60001506

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. 94-329
AUTHOR	L. Bernard; C. Muerhoff; S. Fairclotb
DATE OF DOC(S)	1994
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Rosebud Project; Hecla Mining Co. East Zone
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 800' handwritten notes 24p.

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: mah
Initials Date
SCANNED: JV Blue
Initials Date

Revised: 1/22/08

94-329 EAST ZONE

60001506 4010

60001506

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-329	LOCATION	East Zone	REMARKS	
PAGE 1 OF 9		NORTHING	2204067.7	RC to 495	
DATE	12/12/94	EASTING	482758.4	CORE from 495 to 800	
LOGGED BY	LJB	ELEVATION	5302.2		
SCALE	RC 1"=20' CORE 1"=10'	AZIMUTH	37.0°		
TOTAL DEPTH	800'	INCLINATION	-88.0°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-25 gravel w/ hem clay coatinings				0-25 str FeOx
		25-75 Mainly cream clay balls w/ minor brown hem chips orang + yellow/brown FeOx coatings	20	clay		25-75 Mod FeOx clay coatings str clay Alt. (Arg)
			40			
			60			
		75-105 dk brown hem clays and brown fine grain hem chips	80			75-105 str Argillic Alt, str hem
			100			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	15	15	ppb 10			
15	25	10	15			
25	35	10	11			
35	45	10	8			
45	55	10	8			
55	65	10				
65	75	10	<5			
75	85	10	<5			
85	95	10	<5			
95	105	10	<5			

HOLE NUMBER 94-329 PAGE 2 OF 9

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		105-135 60-10% decreasing clays which are lt chl green, tan + brown clastic chips w/ lt brown hem matrix	120			105-135 mod-str Argillic, wk chl
		135-155 dk brown fine grain volcanic br	140	hem		135-155 str hem rk
		155-215 lt green fine grain volcanic clastics w/ minor tan + brown matrix chips. fine py disem	160	?	155-165 chip w/ slicks	155-175 wk chl w/ wk-mod sil overprint
			180			175-195 tr Fe Ox
		185-195 poss epiclastics				195-215 wk chl
			200			
		215-295 Mixed med brown + lt green/grey clastic chips, fine grain w/ fine py disem fine grain hem matrix	220			215-295 wk chl alt wh-mod Argillic poss v. wk sil
			240			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
105	115	10	PPb <5			
115	125	10	7			
125	135	10	13			
135	145	10	<5		5 Au(R)	
145	155	10	<5			
155	165	10	<5			
165	175	10	215		221 Au(R)	
175	185	10	190			
185	195	10	100		100 Au(R)	
195	205	10	6			
205	215	10	10			
215	225	10	77			
225	235	10	7			
235	245	10	78			

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FEC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		295-370 Lt green chl chips w/ clastic textures + Hbrown hem matrix fine grain, fine py dissem	260, 280, 300, 320, 340, 360, 380			295-300 wk chl-silicic w/ wk sil overprint wk-mod py veinlets; 355-366 tr clay white clay chip

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
245	255	10	ppb 165			
255	265	10	40			
265	275	10	8			
275	285	10	48			
285	295	10	106			
295	305	10	200			
305	315	10	154			
315	325	10	128			
325	335	10	91			
335	345	10	68			
345	355	10	4202		4124 (g)	
355	365	10	236			
365	375	10	1742		1561 (g)	
375	385	10	63			

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REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		370-495 H gray – Tan fine grain tuff w/ poss altered feldspar casts Mod py dissem	400, 420, 440, 460, 480, 500, 520			370-495 wk sil ch wk - mod py veinlets; 465-495 wk ghz veinlets wk py vn

SEE 1" = 10' CORE LOGS

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
			ppb			
385	395	10	180			
395	405	10	254			
405	415	10	418			
415	425	10	50			
425	435	10	124			
435	445	10	194			
445	455	10	273			
455	465	10	288			
465	475	10	160			
475	485	10	468			
485	495	10	542			

