6000 0863

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-60-94
AUTHOR	M. Nelson; 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; Hecla Mining Co.; Rosebud Project South Zone
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; total depth 120'; receipt; handwritten 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-60-94

6000 0863
4010

6060 0863

South Zone

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D 60-94	LOCATION	DOS #15	REMARKS	Ndbgm (1.8') core,
PAGE 1 OF 2		NORTHING	2203833.3		core photographed, all core assayed.
DATE	10/22/94	EASTING	481711.2		
LOGGED BY	Martin Nelson	ELEVATION	4650.7		
SCALE	1" = 10'	AZIMUTH	130.5°		
TOTAL DEPTH	120'	INCLINATION	-49.0°		

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG (Lith / Struct / Alt/Miner)	STRUCTURE	ALTERATION AND MINERALIZATION
		0'—7.7' Pinkish tan, clast supported tuff breccia. Clasts are subangular - many have fluidal, or flow banded internal structure. Locally the matrix shows fluidal banding (rheodgical?). Matrix is typically pinkish-tan, the lithics off white to very light green. Interval is relatively heavy.	0'		2-3 1/16"-3/32" CaCO3/marc fxs/ft.	0'-25' Matrix has been moderately alunitized, some lithics have been weakly sericitized (very pale green) (Tr-1% dissem marc. throughout + on fxs.
		7.7'—32.5' Pinkish tan, clast supported tuff breccia as above - only clasts w/ internal layering are not present. Lithics are sub-angular to rounded, typically 1/4"-2" Intensity of alunitization diminishes down hole.	gradational contact; 10'; 20'	15°; 50°-70°; ~50°	@8' 1/4" CaCO3/marc. vnlt.	intensity of alunitization decreasing - only a trace @25'
					CaCO3/marc	
					@14' CaCO3/marc vnlt cuts sericite vnlt; CaCO3/marc vnlts.	14'-17' 6-8 subparallel 1/16"-3/16" CaCO3/marc. vnlts.
						20'-24' ditto
					1-2 1/16"-1/8" CaCO3/marc fxs/ft.	25'—32.5' Weakly-moderately alunitized, 1-2% py (mostly) + marcasite disseminated.
		32.5'-34' Grayish, pink tan layered fine ash tuff. Moderately alunitized. (parallel to 10° to c.a.)	30'; 70°; ?	70°	@ 32.5' 1" marc/white clay rubble zone	32.5'-34' Moderately alunitized w/ 1-2% py/marc dissem, some vugs w/ white clay/marc.
		34'—76' White/lt. gray - very pale pinkish tan fine grained, homogeneous tuff. No layering apparent. Small intervals of breccias within this interval. Well indurated - very dense.	40'; 2' 8x	70°; 60°; 45°	34'— 1-2 1/16"-3/32" CaCO3/marc. fxs/ft.	34'—50' Weakly alunitized, 1-2% dissem py (mostly) + marc. throughout.
			50'		46'-47.7' angular rubble w/ marc.	@45.2' 1" CaCO3/marc vnlt.

FROM	TO	W	Au	Ag	Au2	Ag2
0	5	5	.003	.13		
5	10	5	.019	.15		
10	15	5	.039	.18		
15	20	5	.021	.16		
20	25	5	.006	.11		
25	30	5	.002	.09		
30	34	4	.002	.08		
34	39	5	.002	.08		
39	44.3	5.3	<.001	.26		
44.3	45.3	1.0	<.001	.03		
45.3	51	5.7	.009	<.02		

