60001428

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. 94-299C
AUTHOR	C. Wineteer; C. Muerhott; S. Fairchild
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 353' handwritten notes; down hole camera images 15 p. 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:	mdh	
SCANNED:		

Revised: 1/22/08

94-299 C

SOUTH ZONE

60001478

6000 1478

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-299C	LOCATION	South Zone	REMARKS	ORIENTATIONS STATED
PAGE	1 OF 11	NORTHING	2,203,343.5		AS ± TO CORE AXIS; WHOLE CORE
DATE	JUNE 21, 1994	EASTING	481,009.3		SAMPLES; CORE PHOTOGRAPHED;
LOGGED BY	CB WINETEER	ELEVATION	5250.2		
SCALE	1" = 5'	AZIMUTH	22		
TOTAL DEPTH	353'	INCLINATION	-89.0		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au (opt)	Ag (opt)	Au2	Ag2
		0-15' NO RECOVERY	5										
			10										
Box 1		0-31' Tan to pale green f. to med. grained mod. well-sorted, porphyritic tuff. F. g. clayey matrix w/ med. grained lapilli & little frags. Predominately repl. by Silica, w/loc. remnant clasts	15		15-25' PRINC. FRAC ± SiO_2+FeOx @ 60-80° w/< 45° & irreg. variable; 17-18' FRAC - SLICK SURF. & @ 70° UPPER & 60° LOWER w/ RIDGE & GROOVE Stx's @25° to Dip w/in Intensely silic. repl tuff. Post-dates ?	15-31' MOD. TO INTENSELY SILICIFIED & OXIDIZED 16.5-19.75' Completely repl. by F. g. SiO_2 w/ minor blebs & dstns of Lim/nem/goet.	15	20	5.0'	0.001	0.04		
24.5	23		20				20	25	5.0'	<0.001	0.02		
2			25										

HOLE NUMBER 94-299 C PAGE 2 OF 11

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
					25-40' Princ. frac's @ 70-80° w/ FeOx + SiO_2 < 1/Ft.	
33.5	33	Med. grass green 31-39' Med. to c. grained, mod. to poorly-sorted, hetero lithic & poly lithic porphyritic tuff-tuff breccia, w/ med to pale green f. g. vitroclastic matrix, weakly ang. clasts, loc. weakly silic. clasts; clasts are angular w/ lithics > lapilli; clast-supported @ top Δ ing & to matrix-supported, Weak silic. w/ hzlr & SiO_2 microvnlts. Diss. FeOx pseudomorphic repl. after f. g. sulf.	30		Apparent contact co-incident w/ 80° SiO_2 repl. veining.	31-39' MOD. INTENSITY STRINGER SILICIFICATION w/ PSEUDOMORPHIC FeOx repl. of diss. py; clay alt. of tuff clasts. Minor chalc. + apalline SiO_2 on frac's & coating frags/clasts
Box 3			35			
43	43	Very Pale green 39-61') Quartz-Latitic lapilli tuff; w/ f. g. siliceous vitroclastic matrix, v. pale green, 3-5% clay alt. feldspar pheno's << acc. Q pheno's and 20-30% v. pale green equant lapilli (pumice clasts) - devitr. clay alt.	40		Apparent frac'd contact @ 50° @ 39' 40-42' FRAC's ± FeOx ± Q @ 45°	39-79' WEAKLY SILICIFIED (Clear SiO_2 Micro hairline stockwork locally); weakly argillized; v. minor sulfidation; v. minor f. g. black-dark grey carbonaceous material
4			45		42-52' 1/Ft. FeOx ± SiO_2 @ 75-80° (0.05-0.1")	
52			50		52-61 FRAC + FeOx ± SiO_2 @ 45-50° @ 0.5/Ft.	
5	53	-55-61' S.A.A. w/ coarser lapilli clasts	55		55' sharp-irreg./undul. contact @ ~ 75°	
			60		60' SLICKS w/ clayey Pyroclastics @ 50°	

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
25	31	6.0'	<0.001	0.03		
31	36	5.0'	0.001	0.05		
36	42	6.0'	0.004	0.03		
42	47	5.0'	0.002	0.02		
47	55	8.0'	0.003	0.03		
55	61	6.0'	<0.001	0.02		

