60001499

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 94-322
AUTHOR	L. Bernard; C. Winchester; 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 1098' handwritten notes 31p.

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: NI Blue
Initials Date

Revised: 1/22/08

94-322 NORTH ZONE

60001499 4010

60001499

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	94-322	LOCATION	North Zone	REMARKS	
PAGE 1 OF	4(12)	NORTHING	2204385.2	RC to 495 rapid logging	
DATE	12/1/	EASTING	482228.3	CORE from 495 to 1098 Quick log	
LOGGED BY	LJB/CBW	ELEVATION	5401.0		
SCALE	RC 1"=20' CORE 1"=10'	AZIMUTH	326.5°		
TOTAL DEPTH	1098'	INCLINATION	-89.0°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-75 gray Fe ox clastic chips ashy to grainy	20, 40, 60, 80, 100	? hem	poss Fault zone	0-105 wk-mod Fe ox wk silicic alt
		85-105 mixed gray and brown chips w/ Fe ox orange chips Ashy to verfine clastic				65-85 mod-str Fe ox; 85-105 minor hem chips

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
0	15	15	<0.001	0.02		
15	25	10	0.002	0.06		
25	35	10	0.001	0.03		
35	45	10	0.003	0.03	0.002 Au(Rz)	
45	55	10	0.002	<0.02		
55	65	10	0.003	0.10		
65	75	10	0.001	<0.02		
75	85	10	<0.001	0.06		
85	95	10	<0.001	<0.02	<0.001 (Rz)	
95	105	10	<0.001	0.03		

HOLE NUMBER 94-322 PAGE 2 OF 4(12)

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		105 – 135 Brown volcanic bx minor white 1/10" clasts	120			105 – 135 hem, rk.
		135 – 205 white/gray Ashy Tuff w/ wk pyclissen and poss white Alt Feldspar cryst (or clastic text??)	140 160 180 200			wk Fe ox 125 – 145 125 – 205 wk sil-Ag wk Fe ox
		205 – 255 mixed lt green, Tan, brown hem chips heterolithic volcanic chert	220 240			205 – 255 wk chl wk argillic (fine clay coating)

FROM	TO	W	Au	Ag	Au2	Ag2
105	115	10	<0.001	<0.02		
115	125	10	<0.001	0.02		
125	135	10	<0.001	<0.02		
135	145	10	<0.001	<0.02		
145	155	10	<0.001	<0.02		
155	165	10	<0.001	0.02		
165	175	10	0.002	0.03		
175	185	10	<0.001	<0.02		
185	195	10	<0.001	<0.02		
195	205	10	<0.001	0.03		
205	215	10	<0.001	<0.02		
215	225	10	<0.001	<0.02		
225	235	10	<0.001	<0.02		
235	245	10	<0.001	<0.02	<0.001 Re	

HOLE NUMBER 94-322 PAGE 3 OF 4(12)

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		255-315 lt green ashy clastics occasional dk green chlor	260, 280, 300			255-315 wk chl
		315-425 lt gray - v. pale green ashy tuff w/ wk py dissem poss white alt feldspar or 1/20" clastic component ? Ashy (cryst ?) Tuff	320, 340, 360, 380			315-425 v. wk chl wk-mod silt-arg

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
245	255	10	<0.001	<0.02		
255	265	10				
265	275	10				
275	285	10				
285	295	10				
295	305	10				
305	315	10				
315	325	10	0.002	0.05		
325	335	10	0.009	0.05		
335	345	10	0.001	0.04		
345	355	10	0.001	0.03	0.001	
355	365	10	<0.001	<0.02		
365	375	10	<0.001	<0.02		
375	385	10				

HOLE NUMBER 94-322 PAGE 4 OF 4(12)

