60001482

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. 94-303C
AUTHOR	C. Muerhoff; S. Fairclotb
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 503' handwritten notes; down hole camera images 16p. 6 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

94-303C SOUTH ZONE

60001482 4010

6006 1482

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-303 c	LOCATION	South Zone	REMARKS	DOWNHOLE SURVEY
PAGE 1 OF	8	NORTHING	2,203,229.1		10': -89.5° @ N72°E.
DATE	May 4, 1994	EASTING	481,276.1		100': -89.5° @ N54°E
LOGGED BY	C. Muerhoff	ELEVATION	5312.0		200': -89° @ DUE EAST
SCALE	1" = 10'	AZIMUTH	92.5°		300': -89.2° @ N05°E
TOTAL DEPTH	503'	INCLINATION	-89.7°		400': -88.8° @ N78°E
					500': -89° @ S85°W

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	FROM	TO	W	Au (ppb)	Ag (ppm)	Au2	Ag2
		0'-31.7' Polylithologic tuff breccia. Sub-angular clasts of very fine grain tan, grey, & green clay-altered tuff & limonitic clasts with no original textures remaining. Few v. angular rhyolite fragments. All floating in coarse-grain tuffaceous groundmass.	10, 20		0'-31.7' fracture surfaces are coated w/ up to ½" limonitic rock fragments & clays.	see lithology comments.	0	5	5	42	1.3		
							5	10	5	36	1.0		
							10	15	5	37	0.9		
							15	20	5	70	1.9	63	
						@ 27', breccia groundmass is nearly completely altered to green clay-chloritic (glauconite?). Stops abruptly at contact w/ underlying breccia.	20	25	5	37	1.4		
		31.7'-123.5' Hydrothermally (?) brecciated v. fine-grain tuff w/ v. ½% unaltered mafics. Cut by strongly hematized, extremely fine-grain groundmass which contains v. angular, small (≤¼") fragments of surrounding tuff. Overall, unit is clast-supported, but breccia groundmass is matrix-supported. Entire unit is pervasively silicified w/ occassional quartz-chalcedony veins, as noted.	30, 40, 50		31.7' limonitic coating on fracture surfaces continues ↓ fracture/joint density is v. 8/10 ft. w/ consistent ∠s to c.a. of 50° ↓		25	31.7	6.7	34	1.1		
							31.7	37	5.3	165	1.9		
						42'-42.4' grey chalcedony-quartz vein @ 60° to c.a.	37	42	5	67	1.6		
							42	42.4	0.4	65	1.7		
							42.4	47.6	5.2	24	<0.5		
						47.6'-48' grey chalcedony/hydrothermal breccia vein @ 50° to c.a.	47.6	48	0.4	108	2.6		
							48	52.3	4.3	54	0.7		

HOLE NUMBER 94-303C PAGE 2 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		~50' frequency of thin hydrothermal breccia veins begins to increase				52.3' 4" grey chalcedony hydrothermal breccia vein @ 30°(?) to c.a.	52.3	52.6	0.3	235	3.7		
							52.6	58	5.3	110	0.9		
			60			Pervasive silicification of entire core persists to 113' ↓	58	63	5	97	4.8		
							63	68	5	65	1.1		
			70				68	73	5	55	2.4		
		~78.8-113' increased frequency of chalcedony veining & crystalline quartz veining. Significant veins broken out at right.					73	78.8	5.8	102	2.0		
			80		78.8' 6" fault/vein. 3" wall rock fragments in limonitic clay & 3" etched quartz vein on footwall. 50° to c.a.		78.8	79.3	0.5	166	2.8	170	
							79.3	83.6	4.3	94	2.3	116	
						82.8'-83.6' vugy, etched quartz vein / hydrothermal breccia vein @ 60° to c.a.	83.6	88	4.4	93	2.8		
			90				88	93	5	91	1.8		
							93	95.8	2.8	57	1.2		
			100			95.8'-98' strongly brecciated & recemented (w/ limonitic clays) grey chalcedony vein, w/ wallrock fragments incorporated into vein. 40° to c.a.	95.8	98	2.2	83	2.4		
							98	102	4	40	1.3		
							102	106	4	69	1.4		
					106'-107.4' fault/vein w/ 1.0' of wall rock fragments > grey chalcedony fragments in limonitic clay gouge w/ 0.4' grey chalcedony vein on footwall. 75° to c.a.		106	107.4	1.4				
		@ 113', hematitic alteration of groundmass, silicification, & overall brecciation begin to wane	110				107.4	113	5.6	61	0.8		
							113	118	5	75	7.6		
			120				118	123.5	5.5	61	1.8		

