60001487

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. 94-309
AUTHOR	C. Muerhoff; S. Faircloth; L. Bernard
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., East Zone
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 800' handwritten notes 23p.

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:	MSL	
SCANNED:		

94-309 EAST ZONE

6000 1487 4010 ✓

6600 1487

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER 94-309
PAGE 1 OF 9
DATE 12/2
LOGGED BY LJB
SCALE RC 1"=20' CORE 1"=10'
TOTAL DEPTH 800

LOCATION East Zone
NORTHING 2203855.0
EASTING 482625.5
ELEVATION 5299.0
AZIMUTH 69.5°
INCLINATION -89.5°

REMARKS
RC to 495 rapid logging
CORE from 495 to 800

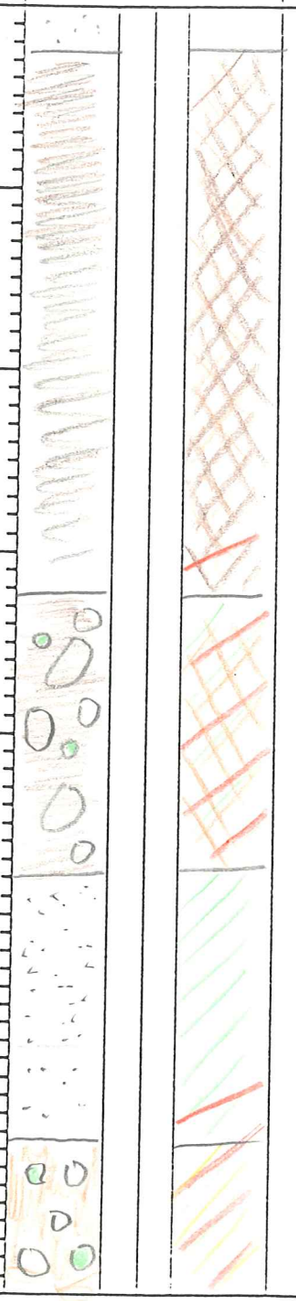
REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-35 dk brown volcanic bx, str hem				0-35 mod brown Fe ox clays weak
		35-105 lt gray, pale ish green tint Ashy - fine grain tuff				35-105 wk Fe ox wk sil-Arg

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
0	15	15	ppb 20			
15	25	10	66			
25	35	10	39			
35	45	10	100			
45	55	10	111			
55	65	10	81			
65	75	10	49			
75	85	10	73			
85	95	10	81			
95	105	10	64			

HOLE NUMBER 94-309 PAGE 2 OF 9

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		75% gray clays, 25% brown hem chips (105-165)				105-165 str argillic alt
		165-195 str brown hem volcaniclastic/bx w/ white wk chl clasts				155-195 mod py-gtz vn 165-195 v. wk clay alt
		195-225 Ashy pale green Tuff				195-225 wk chl
		225-315 finer size chips Mixed lt green, gray, + orange hem chips Heterolithic volcaniclastic w/ hem matrix				mod py vn 225-315 wk ch wk sil? mod py vn



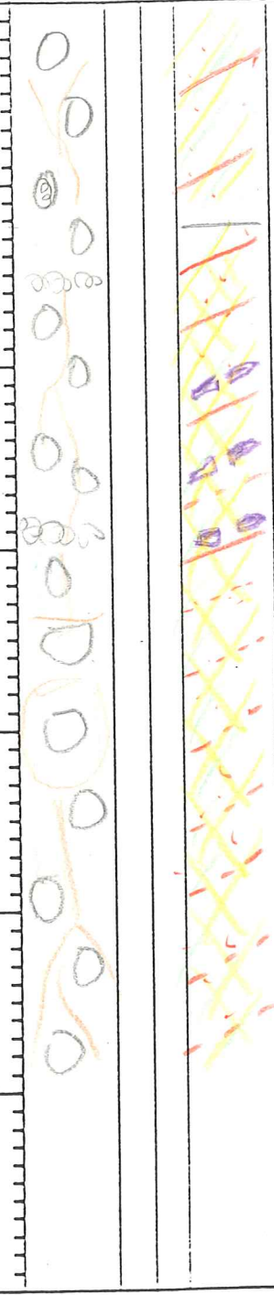
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
105	115	10	43			
115	125	10	38			
125	135	10	23			
135	145	10	12			
145	155	10	<5			
155	165	10	18			
165	175	10	10			
175	185	10	<5			
185	195	10	19			
195	205	10	<5			
205	215	10	<5			
215	225	10	19			
225	235	10	5			
235	245	10	50			