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		425-475 Mixed lt green, white, tan, brown hem (matrix) chips strong clastic texture heterolithic volcaniclastic w/ hem matrix	400 420 440 460			425-475 wk chl wk Ap hem matrix 435-445 v. str hem matrix
		475-495 lt green ashy volcaniclastic	480 500			475-495 wk chl Alt
		↓ SEE 1"=10' CORE LOGS	520			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
385	395	10	<0.001	<0.02		
395	405	10	<0.001	<0.02		
405	415	10	0.009	0.05		
415	425	10	0.003	0.04		
425	435	10	<0.001	<0.02		
435	445	10	<0.001	<0.02		
445	455	10	<0.001	<0.02	<0.001 Rz	
455	465	10	<0.001	<0.02		
465	475	10	0.001	0.02		
475	485	10	<0.001	<0.02		
485	495	10	<0.001	<0.02		

HOLE NUMBER 94-322 PAGE 1 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		PRECOLLAR RU + 495'											
	UBUD	495–528.5' Coarse-grained, poorly-sorted clast-supported, heterolithic volcaniclastic breccia w/ subangular to rounded clasts 2mm to > core diameter; massive or chaotic-bedded, mod. to mod. hard, med. grass green.	500		495-496' punky text. fault bx w/ lower bounding stx's @ 50'	495-560.5' wk silic + mod. chl + mod ser-T + wk to mod. arg-T + ND py-T: min stx's << 1/ft @ 30° 0.001-0.010" $CaCO_3$ ± tr FeOx ± chl.	GEOCHEM SAMPLING + 560.5'						
							495	505	10	<0.001	<0.02		
			510				505	515	10				
			520				515	525	10				
		528.5–536' Coarse-grained sandstone to pebble conglomerate, moderate to mod. poorly-sorted, planar-bedded at 65', s elongated clasts imbricated, mod. hard, med. grass green	530	65'			525	535	10			<0.001	
		536–560.5' Flow-laminated, matrix-supported coarse-grained, lapilli, lithic ash flow tuff w/ thin interbeds of coarse-grained, mod. sorted, med. bdd sandstone. Med. to dark grass green, mod. hard.	540				535	545	10				
			550	55'	fiamme @ 50-60'		545	555	10				
			560		560-560.5' partings par. to fiamme @ 50'		555	560.5	5.5				

HOLE NUMBER 94-322 PAGE 2 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	BMB	563.7 ~~560.5~~ – 595' Faintly flow-laminated, porphyritic alkali rhyolite flow (apparent as suggested below) 2-4% diss euhedral to subhedral clay + py altered feldspar (sanidine?) phenocrysts + accessory chlorite &/or sulfide pseudomorphs after pyroxene (augite?) & occ. quartz eye (embayed?) phenocrysts in an aphanitic to sugary groundmass. 560.5–563.7' Vitrophric v.f.g. airfall tephra massive-bedded, argillized & chlorite & silica microhairline stockwork 563.7–572' Sugary texture, porphyritic alkali rhyolite flow breccia w/ matrix of similar composition.	570 580 590 600 610 620 630	70° 25° 70° 25°	560.5' green chl-ser slicked contact @ 70° 563.7' sharp planar contact @ 50° 560.5–595' frac'd @ 10-30° w/ variety of frac'fill & loc. slicked.	560.5–563.7' wk silic incr. ↓ to mod. + int. arg-T decr. ↓ + diss clotts & micro stkwk chl-T + diss. c.g. py & more clotts.: min stx's incr. ↓ @ 5-30° w/ 0.01-0.15" f.g. x/ln Q → ill + py & marc. 563.7–572' mod. silic + mod. arg-T + 2-4% diss py-T (repl. of feldspar & ferromags stkwk of chl-Q & vuggy Q → ill → py & marc. 572–595' s.a.a. w/ decr'd chl-Q stkwk.
	LBUD	595– Coarse-grained, poorly-sorted, matrix-supported flow-laminated lapilli lithic ash flow tuff and clast- to matrix-supported massive bedded lithic tuff breccia; med. dark grass green, mod. hardness.			595' sharp (slick-offset contact @ 25°) w/ original contact @ 70' framme @ 75'	595–657.5' same as 495–560.5'

