6000 0847

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-45-94
AUTHOR	C. Wineteer; C. Muerhoff; S. Fairclath
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 174' 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-45-94

60000847
4010

6600 0847

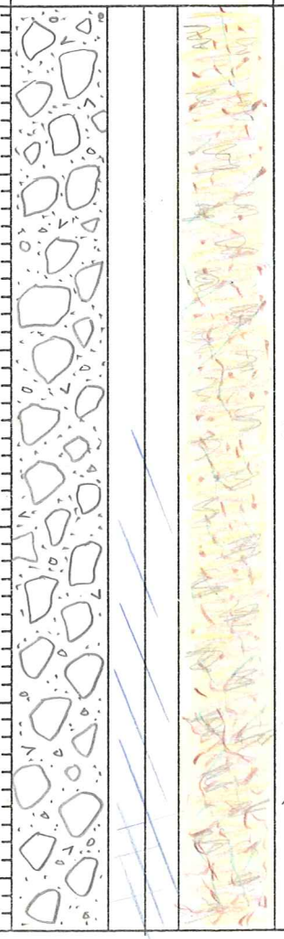
Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-45-94	LOCATION	South Zone	REMARKS	ORIENT. AS & TO
PAGE 1 OF	3	NORTHING	2203713.9		CORE AXIS; CORE PHOTO'D, WHOLE
DATE	10-26-94	EASTING	481618.0		CORE ASSAY SAMPLES; DDS #12;
LOGGED BY	CB WINETEER	ELEVATION	4685.1		SECTION 650N; NDBGM CORE
SCALE	1"=10'	AZIMUTH	123.5°		
TOTAL DEPTH	174'	INCLINATION	+45.5°		

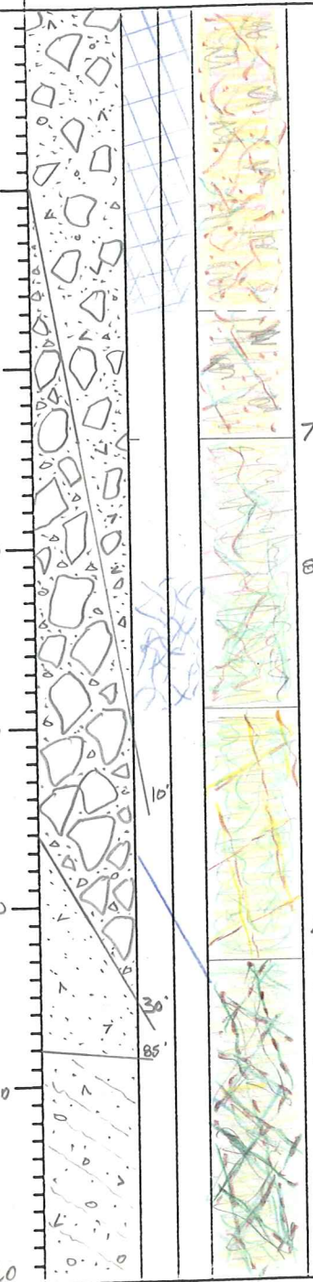
3:05 pm

1:00 pm – 3:05pm geotech log

%REC	RQD	TOTAL CORE REC.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
			0-74' Lithic tuff breccia: matrix-supported, poorly-sorted, hetero-lithic w/ angular fine-grained tuff clasts in a pink (siliceous-alunitic) fine-grained tuffaceous matrix. Chaotic-bedded ash to block clasts.	10, 20, 30, 40, 50		26-46' ∠1/ft post $CaCO_3$ sulf slide @ 20-30' 46-67' post $CaCO_3$-sulf slicks @ 20' & 75' becoming crackle bx 62-67'	0-74' mod. silic + mod. alun + 2-5% cubic f. g. py-T + wk to mod. arg-T (pref. in clasts) wk relic sec clay clotts & g/m w/ clasts: strong 1st & 2nd order RR'S; min stx's 1-5/ft 0.005 – 0.15" discont. & irreg. loc. tear-gash vnlts of $CaCO_3$ + marc ± py & marc + acc. spl. (↓39') + tr cpy (tarnished py) (↓39') + tr ill @ 16'-20' & 60-70'

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5	5.0'	.002			
5	10	"	.001			
10	15	"	.003			
15	20	"	.011			
20	25	"	.001			
25	30	"	.019			
30	35	"	.005			
35	40	"	.007			
40	45	"	.007			
45	50	"	.008			

