ppm
94-302C 260.6-266	.005 176		2.7 .08
94-302C 266-271	.005 154		3.5 .10
94-302C 271-276	.004 137		2.9 .09
94-302C 276-281	.003 111		3.0 .09
94-302C 281-286	.004 133		2.9 .09
94-302C 286-291	.003 107	.004 127	2.8 .08
94-302C 291-297.1	.005 170		3.0 .09
94-302C 297.1-301.3	.005 157		2.8 .08
94-302C 301.3-306	.006 192		4.0 .12
94-302C 306-311	.007 240		3.5 .10
94-302C 311-316	.007 225		2.6 .08
94-302C 316-321	.008 271		2.6 .08
94-302C 321-326	.014 462		5.3 .16
94-302C 326-331	.005 182		3.3 .10
94-302C 331-337.6	.024 800		4.3 .13
94-302C 337.6-341	.031 1067		3.4 .10
94-302C 341-345.8	.023 776	.021 724	7.7 .23
94-302C 345.8-350	.044 1509		21.7 .64
94-302C 350-355	.022 761		14.8 .44
94-302C 355-360	.031 1067		9.1 .27
94-302C 360-365	.003 109		1.7 .05
94-302C 365-370	.001 32		0.8 .02
94-302C 370-375	.001 46		0.9 .03
94-302C 375-380	<.001 10		0.7 .02
94-302C 380-384.8	.001 28		1.6 .05

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Sample		Au ppb	Au(R) ppb	Ag ppm	
94-302C 384.8-390	.003	91		2.3	.07
94-302C 390-395	.010	336		1.6	.05

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

P.O. BOX 71060
RENO, NV,,U.S.A.,
Ph.1-702-356-0606, Fax.1-702-356-1413
Telex:

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF
:
:
:

CLIENT REFERENCE No: 94-302/303
LABORATORY JOB No. : SP029891
SAMPLE TYPE :

RECEIVED : 7/07/94
REPORTED : 20/07/94
No. SAMPLES : 2

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA60	15%	OPT	0.001
Au(RZ)	FA60	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Sue Faircloth M.S.

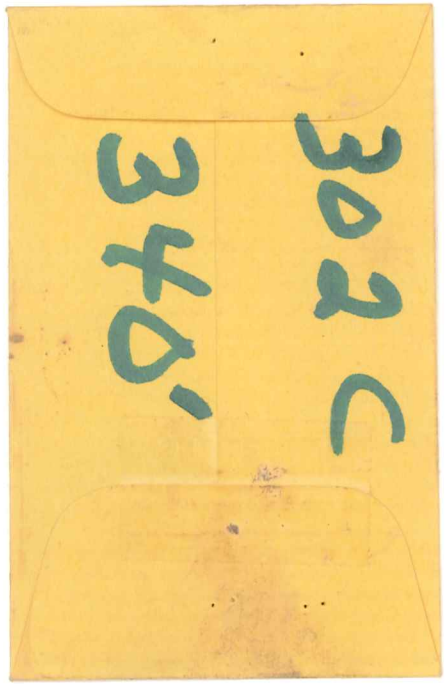
AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-302/303
JOB NUMBER : SP029891
REPORTED : 20/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-302C 42-47	<0.001	<0.001	<0.02
94-3032C 490-495	<0.001		<0.02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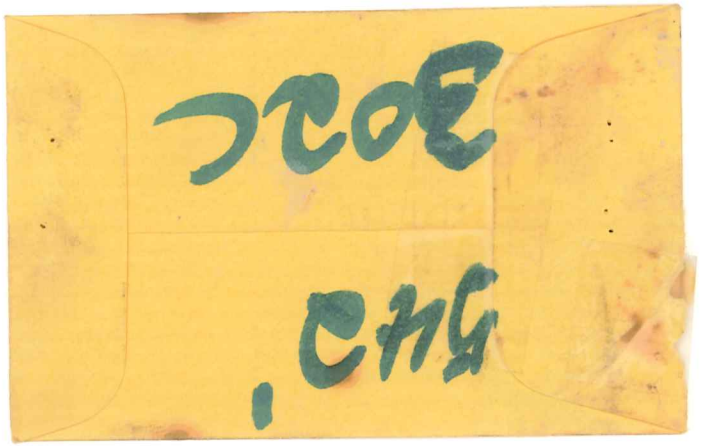
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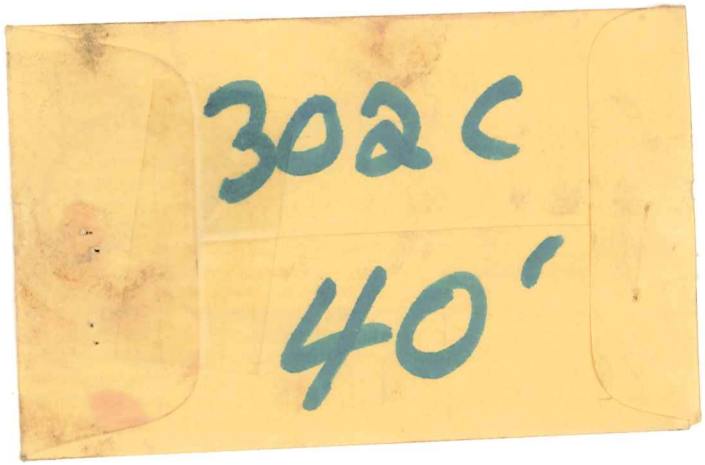
340'

140'
302C

240'
302C


302C
40'

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2
3
5

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5
5
5