60001515

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. 94-339
AUTHOR	L. Bernard, C. Muerhoff, 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.; North Zone
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 950' handwritten notes; receipt 50 p.

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

SS: DD 5/29/08
Initials Date
DB: MLD
Initials Date
SCANNED: DBlue
Initials Date

Revised: 1/22/08

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-339	LOCATION	North Zone	REMARKS	60001515
PAGE 1 OF	11	NORTHING	2204438.7	RC to	475
DATE	12/12	EASTING	482592.3	CORE from 474 to	950
LOGGED BY	LJB	ELEVATION	5330.5		
SCALE	RC 1"=20' CORE 1"=10'	AZIMUTH	116.0°		
TOTAL DEPTH	950	INCLINATION	-90.0°		

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		15-195 dk-brown/purple fine grain chips w/ clastic textures fine clastic grains are white - ltgy	20, 40, 60, 80, 100			0-15 gravel 15-195 str hem rock, wk Agillic clastic

ANALYTICAL DATA

FROM	TO	W	Au (ppb)	Ag (ppb)	Au2 (ppb)	Ag2
0	15	15	8			
15	25	10	<5			
25	35	10	<5			
35	45	10	6			
45	55	10	6			
55	65	10	<5			
65	75	10	<5		<5	
75	85	10	<5			
85	95	10	<5			
95	105	10	<5			

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FEC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		105-115 wk lamminations or bedding	120, 140, 160, 180, 200, 220, 240			195-395 wk argillic V. wk chl
		195-395 dk gray/green tinted chirtic chips + dk brown hem matrix chips, fine grain				

ANALYTICAL DATA

FROM	TO	W	Au ppb	Ag ppb	Au2 ppb	Ag2
105	115	10	<5			
115	125	10	<5			
125	135	10	<5			
135	145	10	<5		<5	
145	155	10	<5			
155	165	10	<5			
165	175	10	<5			
175	185	10	<5			
185	195	10	<5		5	
195	205	10	<5			
205	215	10	<5			
215	225	10	<5			
225	235	10	<5			
235	245	10	<5			

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REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		dk gray w/ green tint clasts and dk brown matrix	260, 280, 300, 320, 340, 360, 380			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
			ppb	ppb	ppb	
245	255	10	<5			
255	265	10	5			
265	275	10	<5			
275	285	10	<5			
285	295	10	<5			
295	305	10	<5			
305	315	10	<5			
315	325	10	6		<5	
325	335	10	<5			
335	345	10	<5			
345	355	10	<5			
355	365	10	<5			
365	375	10	5			
375	385	10	<5			

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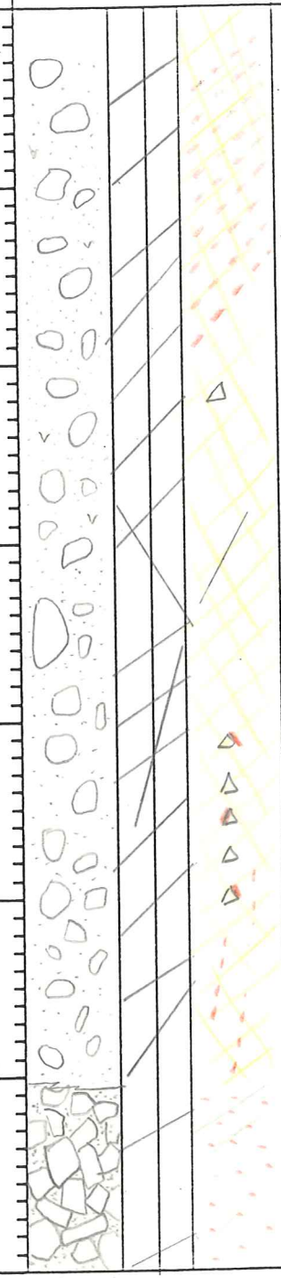
REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		395-415 lt green clasts w/ dk brown & minor green matrix	400			395-415 wk chl / Argillic ?
		415-455 dk brown hem volcanic by	420			hem rk, v. wk chl.
		455-495 lt green/tan chips w/ fine py disem Tuff	440			
			460			455-485 wk chl + Argillic Alt
		485 - some clastic textures	480			
			500			
		↓ SEE 1" = 10' CORE LOGS	520			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
			ppb	ppb	ppb	
385	395	10	5			
395	405	10	<5		<5	
405	415	10	<5			
415	425	10	<5			
425	435	10	<5			
435	445	10	<5			
445	455	10	<5			
455	465	10	<5			
465	475	10	36			
475	485	10	424		314	
485	495	10	18			

