60001539

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. D-92-94
AUTHOR	M. Nelson; C. Muerhoff; S. Faircloth
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.
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 1045' handwritten notes 41p.

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)

Revised: 1/22/08

	Initials	Date
SS:	DD	5/29/08
DB:	mad	
SCANNED:	NV Blue	

D-92-94

6000 1539 4010

66001539

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER D 92-94	LOCATION	REMARKS	
PAGE 1 OF 16	NORTHING	0-15' core	
DATE 11/5/1994	EASTING	core photographed	
LOGGED BY Martin A. Nelson	ELEVATION	All core assayed.	
SCALE 1"=20'	AZIMUTH		
TOTAL DEPTH	INCLINATION		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG (Lith / Struct / Alt/Mine)	STRUCTURE	ALTERATION AND MINERALIZATION
		0'—11' V. pale green fine ash tuff. Not layered, massive, cut by 100's of hairline fxs per foot - most are green, and have a pale green 1/16"-1/8" halo. Locally have rounded, bounded by fxs, clast like structures. Dense-moderate "ring" w/ hammer blows **11'—18'** Medium green fine ash tuff. Not layered, probably massive. Moderately soft little/no "ring" @ hammer blow gradational contact **18'—52'** Layered dull pink/tan, pale green fine ash tuff. 1/8"-1 1/2" partings which alternate pink/tan and pale green. Chlorite on most fxs, fxs have 1/8" chlorite/sericite halos. Locally the seritization is "splotchy" w/ undulating partings.	0' 10' 45° 20' 30' 40' 50'	40°-45° 60° 40° 35° 35°	0'-11' 10's to 100's of hairline fxs/ft. @ 11' 2-3 1/4" fxs w/ chl, sericite, white clays, py @ 11'-18' cut by 2-3/ft 1/8"-1/4" ser, white clay, fxs/foot - interval is mod. broken 18'-54' 3-4 1/16" fxs w/ chlorite, marcasite/ foot. @ 25' 1/2" fault w/ white clays, marcasite, gray qtz. @ 27' 6" broken zone healed w/ gray qtz. 36'-37' broken to 1"-2" rubble.	0'-11' weakly sericitized, fr dissem py throughout Chlorite/sericite halo on hairline fxs. 11'-18' interval mod. soft 1% dissem py throughout Moderately sericitized 18'-52' Interval harsh-"rings" w/ hammer blow, weakly alunitized pink/tan, sericitized pale green along partings. Chlorite on fxs. Trace-1% dissem. py throughout. Marcasite on fxs. Ser. halos adjacent to most fx

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	6	6	.002	.04		
6	11	5	.012	.07		
11	18	7	.770	1.38	.959 (grav)	
18	23	5	.511	0.58	.373 (grav)	
23	28	5	.115	0.33	.132 (grav)	
28	33	5	.016	.04		
33	38	5	.046	.05		
38	43	5	<.001	<.02		
43	48	5	.002	<.02		
48	52	4	.033	.41		

HOLE NUMBER D 92-94 PAGE 2 OF 16

REC	RQD	LITHOLOGY	FT 50'	GRAPHIC LOG (Lith / Struct / Alt/Miner)	STRUCTURE	ALTERATION AND MINERALIZATION
		18'-52' Layered fine ash tuff - (cont'd)				
		52'-+/-73' "Leopard spotted" layered fine ash tuff. ~30% elongated + round 1/8"-1/2" pink/tan aggregates in a v. pale green, sericitized matrix. Aggregates may have been vesicles in the unaltered unit. Aggregates are typically zoned, w/ a tan/brown rim and a gray qtz (or sometimes chlorite) core. Interval is typically soft, w/ only local, wk silicification.			@ 52' Fault contact @ +/- 50° (probably) @ 55' 1" gray qtz w/ marcasite healed bx @ 58' 3" gray qtz bx 59'-70' moderately broken by 8-10 1"-2" gray qtz bx zones, w/ wk-mod. white clays.	52'- Tan/brown/pink alunitized aggregates layered through a v. pale green sericitized matrix. @ 58' 3" gray qtz cemented bx w/ 1% py/ marc, diss. chlorite @ 68' 3/4" $BaSO_4$ xls post gray qtz in vugs. 59'-70' Moderately broken, bx's healed w/ gray qtz, mod. marcasite in associated vugs. 81'-87' Strongly SiO_2'd w/ 1% dissem. py. @ 90' 4" v. strong chlorite along fault. @ 99' 2" marcasite lens @ 60° to core axis. @ 101' 1" marcasite veinlet at 25° to core axis. Tr. py @ 112' 4" chlorite/marc @ 35° to c.a. 109'-121' Weakly-mod'ly argillized - soft
		73'-93' Fine v. pale green/pink tan fine ash tuff. Locally layered 81'-87' strongly SiO_2'd			74'-75' gray qtz healed bx w/ marcasite 79'-85' Moderately broken by 8-15 fxs w/ chlorite/ft. V. strong SiO_2'tion	
		93'-121' Pale green, w/ dk green "speckles," fine ash tuff. Locally layered as noted in the lithology log. Pale green sericitized matrix (groundmass) with +/- 20%-30% 1/16"-3/16" typically elongate dk. green (chlorite) rimmed vesicles/aggregates: Aggregates often have a parallelism that probably reflects original layering, or the orientation of vesicles that have been stretched or compacted (chlorite rim often w/ parallel orientation; gray qtz, white clay fillings; 1/16"-3/16")			108'-121' Layering not discernable.	

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
52	59	7	.036	.08		
59	64	5	.044	.16		
64	70	6	.017	.08		
70	75	5	.014	.07		
75	79	4	.007	.06		
79	84	5	.002	.04		
84	87	3	<.001	<.02		
87	93	6	<.001	<.02		
93	98	5	.002	.04		
98	103	5	.003	.07		
103	108	5	.035	.08		
108	113	5	.005	.07		
113	118	5	.005	.04		
118	121	3	.004	.06		

REC | RQD

LITHOLOGY

93'-121' Pale green w/ dk. green "speckles" fine ash tuff (cont'd)

121'—142.5' Pale/Medium green interval of fine ash tuff. Entire interval is cut by many gray quartz 1/2"-2" veinlets/veins - many have strong (late) marcasite associated with them. 121'-137' is brecciated (locally vuggy), and healed/cemented w/ gray SiO_2. 137'-142.5' is broken, but not brecciated, and cut by many gray quartz veinlets.

142.5'— 190' Medium green fine ash tuff, not layered, fairly hard, "rings" w/ hammer blow. Moderately strong silicified. 0.5% dissem. py/ marcasite throughout

FT 120'

GRAPHIC LOG — Lith | Strvd | Alt/Miner

good

130' 140' 150' 160' 170' 180' 190'

Probable layering

STRUCTURE

@121' Sharp fault @ 65° to core axis

@125' Sharp fault @ 50° to core axis

@126' 2" white clay, marc

@121'-137' Bx'd, healed w/ gray qtz.

142.5' — cut by 2-4 hairline - 1/8" fxs w/ gray qtz/marcasite/foot. Local patches/irregular pinkish/tan alunitization. Interval typically has 10's-100's of hairline, healed fxs/ft. They are healed with chlorite

Olive green sericite? serpentine? .....

ALTERATION AND MINERALIZATION

121'-142.5' SiO_2'd, sericitized w/ chlorite, strong local marc ++ Cu(?), gray/SE

@125' 3/4" w/ gray qtz, marc. gray gouge, gray SE (?)

127'-130' Strong gray qtz, white (solid) clays.

@138' 2" gray qtz @ 50° to core axis.

142.5'- moderately sericitized throughout, moderately - strongly silicified. Dissem py/ marcasite throughout

@158.5'-159.3' Bx'd, strong gray quartz, vuggy

172'-180' core is an unusual olive green or pea green along structures - haven't seen before. Olive green mineral is waxy - form of sericite? looks like serpentine .....

@181' 1/2" vuggy gray qtz, marcasite, white clay @ 25° to core axis.

@189' 3" vuggy gray qtz w/ (coarse) marcasite @ 50° to c.a.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
121	126	5	.005	.06		
126	131	5	.003	.04		
131	136	5	.007	.09		
136	142.5	6.5	.007	.09		
142.5	148	5.5	.003	.06		
148	153	5	.002	.04		
153	158	5	.003	.05		
158	163	5	.004	.04		
163	168	5	.010	.04		
168	173	5	.006	.06	.004	
173	178	5	.005	.04		
178	183	5	.001	.08		
183	190	7	.001	.03		