HOLE NUMBER 94-309 PAGE 3 OF 9

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	FROM	TO	W	Au	Ag	Au2	Ag2
							245	255	10	122			
							255	265	10	230			
							265	275	10	333			
							275	285	10	161			
							285	295	10	180			
							295	305	10	3834		4866 .142	
		315 - 455 white & green chips w/ wk pinkish hem coats				wk-mod gtz vn ± py barren vn	305	315	10	7650 5796		6600 .186	
		Volcaniclastic w/ ash, intrafol, or clasts } pass spherulitic				315 - 355 mod white gtz vn	315	325	10	470 .012			
		Fine py disem				315 - 405 wk-mod chl wk ser	325	335	10	296 .015			
							335	345	10	379			
						+ dk sulf w/ gtz	345	355	10	121			
						mod py vn	355	365	10	340			
						wk py vnlets	365	375	10	447			
						mod py vn	375	385	10	309			

HOLE NUMBER 94-309 PAGE 4 OF 5

REC	ROD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		SEE 1"=10' CORE LOGS	400 420 440 460 480 500 520			385-405 wk-mod py vn let, wk gtz vn wk clays 415-495 frosty sil overprint on wk-mod ch l mod-str sil / wk-mod gtz-py vn 415-435 barren poss calcopyrite

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
385	395	10	1082 .035			
395	405	10	1052 .029			
405	415	10	234			
415	425	10	135			
425	435	10	800 .022			
435	445	10	518 .014			
445	455	10	581 .016			
455	465	10	323			
465	475	10	258 282			
475	485	10	126			
485	495	10	322			

HOLE NUMBER 94-309 CORE STARTS PAGE 3 OF 9

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		495-510 med grain green chl Tuff w/ v. minor lithic component. 5% chlorite Alt phenos – ferromags?, py disem 2% brgiwly glassy w/ v. wk spheroidal text?	500		495-505 1 frac/ft @ 70,50	495-510 minor qtz-marc-py vulets rare 2° bornite/py
		2ft gradational contact			505-515 .7 frac/ft @ 60	502 Minor barite (VNS)
		510-540 Med grain pinkish Tan apl Tuff w/ 10% marc disem, wk FeOx, local chl alt. mod silisic	510		515-525 .7 frac/ft @ 70	510-526 hairline crackle vulets of py high angle (20°) qtz-marc/py vn with 2° chl selvages Vn 1/4-1/2" multi generation of selvages 1/4 halo
			520		525-535 1 frac/ft @ 60	
			530		535-545 1.2 frac/ft @ 70	526-529.5 rubble by w/ gray qtz cements ± sulf (Rare) Vugs w/ barite and stibnite on frac.
		540-943 green chloritic volcaniclastic Tuff w/ 2" clasts similar to above fine-med grain, subrounded	540		540 minor 1/2" sandy rubble	529.5-539 qtz-sulf vn w/ chl selvages, wk-mod hem matrix (Rk) 539-545 minor marc disem 1/10 x 1/4 cc
		943-552 green chl fine aph Tuff w/ sft silica flooding, spheroidal text.			545-575 .9 frac/ft @ 50,70	545-549 Silica saturated rock, minor coarse marc disem frac & vugs w/ mod barite cryst w/ fr stibnite coatings
		552-565 heterolithic volcaniclastics with an ashy chl gr matrix clast supported to rounded w/ matrix & point contacts. chl > sil > Ag clasts sil overprint 1/4-1"	550			549-553 Minor mercacite disem 553-565.5 minor clay films on frac, vugy rk w/ barite & major 2° stibnite needles, stib on frac.
			560			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
495	500	5	.003	.06		
500	505	5	.003	.05		
505	510	5	.003	.06		
510	515	5	.003	.09	.003	
515	520	5	.005	.12		
520	525	5	.002	.06		
525	530	5	.003	.05		
530	535	5	.002	.04		
535	540	5	.003	.08		
540	545	5	.002	.08		
545	550	5	.001	.08		
550	555	5	.002	.09		
555	560	5	.003	.14		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION

