60001475

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 94-296C
AUTHOR	C. Winetee; 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 320' handwritten notes; down hole camera images 14p. 4 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)

	Initials	Date
SS:	DD	5/29/08
DB:	mah	
SCANNED:		

Revised: 1/22/08

94-296c

SOUTH ZONE

6000 1475 4010

6600 1475

Hecla MINING COMPANY

ROSEBUD PROJECT DIAMOND DRILL LOG

HOLE NUMBER	94-296C	LOCATION	South Zone	REMARKS	ORIENTATIONS STATED
PAGE 1 OF 10		NORTHING	2,203,237.362		AS ∡ TO CORE AXIS, WHOLE
DATE	JUNE 18, 1994	EASTING	481,002.970		CORE SAMPLES; CORE PHOTOGRAPHED;
LOGGED BY	CBWINETEER	ELEVATION	5255.472		
SCALE	1" = 5'	AZIMUTH	338.5°		
TOTAL DEPTH	320'	INCLINATION	-89.0°		

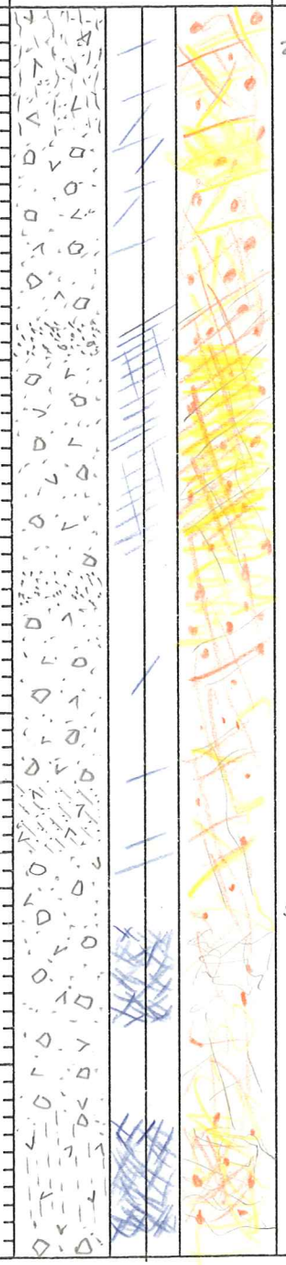
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG (LITH / STX / ALT/MINR)	STRUCTURE	ALTERATION AND MINERALIZATION
		0-4' NO RECOVERY				
BOX 1 70% 13 TOTAL >4"		MOD HD TO HD; Lt to med. grn; Hgrn-tan; Pale grn to med. grn; Flesh; Anglo-Flesh w/ pale grn "strech marks"; V. Pale grn; Anglo-Flesh w/pale grn "strech marks" 4-60' ALTERNATING LAPILLI TUFF & LAPILLI BRECCIA; LOCALLY INTENSE SILICIFICATION, OXIDIZED W/ LIM, HEM. STN CLASTS & MICRO-FRAC's. - LAPILLI TUFF IS PINKISH FLESH COLOR W/ SILICEOUS FINE-GRAINED GROUNDMASS W/ PALE GREEN DEVITRIFIED PUMICE LAPILLI (FIAMME) W/ FLATTENING RATIO'S OF 6:1 TO 12:1, LOCALLY IMBRICATED LOCALLY CONTORTED SLIGHTLY, GENERALLY STEEPLY DIPPING 0-10'; LITHIC CLASTS ARE ANG. TO SUBANG. SILIC. & F.G. LIGHT TAN TO MED. GRY CLAY ALT PORPHYRITIC LITHIC FRAG MINOR; <5% SUBHED, CLAY ALT FELDSPAR XL FRAGS. - LAPILLI TUFF BRECCIA IS GENERALLY PALE GREEN W/ ANGULLAR PUMICE (PORPH), LITHIC & CRYSTAL FRAGMENTS IN F.G. CLAYEY-TO SILICEOUS GROUNDMASS; POORLY-SORTED, MATRIX-SUPPORTED, XL-FRAG's DOMIN. CLAY (WHT) ALT FELDSPAR UP TO 10% WHEN F.G., PUMICE LAP's 2:1 to 5:1 F.R.'s.; XL-FRAG RICH F.'er	05 10 15 20 25		0-26' MINOR FeO_x STAINING PRIMIN FORM OF LIM ± Q+ INFILTRATION CLAY (TAN, BROWN AMORPH GUEY)	OXIDIZED & LOCALLY BLEACHED COINCIDENT W/ MODERATE TO INTENSE SILICIFICATION AS NOTED. 4.5-5.5' HIGH X FEEDER INTO STKWK CLEAR TO CREAM CHALCED. SiO_2 7-10' SiO_2 STKWK Δing ↓, INTO MASSIVE FLOODING & REPLACEMENT OF TUFF BY MATRIX 13.5-14.5' BLEACHED SiO_2 MASSIVE REPLACEMENT A.A. W/ UNDERLYING 45-50' SiO_2 ± FeO_x 21-26' WEAK-MOD MASSIVE SILIC. SLIGHTLY BLEACHED DECR. ↓