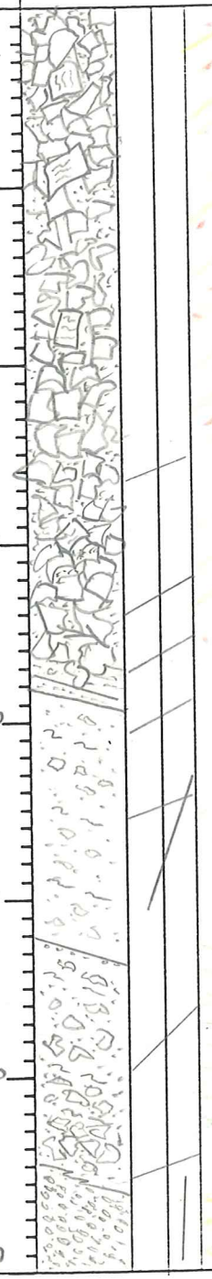
HOLE NUMBER 94-339 (CORE) PAGE 5 OF 11

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
494		494-550.5 heterolithic volcaniclastic Tuff strongly matrix supported matrix lt-med gray silicic-Argillic Alt. polylithic clasts, green chl clast with argillic feldspar clasts (10%), gray silisic clasts w/ argillic felsl, white argillic clasts w/ chl shards + phenos clast sub-rounded to rounded, 1/10" → 6", mean 1/2"	500 510 520 530 540 550 560		494-504 .4 frac/ft @50 504-514 .9 frac/ft @ 50,40 514-524 .8 frac/ft @ 45 ∠ 30 rare 524-534 1.0 frac/ft @ 55,15 534-544 .7 frac/ft @ 40-50,5 544-554 .7 frac/ft @ 35,60 554-564 .2 frac/ft @60	494-507.5 mod sil, mod-wk argillic, v. wk chl 2-3 2 1/10" py vnlets @ ~40 507.5-533 mod-str sil, mod-wk argillic, local pyritic clasts + matrix. wh clay on frac + as vnlets 507.5-509.5 py vnlet @ 0 512 4.5" of fine rubble bx w/ sil white clay ± py @ 40 521 drusy qtz contig + marcasite @ 30 523-531 str white clay vnlets + frac fills ± marcasite, near vert. 532-541 wk vusy vertical breccia w/ drussy qtz coatings ± py and white clay fillings 533-550.5 mod sil, wk-mod argillic alt mod fine py vnlets. (~1/ft) 550.5-597.5 mixed chl, Argillic alt disem py + blebs localized in matrix (1/10" blebs).
		conformable contact 550.5-597.5 heterolithic clast supported volcaniclastic 1/10 to 1" sub-rounded to angular clasts Welded clasts, argillic chloric; Tan sil-argillic clasts, white argillic clasts. Medium gray matrix. Mixed Argillic, chloritic or hemititic Alt. matrix. (Zone alt clasts)				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
494	499	5	.005	.04		
499	504	5	.001	.03		
504	509	5	.002	.04		
509	514	5	.001	.04		
514	519	5	<.001	.02		
519	524	5	<.001	.02	<.001	
524	529	5	.002	.08		
529	532	3	.001	.03		
532	537	5	.004	.12		
537	541	4	.001	.03		
541	546	5	.002	.03		
546	550.5	4.5	<.001	.03		
550.5	554	3.5	<.001	.04		
554	559	5	<.001	.02		

CUSTOM PREP.

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		SEE Above Heterolithic clast supported Volcaniclastic	570 580 590 600 610 620 630		564-584 No fractures 584-594 .1 frac/ft @ 70 594-604 .8 frac/ft @ 60 604-614 .5 frac/ft @ 70, 20 614-624 .3 frac/ft @ 40, 50 624-634 .5 frac/ft @ 20, 0	mixed chl+argillic alt dissem py + py blebs localized in matrix ($\frac{1}{10}$" MAX) 597.5-612.5 wk chl 612.5-622 mod chl rare calcite vn @30 620 3" bx wk sikar + marc. clay/ba filling 622-644 wk sil, mod argillic fine py veinlets $\leq \frac{1}{10}$ @ 25 fine drussy qtz on frac ± Marcasite
		Conformable contact 597.5-598 fine water lain ash bedded clast in ashy matrix @70 598-614 ashy Tuff with $\frac{1}{10}$ - $\frac{1}{4}$" clasts. wk chloritic matrix + chl - argillic clasts foliated ash draping clasts in places @70 homolithic sandy waterlain contact 612.5-625.5 Ashy volcaniclastic Tuff - homolithic $\frac{1}{10}$ to 1" sub-angular to sub-rounded mod foliation draping clasts @ 70 Matrix to clast supported gradational contact 625.5-664 coarse sandy epiclastic/volcaniclastic to 1" clasts, clast supported with med grain sand or ash wk-bedding and sorting @55				

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
559	574	15	<5			
574	584	10	<5		<5	
584	594	10	<5			
594	604	10	<5			
604	614	10	<5			
Geochem sampling						
Custom prep ↓						
614	619	5	<.001	.03		
619	622	3	.006	.07		
622	624	2	.002	.05		
624	629	5	.001	.05		
629	634	5	.002	.08		

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		SEE ABOVE			634-644 .6 frac/ft @ 40	SEE ABOVE
		644-666.5 Welded Air fall Tuff wk-mod welded Ashy Tuff ashy contact. with strong Alignment of white argillic lithic clasts and flattened Ashy shards which give the rock a ribon texture. fine ashy matrix drapes around shards with some rotation of sub-rounded clasts. Clasts angular to sub-rounded matrix & clast supported. Shards are brownish, clasts are white, matrix dk green to lt. olive green-brown., py dissem 558-560 finer clast avg. 1/10" @70	640 650		644-654 1.2 frac/ft @ 40 654-664 .7 frac/ft @ 70	644-678 1/5" drussy qtz + py vn @ 40 2-3/ft w/minor white clay
		566.5 → 794.5 proph. / rhyl. flow Massive Med grain crystal Tuff, lt gray-Dence textured Tuff with w/ white clay-calcite alted k-spar? crystals and finer chl alt plagioclase? white clay-calcite crystals are 1/10 x 4/10 when tabular or larger and blocky. green chloritic alt. cryst are < 1/10 x 3/10 sometimes radaily twins and pars. polysynthic twining. Sandy base 672 v. wk solution @ 75 666.5 Tuff is aph w/ 5-10% phenos green >> white Latite-Tracyandesite porphyry in composition occational lithic clast: sub-rounded partially assimulated, occational py replacement of clasts & cryst. clasts mostly wk chl. Tuff mod sil & wk argillic.	660 670 680 690 700		664-674 .7 frac/ft @ 40 674-684 .8 frac/ft @ 70, 40 RARE (1) 684-694 .6 frac/ft 50, 20 RARE 694-704 .4 frac/ft @ 25	678-694.5 1/10" calcite-chl-pyrite vnlets @ 50, 665-666.5 1/4" chl-py vn @ 5 694-697 str sil w/ drussy qtz fracture with pyrite vn @ 10-1 vuggy in places 697-704 < 1/10" py vnlets @ 0-10 w/ 1/4" chl selvages