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%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	FROM	TO	W	Au	Ag	Au2	Ag2
		(mod-str welded) @55 495-537 eutactitic foliated Tuff, lt gray, fine med grain, py (fine) and marcasite dissem. chl alt phenos 1% - tr V. wk chl alt, mod sil, wk argill occasional narrow clastic zones (several inchs)	500		495-524 1 frac/ft @40 507.5 3" rubble/gouge zone @60 Crushed green & blk qtz w/py 509 4" rubble/gouge zone w/ 1/2" crushed white qtz vn + py	495-507 2-3 qtz-py vnlets/ft 1/20" @20 507-509 2-3 qtz-py vnlets/ft w/chl films @40 509 4" rubble bx w/ white qtz ± marcasite	495	500	5	.002	.04		
							500	505	5	.003	.05		
			510				505	510	5	.009	.04		
							510	515	5	.002	.03		
		foliation @55	520		524-525 1.2 frac/ft @60 527-528 sheared tap @ 3" crushed & gouge zone w/ crushed dkgy vn 525-545 1.3 frac/ft @40-50	510-511 rubble bx w/ qtz-rock flour cements 511-539 1-2 1/20-1/16" qtz-sulf vn @ 40, 0° 50 524.5 2" qtz vn + bx qtz vn @70	515	520	5	.006	.08	.005	
							520	525	5	.003	.06		
							525	530	5	.003	.05		
		foliation @55	530				530	535	5	.004	.11		
							535	540	5	.002	.05		
		537-5545 V. wkly welded? with poorly developed foliations expressed by hairline chlorite and clay selvages, smooth jointing ⊥ to foliation foliation @ 75 fine py dissem.	540		545-555 1.7 frac/ft @80, 70, 40	539-570 1-2 fine qtz-py vnlets @60	540	545	5	.002	.04		
							545	550	5	.004	.05		
			550		549-550 Rubble zone @70		550	555	5	<.001	.02		
		554.5-555.5 sub but a bx base sub-rounded w/ rock flower cements 555.5-583	560		555-565 1.4 frac/ft @70-50	(556-557.5) 8 discontinous py vnlets/ft	555	560	5	.003	.05		

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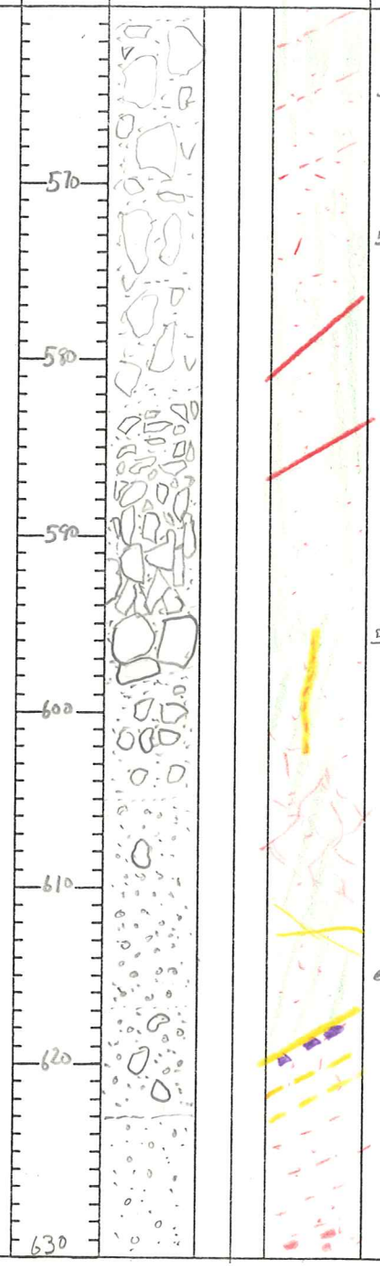
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		555.5-583 chloritic volcanic breccia fine grain ash with 1/8-4" clasts subrounded elongated to block clasts clast supported spindaly lappili homolithic, matrix wkly hem to chlorite chloritic/Argill Alt masks textures altered ^ glassy textures at base	570 580		565-575 .9 fracs/ft @ 70 575-595 .8 fracs/ft @50	570- minor py-qtz veinlets 579 1/2 qtz-marc vn@50
		583-595.5 Volcaniclastics chloritic + argillic Angular clast with a fine chloritic matrix. clast supported, heterolithic wk sorting w/ increase in grain size down hole 1/8-1/4" → 1/8-1" matrix wk sil, some clasts silicic	590			585 1/2" clay-qtz-marc vn @65
		595.5-598.5 large wkly blocks - chl-argil 598.5-605 matrix supported volcaniclastic	600		595-615 .75 fracs/ft @70	600 white + gray qtz vn @ 0
		606-617 Volcaniclastic - epiclastic COARSE sand size grains, Med green chlorite matrix, chlorite + clay alt grains, occational	610			605-609 wk crackle by w/ white qtz vn minor marcasite 607.5 1/4" marc-py-qtz vn @ 80
		617-622 Volcaniclastic 1/10-1/8" grains fine ash matrix - dk green 1/2-2" clasts - minor gray-reddish brown 622-632 white/lt green 1/10-1/20 size clasts in ash matrix	620 630		615-645 .9 fracs/ft @50 plus fine zone as noted below	613 intersecting white sil clay vns 1" + marc 615 1/4" white qtz vn 619 1" white qtz vn @ 60 and coarse barite crystal on fracture 619-621.5 minor qtz vn @ 60 1/4" w/ 0-15 underlain 1/10" clay-qtz feeders