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
4	10	6.0'	0.002	0.08		
10	15	5.0'	0.001	0.05		
15	20	5.0'	<0.001	0.03		
20	25	5.0'	0.001	0.03		

14 2 17 23 24 3

HOLE NUMBER 94-296 C PAGE 2 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
33	33	MOD HD to HD	S.A.A.	GRAINED @ 5-6'; 34-35', 41-42' MAY BE ASH CLOUD DEPOSITS			26-55' FRAC'S & UNLTS ARE CLEARLY OPEN, W/PARTIAL FILLING W/ OPEN-SPACE V.F.G. Q + FeOx (LIM/HEM) ± CLAY (TAN LIM STD.) ± BRN INFILTRATION CLAYS	LOCALLY INTENSE SILIC. STRONG FeOx as LIM ± HEM ± GEOT. ± FeOx STND Q & CLAY ± INFILTRATION CLAY; BX FRAG.'S REPLACED BY LIM + CLAY
Box 4		MOD HD	V. Pale grn					
			Lt grn to Med grn					
		HD	Cream					33' ↓ START OF WHITE KAOLINITIC CLAY ± W/Q UNLTS
		HD	Lt to Med grn					34-40.5' Vuggy patches centered on 60° F.15' micro-stx's, F.g. open-space Q ± lim ± hem. 2.5/FT.
		HD						35-36' Blotchy SiO_2 repl., cream barren chalcedonic quartz irreg.
		HD						
		HD						
42		HD						
5	43							
			Anglo flesh a.a.					
			Pale grn					
51.5		MOD SOFT					51-53.5 TECTONICALLY BX'IATE TUFF BX NO PREDOM. FABRIC	WEAK ARG. CLAY ALT
6	53							
		MOD-MOD HD	Pale grn to flesh					
			Pink-tan to rust				56.5-60' TECTONICALLY BX'IATED TUFF BX A.A.	WEAK TO MOD. ARG CLAY ALT.
60.5								



ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
25	30	5.0'	0.001	0.02		
30	34	4.0'	0.001	0.03		
34	40	6.0'	0.004	0.06	0.004	
40	45	5.0'	0.002	0.04		
45	50	5.0'	0.003	0.02		
50	55	5.0'	0.001	0.03		
55	60	5.0'	<0.001	0.02		

