60000843

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-41-94
AUTHOR	C. Muerhoff; S. Fairclotl
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 179'; receipt; handwritten notes 6 p.

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-41-94

60000847
4010

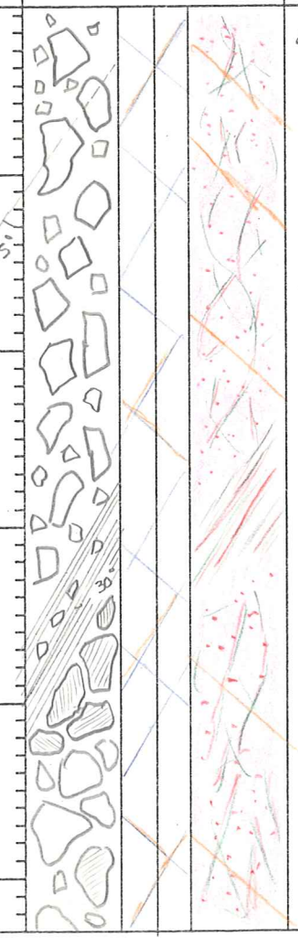
60000843

Hecla MINING COMPANY

Alteration / Mineralization
- sulfide
- calcite/carbonate
- SiO_2
- chlorite
- alunite

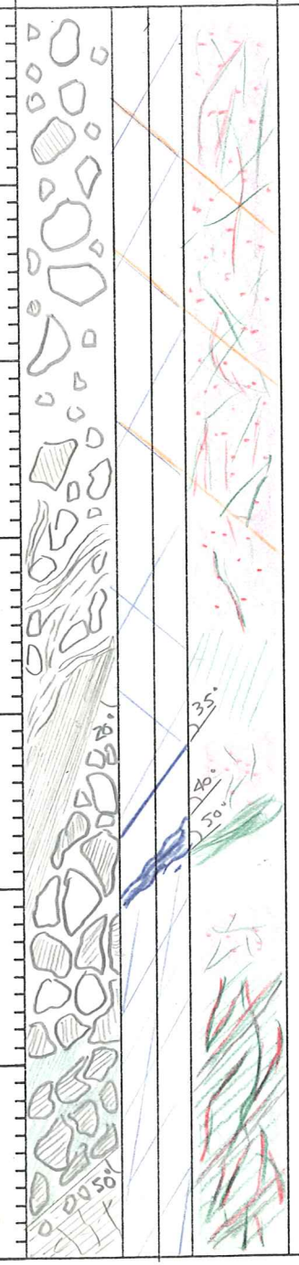
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-41-94	LOCATION	South Zone	REMARKS	
PAGE 1 OF	3	NORTHING	2203672.8	• Drilled from decline station # 11 (600N)	
DATE	Oct. 9, 1994	EASTING	481610.0	• Hagby On-ram 1000 rig	
LOGGED BY	C. Muenhoff	ELEVATION	4689.1	• NQBDM core	
SCALE	1" = 10'	AZIMUTH	127.5°	• *'s are stated relative to core axis	
TOTAL DEPTH	179'	INCLINATION	+41°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0'-89.8' Matrix-supported tuff breccia. Pink (alunite) colored, fg to locally fragmental, tuffaceous groundmass with sub-angular to angular light green vfg fragments (frags are completely altered to clay w/ no remnant textures). @ 9', crude lineation of breccia fragments @ 35°. fragments are preferentially elongated along lineation direction. @ 35.5', several thin conformable finely-interbedded vfg water-lain tuff units are incorporated into breccia. @ 38.4'-41' rapid change into strongly brecciated (clast-supported) vfg, green to grey water lain tuff. breccia matrix is identical to unit above. @ 41'-43.4' alternating intervals of pink-matrix breccia & brecciated waterlain tuff above. @ 43.4' pink matrix breccia from above continues.	10 20 30 40 50		0'-89.8' Very widely-spaced fracture/joint sets @ 30° & 50°. Otherwise, unit is extremely competent. minor calcite occassionally on surfaces.	0'-89.8' Alunite alteration pervasive in breccia matrix; minor, sporadic calcite veinlets preferentially @ ±50°; approx 1/4-1/2% fg disseminated pyrite throughout; wispy, hairline chlorite ± pyrite stringers @ no preferential orientation. See lithology comments. 33.5' preferential pyritization & chloritization along bedding planes of water lain tuff. 38.4'-41' fracture/breccia surfaces within waterlain tuff are coated with 'sheets' of pyrite.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0'	5'	5'	<.001	.02		
5'	10'	5'	.001	.02		
10'	15'	5'	<.001	.04		
15'	20'	5'	<.001	.04		
20'	25'	5'	.002	.04		
25'	30'	5'	.010	.20		
30'	35.5'	5.5'	.015	.18		
35.5'	38.4'	2.9'	.002	.14		
38.4'	41'	2.6'	.079	1.60	.072	
41'	43.4'	2.4'	.395	2.18	.325	
43.4'	50'	6.6'	.008	.08		