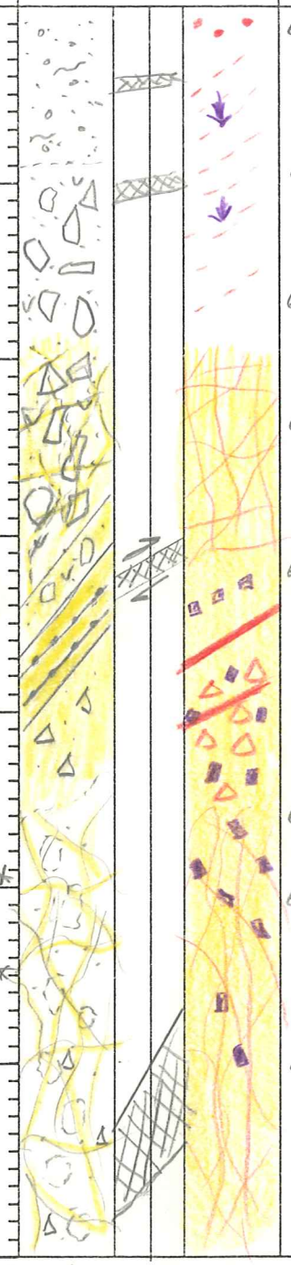


ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
560	565	5	<.001	<.02	<.001	
565	370	5	.003	.07		
570	375		.001	.02		
575	580		.002	.13		
580	585		.003	.06		
585	590		.004	.05		
590	595		.002	.45		
595	600		.006	.18		
600	605		.001	.04		
605	610		.011	.06		
610	615		.005	.04		
615	620		.005	.57		
620	625		.003	.05		
625	629.5		.006	.05		

%REC	RQD	LITHOLOGY	FT	STRUCTURE	ALTERATION AND MINERALIZATION	FROM	TO	W	Au	Ag	Au2	Ag2
		632-639 heterolithic volcaniclastics as above but with mod green chl, ashy, waxy matrix w/ wk foliation. possibly due to local fracturing + shearing. foliation @ 60		634-635 py-cl broken rock, poss Art fault gouge	621.5 - 629.5 1 py-marc vulet per foot 1/10"	629.5	635	6.0	.013	.09		
		639-646.5 1/8 - 1" clast in a green chloritic matrix, heterolithic, matrix supported, subrounded, lt green	640	640.5-641 broken zone	629.5-633.5 blocky marcasite white qtz vn w/ clay, barite + stibnite (minor)	635	640	5	.005	.05		
		646.5 - 654 Silicic gray/brown volcaniclastics 1/4 - 3" clasts, clast supported, sil green chloritic matrix heterolithic gray + brown clasts, rare chloritic	650	645-655 1 frac/ft @ 70, 15	633.5-649 minor qtz + marc ± barite vulets 1-2/ft	640	645	5	.002	.04		
						645	650	5	.005	.71		
				655-665 2.4 frac/ft @ 80	649-661 wk crackle bx w/ white qtz cements sulfide poor	650	655	5	.004	.10		
			660			655	660	5	.019	.50		
SPF 661-676		654-661 Similar to VC above but w/ large proportion of chl clast and a brown hem matrix mod-str sil Art.		661.5-662.5 broken rk @ 40? some slicks (wk) fault zone	661-663 silicic replaced matrix	660	663	3	.012	.64		
					663-668 v str sil replaced rock and banded qtz vn vugs with barite, Jarosite stains sil rock fracture and healed	663	665	2	.045	5.40		
				665-667 .8 frac/ft @ 65, 60, 30		666	667	1	.019	13.24		
			670	667-670 .7 frac/ft @ 70		667	668.5	1.5	.062	9.60	.118	.088(g)
						668.5	672.5		.037	3.56		
		661-663 silicic replaced matrix and clast of above rk		670-676 2 frac/ft @ 50, 60	667.5 1/2" bk qtz vn w/ dissem sulf. @ 60	672.5	676		.029	.69	E	
		663-668 banded qtz vn @ 60				676	680		.037	.87		
		668-676 hydro rubble bx of volcaniclastics (silicic flooded). w/ vn + vugs (barite)	680	676-690.5 1.2 frac/ft @ 40	668-676 silicic flooded volcaniclastic + hydro rubble bx, dk barite coated by white drusy qtz or zeolite - very fine	680	685		.035	2.3		
		676-718.5 str hydro crackle bx with minor rubble bx zone. host rock fine → med grain an ash volcaniclastic w/ most clasts ash > clasts str sil after chl alt. gray-H green texture masked by chl → sil Alt.	690	↙ some crushed dk sdt. vn 690.5-697 strong broken zone ground rk @ 30? 50, 60	670 prob dk qtz vn (1")	685	690		.380	1.09	.348(g)	0
				697-714 1 frac/ft @ 70 + 5	676-690.5 str crackle bx vugy w/ barite coated by v. fine white silicic? colloidal? white qtz cements ± py-marc	690	695		.237	1.46	.227(g)	
			700			695	699		.080	6.92	.070(g)	

