6000 0864

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-61-94
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 200' receipt; hand written notes 8p.

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-61-94

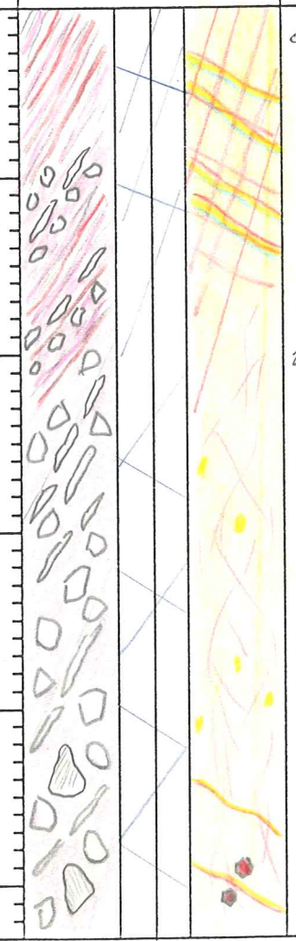
60000864
4010

Hecla MINING COMPANY

- oxides
- alunite
- seritization
- chloritization
- barite
- silicification
- faults/fractures
- calcite

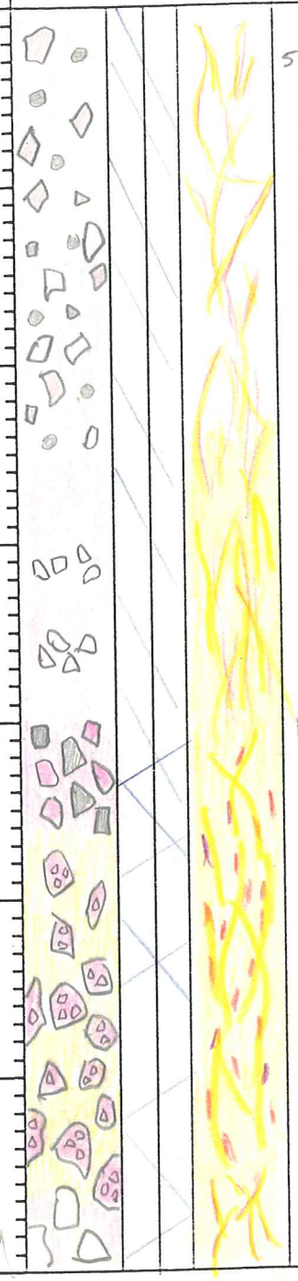
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-61-94	LOCATION	South Zone	REMARKS	800 N
PAGE 1 OF 4		NORTHING	2203832.3		Drilled from decline drill station #15
DATE	Oct. 20, 1994	EASTING	481712.6		Hagby 1000 on-vein drill rig
LOGGED BY	C. Muerhoff	ELEVATION	4654.2		NQBGM core (2.20")
SCALE	1"=10'	AZIMUTH	128.5°		
TOTAL DEPTH	200'	INCLINATION	-5.0°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0'-20.4' Very finely-bedded, slightly contorted, fine-grain waterlain tuff / tephra. Alternating beds of pink (alunite-altered) & light green (clay-altered). Bedding is generally at 10° to 30° to core axis. Interval includes short (±6") zones of pink matrix supported tuff breccia. Pervasive silicification throughout interval.	10		0'-20.4' Two distinct fracture sets: along bedding planes & @ 70° to core axis opposite to bedding direction.	0'-20.4' Preferential pyritization of green clay-altered tuffaceous beds. Secondary pyrite stringers @ ±20° & 70° to core axis. Also pyrite + qtz/chalcedony ± calcite stringers @ ±70° to core axis that cut all of the above.
		20.4'-50.3' Matrix-supported (pink) tuff breccia. Appears to be waterlain, with crude lination of breccia fragments at ±30° to core axis. Generally monolithologic with angular elongated clasts & sub-angular equi-dimensional clasts; all completely altered to light green clay - no remnant textures observed. Breccia matrix is very fine-grain tuffaceous material. Occassional fragments of finely-bedded tuff (as described above). Interval is moderately silicified.	20		20.4'-50.3' Unit is amazingly fracture/joint poor; with very occassional joints @ 35° & 60° to core axis.	20.4'-59.5' Thin hair-line pyrite stringers continue @ random angles to core axis. Occassional vugs in breccia matrix w/ open-space quartz crystals.
			30			
			40			-past 40' thin pyrite ± open-space quartz stringers @ ±15° & 60° to core axis.
			50			49'-50' several vugs with bladed marcasite

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0'	5'	5'	.190	.39	.166(g)	
5'	10'	5'	.033	.11		
10'	15'	5'	.495	.37	.444(g)	
15'	20.4'	5.4'	.049	.35		
20.4'	25'	4.6'	.167	.28	.171(g)	
25'	30'	5'	.045	.26		
30'	35'	5'	.127	.21	.105 (g)	
35'	40'	5'	.062	.11	.065 (g)	
40'	45'	5'	.173	.24	.176 (g)	
45'	50.3'	5.3'	.316	.33	.265 (g)	