HOLE NUMBER D-45-94 PAGE 2 OF 3

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		74-100.6' Lithic tuff breccia: matrix & Δ ing + to clast-supported, heterolithic, but w/ predominance of pale green argillized & chloritized vitroclastic tuff. Chaotic/massive-bedded ash to block size clasts.	60, 70, 80, 90, 100, 110, 120		74' post-sulf grey slicks @ 10° 81.8-89' irreg. discont. variable orientation ser-slicks. in ser.-rich matrix. 100.6' chloritic-sericitic-pyritic slick contact @ 30° 108.2' ser-slick @ 85°	74-89' wk silic + wk ser-T + alun + mod. arg-T + relic wk chl-T + tr-2% v.f.g-py-T: min stx's 0.001-0.01" discont. irreg. $CaCO_3$ ± chl ± py: RR's weak 1st ordn.
		100.6-108.2' Pale green, very fine-grained, argillized & chloritized vitropheric ash flow tuff. Massive bedded, moderately-sorted, slightly porphyritic w/ occassional isolated 0.1-0.3" pumice (devitr.) bombs or lithic fragments.				89-103' wk silic (slightly incr. over above) wk ser-T + wk arg-T + chl-T micro stkwk + tr-1% py + 0 RR: min stx's 2-3/ft; 0.005-0.05" @ 5° & 60° w/f.g. xln Q + py & mare + py
		108.2-128.5' Fine-grained, moderately-well-sorted, medium to thin-bedded, faintly wavy laminated, slightly porphyritic, occassional rounded lithic or devitrified pumice fragments.				103-128.5' wk silic + wk arg-T w/ loc. lam'd mod arg-T + mod. ser-T + tr-1% f.g bladed py-T + wk lam'd alun: min stx's 2-7/ft @ 60° (lam.) + 15-20° & 40° w/ chl-$CaCO_3$ + py

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
50	55	5.0'	.029			
55	60	"	.013			
60	65	"	.003			
65	70	"	.013			
70	75	"	.002			
75	80	"	<.001			
80	85	"	<.001			
85	90	"	.004			
90	95	"	.007			
95	100	"	<.001			
100	105	"	.002			
105	110	"	.011			
110	115	"	.028			
115	120	"	.012			

HOLE NUMBER D-45-94 PAGE 3 OF 3

REC	RQD	TOTAL CORE REC.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
			128.5-142.4' Same as above w/in a argillized, silicified crackle breccia. Loc. leopard skin alteration texture.	130		128.5' granular texture contact - planar frac-slick @ 30' -128.5-142.4' crackle by w/ill/Q frac-fill	128.5-142.4' mod to mod. int. silic + mod int. arg-T + patchy spotted chl/alun/silic/arg-T. + tr-1% py-T: 0.05-0.3" min stx's f.g. xln Q-ill-$CaCO_3$-py ft marc (w/carbon-coating loc.) + f.g. cubic py as stkwk matrix in crackle by
			142.4-174' Fine to medium-grained well to moderately-sorted, generally massive-bedded, argillized & chloritized airfall tuff. Vitrophyric 165-172.5'. Loc. homolithic breccia. & spheroidal arg-chl-texture w/in vitrophere.	140 150		*CST-28 140-140.6' 142.4' Contact ≠ unkn. 153-154 rubbly-arg-ser-t frac's.	142.5-160' wk silic + spotted alun/chl/SiO_2 + mod. arg-T + discont. micro chl stkwk: min stx's 1-3/ft @ 20° & ⊥ 40-50° w/ chl → Q-ill-py ft marc, ± cpy ft marc ± blk carbon-coated surfs (marc psaud) 0.005-0.10"
			-164-166' laminated medium to coarse lapilli-rich tuff	160 170		*CST-29 166-166.5'	160-174' wk silic (incr. @ EOH.) mod. int. arg-T + lam/banded chl-T + chl micro hairline stkwk + 1% diss bladed sulf w/ clay cores py-T + tr alun assoc. w/ discont. irreg. clotts of $CaCO_3$ ± qtz. : min stx's @ 20-30° chl → Q → py ft marc ±ill 0.001-0.05" 1-3/ft.
			END OF HOLE @ 174'				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag2
120	125	5.0'	.002			
125	128.5	3.5'	.004			
128.5	133	4.5'	.213		.235 (g)	
133	138	5.0'	.068		.070 (g)	
138	142.5	4.5'	.240		.273 (g)	
142.5	148	5.5'	.074		.073 (g)	
148	152	4.0'	.043			
152	156	4.0'	.014			
156	160	4.0'	.019			
160	165	5.0'	.009			
165	170	5.0'	.004			
170	174	4.0'	.002			

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-45-94 DATE: 10-26-94 LOGGED BY: CBW PAGE 1 OF