GRAPHIC LOG



High Ag

* met samples, 679-679.5, 684.5-685,

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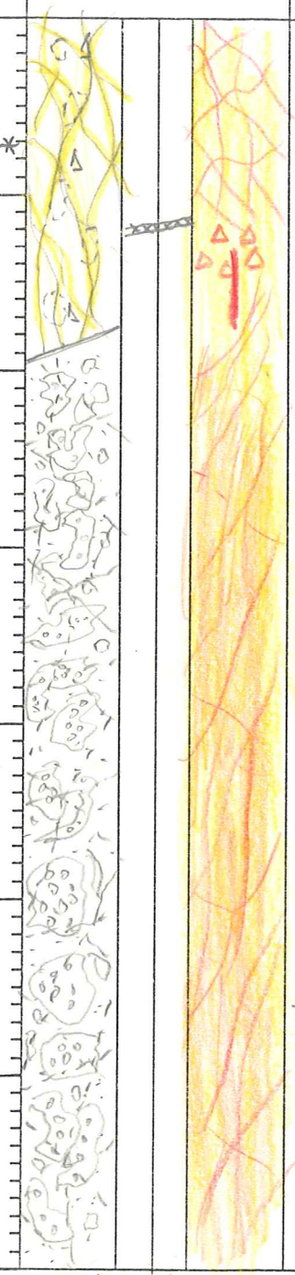
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		SAB contact @ 70 718.5 - 783.5 str silicic lappili Tuff large 3-8" brown hem clasts with glassy lappili mod-str crackle bx overprint w/ chl + qtz ± sulf cements str sil Alt. matrix fine brown glass minor crackle + rubble bx	710 720 730 740 750 760 770		712 4" white clay @ 80 714 - 724 .3 frac/ft @ 80 724 - 745 .8 frac/ft @ 75-80, 40 745 - 755 .2 frac/ft @ 30 755 - 775 .6 frac/ft @ 80 → 65	697 - 712 crackle bx SAS but below fault zone high angle qtz vn 712 - 714 rubble bx w/ white clay + white qtz cements ± py-marc. 714 - 717.5 high Angl 1" qtz-marc. vn @ 0 717.5 - 783 mod-str crackle bx w/ qtz-py-marc vns most @ 0-15

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
699	704		.041	.34		
704	709		.046	.14		
709	714		.023	.37		
714	719		.047	.15	.042	
719	724		.086	.19	.082 (g)	
724	729		.057	2.94	.055 (g)	
729	734		.143	.13	.146 (g)	
734	739		.097	.11	.091 (g)	
739	744		.026	.06		E
744	749		.009	.08		
749	754		.022	.18		
754	759		.009	.05		
759	764		.016	.06		
764	769		.011	.07		