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
634	639	5	.002	.08		
639	644	5	.003	.10		
644	649	6	<.001	.02		
649	654	5	<.001	<.02		
654	659	5	<.001	<.02		
659	664	5	<.001	.02		
664	667	5	.002	.04		
667	669	5	.002	.05		
669	674	5	.013	.05	.011	
674	679	5	.002	.05		
679	684	5	<.001	.04		
684	689	5	.001	.07		
689	694.5	5.5	.002	.07		
694.5	697	3.5	.004	.07		
697	699	2	.004	.09		

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
—		(SEE Above) LAtite - Trachyandesite porphyry (Tuff)			704-714 .4 frac/ft @ 25, 80	704-713 <1/10" py + calcite veinlets stockwork @ 10-20 w/ minor chl selvages
			710		714-724 .2 frac/ft @ 80	Plus chlorite alt + dilational micro-frac. v. fine py dissem
			720			714-726.5 1-2 <1/10" calcite-py veinlets @ 50 ± chl
		725 v. wk foliation @ 60			724-734 .6 frac/ft @ 45	
			730			726.5-754 SAB w/ hem stains on veinlets (red-pink) along major frac.
					734-744 1.1 frac/ft 65, 0 rare	
			740			
		746 v. wk foliation @ 60			744-754 .9 frac/ft @ 60 0	
			750		754-764 1.3 frac/ft @ 50	754-775 chl-py-red hem + calcite veinlets on major frac increasing chl + hem.
			760		764-775 1.1+? frac/ft @ 40, 5	
			770	F?	Poor recovery 72% prob Fault zone at 669	

ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
699	704	5	.001	.04		
704	709	5	.002	.05		
709	714	5	.001	.04		
714	719	5	<.001	.04		
719	724	5	<.001	<.02		
724	729	5	<.001	<.02		
729	734	5	<.001	<.02		
734	739	5	<.001	<.02		
739	744	6	<.001	<.02	<.001	
744	749	5	<.001	<.02		
749	754	5	<.001	<.02		
754	759	5	<.001	<.02		
759	764	5	<.001	<.02		
764	769	5	<.001	<.02		
769	774	5	<.001	<.02		

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REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
	775	(SEE Above) Latite - Trachyandesite porphyry Tuff 10% assimulated clasts ± fine py disser			775- 784 .2 frac/ft @ 70	minor calcite vulets ± py	GEO CHEM samples 774	784	10	<.001	<.02		
100	.95	780 wk foliation (bedding) @ 40	780		784-794 .5 frac/ft @ 50		784	794	10	<.001	.02		
100	.87		790		794-804 .2 frac/ft @ 60	794.5-815 strong hem or with Abundant hem vulets on frac. minor calcite vulets	794	804	10	.002	<.02		
100	.94	794.5-812 Latite - trachyandesite very similar to above but with bombs, flatted ashy shards, and minor assimulated clasts (<10%) rk mod gray and brown; str hemititic str silicic, calcite alt feldspars contact @ 70	800		804-814 .4 frac/ft @ 75, 15	812-841 Mixed hem + chl Matrix, mod argill clasts No veining fine py disser	804	814	10	<.001	<.02		
100	1.0	812-841 heterolithic point contact volcaniclastic 1/10 - 1½" sub-angular to angular clasts in an ashy pinkish brown or dk green Matrix mod Argillic clasts, str chl or hem Matrix Clasts are Tan, gray, pink, white, and rarely green. To where?	810		814-824 .5 frac/ft @ 50		814	824	10	<.001	<.02		
100	97		820		824-832.4 .3 frac/ft @ 70		824	834	10	<.001	<.02		
100	94		830		832.4-842.7 .6 frac/ft @ 80, 45		834	844	10	<.001	<.02		
	832.4		840										

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REC	RQD	LITHOLOGY	FT	STRUCTURE	ALTERATION AND MINERALIZATION
100	.85 842.7	CONTACT @ 70 441-857 wk foliated Tuff w/ orientated clasts and flattened shards @ 60 Mainly homolithic w/ < 10% exotic clasts mod Argillized shards + clasts, strong chl matrix from where?		842.7-853 .6 frac/ft @ 50	441-857 rare py vnlets (alt. as in 11th) discontin.
100	.86 853		850	855.5 4" shear zone @ 60?	
105	.55 863.2	Contact @ 70 857-874.5 Volcanic breccia wk-mod Argillic/chl fine grain large blocks glassy spherulitic Ash becoming more of a volcaniclastic at base, last two feet w/ brown lam matrix with 1/8-1/4" chl clasts (sub-angular) contact @ 50	860	853-863.2 1 frac/ft @ 80, 70, 50 863.2-873.5 1 frac/ft @ 40	857-874.5 minor 1/10-1/4 discontinuous py vn on healed fractures
SEE Log	Eng	LBT FGT-vitrophere	870	873.5-883.6 .8 frac/ft @ 60	874.5-880.5 str sil fine py vnlets x-cutting foliation and 1/4-1" replacement blebs
		874.5-880.5 wk foliated fine grain Tuff @ 45 wk chl, str sil		South Ridge (reactivated)	
		880.5-890.5 Volcanic bx with 20% clasts rock similar above but mod chl - str sil clast → matrix upset	880	880.5 sheared contact 3.1/2" @ 70 883.6-888 .8 frac/ft @ 50 888-894 .3 frac/ft @ 45 brk rk	880-890 - silica flooded w/ discontinuous py vnlets white clay on frac
		890.5-904 silica healed breccia vein	890	841 slicks @ 60 dip slip 894-904 .5 frac/ft @ 45 brk rk	890-904 bx vn silica healed tectonic bx. some barite vn w/ fine stibnite dk qtz w/ fine disem sulf as fractured clasts and discontinuous vn + white, blk, gray, green qtz cements
			900	904-914 .5 frac @ 45	
		904-923.8 Silica saturate Rock Texture obliterated by sil some clastic components fine grain Ash?	910		904-923.8 minor py vn ± marc @ 0+40 and coarse disem py V str. silica alt