HOLE NUMBER D92-94 PAGE 4 OF 16

REC	RQD	LITHOLOGY	FT 190'	GRAPHIC LOG Lith. Struct. DH/Mine	STRUCTURE	ALTERATION AND MINERALIZATION
		190'-209.5' Lt. gray fine ash tuff. Remnant layering Locally (@ 193') there are vestiges of the original layering. This interval is WEAKLY- moderately argillized throughout - it is soft/WEAK.		no %	190'-192' gradual change from medium green fine grained tuff to light gray, soft, argillized tuff. no %	190'-209.5' WKLY- mod'LY Argillized - very soft- trace pale green sericitization locally. Many hairline SiO_2 MARCASITE veinlets + dissempy.
		209.5'-234' Layered fine ash tuff, medium green throughout, breaks at parting into 1/4"-1 1/2" discs, good %	200'	20°	203'-208' mottled layering	
				70°	1.2' strong SiO_2 vein parallel to layering.	w/ marcasite- Vuggy.
			210'	70° 70° 70°	@ 209.5' 2"-4" soft gray clay @ fault contact	@ 209.5' coarse BASOY w/ gouge in fault zone
				60°	209.5'- on 10's of chlorite, marcasite filled fxs/ft. Most are parallel to partings	216'-227' strong white clays on fxs + chlorite, marcasite
				70°	216'-227' v. broken w/ strong white clays, chlorite on all fxs - interval entirely 1/2"-1 1/2" frags. — rubble	@ 217' 0.8' gray clay, rk. fgs.
			220'	70° Rubble		TR. S^0, $CuFeS_2$
		+/- 4		80°	≈ +/- 80°	229'-231' not sericitized — SILICIFIED/ ALUNITIZED
		234'-246.5' Tan- light gray SiO_2 cemented brecciated zone.	230'	70° 50° 30°	234' bx interval upper contact @ 30° to core axis. (good %).	234'-246.5' g. gray SiO_2 cemented bx w/ chlorite, marc.
				20°	Bx interval is @ 15°-30° to core axis	@ 235' 1 1/2"-2" gray qtz, vuggy w/
			240'	20°		@ 238' 2" vuggy gray qtz.
		246.5'- 289' Lt. gray/white fine ash tuff. not layered (or layering obliterated by alt.) Mixed interval w/ chlorite on fxs, marcasite, argillization + sericitization, local v. strong silicification. This interval appears to be an alteration halo related to the 289' major fault.		15°-20°	@ 247' bx interval lwr. contact @ 15°-20° to core axis.	242'-247' v. brecciated, healed by dk. gray qtz + marcasite
			250'	15°-20°	@ 253' 6" gouge/rk. fgs.	246.5'-260' interval moderately argillized, (SiO_2'd locally). Chlorite/marcasite on fxs
					@ 255' 6"-8" rubble	
			260'	15°	@ 260' 1/2" fx @ 15° to core axis.	

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
190	195	5	.001	.03		
195	200	5	.001	.03		
200	205	5	.010	.06		
205	209.5	4.5	.045	.08		
209.5	216	6.5	.033	.37		
216	221	5	.023	.07		
221	227	6	.002	.03		
227	234	7	.005	.07		
234	240	6	.022	.26	.025	
240	246.5	6.5	.015	.14		
246.5	252	5.5	.005	.02		
252	257	5	.002	.04		
257	262	5	.003	.03		

REC | RQD

LITHOLOGY

246.5'—289' Lt. gray/white fine ash tuff (originally?) cont'd ....

(LBT) LOWER BUD TUFF / (LBUD) BEDDED BUD

289'—326' Medium green, locally layered, well sorted, angular/sub-rounded, breccia(?) conglomerate/lithic tuff. Clast supported heterolithic (2-4 min. diff lithologies), with the matrix (fine grained) completely alter'd to waxy olive green (286'–315') and gray green clays. Trace dissem. py throughout. Has a sheared, drawn out texture like a mylonite, or large fault zone. Many clasts are argillized, sericitized. Clast edges remain sharp, and are generally not effected by the alteration seen in the matrix (interesting!) Typically w/ 1/4"-3/4" clasts

layering

326'— As 289'-326', but w/ mostly 1/8"-1/4" clasts, and clasts chloritized/sericitized

FT 260'

GRAPHIC LOG — Little Strud AH/Miller

STRUCTURE

1/16"-1/8" fxs w/ chlorite, marcasite.

271'-273.5' SiO_2'd bx

@275' 3/4" vuggy gray qtz, marcasite, wk. white clays, infloodry of SiO_2

fault

@284' sharp 3/8"-1/2" fault w/ gray qtz, marcasite

@296', 299' fxs @ 50° to core axis

@311' 1/8" fx w/ gray green clays, py

@325' 2-3 1/8" fxs w/ gray/green clay

ALTERATION AND MINERALIZATION

260'-261' 1' densely SiO_2'd

261'-284' moderately argillized w/ tr dissem py

271'-273.5' Densely SiO_2'd w/ chlorite, marcasite,

277'-281' Densely SiO_2'd interval. Upper contact in limit of SiO_2 floodry, lwr. contact is fault. Original texture masked, tr py throughout.

281'-283' argillized

283'-284' densely SiO_2'd

284'-289' Broken, clay altered.

@296' 1" gray qtz, marc

289'-315' w/ olive green waxy sericite(?)

@304' 3/4" marcasite, white clay @ 15° to core axis

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
262	267	5	<.001	<.02		
267	271	4	<.001	<.02		
271	273.5	2.5	.003	.03		
273.5	277	3.5	.026	.03		
277	281	4	.003	<.02		
281	285	4	.008	.04		
285	289	4	.001	.02		
289	294	5	<.001	<.02		
294	299	5	.004	<.02		
299	304	5	.002	<.02		
304	309	5	.002	<.02		
309	314	5	<.001	<.02		
314	319	5	.001	<.02		
319	324	5	<.001	<.02		
324	329	5	.001	.02		

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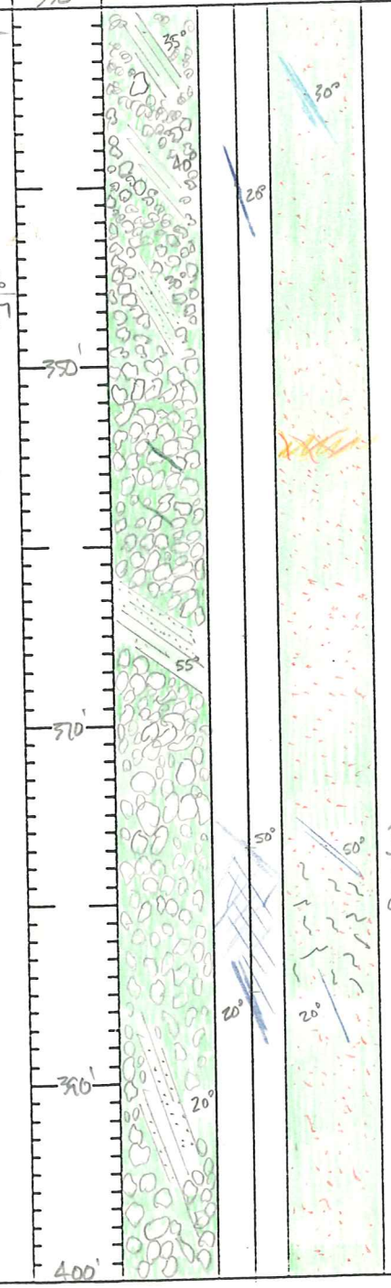
REC	RQD	LITHOLOGY	FT 330'	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		326'–425' Medium green breccia conglomerate/ lithic tuff (cont'd).....				@335' ½" coarse $CaCO_3$	329	334	5				
						355'-357' moderately silicified, 1/16" gray veinlets, marcasite							
					377'–385' brown w/ moderate white clays	377'-385' soft, clayey, moderately argillized/ WEAK pyrite							



HOLE NUMBER DA2-94 PAGE 7 OF 16

REC	RQD	LITHOLOGY	FT 400'	GRAPHIC LOG Lith / Struct / Alt/Mine	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		326'–425' Medium green breccia conglom-eeate/lithic tuff (cont'd...) little layering	410' 420' 430' 440' 450' 460' 470'	15° 20° 45° 60° 15° 40° 30° 15°	.5% disseminated magnetite throughout, w/ some py @ 410' 1/8" green/gray clay. @ 419', 421' 1" clay, gouge w/ rk. fgs @ 427' 2"-3" argillized zone 434'–437½' broken, argillized .5-1% dissem magnetite Wk. white clays on fxs. @ 467' .5' clay, gouge							
		425'– Medium green breccia conglom-eeate/lithic tuff as above, but w/ less lithic frags and more fine matrix											
		@ 449' boxes 46, 47 have a +/- 10' numbering error 10' core missing (error). ~8' core between blocks 437' and 457'											