HOLE NUMBER 94-303 C PAGE 3 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		123.5'-126.5' Pervasively silicified tuff breccia (same lithology as above) w/ crystalline quartz filling in open spaces in breccia 126.5'-132.6' Tuff breccia w/ brecciation increasing w/ depth. Spotty argillization of breccia clasts. Occassional quartz-chalcedony comprises portion of matrix. Clast-supported. Quartz & limonite on fracture surfaces. 132.6'-161.3' Massive green propylitic tuff w/ feldspars altered to illite-smectite & mafics totally altered to chlorite. Becomes brecciated & fractured at depth w/ fine-grain pyrite & limonitic clays on fracture surfaces; also minor quartz & calcite stringers. - last foot (160.3'-161.3') pervasively silicified w/ quartz replacing breccia matrix. 161.3'-211.8' Weakly brecciated, v. fine-grain, thinly-bedded tuff w/ no feldspar phenos & ≤ ½% chloritized mafics. Brecciated w/ limonitic clays which x-cut green clay stringers. Late fractures are coated w/ white illite-smectite clays. Color is extremely variable as propylitization (± calcedonite) occurs preferentially in bedding & as halos along fractures. Original color was tan(?)	130 140 150 160 170 180 190	172' bedding @ 50° to core axis 182' bedding @ 45° to core axis 190' bedding @ 60° to core axis	132.6' fault w/ 3" tuff fragments in limonitic clay. 30° to core axis distinct absence of faulting	silicification waning silicification absent by 139.3 132.6' see lithology comments.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
123.5	126.5	3'	71	2.2		
126.5	132.5	6'	126	5.6		
132.5	137	4.5'	98	3.5		
137	142	5'	132	2.3		
142	147	5'	222	5.9		
147	152	5'	72	2.4		
152	157	5'	150	4.9		
157	160.3	3.3'	343	3.4	272	
160.3	161.3	1'	150	3.5		
161.3	166	4.7'	187	5.3		
166	171	5'	243	36.4		
171	176	5'	126	4.0		
176	181	5'	385	6.8		
181	186	5'	87	3.8		
186	191	5'	111	6.4		

HOLE NUMBER 94-303c PAGE 4 OF 8

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		224.2' - 234.7' brecciated, bedded tuff continues with white clay + pyrite stringers & minor quartz-calcite stringers.	200	197' bedding @ 50° to core axis	brecciation increases past 192' ↓	
		234.7' - 236.8' bedded unit above grades into tuff breccia w/ mixed clasts of bedded unit above & tan massive fine-grain tuff. Predominantly clast-supported. Cut by irregular green clay stringers w/ propylitic halos w/ late clay (illite-smectite) on fractures.	210		211.8' - 221.2' healed fault zone; zone of intense brecciation/vein zone w/ unsilicified, propylitic, bedded tuffaceous fragments cemented by milky-white crystalline to amorphous quartz-chalcedony. Pyrite & white clays on late cross-cutting fractures.	
			220	223' bedding @ 50° to core axis		
			230			236.8' - 241.5' Same lithology continues only entire core is intensly propylitically altered w/ zones of large (~ 1/4") pyrite agglomerations (fine-grain & coarse/euhedral). "Massive" fine-grain pyrite w/ white clays on fractures.
			240			
			250			
			260			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
191	196	5'	101	4.2		
196	201	5'	107	2.8		
201	206	5'	153	14.8		
206	211.8	5.8'	330	165.9		
211.8	216	4.2'	104	5.0		
216	221.2	5.2'	107	4.1		
221.2	226	4.8'	116	2.7		
226	230	4'	74	2.3		
230	234.7	4.7'	84	2.7		
234.7	236.8	2.1'	99	3.9	125	
236.8	241.5	4.7'	128	6.3		
241.5	246.5	5'	63	1.9		
246.5	251	4.5'	101	2.7		
251	256	5'	57	2.5		
256	261	5'	80	1.7		