HOLE NUMBER D60-94 PAGE 2 OF 2

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag2
		34'-76' (continued) White/lt. gray-very pale green w/ pinkish tan fine grained, homogeneous tuff. No layering. Small breccias within the interval. Well indurated-very dense. Fxs w/ sericite halos (1/16"-1/4"), contain chlorite, marc, clear/white $CaCO_3$.	50' 60' 70' 80' 90' 100' 110' 120'	Lith Struct Alt/Miner	5-8 1/16"-1/8" $CaCO_3$/marc/chlorite fxs/ft 3/4" $CaCO_3$ w/marc. 7-9 1/16"-1/8" $CaCO_3$/marc/chlorite fxs/ft. 60° to c.a. 1/4" Clay, Chlorite, marc. @ 76' contact is fault @ ~80° 6-8 1/16"-1/8" $CaCO_3$/marc/chlorite fxs/ft. contact 84'-93' Cut by 5-8 1/16"-3/32" $CaCO_3$, chlorite, marc. filled fxs/ft. @ 94' 1' irregular bx $CaCO_3$, marc., blk S=(?). 94'-120' cut by 3-6 1/16"-1/8" fxs w/ $CaCO_3$, marc, chlorite per foot. 1/2" marc./$CaCO_3$ 3/4" white, hard, clay	50'-57' Very weak tan-pink alunitization w/ local (along fxs) chlorite. 1-2% dissem f.g. py (mostly) + marc. Marc most common on fxs. Py mostly dissem in groundmass. Sparse 1/4" $CaCO_3$ veinlets. 57'-76' Moderately alunitized, w/ wk-moderate seritization. Stronger (than 50-57') chlorite on fxs. Fxs. have sericite/chlorite halos (1/16"-1/4"). 1-2% dissem. py throughout 76'-84' Moderately alunitized throughout, w/ 2-3% disseminated 1-2mm bladed marc. 84'-93' Moderately sericitized throughout. 1-2% py dissem. throughout. Marc mostly on fxs. 93'-120' moderately alunitized, sericitized in splotches and along some bedding planes. 1-2% dissem py throughout. Marc. mostly on fxs w/ $CaCO_3$ 110'-111' Broken, bx'd zone healed w/ gray SiO_2, $CaCO_3$, marc. 115.5'-116.5' ditto Above.	51	56	5	.001	.04		
		76'-84' Pale tan-pinkish, clast supported tuff breccia. Strongly indurated; hard, heavy. Clasts are angular to sub-rounded.					56	61	5	.048	.26		
		84'-93' Pale green, fine grained, homogeneous ash tuff, No layering noted, veinlets/fxs have a ~1/4" pale green alteration halo. dense/heavy-well indurated.					61	66	5	2.059	8.89	2.245(g)	
		93'-120' Speckled/Mottled layered, fine grained ash tuff. Groundmass is typically pinkish-tan w/ 1/32" roundish and thin layers of pale green. Heavy, dense; well indurated.					66	71	5	.728	2.43	.848(g)	
							71	76	5	.761	3.44	.793(g)	
							76	84	8	.061	.66	.054(g)	
							84	89	5	.151	.32	.136(g)	
							89	93	4	.094	.65	.091(g)	
							93	98	5	.030	.82		
							98	103	5	.073	.37	.083(g)	
							103	108	5	.007	.15		
							108	110	2	.082	1.71	.080(g)	
							110	111.1	1.1	.134	1.84	.140(g)	
							111.1	116	4.9	.021	.31		
							116	120	4	.022	1.94	.021	

T.D. 120'

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-60-94 DATE: 10-22-94 LOGGED BY: RK, MAN PAGE 1 OF 2

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	7	34	62	.19	3	R3	2.0/ft	~60°	R	Sparse white clays, marc. 1/32"	3.5	367.4	150	2.45
7	15	66	90	.61	11	R3	1.8/ft	~70°	R	$CaCO_3$, marc (sparse) 1/32"	11	383.3	160	2.40
15	25	81	95	.68	20	R3	2.1/ft	~70°	R	Rk. flour, $CaCO_3$, marc. 1/16"	20	262.4	110	2.39
25	30	56	86	.44	27	R3	2.6/ft.	~70°	R	little infilling, sparse $CaCO_3$, ground rk. 1/16"	27	283.8	120	2.37
30	36	25	78	0	33	R3	5.2/ft	~80°	S-R	Clay, marc. 1/16"	33	210.4	90	2.33
36	46	59	86	.33	41	R3	2.9/ft.	~80°	S-R	little infilling, sparse $CaCO_3$, ground rk. 1/32"	41	321	130	2.47
46	56	46	69	.25	51	R3	~10/ft.	~80°-90°	S	little infilling $CaCO_3$, marc. 1/32"	51	328.8	134	2.45
56	66	81	92	.65	61	R3	1.9/ft.	~80°	S/R	" " "	61	359	140	2.56
66	76	94	97	.55	71	R3	1.9/ft.	~75°	S/R	Chlorite, marc. $CaCO_3$ 1/16"	71	324.6	130	2.50
76	86	84	97	.64	81	R3	2.5/ft.	~70°	S	Marc, $CaCO_3$ 1/16"	81	322.5	128	2.51
86	96	71	93	.32	91	R3	2.8/ft	~80°	S	Py, Chlorite white clay 1/16"	91	309.4	122	2.53