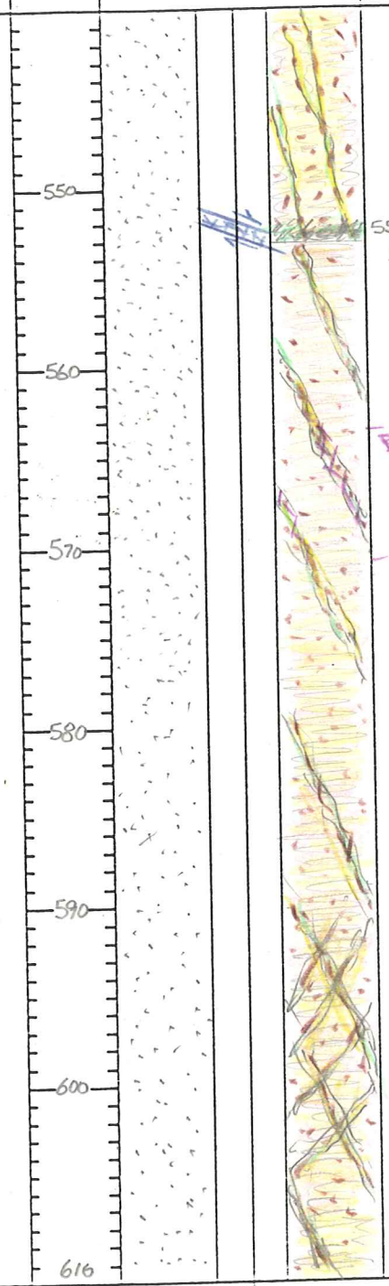
HOLE NUMBER D92-94 PAGE 8 OF 16

REC	RQD	LITHOLOGY	FT 470'	GRAPHIC LOG (Litho / Struct Alt/Mins)	STRUCTURE	ALTERATION AND MINERALIZATION
		425'–491.3' Medium green breccia conglomerate/lithic tuff (cont'd.....)				Weak white clays on fxs.
		491.3'–634.5' Light to med. tan, pinkish tan, greenish-grey, porphyritic, massive to crudely planar flow-laminated. sugary to granular texture; 3-5% euh- to subhedral pale grn to white clay ± chlorite ± sulfide pseudomorphs after elongated flow-aligned feldspar? ferromag minerals (pyx) in a sugary to granular siliceous ground mass. Lam's gen. @ 30-35°. BUD – MARKER BED	480 / 490 / 500 / 510 / 520 / 530 / 540	60° / 40° / 20° / good ∠ / 40° / 20° / 60°	@ 477' 4"-5" clay, py, marcasite – Ba ± Sb 491–505' frac'd w/ Q – marc ± ill frac-fill 6" gouge, clay 505–531' frac'd w/ 20° ⊥ 20° & 60° conj. syn. set w/ pale sage green ser–silica ± chl ± sulf. ± ill frac-fill 531–538' clast-supported crackle bx w/ rounded to sub ang. clasts in a ser-sulf-silica matrix	@ 490' 1½" grey qtz/py/gray/green clays 490'–491.3' moderately SiO_2'd w/ chlorite, marc, white clays. @ 497' 6" gouge, clay, marc @ 503' Sb_2S_3 xls in vugs w/ ¼"-⅜" $BaSO_4$ xls. 505'–531' Strong, waxy, pale green clay in ¼"-½" veinlets. Clay, is pre-white qtz. & pre-chl.-sulf. 531–538' as at left w/ no min stx's.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
472	477	5.0'				
477	482	5.0'				
482	487	5.0'	.003	.03		
487	491.3	4.3'	.005	.04		
491.3	495	3.7'	.007	.50	.006	
495	500	5.0'	.003	.10		
500	505	5.0'	.004	.12		
505	510	5.0'	.003	.03		
510	515	5.0'	.002	.04		
515	520	5.0'	.002	.03		
520	525	5.0'	.002	.03		
525	530	5.0'	.002	.14		
530	535	5.0'	.002	.03		
535	540	5.0'	.013	.06		

HOLE NUMBER D-92-94 PAGE 9 OF 16

REC | ROD | LITHOLOGY | FT | GRAPHIC LOG | STRUCTURE | ALTERATION AND MINERALIZATION



538 – 553 mod. silic + mod. alun + mod to mod. int. arg-T + 3-4% c.g. py-T clotts + ser-T of pheno's; min stx's 1-2/ft @ 10' 0.01 – 0.3" Q → ser-ill → bright py ft hex. sulf.

553 – 624 Swk to mod. silic + wk to mod. arg-T + wk to mod. alun + 2-3% c.g. diss py-T + min stx 2-4/ft. @ 20' 0.005-0.3" Q → ser → py-ill-bar-sulfate crusts

592 – 605' stronger arg-T + 1/4 – 1/2" Q → ill → more (py ft more) stk wk

ANALYTICAL DATA

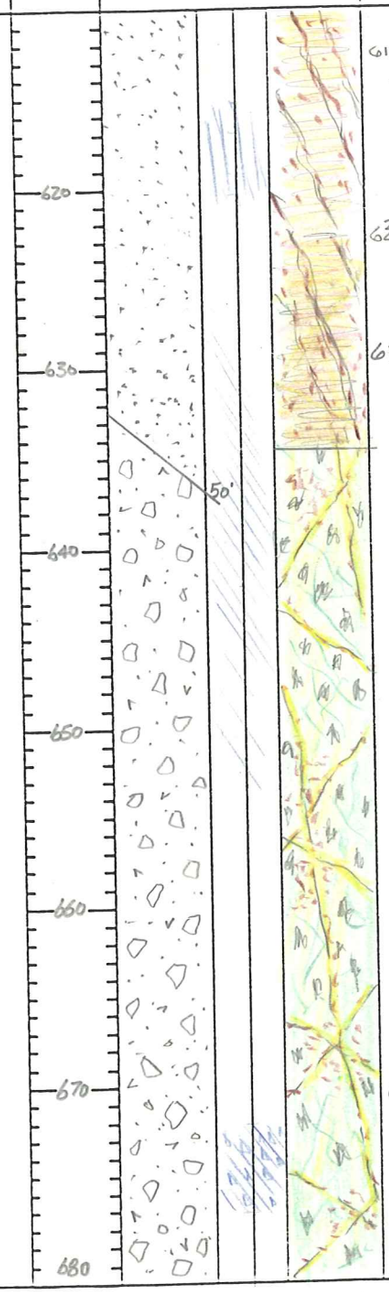
FROM	TO	W	Au	Ag	Au2	Ag2
540	545	5.0'	.005	.09		
545	549	4.0'	.002	.03		
549	553	4.0'	.006	.08		
553	558	5.0'	.009	.07		
558	563	5.0'	.008	.08		
563	568	5.0'	.006	.05		
568	573	5.0'	.002	.03		
573	578	5.0'	.002	.04		
578	583	5.0'	.017	.09	.013	
583	588	5.0'	.002	.08		
588	593	5.0'	.011	.10		
593	598	5.0'	.009	.75		
598	603	5.0'	.012	.29		
603	608	5.0'	.023	.19		

HOLE NUMBER D-92-94 PAGE 10 OF 16

REC | RQD | LITHOLOGY

Upper BuD

634.5-732' Coarse-grained, matrix-supported, massive/chaotic bedded heterolithic, poorly-sorted lithic ~~tu~~ tuff breccia (BUD TUFF). Medium green sericitic-chloritic devitrified glass matrix w/ angular ash to 2.0 cm argillitated lithic fragments.



GRAPHIC LOG

STRUCTURE

615-620' 0-5° ser-marc frac's

622-624.5' crackle or flow bx clast-supported angular homolithic

634.5-645' slicks parallel to flow-lam loc. >10/ft. @ 30°

Contact misplaced @624.5 actually at 634.5

672-677' soft clay-faulted on 40° stx's

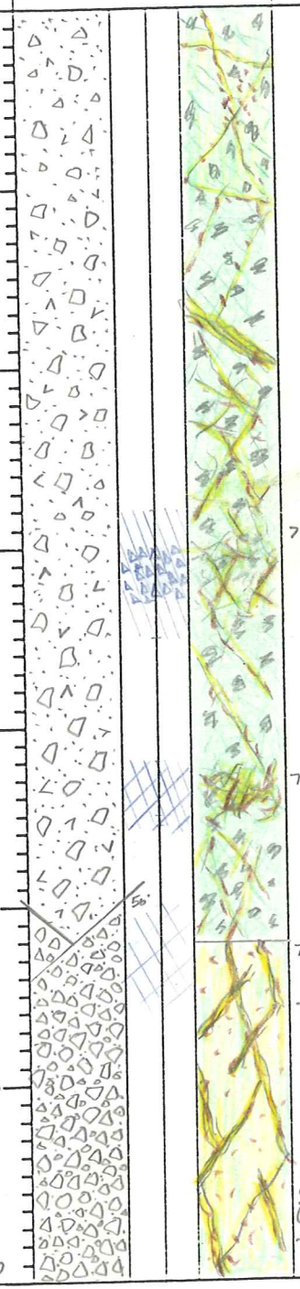
ALTERATION AND MINERALIZATION

624.5-693+' slightly silic + mod int. arg-T% clasts in a prop. alt (ser ± chl) g/m + tr-1% py-T w/ loc. clotts adj to min stx's; min stx's 1-2/ft @ 5°, 30°; 60-70° w/ Q → ill → marc-Py ± marc.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
608	613	5.0'	.003	.07		
613	618	5.0'	.002	.05		
618	623	5.0'	.007	.08		
623	628	5.0'	.002	.05		
628	631	3.0'	.006	.06		
631	634.5	3.5'	.004	.15		
634.5	640	5.5'	.002	.04		
640	645	5.0'	.012	.05		
645	650	5.0'	.004	.07		
650	655	5.0'	.023	.13		
655	660	5.0'	.006	.07		
660	665	5.0'	.018	.08		
665	670	5.0'	.011	.15		
670	675	5.0'	.014	.39		
675	680	5.0'	.008	.06		

HOLE NUMBER D-92-94 PAGE 11 OF 16

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		732 – 845.4' Medium to coarse-grained, clast-supported, moderate to poorly-sorted, massive to crudely-bedded epiclastic reworked lithic tuff. Medium to pale green.	690 Petro sample → 700 710 720 730 Petro → 740 750		708–715' rubbly-frac'd to fault bx (710–713') on 20° slicks w/ sml R↕G's @70° to slick-dip fragmented 3/4" wht vuggy Q + marc. unlt 722–725.5' rubbly fault bx w/ 45° & 20° slicks & frac'd Q-ill-sulf unlts 732' opposing silic frac'd contact 730–735' post-sulf slicks @ 30° & 50° w/ R↕G's @ 50° to slick-dip. varved f.g. xln Q & segregated f.g. xln Q+ ill @ 0–10° to core axis 45° stx @ 768'	693–732' s.a.a 634.5–693'. 698'– 2" lt wht f.g. Q+ interst. ill + occ. med to c.g. bladed py & marc @ 55° s.a.a. smaller & discont. w/ py & marc + 713' 732–788' mod. to mod int. silic overprinted on mod. ser-chl + mod. int. arg-T of grains/clasts + 1–4% diss cubic & bladed py-T; min stx's discont. stkwk @ 10° & 40° w/ 1/32 to +1" wht f.g. xln Q → gritty f.g. Q till → py & marc +vf.g. exsolved/adhered spl/ss/Δ + to sb 3–6/ft

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
680	685	5.0'	.008	.43		
685	690	5.0'	.010	.06		
690	695	5.0'	.005	.06		
695	700	5.0'	.009	.06		
700	705	5.0'	.213	1/4	.232 (grd)	
705	710	5.0'	.025	.11		
710	715	5.0'	.020	.10		
715	720	5.0'	.010	.09		
720	725	5.0'	.045	.13		
725	730	5.0'	.021	.57		
730	735	5.0'	.012	.43		
735	740	5.0'	.015	.53		
740	745	5.0'	.009	.06		
745	750	5.0'	.004	.10		