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		241.5' - 272.2 Tuff breccia w/ green clay-altered fine-grain tuff clasts >> tan fine-grain tuff clast/tan clasts often display green clay alteration internal to clast boundaries, i.e., reverse alteration halo). All clasts are sub-angular to angular & matrix-supported in tan pyritic tuffaceous groundmass. Propylitization of groundmass increases w/ depth. 272.2' - 323' Tuff breccia w/ varying degrees of alteration in clasts & groundmass. Predominantly matrix supported with clasts (highly variable in size & shape) of tan porphyritic tuff, tan v. fine grain tuff, pervasively green clay (celadonite?) altered tuff w/ all original textures destroyed, & occassional large propylitized thinly-bedded fine-grain tuff; all in tan/ light brown medium-grain (nearly granular in places) tuffaceous groundmass. Sequence is cut by green pyritic stringers, white clay (illite-smectite) stringers & occassional quartz-chalcedony stringers. Groundmass becomes more brown in color w/ depth.	270 280 290 300 310 320 330		323' - 326.8' Fault(?) Core is extremely broken up. Clay altered breccia fragments from units above & below w/ ~20% white clays. Cannot determine K's to c.z.	241.5' - 272.2' White soft clays (illite-smectite) & medium grain subhedral to fine grain massive pyrite occurs as stringers & on fracture surfaces. @ 272.2' Propylitic alteration abruptly stops 272.2' - 273' irregular quartz-chalcedony stringers/ open-space filling. @313' breccia clasts & groundmass lose propylitic alteration, but entire core becoming much softer → marked increase in clay content (due to alteration?) of entire core.

ANALYTICAL DATA

FROM	TO	W	Au (ppb)	Ag (ppm)	Au2	Ag2
261	266	5'	62	1.2		
266	272.2	6.2'	83	1.8		
272.2	277	4.8'	53	1.0		
277	282	5'	60	1.6		
282	287	5'	68	1.6		
287	292	5'	84	2.0		
292	297	5'	80	1.7		
297	302	5'	82	1.8		
302	307	5'	102	2.5		
307	312	5'	112	2.9		
312	317	5'	101	2.5		
317	323	5'	126	3.7		
323	326.8	3.8'	103	2.7		
326.8	332	5.2'	opt .003	opt .07		

326.8' - 353.9' Tuff breccia w/ 2 episodes of brecciation. Tan, moderately clay-rich v. fine-grain groundmass which contains small (≤ ½") angular clay-altered fragments & larger (≤ 2") grey, relatively unaltered fine-grain tuffaceous clasts. All brecciated by grey tuffaceous (con't)

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		(con't) groundmass. Late pyrite-rich white clay stringers cut all. First stage brecciation (tectonic) is matrix-supported; second stage brecciation is clast-supported.	340			
			350		353.9'-360.4' Partially healed fault zone/intrusion zone of clay alteration/deterioration. Semi-consolidated breccia fragments from units above & below w/ 20-30% tan to white clay component. ~50° to core axis (difficult to determine).	
		360.4'-382.2' Tuff breccia w/ sub-angular to angular completely clay-altered tuffaceous(?) fragments w/ ≤ 1/2% fine unaltered pyrite crystals in hematized fine-grain groundmass. Matrix-supported. Cut by thin white clay (illite-smectite) stringers, often v. rich w/ crystalline pyrite. Pyrite often replacing clay-altered tuffaceous clasts.	360			360.4' breccia groundmass is moderately hematized; decreasing in intensity with depth ↓
			370		376.5'-377' Possible fault. Core is chewed up. Interval consists of 50/50 rock fragments & grey clays. 60°(?) to core axis.	
		@372.2' breccia continues, but w/ lesser degree of clay alteration in breccia fragments & lesser frequency & intensity of clay & pyrite stringers. Also becoming more clast-supported w/ depth. Weak bedding visible in a few of the tuffaceous fragments. White illitic clays continue on fracture/joint surfaces.	380			19.8' @ 1.249 opt Au
		# of altered bedded tuffaceous clasts in breccia increase rapidly down hole ↓	390		LITHOLOGY 382.2'-411' Brecciated thinly-bedded tuffaceous sediments w/ brecciation decreasing w/ depth. Top 10 ft. of unit contains intervals where entire groundmass is composed of pyritic carbonaceous material. Weak bedding of breccia clasts @ 55° to core axis. Continued on next page	
			400			