* MET Sample 707 - 707.5

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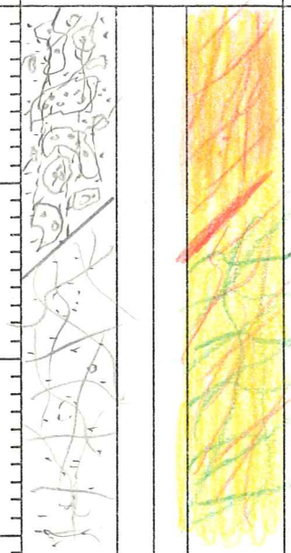
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		783.5 - 800 EOH contact @ 50 white gray fine → med grain tuff w/ v. faint sost like texture, str sil overprint by two crackle bx events 1st with qtz py vn 2nd w fine chl + 1/8" chl selvages.	780 740 800		775 - 785 1.0 fract/ft @ 60 785 - 795 .7 fract/ft @ 40 595 - 800 .2 fract/ft @ 60	783.5 1/4" qtz-py vn @ 50 683.5 - 800 mult crackle bx overprint 1st with qtz-py unlots 1/20 - 1/10" and 2nd with fine chlorite films & selvages x-cutting qtz cements qtz-sulf @ high angles chl @ low-angles

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
769	774		.038	.08		
274	779		.014	.06		
779	783.5		.056	.06	.058 (g)	
783.5	785		.009	.03		
785	790		.244	.11	.265 (g)	
790	795		.015	.08		
795	800		.049	4.32		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-329 DATE: 9/21 LOGGED BY: JB / RK PAGE ____ OF ____

DRILL RUN FROM	DRILL RUN TO	SOLD 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	92	92	.79		R3	.7	35	R	qtz-py vn 1/20	500	477.5	190	2.51
505	515	.83	94	.70		R3	1.2	40	S	qtz-p-chl vn 1/20"	510	655.5	260	2.52
515	525	96	96	.82		R3	1.2	40, 60	R	nil	520	613.5	245	2.50
525	535	92	95	.60		R3	1.6	50	R	qtz-py 1/20"	530	580	230	2.52
535	545	97	97	.74		R3	1.1	40	R	sds	540	640.5	257	2.49
545	555	106	108	.77		R3	1.7	80, 70, 40	S	chl	550	594	240	2.48
555	557	100	100	.90		R3	1.5	70	R	chl RK	556	430	175	2.46
557	565	.98	.98	.71		R3	1.3	50	R	chl rk	561	724.5	290	2.50
565	575	100	100	.78		R4	.9	70	R undulating	chl rk	570	658	268	2.48
575	585	.98	.98	.72		R4	.8	50	R	chl rk	580	710	285	2.49
585	595	.98	100	.70		R3	.7	50	R	chl rk	590	530	215	2.47
		3.8	3.8	3.6										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-329 DATE: 9/22/94 LOGGED BY: LJB PAGE ____ OF ____

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	100	100	.95		R3	1.0	70	R	chl rk	600	455.5	190	2.40
605	615	100	100	.88		R3	.5	70	R	qtz-chl vn / nil 1/10	610	640.5	275	2.33
615	625	.96	.96	.79		R3	.7	50	R	nil / qtz-py vn 1/10	620	689	280	2.46
625	635	85	100	.83		R3	1.0+ 2" Fracture Zone	50	R	nil	630	606	220	2.75
635	645	100	100	.88		R3	.7	50 undulating	R	nil	640	559.5	220	2.54
645	655	95	95	.63		R3	1.0	70, 15	R/VR	nil	650	722.5	280	2.58
655	663	100	100	.60		R3	2.4	80	R	barite/qtz vn / sil RR	659	514	200	2.57
663	665	75	75	.51		R3	↓	↓	↓	↓				
665	666	0	0	0.0		R3	.8+ Fracture Zone	65, 60 30	VR-R	qtz+ba vn sil RR	666	385	150	2.56
666	666.5	100	100	0.0		R3	↓	↓	↓	↓				
666.5	667	100	100	1.0		R3	↓	↓	↓	↓				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-329 DATE: 9/22/94 LOGGED BY: LJB PAGE ____ OF ____