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
844	854	10	<.001	<.02		
854	861	7	<.001	.30		
Bird Geo chem						
Heck custom samples						
861	866	5(4)	<.001	.07		
866	871	5	.007	.11		
871	876	5	.037	.12		
876	881	5	.008	.21		
881	886	5	.037	.57		
886	890.5	4.5	.026	17.96	886-909 23' @ .009	6.96
890.5	894	3.5	.006	3.13		
894	896.5	2.5	.010	10.32		
896.5	900	3.5	.013	4.60		
900	904	4	.012	1.25		
904	909	5	.012	4.29		

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REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		918.5 - 923.8 clastic texture @ 60 lost 2ft of tuff w/ fine crust. lost 1ft w/ clasts of siltsn contact sharp @ 75	920		914-924 .5 frac/ft @45	
		923.8-950 EOH mixed siltstones, mudstones + sandstones black + med gray - folded and brecciated Jra meta sed's contorted slate, phyllite w/ folded Qtz veinlets	930		924-934 1 frac/ft @60	923.8 - 950 EOH str py dissem numerous qtz py vn at all angles many veinlets @ 0 w/ white clays (sil) minor carbon
		924 TCS 936 ALS	940		934-944 1.3 frac/ft @70, 30	
			950 EOH		944-950 1.7 frac/ft @70-30	

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
909	914	5	.016	.28		
914	919	5	.029	.71		
919	924	5	.033	.46		
924	929	5	.022	13.17	924-944' 20' @ .017	5.56
929	934	5	.027	2.48		
934	939	5	.005	4.27		
939	944	5	.013	2.33		
944	949	5	.003	.21		
949	950	1	.007	.21		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-339 DATE: 10-17-94 LOGGED BY: RK PAGE 1 OF 4

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)
494	504	81	93	.75	499	R2	.4	50	S	nil	499	352.5	142	2.48
504	514	67	95	.60	509	R2	.9	50, 40	R	chl coating 1/10"	509	477.5	190	2.51
514	524	73	98	.45	519	R3	.8	45 ⊥ 30 PREE	R	qtz coating ± marc. chl films	519	327.5	130	2.52
524	534	.25	98	.22	529	R3	1.0	55, 15	VR	chl coating 1/10 - 1/15"	529	331	130	2.54
534	544	67	98	.40	539	R3	.7	40-50, 5	VR VUSY	drusy qtz	539	479.7	185	2.59
544	554	77	97	.57	549	R2	.7	35, 60	R	drusy qtz chl films	549	400.5	165	2.43
554	564	97	98	.79	559	R2	.2	60	VR	nil	559	499.7	220	2.27
564	574	99	99	.86	569	R2	0 or VR @ 90	—	—	—	569	440.8	190	2.32
574	584	98	99	.84	579	R2	0	—	—	—	579	303.2	125	2.43
584	594	97	98	.89	589	R2	.1	70	R	nil	589	538.2	224	2.40
594	604	75	95	.65	599	R2	.8	60	R	chl Rh	599	610	245	2.49

HECLA MINING COMPANY -- ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-339 DATE: 10/19 LOGGED BY: LJB PAGE 2 OF 4

	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)
	604	614	101	101	.76		R2	.5	70, 20	R	nil chl rk	608	626.2	265	2.4
1	614	622	96	96	.91		R2	.3	40, 50	R	nil, clay	618	544.5	235	2.3
	622	624	101	101	.75	—	—	↑	↑	↑	↑	—	—	—	
2	624	634	100	100	.86		R2	.5	20, 0	R	drusy qtz + marcasite	628	519.4	210	2.5
3	634	644	101	101	.86		R2	.6	40	R	SAS	638	601.9	275	2.2
4	644	654	98	100	.74		R2	1.2	40	R	nil chl rx	648	628.0	260	2.4
5	654	664	100	100	.90		R2	.7	70	R	SAS	658	666.4	280	2.4
6	664	674	100	100	.86		R3	.7	40	R	qtz cont + marcasite	668	885.2	350	2.5

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-339 DATE: 10-19-94 LOGGED BY: RK PAGE 3 OF 4

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)
674	684	100	100	.78	679	R3	.8	70, 40 (1) RARE	R	wil		525	218	2.41
684	694	98	99	.84	689	R3	.6	50, 20 RARE	R	drusy qtz white clay fills + MAFC chl films		356	148	2.41
694	704	78	94	.54	699	R3	.4	25	R	SAS		401.5	162	2.48
704	714	96	98	.79	709	R3	.4	25, 80	R	SAS		552.6	230	2.40
714	724	95	99	.83	719	R3	.2	80	S	chl-calcite films + py		454.5	190	2.39
724	734	89	99	.63	729	R3	.6	45	R	chl + py films 1/10"		472	198	2.38
734	744	87	98	.64	739	R3	1.1	65, 0 RARE	R	SAS		347	143	2.43
744	754	90	97	.63	749	R3	.9	65, 0	R	SAS		368.5	155	2.38
754	764	83	97	.59	759	R3	1.3	50	R	SAS + red hem		344.6	140	2.46
764	775	30	72	.19	769	R3	1.1	40, 5	R	SAS		288.8	120	2.41
775		27+	27+	27+		R3	—	—	—	—				