FROM	TO	W	(opt) Au	(opt) Ag	Au2	Ag2
332	337	5'	.003	.11		
337	342	5'	.007	.14		
342	348	6'	.007	.14		
348	353.9	5.9'	.005	.08		
353.9	360.4	6.5'	.043	.15		
360.4	365	4.6'	.014	.15		
365	370	5'	.004	.10		
370	375	5'	.020	.15		
375	380	5'	.005	.14		
380	382.2	2.2'	.023	.54		
382.2	387	4.8'	.191	2.91	.198	Au Avg .195
387	392	5'	1.44	32.32	1.52	1.480
392	397	5'	.453	4.67	.467	.460
397	402	5'	3.00	6.48	2.64	2.820

CBW 400-400.3' MED. DK GRN CHLORITIC-AMORPHOUS CLAY & WHITE CLAY (SMEC/ILL), Chalcedonic Q, CALCITE, F.G. DRUZZY Q, YELLOW BRASSY Py & Py-ohedrons SOOTY CARBONACEOUS MATERIAL

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
431 MOD HD w/ SOFT CLAYEY MATRIX 433 MOD HD w/ $CaCO_3$ MATRIX	431 62% 12 TOTAL >4"	382.2' - 411' (continued) breccia'ted bedded tuffs are selectively altered to green clays (cedodonite?) i.e, interbedded altered & relatively unaltered beds. Green clay ± pyrite stringers persist w/ limited alteration halos. Intervals of silica/calcite-cemented brecciation.	410	25° bedding 25° bedding		from 391'-411' breccia groundmass often composed of quartz/chalcedony/calcite. occassional disseminated pyrite concentrated along bedding planes.
		411' - 425.5' Gradational brecciated contact into polylithologic tuff breccia. Clasts include tan sub-angular totally clay altered tuff fragments; green, soft, pyritic tuff fragments, & occassional bedded tuff fragments. Breccia alternates from clast to matrix-supported w/ predominant clay-altered tuffaceous matrix quickly grading into silica/calcite dominant matrix. Last ½ of breccia interval - clasts are recemented & reconsolidated by silica/calcite.	420			411'-425.5' Pyritic stringers persist, but noticeable lack of white clay (illite-smectite) stringers & fracture surface coatings.
			430		425.5' - 431.2' Fault w/ rock fragments from units above & below w/ approx 40% clay component. Core is too crushed & unconsolidated to determine ∡ to core axis.	NOTE: SAMPLES 431.2-503 ft (EOH) CONTAMINATED BY COTTONWOOD & ELM LEAFS & SEEDS
440.5 MOD-MOD HD w/ CLAYEY SOFT MATRIX 444 MOD-MOD HD w/ $CaCO_3$ ± Clay MOD MATRIX	441 65.5% 11 TOTAL >4"	431.2' - 434' CRACKLE BX W/ MINOR CLAST ROTATION AT TOP INCR. ↓; PINK, SANDY, PLANAR LAMINATED WATERLAIN? TEPHRA W/ SANDY-CLAYEY MATRIX OF SAME. LAM.'S @ 0° TO C.A. AT TOP Δ ING TO 10-15° TOWARD BASE	440		434' PLANAR SLICKED FRAC @ 50' CaCO3 + KAO FILLED FRAC'S @ 5-15°; 50°	LOC. WEAK TO MOD INTEN. SILIC. W/ BRIGHT Py + YELLOW Py-chevrons + Q + kao.
		434-440' FRACTURED VERY FINE-GRAINED-CLAYEY MASSIVE (434-439') AND PLANAR LAMINATED (439-440') WATERLAIN TEPHRA.	450		338-345' CLAYEY, DK GRY TO BLK ORANIC CARBON + SULF. FRAGS	SULF (Py DOM.) IN DISCONT. STRINGERS & CLOTT/FRAG >1% 1-2% ↓ TO 457' & 467-468
	451.5 76% 13 TOTAL >4"	440-471' CARBONATE FLOODED TECTONIC BRECCIA W/ FRAGMENTS CONSISTING OF FINE-GRAINED-SANDY TEPHRA & VERY FINE GRAINED-CLAYEY TEPHRA IN CLAST & MATRIX-SUPPORTED BRECCIA; CLASTS >> CORE DIAM. LOC.; FRAG'S ANGULAR - SUBANG. W/ MARKED ROTATION OF LAM'S	450			445' VUGGY W/ INTERGROWTHS OF Py + $CaCO_3$ + F.G. Q ± KAO + SULFO SALTS 475.5' SiO_2 + KAO + CARB + BRIGHT YELLOW TARNISH Py-chevrons in VULTS; Diss. Adj. to vults @ 70-80°
	462 64% 10 TOTAL >4"		460			
			470			

