60000855

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud Drill Hole File - Hole No. D-52-94
AUTHOR	C. Muerhoff; S. Faircloth
DATE OF DOC(S)	1994
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Hecla Mining Co; Rosebud Project South Zone
COMMODITY If not obvious	gold; silver
NOTES	Drill logs; geology; assay; total depth 263'; receipt; handwritten notes 12p.

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 5/1/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

D-52 - South Zone

6000 0855

4010

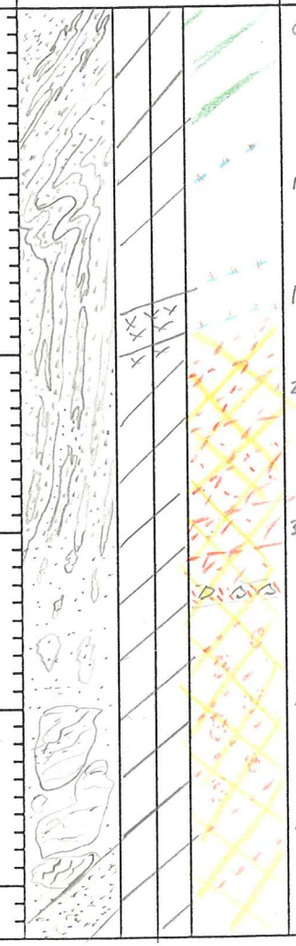
6000 0855

South Zone

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-52-94	LOCATION	Station #14	REMARKS	
PAGE 1 OF	5	NORTHING	2203789.8		
DATE	10/24/94	EASTING	481679.7		
LOGGED BY	LJB	ELEVATION	4660.8		
SCALE	1" = 10'	AZIMUTH	130.5°		
TOTAL DEPTH	263'	INCLINATION	-7° (Down)		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-31 Foliated glassy tuff. Ashy-fine grain foliation @ 0-15 34^0 glassy unit folded in places lt. gray to pinkish bands	10, 20, 30, 40, 50		0-10 .7+ frac/ft @ 50, 40 brk rock 10-16 1 frac/ft @ 50 16-21 1+ frac/ft @ 70 21-30 1.2 frac/ft @ 45 30-40 1.0 frac/ft @ 50 40-44 1.0 frac/ft @ 50 44-54 1.4 frac/ft @ 50	0-9 chlorite/calcite films on fractures. Fine py dissem; mod sil, wk chl. 9-21 py + calcite films on frac. 21-33 fine py vnlets < 1/20 @ 50, 35, 80 (wk crackle bx mod silicic, mod argillic 33-34 minor qtz cement rubble bx w/ py dissem 34-50 white clay + py + marc on fractures discontinuous py vnlets blocks of py dissem
		31-39 glassy tuff as above but with no foliation white-lt gy lithic clasts and shards with a pinkish shard rich matrix, poss v. wk compaction textures Volcanic bx vs volcaniclastic (gradational contact →)				
		39-50 poss large blocks of foliated glassy tuff as seen at top of hole, ashy Top @ 50'				

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5	5	<.001	<.02		
5	10	5	<.001	.07		
10	15	5	.016	.07		
15	20	5	.117	.22		
20	25	5	.157	1.82	.125 (g)	
25	30	5	1.174	1.70	1.266 (g)	
30	35	5	.354	.59	.406 (g)	
35	40	5	.205	.67	.250 (g)	
40	45	5	.150	.28	.141 (g)	
45	50	5	.003	.09		
50	55	5	.006	.12		

HOLE NUMBER D-52-94 PAGE 2 OF 5

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		50-52 fine lt gy ash unit with contacts @ 50, 45 52-64 Mixed pink and lt gray glassy Tuff. shard rich tuff with mixed pink + lt.gy. matrix and clasts. fine py dissem			54-64 1.5 frac/ft @50 57 slicks with oblique rake @ @60 frac @40	52-64 minor discontinuous py veinlets. v. wk rubble bx with calcite cements.
		64-124 SAB but white - lt gray & bry tuff with only faint pink tints on occasion. slightly str py dissem. shards approx 1/4" x 1/4" or 1" x 1/2"	60		64-70 .8 frac/ft @50	64-96 minor calcite/py veinlets <1/20 - 1/10" minor clay films on frac
			70		70-80 .7 frac/ft @60	
			80		80-89 2 frac/ft @30	
			90		89-95 .5 frac/ft @30 brie rk	
					95-105 .5 frac/ft @60	96-109 mod sil cemented rubble + crackle bx w/ py + clay films
			100			
					105-115 .8 frac/ft @45	
			110			109-140 Mod py ± clay film crackle bx Mod sil-Argillic Alt.
					← 20 gal H_2O/min 115-125 1 frac/ft @40	
			120			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
55	60	5	.072	1.41	.071 (g)	
60	65	5	.058	.75	.068 (g)	
65	70	5	.027	.62	.025	
70	75	5	.007	.09		
75	80	5	.012	.07		
80	85	5	.002	.06		
85	90	5	.004	.11		
90	95	5	.005	.14		
95	100	5	.073	.92	.069 (g)	
100	105	5	.048	.77		
105	110	5	.082	.87	.092 (g)	
110	115	5	.014	.27		
115	120	5	.015	.14	.016	