HOLE NUMBER 94-299C PAGE 3 OF 11

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
61		Pale green latitic			61' Sharp oxid. contact @ 70°	61-79.5' V. weak silic. + minor FeOx on frac's and locally w/ lithic frags.
Box 6	63	61-79.5' Coarse-grained flow-laminated lapilli-lithic tuff. V.f.g. vitroclastic to clayey matrix w/ elongated devitrified pumice lapilli (fiamme) @ 55° w/ flattening ratio's 6:1 - 12:1; porphyritic w/ 5-7% clay alt. feldspar crystal frags, 2-3% silicified lithic frags	65		61-70' PRINC. FRAC + FeOx ± SiO2 @ 70-75° & 45-50° <1/Ft.	
70		-70-72 Increase in lithics, loss of fiamme fabric	70			
7	73	-72-79.5 Decrease in lithic frag's			72' Sharp planar contact/frac. @ 70° w/ SiO2 + FeOx	
		-78-79.5 Increase in lithic frag's including H. grn f.g. carbonaceous epiclastic sed's	75			Silic. @ 50'
80		79.5-96' S.A.A. - TECTONICALLY BRECCIATED - FAULT Angular to rounded slightly silic. frags in a soft pale green clayey matrix w/ pronounced stx fabric.; drab olive green, lox. FeOx stnd	80		79.5-83' Slicks @ 70°	oxidized
8	83				83-84' Slicks @ 45° ± 50°	84.5-85.5 Dk grass grn chl. clay.
			85		85-88' Slicks @ 60°	85' wht smec. + FeOx after sulf. @ 60°
89						85.5-94 Mixed sulfide + oxide Incipient oxidation.
9			90			85.5-93.5 Minor diss. f.g. Py
	92.5				92-96' Slicks ± f.g. Py @ 50° ± 70°	93.5-96' 2-4% diss f.g. Py & Py-repl. clasts
			95			SULFIDE ZONE W/ MINOR FeOx as noted.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
61	66	5.0'	<0.001	0.03		
66	71	5.0'	0.002	0.02		
71	76	5.0'	0.001	0.04		
76	79.5	3.5'	0.003	0.06		
79.5	86	6.5'	0.004	0.17		
86	91	5.0'	0.004	0.27		
91	96	5.0'	0.002	0.10		

HOLE NUMBER 94-299C PAGE 4 OF 11

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
98		96-102.5 Latitic coarse-grained flow-laminated lapilli-lithic tuff. Pale green			96' Sharp planar fault contact @ 30°.	96-104' Diss. v.f.g. py < 1% + discont. sulf. stringers @ 75-80°
Box 10			100			
	103	102.5-110' Coarse-grained poorly-sorted lithic tuff-breccia. clast-supported Angular, heterolithic, polylithic Medium grass green				Silic. in bands @ 60° w/ clay alt. relic clasts, f.g. py + minor marc.
			105			104-110' 2% diss. f.g. py + minor disc. smec. str.
108						107' grn chl. + brassy py
11						
		- 110-111' Upper contact @ 50°, base contact irreg. F.g. crudely bd porphyritic airfall tephra	110		frac's @ 60° w/ wht smect.	brassy marc. ± smec. @ 70°
	113	111-119' Inverse graded, crudely laminated lapilli-lithic c.g. tuff., hetero/polylithic clasts in f.g. matrix supported groundmass Blotchy pale to med. dark grn				110-116' 1-2% diss. f.g. py minor disc. smec. str., marc. str. @ 70-80°
			115		- oxid. str. @ 70°	
117						116-117.5 f.g. Q + py + smec. @ 50° + FeOx
12					117.5-118' Tectonically bx Q + py + marc. vn in tuff. bounded by 55° frac's	
		119-122' Siliceous (replacement) flow-laminated lapilli-lithic tuff, clay altered pumice lapilli, lithics & crystal frags in f.g. Silica matrix ± diss f.g. py ± minor brassy marc.; bleached very pale green	120		119' Bedded contact @ 60°	
	122.5				122-123 Tectonically bx Q + py + marc. + FeOx vnlts + tuff. @ UNKN orient.	
126		122-130.5' Coarse-grained, poorly-sorted heterolithic, clast-supported tuff breccia, brown to pale green f.g. matrix	125			
13					127-128' Matrix is soft pale grn clay - fault gouge w/ sulf. str. truncated @ clay margin	
			130			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
96	101	5.0'	0.003	0.05		
101	106	5.0'	0.001	0.04		
106	110	4.0'	<0.001	0.03		
110	117.5	7.5'	0.001	0.05		
117.5	123	6.5'	0.002	0.04		
123	127	4.0'	0.002	0.05		
127	130.5	3.5	0.001	0.05		