ANALYTICAL DATA						
FROM	TO	W	Au (opt)	Ag	Au2	Ag2
402	407	5'	.032	1.03		
407	411	4'	.065	1.56	.063	
411	416	5'	.003	.05		
416	421	5'	.003	.04		
421	425.5	4.5'	.005	.07		
425.5	431.2'	5.7	.014	.10		
431.2	434	2.8'	0.004	0.05		
434	440	6.0'	0.002	0.03		
440	445	5.0'	0.005	0.05		
445	450	5.0'	0.005	0.07		
450	455	5.0'	0.012	0.07		
455	460	5.0'	0.010	0.06		
460	466	6.0'	0.005	0.04		
466	471	5.0'	0.004	0.03		

471

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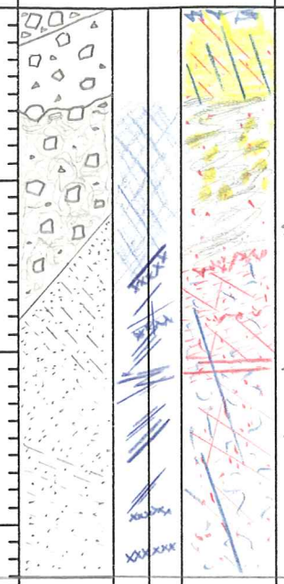
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
471 HD 476 MOD W/SOFT CLAYEY MATRIX MATRIX DOMINATE 485 HD 503	472 70% 10 TOTAL >4" 482.5 90% 14 TOTAL >4" 493 96% 12 TOTAL >4" 503	471-476' SILICEOUS HETEROLITHIC TUFF BRECCIA MATRIX SACROIDAL SILICA W/ CLAY ± SULF ± CHLORITIC CLAY ALT. HETEROLITHIC ANGULAR CLASTS; MATRIX-SUPPORTED. 476-485' TEXTONIC-FAULT BRECCIA W/ FRAGS OF SILIC. TUFF BRECCIA, LAM. F.G. TEPHRA, CLAYEY TEPHRA, GRN HETERO-POLYLITHIC TUFF BRECCIA (LAPILLI & CLAYEY); MATRIX-SUPPORTED; CLAYEY MATRIX W/ ASH TO 4 CM DIAM. ANGULAR FRAG'S. 485-503' VERY FINE-GRAINED, THIN TO MEDIUM BEDDED, PLANAR-LAMINATED WATERLAIN TUFF/TEPHRA OR EPICLASTIC (V.F.G. Q / FELDSPAR GRAINS?; CALCAREOUS: $CaCO_3$ MICROVNLT ABUND. CONCEN. ALONG BEDDING T.D. 503'	480 490 500		$CaCO_3$ + PALE GRN-GRY FAULT CLAY MATRIX SOUTH RIDGE FAULT 485' SHARP PLANAR-FAULT CONTACT @40° W/ RIDGE-GROOVE STX'S @ 50° TO ⊥ OF FRAC. LAM./BDD @ 40° 486 SLICK @ 40° W/ RIDGE/GROOVE PAR. TO DIP. 495-497 40-65° SLICKS-SULF RICH W/ R&G'S @ 50-55° FROM DIP DIR. OF SLICK	V. F. G. <1% DISS. CUBIC Py DISC. SULF + CLAY @ 40-50° M, to C. XLN $CaCO_3$ ± Py @ 20-25° IN 0.1 to 0.4" VNLTS PARTLY HIGH Z Ag COLOR W/ TARNISH 1% DISS. CUBIC Py IN MATRIX & CLASTS 485-492' DISCONT. CUBIC Py + Py coatings on 80° frac's ± CLAY - $CaCO_3$ up to 10/FT. 485-503' 1% DISS. CUBIC Py, SULF ± CARB ± CLAY @ 50°, 40°, 65°, 15° Py CARBONATE + SULF ± KAO. CLAY @ 20-25° & UBIQ MICRO VNLT - DISCONT. FLOODED