565-586 Minor Ash bed @ 70

566-575 heterolithic wk bedded volcaniclastic clast supported w/ green Ash matrix, some ashy beds @50 1/10-1/8" clasts w/ 10% clasts 1/2-1" dk green wk sil

575-588 Ash Tuff w/ heterolithic clasts 1/10-1/4" wk chloritic Ash matrix 70% 30% clasts of similar comp. matrix sup. V. wk Solution @ 60 M green-white, mod argillic

588-603.7 heterolithic wk bedded volcaniclastic Tile Above, dk green clast supported str sil sub angular to sub-rounded

603.7± sharp contact @65

605.7 green silicic sandstone some graidal bedding @40 coarsening upward truncated by faulting

605.7-642 silica loaded volcaniclastic 1/8-2" Angular to subrounded clasts supported in a white/grey med grain matrix. heterolithic 80-90% green sil clasts 10-20 Tan clasts

575-595 .9 frac/ft @ 70, 30

583 bk OX(?) sulfide after MARC.

595-605 .7 frac/ft @ 60

605-615 .5 frac/ft @ 45

615-625 .8 frac/ft @ 50

stibnite?

625-635 .8 frac/ft @ 65, 45

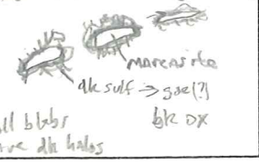
@30
565.5-575 Vugs & fractures w/ drussy qtz + marc and 2° barite crust w/ minor stibnite

575-588 mod Argill Alt w/ coarse marcasite disseminations

588-590 @30 frac w/ drussy qtz + marc/py 2° barite ± 3° mod stibnite & fine botryoidal py + Fe Ox

590-595 frac w/ clay films, sil clay/qtz, minor barite, marc/py colloidal silica

595-626 Minor white qtz vn ± marcasite (qtz after white clay) rare dk br/blk botryoidal sulf coating with 2° colloidal white silica blebs of discontinuous marcasite tabular blebs surrounded by a dk br/blk alteration of fine goe(?) sulfide (1% of rock)



not all blebs have dk halos

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
560	565	5	.002	.07		
565	570	5	.002	.07		
570	575	5	.002	.06		
575	580	5	.001	.05		
580	585	5	.003	.12		
585	590	5	.002	.07		
590	595	5	.003	.29		
595	600	5	.004	.07		
600	605	5	.002	.70		
605	610	5	.025	.66		
610	615	5	.027	.61	.025	
615	620	5	.017	.63		
620	625	5	.024	.57		
625	630	5	.002	.13		