HOLE NUMBER 94-296 C PAGE 3 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Box 7	63	MOD-MOD HD	Pale grn; tan loc. Rust	60-76' S.A.A.			FRAC @ 45' w/ TECTONIC BX' IAT BELOW	OXIDIZED & LOC. SILICIFICATION FeOx STND TUFF Bx CLASTS ↓ 76' MINOR LIM ± HEM ± LIM. STND SiO2 ± MINOR KAOL. CLAYS
		MOD HD-HD			65		67-69' FRAC'D W/ PARTIAL FRAC.-FILLING Q + FeOx @ 50' & 85'	
70 8	73	MOD-MOD HD		— CLASTS DOMINATED BY F.G. TEPHRA OF UNDERLYING UNIT	70			
		MOD HD-HD		76-115' AIRFALL TEPHRA-VITROCLASTIC PALE GREEN, MASSIVE-BEDDED, VERY FINE GRAINED, WELL-SORTED, COMPOSED ENTIRELY OF SILICEOUS CLAY, w/ <1% TABULAR VOID CLASTS & PALE GREEN TO CLEAR QUARTZ MICRO-HAIRLINE (DEVITR. PROD.) STOCKWORK → LOCALLY INCREASED INTENSITY & FeOx STAINING GIVE APPEARANCE OF TUFF Bx	75		76' APPARENT CONTACT COINCIDENT w/ SiO2 + FeOx + VUGS @ 50'	76-83' LIM ± HEM ± SiO2 (FeOx STND) ± WHT KAOL CLAY 0.01-0.1" @ 30' & 80'
79 9			grey-grn-rust				FRAC'S ± SiO2 ± FeOx @ 30' 1-3/FT.	MOD. STRONG FeOx Stnd of MATRIX
	83		Mottled Pale grn-Med grn.		80			83-100' FeOx (LIM/HEM/GEOT) LIMITED TO FRAC/SiO2 MICRO VNLTS @ 20-40' & 70-80' MINOR LOC. STN OF MATRIX
88 10					85			
	93		Mottled Rust/Red/purple & green		90			
					95			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
60	65	5.0'	0.002	0.04		
65	70	5.0'	0.002	0.10		
70	76	6.0'	0.002	0.03		
76	80	4.0'	0.003	0.07		
80	85	5.0'	0.002	0.04		
85	90	5.0'	0.002	0.04		
90	95	5.0'	0.002	0.05		

HOLE NUMBER 94-296 C PAGE 4 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
98 BOX 11		MOD HD – HD	Pale grn mottled dk grn → STRONG RUST-PURPLE STN	76-115' CONTINUED				S.AA. w/ HEM FeOx pseudo-morphic repl. of platey Marc. in micro vnlts.
	103				100		STRUCTURES COINCIDENT w/ VNLTS ↓	95-113' LIM + F.G. Q + KAOL. @ 50°, 20°, 80° @ 7/Ft.
107 12			PALE GRN		105			
	113				110			OXIDIZATION ± SILICIFATION ↓
116 13		MOD HD w/ LOC. SILIC. HD	PINKISH, GREENISH GRY	115-149' SAME AS ABOVE w/ MORE SUCROSIC-SUGARY TEXTURE; V. F. G. w/ 1% V.V.F.G. DISS CUBIC PY ± ANATASE ? BECOMES CLAST-SUPPORT ⇒ MATRIX SUPPORTED DOWN-WARD AUTO-BRECCIA W/ HOMOGENEOUS LITH CLASTS (F.G. TEPHRA) IN SLIGHTLY SILICEOUS-SULFIDE RICH MATRIX Auto bx	115			MIXED SULFIDE + OXIDE (Incipient Oxidation) 113-115' Diss. cubic Py 2% 115-125' Diss Py <1% 115-125 SULFIDE 0.01-0.1 @ 70-80° (1-2/Ft) & 0-15° ± Q ± KAOL. & @ 30° (0.5/Ft)
	123				120			SULFIDE-RICH VNLTS CONSIST OF PLATEY TO PSEUDO-HEX. MARC. + DRUZZY OPEN-SPACE F.G. Q + INTERSTIAL WHT KAOL
125 14					125			125-165 Diss. Py 1-2%
					130			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
95	100	5.0'	0.003	0.10		
100	105	5.0'	0.003	0.07		
105	110	5.0'	0.003	0.08		
110	113	3.0'	0.003	0.09		
113	119	6.0'	0.003	0.09		
119	123	4.0'	0.004	0.08		
123	128	5.0'	0.005	0.04		
128	134	6.0'	0.002	0.05		