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
471	476	5.0'	0.019	0.04		
476	480	4.0'	0.009	0.04		
480	485	5.0'	0.015	0.05	0.016	
485	490	5.0'	<0.001	<0.02		
490	495	5.0'	<0.001	<0.02		
495	500	5.0'	<0.001	<0.02		
500	503	3.0'	<0.001	<0.02		

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 029029 3 Page(s) Date : 05/18/94

Client reference : 94-303C 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 029029

Sample	Au ppb		Au(R) ppb		Ag ppm	
94-303C 0-5	.001	42			1.3	.04
94-303C 5-10	.001	36			1.0	.03
94-303C 10-15	.001	37			0.9	.03
94-303C 15-20	.002	70	.002	63	1.9	.06
94-303C 20-25	.001	37			1.4	.04
94-303C 25-31.7	.001	34			1.1	.03
94-303C 31.7-37	.005	165			1.9	.06
94-303C 37-42	.002	67			1.6	.05
94-303C 42-42.4	.002	65			1.7	.05
94-303C 42.4-47.6	.001	24			<0.5	.00
94-303C 47.6-48	.003	108			2.6	.08
94-303C 48-52.3	.002	54			0.7	.02
94-303C 52.3-52.6	.007	235			3.7	.11
94-303C 52.6-58	.003	110			0.9	.03
94-303C 58-63	.003	97			4.8	.14
94-303C 63-68	.002	65			1.1	.03
94-303C 68-73	.002	55			2.4	.07
94-303C 73-78.8	.003	102			2.0	.06
94-303C 78.8-79.3	.005	170	.005	166	2.8	.08
94-303C 79.3-83.6	.003	94		116	2.3	.07
94-303C 83.6-88	.003	93			2.8	.08
94-303C 88-93	.003	91			1.8	.05
94-303C 93-95.8	.002	57			1.2	.04
94-303C 95.8-98	.002	83			2.4	.07
94-303C 98-102	.001	40			1.3	.04

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 029029

Sample	Au ppb	Au(R) ppb	Ag ppm
94-303C 102-106	.002 69		1.4
94-303C 107.4-113	.002 61		0.8
94-303C 113-118	.002 75		7.6
94-303C 118-123.5	.002 61		1.8
94-303C 123.5-126.5	.002 71		2.2
94-303C 126.5-132.5	.004 126		5.6
94-303C 132.5-137	.003 98		3.5
94-303C 137-142	.004 132		2.3
94-303C 142-147	222		5.9
94-303C 147-152	72		2.4
94-303C 152-157	150		4.9
94-303C 157-160.3	.010 343	272 .008	3.4
94-303C 160.3-161.3	150		3.5
94-303C 161.3-166	187		5.3
94-303C 166-171	243		36.4 1.07
94-303C 171-176	126		4.0
94-303C 176-181	.011 385		6.8
94-303C 181-186	87		3.8
94-303C 186-191	111		6.4
94-303C 191-196	101		4.2
94-303C 196-201	107		2.8
94-303C 201-206	153		14.8 .44
94-303C 206-211.8	.010 330		165.9 4.88
94-303C 211.8-216	104		5.0
94-303C 216-221.2	107		4.1