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
WHOLE CORE ASSAY SAMPLES ↓ 595'						
560.5	565	4.5'	0.037	0.37		
565	570	5.0'	0.005	0.19		
570	575	5.0'	0.005	0.23		
575	580	5.0'	0.003	0.06		
580	585	5.0'	0.003	0.08		
585	590	5.0'	0.004	0.06		
590	595	5.0'	0.007	0.11		
GEO CHEM SAMPLING ↓						
595	605	10	<0.001	0.03		
605	615	10		0.02		
615	625	10		<0.02		
625	635	10		<0.02		

HOLE NUMBER 94-322 PAGE 3 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		657.5 – 664' Interbedded (?) Lithic lapilli ash flow tuff (BUD) & pale green f. g. massive airfall tephra (herringbone chl-arg-T text.). 664-695' Fine to medium grained, massive to crudely laminated speckled & spotted airfall tephra	640, 650, 660, 670, 680, 690, 700	65°	fiamme @ 60-65° w/ slicks w/ R & G's	657.5- wk sugary texture silic + mod arg-T + clotted chl-T ± micro vnlts ; $CaCO_3$ ± tr FeOx clotts. + tr diss py-T clotts.
		695 – 710.5 pale to med. green vitropheric airfall tephra				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
635	645	10	0.006	0.02		
645	655	10	<0.001	<0.02		
655	665	10	<0.001	<0.02	<0.001 RZ	
665	675	10	<0.001	<0.02		
675	685	10	<0.001	<0.02		
685	695	10	<0.001	<0.02		
695	705	10	<0.001	<0.02		

HOLE NUMBER 94-322 PAGE 4 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		710.5–735.3' f. g. planar lam'd well-sorted tuff. w/intense chl + FeOx stn	710		710.5' 40' 0.01" $CaCO_3$ unit – contact betwn pale grn & dark grn intensely chl-T + FeOx stn		705	715	10	<0.001	<0.02		
			720				715	725	10	<0.001	<0.02	<0.001	
			730				725	737	12.0'	<0.001	<0.02		
		735.3–746' s.a.a. w/ out chl–FeOx stain & frac'd w/ chl-Q-ill fill & bleached arg-alun salvages lam's @ 60°	740			min stx's w/ chl→Q→ ill → py ft marc ± loc. c. g. open-space bar	737	747	10'	0.004	0.09		
		746–759' sugary texture airfall interbedd. w/ wavy-lam. f. g. tephra-ser-chl-T											
		759–768.3 Dark green intensely chl-T + FeOx stn'd f. g. speckled airfall tephra faintly wavy-lam'd.	750				747	758.5	11.5'	0.004	0.17		
			760										
		768.3–796 Pale to dark green vitrophyric airfall tephra	770				758.5	770	11.5'	<0.001	<0.02		

HOLE NUMBER 94-322 PAGE 5 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		1098 833 265				
			780			
			790			
		796-820' f. to m. g. wavy lam'd airfall tephra w/ dark grn & brn chl + FeOx stn. lam's @ 60°				
			800			
			810			
		820-833' s.a.a. w/ ↓ incr. strongly lam'd ser-T + FeOx a alum.	820			
			830			
		833-908.3' wavy-lam'd med. g. airfall tephra w/ strongly lam'd mod. silic/ser-T/alun-T/ arg-T + loc. py-T & chl-T min stx's chl/ser → f.g. xln Q/chalced → ill → py & marc + c.g. bar.	840			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
770	780	10	<0.001	0.07		
780	790	10		<0.02		
790	800	10		0.02		
800	810	10		<0.02		
810	818	8.0'		<0.02		
818	826	8.0'		<0.02		
826	833	7.0'		<0.02		
WHOLE	CORE	ASSAY	SAMPLING ↓		TD 1098'	
833	838	5.0'	0.001	<0.02		