HOLE NUMBER 94-296C PAGE 5 OF 10

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	133	S.A.A. Lt. GRN-GRY				125-139' SULF + Q + KAOL @ 70-80' @ 1/FT. 131-134 PATCHY VUGGY w/ SiO_2 + LIM + CLAY COATINGS
134 BOX 15			135			MIXED SULFIDE / OXIDE ↓
143 16	143		140			SULFIDE ↓ W/V. MINOR FeO_x 0.02 - 0.4" SULF (MARC.) + KAOL + SiO_2 @ 70-80, 25-30, 5' 3.2/FT 139 - 147 W/ ASSOC. DISS Py @ 1-2% 142.7' 0.4" Q + Marc. + KAOL @ 40°
			145			
		Lt-Med GRN 149- SIMILAR TO ABOVE W/ Lt to Med GRN SILIC. CLAY MATRIX W/ >> SIZE DISS. Py CLASTS ARE INCREASINGLY KAOL. CLAY ALT. ANGULAR, MATRIX-SUPPORTED CLASTS	150			151.5' 0.1-0.2" PALE GRN SER + TARNISHED MARC. + Q + KAOL + MINOR stibe CUBIC-YELLOW Py @ 40°
152.5 17	153		155			152' 0.25" Py-ohedron + Pale Grn Q + Pale grn clay + wht kaol. @ 60° Pale yellow electrum coating on py-ohedrons
162 18	163	- 162.5' ANGULAR CLAST W/ SILIC. + SULF-RICH CORE & CLAY ALT (SMEC) V.V.F.G. SULFIDE RIM	160 165		Bleached & Intense Silic.	157-158.3' VUGGY - PATCHY DISOLUTION W/ SiO_2 + EUHEDRAL BAR + SULF ± KAOL

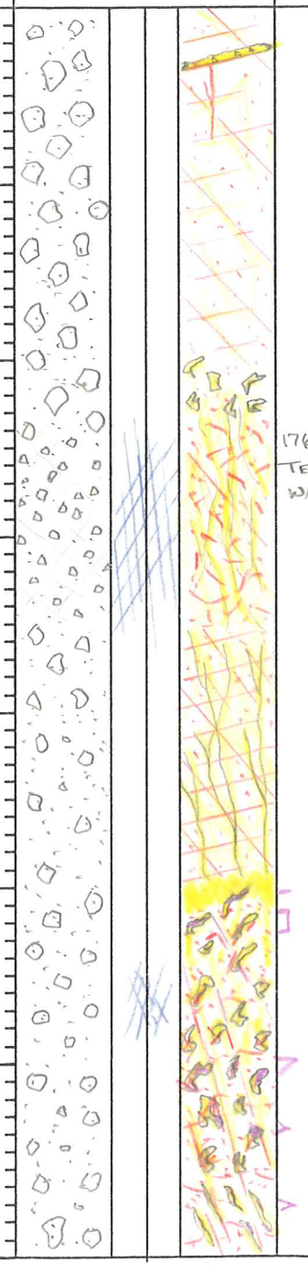
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
134	139	5.0'	0.001	0.06		
139	144	5.0'	0.001	0.04		
144	149	5.0'	0.002	0.04		
149	153	4.0'	0.002	0.05		
153	158	5.0'	0.002	0.06		
158	162	4.0'	0.002	0.06		
162	166	4.0'	0.004	0.05		

HOLE NUMBER 94-296C PAGE 6 OF 10

%REC	RQD	LITHOLOGY	FT	STRUCTURE	ALTERATION AND MINERALIZATION
	88% 12 TOTAL >4"	S.A.A. MOTTLED GRN PINK GRY		166.5' Wht SiO_2 Matrix 1.3" Band @ 80'	162-176' Marc + kao ± SiO_2 @ 80' 1.3/ft. @ 45' 0.6/ft. @ 5° 162.5-165; 167-168 Diss. Py 1-2%
171 Box 19	173	INCR. PINK	170		
	40% 3 TOTAL >4"	PINK & GRY	175		
	65% REC. SHATTERED	177' END OF RUN		176.5-184' TECTONIC CRACKLE BX W/ PREDOM. FRAC'S @ 5° & 30°	175-176.5 VUGGY DISOL. W/ WHT + YELL CLAY ± Q ± Marc. Veins bx'iated; late SiO_2 (pink) @ 10-15° stockwk
	180	SCHATTERED W/ CLAYEY MATRIX; 2" of Rc-drilled Q mlts & grn poly lithic tuff.	180		
182 20	62% 10 TOTAL >4"	174-186.5' INCREASE IN SIKA W/IN MATRIX Δ TO PINK COLORATION			
	84% REC.	MOR HD TO HD	185		184-190' Pale grn chalcedony clay mlts (0.01-0.05") @ 10-15' + dimorphic Diss. py <1% wk yell cubic py Marc. + F.G. Q + kao + YELL Clay @ 40'; 80' (1/ft. & 2/ft respect.)
	188.5 67% 4 TOTAL >4" 87% REC.	CREAM <GRY <PINK	190	SiO_2 + Ba + kao; SiO_2; Ba; kao; SiO_2	190' INTENSE SiO_2 REPL. & CEMENT OF BX W/ banding @ 80' 190-199' VUGGY DISOL. W/ Q (f.g. open-space) ± BAR ± WHT KAOL. + Marc. 0.1-0.4" open-space Q → open-space bar + wht clay + Marc. → f.g. brassy marc./py crusts. @ 15-40' Diss py + Marc. 2-3% Discont. disrupted 70-80' Sulf + Q + kao
192 21	193 86% 12 TOTAL >4"	+ PINK	195		
			200		80's Kao + Q + Marc. 30-40's Kao + Q + dimorphic py + blk sooty py