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	20	83	92.5	.775	10'	R3	0.5	45°	R	trace sulf	10'	353.5	150	2.36
20	30	92	100	.56	23.5'	R4	0.5	40°	R	.05-.10' $CaCO_3$+sulf	23.5	401.0	160	2.51
30	40	92	100	.63	36'	R4	0.8	30°	R	.005" sulf.-ser.	36'	366.3	155	2.36
40	50	89	100	.67	46.5'	R3	0.7	20°	R	.01" ser-caco3 -sulf	46.5'	444.5	170	2.615
50	60	77	100	.52	54'	R3	1.2	30°	K	.01" ser-sulf.	54'	459.4	190	2.418
60	70	84	99	.66	69'	R2-R3	0.5	40°	R	.01" ser-sulf	69'	400.4	170	2.355
70	80	92	100	.72	76.5'	R1-R2	0.5	35°	R	.01" ser-sulf-chl.	76.5'	381.2	155	2.46
80	90	56	95	.28	83'	R1	2.1	65°	S	.01" ser-sulf-chl.	83'	401.9	180	2.23
90	94													
94	97													
97	103	57	93	.44	96'	R2	1.9	55°	R	.01-.05" chl-ser.		506.2	210	2.41

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-45-94 DATE: LOGGED BY: PAGE 2 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)
103	107													
107	115	50	83	.32	112.5'	R1	4.3	5°/75°	S	.005-.01" chl-ill	112.5'	442.0	165	2.68
115	116													
116	120													
120	124	29	91	.20	120.5'	R3	3.9	20/65°	S	.01" chl-ill	120.5'	458.6	195	2.35
124	134	75	95	.50	130'	R3 ↘ R2	2.3	65°	S	.01" ill	130'	508.6	245	2.08
134	144	87	96	.63	137.5'	R2	1.3	60°	S	.05-.10" ill	137.5'	323.8	140	2.31
144	154	79	98	.60	147'	R1	1.7	65°	S	.05" chl-ill	147'	399.8	180	2.22
154	164	91	98	.78	158'	R1	0.7	30°/80°	R	.05" ill-chl	158'	479.3	210	2.28
164	174	100	100	.87	169'	R2	0.4	65°	R	.01" chl-sulf.	169'	337.7	160	2.11

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: Number of Packages: 36 [ ] Prepaid [ ] Collect

ANALYSIS REQUIRED 10-26-94

D-45-94 SAMPLE	TYPE	ELEMENTS REQUIRED
0-5 170-174	CORE	2 AT FIRE ASSAY Au & Ag
5-10		w/ HECLA ROSEBUD
		CUSTOM PREP
120-125		
125-128.5		* GRAV. FINISH ON ALL
128.5-133		
133-138		Au ≥ 0.05 opt
138-142.5		
142.5-148		
148-152		
152-156		
156-160		
160-165		
165-170		

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 Mueshoff

(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-45-94
LABORATORY JOB No. : SP031535
SAMPLE TYPE :

RECEIVED : 7 NOV 1994
REPORTED : 17 NOV 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

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-45-94
JOB NUMBER : SP031535
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-45-94 000-005	0.002			0.03
D-45-94 005-010	0.001			0.03
D-45-94 010-015	0.003			0.05
D-45-94 015-020	0.011			0.58
D-45-94 020-025	0.001			0.05
D-45-94 025-030	0.019			0.83
D-45-94 030-035	0.005			0.07
D-45-94 035-040	0.007			0.27
D-45-94 040-045	0.007			0.22
D-45-94 045-050	0.008			0.10
D-45-94 050-055	0.029			0.15
D-45-94 055-060	0.013			0.14
D-45-94 060-065	0.003			0.05
D-45-94 065-070	0.013			0.05
D-45-94 070-075	0.002			0.03
D-45-94 075-080	<0.001			0.04
D-45-94 080-085	<0.001			0.02
D-45-94 085-090	0.004			0.03
D-45-94 090-095	0.007			0.09
D-45-94 095-100	<0.001			0.05
D-45-94 100-105	0.002			0.07
D-45-94 105-110	0.011			0.11
D-45-94 110-115	0.028			0.17
D-45-94 115-120	0.012			0.49
D-45-94 120-125	0.002			0.09

AMERICAN ASSAY LABORATORIES
ANALYSIS REPORT

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-45-94
JOB NUMBER : SP031535
REPORTED : 17 NOV 1994

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-45-94 125-128.5	0.004			0.04
D-45-94 128.5-133	0.213		0.235	0.74
D-45-94 133-138	0.068		0.070	0.47
D-45-94 138-142.5	0.240		0.273	1.34
D-45-94 142.5-148	0.074		0.073	0.18
D-45-94 148-152	0.043			0.22
D-45-94 152-156	0.014			0.12
D-45-94 156-160	0.019			0.18
D-45-94 160-165	0.009			0.10
D-45-94 165-170	0.004			0.10
D-45-94 170-174	0.002			0.06

CST-29
D-45-94
166-166.5
29
D-45-94
160.5
IN.
CM.

CST-29
D-45-94
166-166.5
CST-29
D-45-94
166-5
IN.
CM.

CST-28
D-45-94
140-140.6
IN.
CM.