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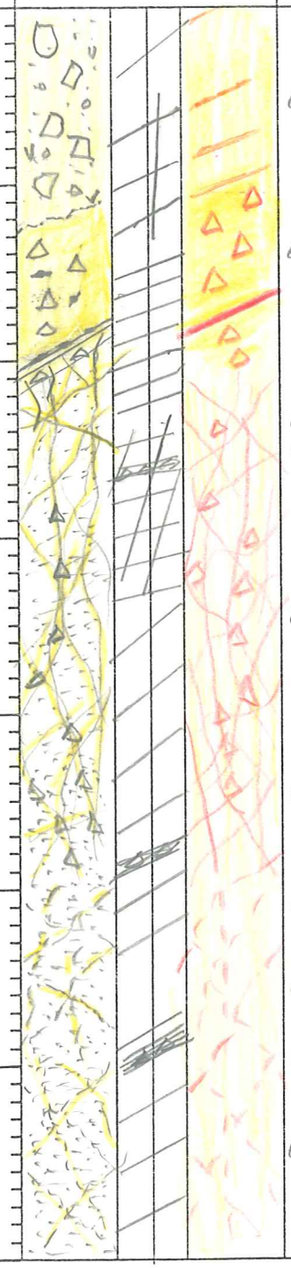
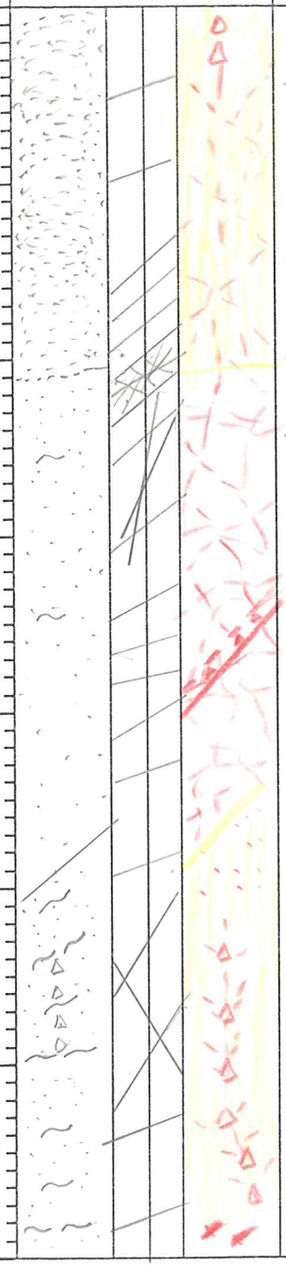
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
						630 clay + stibnite on frac	630	635	5	.003	.50		
					635-645 .8 frac/ft @ 60,0	626-642 V. strong silica (white) saturation of VC matrix minor tabular blebs of marc. goe on frac	635	640	5	.005	.59		
		642-650.5 Silica floaded volcaniclastics and tectonic breccias rounded to angular clasts of bk vn material, dk gray qtz cements	640			642-645 V. strong gray qtz saturated VC with minor fine stibnite on frac	640	642.5	2.5	.005	.49		
					645-655 2 frac/ft @ 70		642.5	646	3.5	.002	.41		
						645-651 Tectonic bx with clast of dk vn material med-dk gy cements minor ruby silver Dence rk, few vugs minor stibnite	646.	650	4	.003	.27		
		650.5-651 Tectonic bx + hydro with pink med grain Tuff dk gy-bk cements + vn clasts	650				650	651	1	.006	.07		
		651-681 Med grain pink/lt gray glassy spherodail Tuff with strong rubble + crackle bx components (vertical). DT			655-665 1.6 frac/ft @ 75,15	550.5 1/5" bk vn @ 60	651	655	4	.033	.52		
					656.5 4" rubble zone	551-681 str rubble and crackle bx major vertical component rubble by cemented by sil white clay + gy qtz + marcasite crackle vn of marcasite + qtz often surrounded by dk sulf	655	660	5	.104	.12	.124 (g)	
			660				660	665	5	.227	.30	.209 (g)	
					665-675 1 frac/ft @ 50		665	670	5	.026	.10		
			670				670	675	5	.038	.16		
					675-685 1.5 frac/ft @ 60		675	680	5	.013	.17		
		681-721 SAb with only wk crackle bx	680		680 → 8" rubble zone	681-699 wk crackle bx with marc-qtz vn lets 1/10" w/ dk sulf coatings or halos. fractures with drusy qtz coated by bk-blue botryoidal sulfide → goe?	680	685	5	.022	.06		
					685-695 1 frac/ft @ 60		685	690	5	.081	.21	.051 (g)	
			690		689-690 rubble zone		690	695	5	.020	.12		
					695-705 1.1 frac/ft @ 65		695	700	5	.011	.07		
			700										