HOLE NUMBER 94-322 PAGE 5 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		908.3 - 1002' Vitrophyric f.g. massive airfall w/ strong spherulitic arg-chl texture lor. silic / chl ± FeOx stnd / ±frac'd.	850, 860, 870, 880, 890, 900, 910			Q → ill → py ± mare + c.g. open-space bar

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
838	843	5.0'	0.001	0.05		
843	848		0.005	0.06		
848	853		0.052	0.09		
853	858		0.005	0.07		
858	863		0.008	0.07		
863	868		0.007	0.09		
868	873		0.009	0.06		
873	878		0.011	0.26		
878	883		0.023	0.20		
883	888		0.081	0.17	0.084 (g)	
888	893		0.025	0.19		
893	898		0.008	0.11		
898	903	5.0'	0.008	0.11		
903	908.3	5.3	0.001	0.03		
908.3	913	4.7	<0.001	<0.02		

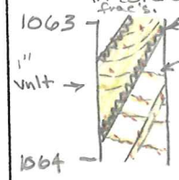
HOLE NUMBER 94-322 PAGE 6 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
			920			whole core 5' ft. samples ↓							
			930										
			940										
			950										
			960										
			970										
			980										

HOLE NUMBER 94-322 PAGE 7 OF

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		1002-1098' wavy-laminated, med. grd, mod. sorted, airfall tephra (LBT) loc. silic & bx'iated, loc. strong py-T (frac's bleeding into lam's) mod. arg-T & alun; ser-T salvages on chl-Q stringers	990 1000 1010 1020 1030 1040 1050			Chl→Q→ill→py ft marc/pyr→cpy→spl Ser→Q→py ft marc/pyrr							

HOLE NUMBER 94-322 PAGE 8 OF 8

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
			1060			banded v.f. & f.g. SiO_2 draped at frac margin horizontal in core of open-space frac's. 							
			1070										
			1080										
			1090				1093	1098	5.0'				
		END OF HOLE @ 1098'											

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: 94-322
LABORATORY JOB No. : SP031601
SAMPLE TYPE :

RECEIVED : 8 NOV 1994
REPORTED : 28 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
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 : 94-322
JOB NUMBER : SP031601
REPORTED : 28 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-322 560.5-565	0.037			0.37
94-322 565-570	0.005			0.19
94-322 570-575	0.005			0.23
94-322 575-580	0.003			0.06
94-322 580-585	0.003			0.08
94-322 585-590	0.004			0.06
94-322 590-595	0.007			0.11
94-322 833-838	0.001			<0.02
94-322 838-843	0.005			0.05
94-322 843-848	0.004			0.06
94-322 848-853	0.052			0.09
94-322 853-858	0.005			0.07
94-322 858-863	0.008			0.07
94-322 863-868	0.007			0.09
94-322 868-873	0.009			0.06
94-322 873-878	0.011			0.26
94-322 878-883	0.023			0.20
94-322 883-888	0.081		0.084	0.17
94-322 888-893	0.025			0.19
94-322 893-898	0.008			0.11
94-322 898-903	0.008			0.11
94-322 903-908.3	0.001			0.03
94-322 908.3-913	<0.001			<0.02
94-322 913-918	<0.001			<0.02
94-322 918-923	<0.001			<0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031601
REPORTED : 28 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-322 923-928	<0.001			<0.02
94-322 928-933	<0.001			<0.02
94-322 933-938	<0.001			<0.02
94-322 938-943	<0.001			<0.02
94-322 943-948	0.003			0.05
94-322 948-953	0.004			0.07
94-322 953-958	0.003			0.06
94-322 958-963	0.001			0.03
94-322 963-968	0.002			0.03
94-322 968-973	0.006			0.08
94-322 973-978	0.007			0.06
94-322 978-983	0.012			0.08
94-322 983-988	0.024			0.09
94-322 988-993	0.016			0.05
94-322 993-998	<0.001			<0.02
94-322 998-1003	0.001			0.02
94-322 1003-1008	0.017			0.04
94-322 1008-1013	0.002			0.03
94-322 1013-1018	0.003			0.04
94-322 1018-1023	0.015			0.05
94-322 1023-1028	0.020			0.04
94-322 1028-1033	0.008			0.03
94-322 1033-1038	0.009			0.03
94-322 1038-1043	0.010			0.05
94-322 1043-1048	0.004			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031601
REPORTED : 28 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
94-322 1048-1053	0.004			0.05
94-322 1053-1058	0.003			0.02
94-322 1058-1063	0.038	0.058		0.04
94-322 1063-1068	0.013			0.03
94-322 1068-1073	0.009			0.16
94-322 1073-1078	0.033	0.030		0.05
94-322 1078-1083	0.035			0.02
94-322 1083-1088	0.003			0.04
94-322 1088-1093	0.060		0.057	0.17
94-322 1093-1098	0.027			0.04