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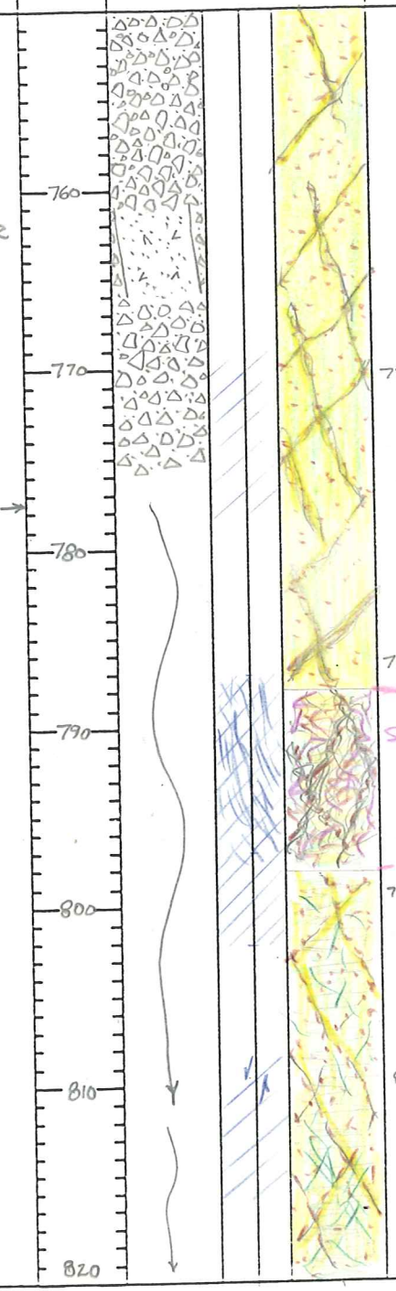
REC	ROD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		761–766' silicified bedded contact @ 0–5° between pale green vitroclastic airfall tuff (above) & med. dk green clast-supported reworked epiclastic tuff (below).	760		770–778' frac'd @ 50° 2-3/ft.	
		Petro →	780		787–797' frac'd - silic. fault bx w/ post Sb-bar displ. on 40-50° slicks Sb+bar	788–798' s.a.a. w/ stkwk SiO_2 tans-T min stx's w/ Q→Q+ill→ py & marc + bar + stibnite Sb up to 3-4%
			790			
			800		797–802' post-sulf. slicks @ 40-50°	798–845.5' post ser-T Mod. silic + mod. arg-T -bleached w/ mod. int. SiO_2 micro stkwk + discont. micro chl vnlt stkwk + 1-3% diss. bladed sulf.: min stx's 2-3/ft 0.05-0.15" @ 10-30° w/ Q→py±py & marc±ill
			810		809–815' 1-3/ft 50° post-silica slicks w/ R&G stx's @ 55° to slick dip	
			820			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
750	755	5.0'	.017	.45		
755	760	5.0'	.051	4.94	.053 (grav)	
760	765	5.0'	.084	4.34	.075 (grav)	
765	770	5.0'	.013	.67		
770	775	5.0'	NOT REPORTED			
775	780	5.0'	.005	1.58		
780	784	4.0	.006	.11		
784	788	4.0'	.007	.39		
788	793	5.0'	.010	.26		
793	798	5.0'	.009	.74		
798	803	5.0'	.012	.26		
803	808	5.0'	.004	.04		
808	813	5.0'	.002	.02		
813	818	5.0'	.004	<.02		

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REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		TCS Dirty brownish-grey, 845.5-865± medium to coarse-grained sandstone, grain-supported, angular to rounded lithic grains commonly w/ siliceous overgrowths in a silica-sulfide-clay matrix/groundmass. Moderate-sorted, graded bedding & crudely planar-bedded @ 30°. Heterolithic pyroclastic-volcanic grains incl. common vesicular rhyolite (vTr); source rocks predom. Tert. volc. + minor JTka ± tr organic carbon. 865-889 Silicified fault breccia(?) heterolithic rounded silicified pyroclastic fragments in a silica groundmass. 865-875' prim. ign./volc. textures repl. by massive silica. 889-1045' Silicified fault & crackle breccia w/in pale greenish-yellowish grey fine-grained massive nonporphyritic tuff (DOZER TUFF)	830 840 850 Petro 860 870 880 890	20°	832-1018 (186' - Ag Min?) 839-856' frac'd-rubbly-silic crackle (tectonic bx) stx's @ 50° ± ⊥ 60° 845-845.5' frac'd-slicked contact @ 20° 856-865± silicified fault bx w/ angular to rounded fragments of ss in a silica g/m. Ba Sb 865-877' 2-3/ft post-silic. frac's @ 55° ± 30-20° 877-914' post-silica fracturing w/ bar-Sb frac-fill @ 35° ± 50° Ba-Sb late Q-ill-Ruby Ag-tr cpy-ss	832-845' Q+f.g. Q-ill intergrowths w/ euhdral f.g. ss + exsolved/adhered cpy-isolated w/in units near the margin of stx's. 845.5-865 Mod ∆ to int. silic + mod. aug-T of grains + 2-3% f.g. diss cubic py-T + micro vnlt stkwk Q → py → py ft mael + ill ± Sph ± cpy ± Ruby Ag (0.05-0.20") @ 30°, 70° & 10° 865-875' Silic int. frac'd (post silic) & fault bx total repl. of prim. text. stkwk frac-open-space Q-stib-bar-ill + tr. equidimensional f.g. ss,. 875-885' Int. silic + stkwk w/ relic pyroclastic wall rx-stkwk frac-open-space ill-stib-Q ± tr bar 885-905 Intensely silic, f.g. tuff (prod) w/ a SiO_2-ill-bar-sb-ss groundmass

ANALYTICAL DATA

	FROM	TO	W	Au	Ag	Au2	Ag2
	818	823	5.0'	.003	.02		
	823	828	5.0'	.003	.03		
	828	833	5.0'	.001	.02		
*	833	838	5.0'	.002	.02		
*	838	842	4.0	.005	.83		
*	842	845.5	3.5	.005	3.74		
*	845.5	850	4.5	.006	1.96		
*	850	855	5.0'	.010	3.24		
*	855	860	5.0'	.005	2.52		
	860	865	5.0'	.009	12.55		
	865	870	5.0'	.009	2.30		
	870	875	5.0'	.009	1.94		
	875	880	5.0'	.014	1.62		
	880	885	5.0'	.024	10.32	.021	
	885	890	5.0'	.029	9.20		

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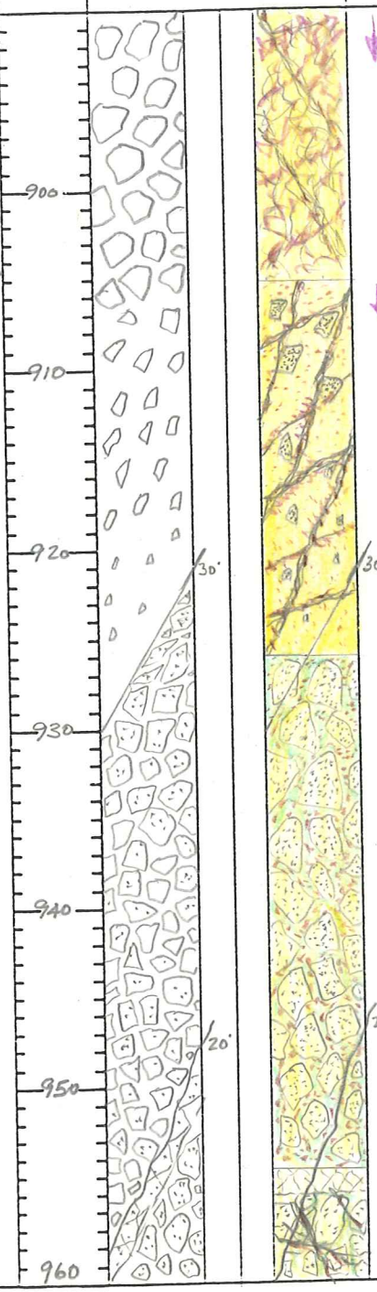
REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		Petro → ± py/marc Int. silic → frac'd → Q-ill intergrowths w/ fram py ± marc + Ruby Ag + tr cpy-ss → Bar ± sb Petro →	900 910 920 930 940 950 960		Silicified tectonic breccia Silicified tectonic/ crackle breccia & fractured f.g. tuff. incr. ± ser-T	905-926' Intensely silic w/ relic small wall-rx fragments that are mod silic + mod. arg-T + 1% f.g. diss py/ bladed marc.; min stx's 3-5/ft. 0.05-0.4" Q → ill ± bar (marc + fram py) → ss ± Ruby Ag + cpy @ 20°; 65° 926-954.5' Silica-ser-sulf flooded crackle to tectonic bx & stkwk microveinlet; wall rx is mod. silic + mod. arg-T + tr py-T; post microvuglt stkwk (silic) min stx's 5-10/ft. 0.01-0.15" Q ± marc py ± marc - ill (+ loc vuggy open-space marc + cpy-ss intergrowth m. to c.g. sub. to euh. 25°, 70-80° cpy core ss rim ex-cutting 50° frac's 954.5-1045' Alternating intervals of frac'd stkwk SiO_2 → ser → sulf ± SiO_2-ser-sulf flooded crackle to fault bx g/n (wall rx) mod. silic + mod. arg-T + tr py-T. late-stage 0.005 - 2.0" Q ± ill-bar-marc-cpy ss-Ruby Ag @ 20° to 40°