GRAPHIC LOG



ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
166	170	4.0'	0.002	0.05		
170	175	5.0'	0.004	0.07	0.004	
175	179	4.0'	0.002	0.04		
179	184	5.0'	0.002	0.03		
184	189	5.0'	0.005	0.05		
189	193	4.0	0.003	0.04		
193	196	3.0'	0.004	0.05		
196	200	4.0'	0.003	0.06		

HOLE NUMBER 94-296 C PAGE 7 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
201 Box 22	203 56% 9 TOTAL >4"	MOD HD TO HD; MOD-MOD HD	S.A.A	202.8-207' LARGE BLOCK (?) W/IN AUTO-HYDRO BX W/ 0-7° PLANAR-LAM.'s AT TOP Δ'ING ↓ INTO HIGHLY CONTORTED LAM's @ BASE PASSING ↓ INTO MATRIX-SUPPORTED BY F.G. PLANAR-LAM. WELL-SORTED GRADED BDD WATERLAIN TEPHRA 207- AUTO BX CONSISTING OF CLAY ALT. CLASTS OF PLANAR LAM. F.G. TEPHRA IN A SILICEOUS F.G. HYDROTHERMAL MATRIX; MATRIX-SUPPORTED, ANGULAR. POORLY-SORTED CLASTS		205	VUGGY DISOL. W/Q+Bar+kao	200.9-201' @ 85° DRUZZY Q @ 20-40° TO BOUNDARY Stx Q kao Marc.
211 Box 23	213 54% 11 TOTAL >4"		PALE GRN GRY		210 215	white+yell clay+marc. @ 80°&50° Minor. Diss py 1-3%. VERY MINOR DISS SULF ALONG LAM's NO Q or kao	207-221 Diss. py 2-3% Marc. + Q + kao @ 60, 30, 80° 3/Ft. TOTAL	
221 24	223 56% 9 TOTAL >4"	HD	+ CREAM	— 222-229.5' MATRIX COMPOSED OF BLUE-GRY Q + MINOR DISS. Py & Marc. CLASTS ARE REPLACED BY SILICA LOC. CONCEN. OF INTERST. WHT & YELLOW CLAY	220 225	222-229.5 ORANGE-RD Q + CLEAR-LT GRY-BLUE Q + kao ± yell clay. PRINCIPAL Q ORIEN. @ 80-85° & 5-15° -Q + SILVER COLORED Marc ± Py + Minor kao	VUGGY DISOL. w/ Q ± Bar ± kao ± Marc ± py 220' + INCREASED KAOL ARG ALT OF CLASTS SiO_2 @ 15-20' w/ ACCESS. Cu-bearing tarnish py-dimorph & oh-hedrons + minor f.g. sulfosalts 225 Radiating starburst py High z Ag color only loc. yell. tarnish	
231 25	233 29% 6 TOTAL >4"	MOD HD	PALE KAKI GRN	229.5- HIGHLY FRAC'D PLANAR LAMINATED F.G. TEPHRA	230 235	SLICKS @ VARIOUS ORIENT W/ GRN-WHT CLAY & ORANGE Q STRINGERS (0.001-0.01") MICRO HAIRLINE SULF + OPEN SPACE Q + kao + YELL CLAY ± SULFOSALTS @ 30, 10, 60, 80° COMBINED >20/Ft	228' @ 15° ORANGE Q + BRASS COLORED MARC. 231' WHT + YELL CLAY + BLK Marc. + BRIGHT YELL DIMORPH. Py + Red Q + OPEN-SPACE Q 232' Q micro hairline @ 30° w/(Au-py) sulfosalts	