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 029029

Sample	Au ppb	Au(R) ppb	Ag ppm
94-303C 221.2-226	116		2.7
94-303C 226-230	74		2.3
94-303C 230-234.7	84		2.7
94-303C 234.7-236.8	.003 99	.004 125	3.9
94-303C 236.8-241.5	128		6.3
94-303C 241.5-246.5	63		1.9
+ 94-303C 246.5-251	101		2.7
94-303C 251-256	57		2.5
94-303C 256-261	80		1.7
94-303C 261-266	62		1.2
94-303C 266-272.2	83		1.8
94-303C 272.2-277	53		1.0
94-303C 277-282	60		1.6
94-303C 282-287	68		1.6
94-303C 287-292	84		2.0
94-303C 292-297	80		1.7
94-303C 297-302	82		1.8
94-303C 302-307	102		2.5
94-303C 307-312	112		2.9
94-303C 312-317	101		2.5
94-303C 317-323	126		3.7
94-303C 323-326.8	103		2.7

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 029122 1 Page(s) Date : 06/03/94

Client reference : 94-303C Project : ROSEBUD

Cost code :

Copies to : CHARLIE MUERHOFF

Samples : Type Preparation code
Received : 05/17/94

Analysis	Code	Quality Parameter	Detection	Units
Au(OZ)	FA60	Acc. 15 %	0.001	OZ/TON
Au(RZ)	FA60	Acc. 15 %	0.001	OZ/TON
AuGRAV	GRAV	Prec.10 %	0.001	OZ/TON
Ag(OZ)	D210	Prec.10 %	0.02	OZ/TON

QA Manager : Sue Faircloth M.S.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 029122

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
94-303C 326.8-332	0.003		--	0.07
94-303C 332-337	0.003		--	0.11
94-303C 337-342	0.007		--	0.14
94-303C 342-348	0.007		--	0.14
94-303C 348-353.9	0.005		--	0.08
94-303C 353.9-360.4	0.043		--	0.15
94-303C 360.4-365	0.014		--	0.15
94-303C 365-370	0.004		--	0.10
94-303C 370-375	0.020		--	0.15
94-303C 375-380	0.005		--	0.14
94-303C 380-382.2	0.023		--	0.54
94-303C 382.2-387	0.191		0.198	2.91
94-303C 387-392	1.44		1.52	32.32
94-303C 392-397	0.453		0.467	4.67
94-303C 397-402	3.00		2.64	6.48
94-303C 402-407	0.032		--	1.03
94-303C 407-411	0.065		0.063	1.56
94-303C 411-416	0.003		--	0.05
94-303C 416-421	0.003		--	0.04
94-303C 421-425.5	0.005		--	0.07
94-303C 425.5-431.2	0.014		--	0.10

19.8' @ 1.249, 11.68

29.8' @ .846, 8.20

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
:
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:

CLIENT REFERENCE No: 94-303C
LABORATORY JOB No. : SP029716
SAMPLE TYPE :

RECEIVED : 27/06/94
REPORTED : 30/06/94
No. SAMPLES : 15

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 : 94-303C
JOB NUMBER : SP029716
REPORTED : 30/06/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-303C 431.2-434	0.004		0.05
94-303C 434-440	0.002		0.03
94-303C 440-445	0.005		0.05
94-303C 445-450	0.005		0.07
94-303C 450-455	0.012		0.07
94-303C 455-460	0.010		0.06
94-303C 460-466	0.005		0.04
94-303C 466-471	0.004		0.03
94-303C 471-476	0.019		0.04
94-303C 476-480	0.009		0.04
94-303C 480-485	0.015	0.016	0.05
94-303C 485-490	<0.001		<0.02
94-303C 495-500	<0.001		<0.02
94-303C 500-503	<0.001		<0.02

303C
300'

#303C
100'

#303C
100'

WELL 303C
DEPTH 300
PICTURE NO.
INCLINATION
OBS. DIR.
COR. DIR.
TOOL FACE
RUN BY
DATE
CHECKED BY

NL SPERRY-SUN

400'
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03C
200'

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