60000835

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-33-94
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 log; geology; assay; total depth 301'; receipt; handwritten notes 94p

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-33-94

60000835

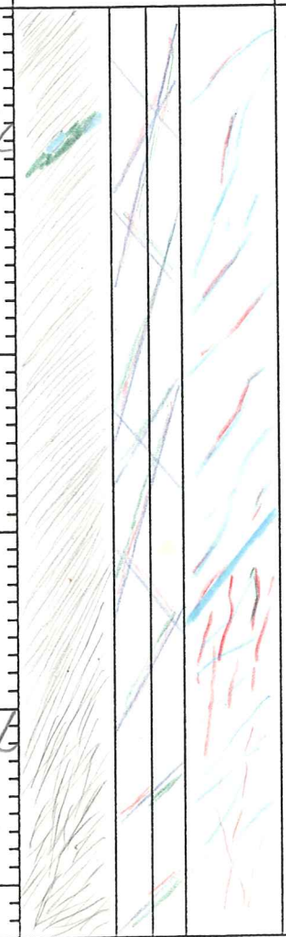
4010

6000 0835

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-33-94	LOCATION	South Zone	REMARKS	550N
PAGE 1 OF 5		NORTHING	2203634.2		Drilled from decline station #10
DATE	Oct. 22, 1994	EASTING	481547.8		Hagby On-Ram 1000 drill rig
LOGGED BY	C. Muerhoff	ELEVATION	4693.3		NQ core
SCALE	1" = 10'	AZIMUTH	133.5		
TOTAL DEPTH	301'	INCLINATION	+07°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0'-38.0' Fine-grain, thinly-bedded waterlain tuff w/ alternating beds of green, propylitized tuff and light grey tuff. Bedding @ 40° to core axis at start of hole & 25° to core axis @ 38.0'. 7.0'-8.5' Zone of minor brecciation with calcite > illite > chlorite as breccia matrix. 29'-38' unit begins to coarsen, with alternating beds of med-grain & fine-grain tuff.	10 20 30 40 50		0'-38.0' Three distinct fracture/jointsets @ 15°, 30°, & 40° to core axis. 38.0'-56.1' joint/fracture sets @ ± 45° to core axis with minor grey clay, chloritic clay & pyrite on surfaces.	0'-38.0' Core is fractured by calcite veinlets up to 2" in thickness with minor accessory pyrite @ 20° to 60° to core axis. Grey clay + chlorite ± smeared platy pyrite on fracture surfaces. -past 20', begin to pick up minor pyrite ± illite stringers @ ± parallel to core axis. ↓ calcite stringers persist to ~ 47'
		38.0'-56.1' Unit above rapidly grades into extremely fine-grain tuff. Light grey-green with bedding angles to core axis widely variable from 10° to 50°				

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0'	5'	5'	<.001	<.02		
5'	10'	5'	<.001	<.02		
10'	15'	5'	<.001	<.02		
15'	20'	5'	<.001	.03		
20'	25'	5'	.002	.03		
25'	30'	5'	<.001	.03		
30'	34'	4'	<.001	.02		
34'	38'	4'	<.001	.03		
38'	43'	5'	<.001	<.02		
43'	48'	5'	.001	.02		
48'	52'	4'	.001	.02		