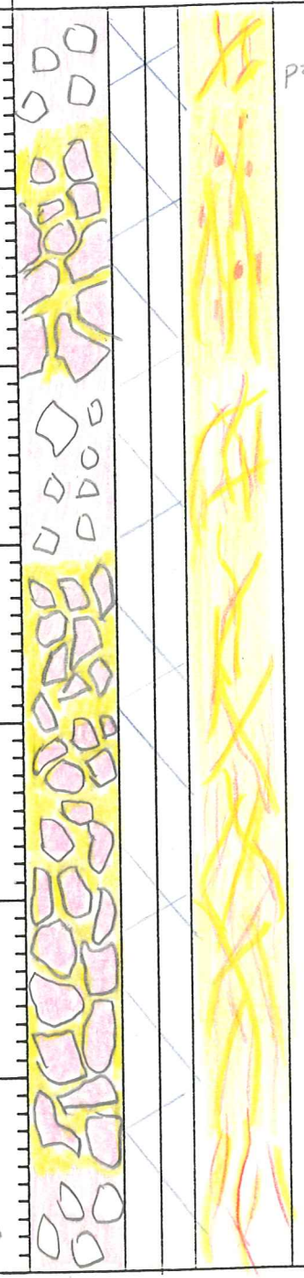
HOLE NUMBER D-61-94 PAGE 2 OF 4

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		50.3'-76.4' Moderately hydro fractured tuff breccia. Rounded, light green clay-altered fragments, pyritized angular fragments, & light grey angular fragments floating in light pink to grey fine-grain groundmass. 76.4'-90.0' Tuff breccia grades into massive very fine-grain pink tuff; locally with zones of intense brecciation. 90.0'-95.0' Pink matrix-supported heterolithic tuff breccia with pink subangular pyritic tuff fragments & strongly argillized angular tuff fragments. 95.0'-115.2' Pink matrix breccia from above continues, but is now intensely hydro fractured & re-brecciated & recemented by quartz/chalcedony plus mineralogy as described @ right. 115.2'-126.2' Pink-matrix supported heterolithic tuff breccia continues - moderate, pervasive silicification.	60 70 80 90 100 110 120		50.3'-200' Remainder of hole is remarkably structure-poor. Possibly appears that way because of re-cementing by quartz/chalcedony. Consistent, but widely spaced joint/fractures @ 25° to core axis to 90'. past 90', widely-spaced but consistent fracture/joint pattern @ 40° & 60° to core axis to end of hole.	50.3' Entering wide zone of hydro fracturing to various degrees. 50.3'-76.4' Irregular stockwork of quartz-pyrite ± Ag sulfosalts. 76.4'-90.0' quartz becomes considerably more dominant in stringers. Interval is pervasively silicified. 76.4'-115.2' Breccia is re-brecciated & cemented by grey quartz/chalcedony + pyrite. Interval is very vugy with open-space quartz, coarse-grain pyrite, marcasite blades, & minor barite. Breccia clasts themselves are argillized. 115.2'-126.2' quartz + pyrite stringers persist @ irregular ∡'s to core axis. Interval has moderate but pervasive silicification.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
50.3'	55'	4.7'	.226	.21	.302 (g)	
55'	59.5'	4.5'	.077	.22	.089 (g)	
59.5'	66'	6.5'	1.062	2.46	1.309 (g)	
66'	71'	5'	2.099	6.63	2.159 (g)	
71'	76.4'	5.4'	2.139	3.64	2.190 (g)	
76.4'	81'	4.6'	1.450	2.30	1.606 (g)	
81'	86'	5'	.960	1.11	.930 (g)	
86'	90'	4'	.040	.15		
90'	95'	5'	.523	.67	.564 (g)	
95'	100'	5'	2.003	2.98	2.380 (g)	
100'	105'	5'	3.798	4.42	4.298 (g)	
105'	110'	5'	1.630	2.94	1.750 (g)	
110'	115.2'	5.2'	.677	1.51	.671 (g)	
115.2'	120'	4.8'	.043	.29		