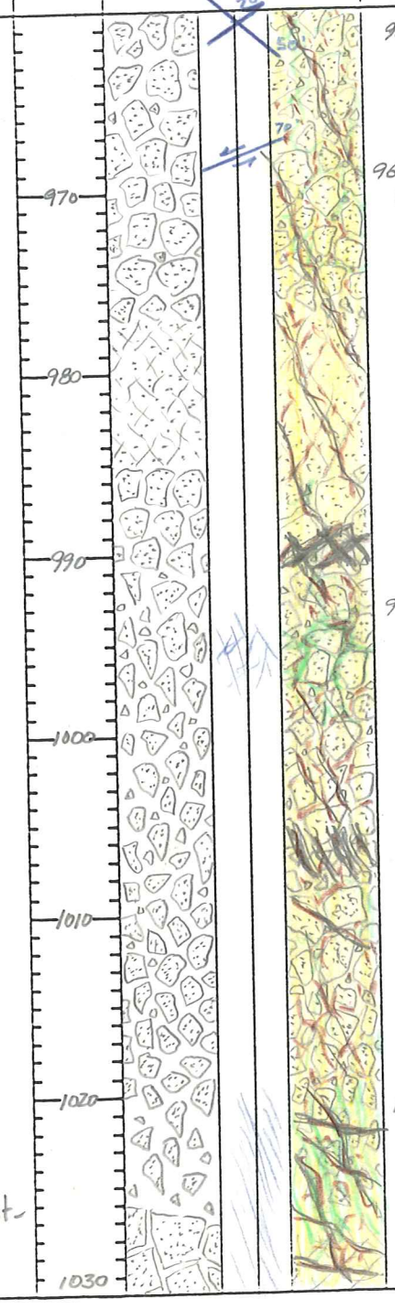
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
890	895	5.0'	.013	7.54		
895	900	5.0'	.034	8.20		
900	905	5.0'	.029	7.64		
905	910	5.0'	.011	3.32		
910	915	5.0'	.038	.88		
915	920	5.0'	.128	1.42	.146	
920	926	6.0'	.249	1.96	.270	
926	929	3.0'	.063	.19	.066	
929	934	5.0'	.054	.19	.058	
934	939	5.0'	.061	.66	?	
939	944	5.0'	.043	.19		
944	949	5.0'	.030	.04		
949	954	5.0'	.064	.07	.058	
954	959	5.0'	.070	.80	.076	

REC | RQD | LITHOLOGY | FT | GRAPHIC LOG | STRUCTURE | ALTERATION AND MINERALIZATION

977-985' primarily frac'd f.g. tuff w/ intense stockwork of silica-sericite-sulf.

1026-1045' weak crackle breccia locally clast-supported w/ minor clast-rotation & thin intervals of densely fractured



960.5' 50° post-silic/sulf/ill slick w/ R & G stx's @ 70° to slick-dip

968' 70° post-silic/sulf/ill slick w/ R & G stx's parallel to slick-dip

994-997' pale grn waxy sericite slicks as fragments w/in SiO_2-sulf matrix (of crackle bx)

1020-1030' 20° stx's w/ pale grn waxy ser ± Q-ill-marc-Ruby Ag. in part as fragments w/in Q-sulf vnlts

-989-990' 20°, 60° 0.10-2.0" Q→ill-marc-Ruby Ag-cpy-SS vnlts

-1006.5-1008.5' 20-30° 0.05-2.0" Q→ill-marc-Ruby Ag-cpy-SS vnlts

-1010.75' 40° 0.3" Q→ill→cg. bar intergrown w/ c.g. SS + cpy / from py

1018-1041' ~1/ft. 20°, 40°, 70° 0.05-0.3" Q→ill→Bar→marc. vnlts.

ANALYTICAL DATA

	FROM	TO	W	Au	Ag	Au2	Ag2
	959	964	5.0'	.015	.07		
*	964	969	5.0'	.081	.20	.073 (grav)	
	969	974	5.0'	.073	.97	.098 (S rav)	
	974	979	5.0'	.093	.57	.128 (grav)	
	979	984	5.0'	.039	4.14		
	984	989	5.0'	.046	.11		
*	989	994	5.0'	.010	1.40		
	994	999	5.0'	.009	.14		
	999	1003	4.0'	.045	.07	.044	
	1003	1006	3.0'	.002	.09		
*	1006	1009	3.0'	.005	12.25		
	1009	1013	4.0'	.011	10.65		
	1013	1018	5.0'	.013	1.45		
	1018	1023	5.0'	.002	.31		
	1023	1028	5.0'	.002	.09		

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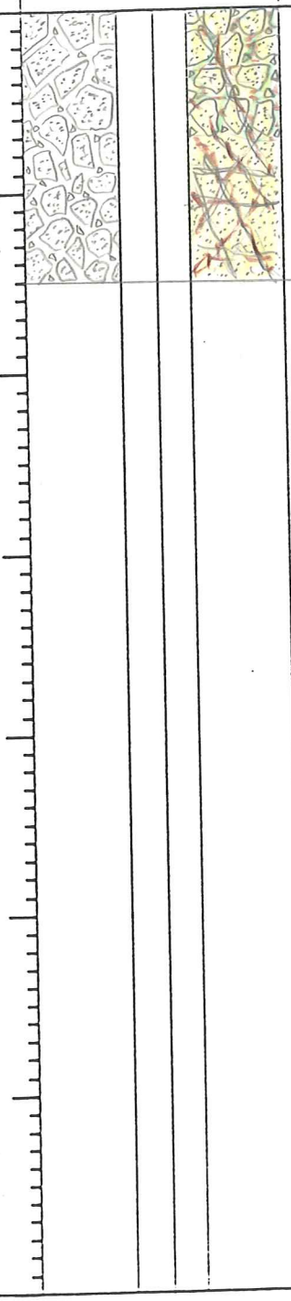
REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
			1040			1038 – 1045' 0.05-0.16" Q + py + py & marc + spl in ill @ 30° & 80-90° (common) 3-5/ft.
		END OF HOLE @ 1045'				

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
1028	1033	5.0'	.005	.68		
1033	1038	5.0'	.004	1.33		
1038	1043	5.0'	.003	.21		
1043	1045	2.0'	.003	.04		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 92-94 DATE: 11/5/1994 LOGGED BY: MARTIN A. Nelson CBW PAGE 1 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY g/cc
0'	7'	91%	91%	71%	4'	R3	2.1/ft.	70°	S	1/32" chlorite, MARL, gray qtz.	5'	475g	198cc.	2.40
7'	17'	97%	97%	44%	9'	R3	2.8/ft.	60°	R	1/16" white clays, ser, chlorite	13'	518g	218cc	2.37
17'	25'	116%	116%	70%	19'	R3	2.9/ft.	50°	S-R	1/32" chlorite, Py, white clays.	21'	291g	120cc	2.43
25'	29'	88%	88%	52'	27'	R3	2.3/ft	50°	R-VR	1/8" white clays, chlorite small RK FGS.	27'	565g	234cc	2.41
29'	35'	93%	93%	67%	31'	R3	2.2/ft	45°	S	1/16" chlorite, py/marl, ser	31'	420g	175cc	2.40
35'	37'	100%	100%	24%	36'	R3	5.0/ft	20°	S-R	1/16" chlorite, marl,	35'	455g	190cc	2.39
37'	47'	91%	91%	54	45'	R3	2.4/ft	40°	S	1/16" chl, qtz, tr. marl	45'	357g	150cc	2.38
47'	52'	94%	94%	48%	48'	R3-R4	1.6/ft	40°	S	1/32" chl, ser, MARL.	48'	435g	172cc	2.52
52'	57'	100%	100%	42%	54'	R3	0.8/ft	70°	R	1/8" chl, w. clays, ser, MARL.	54'	353g	147cc	2.40
57'	67'	88%	88%	52%	61'	R3	2.3/ft	55°	R-VR	1/4" gouge/ rubble, chl, MARL.	65'	473g.	200cc	2.37
67'	77'	97%	97%	69%	71'	R3	1.5/ft.	50°	S-R	1/16" chl, rk. frgs, MARL.	71'	508g.	220cc	2.31

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D92-94 DATE: 11/5/1994 LOGGED BY: MARTIN A. NELSON PAGE 2 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
77'	87'	100%	100%	59%	81'	R3	3.2/ft.	55°	S	1/32" chlorite, white clays, marc.	85'	559g	220cc	2.54
87'	97'	100%	100%	75%	89'	R3	1.9/ft.	60°	R-VR	1/16" chl, scant white clays.	88'	372g	160cc	2.33
97'	107'	112%	112%	106%	104'	R3	1.0/ft.	80°	S-R	1/32" chl, scant white clays	101'	258g	115cc	2.24
107'	127'(?)	87%	87%	71%	117'	R2	1.05/ft.	65°	R	1/8" chl, clays	111'	352g	163cc	2.16
127'	137'	91%	93%	65%	132'	R2-R3	1.8/ft	~60°	R-VR	1/8"-1/4" rk.fgs, clays,	133'	512g	216cc	2.37
137'	147'	100%	100%	80%	143'	R3	1.7/ft.	55°	S-R	1/16" ser, chl, marc.	142'	478g.	197cc	2.43
147'	157'	93%	93%	78%	151'	R3	1.2/ft.	70°	S-R	1/8" marc, chlorite	151'	495g	208cc	2.38
157'	167'	95%	95%	78%	160'	R3	1.8/ft.	60°	R	1/16"-1/4" gray qtz, py, chl.	161'	350g.	160cc	2.19
167'	177'	98%	98%	73%	173'	R3	1.4/ft.	50°	S	1/16"-1/8" sericite, clays	174'	428g.	175cc	2.45
177'	187'	96%	96%	74%	184'	R3	1.5/ft.	60°	S-R	1/8" gray clay, ser,	181'	436g.	180cc	2.42
187'	197'	97%	97%	82%	193'	R3	1.3/ft.	45°	R	1/8" gray qtz, some vuggy, clays, hmts	189'	380g.	150cc	2.51