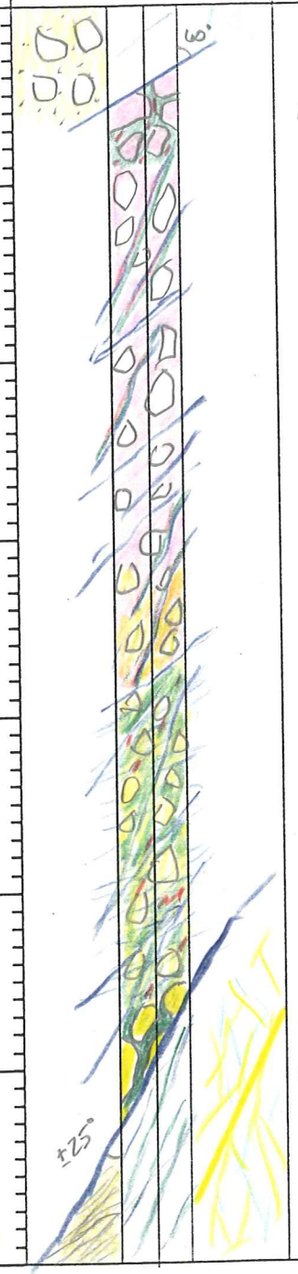
HOLE NUMBER D-33-94 PAGE 2 OF 5

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		gradational contact 56.1' - 179.0' Matrix-supported heterolithic tuff breccia. Varying degrees of alteration (as noted at right). 56.1' - 59.0' Elongated clay-altered, bleached lithic fragments & large angular light green fg tuff fragments in moderately alunitized fg tuffaceous groundmass. Frags roughly @ 15° to core axis. - past 59.0', sub-rounded, tan, preferentially pyritized aphanitic tuff (?) fragments + light green, clay altered sub angular tuffaceous fragments + bleached sub-angular tuff fragments + minor finely-bedded waterlain tuff fragments all floating in fg lithic tuff ground-mass.	60 70 80 90 100 110 120		56.1' ↓ widely-spaced fracture/joint sets continue @ 40° to core axis. Minor grey-green slightly chloritic clays on surfaces. ↓ past 105 - added silica to breccia groundmass - minor but noticeable.	56.1'-77.0' breccia groundmass is weakly alunitized. Minor, thin (< 1/8") calcite > qtz > pyrite hairline stringers generally 75°-85° to core axis. Also, minor white calcite veinlets (up to 1/2" thick) @ ± 50° to core axis. 77.0'-86.8' groundmass loses pink alunite coloration. Thick (up to 1") calcite veinlets persist, as do calcite + qtz + pyrite hairline stringers. 86.8'-105' Alunite alteration begins to pick up slightly. Calcite veinlets waning as do calcite + qtz + pyrite stringers. 105'-124.4' Alunite absent from breccia groundmass. Calcite stringers @ random orientation to core axis increase.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
52'	56.1'	4.1'	<.001	<.02		
56.1'	61'	4.9'	<.001	.07		
61'	66'	5'	<.001	.02		
66'	71'	5'	<.001	.03		
71'	75'	4'	<.001	.02		
75'	80'	5'	<.001	.02		
80'	85'	5'	<.001	.03		
85'	90'	5'	<.001	.03		
90'	95'	5'	<.001	.04		
95'	100'	5'	.043	1.76	.048	
100'	105'	5'	<.001	.05		
105'	110'	5'	<.001	.04		
110'	115'	5'	<.001	.01		
115'	120'	5'	<.001	.02		