HOLE NUMBER D-61-94 PAGE 3 OF 4

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		126.2' – 139.4' Hydro fractured, strongly argillized tuff breccia with pink rounded tuff clasts in intensily argillized, bleached tuffaceous ground mass. 139.4' – 151.8' Heterolithic pink matrix breccia continues. 151.8' – 158.3' breccia continues, but is re-brecciated & matrix supported in grey quartz/ chalcedony. 158.3' – 163.3' hydro fracturing continues, but tuff is now mono-lithologic w/ light tan/green extremely fine-grained fragments supported by quartz-chalcedony. 163.3' – 200' Heterolithic pink matrix tuff breccia continues to end of hole.	130 140 150 160 170 180 190		past 120', white illitic clays occur on fracture surfaces.	124.2' – 139.4' Breccia is re-cemented by milky-grey quartz + pyrite + marcasite blades. 139.4' – 151.8' pyritic chalcedony stringers @ no preferred orientation. 151.8' – 183' Intense hydro fracturing with breccia re-brecciated & cemented by chalcedony/ quartz – all cut by pyritic stringers at no preferred orientation. Extremely vugy with open-space quartz + pyrite + marcasite (+ Ag sulfosalts?). ↓ hydro fracturing continues but wanes with depth. Pyritic stringers continue to end of hole.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
120'	125'	5'	.040	.29		
125'	130'	5'	.175	.49	.222 (g)	
130'	135'	5'	.081	.49	.068 (g)	
135'	140'	5'	.108	.54	.093 (g)	
140'	145'	5'	.225	.69	.216 (g)	
145'	150'	5'	.850	.75	.836 (g)	
150'	155'	5'	.435	.54	.525 (g)	
155'	160'	5'	.082	.16	.073 (g)	
160'	165'	5'	.062	.17	.087 (g)	
165'	170'	5'	.019	.12		
170'	175'	5'	.016	.16		
175'	180'	5'	.060	.24	.058 (g)	
180'	185'	5'	.139	.27	.135 (g)	
185'	190'	5'	.019	.20		

HOLE NUMBER D-61-94 PAGE 4 OF 4

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
							190'	195'	5'	.104	.13	.136 (g)	
							195'	200'	5'	.050	.17	.060 (g)	
		T.D. 200'	200										

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: 10/21/94 Number of Packages: 40 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE			TYPE	ELEMENTS REQUIRED
D-61-94:			core	Au Ag ZAT FA w/ Hecla-Rosebud custom prep
0-5	66-71	130-135		
5-10	71-76.4	135-140		
10-15	76.4-81	140-145		If Au ≥ 0.05 opt, repeat w/ grav finish
15-20.4	81-86	145-150		
20.4-25	86-90	150-155		
25-30	90-95	155-160		
30-35	95-100	160-165		
35-40	100-105	165-170		
40-45	105-110	170-175		
45-50.3	110-115.2	175-180		
50.3-55	115.2-120	180-185		
55-59.5	120-125	185-190		
59.5-66	125-130	190-195		

COARSE REJECTS (Normally Discarded) 195-200

[ ] 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

PROVISIONAL REPORT

P.O. BOX 71060
RENO, NV., U.S.A.
413

Checked against original invoice

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: D-61-94 RECEIVED : 24 OCT 1994

LABORATORY JOB No. : SP031394 REPORTED : 3 NOV 1994

SAMPLE TYPE : No. SAMPLES : 40

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 : D-61-94
JOB NUMBER : SP031394
REPORTED : 3 NOV 1994

D-61-94 00-05	0.190	0.166	0.39
D-61-94 05-10	0.033		0.11
D-61-94 10-15	0.495	0.444	0.37
D-61-94 15-20.4	0.049		0.35
D-61-94 20.4-25	0.167	0.171	0.28
D-61-94 25-30	0.045		0.26
D-61-94 30-35	0.127	0.105	0.21
D-61-94 35-40	0.062	0.065	0.11
D-61-94 40-45	0.173	0.176	0.24
D-61-94 45-50.3	0.316	0.265	0.33
D-61-94 50.3-55	0.226	0.302	0.21
D-61-94 55-59.5	0.077	0.089	0.22
D-61-94 59.5-66	1.062	1.309	2.46
D-61-94 66-71	2.099	2.159	6.63
D-61-94 71-76.4	2.139	2.190	3.64
D-61-94 76.4-81	1.450	1.606	2.30
D-61-94 81-86	0.960	0.930	1.11
D-61-94 86-90	0.040		0.15
D-61-94 90-95	0.523	0.564	0.67
D-61-94 95-100	2.003	2.380	2.98
D-61-94 100-105	3.798	4.298	4.42
D-61-94 105-110	1.630	1.750	2.94
D-61-94 110-115.2	0.677	0.671	1.51
D-61-94 115.2-120	0.043		0.29
D-61-94 120-125	0.040		0.29

155' @ 0.769, 1.16

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-61-94
JOB NUMBER : SP031394
REPORTED : 3 NOV 1994

SAMPLES	Au(OZ)	Au(RZ)	AUGRAV	Ag(OZ)
D-61-94 125-130	0.175		0.222	0.49
D-61-94 130-135	0.081		0.068	0.49
D-61-94 135-140	0.108		0.093	0.54
D-61-94 140-145	0.225		0.216	0.69
D-61-94 145-150	0.850		0.836	0.75
D-61-94 150-155	0.435		0.525	0.54
D-61-94 155-160	0.082		0.073	0.16
D-61-94 160-165	0.062		0.087	0.17
D-61-94 165-170	0.019			0.12
D-61-94 170-175	0.016			0.16
D-61-94 175-180	0.060		0.058	0.24
D-61-94 180-185	0.139	.139	0.135	0.27
D-61-94 185-190	0.019	.019		0.20
D-61-94 190-195	0.104	.120	0.136	0.13
D-61-94 195-200	0.050		0.060	0.17

15' @ 0.092, .200