%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		721-749 white bleached Toff simular to above. Argillic alt masks internal textures though there may be a shallow foliation. Over print by weak-mod. crackle bx + local rubble brecciation. generally mod soft.	710 720 730 740 750 760 770		705-715 .6 frac/ft @ 70 715-725 2+ frac/ft @ 50 720-723 broken zone 725-735 1 frac/ft @ 50 25,10 735-745 .9 frac/ft @ 60,80 745-755 .3 frac/ft @ 70 755-765 .9 frac/ft @ 30 ⊥ 30 675-685 .5 frac/ft @ 70	699-702 vertical 2" rubble bx + assoc clay-marc vn 1/4" 702-721 v. wk crackle bx w/ <1/10" sulf filled frac and >1/10" white clay-marc vuletts 721-749 mod crackle bx with <1/10" sulf vulets and hairline gy qtz sulf w/ blk ox or v. fine sulf replacement Rock in generally is mod argillic, mod soft chalk-like minor zones of mod-str sil. fine py disseminations 738 1/4" sulf vn @ 40 to ⊥ to bx 749-752.5 wk hem along foliation, fine py film on frac, minor blebs of py disseminations, <1% py disseminations within rk 752.5-769 fine sub-vert rubble bx w/ silica cements pre mineral, v. minor assoc pyrite on frac. 2°
		Clean alteration contact @ 50 749-800 lt gray with brown and pale olive tints fine grain foliated Toff aph, no phenos 1% disseminated py cubes (v. fine) foliated @ 60 759 foliation @ 80 752.5-769 tightly controlled preamineral rubble bx white silica cements (after clay?) 569 wk foliation @ 85				

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
700	705	5	.006	.06		
705	710	5	.076	.05	.072 (g)	
710	715	5	.019	.02		
715	720	5	.060	.04	.050 (g)	
720	725	5	.010	.15		
725	730	5	.011	.06		
730	735	5	.044	.06		
735	740	5	.030	.06		
740	745	5	.005	.05		
745	750	5	.004	.10		
750	755	5	.001	.02		
755	760	5	.003	<.02		
760	765	5	.001	<.02		
765	770	5	.001	<.02		

HOLE NUMBER 94-309 PAGE 9 OF 9

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA						
							FROM	TO	W	Au	Ag	Au2	Ag2
		SEE Above 774 foliation @ 80 780 wk foliation @ 60 783 foliation @60 790 wk foliation @60 798 str foliation @ 60	780 790 800 EOH		775-785 .7 frac/ft @ 40 785-795 .6 frac/ft @ 70-75 795-800 .6 frac/ft @ 40	759-795 V. wk dilational vulets - gtz-sulf w/ bk ox or sulf selveges 795-800 SAS with blebs of rounded PY (1/20")	770	775	5	<.001	<.02		
							775	780	5	<.001	<.02		
							780	785	5	.005	<.02		
							785	790	5	.005	<.02		
							790	795	5	<.001	<.02		
							795	800	5	<.001	<.02		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-309 DATE: 10/2/94 LOGGED BY: L.TB PAGE 1 OF 3