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	132	130.5 – 175' Pale to medium green, locally grey & purple bleached/stained, very fine-grained, well-sorted, vitroclastic, massive to crudely banded &/or laminated airfall tephra. Varing types & degree of alteration as noted to right.	135		130.5' Frac'd contact @ 85° & 40° silicified clasts w/ SiO_2 + Py reaction halo/rims	129–130.5 Matrix is soft pinkish brn clay 130.5–133 Intensely silic. pink @ top & wht to v. pale grn; 40° frac's frac coating of f.g. slightly yellow-brassy pseudo hex marc.
136						
	142.5		140		138.5–139 frac'd w/ FeOx stn. silic & clays	133–145 SiO_2 microhairline stkwk–giving appear of bx. minor 1-2/ft. 70° marc str. <0.5 high & sulf± Q + smec, str.
145			145			145–156 2–3% v.v.f.g. cubic py & 145–155' 0.1–0.8" Bar + Q + smec + marc @ 30° @ 0.8/Ft. + Py fram's open-space Q Bar encapsulating Py smec. x-cut by 70° sulf + Q + smec Barite >1.0cm strongly zoned Py-fram's w/interstitial red, soft Ruby Ag?
	153		150			
155			155		frac'd @ 45°	156–164 1.0/Ft Marc + Q + smec. @ 70–80°; 1–2% v. f. g. cubic py; 0.5/ft. Marc. + Q + smec. @ 30°
			160		frac'd & clay alt. @ 50°	
	163					163–169 reddish brown SiO_2 microhairline stkwk w/ sulf + Q + smec @ 70, 30°, increased smec. content & voids
164			165			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
130.5	133	2.5'	0.003	0.07		
133	138	5.0'	0.001	0.05		
138	143	5.0	0.002	0.08		
143	148	5.0'	0.003	0.12		
148	153	5.0'	0.013	0.22	0.012	
153	158	5.0'	0.005	0.11		
158	162	4.0'	0.017	0.25		
162	165	3.0'	0.004	0.09		

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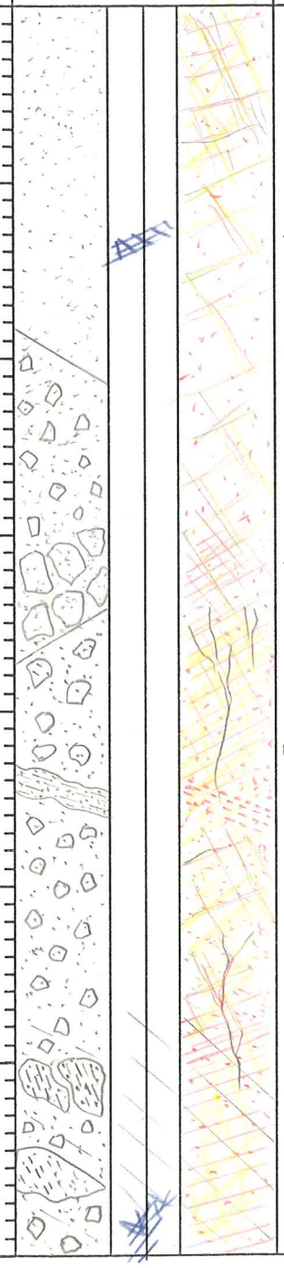
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
173	173	mod-mod HD; pale grn w/ med-dk grn SiO_2 micro stkwk 175-182.8' Fine-grained tuff breccia, w/ angular clasts of fine-grained tephra in a fine-grained siliceous matrix, predomin. matrix-supported at top, Δing ↓ into clasts-supported or crackle breccia	170 175 180		frac'd & clay alt. 175' Sharp planar contact @ 60' 180-182.8' marc. + Q + smec./ill @ 40 & 60° <<@15' 10/ft. total + 1-2% diss py 182.8-187 hairline str. @ 80; 60; 30° 8-10/ft. + 1-2% diss py	169-183 Minor sulf + Q + smec. @ 75-80; decrea. SiO_2 microvnlts; 40° prom. w/ smec > marc > Q diss. py 2-3%
183	183 55% 10 TOTAL >4"	mod Hd w/loc. mod; pink matrix w/ pale grn, gry clasts 182.8-248' SAME AS ABOVE w/SILIC. SANDY PINK MATRIX & CLAY ALTERED CLASTS - THAT COMMONLY DISPLAY PLANAR & GRADE-LAMINATION; GENERALLY MATRIX-SUPPORTED - 187-188' Prom. Planar graded lamination @ 70°	185 190		187-188 diss ± hairline str @ 70° 188-194' diss py 2-4%; 25-35° smec/ill + marc. 1.5/ft; 5-10° (1) 70-80° <1.0/ft.	182.8-184.5 Pale grn clay in 0-5° vnlts after chalcad 182.8-214 Clasts have > clay alt + < diss. sulf + < silic than accomp. matrix
192.5	193 66% 11 TOTAL >4"	- 194-200' Crude fabric @ 60° inpart from low ∡ sulf. str. - 195-196' Vague planar-lamination @ 20° X-cut by sulf ± Q ± smec. @ 80-90° & 20-35°	195 200		194-206' 1-3% diss. py w/ marc. ± Q ± smec/ill @ 70; @ 5-10/ft. + minor smec/ill frac's @ 50° 199-200' Crackle bx 200-202' frac's w/in whl smec/ill @ 40°	