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 92-94 DATE: 11/6/1994 LOGGED BY: MARTIN A. NELSON PAGE 3 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
197'	207'	99%	99%	65%	204'	R3	1.3/ft.	65°	R	1/8"-1/4" clay, RK fgs,	203'	479g.	205cc	2.34
207'	217'	78%	87%	22%	211	R2	3.4/ft	65°	S	1/16" white clays, chlorite	213'	415g.	190cc	2.18
217'	227'	42%	48%	26%	213'	R1	+/- 8-10/ft	50°	S	" " "	219'	485g.	235cc	2.09
227'	237'	78%	95%	42%	229'	R2	2.4/ft +	60°	S	1/16" dk. chlorite, some gray clays	233'	484g.	210cc	2.30
237'	247'	75%	80%	68%	241'	R3	1.3/ft	60°	R	1/8"-1/4" rk fgs gray clay, white clay	241'	478g.	193cc	2.48
247'	257'	62%	81%	54%	256	R3	1.4/ft +	75°	R-VR	1/16" chlorite, marcasite	253'	553g.	220cc	2.51
257'	264'	87%	87%	56%	260	R2-R3	1.6/ft.	25°	S-R	1/8" clays, chlorite	260'	385g.	160cc	2.41
264'	269'	70%	88%	48%	268	R2	1.6/ft +	40°	S-R	1/16"-1/8" gray clays + marcasite	266'	376g.	155cc	2.43
269'	275'	87%	87%	63%	273	R	1.5/ft	70°	S	" " "	273'	362g.	155cc	2.34
275'	288'	62%	79%	52%	279	R2-R3	1.6/ft +	60°	R	Tight fgs - Recent white clays.	279'	328g.	140cc	2.34
288'	307'	98%	98%	89%	301'	R3	1.0/ft	70°	S-R	1/16" w/ sericite, mark, gray clays.	301'	492g.	210cc	2.34

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 92-94 DATE: 11/6/1994 LOGGED BY: MARTIN A. Nelson PAGE 4 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
307'	317'	98%	98%	82%	313'	R3	1.5/ft.	60°	S-R	1/16" gray clay, wk. marcasite	313'	365g.	157 cc	2.32
317'	337'	98%	98%	82%	331'	R3	1.1/ft.	35°-40°	S-R	1/16"-1/8" sericite, green clays	331'	514g.	218cc	2.36
337'	347'	92%	92%	74%	343'	R3	1.4/ft.	35°	R-S	1/16" gray green clays, marcasite	343'	496g	219cc	2.26
347'	357'	106%	106%	91%	352	R3	1.1/ft	45°	R-S	" " "	352'	499g	210c.c.	2.38
357'	367'	82%	82%	78%	361	R3	1.0/ft	40°	R-S	" " "	361'	415g.	174c.c.	2.39
367'	377'	90%	90%	86%	371'	R3	1.1/ft.	50°	R	1/32" marc, gray clays.	371'	466g.	193cc	2.41
377'	387'	95%	95%	50%	383'	R3	2.6/ft(+)	40°	R	1/8" gouge, rk. fgs, white clays	383'	395 g.	165c.c.	2.39
387'	397'	92%	92%	84%	391'	R3	0.5/ft	40°	S-R	1/16" marc, chlorite, clays	391'	375g.	160cc.	2.34
397'	407'	98%	98%	84%	403'	R3	1.0/ft	60°	S-R	1/16" marc, chlorite, clays.	403'	313g.	135c.c.	2.32
407'	417'	98%	98%	78%	411'	R3	1.2/ft	65°	S-R	1/16" marc, chlorite, clays.	411'	408g.	175c.c.	2.33
417'	427'	88%	90%	73'	423'	R3	1.4/ft	60°	S-R	1/16"-1/4" clays, marc, clays	423'	411g.	172	2.38

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D92-94 DATE: 11/8/94 LOGGED BY: MARTIN A. NELSON. PAGE 5 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD (%)	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
427'	437'	124%	128%	93%	435'	R3	1.9/ft.	70°	S-R	1/8" gray gouge	435'	484 gm	207cc.	2.34
437'	457'	36%	36%	30%	453'	R3	1.2/ft.	60°	S-R	1/16"-1/8" gray qtz, musc	453'	488g	213c.c.	2.29
457'	467'	92%	92%	78%	461'	R3	1.0/ft	80°	S-R	1/8" gray quartz, musc, clays	461'	409g	175cc.	2.34
467'	477'	92%	95%	46%	475'	R3	1.9/ft	~60°	S-R	1/16"-1/4" clays, musc	475'	574g.	246c.c.	2.33
477	487	90	93	57	480'	R2-R3	0.8	60°	R-K	1/16" ser slicks	480'	476	200	2.38
487	497	97	100	60	483	R3	1.6	60°	R-K	1/16" ser-ill	483'	405	165	2.45
497	507	97	100	48	493	R3-R4	1.7	50°	S	1/16-1/4" Q-ill-sulf.	493'	490.5	200	2.45
507	517	97	100	67	503	R3-R4	1.9	60°/30°	R	s.a.a.	503'	394.1	160	2.46
517	527	95	98	57	516	R3-R4	2.4	70°/20°	R	1/4-1/2" ser clay gouge	516'	388.8	158	2.46
527	537	95	97	75	526	R2-R3	1.1	70°/30°	R	1/16-3/8" ser clay gouge	526'	447.9	180	2.49
537	547	96	97	87	535	R2-R3	0.3	20°/40°	R	1/32-1/16" Q-ill-sulf.	535'	382.2	160	2.39

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-92-94 DATE: 11-9-94 LOGGED BY: CB WINETEER PAGE 6 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD (%)	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
547	552	100	100	96	548'	R3	0.4	55°	R	1/16-1/8" smec + marc	543'	408.1	170	2.40
552	562	84	96	70	558'	R3	2.1	15°/50°	S	1/16-1/4" ser-ill-sulf	558'	349.1	140	2.49
562	572	90	97	77	571'	R3	0.7	20°/60°	S	1/16-1/4" Q-ser-ill-sulf.	571'	361.7	150	2.41
572	582	92	96	75	577	R3	0.4	15°	R	1/32" ser-ill	576	422.5	180	2.35
582	592	88	88	77	587	R3	0.2	40°	R	1/16" chl-ill-sulf.	585	429.5	178	2.41
592	602	56	70	47	597	R3	1.9	30°	R	1/16-3/4" Q-ill±sulf	595	482.6	200	2.41
602	612	90	93	76	607	R3	0.8	40°/90°	S	1/16" chl-ser-ill	603	538.4	220	2.45
612	617	86	86	42	614	R3	0.9	20°	S	1/16" ser	614	487.6	200	2.44
617	627	65	90	44	622	R3	1.3	0°/45°	R	1/16-1/64" ill-ser.	621	475.4	195	2.44
627	637	63	95	69	632	R3	1.2	20°/70°	S	1/64-1/16" ser-ill	631	439.8	180	2.44
637	645	30	83	57	641	R2	1.2	35°	S	1/16" ser-slicks	641	726.7	300	2.42

green clay gouge

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-92-94 DATE: 11-9-94 LOGGED BY: CBW PAGE 7 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
645	652	93	96	74	648	R2	1.0	60°	R	1/16-1/4" ser-slicks	649	602	250	2.41
652	662	92	97	78	657	R2	0.6	60°	R	c.a.q.	655	488	205	2.38
662	672	91	94	79	667	R2	0.6	60°	R-S	s.a.q.± microbx	668	505	215	2.35
672	677	88	99	72	674	R2	0.6	50°	R	1/4-3/8" ser.-microbx	675	428.3	180	2.38
677	687	90	94	75	682	R2	0.5	30°/70°	R	1/4-3/8" ser-microbx	684	557.5	235.	2.37
687	697	93	94	79	690	R3	0.3	20°	R	1/32-1/16" q→ser→ill-sulf.	690	501.5	217	2.32
697	707	70	73	38	706	R2	0.4	40°	R	1/32" q-py	706	443.5	195	2.27
707	717	35	85	40	715	R1-S5	0.5	30°	R	1/32-1/16" ser-clay-sulf.	715	459.3	200	2.30
717	727	100	125	56	725	S5 7 R2	2.2	50°	S-K	1/16-1" fault gouge -ill	725	472.1	200	2.36
727	737	82	89	57	736	R2 7 R3	1.1	65°/30°	S	1/16-3/8" q-marc	736	590.0	230	2.57 ~~2.56~~
737	747	93	97	67	743	R3/R2	1.2	25°	S	1/16-1/2" q→ill→marc,	743	408.4	175	2.33

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-92-94 DATE: 11-14-94 LOGGED BY: CRW PAGE 8 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY g/cc
747	757	91	96	82	755	R3/R2	0.9	25°/45°	S	1/32 – 1" Q – ill – sulf.	755	385.5	155	2.49
757	767	65	87	40	764	R3/R2	1.1	15°	R	1/16 – 1/2" Q – ill – sulf.	764	490.4	202.5	2.42
767	777	67	89	53	774	R2 ↘ S5 ↘ R3	1.3	50°	S	1/64 – 1" ill – sulf	774	411.0	170	2.42
777	787	95	99	77	784	R3/R2	0.5	35°	R	1/64 – 3/4" ill ± Q – sulf.	784	530.8	210	2.53
787	797	56	90	49	790	R3/R2 ↘ S4 ↘ R2	2.4	35°	R	1/8 – 6" micro bx – clay gouge	790	477.8	185	2.58
797	807	81	88	56	802	R2	1.6	35–50°	R	1/4 – 2" micro bx – clay gouge	802	498.5	202.5	2.46
807	817	95	97	83	815.5	R2	0.7	55°	K	1/64 – 1/8" R ± G · S ± clay gouge	815.5	479.1	200	2.40
817	824	97	99	90	820	R2 ↘ R3	0.3	50°	R	1/64 – 1/32" Q	820	389.8	155	2.51
824	834	97	100	76	831	R3	0.6	35°/70°	R	1/64 – 1/4" Q + ser clay	831	469.8	190	2.47
834	845	70	90	59	837	R2	1.8	35°	R	1/64 – 1/4" micro bx – Clay gouge	837	402.7	167.5	2.404
845	856	64	88	33	852	R2	3.9	35	R – k	1/32 – 1/4" Q – clay slickes	853	600.0	237.5	2.53