ANALYSIS REPORT

American Assay Laboratories

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

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: 94-322

LABORATORY JOB No. : SP031610

SAMPLE TYPE :

RECEIVED : 8 NOV 1994

REPORTED : 17 NOV 1994

No. SAMPLES : 31

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

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031610
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
94-322 495-505	<0.001		<0.02
94-322 505-515	<0.001		<0.02
94-322 515-525	<0.001		<0.02
94-322 525-535	<0.001	<0.001	<0.02
94-322 535-545	<0.001		<0.02
94-322 545-555	<0.001		<0.02
94-322 555-560.5	<0.001		<0.02
94-322 595-605	<0.001		0.03
94-322 605-615	<0.001		0.02
94-322 615-625	<0.001		<0.02
94-322 625-635	<0.001		<0.02
94-322 635-645	0.006		0.02
94-322 645-655	<0.001		<0.02
94-322 655-665	<0.001	<0.001	<0.02
94-322 665-675	<0.001		<0.02
94-322 675-685	<0.001		<0.02
94-322 685-695	<0.001		<0.02
94-322 695-705	<0.001		<0.02
94-322 705-715	<0.001		<0.02
94-322 715-725	<0.001	<0.001	<0.02
94-322 725-737	<0.001		<0.02
94-322 737-747	0.004		0.09
94-322 747-758.5	0.004		0.17
94-322 758.5-770	<0.001		<0.02
94-322 770-780	<0.001		0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031610
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
94-322 780-790	<0.001		<0.02
94-322 790-800	<0.001	<0.001	0.02
94-322 800-810	<0.001		<0.02
94-322 810-818	<0.001		<0.02
94-322 818-826	<0.001		<0.02
94-322 826-833	<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

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:

CLIENT REFERENCE No: 94-322

LABORATORY JOB No. : SP031241

SAMPLE TYPE :

RECEIVED : 10 OCT 1994

REPORTED : 20 OCT 1994

No. SAMPLES : 49

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

SIGNATORY : Sue Faircloth M.S.

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031241
REPORTED : 20 OCT 1994

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
94-322 00-15	<0.001		0.02
94-322 15-25	0.002		0.06
94-322 25-35	0.001		0.03
94-322 35-45	0.003	0.002	0.03
94-322 45-55	0.002		<0.02
94-322 55-65	0.003		0.10
94-322 65-75	0.001		<0.02
94-322 75-85	<0.001		0.06
94-322 85-95	<0.001	<0.001	<0.02
94-322 95-105	<0.001		0.03
94-322 105-115	<0.001		<0.02
94-322 115-125	<0.001		0.02
94-322 125-135	<0.001		<0.02
94-322 135-145	<0.001		<0.02
94-322 145-155	<0.001		<0.02
94-322 155-165	<0.001		0.02
94-322 165-175	0.002		0.03
94-322 175-185	<0.001		<0.02
94-322 185-195	<0.001		<0.02
94-322 195-205	<0.001		0.03
94-322 205-215	<0.001		<0.02
94-322 215-225	<0.001		<0.02
94-322 225-235	<0.001		<0.02
94-322 235-245	<0.001	<0.001	<0.02
94-322 245-255	<0.001		<0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031241
REPORTED : 20 OCT 1994