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
200	202.8	2.8'	0.005	0.03		
202.8	207	4.2'	0.003	0.04		
207	210	3.0'	0.004	0.06		
210	215	5.0'	0.003	0.04		
215	220	5.0'	0.003	0.07	0.004	
220	222	2.0'	0.003	0.06		
222	225	3.0'	0.002	0.05		
225	229.5	4.5'	0.020	0.09		
229.5	234	4.5'	0.005	0.08		

HOLE NUMBER 94-296C PAGE 8 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		MOD HD	S.A.A	236.5-238.5 S.A.A. W/ CRACKLE BX W/ HYDROTHERMAL Q MATRIX CLEAR-ORANGE Q + Py + Marc. + kao			PRINC. Stx-Vnlt ORIENTATION IS 60°, 30°, 10°	
240					240			
BOX 26	243 67% 6 TOTAL >4"		GRY, PINK, TAN	238.5-240 AS. ABOVE W/ GROUNDMASS (OF TEPHRA) COMPLETELY REPLACED BY SILICA + 4% F.G. DISS. Py				SOFT V.F.G. DISS. Py IN SILIC.-CLAY GROUNDMASS
				240-257.4' FINE GRAINED SANDY TEXTURED TEPHRA W/ 4-10% DISS. Py, Marc. + Q + KAO + YELLOW CLAY @ 30°, 60' 5" DECR. ↓; LOC. Bx W/ MATRIX-SUPPORTED OF SIMILAR COMPOSITION	245			MOD TO INTENSE ARG. ALT MATRIX ALT TO PREDOM. CLAY W/ X-CUTTING SiO_2 MICROVNLT STKWK
		<SOFT						
250								
27	250.5 40% 10 TOTAL >4"	HD	SOFT		250			YELLOW CLAY ON FRAC/VNLTS
							GREY CLAYEY SLICKS @ 80°	250'-260.7': 10.7' @ 0.106, 0.76
		SOFT/HD		-255-255.5 SILIC. ANGULAR FRAGS OF F.G. TEPHRA IN KAOL CLAY + MARC. MATRIX; CLAST-SUPPORTED	255			
		MOD HD						
		MOD SOFT		-255.5-256 INTENSELY CLAY ALT MATRIX & CLASTS W/ MARC.			SLICKS @ 55° & 65' BOUNDING Marc. + CLAY GOUGE KAO. DOM.	260.7' CONTACT @ 50°
				-256-257.4' INTENSELY SILIC. W/ Q + Py MICROVNLT STKWOR			Rounded to Subang. Clayey frags in Clayey matrix in Fabric @ 75°	$CaCO_3$ @ contact 260.7'
260					260			
28	261 80% 11 TOTAL >4"	MOD HD - HD		257.4-260.7' CLAYEY VERY FINE GRAINED TEPHRA OR LAPILLI TUFF W/ INTENSE SULFIDATION/ V. Wk SILIC., PREDOM. CLAY + SULF.			262.6' CONTACT @ 55°	260.7-262.6' High % chalc. Q micro hairline stkwk alt. to pale grn clay Abund. v.f. grd. py
		SOFT/ MOD SOFT/ MOD	BLEACHED				262.6-263.7 Tectonic bx of TUFF Bx BELOW	C. XLN $CaCO_3$ (0.9 & 1.1") @ 263 & 265 @ 80°
				260.7-262.6' PEBBLE CONGLOMERATE W/ ROUNDED TO SUBANG. HETERO- & POLY LITHIC TUFF & TEPHRA CLASTS CLAST-SUPPORTED; MATRIX SILICEOUS MODERATE SORTING	265		262.6- Mod. silic & F.G. Tuff bx W/ Noted containing	Mod to Intensely clay alt, Tectonic bx'iation as $CaCO_3$ vn frags
269			PALE GRN				PROMINENT SLICKS @ 50-60'	
29					270			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
234	238	4.0'	0.005	0.08		
238	241	3.0'	0.005	0.07		
241	246	5.0'	0.004	0.09		
246	250	4.0'	0.009	0.10		
250	255	5.0'	0.083	0.19	0.084	Au3 (grav) 0.088
255	257.4	2.4'	0.081	0.35	(grav) 0.092	
257.4	260.7	3.3'	0.131	1.93	(grav) 0.142	
260.7	262.6	1.9'	0.006	0.19		
262.6	265	2.4'	0.008	0.07		
265	270	5.0'	0.020	0.09		