SEE GEO LOG

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-339 DATE: 10/31/94 LOGGED BY: LJB PAGE (4) OF 4

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	
863.2	873.5	100	100	.64		R2	1 frac/ft	40	R	clay films	865	524.6	225	2.3	1
873.5	883.6	97	100	.83		R2	.8	60	R	clay + py films	875	594.1	245	2.4	2
883.6	888	86	86	.68		R3	.8	50	R	clay films	885	824.3	320	2.6	3
888	894	90	99	.30		R3	.3+ (brk rk)	45	R	sil rk					
894	896.5	0	60	0.0		R3	↓	↓	↓	↓	894	850.0	300	2.8	4
896.5	904	80	100	.60		R3	.5+ (brk rk)	~45	VR	sil rk					
904	914	100	100	.84		R3	.5	45	VR	sil rk	905	619.1	240	2.6	5
914	924	100	100	.94		R3	.5	45	R	sil rk py films	915	618.4	230	2.7	6
924	934	98	98	.71		R3	1.0	60	R	clay films	925	406.1	160	2.5	7
934	944	97	97	.56		R3	1.3	70, 30	R	nil	935	568.6	225	2.5	8
944	950	106	106	.40		R3	1.7	70,30	R	nil	945	978.9	370	2.6	9

American Assay Laboratories

INVOICE

Remit To: P.O. Box 71060
Reno, NV 89570
Phone No.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031044-IN
INVOICE DATE: 10/24/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
49	SAMPLES RECEIVED	.00	.00
49	JAW CRUSHING CHARGE	1.20	58.80
49	SPLITTING CHARGE	.50	24.50
49	KEEGOR MILLING CHARGE	2.00	98.00
49	Au (1 A.T. FIRE ASSAY)	7.25	355.25

NET INVOICE:	536.55
LESS DISCOUNT:	160.97
FREIGHT:	.00
INVOICE TOTAL:	375.58

OK to pay
140195-477
Charles V. Muerhoff

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: 94-339

LABORATORY JOB No. : SP031044

SAMPLE TYPE :

RECEIVED : 27 SEP 1994

REPORTED : 20 OCT 1994

No. SAMPLES : 49

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031044
REPORTED : 20 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 00-15	8	
94-339 15-25	<5	
94-339 25-35	<5	
94-339 35-45	6	
94-339 45-55	6	
94-339 55-65	<5	
94-339 65-75	<5	<5
94-339 75-85	<5	
94-339 85-95	<5	
94-339 95-105	<5	
94-339 105-115	<5	
94-339 115-125	<5	
94-339 125-135	<5	
94-339 135-145	<5	<5
94-339 145-155	<5	
94-339 155-165	<5	
94-339 165-175	<5	
94-339 175-185	<5	
94-339 185-195	<5	5
94-339 195-205	<5	
94-339 205-215	<5	
94-339 215-225	<5	
94-339 225-235	<5	
94-339 235-245	<5	
94-339 245-255	<5	

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031044
REPORTED : 20 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 255-265	5	
94-339 265-275	<5	
94-339 275-285	<5	
94-339 285-295	<5	
94-339 295-305	<5	
94-339 305-315	<5	
94-339 315-325	6	<5
94-339 325-335	<5	
94-339 335-345	<5	
94-339 345-355	<5	
94-339 355-365	<5	
94-339 365-375	5	
94-339 375-385	<5	
94-339 385-395	5	
94-339 395-405	<5	<5
94-339 405-415	<5	
94-339 415-425	<5	
94-339 425-435	<5	
94-339 435-445	<5	
94-339 445-455	<5	
94-339 455-465	<5	
94-339 465-475	36	
94-339 475-485	424	314
94-339 485-495	18	

ANALYSIS REPORT

American Assay Laboratories

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Ph.1-702-356-0606, Fax.1-702-356-1413
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HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

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CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031044

SAMPLE TYPE :

RECEIVED : 27 SEP 1994

REPORTED : 20 OCT 1994

No. SAMPLES : 49

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031044
REPORTED : 20 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 00-15	8	
94-339 15-25	<5	
94-339 25-35	<5	
94-339 35-45	6	
94-339 45-55	6	
94-339 55-65	<5	
94-339 65-75	<5	<5
94-339 75-85	<5	
94-339 85-95	<5	
94-339 95-105	<5	
94-339 105-115	<5	
94-339 115-125	<5	
94-339 125-135	<5	
94-339 135-145	<5	<5
94-339 145-155	<5	
94-339 155-165	<5	
94-339 165-175	<5	
94-339 175-185	<5	
94-339 185-195	<5	5
94-339 195-205	<5	
94-339 205-215	<5	
94-339 215-225	<5	
94-339 225-235	<5	
94-339 235-245	<5	
94-339 245-255	<5	

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031044
REPORTED : 20 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 255-265	5	
94-339 265-275	<5	
94-339 275-285	<5	
94-339 285-295	<5	
94-339 295-305	<5	
94-339 305-315	<5	
94-339 315-325	6	<5
94-339 325-335	<5	
94-339 335-345	<5	
94-339 345-355	<5	
94-339 355-365	<5	
94-339 365-375	5	
94-339 375-385	<5	
94-339 385-395	5	
94-339 395-405	<5	<5
94-339 405-415	<5	
94-339 415-425	<5	
94-339 425-435	<5	
94-339 435-445	<5	
94-339 445-455	<5	
94-339 455-465	<5	
94-339 465-475	36	
94-339 475-485	424	314
94-339 485-495	18	