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-60-94 DATE: 10-22-94 LOGGED BY: RK, MAN PAGE 2 OF 2

DRILL RUN FROM	DRILL RUN TO	SOLD 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)
96	106	82	90	.63	101	R3	1.7/ft.	~70°	S	MARL, $CaCO_3$, white clays. 1/32"	101	331.8	132	2.51
106	116	89	94	.72	111	R3	2.2/ft	~55°	S	MARL, clay, $CaCO_3$ 1/16"	111	289	115	2.51
116	120 E.O.H.	80	94	.75	118	R3	2.0/ft.	~60°	90%-S 10%-R	$CaCO_3$, white clays, 1/16"	118	309	123	2.52

D-60-94

PROVISIONAL REPORT

P.O. BOX 71060
RENO, NV, U.S.A.,
Ph.1-70[illegible] Fax 1-702-356-1413
Tele

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: D-60-94 RECEIVED : 29 OCT 1994

LABORATORY JOB No. : SP031476 REPORTED : 7 NOV 1994

SAMPLE TYPE : No. SAMPLES : 26

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

Checked against original invoice

SIGNATORY : Sue Fairbrotch M.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-60-94
JOB NUMBER : SP031476
REPORTED : 7 NOV 1994

SAMPLES		Au(OZ)	Au(RZ)	AGGRAV	Ag(OZ)	
D-60-94 00-05		0.003			0.13	
D-60-94 05-10		0.019			0.15	
D-60-94 10-15		0.039			0.18	
D-60-94 15-20		0.021			0.16	
D-60-94 20-25		0.006			0.11	
D-60-94 25-30		0.002			0.09	
D-60-94 30-34		0.002			0.08	
D-60-94 34-39		0.002			0.08	
D-60-94 39-44.3		<0.001			0.26	
D-60-94 44.3-45.3		<0.001			0.03	
D-60-94 45.3-51		0.009			<0.02	
D-60-94 51-56		0.001			0.04	
D-60-94 56-61		0.048			0.26	
D-60-94 61-66	5'	2.059	2.152	2.245	8.89	
D-60-94 66-71	5'	0.728	.788	0.848	2.43	
D-60-94 71-76	5'	0.761	.777	0.793	3.44	28' @ 0.706, 2.88
D-60-94 76-84	8'	0.061	.058	0.054	0.66	
D-60-94 84-89	5'	0.151	.144	0.136	0.32	
D-60-94 89-93		0.094		0.091	0.65	
D-60-94 93-98		0.030			0.82	
D-60-94 98-103		0.073		0.083	0.37	
D-60-94 103-108		0.007			0.15	
D-60-94 108-110		0.082		0.080	1.71	3.1' @ 0.10', 1.76
D-60-94 110-111.1		0.134		0.140	1.84	
D-60-94 111.1-116		0.021			0.31	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-60-94
JOB NUMBER : SP031476
REPORTED : 7 NOV 1994

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-60-94 116-120	0.022	0.021		1.94

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: [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED

SAMPLE		TYPE	ELEMENTS REQUIRED
D 60-94:		CORE	2 AT FIRE Assay Au+Ag
0'-5'	66'-71'		w/ Hecla Rosebud custom prep
5'-10'	71'-76'		
10'-15'	76'-84'		* Grav. finish on all Au≥.150opt.
15'-20'	84'-89'		
20'-25'	89'-93'		
25'-30'	93'-98'		
30'-34'	98'-103'		
34'-39'	103'-108'		
39'-44.3'	108'-110'		
44.3'-45.3'	110'-111.1'		
45.3'-51'	111.1'-116'		
51'-56'	116'-120'		
56'-61'	E.O.H.		* Ndbgm CORE
61'-66'			

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) Charles Muerhoff

(2)

(3)

Comments:

CLIENT FILE COPY