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
165	170	5.0'	0.007	0.09		
170	175	5.0'	0.002	0.04		
175	180	5.0	0.003	0.10		
180	182.8	2.8'	0.002	0.09		
182.8	187	4.2'	0.002	0.06		
187	190	3.0'	0.002	0.06		
190	195	5.0'	0.003	0.07		
195	200	5.0'	0.003	0.07		

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
202	203 79% 14 TOTAL >4"	S.A.A. Hd				204-218' Minor ducks-butter yellow clay w/ smec./ill.
			205		206-207 frac's @ 30-40'+5'	206↓ deeper pink color of matrix; incr. in diss py size & abund. 3-7% sulf (marc) str. @ 60-90 are convoluted (stylolized) to 248'
211	213 49% 8 TOTAL >4"		210		vuggy frac'd-crackle bx 209-210; 211-215' w/ open-space f.g. Q + marc. + loc bar 215-221 incr. frac-bx w/ clayey matrix gouge + yellow oxid. smec/ill. frac's @ 40; 80; 5'	213-256' Clasts have > clay alt + < sulf + SiO_2 OR > SiO_2 + sulf - commonly w/ in core & clay alt halo's
		SOFT MATRIX w/ mod Hd clasts	215			218-228' Ducks-butter yellow clay consistent (outer exposed surf.) w/in smec/ill str.
220.5	223 70% 10 TOTAL >4"		220			220-248' Mod to intensely silicified f.g. ground-mass, w/ clear Q micro-hairline stockwork w/ brass colored bladed marc & diss brass to yellow colored hexag to bladed marc. + distorted/contorted py cubes.
		-223-238' Clasts of planar-laminated f.g. tephra w/ lam's @ random orientations	225		227 @ 60' porous ductile non-slicked smec/ill + high z yellow py-ohed + mar + v.v.f. v.g. X-cut by (5' smec/ill yellow clay-slicked + sulfosalt + cpy	228-240' Ducks-butter yellow clay in smec/ill str. + yellow coloration of bx clasts.
230		Hd	230		232.7' s.a. below + zoned bar w/ 5' vnlt.	228↓ diss. py is yellow, mod. soft, distorted cubic & prismatic > 5%
	233	SOFT MATRIX			@30' 234.3-235.1' 10% composed of yellow stained smec/ill clay w/ slicks smeared sulf + v.f. to f.g. V.G. Yellow oxid. stn of clay up to 0.05" tt. Marc. platelets yellow poly syn. twinned surf's	228.5-232 No str/vnlts @ any orient. but 6 micro hairline Q + smec/ill + marc. + bright yellow dimorph & py-ohedron py @ 78-82'
		SOFT MATRIX	235			→ w/ < dk grey clay slicked Q + s.s.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
200	205	5.0'	0.002	0.06		
205	210	5.0'	0.004	0.08	0.004	
210	215	5.0'	0.005	0.08		
215	220	5.0'	0.006	0.12		
220	224	4.0'	0.011	0.11		
V.G. 224	228.5	4.5	0.023	0.14		
Cu-py-oheds 228.5	232	3.5'	0.024	0.08		
V.G. 232	234	2.0'	0.080	0.18	(grav) 0.090	