American Assay Laboratories

INVOICE

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AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031426-IN
INVOICE DATE: 11/04/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
5	SAMPLES RECEIVED	.00	.00
1	DRYING	.80	3.20
1	DRYING	1.60	1.60
1	JAW CRUSHING CHARGE	1.20	4.80
1	JAW CRUSHING CHARGE	2.40	2.40
4	SPLITTING CHARGE	1.00	4.00
1	SPLITTING CHARGE	1.50	1.50
5	KEEGOR MILLING CHARGE	2.00	10.00
5	Au (1 A.T. FIRE ASSAY)	7.25	36.25

OK to pay
140195-477
CM

NET INVOICE:	63.75
LESS DISCOUNT:	19.13
FREIGHT:	.00
INVOICE TOTAL:	44.62

ANALYSIS REPORT

American Assay Laboratories

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HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031426

SAMPLE TYPE :

RECEIVED : 26 OCT 1994

REPORTED : 2 NOV 1994

No. SAMPLES : 5

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5

OK to pay
140195-477
CM

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031426
REPORTED : 2 NOV 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 559-574	<5	
94-339 574-584	<5	<5
94-339 584-594	<5	
94-339 594-604	<5	
94-339 604-614	<5	

OK to pay
14095-477
CA

ANALYSIS REPORT

American Assay Laboratories

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HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

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:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031426

SAMPLE TYPE :

RECEIVED : 26 OCT 1994

REPORTED : 2 NOV 1994

No. SAMPLES : 5

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031426
REPORTED : 2 NOV 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb
94-339 559-574	<5	
94-339 574-584	<5	<5
94-339 584-594	<5	
94-339 594-604	<5	
94-339 604-614	<5	

American Assay Laboratories

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AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031427-IN
INVOICE DATE: 11/07/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
19	SAMPLES RECEIVED	.00	.00
19	JAW CRUSHING CHARGE	1.20	22.80
30	JAW CRUSHING CHARGE	2.40	72.00
19	COARSE MILLING CHARGE	4.00	76.00
30	COARSE MILLING CHARGE	8.00	240.00
19	SPLITTING CHARGE	1.50	28.50
30	SPLITTING CHARGE	2.00	60.00
19	KEEGOR MILLING CHARGE	2.00	98.00
49	BLENDING CHARGE	1.00	49.00
49	RING MILLING CHARGE	1.50	73.50
19	Au (2 A.T. FIRE ASSAY)	9.50	465.50
19	HYDROCHLORIC/NITRIC DIGESTION	2.00	98.00

CONTINUED

American Assay Laboratories

INVOICE

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Fax No.: 702-356-1413

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SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031427-IN
INVOICE DATE: 11/07/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
49	Ag ANALYSES	.80	39.20

OK to pay
140195-477
CM

NET INVOICE:	1,322.50
LESS DISCOUNT:	396.75
FREIGHT:	.00
INVOICE TOTAL:	925.75

ANALYSIS REPORT

American Assay Laboratories

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HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

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:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031427

SAMPLE TYPE :

RECEIVED : 26 OCT 1994

REPORTED : 3 NOV 1994

No. SAMPLES : 60

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

OK to pay
14-115-477
CM

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031427
REPORTED : 3 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 494-499	0.005		0.04
94-339 499-504	0.001		0.03
94-339 504-509	0.002		0.04
94-339 509-514	0.001		0.04
94-339 514-519	<0.001		0.02
94-339 519-524	<0.001	<0.001	0.02
94-339 524-529	0.002		0.08
94-339 529-532	0.001		0.03
94-339 532-537	0.004		0.12
94-339 537-541	0.001		0.03
94-339 541-546	0.002		0.03
94-339 546-550.5	<0.001		0.03
94-339 550.5-554	<0.001		0.04
94-339 554-559	<0.001		0.02
94-339 614-619	<0.001		0.03
94-339 619-622	0.006		0.07
94-339 622-624	0.002		0.05
94-339 624-629	0.001		0.05
94-339 629-634	0.002		0.08
94-339 634-639	0.002		0.08
94-339 639-644	0.003		0.10
94-339 644-649	<0.001		0.02
94-339 649-654	<0.001		<0.02
94-339 654-659	<0.001		<0.02
94-339 659-664	<0.001		0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031427
REPORTED : 3 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 664-667	0.002		0.04
94-339 667-669	0.002		0.05
94-339 669-674	0.013	0.011	0.05
94-339 674-679	0.002		0.05
94-339 679-684	<0.001		0.04
94-339 684-689	0.001		0.07
94-339 689-694.5	0.002		0.07
94-339 694.5-697	0.004		0.07
94-339 697-699	0.004		0.09
94-339 699-704	0.001		0.04
94-339 704-709	0.002		0.05
94-339 709-714	0.001		0.04
94-339 714-719	<0.001		0.04
94-339 719-724	<0.001		<0.02
94-339 724-729	<0.001		<0.02
94-339 729-734	<0.001		<0.02
94-339 734-739	<0.001		<0.02
94-339 739-744	<0.001	<0.001	<0.02
94-339 744-749	<0.001		<0.02
94-339 749-754	<0.001		<0.02
94-339 754-759	<0.001		<0.02
94-339 759-764	<0.001		<0.02
94-339 764-769	<0.001		<0.02
94-339 769-774	<0.001		<0.02

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: 94-339

LABORATORY JOB No. : SP031427

SAMPLE TYPE :

