60001534

Mining District File Summary Sheet

| | |
|---|---|
| DISTRICT | Rosebud |
| DIST_NO | 4010 |
| COUNTY<br>If different from written on document | Pershing |
| TITLE<br>If not obvious | Rosebud Drill Hole File - Hole No. D-86-94 |
| AUTHOR | C. Wineteer; C. Muerhoff; S. Fairclotb |
| DATE OF DOC(S) | 1994 |
| MULTI_DIST Y / N?<br>Additional Dist_Nos: | |
| QUAD_NAME | Sulphur 7.5' |
| P_M_C_NAME<br>(mine, claim & company names) | Rosebud Mine; Rosebud Project; Hecla Mining Co., South Zone |
| COMMODITY<br>If not obvious | gold silver |
| NOTES | Drill log; geology; assay; total depth 219'<br>handwritten notes<br><br>7p. |

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 5/29/08
Initials Date
DB: mah
Initials Date
SCANNED: NV Blue
Initials Date

Revised: 1/22/08

D-86-94

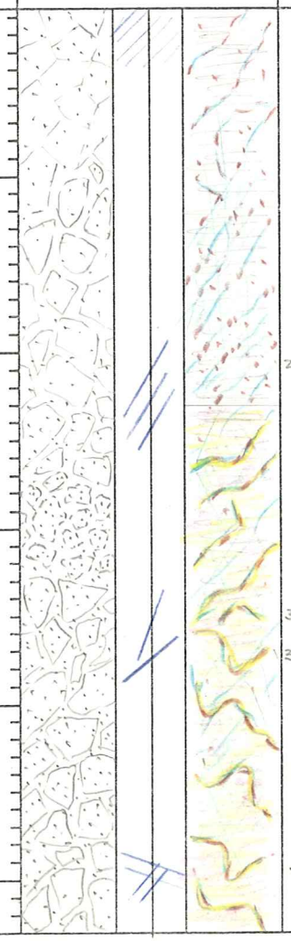
60001534 4010

60001534

**Hecla**
MINING COMPANY

# ROSEBUD PROJECT
# DIAMOND DRILL LOG

| | | | | | |
|---|---|---|---|---|---|
| HOLE NUMBER | D-86-94 | LOCATION | South Zone | REMARKS | ORIENTATIONS STATED |
| PAGE 1 OF | 4 | NORTHING | 2204000.6 | | AS ∡ TO CORE AXIS; CORE PHOTO'D |
| DATE | 10-10-94 | EASTING | 481820.9 | | WHOLE CORE ASSAY SAMPLES; COLLAR |
| LOGGED BY | CB WINETEER | ELEVATION | 4644.6 | | LOC. DDS #19; DUE EAST |
| SCALE | 1" = 10' | AZIMUTH | 73.0 | | BEARING; NQ CORE |
| TOTAL DEPTH | 219' | INCLINATION | −36.5° | | |

| %REC | RQD | LITHOLOGY | FT | GRAPHIC LOG | STRUCTURE | ALTERATION AND MINERALIZATION |
|---|---|---|---|---|---|---|
| 4<br>80<br>8<br>13<br>15<br>97<br>20<br>25<br>100<br>29<br>32<br>37<br>39 91<br>43<br>100<br>48 | .20<br>.67<br>.79<br>.63<br>.78 | 0-69' Airfall tephra(?); very fine-grained, vitroclastic to finely-sugary texture groundmass, very well-sorted w/no apparent phenocrysts / lithic / pumice fragments, massive-bedded w/local developed chloritic-argillic alteration w/ hashered texture; brecciated thru-out - crackle breccia, clast-supported - silica/chlorite matrix, - local "ghost breccia" texture developed, Drab yellowish-green & pinkish-tan. | 10<br>20<br>30<br>40<br>50 |  | 0-4' sericitic slicks sliding thru @ 45° 4-5/ft.<br>21'-25' ser. slicks @ 50° @ 1-10 < 1'/ft.<br>35' ser. post sulf slick @ 20°<br>37.5' Ser. s.a.a. @ 50°<br>49-50' ser. slicks @ 70° & 40° | 0-23' wk silic + mod. int. arg-T; + 1-2% py-T incr. ↓ to 3-4%; + microhairline chl-T stlkwk + wk alun ↓ to 6'; min stx's 5-10/ft 0.05" discont. irreg. gen. @ 30-40' w/ segregated $CaCO_3$ + marc & py & marc ± chl → w/ acc. spl.<br>23-62' wk silic + mod. arg-T + wk patchy alun + 1-2% py-T + microhairline chl-T stlkwk; min stx's 5-10/ft very discont. irreg. 0.005-0.10" segregated f.g. open-space Q → $CaCO_3$ + ill + brassy py + same & marc w/ dk grey-blk tarnish ± trace spl. ± Tr. ss. |