→ open space f.g. Q + grey clay + s.s. + Tr Ruby Ag + polysyn marc w/ exsolv. Au + loc. smeared into clay @ 30' microhairline

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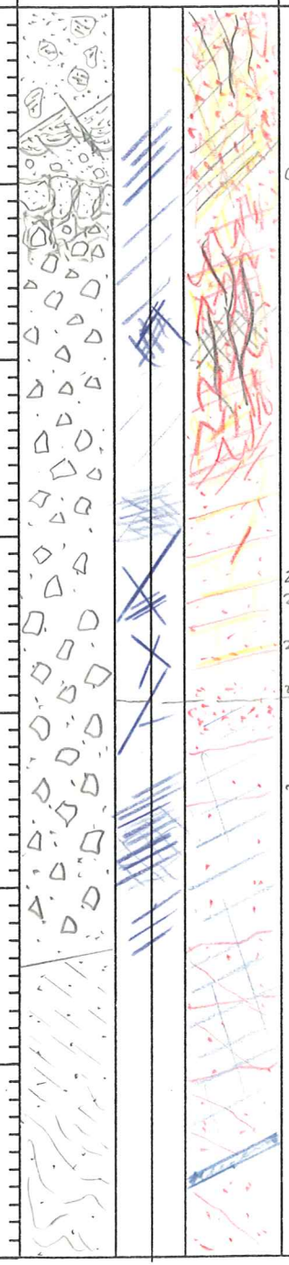
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	60% 10 TOTAL >4"	Hd				
239		mod-mod Hd; SOFT MATRIX mod Hd; Clasts				
	243 55% 10 TOTAL >4"	mod-mod hd				
249		mod soft; mod-mod Hd				
	253 58% 11 TOTAL >4"	soft				
258		soft				
	263 75% 15 TOTAL >4"	mod-mod Hd				
267						

- 238-239' Pale green bedded f.g. clayey tephra w/ faulted & offset & contorted laminations
- 240-242' drab green v.f.g. dense massive claystone clasts w/ black slickedy carbonaceous material in surrounding matrix
- 241-248' Mixed litho of clasts w/ sandy planar lam f.g. tephra + clayey v.f.g. (pale green) clayst or tephra
- 248-259' Matrix & clasts losing sandy texture Δing to pale to drab green clayey matrix & clasts; sandy pink clasts w/in green clayey matrix loc. 251-255' w/ swirled & contorted laminations & mixing of differing clast types.

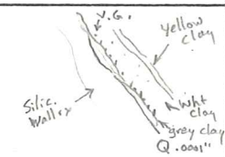
262- Fine-grained clayey epiclastic tuff w/ wavy, cross, and planar-laminations, locally contorted soft-sed deformation. Dom. lam. orientation @ 55'; Thin-rhymically bdd

FT: 240, 245, 250, 255, 260, 265, 270

GRAPHIC LOG



STRUCTURE



@45' slicked dk grey, wht & yellow clay in 0.1-0.7"

White smec/ill on 50° frac's ↓

clayey gouge

black slick appear carb + sulfosalts

251' @35' black slicks

252' @diff. orient. @35' s.a.a. tand @ 60° @30°

253.5-254.2 black slicks @20°; 50°

254.5' Black slick @30°

Prom. slicks @60°

ALTERATION AND MINERALIZATION

233-248' High Z, yellow cast py-ohedrons & dimorphic beveled cubes w/in smec./ill + marc. ±Q vnlts @ 5-30°. & clay alt g.m. 4-10% f. to med grd

242-246' 0-10' high & carbonaceous frac's w/ slicked wht to orangish tan clay

248-257 Diss. py is predom cubic, high Z steel to loc. yellow ± tarnish color 2-4%

254.5' ↓ $CaCO_3$ microvnlts @ 60-70° & <@30° ± diss cubic py 1-2 decr to <1% ↓

Minor sulf str. ↓

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
V.G. Ox-Cl 234	238	4.0'	0.486	0.72	(grav) 0.560	Au avg .523
dk gry clayey slicks 238	242	4.0'	0.777	1.54	(grav) 0.802	Au avg .790; 232'-251' 19' @ 0.425, 1.45
242	247	5.0'	0.367	3.33	(grav) 0.370	
247	251	4.0'	0.153	0.37	(grav) 0.148	
251	255	4.0'	0.046	0.19		
255	260	5.0'	0.040	0.40		
260	265	5.0'	0.038	0.06	0.041	
265	270	5.0'	0.019	0.04		