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)
495	505	99	99	.94		R3	1	70, 50	R	qtz + sulf coatings	497	617.1	255	2.4
505	515	100	100	.87		R3	.7	60	R	clay films	512.5	570.9	145	2.5
515	525	102	102	.93		R3	.9	70	R	py-qtz	523	357.3	230	2.5
525	535	100	100	.86		R3	1.0	60	R	qtz-sulf.	530	511.3	215	2.4
535	545	100	100	.76		R3	1.2	70	R	clay film	536	604.7	235	2.6
545	555	99	99	.79		R3	.7	50, 30	VR vugy	barite vugs stringers	548.5	398.7	170	2.3
555	565	.93	.93	.80		R3	1.1	50	VR	qtz + barite coating	563	508.6	200	2.5
565	575	.98	.98	.78		R3	.9	30	VR	qtz - sulf - barite	573.5	575.2	235	2.4
575	585	.98	.98	.93		R3	.9	70	R	nil	579	413.6	180	2.3
585	595	.94	.97	.90		R3	.8	70, 30	R	clay film vugy barite - silica	590	642.8	260	2.5

#6-35
1240
1350

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-309 DATE: 10/3/94 LOGGED BY: LTB/RK PAGE 2 OF 3

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)
595	605	98	98	.87		R3	.7	60	R	drusy qtz clay films	600	403.5	160	2.52
605	615	102	102	1.0		R3	.5	45	R	SAB + botryoidal py-goe	610	427.5	170	2.51
615	625	96	96	.93		R3	.8	50	R	SAB	620	642	255	2.52
625	635	100	100	.93		R3	.8	65, 45	R	SAB	630	395	160	2.47
635	645	100	100	.88		R3	.8	60, 0°	R	drusy qtz minor clay films	640	364.5	145	2.51
645	655	98	98	.68		R3	2.0	70	R-S	SAB	650	461.5	180	2.56
655	665	95	95	.56		R3	1.6	75, 15	R	SAB	660	405.5	160	2.53
665	675	97	97	.61		R3	1.0	50	R	qtz-more coating + minor clay	670	442.5	180	2.46
675	685	~~62~~ 98	~~64~~ 100	.37+.30 .70		R3	~~[illegible]~~ 1.5	60	R	qtz-drusy botryoidal pyrite	680	260.8	100	2.61
685	695	~~[illegible]~~ 94	~~[illegible]~~ 94	~~[illegible]~~ .70		R3	1.0	60	R	drusy qtz /sil	692	755	310	2.43

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-309 DATE: 10/4/94 LOGGED BY: RK PAGE 3 OF 3

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)
695	705	102	103	.85	700	R3	1.1	65	R	clay/ MArcasite	700	509	215	2.37
705	715	.97	.97	.89	710	R3	.6	70	R	nil	710	596.5	240	2.49
715	725	100	100	.66	720	R3	2+	50	R	clay/ marc.	720	403	165	2.44
725	735	97	97	.86	730	R2	1	25, 10, 50	R	clay marc.	730	430	220	1.96
735	745	97	100	.91	740	R2	.9	60, 80	R	sab	740	441	215	2.05
745	755	100	100	.97	745-749 749-755	R2 R3	.3	70	R	nil	750	503.5	198	2.54
755	765	98	98	.67	760	R3	.9	30 130	R	minor clay	760	621.5	250	2.49
765	775	97	97	.97	770	R3	.5	70	VR	nil	770	635.5	260	2.44
775	785	99	99	.97	780	R3	.7	40	S-k	clay marc	780	482	200	2.41
785	795	96	96	.96	790	R3	.6	70-75	S	clay mac.	790	547.5	230	2.38
795	800	108	108	1.05	797	R3	.6	40	S	nil	797	564	240	2.35

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: 94-309
LABORATORY JOB No. : SP030849
SAMPLE TYPE :

RECEIVED : 12 SEP 1994
REPORTED : 22 SEP 1994
No. SAMPLES : 49

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

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-309
JOB NUMBER : SP030849
REPORTED : 22 SEP 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	AuGRAV GRAV ppb
94-309 00-15	20		
94-309 15-25	66		
94-309 25-35	39		
94-309 35-45	100		
94-309 45-55	112	110	
94-309 55-65	81		
94-309 65-75	49		
94-309 75-85	73		
94-309 85-95	81		
94-309 95-105	64		
94-309 105-115	43	43	
94-309 115-125	38		
94-309 125-135	23		
94-309 135-145	12		
94-309 145-155	<5		
94-309 155-165	18		
94-309 165-175	10		
94-309 175-185	<5		
94-309 185-195	19		
94-309 195-205	<5		
94-309 205-215	<5	<5	
94-309 215-225	19		
94-309 225-235	5		
94-309 235-245	50		
94-309 245-255	123	120	