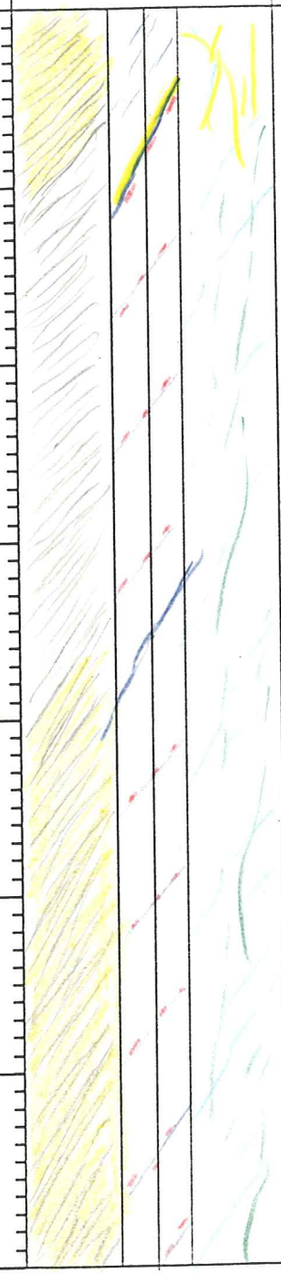
HOLE NUMBER D-33-94 PAGE 3 OF 5

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		@124.4 heterolithic, matrix-supported tuff continues, but now starting to exhibit influence of the South Ridge Fault. 124.4' fault @ 60° to core axis with ±1" grey pyritic clay. 124.4'-129' pink alunite matrix breccia has been re-brecciated & cemented by dark green chloritic + pyritic clay 129'-159' brecciation/fracturing is increasing with fracture ∠'s to core axis @ 20° with chloritic/pyritic gouge on rough surfaces & @ ±50° with no gouge on planar to rough surfaces. Alunite alteration of groundmass increasing with depth. Silicification also increasing with depth. 159'-176.8' Brecciation increasing dramatically. Silicified, pink-matrix heterolithic breccia is sheared & incompetent; cemented by dark green chloritic clays + pyrite. fracture ∠'s to core axis @ 20° & 35°. major shear orientation @ 50° 176.8'-179.0 Massive grey chalcedony w/ fragments of silicified tuff breccia. Chalcedony is cut by hairline white calcite stringers. Entire interval brecciated & healed by green chloritic clays. Sharp FW contact @ 25° to core axis with slicks parallel to core axis. 179.0'-301' Dozer Tuff. Light green, weakly brecciated, flow-laminated very fine-grain tuff. "Bedding" @ ±40° to core axis.	130 140 150 160 170 180 190		124.4'-179.0' see lithology comments. 179.0'-198.2' Core is generally fractured @ ±30° to core axis with chlorite + minor pyrite on fracture surfaces.	124.4'-179.0' see lithology comments. 179.0'-198.2' Dozer is pervasively silicified & stockworked by grey chalcedony hair line stringers + minor calcite veinlets 182.2' 3/4" white & grey banded chalcedony vein @ 25° to core axis.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
120'	124.4'	4.4'	.001	.03		
124.4'	129'	4.6'	.013	.06		
129'	134'	5'	.030	.23		
134'	139'	5'	.032	.25		
139'	144'	5'	.083	.34	.089 (2)	
144'	149'	5'	.171	.54	.181 (2)	
149'	154'	5'	.020	.21		
154'	159'	5'	.034	.20		
159'	164'	5'	.066	.33	.070 (2)	
164'	170'	6'	.033	.17		
170'	176.8'	6.8'	.015	.15		
176.8	179'	2.2'	.002	.03		
179'	184'	5'	<.001	.02		
184	189	5'	<.001	<.02		

HOLE NUMBER D-33-94 PAGE 4 OF 5

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		past 198.2, Dozer consists of tuff, light green flow-laminated tuff(?). Very fine-grain with subtle alternating bands of very pale (bleached?) green & light green-grey. Laminations @ ± 40° to core axis. ↓ flow laminations becoming slightly steeper to core axis (± 30°).	200 210 220 230 240 250 260		198.2' fault @ 25° to core axis with dark grey chalcedony + minor pyrite on surface. 198.2' - 248' Consistent fracture pattern @ 40° to core axis with small platy to euhedral pyrite on surfaces. Slicks generally @ 40°. 225.3' 3" fault @ 30° to core axis with light green rock flour & clay gouge. 248' - EOH consistent fracture / joint pattern @ 35° with minor pyrite "blebs" on surfaces.	198.2'-260.4' Sporadic calcite veinlets, generally @ 35° to core axis. Also sporadic chloritic clay stringers @ steep (10-20°) orientation to core axis - past 228, begin to pick up very minor white clay (illite?) on fracture surfaces. @ 230', core becomes silica-flooded (knife blade leaves metal on core w/o scratching core. - to 263.2.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
189'	194'	5'	<.001	<.02		
194'	198.2'	4.2'	<.001	<.02		
198.2'	203'	4.8'	<.001	<.02		
203'	208'	5'	<.001	<.02		
208'	213'	5'	<.001	<.02		
213	218'	5'	<.001	<.02		
218	223'	5'	<.001	<.02		
223'	228'	5'	<.001	<.02		
228'	233'	5'	<.001	<.02		
233'	238'	5'	<.001	<.02		
238	243'	5'	<.001	<.02		
243'	248'	5'	<.001	<.02		
248'	254'	6'	<.001	<.02		
254'	260.4'	6.4'	<.001	<.02		

HOLE NUMBER D-33-94 PAGE 5 OF 5

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		260.4'- 263.2' fault/vein with white qtz-calcite brecciated & cemented by light grey clays @ 30° to core axis. 3' of hydrothermal breccia with Dacite fragments floating in grey chalcedony also @ 30° to core axis. 263.2' to 301' vfg flow laminated tuff continues @ ± 45° to core axis.	270 280 290 300			
		T.D. 301'				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
260.4'	263.2'	2.8'	<.001	<.02		
263.2'	269'	5.8'	<.001	<.02		
269'	275'	6'	<.001	.02		
275'	280'	5'	<.001	<.02		
280'	285'	5'	<.001	<.02		
285'	290'	5'	<.001	<.02		
290'	295'	5'	<.001	<.02		
295'	301'	6'	<.001	<.02		

ANALYSIS REPORT

American Assay Laboratories

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

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF
:
:
:

CLIENT REFERENCE No: D-33-94
LABORATORY JOB No. : SP031474
SAMPLE TYPE :