HOLE NUMBER D-52-94 PAGE 3 OF 5

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		124-134 foliated glassy tuff ashy grain size with wk pyritic diffusion in bands some foliation may be of clasts foliation in general @30	130		125-135 1.3 frac/ft @40	
		134-169 glassy tuff with shards and lithic clasts of same comp. clasts rounded to subrounded ashy to fine grain	140		135-145 .9 frac/ft @40	140-147 Larger sil-marc vuglets $\frac{1}{10}$" to $\frac{1}{5}$" (144-145 white clay vuglet @ 0 soft good)
			150		145-155 1.7 frac/ft @ 30⊥40	147-173 mod sil-Argil wk crackle bx w/ py-marc vuglet cements fine py on frac. w/ v. minor white clay films
			160		155-161 .3 frac/ft @10	
		gradational contact			161-165 no frac	
		169-187.5 fine-med grain tuff with pumice clasts lt gray to → 181 pinkish gray	170		165-173 0-15 bx rock	173-207 wk py crackle bx fine white clay + py-marc on fracture mod sil-Argill alt sil matrix - Argill clasts
			180		173-179 1.4+ frac/ft bx wk @70	
					179-187 .8 frac/ft @70	
		187.5-199 lt gray + pinkish glassy tuff foliation @ 60, pumaceous clasts wk flotal matrix supported	190		187-191 2.5 frac/ft @60	

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
120	125	5	.016	.22		
125	130	5	.011	.17		
130	135	5	.036	.67	.044	
135	140	5	.164	1.15	.180 (g)	
140	145	5	.725	1.30	.726 (g)	
145	150	5	.252	.55	.256 (g)	
150	155	5	.107	.15	.097 (g)	
155	160	5	.260	.70	.237 (g)	
160	165	5	.106	.16	.121 (g)	
165	170	5	.018	.17		
170	173	3	.013	.14		
173	175	2	.014	.13		
175	180	5	.034	.23		
180	185	5	.015	.11		
185	190	5	.026	.08		

HOLE NUMBER D-52-94 PAGE 4 OF 5

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		199 - 207 pinkish volcanic breccia. Med grain matrix, pink-white argillized clasts, matrix supported (pink), 1/10 - 1/2" clasts sub-rounded	200		191 - 201 2.1 frac/ft @50	173-207 wk crackle bx w/py-marc cem. str white clay films + py + marc on major fractures mod sil-Arg alt	190	195	5	.005	.07		
		207 - 216 greenish brown crystal-rich Tuff wk foliation and crystal alignment @ 10 crystals < 1/20" occasional clasts of same comp 1/4 - 1" diam	210		201 - 211 1.8 frac/ft @35		195	200	5	.011	.15		
		216 - 228 broken rk most of material a gouge/shear zone of similar comp.	220		211 - 221 1.3 frac/ft @50	207 - 220 wk crackle bx wk white clay films on fractures	200	205	5	.025	.12		
		216-220 med grain volcaniclastic tuff homo lithic clasts similar to above 1/4-1/2" in glassy matrix mod sheared (lt-med brown)			221 fine shearing @55 3 individual shears	220 brownish wk hem matrix gouge w/ sheared calcite veinlets and	205	207	2	.011	.13		
		220 - 228 strongly sheared rock apparently of same comp as above. (lt-med brown)	230		222 - 229 gouge + soft matrix ~~fractured~~ rock ground - frag.	228	207	210	3	.021	.34		
		228-240 green chloritic volcaniclastic str-mod sheared. Heterolithic clasts green, tan and > blk siltstone frags matrix to clast supported 1/10 - 1/2" clasts clasts & calcite vn	240		229 - 240 .8 frac/ft @50 str ground rock & gouge	228 - 240 str chl sheared calcite vn + x-cutting younger calcite vn	210	215	5	.009	.14	.009	
		240 - 245 med-dk green sheared Arg Tuff wk alignment of fine lithic clasts. 1/10 - 1/8", slightly flattened foliation @40	250		240 - 250 .5 frac/ft @60 partially sheared	240 - 260 mod-str chl alt sheared calcite vn @ 0-20 minor younger x-cutting calcite veinlets	215	220	5	.005	.08		
		245 - 260 med green waxy looking Tuff - mod sheared with waxy clasts of same comp homolithic volcaniclastic 1/10 - 1/4" clasts sub-rounded matrix supported Lapilli clasts v. wk foliation @ 40	260		250 - 260 soft rk no clear frac.		220	225	5	.005	.10		
							225	228	3	.002	.07		
							228	230	2	.003	.03		
							230	235	5	<.001	<.02		
							235	240	5	.002	.02		
							240	245	5	.004	.07		
							245	250	5	.004	.09		
							250	255	5	.002	.02		
							255	260	5	.003	.04		