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-309
JOB NUMBER : SP030849
REPORTED : 22 SEP 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	AuGRAV GRAV ppb
94-309 255-265	230		
94-309 265-275	333		
94-309 275-285	161		
94-309 285-295	180		
94-309 295-305	3834		4866
94-309 305-315	7650	5796	6600
94-309 315-325	470		
94-309 325-335	296		
94-309 335-345	379		
94-309 345-355	121		
94-309 355-365	340		
94-309 365-375	447		
94-309 375-385	309		
94-309 385-395	1082		
94-309 395-405	1052		
94-309 405-415	234		
94-309 415-425	135		
94-309 425-435	800		
94-309 435-445	518		
94-309 445-455	581		
94-309 455-465	323		
94-309 465-475	258	282	
94-309 475-485	126		
94-309 485-495	322		

ANALYSIS REPORT

American Assay Laboratories Inc.

P.O. BOX 71060
RENO, NV,,U.S.A.,
Ph.1-702-356-0606, Fax.1-702-356-1413
Telex:

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

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CLIENT REFERENCE No: 94-309

LABORATORY JOB No. : SP031225

SAMPLE TYPE :

RECEIVED : 10 OCT 1994

REPORTED : 21 OCT 1994

No. SAMPLES : 63

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

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-309
JOB NUMBER : SP031225
REPORTED : 21 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-309 495-500	0.003			0.06
94-309 500-505	0.003			0.05
94-309 505-510	0.003			0.06
94-309 510-515	0.003	0.003		0.09
94-309 515-520	0.005			0.12
94-309 520-525	0.002			0.06
94-309 525-530	0.003			0.05
94-309 530-535	0.002			0.04
94-309 535-540	0.003			0.08
94-309 540-545	0.002			0.08
94-309 545-550	0.001			0.08
94-309 550-555	0.002			0.09
94-309 555-560	0.003			0.14
94-309 560-565	0.002			0.07
94-309 565-570	0.002			0.07
94-309 570-575	0.002			0.06
94-309 575-580	0.001			0.05
94-309 580-585	0.003			0.12
94-309 585-590	0.002			0.07
94-309 590-595	0.003			0.29
94-309 595-600	0.004			0.07
94-309 600-605	0.002			0.70
94-309 605-610	0.025			0.66
94-309 610-615	0.027	0.025		0.61
94-309 615-620	0.017			0.63

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-309
JOB NUMBER : SP031225
REPORTED : 21 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-309 620-625	0.024			0.57
94-309 625-630	0.002			0.13
94-309 630-635	0.003			0.50
94-309 635-640	0.005			0.59
94-309 640-642.5	0.005			0.49
94-309 642.5-646	0.002			0.41
94-309 646-650	0.003			0.27
94-309 650-651	0.006			0.07
94-309 651-655	0.033			0.52
94-309 655-660	0.104		0.124	0.12
94-309 660-665	0.227		0.209	0.30
94-309 665-670	0.026			0.10
94-309 670-675	0.038			0.16
94-309 675-680	0.013			0.17
94-309 680-685	0.022			0.06
94-309 685-690	0.081		0.051	0.21
94-309 690-695	0.020			0.12
94-309 695-700	0.011			0.07
94-309 700-705	0.006			0.06
94-309 705-710	0.076		0.072	0.05
94-309 710-715	0.019			0.02
94-309 715-720	0.060		0.050	0.04
94-309 720-725	0.010			0.15
94-309 725-730	0.011			0.06
94-309 730-735	0.044			0.06