RECEIVED : 28 OCT 1994
REPORTED : 9 NOV 1994
No. SAMPLES : 61

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-33-94
JOB NUMBER : SP031474
REPORTED : 9 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-33-94 00-05	<0.001			<0.02
D-33-94 05-10	<0.001			<0.02
D-33-94 10-15	<0.001			<0.02
D-33-94 15-20	<0.001			0.03
D-33-94 20-25	0.002			0.03
D-33-94 25-30	<0.001			0.03
D-33-94 30-34	<0.001			0.02
D-33-94 34-38	<0.001			0.03
D-33-94 38-43	<0.001			<0.02
D-33-94 43-48	0.001			0.02
D-33-94 48-52	0.001			0.02
D-33-94 52-56.1	<0.001			<0.02
D-33-94 56.1-61	<0.001			0.07
D-33-94 61-66	<0.001			0.02
D-33-94 66-71	<0.001			0.03
D-33-94 71-75	<0.001			0.02
D-33-94 75-80	<0.001			0.02
D-33-94 80-85	<0.001			0.03
D-33-94 85-90	<0.001			0.03
D-33-94 90-95	<0.001			0.04
D-33-94 95-100	0.043	0.048		1.76
D-33-94 100-105	<0.001			0.05
D-33-94 105-110	<0.001			0.04
D-33-94 110-115	<0.001			0.01
D-33-94 115-120	<0.001			0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-33-94
JOB NUMBER : SP031474
REPORTED : 9 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-33-94 120-124.4	0.001			0.03
D-33-94 124.4-129	0.013			0.06
D-33-94 129-134	0.030			0.23
D-33-94 134-139	0.032			0.25
D-33-94 139-144	0.083		0.089	0.34
D-33-94 144-149	0.171		0.181	0.54
D-33-94 149-154	0.020			0.21
D-33-94 154-159	0.034			0.20
D-33-94 159-164	0.066		0.070	0.33
D-33-94 164-170	0.033			0.17
D-33-94 170-176.8	0.015			0.15
D-33-94 176.8-179	0.002			0.03
D-33-94 179-184	<0.001			0.02
D-33-94 184-189	<0.001			<0.02
D-33-94 189-194	<0.001			<0.02
D-33-94 194-198.2	<0.001			<0.02
D-33-94 198.2-203	<0.001			<0.02
D-33-94 203-208	<0.001			<0.02
D-33-94 208-213	<0.001			<0.02
D-33-94 213-218	<0.001			<0.02
D-33-94 218-223	<0.001			<0.02
D-33-94 223-228	<0.001			<0.02
D-33-94 228-233	<0.001			<0.02
D-33-94 233-238	<0.001			<0.02
D-33-94 238-243	<0.001			<0.02

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-33-94
JOB NUMBER : SP031474
REPORTED : 9 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-33-94 243-248	<0.001			<0.02
D-33-94 248-254	<0.001			<0.02
D-33-94 254-260.4	<0.001			<0.02
D-33-94 260.4-263.2	<0.001			<0.02
D-33-94 263.2-269	<0.001			<0.02
D-33-94 269-275	<0.001			0.02
D-33-94 275-280	<0.001			<0.02
D-33-94 280-285	<0.001			<0.02
D-33-94 285-290	<0.001			<0.02
D-33-94 290-295	<0.001			<0.02
D-33-94 295-301	<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 COMPANY

Address:

Telephone Number: ( ) Fax Number: ( )

Project Name: ROSEBUD Purchase Order Number:

Transport Company: Waybill Number:

Date Shipped: 10/28/94 Number of Packages: 61 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE			TYPE	ELEMENTS REQUIRED	
D-33-94:			core		
0-5	61-66	124.4-129			
5-10	66-71	129-134			
10-15	71-75	134-139		189-194	243-248
15-20	75-80	139-144		194-198.2	248-254
20-25	80-85	144-149		198.2-203	254-260.4
25-30	85-90	149-154		203-208	260.4-263.2
30-34	90-95	154-159		208-213	263.2-269
34-38	95-100	159-164		213-218	269-275
38-43	100-105	164-170		218-223	275-280
43-48	105-110	170-176.8		223-228	280-285
48-52	110-115	176.8-179		228-233	285-290
52-56.1	115-120	179-184		233-238	290-295
56.1-61	120-124.4	184-189		238-243	295-301

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:

NQ core
(≤ 15 lb samples)

CLIENT FILE COPY