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
94-322 255-265	<0.001		<0.02
94-322 265-275	<0.001	<0.001	<0.02
94-322 275-285	<0.001		<0.02
94-322 285-295	<0.001		<0.02
94-322 295-305	<0.001		<0.02
94-322 305-315	<0.001		<0.02
94-322 315-325	0.002		0.05
94-322 325-335	0.009		0.05
94-322 335-345	0.001		0.04
94-322 345-355	0.001	0.001	0.03
94-322 355-365	<0.001		<0.02
94-322 365-375	<0.001		<0.02
94-322 375-385	<0.001		<0.02
94-322 385-395	<0.001		<0.02
94-322 395-405	<0.001		<0.02
94-322 405-415	0.009		0.05
94-322 415-425	0.003		0.04
94-322 425-435	<0.001		<0.02
94-322 435-445	<0.001		<0.02
94-322 445-455	<0.001	<0.001	<0.02
94-322 455-465	<0.001		<0.02
94-322 465-475	0.001		0.02
94-322 475-485	<0.001		<0.02
94-322 485-495	<0.001		<0.02

PROVISIONAL REPORT

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RENO, NV,,U.S.A.,
Ph.1-702-356-0606, Fax.1-702-356-1413
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CLIENT REFERENCE No: 94-322 RECEIVED : 8 NOV 1994

LABORATORY JOB No. : SP031601 REPORTED : 18 NOV 1994

SAMPLE TYPE : No. SAMPLES : 60

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

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031601
REPORTED : 18 NOV 1994

94-322 560.5-565	0.037		0.37
94-322 565-570	0.005		0.19
94-322 570-575	0.005		0.23
94-322 575-580	0.003		0.06
94-322 580-585	0.003		0.08
94-322 585-590	0.004		0.06
94-322 590-595	0.007		0.11
94-322 833-838	0.001		<0.02
94-322 838-843	0.005		0.05
94-322 843-848	0.004		0.06
94-322 848-853	0.052		0.09
94-322 853-858	0.005		0.07
94-322 858-863	0.008		0.07
94-322 863-868	0.007		0.09
94-322 868-873	0.009		DTF
94-322 873-878	0.011		0.26
94-322 878-883	0.023		0.20
94-322 883-888	0.081	0.084	0.17
94-322 888-893	0.025		0.19
94-322 893-898	0.008		0.11
94-322 898-903	0.008		0.11
94-322 903-908.3	0.001		0.03
94-322 908.3-913	<0.001		<0.02
94-322 913-918	<0.001		<0.02
94-322 918-923	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031601
REPORTED : 18 NOV 1994

94-322 923-928	<0.001	<0.02
94-322 928-933	<0.001	<0.02
94-322 933-938	<0.001	<0.02
94-322 938-943	<0.001	<0.02
94-322 943-948	0.003	0.05
94-322 948-953	0.004	0.07
94-322 953-958	0.003	0.06
94-322 958-963	0.001	0.03
94-322 963-968	0.002	0.03
94-322 968-973	0.006	0.08
94-322 973-978	0.007	0.06
94-322 978-983	0.012	0.08
94-322 983-988	0.024	0.09
94-322 988-993	0.016	0.05
94-322 993-998	<0.001	<0.02
94-322 998-1003	0.001	0.02
94-322 1003-1008	0.017	0.04
94-322 1008-1013	0.002	0.03
94-322 1013-1018	0.003	0.04
94-322 1018-1023	0.015	0.05
94-322 1023-1028	0.020	0.04
94-322 1028-1033	0.008	0.03
94-322 1033-1038	0.009	0.03
94-322 1038-1043	0.010	0.05
94-322 1043-1048	0.004	0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031601
REPORTED : 18 NOV 1994