HOLE NUMBER D-52-94 PAGE 5 OF 5

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		260-263 EOH soft gray gouge	EOH 110		260-263 gouge zone 263 40 gal/min H_2O	260-263 soft gray gouge with sheared calcite	260	263	3	.003	.02		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-52-94 DATE: 10/24/94 LOGGED BY: L. J. B. 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)	
0	8	50	72	.25		R3	.5++ brk rk	50	R	chl films	6	542.2	220	2.47	1
8	10	90	95	.45		R3	2	40	R	nil	\	\	\	\	
10	16	105	108	.60		R3	1	50	R	nil	15	489.85	195	2.51	2
16	21	54	66	.08		R3	1+ brk rk	70	R	calcite films +py	\	\	\	\	
21	30	102	102	.78		R3	1.2	45	R	ca+py films 1/4" vn	25	507.6	210	2.42	3
30	40	91	99	.75		R3	1.2	50	R	py films	35	588.8	245	2.40	4
40	44	.75	85	.65		R3	1.0	50	R	clay/py films	/	/	/	/	
44	54	96	105	.60		R3	1.4	50	R	SAS	45	647.6	260	2.49	5
54	64	94	96	.83		R3	1.5	50 Rake@60 oblique	R rare rk	chl+py films	55	484.5	190	2.55	6
64	70	85	85	.70		R3	.8	50	R	ca+py films	65	645.7	260	2.48	7
70	80	94	98	.86		R3	.7	60	R	py coat	75	532.9	220	2.42	8

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-52-94 DATE: 10/24/94 LOGGED BY: L. JB 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)		
80	89	102	105	.70		R3	2.0	30	R	ca ± py films	85	408.9	170	2.41	1	2.41
89	95	.87	100	.45		R3	.5 brk rk	30	R	ca + py + clay films	95	493.8	200	2.47	2	2.47
95	105	98	98	.88		R3	.5	60	R	ca+py + clay films	105	410.2	190	2.16	3	2.16
105	H_2O 20 gal/min 115	94	96	.73		R3	.8	45	VR	clay + py films	115	373.0	160	2.33	4	2.33
115	125	82	87	.62		R3	1.0	40	VR	SRb	125	559.2	235	2.38	5	
125	135	93	97	.57		R3	1.3	40	R	py veinlets < 1/10"	135	442.9	185	2.39	6	
135	145	98	98	.69		R3	.9	50	R	clay films	145	343.6	140	2.45	7	
145	155	85	95	.32		R3	1.7	30 ± 40	R	clay films py coating	155	488.3	200	2.44	8	
155	161	75	97	.18		R3	.3	10	R	clay films	/	/	/	/		4.1 hr
161	165	75	95	.40		R3	0	—	—		165	425.8	205	2.08		
165	173	77	110	.35		R3	1.2+? brk rk	0–15			/					

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-52-94 DATE: 10/24/54 LOGGED BY: LJB 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)	
173	179	61	76	.16		R3	1.4+ bk rk	70	VR	clay py 1/2 cont	176	371.7	160	2.32	1
179	187	92	92	.75		R3	.8	70	R	clay silms + py cont	185	573.4	235	2.44	2
187	191	98	99	.09		R2	2.5	60	R	SAS	195	371.5	160	2.32	3
191	201	91	97	.58		R2	2.1	50	R-S	SAS	204	584.0	245	2.38	4
201	211	98	100	.50		R2	1.8	35	R	SAS	215	568.2	235	2.42	5
211	221	44	100	.78		R1	1.3	50	R	SAS	To soft				
221	226	0	100	0		S4-S3	gouge zone								
226	229	0%	223%	.80		S4-S3	↓								
229	240	27%	50%	.31		S4-S3	.8	50	R	gouge soft bk	↓				
240	250	87	110	.68		S4-S3	.5	60	R	gouge soft bk	245	356.6	160	2.23	
250	260	30	99	.15		S4-S3	soft bk rk			↓	259	493.6	210	2.35	1/60
260	263	33	93	.23		S2	SAS								