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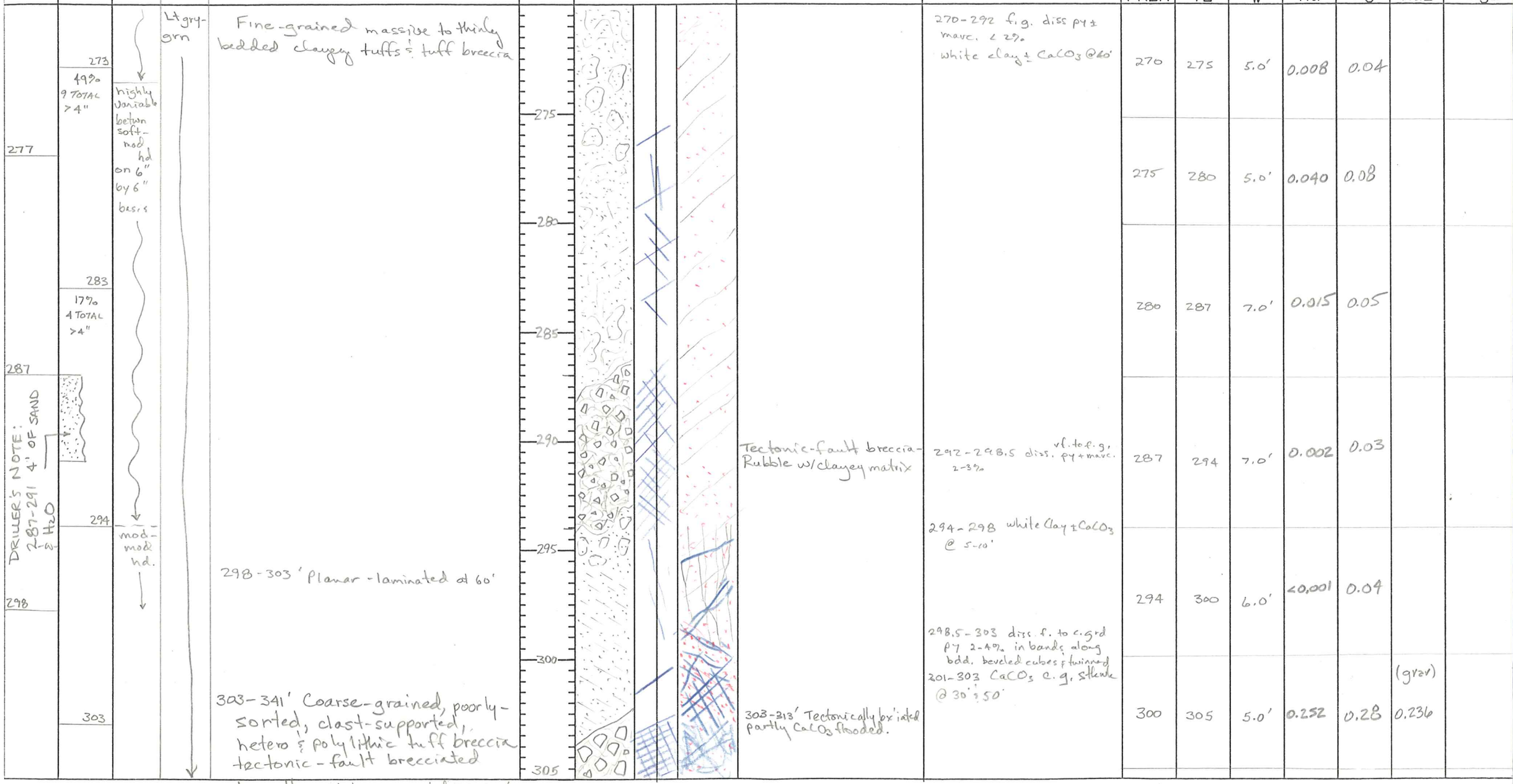
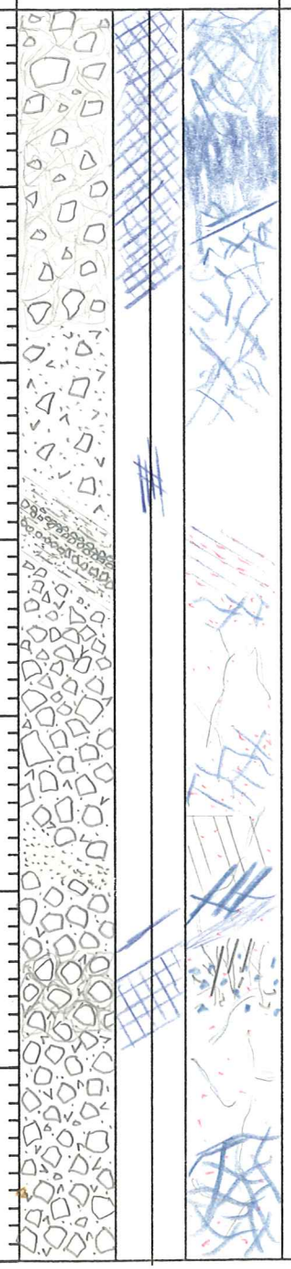