94-322 1048-1053	0.004			0.05
94-322 1053-1058	0.003			0.02
94-322 1058-1063	0.038	0.058		0.04
94-322 1063-1068	0.013			0.03
94-322 1068-1073	0.009			0.16
94-322 1073-1078	0.033	0.030		0.05
94-322 1078-1083	0.035			0.02
94-322 1083-1088	0.003			0.04
94-322 1088-1093	0.060		0.057	0.17
94-322 1093-1098	0.027			0.04

PROVISIONAL REPORT

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

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CLIENT REFERENCE No: 94-322 RECEIVED : 8 NOV 1994
LABORATORY JOB No. : SP031610 REPORTED : 17 NOV 1994
SAMPLE TYPE : No. SAMPLES : 31

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

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031610
REPORTED : 17 NOV 1994

94-322 485-505	<0.001		<0.02
94-322 505-515	<0.001		<0.02
94-322 515-525	<0.001		<0.02
94-322 525-535	<0.001	<0.001	<0.02
94-322 535-545	<0.001		<0.02
94-322 545-555	<0.001		<0.02
94-322 555-580.5	<0.001		<0.02
94-322 595-605	<0.001		0.03
94-322 605-615	<0.001		0.02
94-322 615-625	<0.001		<0.02
94-322 625-635	<0.001		<0.02
94-322 635-645	0.006		0.02
94-322 645-655	<0.001		<0.02
94-322 655-665	<0.001	<0.001	<0.02
94-322 665-675	<0.001		<0.02
94-322 675-685	<0.001		<0.02
94-322 685-695	<0.001		<0.02
94-322 695-705	<0.001		<0.02
94-322 705-715	<0.001		<0.02
94-322 715-725	<0.001	<0.001	<0.02
94-322 725-737	<0.001		<0.02
94-322 737-747	0.004		0.09
94-322 747-758.5	0.004		0.17
94-322 758.5-770	<0.001		<0.02
94-322 770-780	<0.001		0.07

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 94-322
JOB NUMBER : SP031610
REPORTED : 17 NOV 1994

94-322 780-790	<0.001		<0.02
94-322 790-800	<0.001	<0.001	0.02
94-322 800-810	<0.001		<0.02
94-322 810-818	<0.001		<0.02
94-322 818-826	<0.001		<0.02
94-322 826-833	<0.001		<0.02

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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

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

Company: HECLA MINING CO.

Address:

Telephone Number: ( ) Fax Number: ( )

Project Name: ROSEBUD Purchase Order Number:

Transport Company: Waybill Number:

Date Shipped: Number of Packages: 31 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED 11-3-94

94-322 SAMPLE			TYPE	ELEMENTS REQUIRED
495-505	675-685	826-833	CORE	1 AT FIRE ASSAY Au & Ag
505-515	685-695			W/ STANDARD PREP
515-525	695-705			
525-535	705-715			
535-545	715-725			
545-555	725-737			* REPEAT FOR ALL
555-560.5	737-747			
595-605	747-758.5			Au ≥ 1500 ppb
605-615	758.5-770			
615-625	770-780			& report in opt
625-635	780-790			
635-645	790-800			
645-655	800-810			
655-665	810-818			
665-675	818-826			

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

(2)

(3)

Comments:

CLIENT FILE COPY

SAMPLE SUBMITTAL FORM

American Assay Laboratories Inc.

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

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

Company: HECLA MINING CO.

Address:

Telephone Number: ( ) Fax Number: ( )

Project Name: ROSEBUD Purchase Order Number:

Transport Company: Waybill Number:

Date Shipped: Number of Packages: 59/2 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

94-322	SAMPLE		TYPE	ELEMENTS REQUIRED
560.5-565	873-878	953-958.	CORE	2 AT FIRE ASSAY Au & Ag
565-570	878-883	958-963		W/ HECLA ROSEBUD
570-575	883-888	963-968		CUSTOM PREP
575-580	888-893	968-973		
580-585	893-898	973-978		
585-590	898-903	978-983		
590-595	903-908.3	983-988		* GRAV FINISH ON ALL
833-838	908.3-913	988-993		
838-843	913-918	993-998		Au ≥ 0.05 opt
843-848	918-923	998-1003		
848-853	928-933	1003-1008		
853-858	933-938	1008-1013		
858-863	938-943	1013-1018		
863-868	943-948	1018-1023		
868-873	948-953	1023-1028		