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: 10/28/94 Number of Packages: 55 [ ] Prepaid [ ] Collect

sampled 10/26/94

ANALYSIS REQUIRED

D-52-94 :	SAMPLE			TYPE	ELEMENTS REQUIRED
0-5	75-80	150-155	220-225		Au & Ag 2AT FA
5-10	80-85	155-160	225-228	CORE	w/ Hecla-Rosebud custom prep
10-15	85-90	160-170	228-230		
15-20	90-95	170-173	230-235		
20-25	95-100	173-175	235-240		* if Au ≥ .05 opt
25-30	100-105	175-180	240-245		repeat w/ grav. finish
30-35	105-110	180-185	245-250		
35-40	110-115	185-190	250-255		
40-45	115-120	190-195	255-260		
45-50	120-125	195-200	260-263		
50-55	125-130	200-205			
55-60	130-135	205-207			
60-65	135-140	207-210			
65-70	140-145	210-215			
70-75	145-150	215-220			

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

ANALYSIS REPORT

American Assay Laboratories

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

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: D-52-94

LABORATORY JOB No. : SP031459

SAMPLE TYPE :

RECEIVED : 29 OCT 1994

REPORTED : 4 NOV 1994

No. SAMPLES : 56

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 : D-52-94
JOB NUMBER : SP031459
REPORTED : 4 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-52-94 000-005	<0.001			<0.02
D-52-94 005-010	<0.001			0.07
D-52-94 010-015	0.016			0.07
D-52-94 015-020	0.117			0.22
D-52-94 020-025	0.157		0.125	1.82
D-52-94 025-030	1.174		1.266	1.70
D-52-94 030-035	0.354		0.406	0.59
D-52-94 035-040	0.205		0.250	0.67
D-52-94 040-045	0.150		0.141	0.28
D-52-94 045-050	0.003			0.09
D-52-94 050-055	0.006			0.12
D-52-94 055-060	0.072		0.071	1.41
D-52-94 060-065	0.058		0.068	0.75
D-52-94 065-070	0.027	0.025		0.62
D-52-94 070-075	0.007			0.09
D-52-94 075-080	0.012			0.07
D-52-94 080-085	0.002			0.06
D-52-94 085-090	0.004			0.11
D-52-94 090-095	0.005			0.14
D-52-94 095-100	0.073		0.069	0.92
D-52-94 100-105	0.048			0.77
D-52-94 105-110	0.082		0.092	0.87
D-52-94 110-115	0.014			0.27
D-52-94 115-120	0.015	0.016		0.14
D-52-94 120-125	0.016			0.22

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-52-94
JOB NUMBER : SP031459
REPORTED : 4 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-52-94 125-130	0.011			0.17
D-52-94 130-135	0.036	0.044		0.67
D-52-94 135-140	0.164		0.180	1.15
D-52-94 140-145	0.725		0.726	1.30
D-52-94 145-150	0.252		0.256	0.55
D-52-94 150-155	0.107		0.097	0.15
D-52-94 155-160	0.260		0.237	0.70
D-52-94 160-166	0.106		0.121	0.16
D-52-94 166-170	0.018			0.17
D-52-94 170-173	0.013			0.14
D-52-94 173-175	0.014			0.13
D-52-94 175-180	0.034			0.23
D-52-94 180-185	0.015			0.11
D-52-94 185-190	0.026			0.08
D-52-94 190-195	0.005			0.07
D-52-94 195-200	0.011			0.15
D-52-94 200-205	0.025			0.12
D-52-94 205-207	0.011			0.13
D-52-94 207-210	0.021			0.34
D-52-94 210-215	0.009	0.009		0.14
D-52-94 215-220	0.005			0.08
D-52-94 220-225	0.005			0.10
D-52-94 225-228	0.002			0.07
D-52-94 228-230	0.003			0.03
D-52-94 230-235	<0.001			<0.02

AMERICAN ASSAY LABORATORIES.

ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-52-94
JOB NUMBER : SP031459
REPORTED : 4 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-52-94 235-240	0.002			0.02
D-52-94 240-245	0.004			0.07
D-52-94 245-250	0.004			0.09
D-52-94 250-255	0.002			0.02
D-52-94 255-260	0.003			0.04
D-52-94 260-263	0.003			0.02