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-309
JOB NUMBER : SP031225
REPORTED : 21 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-309 735-740	0.030			0.06
94-309 740-745	0.005			0.05
94-309 745-750	0.004			0.10
94-309 750-755	0.001			0.02
94-309 755-760	0.003			<0.02
94-309 760-765	0.001			<0.02
94-309 765-770	0.001			<0.02
94-309 770-775	<0.001			<0.02
94-309 775-780	<0.001			<0.02
94-309 780-785	0.005			<0.02
94-309 785-790	0.005			<0.02
94-309 790-795	<0.001			<0.02
94-309 795-800	<0.001			<0.02

PROVISIONAL REPORT

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: 94-309 RECEIVED : 10 OCT 1994

LABORATORY JOB No. : SP031225 REPORTED : 14 OCT 1994

SAMPLE TYPE : No. SAMPLES : 63

NALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
u(OZ)	FA60	15%	OPT	0.001
u(RZ)	FA60	15%	OPT	0.001
g(OZ)	D210	10%	OPT	0.02

MERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

LIENT : HECLA MINING CO.
ROJECT : ROSEBUD
EFERENCE : 94-309
OB NUMBER : SP031225
EPORTED : 14 OCT 1994

4-309 495-500	0.003	
4-309 500-505	0.003	
4-309 505-510	0.003	
4-309 510-515	0.003	0.003
4-309 515-520	0.005	
4-309 520-525	0.002	
4-309 525-530	0.003	
4-309 530-535	0.002	
4-309 535-540	0.003	
4-309 540-545	0.002	
4-309 545-550	0.001	
4-309 550-555	0.002	
4-309 555-560	0.003	
4-309 560-565	0.002	
4-309 565-570	0.002	
4-309 570-575	0.002	
4-309 575-580	0.001	
4-309 580-585	0.003	
4-308 585-590	0.002	
4-309 590-595	0.003	
4-309 595-600	0.004	
4-309 600-605	0.002	
4-309 605-610	0.025	
4-309 610-615	0.027	0.025
4-309 615-620	0.017	

MERICAN ASSAY LABORATORIES

ROVISIONAL REPORT

LIENT : HECLA MINING CO.
ROJECT : ROSEBUD
EFERENCE : 94-309
OB NUMBER : SP031225
EPORTED : 14 OCT 1994

	Au(OZ)	Au(RZ)	Ag(OZ)
4-309 620-625	0.024		
4-309 625-630	0.002		
4-309 630-635	0.003		
4-309 635-640	0.005		
4-308 640-642.5	0.005		
4-309 642.5-646	0.002		
4-309 646-650	0.003		
4-309 650-651	0.006		
4-309 651-655	0.033		
4-309 655-660	0.104		
4-308 660-665	0.227		
4-309 665-670	0.026		
4-309 670-675	0.038		
4-308 675-680	DTF		
4-309 680-685	0.022		
4-309 685-690	DTF		
4-309 690-695	0.020		
4-309 695-700	0.011		
4-309 700-705	0.006		
4-309 705-710	0.038		
4-309 710-715	0.019		
4-309 715-720	DTF		
4-309 720-725	0.010		
4-309 725-730	DTF		
4-309 730-735	0.044		

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MERICAN ASSAY LABORATORIES

ROVISIONAL REPORT

LIENT : HECLA MINING CO.
ROJECT : ROSEBUD
EFERENCE : 94-309
OB NUMBER : SP031225
EPORTED : 14 OCT 1994

[illegible]	Au(OZ)	Au(GRM)	Au(OZ)
4-309 735-740	0.030		
4-309 740-745	0.005		
4-309 745-750	0.004		
4-309 750-755	0.001		
4-309 755-760	0.003		
4-309 760-765	0.001		
4-309 765-770	0.001		
4-309 770-775	<0.001		
4-309 775-780	<0.001		
4-309 780-785	0.005		
4-309 785-790	0.005		
4-309 790-795	<0.001		
4-309 795-800	<0.001		