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-92-94 DATE: 11-14-94 LOGGED BY: CBW PAGE 9 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
856	860	88	96	48	857	R3	3.1	20-35°	R	1/16-1/8" Q→Py	857	499.9	192.5	2.597
860	867	82	91	74	863	R4	2.3	35°	R	1/64" Q_bar	863	587.5	225	2.61
867	870						1.7	30°	R?K	1/64-1/4" Q-bar-Sb				
870	877	71	78	45	871	R4	2.1	35°	R	1/64-1/8" Q-bar-Sb	871	602.6	230	2.62
877	881													
881	887	91	94	63	883.5	R4	2.2	70°	R	1/64-1/32" Q-bar-Sb	883.5	636.8	240	2.65
887	897	67	76	48	892	R4/R3	1.3	40°	R	1/32-1/4" Bar-Q-Sb	892	613.6	210	2.92
897	905	95	97	61	899	R4	1.0	50°	R	1/4" Bar-Q-Sb	899	545.5	212.5	2.57
905	914	87	94	45	912	R4/R3	1.7	55°	R	1/16" Q-ill-bar-Sb	912	561.3	217.5	2.58
914	917	97	100	66	915	R3 to R4	2.4	55°	R-S	1/16-1/32" Q-ill+sulf.	915	592.2	230	2.575
917	927	97	100	57	923	R4	1.8	70°/55°	R-S	1/16-3/8" Q-ill ± sulf.	923	544.2	210	2.59

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-92-94 DATE: 11-16-94 LOGGED BY: CBW PAGE 10 OF 10

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
927	937	96	98	73	935	R3	0.9	20°/65°	S	1/32 - 1/8" Q-bar-ill ± sulf.	935	553.25	217.5	2.54
937	947	95	96	67	941	R3 w/ loc R4	0.6	65°	R	1/32 - 1/16 s.a.a.	941	452.2	180	2.51
947	957	97	100	65	955	R3-R4	0.9	50°	R	1/32" Q-ill	955	615.2	242.5	2.54
957	967	96	100	73	961	R3-R4	1.5	50°	R?<k	1/32-1/8" Q-ill-marc	961	542.1	212.5	2.55
967	977	101	104	73	973.5	R3-R4	1.1	50°/70°/30°	R?<k	1/32-3/8" s.a.a.	973.5	596.4	230	2.59
977	987	91	95	62	986	R3-R4	1.2	20-30°/50°/70°	R	1/32-1/4" s.a.a.	986	533.7	212.5	2.51
987	997	88	94	77	995	R3-R4	0.8	20°/50°	R	1/32-2" Q-ill-sulf-ss	995	501.3	200	2.51
997	1007	97	100	76	1005.5	R3-R4	1.2	35°/60°	S	1/32-2" Q-ill-sulf-ss	1005.5	540.05	217.5	2.48
1007	1017	89	97	62		R3-R4	1.2	30°/55°	S	1/32-2" Q-ill-sulf-ss -bar	1012	729.6	305	2.39
1017	1027	97	99	80		R3-R4	0.7	20°/50°	S-R	1/32-3/8" Q-ser-ill-sulf-bar	1020	569.7	225	2.53
1027	1037	41	92	67		R3-R4	1.2	30°/60°	R/s	1/32-1/4" Q-ser-ill-sulf	1031	675.7	270	2.50
1037	1045	96	100	82		R3-R4	0.3	20-40°	R	1/16-3/4" Q-ill-bart sulf.	1045	700.6	280	2.50

ANALYSIS REPORT

American Assay Laboratories

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: D-92-94

LABORATORY JOB No. : SP031819

SAMPLE TYPE :

RECEIVED : 1 DEC 1994

REPORTED : 16 DEC 1994

No. SAMPLES : 184

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

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

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JOB NUMBER : SP031819
REPORTED : 16 DEC 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 0-6	0.002			0.04
D-92-94 6-11	0.012			0.07
D-92-94 11-18	0.770		0.959	1.38
D-92-94 18-23	0.511		0.373	0.58
D-92-94 23-28	0.115		0.132	0.33
D-92-94 28-33	0.016			0.04
D-92-94 33-38	0.046			0.05
D-92-94 38-43	<0.001			<0.02
D-92-94 43-48	0.002			<0.02
D-92-94 48-52	0.033	0.027		0.41
D-92-94 52-59	0.036			0.08
D-92-94 59-64	0.044			0.16
D-92-94 64-70	0.017			0.08
D-92-94 70-75	0.014			0.07
D-92-94 75-79	0.007			0.06
D-92-94 79-84	0.002			0.04
D-92-94 84-87	<0.001			<0.02
D-92-94 87-93	<0.001			<0.02
D-92-94 93-98	0.002			0.04
D-92-94 98-103	0.003			0.07
D-92-94 103-108	0.035			0.08
D-92-94 108-113	0.005			0.07
D-92-94 113-118	0.005			0.04
D-92-94 118-121	0.004			0.06
D-92-94 121-126	0.005			0.06

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 126-131	0.003			0.04
D-92-94 131-136	0.007			0.09
D-92-94 136-142.5	0.007			0.09
D-92-94 142.5-148	0.003			0.06
D-92-94 148-153	0.002			0.04
D-92-94 153-158	0.003			0.05
D-92-94 158-163	0.004			0.04
D-92-94 163-168	0.010			0.04
D-92-94 168-173	0.006			0.06
D-92-94 173-178	0.006	0.004		0.04
D-92-94 178-183	0.005			0.08
D-92-94 183-190	0.001			0.03
D-92-94 190-195	0.001			0.03
D-92-94 195-200	0.001			0.03
D-92-94 200-205	0.010			0.06
D-92-94 205-209.5	0.045			0.08
D-92-94 209.5-216	0.033			0.37
D-92-94 216-221	0.023			0.07
D-92-94 221-227	0.002			0.03
D-92-94 227-234	0.005			0.07
D-92-94 234-240	0.022	0.025		0.26
D-92-94 240-246.5	0.015			0.14
D-92-94 246.5-252	0.005			0.02
D-92-94 252-257	0.002			0.04
D-92-94 257-262	0.003			0.03

AMERICAN ASSAY LABORATORIES
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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 262-267	<0.001			<0.02
D-92-94 267-271	<0.001			<0.02
D-92-94 271-273.5	0.003			0.03
D-92-94 273.5-277	0.026			0.03
D-92-94 277-281	0.003			<0.02
D-92-94 281-285	0.008			0.04
D-92-94 285-289	0.001			0.02
D-92-94 289-294	<0.001			<0.02
D-92-94 294-299	0.004			<0.02
D-92-94 299-304	0.002			<0.02
D-92-94 304-309	0.002			<0.02
D-92-94 309-314	<0.001			<0.02
D-92-94 314-319	0.001			<0.02
D-92-94 319-324	<0.001			<0.02
D-92-94 324-329	0.001			0.02
D-92-94 329-334	<0.001			0.02
D-92-94 482-487	0.003			0.03
D-92-94 487-491.3	0.005			0.04
D-92-94 491.3-495	0.007	0.006		0.50
D-92-94 495-500	0.003			0.10
D-92-94 500-505	0.004			0.12
D-92-94 505-510	0.003			0.03
D-92-94 510-515	0.002			0.04
D-92-94 515-520	0.002			0.03
D-92-94 520-525	0.002			0.03

AMERICAN ASSAY LABORATORIES
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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 525-530	0.002			0.14
D-92-94 530-535	0.002			0.03
D-92-94 535-540	0.013			0.06
D-92-94 540-545	0.005			0.09
D-92-94 545-549	0.002			0.03
D-92-94 549-553	0.006			0.08
D-92-94 553-558	0.009			0.07
D-92-94 558-563	0.008			0.08
D-92-94 563-568	0.006			0.05
D-92-94 568-573	0.002			0.03
D-92-94 573-578	0.002			0.04
D-92-94 578-583	0.017	0.013		0.09
D-92-94 583-588	0.002			0.08
D-92-94 588-593	0.011			0.10
D-92-94 593-598	0.009			0.75
D-92-94 598-603	0.012			0.29
D-92-94 603-608	0.023			0.19
D-92-94 608-613	0.003			0.07
D-92-94 613-618	0.002			0.05
D-92-94 618-623	0.007			0.08
D-92-94 623-628	0.002			0.05
D-92-94 628-631	0.006			0.06
D-92-94 631-634.5	0.004			0.15
D-92-94 634.5-640	0.002			0.04
D-92-94 640-645	0.012			0.05

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

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PROJECT : ROSEBUD
REFERENCE : D-92-94
JOB NUMBER : SP031819
REPORTED : 16 DEC 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 645-650	0.004			0.07
D-92-94 650-655	0.023			0.13
D-92-94 655-660	0.006			0.07
D-92-94 660-665	0.018			0.08
D-92-94 665-670	0.011			0.15
D-92-94 670-675	0.014			0.39
D-92-94 675-680	0.008			0.06
D-92-94 680-685	0.008			0.43
D-92-94 685-690	0.010			0.06
D-92-94 690-695	0.005			0.06
D-92-94 695-700	0.009			0.06
D-92-94 700-705	0.213		0.232	0.14
D-92-94 705-710	0.025			0.11
D-92-94 710-715	0.020			0.10
D-92-94 715-720	0.010			0.09
D-92-94 720-725	0.045			0.13
D-92-94 725-730	0.021			0.57
D-92-94 730-735	0.012			0.43
D-92-94 735-740	0.015			0.53
D-92-94 740-745	0.009			0.06
D-92-94 745-750	0.004			0.10
D-92-94 750-755	0.017			0.45
D-92-94 755-760	0.051		0.053	4.94
D-92-94 760-765	0.084		0.075	4.34
D-92-94 765-770	0.013			0.67