HOLE NUMBER 94-296C PAGE 9 OF 10

%REC	RQD	LITHOLOGY			FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	271.5 89% 14 TOTAL >4"	MOD HD FRAGS IN MOD TO MOD SOFT MATRIX	YELLOW-ISH GRN MATRIX w/ PINK TO GRY CLASTS	TECTONIC FAULT BX PRINCIPAL CLASTS COMPOSED OF, SILICIFIED F. G. TEPHRA, Q-SULF & $CaCO_3$ VNS; SUB CLAST-SUPPORTED; MATRIX RND, DOMINATELY CLAYEY GOUGE w/ ≈ EQUAL $CaCO_3$	275			Diss. Py & Q+Marc. ±Py frags 1-2% $CaCO_3$ IN MATRIX + CLAY GOUGE? IN DISCONT. STRINGERS
279 Box 30					280			
	282 77% 12 TOTAL >4"				285			
288 31				291-292.5 $CaCO_3$ FLOODED BY	290			291-292.5 $CaCO_3$ Flooded 292' Bar+$CaCO_3$+Py frag.
	292.5 50% 7 TOTAL >4"		Pale Grn PALE GRN-GRY	292.5-306' MOD. INTENSE	295		295-297 wht Clay stringers @ 45°	$CaCO_3$ only in vn frags
298 32	300 92% 12 TOTAL >4"	MOD SOFT MATRIX DOMIN. w/ MOD SOFT TO MOD FRAGS		START OF CORE RUN @ 303'	300 305			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
270	275	5.0	0.015	0.04		
275	280	5.0'	0.008	0.02		
280	285	5.0'	0.004	0.03		
285	290	5.0'	0.012	0.04		
290	295	5.0'	0.011	0.03		
295	300	5.0'	0.006	0.04		
300	305	5.0'	0.007	0.05		

HOLE NUMBER 94-296 C PAGE 10 OF 10

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
307 Box 33		S.A.A. S.AA.					305	310	5.0'	0.004	0.04		
	310 80% 12 TOTAL >4"	START OF CORE RUN 313	310				310	315	5.0'	0.007	0.04		
317 34			315				315	320	5.0'	0.006	0.26		
320	320	320' END OF HOLE	320										

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:

POSTED

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF
:
:
:

CLIENT REFERENCE No: 94-296C
LABORATORY JOB No. : SP029713
SAMPLE TYPE :