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)
667	670	93	94	.93		R3	.7	70	R	qtz vn sil Rk	668	380	150	2.54
670	676	100	100	.66		R3	2.0	50, 60	R	sil Rk	673	438	170	2.58
676	685	108	108	.95		R3	1.2	40	VR	sil Rk	680	675	265	2.55
685	695	60	90	.48		R1	<10	30++ ??	VR	chl/sil Rk	—	—	—	—
695	699	80	100	.20		R1	<10	50++ ?? 60	VR	SAS	—	—	—	—
699 704	704 714	100 100	100 100	.68 .70		R3	1.0	70, 5	R	sil Rk	705	402	165	2.44
714	724	100	100	.74		R3	0.3	80	R	clay (1/2")	720	527.5	215	2.45
724	734	100	100	.85		R3	0.8	75	R	nil sil Rk	729	630	260	2.42
734	744.5	105	105	.72		R3	0.9	80, 40	VR	SAS	739	603	250	2.41
744.5	745	100	100	.70		R3	↓	↓	↓	↓				
745	755	100	100	.96		R3	.2	30	R	nil	750	560	225	2.49

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 94-329 DATE: 9/22/94 LOGGED BY: LJB PAGE ____ OF ____

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)
755	765	100	100	.95		R3	.6	80	R	nil	760	505	205	2.46
765	775	100	100	.94		R3	.7	65	R	nil	770	610	250	2.44
775	785	100	100	.90		R3	1.0	60	R	clay film	780	7045	290	2.43
785	795	98	98	.95		R3	.7	40	R	clay films	790	504	200	2.52
795	800	112	112	1.12		R3	.2	60	R	clay films	797	538.5	220	2.45

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: 94-329

LABORATORY JOB No. : SP031154

SAMPLE TYPE :

RECEIVED : 4 OCT 1994

REPORTED : 13 OCT 1994

No. SAMPLES : 44

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

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-329
JOB NUMBER : SP031154
REPORTED : 13 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-329 600-605	0.001			0.04
94-329 605-610	0.011			0.06
94-329 610-615	0.005			0.04
94-329 615-620	0.005			0.57
94-329 620-625	0.003			0.05
94-329 625-629.5	0.006			0.05
94-329 629.5-635	0.013			0.09
94-329 635-640	0.005			0.05
94-329 640-645	0.002			0.04
94-329 645-650	0.005			0.71
94-329 650-655	0.004			0.10
94-329 655-660	0.019			0.50
94-329 660-663	0.012			0.64
94-329 663-665	0.045			5.40
94-329 666-667	0.019			13.24
94-329 667-668.5	0.062	0.118	0.088	9.60
94-329 668.5-672.5	0.037			3.56
94-329 672.5-676	0.029			0.69
94-329 676-680	0.037			0.87
94-329 680-685	0.035			2.30
94-329 685-690	0.380		0.348	1.09
94-329 690-695	0.237		0.227	1.46
94-329 695-699	0.080		0.070	6.92
94-329 699-704	0.041			0.34
94-329 704-709	0.046			0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-329
JOB NUMBER : SP031154
REPORTED : 13 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-329 709-714	0.023			0.37
94-329 714-719	0.047	0.042		0.15
94-329 719-724	0.086		0.082	0.19
94-329 724-729	0.057		0.055	2.94
94-329 729-734	0.143		0.146	0.13
94-329 734-739	0.097		0.091	0.11
94-329 739-744	0.026			0.06
94-329 744-749	0.009			0.08
94-329 749-754	0.022			0.18
94-329 754-759	0.009			0.05
94-329 759-764	0.016			0.06
94-329 764-769	0.011			0.07
94-329 769-774	0.038			0.08
94-329 774-779	0.014			0.06
94-329 779-783.5	0.056		0.058	0.06
94-329 783.5-785	0.009			0.03
94-329 785-790	0.244		0.265	0.11
94-329 790-795	0.015			0.08
94-329 795-800	0.049			4.32

ANALYSIS REPORT

American Assay Laboratories

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CLIENT REFERENCE No: 94-329

LABORATORY JOB No. : SP031047

SAMPLE TYPE :

RECEIVED : 27 SEP 1994

REPORTED : 6 OCT 1994

No. SAMPLES : 21

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 : 94-329
JOB NUMBER : SP031047
REPORTED : 6 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
94-329 495-500	0.002		0.04
94-329 500-505	0.003		0.05
94-329 505-510	0.009		0.04
94-329 510-515	0.002		0.03
94-329 515-520	0.006	0.005	0.08
94-329 520-525	0.003		0.06
94-329 525-530	0.003		0.05
94-329 530-535	0.004		0.11
94-329 535-540	0.002		0.05
94-329 540-545	0.002		0.04
94-329 545-550	0.004		0.05
94-329 550-555	<0.001		0.02
94-329 555-560	0.003		0.05
94-329 560-565	<0.001	<0.001	<0.02
94-329 565-570	0.003		0.07
94-329 570-575	0.001		0.02
94-329 575-580	0.002		0.13
94-329 580-585	0.003		0.06
94-329 585-590	0.004		0.05
94-329 590-595	0.002		0.45
94-329 595-600	0.006		0.18

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.