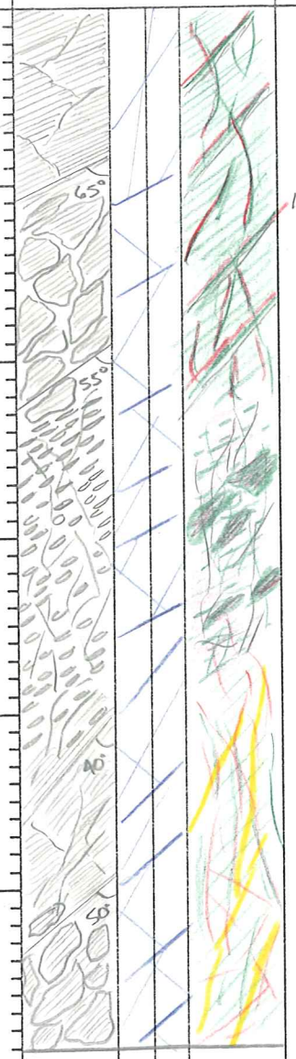
HOLE NUMBER D-41-94 PAGE 2 OF 3

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		pink-matrix breccia continues. @60', breccia fragments are dominantly sub-rounded to locally sub-angular. @75' pink color of breccia groundmass begins to rapidly increase in intensity. @83.3' begin transition zone into fg unit below 89.8'-94.3' super fine-grain, finely-interbedded tuff. Conformable contact (although somewhat irregular) with unit described above. 20° to core axis. Would not be able to distinguish bedded if not for preferential propylitic alteration (green in color vs. unaltered tan/grey in color). 94.3'-109.9' Extreme chaotic breccia interval with alternating zone of pink-matrix tuff breccia, described earlier, severely argillized brecciated fg bedded tuff described above & a combination of both that have in turn been brecciated by dark green chlorite. 109.9'-179' Extremely fine-grained water lain tuff / tephra. Brecciated to widely-varying degrees (as noted). Highly altered as noted @ right; generally grey to green in color.	60 70 80 90 100 110 120		same as above 94.3' fault contact into breccia @ 25°. ½" grey waxy clay w/ minor rock flour. Slicks @ 35° 98'-99' fault zone w/ 1' of sheared pink-matrix breccia & fg water lain tuff. 40° on FW, 50° on HW 99'-130'± preferential fracture joint pattern 30° >> 10°.	same as above 89.8'-94.3' preferential propylitic (?) alteration of individual bedding. intense chloritization of fault-breccia groundmass 109.9'-143.3' tuff is strongly fractured by: 1. chlorite + pyrite fractures @ 30°. 2. chlorite + pyrite ± manc + late illite in breccia groundmass. 3. chlorite ± pyrite along bedding planes. 4. hairline chlorite stringers w/ no preferential orientation

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
50'	55'	5'	.274	2.32	.32 (g)	
55'	60'	5'	.020	.35		
60'	65'	5'	.029	3.50		
65'	70'	5'	.054	.31	.05 (g)	
70'	75'	5'	.002	.03		
75'	80'	5'	<.001	<.02		
80'	85'	5'	<.001	<.02		
85'	89.8'	4.8'	<.001	<.02		
89.8	94.3'	4.5'	<.001	<.02		
94.3'	100'	5.7'	.019	.06		
100'	105'	5'	.002	.04		
105'	109.9'	4.9'	.065	.94	.070 (g)	
109.9'	115.6'	5.7'	.372	19.60	.362 (g)	
115.6'	121'	5.4'	.101	4.28	.107 (g)	