RECEIVED : 26 OCT 1994

REPORTED : 3 NOV 1994

No. SAMPLES : 60

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

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031427
REPORTED : 3 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 494-499	0.005		0.04
94-339 499-504	0.001		0.03
94-339 504-509	0.002		0.04
94-339 509-514	0.001		0.04
94-339 514-519	<0.001		0.02
94-339 519-524	<0.001	<0.001	0.02
94-339 524-529	0.002		0.08
94-339 529-532	0.001		0.03
94-339 532-537	0.004		0.12
94-339 537-541	0.001		0.03
94-339 541-546	0.002		0.03
94-339 546-550.5	<0.001		0.03
94-339 550.5-554	<0.001		0.04
94-339 554-559	<0.001		0.02
94-339 614-619	<0.001		0.03
94-339 619-622	0.006		0.07
94-339 622-624	0.002		0.05
94-339 624-629	0.001		0.05
94-339 629-634	0.002		0.08
94-339 634-639	0.002		0.08
94-339 639-644	0.003		0.10
94-339 644-649	<0.001		0.02
94-339 649-654	<0.001		<0.02
94-339 654-659	<0.001		<0.02
94-339 659-664	<0.001		0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031427
REPORTED : 3 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 664-667	0.002		0.04
94-339 667-669	0.002		0.05
94-339 669-674	0.013	0.011	0.05
94-339 674-679	0.002		0.05
94-339 679-684	<0.001		0.04
94-339 684-689	0.001		0.07
94-339 689-694.5	0.002		0.07
94-339 694.5-697	0.004		0.07
94-339 697-699	0.004		0.09
94-339 699-704	0.001		0.04
94-339 704-709	0.002		0.05
94-339 709-714	0.001		0.04
94-339 714-719	<0.001		0.04
94-339 719-724	<0.001		<0.02
94-339 724-729	<0.001		<0.02
94-339 729-734	<0.001		<0.02
94-339 734-739	<0.001		<0.02
94-339 739-744	<0.001	<0.001	<0.02
94-339 744-749	<0.001		<0.02
94-339 749-754	<0.001		<0.02
94-339 754-759	<0.001		<0.02
94-339 759-764	<0.001		<0.02
94-339 764-769	<0.001		<0.02
94-339 769-774	<0.001		<0.02

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: 94-339

LABORATORY JOB No. : SP031541

SAMPLE TYPE :

RECEIVED : 4 NOV 1994

REPORTED : 10 NOV 1994

No. SAMPLES : 9

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

SIGNATORY : Sue Faircloth M.S.

American Assay Laboratories

INVOICE

Remit To: P.O. Box 71060
Reno, NV 89570
Phone No.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031541-IN
INVOICE DATE: 11/10/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89119

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89119

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
9	SAMPLES RECEIVED	.00	.00
9	JAW CRUSHING CHARGE	1.20	10.80
9	COARSE MILLING CHARGE	4.00	36.00
9	SPLITTING CHARGE	1.50	13.50
9	KEEGOR MILLING CHARGE	2.00	18.00
9	BLENDING CHARGE	1.00	9.00
9	RING MILLING CHARGE	1.50	13.50
9	Au (2 A.T: FIRE ASSAY)	9.50	85.50
9	HYDROCHLORIC/NITRIC DIGESTION	2.00	18.00
9	Ag ANALYSES	.80	7.20

OK to pay
140195-477
CM

NET INVOICE:	211.50
LESS DISCOUNT:	63.45
FREIGHT:	.00
INVOICE TOTAL:	148.05

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031541
REPORTED : 10 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 774-784	<0.001		<0.02
94-339 784-794	<0.001		0.02
94-339 794-804	0.002		<0.02
94-339 804-814	<0.001		<0.02
94-339 814-824	<0.001		<0.02
94-339 824-834	<0.001		<0.02
94-339 834-844	<0.001		<0.02
94-339 844-854	<0.001		<0.02
94-339 854-861	<0.001		0.30

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

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:

:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031541

SAMPLE TYPE :

RECEIVED : 4 NOV 1994

REPORTED : 10 NOV 1994

No. SAMPLES : 9

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

OK to pay
140195-477
CM

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031541
REPORTED : 10 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 774-784	<0.001		<0.02
94-339 784-794	<0.001		0.02
94-339 794-804	0.002		<0.02
94-339 804-814	<0.001		<0.02
94-339 814-824	<0.001		<0.02
94-339 824-834	<0.001		<0.02
94-339 834-844	<0.001		<0.02
94-339 844-854	<0.001		<0.02
94-339 854-861	<0.001		0.30

see to p34
14-195-477
CM

American Assay Laboratories

INVOICE

Remit To: P.O. Box 71060
Reno, NV 89570
Phone No.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0031599-IN
INVOICE DATE: 11/18/94

INVOICE TO:
HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

HECLA MINING COMPANY
1225 UPPER VALLEY ROAD
P. O. BOX 1861
LOVELOCK NV 89419

CUSTOMER P.O.	PROJECT	TERMS
C. MUERHOFF	ROSEBUD 94-339	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
20	SAMPLES RECEIVED	.00	.00
20	JAW CRUSHING CHARGE	2.40	48.00
20	COARSE MILLING CHARGE	8.00	160.00
20	SPLITTING CHARGE	2.00	40.00
20	KEEGOR MILLING CHARGE	2.00	40.00
20	BLENDING CHARGE	1.00	20.00
20	RING MILLING CHARGE	1.50	30.00
20	Au (2 A.T. FIRE ASSAY)	9.50	190.00
20	HYDROCHLORIC/NITRIC DIGESTION	2.00	40.00
20	Ag ANALYSES	.80	16.00
9	Ag (ore grade) ANALYSES	5.00	45.00

OK to pay
140195-477
CM.