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CLIENT REFERENCE No: 94-329
LABORATORY JOB No. : SP030958
SAMPLE TYPE :

RECEIVED : 21 SEP 1994
REPORTED : 5 OCT 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 : 94-329
JOB NUMBER : SP030958
REPORTED : 5 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	AuGRAV GRAV ppb
94-329 00-15	10		
94-329 15-25	15		
94-329 25-35	11		
94-329 35-45	8		
94-329 45-55	8		
94-329 65-75	<5		
94-329 75-85	<5		
94-329 85-95	<5		
94-329 95-105	<5		
94-329 105-115	<5		
94-329 115-125	7		
94-329 125-135	13		
94-329 135-145	<5	5	
94-329 145-155	<5		
94-329 155-165	<5		
94-329 165-175	215	221	
94-329 175-185	190		
94-329 185-195	100	100	
94-329 195-205	6		
94-329 205-215	10		
94-329 215-225	77		
94-329 225-235	7		
94-329 235-245	78		
94-329 245-255	165		
94-329 255-265	40		

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-329
JOB NUMBER : SP030958
REPORTED : 5 OCT 1994

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	AuGRAV GRAV ppb
94-329 265-275	8		
94-329 275-285	48		
94-329 285-295	106		
94-329 295-305	200		
94-329 305-315	154		
94-329 315-325	128		
94-329 325-335	91		
94-329 335-345	68		
94-329 345-355	4202		4124
94-329 355-365	236		
94-329 365-375	1742		1561
94-329 375-385	63		
94-329 385-395	180		
94-329 395-405	254		
94-329 405-415	418		
94-329 415-425	50		
94-329 425-435	124		
94-329 435-445	194		
94-329 445-455	273		
94-329 455-465	288		
94-329 465-475	160		
94-329 475-485	468		
94-329 485-495	542		
94-329 485-495			

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

Address:

Telephone Number: ( ) Fax Number: ( )

Project Name: Rosebud Purchase Order Number:

Transport Company: Waybill Number:

Date Shipped: 9/16/94 Number of Packages: 49 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE	TYPE	ELEMENTS REQUIRED
94-329 0-15	RC	Au 1AT FA
15-25		
25-35		
35-45		
10 std samples		
465-475		
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
Box 71060
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(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: 21 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

X 94-329: SAMPLE		TYPE	ELEMENTS REQUIRED
495-500	570-575	CORE	Au & Ag 2 AT FA
500-505	575-580		w/ Hecla-Rosebud
505-510	580-585		custom Prep.
510-515	585-590		
515-520	590-595		* if Au ≥ .05 OPT
520-525	595-600		then repeat with
525-530			grav. finish.
530-535			
535-540			
540-545			
545-550			
550-555			
555-560			
560-565			
565-570			

COARSE REJECTS (Normally Discarded)

[ ] Return COD after analysis complete
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Comments:

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SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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Nevada 89431
Box 71060
Reno, NV. 89570
Telephone
(702) 356-0606
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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

Address:

Telephone Number: ( ) Fax Number: ( )

Project Name: Rosebud Purchase Order Number:

Transport Company: Waybill Number:

Date Shipped: 9/30/94 Number of Packages: 44 [ ] Prepaid [ ] Collect

SAMPLED 9/23

ANALYSIS REQUIRED

# 94-329: SAMPLE			TYPE	ELEMENTS REQUIRED
600-605	666-667	729-734	CORE	Au & Ag 2 AT FA
605-610	667-668.5	734-739		w/ Hecla-Rosebud
610-615	668.5-672.5	739-744		Custom Prep.
615-620	672.5-676	744-749		
620-625	676-680	749-754		* if Au ≥ .05 OPT
625-629.5	680-685	754-759		then repeat with
629.5-635	685-690	759-764		grav. finish.
635-640	690-695	764-769		
640-645	695-699	769-774		
645-650	699-704	774-779		
650-655	704-709	779-783.5		
655-660	709-714	783.5-785		
660-663	714-719	785-790		
663-665	719-724	790-795		
665-666 NO SAMPLE	724-729	795-800		

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
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Please mark invoice person and address [I]

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(2)

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