RECEIVED : 24/06/94
REPORTED : 6/07/94
No. SAMPLES : 71

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA60	15%	OPT	0.001
Au(RZ)	FA60	15%	OPT	0.001
AuGRAV	GRAV	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 : 94-296C
JOB NUMBER : SP029713
REPORTED : 6/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-296C 4-10	0.002			0.08
94-296C 10-15	0.001			0.05
94-296C 15-20	<0.001			0.03
94-296C 20-25	0.001			0.03
94-296C 25-30	0.001			0.02
94-296C 30-34	0.001			0.03
94-296C 34-40	0.004	0.004		0.06
94-296C 40-45	0.002			0.04
94-296C 45-50	0.003			0.02
94-296C 50-55	0.001			0.03
94-296C 55-60	<0.001			0.02
94-296C 60-65	0.002			0.04
94-296C 65-70	0.002			0.10
94-296C 70-76	0.002			0.03
94-296C 76-80	0.003			0.07
94-296C 80-85	0.002			0.04
94-296C 85-90	0.002			0.04
94-296C 90-95	0.002			0.05
94-296C 95-100	0.003			0.10
94-296C 100-105	0.003			0.07
94-296C 105-110	0.003			0.08
94-296C 110-113	0.003			0.09
94-296C 113-119	0.003			0.09
94-296C 119-123	0.004			0.08
94-296C 123-128	0.005			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-296C
JOB NUMBER : SP029713
REPORTED : 6/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-296C 128-134	0.002			0.05
94-296C 134-139	0.001			0.06
94-296C 139-144	0.001			0.04
94-296C 144-149	0.002			0.04
94-296C 149-153	0.002			0.05
94-296C 153-158	0.002			0.06
94-296C 158-162	0.002			0.06
94-296C 162-166	0.004			0.05
94-296C 166-170	0.002			0.05
94-296C 170-175	0.004	0.004		0.07
94-296C 175-179	0.002			0.04
94-296C 179-184	0.002			0.03
94-296C 184-189	0.005			0.05
94-296C 189-193	0.003			0.04
94-296C 193-196	0.004			0.05
94-296C 196-200	0.003			0.06
94-296C 200-202.8	0.005			0.03
94-296C 202.8-207	0.003			0.04
94-296C 207-210	0.004			0.06
94-296C 210-215	0.003			0.06
94-296C 215-220	0.003	0.004		0.07
94-296C 220-222	0.003			0.06
94-296C 222-225	0.002			0.05
94-296C 225-229.5	0.020			0.09
94-296C 229.5-234	0.005			0.08

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-296C
JOB NUMBER : SP029713
REPORTED : 6/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-296C 234-238	0.005			0.08
94-296C 238-241	0.005			0.07
94-296C 241-246	0.004			0.09
94-296C 246-250	0.009			0.10
94-296C 250-255	0.083	0.084	0.088	0.19
94-296C 255-257.4	0.081		0.092	0.35
94-296C 257.4-260.7	0.131		0.142	1.93
94-296C 260.7-262.6	0.006			0.19
94-296C 262.6-265	0.008			0.07
94-296C 265-270	0.020			0.09
94-296C 270-275	0.015			0.04
94-296C 275-280	0.008			0.02
94-296C 280-285	0.004			0.03
94-296C 285-290	0.012			0.04
94-296C 290-295	0.011			0.03
94-296C 295-300	0.006			0.04
94-296C 300-305	0.007			0.05
94-296C 305-310	0.004			0.04
94-296C 310-315	0.007			0.04
94-296C 315-320	0.006			0.26

#296c

WELL
DEPTH
PICTURE NO. 100
INCLINATION
OBS. DIR
COR. DIR.
TOOL FACE
RUN BY
DATE
CHECKED BY

sperry-sun
DRILLING SERVICES

#296c

WELL
DEPTH
PICTURE NO. 17
INCLINATION
OBS. DIR.
COR. DIR.
TOOL FACE
RUN BY
DATE
CHECKED BY

NL SPERRY-SUN

#296c

WELL
DEPTH
PICTURE NO. 200
INCLINATION
OBS. DIR
COR. DIR.
TOOL FACE
RUN BY
DATE
CHECKED BY

sperry-sun
DRILLING SERVICES

#296c

WELL
DEPTH
PICTURE NO. 320
INCLINATION
OBS. DIR.
COR. DIR.
TOOL FACE
RUN BY
DATE
CHECKED BY

NL SPERRY-SUN

0
8-7-6-5-4-3-2-1-N-1-2-3-4-5-6-7-8 m 8-7-6-5-4-3-2-1-S-1-2-3-4-5-6-7-8
0
5
5
5
5

N
1
2
3
4
5
6
7
8
W
8
7
6
5
4
3
2
1
S
1
2
3
4
5
6
7
8
E
8
7
6
5
4
3
2
1
5
5
5

N
1
2
3
4
5
6
7
8
W
8
7
6
5
4
3
2
1
S
1
2
3
4
5
6
7
8
E
8
7
6
5
4
3
2
1
5
5
5