ANALYTICAL DATA

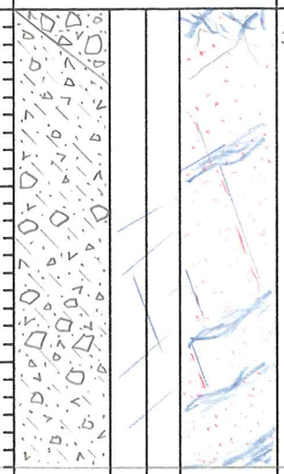
FROM	TO	W	Au	Ag	Au2	Ag2
270	275	5.0'	0.008	0.04		
275	280	5.0'	0.040	0.08		
280	287	7.0'	0.015	0.05		
287	294	7.0'	0.002	0.03		
294	300	6.0'	<0.001	0.04		
300	305	5.0'	0.252	0.28	0.236 (grav)	

HOLE NUMBER 94-299 c PAGE 10 OF 11

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
308		drab kaki grn ↓ med to loc. dk grn	310		principal stx's @ 50-55°	
	313		315			
317			320			
	323	– 319 – 321.3 Inter-bedded fine to med grained micaceous, carbonaceous sandstone w/ normal & reverse graded bdd @ 55° 321.3 – 341 Coarse-grained, poorly-sorted, clast-supported, hetero & poly lithic tuff breccia, or pebble conglomerate w/ clasts of carbonaceous-micaceous sediments a.a.; clasts are rounded, sub-rnd to angular; f.g. silic. dk grn clay matrix is introduced – filling frac's w/in clasts; loc. biotite is pseudo-morphically replaced by white to clear sericite → prob. pebble congl.	325			321.3 – 341 Minor discont, irreg., narrow (0.005"-0.03") white smec./ill + $CaCO_3$ + ferrugenous tan $CaCO_3$ + semi-hard brassy py; diss. cubic f.g. py < 1%
326.5			330		this imminated from → Fault bx 332-334 w/ angul. $CaCO_3$ ± py & tuff frags, x-cutting high ∡ (15°) & fragmented white clay ± carb ± py	328-330' white clay ± $CaCO_3$ ± py @ 70° ± marc. w/in f.g. waterlain sed. 330-332 C. x/n $CaCO_3$ @ 40° opposing 20° about
	333		335			337-341 C. x/n $CaCO_3$ stkwk @ 50, 80, 20°
336			340			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
305	310	5.0'	0.125	0.12	0.130	Au3 (grzv) 0.128
310	315	5.0'	0.010	0.04		
315	319	4.0'	0.023	0.06		
319	321.5	2.5'	0.059	0.15		
321.5	326	4.5'	0.008	0.03		
326	330	4.0'	0.026	0.05		
330	335	5.0'	0.004	0.04		
335	341	6.0'	0.010	0.05		