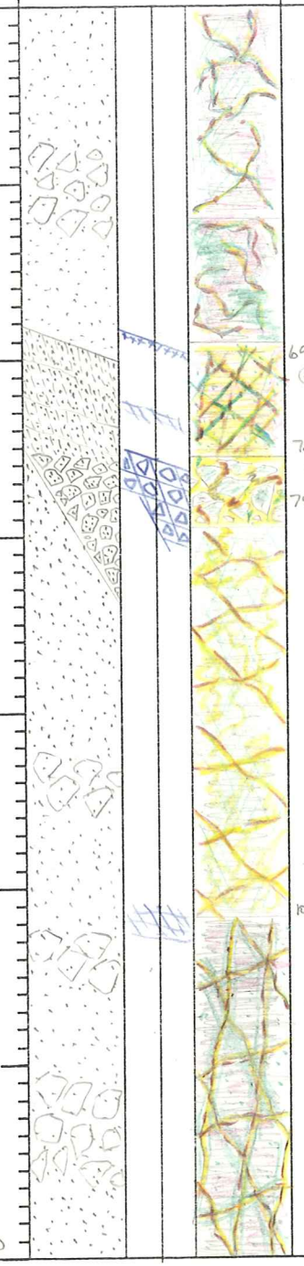
## ANALYTICAL DATA

| FROM | TO | W | Au | Ag | Au2 | Ag2 |
|---|---|---|---|---|---|---|
| 0 | 5 | 5.0' | .002 | .02 | | |
| 5 | 10 | 5.0' | .002 | .02 | | |
| 10 | 15 | 5.0' | .001 | .03 | | |
| 15 | 19 | 4.0' | .003 | .05 | | |
| 19 | 23 | 4.0' | .010 | .05 | | |
| 23 | 28 | 5.0' | .041 | .08 | | |
| 28 | 33 | | .014 | .06 | | |
| 33 | 38 | | .001 | .03 | | |
| 38 | 43 | | .002 | .06 | | |
| 43 | 48 | | .002 | .05 | | |
| 48 | 53 | | .046 | .10 | | |

HOLE NUMBER D-86-94 PAGE 2 OF 4

| %REC | RQD | LITHOLOGY | FT | STRUCTURE | ALTERATION AND MINERALIZATION |
|---|---|---|---|---|---|
| 53 | | | | | |
| 98 | .69 | | | | |
| 58 | | | | | |
| | | | 60 | | 62-69 sa.a w/ mod. int. chl-T + arg-T on 20-30° bands. |
| 63 | | | | | |
| 100 | .86 | | | | |
| 68 | | 69-79.5' Airfall or waterlain tephra: fine-grained slightly porphyritic, flow-laminated, medium to thinnly-bedded (0.50 to 0.10") planar-laminations @ 5-15° w/ offset & rotation of lamination across mineralized fractures; pale greenish grey to cream & pinkish-grey; diss. chlorite microphenocrysts; occ. rounded pumice lapilli/bombs; matrix-supported hydrothermall bx 75.5-79.5' w/ $SiO_2$ matrix. | 70 | 69' - bx'iated (micro) contd @70' - post bx silic & sulf. | 69-75.5 mod. silic. + wk to mod arg-T + wk alun + chl-T on frac's & as salvages & diss. micro-pheno's; min stx's 10-15/ft @ 45°, 15°, 45° opposing w/ 0.05-0.2" w/ chl-w/ ± $CaCO_3$ ± ill ± py & marc |
| 73 | | | | | |
| 94 | .25 | | | 73-74' clast-supported crackle bx w/ Q-chl matrix | 75.5-79.5 + tr spl ± Tr cpy/ss, & s.a.a. in clasts w/ f.g. xln Q matrix |
| 78 | | | | 75.5-79.5' clast & matrix-supported $SiO_2$ healed crackle to fault bx on 70° & 20° controlling stx's. | |
| | | | 80 | | 79.5-101.7' v. wk silic, + mod. arg-T + Tr-1% py-T + micro-hairline chl-T stk wk + late-stage vuggy xln Q flooding of matrix; min stx's 5-10/ft .05-.15" @ 40 & 70° discont. w/ Q + py & marc + marc. |
| 83 | | | | | |
| 85 | | | | | |
| 93 | .73 | 79.5'- Airfall tephra: very fine-grained, well-sorted, non-porphyritic w/ vitro-clastic groundmass ↓ 133' & finely sugary texture ↓; locally brecciated-clast-supported crackle bx.; massive-bedded, very pale green Δing ↓ to medium green to pinkish w/ sugary fine-grained texture. | | | |
| 89 | | | | | |
| | | | 90 | | |
| 94 | | | | | |
| 97 | .72 | | | | |
| 99 | | | | | |
| | | | 100 | 101-102.5' $SiO_2$ healed crackle bx | 101.7-138' v. wk silic + mod int. to int. arg-T + chl-T on frac's as salvages & diss, + Tr py-T. + wk alun w/ silic. bx xln Q matrix; min stx's 5-10/ft @ 5°, 30° & 80° 0.05-0.15" w/ chl + xln Q + py & marc + ill + spl ± cpy |
| 104 | | | | | |
| 100 | .94 | | | | |
| 109 | | | | | |
| | | | 110 | | |
| 114 | | | | | |
| 97 | .85 | | | | |
| 119 | | | 120 | | |