NET INVOICE:	629.00
LESS DISCOUNT:	188.70
FREIGHT:	.00
INVOICE TOTAL:	440.30

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

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:

:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031599

SAMPLE TYPE :

RECEIVED : 9 NOV 1994

REPORTED : 17 NOV 1994

No. SAMPLES : 20

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

ck to pay
14-175-477
CM

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031599
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 861-866	<0.001		0.07
94-339 866-871	0.007		0.11
94-339 871-876	0.037		0.12
94-339 876-881	0.008		0.21
94-339 881-886	0.037		0.57
94-339 886-890.5	0.026		17.96
94-339 890.5-894	0.006		3.13
94-339 894-896.5	0.010		10.32
94-339 896.5-900	0.013		4.60
94-339 900-904	0.012		1.25
94-339 904-909	0.012		4.29
94-339 909-914	0.016		0.28
94-339 914-919	0.029		0.71
94-339 919-924	0.033		0.46
94-339 924-929	0.022		13.17
94-339 929-934	0.027		2.48
94-339 934-939	0.005		4.27
94-339 939-944	0.013		2.33
94-339 944-949	0.003		0.21
94-339 949-950	0.007		0.21

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

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:

CLIENT REFERENCE No: 94-339

LABORATORY JOB No. : SP031599

SAMPLE TYPE :

RECEIVED : 9 NOV 1994

REPORTED : 17 NOV 1994

No. SAMPLES : 20

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

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-339
JOB NUMBER : SP031599
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-339 861-866	<0.001		0.07
94-339 866-871	0.007		0.11
94-339 871-876	0.037		0.12
94-339 876-881	0.008		0.21
94-339 881-886	0.037		0.57
94-339 886-890.5	0.026		17.96
94-339 890.5-894	0.006		3.13
94-339 894-896.5	0.010		10.32
94-339 896.5-900	0.013		4.60
94-339 900-904	0.012		1.25
94-339 904-909	0.012		4.29
94-339 909-914	0.016		0.28
94-339 914-919	0.029		0.71
94-339 919-924	0.033		0.46
94-339 924-929	0.022		13.17
94-339 929-934	0.027		2.48
94-339 934-939	0.005		4.27
94-339 939-944	0.013		2.33
94-339 944-949	0.003		0.21
94-339 949-950	0.007		0.21

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: 9/23/94 Number of Packages: 49 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE	TYPE	ELEMENTS REQUIRED
94-339 1-15	RC	Au 1AT FA ppb
15-25		
25-35		
35-45		
10 ft samples		
475-485		
485-495		

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month
[ ] 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.
Nevada 89431
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Reno, NV. 89570
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(702) 356-1413

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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: 10/21 Number of Packages: 14 [ ] Prepaid [ ] Collect

10/19/94

ANALYSIS REQUIRED

94-339: SAMPLE	TYPE	ELEMENTS REQUIRED
494-499	CORE	Au & Ag 2ATFA
499-504		
504-509		w/ Hecla-Rosebud
509-514		custom prep.
514-519		
519-524		* if Au ≥ .05 OPT
524-529		then repeat with
529-532		grav. finish
532-537		
537-541		
541-546		
546-550.5		
550.5-554		
554-559		

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

(2)

(3)

Comments:

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SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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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: 10/21 Number of Packages: 5 [ ] Prepaid [ ] Collect

sampled 10/18/94

ANALYSIS REQUIRED

94-339: SAMPLE	TYPE	ELEMENTS REQUIRED
559-574	CORE	Au only, 1 AT FA ppb
574-584	chips	
584-594		* if Au > 1500 ppb
594-604		repeat with grav. finish.
604-614		
		HQ CORE

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

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Comments:

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SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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1500 Glendale Ave.
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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: 10/21 Number of Packages: ~~32~~ 35 ~~2~~ [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

(94-339): SAMPLE			TYPE	ELEMENTS REQUIRED
614-619	679-684	754-759	CONE	Au & Ag ≥ AT FA
619-622	684-689	759-764		w/ Hecla-rosebud
622-624	689-694.5	764-769		custom prep.
624-629	694.5-697	769-774		
629-634	697-699			* if Au ≥ .05 opt
634-639	699-704			repeat w/ grav. finish.
639-644	704-~~714~~ 709			
644-649	714-719 ↖ 709-714			
649-654	719-724			
654-659	724-729			
659-664	729-734			
664-667	734-739			
667-669	739-744			
669-674	744-749			
674-679	749-754			

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

(2)

Comments:

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SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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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: 10/1/94 Number of Packages: 9 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

94-339 SAMPLE	TYPE	ELEMENTS REQUIRED
774-784	CORE	Au & Ag 1 At FA ppb
784-794		standard prep
794-804		
804-814		if Au ≥ 1500 ppb
814-824		report w/ grav finish
824-834		
834-844		
844-854		
854-861		

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:

Samples ≤ 5 lb.

Lower Priority

CLIENT FILE COPY

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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

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Nevada 89801
Box 2908
Elko, NV. 89801
Telephone
(702) 738-9100
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: 20 [ ] Prepaid [ ] Collect

~~Sampled~~ Logged 10/31/94

ANALYSIS REQUIRED

94-339	SAMPLE	TYPE	ELEMENTS REQUIRED
861-866	929-934	CORE	Au & Ag 2 AT FA
866-871	934-939		w/ Hecla-Rosebud custom prep.
871-876	939-944		
876-881	944-949		* if Au ≥ .05 OPT
881-886	949-950		repeat w/ grav. finish.
886-890.5			
890.5-894			
894-896.5			
896.5-900			
900-904			
904-909			
909-914			
914-919			
919-924			
924-929			

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:

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