HOLE NUMBER 94-299C PAGE 11 OF 11

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	343	341-353' Flow-laminated coarse-grained lapilli-lithic tuff & tuff breccia; matrix-supported, heterolithic; flow-foliation @ 45°; flattening ratios for pumice lapilli 5.0 to 9.0:1; porphyritic w/ 5-15% clay alt. feldspar and Tr-1% chloritized ferromag's, & 1-2% seritized bio.			341' Slicked apparent contact @ 50°	341-353 V. Fine-grained diss. py 1-2%; Minor thin $CaCO_3$ + py @ 20° & C. xln $CaCO_3$ @ 60° @ 344, 349, 351 & 353
346			345		Slicked frac's @ 60, 80, 20°	
353	353	END OF HOLE @ 353'	350			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
341	347	6.0'	0.009	0.05		
347	353	6.0'	0.030	0.17		

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: 94-299C

LABORATORY JOB No. : SP029715

SAMPLE TYPE :

RECEIVED : 27/06/94

REPORTED : 6/07/94

No. SAMPLES : 70

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 : 94-299C
JOB NUMBER : SP029715
REPORTED : 6/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-299C 15-20	0.001			0.04
94-299C 20-25	<0.001			0.02
94-299C 25-31	<0.001			0.03
94-299C 31-36	0.001			0.05
94-299C 36-42	0.004			0.03
94-299C 42-47	0.002			0.02
94-299C 47-55	0.003			0.03
94-299C 55-61	<0.001			0.02
94-299C 61-66	<0.001			0.03
94-299C 66-71	0.002			0.02
94-299C 71-76	0.001			0.04
94-299C 76-79.5	0.003			0.06
94-299C 79.5-86	0.004			0.17
94-299C 86-91	0.004			0.27
94-299C 91-96	0.002			0.10
94-299C 96-101	0.003			0.05
94-299C 101-106	0.001			0.04
94-299C 106-110	<0.001			0.03
94-299C 110-117.5	0.001			0.05
94-299C 117.5-123	0.002			0.04
94-299C 123-127	0.002			0.05
94-299C 127-130.5	0.001			0.05
94-299C 130.5-133	0.003			0.07
94-299C 133-138	0.001			0.05
94-299C 138-143	0.002			0.08

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories Inc.

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JOB NUMBER : SP029715
REPORTED : 6/07/94

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-299C 143-148	0.003			0.12
94-299C 148-153	0.013	0.012		0.22
94-299C 153-158	0.005			0.11
94-299C 158-162	0.017			0.25
94-299C 162-165	0.004			0.09
94-299C 165-170	0.007			0.09
94-299C 170-175	0.002			0.04
94-299C 175-180	0.003			0.10
94-299C 180-182.5	0.002			0.09
94-299C 182.5-187	0.002			0.06
94-299C 187-190	0.002			0.06
94-299C 190-195	0.003			0.07
94-299C 195-200	0.003			0.07
94-299C 200-205	0.002			0.06
94-299C 205-210	0.004	0.004		0.08
94-299C 210-215	0.005			0.08
94-299C 215-220	0.006			0.12
94-299C 220-224	0.011			0.11
94-299C 224-228.5	0.023			0.14
94-299C 228.5-232	0.024			0.08
94-299C 232-234	0.080		0.090	0.18
94-299C 234-238	0.486		0.560	0.72
94-299C 238-242	0.777		0.802	1.54
94-299C 242-247	0.367		0.370	3.33
94-299C 247-251	0.153		0.148	0.37

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories Inc.

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REFERENCE : 94-299C
JOB NUMBER : SP029715
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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-299C 251-255	0.046			0.19
94-299C 255-260	0.040			0.40
94-299C 260-265	0.038	0.041		0.06
94-299C 265-270	0.019			0.04
94-299C 270-275	0.008			0.04
94-299C 275-280	0.040			0.08
94-299C 280-287	0.015			0.05
94-299C 287-294	0.002			0.03
94-299C 294-300	<0.001			0.04
94-299C 300-305	0.252		0.236	0.28
94-299C 305-310	0.125	0.130	0.128	0.12
94-299C 310-315	0.010			0.04
94-299C 315-319	0.023			0.06
94-299C 319-321.5	0.059			0.15
94-299C 321.5-326	0.008			0.08
94-299C 326-330	0.026			0.05
94-299C 330-335	0.004			0.04
94-299C 335-341	0.010			0.05
94-299C 341-347	0.009			0.05
94-299C 347-353	0.030			0.17

299 C
120'

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

NL SPERRY-SUN

299 C
15'

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

NL SPERRY-SUN

299 C
340'

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

NL SPERRY-SUN

299 C
230'

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

NL SPERRY-SUN

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