1028-1033
1033-1038
1038-1043
1043-1048
1048-1053
1053-1058
1058-1063
1063-1068
~~1068-1073~~
~~1073-1078~~
1078-1083
1083-1088
1088-1093
1093-1098

COARSE REJECTS (Normally Discarded)

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

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Please mark invoice person and address [I]

(1) Charlie Muerhoff

(2)

(3)

Comments:

CLIENT FILE COPY

678
Rossland Project
94-322
1 INCH
DOWN HOLE

Helia Mining Co
Rosebud Project
94-322
1 INCH
DOWN HOLE
668

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
59

Rosebud Project
94-322
1 INCH
DOWN HOLE
618

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
638

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
628

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
618

Rosebud Project
94-322
1 INCH
DOWN HOLE
438

94-322
1 INCH
DOWN HOLE
598

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
588

570
Rosebud Project
94-322
1 INCH
DOWN HOLE

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
564

Rosebud Project
94-322
11NW
DWN HOLE
858

Rosebud Prospect
94-322
1 INCH
DOWN HOLE
548

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
38

94-322
1 INCH
HOLE
DOWN
578

508
1 INCH
94-32C

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
498

HECLA MINING CO
Rawhide Project
94-322
UPHOLE
DOWN HOLE
51.0

Rosebud Project
94-322
1 INCH
DOWN HOLE

858
94-322
1 INCH
DOWN HOLE

Hecla Mining Co.
Rosebud Project
94-322
11NEA
DOWN HOLE
848

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
838

Hecla Mining Co.
Rosebud Prospect
94-322
LINER
DOWN HOLE
828

Hecla Mining Co.
Rosebud Project
94-322
DOWN HOLE

Hecla Mining Co
Rosebud Project
94-322
1 inch
Down Hole
808

Hecla Mining Co.
Rosebud Project
94-322
1INCH
DOWN HOLE
798
0

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
788

Rosebud Project
94-322
1 INCH
DOWN HOLE
778

Rosebud Project
94-322
1 INCH
DOWN HOLE
768

94-322
DOWN HOLE
758

Rosebud Project
94-322
1 INCH
DOWN
HOLE
8hL

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
738

110
99-322
1 INCH
DOWN HOLE

Rosebud Prospect
94-322
1 INCH
DOWN HOLE
81L

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DRILL HOLE
708

94-322
1 INCH
DOWN HOLE
698

Hecla Mining Co.
Rosebud Project
94-322
1 inch
DOWN
HOLE
188

2(OH
NaCO
HANII

DOWN HOLE
1 INCH

Hecla Mining Co
Rosebud Project
94-322
1 INCH
DOWN HOLE
#71

94-322
1 INCH
DOWN HOLE
1038

DOWN HOLE
1 INCH
1018

1008
1 INCH
DOWN HOLE

NOW
NORTH

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
886

Rosebud Project
94-322
1 INCH
DOWN HOLE
978

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
969

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
958

Hecla Mining Co.
Rossbrd Prospect
94-322
1 INCH
DOWN HOLE
948

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
Down Hole
938

Rosebud Project
94-322
1 INCH
DOWN HOLE
918

94-322
11INCH
DWN HOLE
908

898
Baseline Project
QH-322
1 INCH
DOWN HOLE

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
888

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
878

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
898

1 INCH
DOWN HOLE

Rosebud Project
94-322
1 INCH
DOWN HOLE

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN
HOLE

1098
DOWN HOLE
1 INCH

1 INCH
DOWN HOLE
1088

DOWN HOLE
1D78

Hecla Mining Co.
Rosebud Project
94-322
1 INCH
DOWN HOLE
1068

1058
1 INCH
DOWN HOLE

1D48
1 INCH
DOWN
HOLE