HOLE NUMBER D-41-94 PAGE 3 OF 3

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		vfg waterlain tuff/tephra continues. "mosaic" breccia; very minor rotation of clasts. throughout entire interval. @ 136' tuff unit locally contains small intervals of large (±2mm) clay-filled fiamme @ 143.3'-161.4' tuff becomes medium-grained & takes on the leopard-skin spotted texture with chlorite & or white clay (illite-smectite?) replacing fiamé. zirfall? 161'-179' tuff becomes more fine-grained & takes on a pale green color. Chlorite continues replacing fiamé brecciation intensifies part 170'. T.D. 179'	130 140 150 160 170		130'-179' fracture/joint pattern return to 30° & 50°, locally dominant pattern is along bedding planes. post 161.4', chloritization of fiamé continues, as well as hairline chlorite stringers & bedding plane stringers.	@ 125'± begin to pick-up Ag sulfosalts along fracture surfaces. 143.3'-161.4' wispy chlorite stringers continue; preferential chloritization of fiamé; zeolite alteration; discontinuous illite stringers. occassional zones of intense brecciation w/ chlorite + carbon(?) + pyrite ± illite as groundmass. post 155', begin to pick up pyrite stockwork to end of hole. Also marcasite blades in vugs. post 160', discontinuous grey chalcedony veinlets (up to 1/2" wide), preferentially @ 0°-25° to core axis.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
121'	126'	5'	.049	1.80		
126'	131'	5'	.038	2.44		
131'	136'	5'	.020	.64		
136'	143.3'	7.3'	.048	4.22		
143.3'	149'	5.7'	2.050	11.08	1.950 (g)	
149'	155'	6'	.117	1.62	.123 (g)	
155'	161.4'	6.4'	.044	.61		
161.4'	165'	3.6'	.023	.17		
165'	170'	5'	.060	.23	.060 (g)	
170'	175'	5'	.069	.28	.069 (g)	
175'	179'	4'	.022	.26		

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
:
:
:

CLIENT REFERENCE No: D-41-94
LABORATORY JOB No. : SP031322
SAMPLE TYPE :

RECEIVED : 17 OCT 1994
REPORTED : 28 OCT 1994
No. SAMPLES : 36

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 : D-41-94
JOB NUMBER : SP031322
REPORTED : 28 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-41-94 00-05	<0.001			0.02
D-41-94 05-10	0.001			0.02
D-41-94 10-15	<0.001			0.04
D-41-94 15-20	<0.001			0.04
D-41-94 20-25	0.002			0.04
D-41-94 25-30	0.010			0.20
D-41-94 30-35.5	0.015			0.18
D-41-94 35.5-38.4	0.002			0.14
D-41-94 38.4-41	0.079		0.072	1.60
D-41-94 41-43.4	0.395		0.325	2.18
D-41-94 43.4-50	0.008			0.08
D-41-94 50-55	0.274		0.321	2.32
D-41-94 55-60	0.020			0.35
D-41-94 60-65	0.029			3.50
D-41-94 65-70	0.054		0.052	0.31
D-41-94 70-75	0.002			0.03
D-41-94 75-80	<0.001			<0.02
D-41-94 80-85	<0.001			<0.02
D-41-94 85-89.8	<0.001			<0.02
D-41-94 89.8-94.3	<0.001			<0.02
D-41-94 94.3-100	0.019			0.06
D-41-94 100-105	0.002			0.04
D-41-94 105-109.9	0.065		0.070	0.94
D-41-94 109.9-115.6	0.372		0.362	19.60
D-41-94 115.6-121	0.101		0.107	4.28

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-41-94
JOB NUMBER : SP031322
REPORTED : 28 OCT 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-41-94 121-126	0.049			1.80
D-41-94 126-131	0.038			2.44
D-41-94 131-136	0.020			0.64
D-41-94 136-143.3	0.048			4.22
D-41-94 143.3-149	2.050		1.950	11.08
D-41-94 149-155	0.117		0.123	1.62
D-41-94 155-161.4	0.044			0.61
D-41-94 161.4-165	0.023			0.17
D-41-94 165-170	0.060		0.060	0.23
D-41-94 170-175	0.069		0.069	0.28
D-41-94 175-179	0.022			0.26