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-92-94
JOB NUMBER : SP031819
REPORTED : 16 DEC 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 775-780	0.005			1.58
D-92-94 780-784	0.006			0.11
D-92-94 780-784A	0.007			0.39
D-92-94 784-788	0.010			0.26
D-92-94 788-793	0.009			0.74
D-92-94 793-798	0.012			0.26
D-92-94 798-803	0.004			0.04
D-92-94 803-808	0.002			0.02
D-92-94 808-813	0.004			<0.02
D-92-94 813-818	0.003			0.02
D-92-94 818-823	0.003			0.02
D-92-94 823-828	0.003			0.03
D-92-94 828-833	0.001			0.02
D-92-94 833-838	0.002			0.02
D-92-94 838-842	0.005			0.83
D-92-94 842-845.5	0.005			3.74
D-92-94 845.5-850	0.006			1.96
D-92-94 850-855	0.010			3.24
D-92-94 855-860	0.005			2.52
D-92-94 860-865	0.009			12.55
D-92-94 865-870	0.009			2.30
D-92-94 870-875	0.009			1.94
D-92-94 875-880	0.014			1.62
D-92-94 880-885	0.024	0.021		10.32
D-92-94 885-890	0.029			9.20

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

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JOB NUMBER : SP031819
REPORTED : 16 DEC 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 890-895	0.013			7.54
D-92-94 895-900	0.034			8.20
D-92-94 900-905	0.029			7.64
D-92-94 905-910	0.011			3.32
D-92-94 910-915	0.038			0.88
D-92-94 915-920	0.128		0.146	1.42
D-92-94 920-926	0.249		0.270	1.96
D-92-94 926-929	0.063		0.066	0.19
D-92-94 929-934	0.054		0.058	0.19
D-92-94 934-939	0.061			0.66
D-92-94 939-944	0.043			0.19
D-92-94 944-949	0.030			0.04
D-92-94 949-954	0.064		0.058	0.07
D-92-94 954-959	0.070		0.076	0.80
D-92-94 959-964	0.015			0.07
D-92-94 964-969	0.081		0.073	0.20
D-92-94 969-974	0.073	0.128	0.098	0.97
D-92-94 974-979	0.093	0.168	0.128	0.57
D-92-94 979-984	0.039			4.14
D-92-94 984-989	0.046			0.11
D-92-94 989-994	0.010			1.40
D-92-94 994-999	0.009			0.14
D-92-94 999-1003	0.045	0.044		0.07
D-92-94 1003-1006	0.002			0.09
D-92-94 1006-1009	0.005			12.25

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-92-94
JOB NUMBER : SP031819
REPORTED : 16 DEC 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-92-94 1009-1013	0.011			10.65
D-92-94 1013-1018	0.013			1.45
D-92-94 1018-1023	0.002			0.31
D-92-94 1023-1028	0.002			0.09
D-92-94 1028-1033	0.005			0.68
D-92-94 1033-1038	0.004			1.33
D-92-94 1038-1043	0.003			0.21
D-92-94 1043-1045	0.003			0.04

ANALYSIS REPORT

American Assay Laboratories

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: D-92-94

LABORATORY JOB No. : SP031821

SAMPLE TYPE :

RECEIVED : 1 DEC 1994

REPORTED : 8 DEC 1994

No. SAMPLES : 15

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-92-94
JOB NUMBER : SP031821
REPORTED : 8 DEC 1994

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
D-92-94 334-344	0.008		0.04
D-92-94 344-354	0.003		0.04
D-92-94 354-364	0.007		0.04
D-92-94 364-374	<0.001		<0.02
D-92-94 374-385	0.001		0.02
D-92-94 385-395	<0.001		<0.02
D-92-94 395-405	0.004		0.04
D-92-94 405-415	0.003		0.03
D-92-94 415-425	0.004		0.04
D-92-94 425-434	0.004	0.006	0.04
D-92-94 434-444	0.003		0.04
D-92-94 444-454	0.013		0.04
D-92-94 454-464	0.003		0.03
D-92-94 464-474	0.004		0.03
D-92-94 474-482	0.034		0.11

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 71060
Reno, NV. 89570
Telephone
(702) 356-0606
Fax
(702) 356-1413

Elko Office
2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV. 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Company: HECLA MINING CO.

Address: _____

Telephone Number: ( ) _____ Fax Number: ( ) _____

Project Name: ROSEBUD Purchase Order Number: _____

Transport Company: _____ Waybill Number: _____

Date Shipped: _____ Number of Packages: _____ [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

D-92-94 SAMPLE	TYPE	ELEMENTS REQUIRED
334 - 344	CORE	1 AT FIRE ASSAY Au & Ag
344 - 354		w/ ~~[illegible]~~
354 - 364		STANDARD PREP
364 - 374		
374 - 385		
385 - 395		
395 - 405		* REPEAT & REPORT
405 - 415		IN OPT FOR ALL
415 - 425		
425 - 434		Au ≥ 0.05 opt
434 - 444		
444 - 454		
454 - 464		
464 - 474		
474 - 482		

COARSE REJECTS (Normally Discarded)

[ ] Return COD after analysis complete
[X] By prior arrangements

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month
[X] By prior arrangements

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

(2) _____

(3) _____

Comments:

CLIENT FILE COPY

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

Sparks Office
1500 Glendale Ave.
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Box 71060
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Fax
(702) 738-2594

Company: HECLA MINING

Address: _____

Telephone Number: ( ) _____ Fax Number: ( ) _____

Project Name: ROSEBUD Purchase Order Number: _____

Transport Company: _____ Waybill Number: _____

Date Shipped: _____ Number of Packages: 666 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED 11-14-94

D-92-94 SAMPLE				TYPE	ELEMENTS REQUIRED
0-6	79-84	153-158	234-240	CORE	2 AT FIRE ASSAY Au & Ag
6-11	84-87	158-163	240-246.5		w/ HECLA ROSEBUD
11-18	87-93	163-168	246.5-252		CUSTOM PREP
18-23	93-98	168-173	252-257		
23-28	98-103	173-178	257-262		
28-33	103-108	178-183	262-267		* GRAV FINISH ON ALL
33-38	108-113	183-190	267-271		
38-43	113-118	190-195	271-273.5		Au ≥ 0.05 opt
43-48	118-121	195-200	273.5-277		
48-52	121-126	200-205	277-281		
52-59	126-131	205-209.5	281-285		
59-64	131-136	209.5-216	285-289		
64-70	136-142.5	216-221	289-294		
70-75	142.5-148	221-227	294-299		
75-79	148-153	227-234	299-304		

304-309
309-314
314-319
319-324
324-329
329-334

COARSE REJECTS (Normally Discarded)

[ ] Return COD after analysis complete
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RESULTS AND INVOICES TO BE SENT TO:

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(1) Charlie Muenhoff

(2) _____

(3) _____

Comments:

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SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

Company: HECLA MINING CO.

Address: _____

Telephone Number: ( ) _____ Fax Number: ( ) _____

Project Name: ROSEBUD Purchase Order Number: _____

Transport Company: _____ Waybill Number: _____

Date Shipped: _____ Number of Packages: 58 [ ] Prepaid [ ] Collect

Sparks Office
1500 Glendale Ave.
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Fax
(702) 738-2594

ANALYSIS REQUIRED

D-92-94 SAMPLE				TYPE	ELEMENTS REQUIRED
482-487	553-558	628-631	700-705	CORE	2 AT FIRE ASSAY Au & Ag
487-491.3	558-563	631-634.5	705-710		w/ HECLA ROSEBUD
491.3-495	563-568	634.5-640	710-715		CUSTOM PREP
495-500	568-573	640-645	715-720		
500-505	573-578	645-650	720-725		
505-510	578-583	650-655	725-730		* GRAV FINISH ON ALL
510-515	583-588	655-660	730-735		Au ≥ 0.05 opt
515-520	588-593	660-665	735-740		
520-525	593-598	665-670	740-745		
525-530	598-603	670-675	745-750		
530-535	603-608	675-680	750-755		
535-540	608-613	680-685	755-760		NQ (≤ 15 lbs)
540-545	613-618	685-690	760-765		
545-549	618-623	690-695	765-770		
549-553	623-628	695-700	770-775		

775-780
780-784
784-788
788-793
793-798
798-803
803-808
808-813
813-818
818-823
823-828
828-833
833-838

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Company: HECLA MINING CO

Address: _____

Telephone Number: ( ) _____ Fax Number: ( ) _____

Project Name: ROSEBUD Purchase Order Number: _____

Transport Company: _____ Waybill Number: _____

Date Shipped: _____ Number of Packages: 44 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

D-92-94 SAMPLE			TYPE	ELEMENTS REQUIRED
838-842	910-915	984-989	CORE	2 AT FIRE ASSAY Au & Ag
842-845.5	915-920	989-994		W/ HECLA ROSEBUD
845.5-850	920-926	994-999		CUSTOM PREP
850-855	926-929	999-1003		
855-860	929-934	1003-1006		
860-865	934-939	1006-1009		
865-870	939-944	1009-1013		* GRAV FINISH ON ALL
870-875	944-949	1013-1018		
875-880	949-954	1018-1023		Au ≥ 0.05 opt
880-885	954-959	1023-1028		
885-890	959-964	1028-1033		
890-895	964-969	1033-1038		
895-900	969-974	1039-1043		
900-905	974-979	1043-1045		
905-910	979-984			

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