GRAPHIC LOG



ANALYTICAL DATA

| FROM | TO | W | Au | Ag | Au2 | Ag2 |
|---|---|---|---|---|---|---|
| 53 | 58 | 5.0' | .026 | .07 | .027 | |
| 58 | 62 | 4.0' | .022 | .58 | | |
| 62 | 66 | 4.0' | .007 | .07 | | |
| 66 | 69 | 3.0' | .004 | .06 | | |
| 69 | 75.5 | 6.5' | .038 | .26 | | |
| 75.5 | 79.5 | 4.0' | .018 | .07 | .014 | |
| 79.5 | 85 | 5.5' | .009 | .06 | | |
| 85 | 90 | 5.0' | .014 | .08 | | |
| 90 | 95 | 5.0' | .004 | .05 | | |
| 95 | 101.7 | 6.7' | .006 | .06 | | |
| 101.7 | 105 | 3.3' | .006 | .11 | | |
| 105 | 110 | 5.0' | .017 | .12 | | |
| 110 | 115 | 5.0' | .004 | .07 | | |
| 115 | 120 | 5.0' | .009 | .08 | | |

HOLE NUMBER D-86-94 PAGE 3 OF 4

| %REC | RQD | LITHOLOGY | FT | GRAPHIC LOG | STRUCTURE | ALTERATION AND MINERALIZATION |
|---|---|---|---|---|---|---|
| 124 | | | | | | downward decr. arg-T + incr. silic. |
| 96 | .79 | | | | 126-127 $SiO_2$ healed crackle bx | |
| 129 | | | | | 129-132' 1-2/ft. ser+chl slicks @ 45' | |
| | | | 130 | | | |
| 134 | | | | | | 133-142' mod. silic + wk arg-T + wk chl-T + wk alun + 1-2% v.f.g. py-T; min stx's 3-7/ft 0.005-0.05" @ 30°, 45° & 85° w/ f.g. xln Q → ill + As(?)py & marc. |
| 98 | .52 | | | | | |
| 139 | | | | | | |
| | | | 140 | | | |
| 144 | | | | | 142-146.5' $SiO_2$ flooded crackle bx matrix & dust-supported or 40° controlling stx's | 142-146.5' f.g. xln Q flooded crackle bx w/ clasts s.a.a. & silic + ill + py (ohedrons) & marc + boity. sugary pale tan open-space v. late-stage vug-filling dolomite, |
| 100 | .82 | | | | | |
| 149 | | | | | | |
| | | | 150 | | | |
| 154 | | | | | | 146.5-176' wk silic + wk to mod arg-T + mod. chl-T + ND alun + Tr - 1% py-T; min stx's 3-5/ft w/ segregated $CaCO_3$ + ill + py & marc 0.005-.05" @ 30° & opp. 40° Tr sph/cpy/ss./dol. |
| 100 | .71 | | | | | |
| 159 | | | | | | |
| | | | 160 | | | |
| 164 | | | | | | |
| 100 | .92 | | | | | |
| 169 | | | | | | |
| | | | 170 | | | |
| 174 | | | | | | |
| 100 | .91 | | | | 176.0-176.5' Fault gouge, clayey sericitic clay w/ sim. clasts w/ bounding 75° ser-chl-$CaCO_3$ slicks | 176.-176.5 arg-T + chl-T w/ 5° calcareous ill + py & marc |
| 179 | | | | | | 176.5-197.7' mod. int. arg-T + chl-T stk-micro w/ discont. patchy int. chl-T / mod silic + alun + py-T of bx matrix. min stx's 3-5/ft @ 30-40° 0.005-0.05". w/ Q + ill + py & marc. + dol 182' 0.6" & 0.15" $CaCO_3$ + py-ohedrons + py & marc @ 35° |
| | | | 180 | | | |
| 184 | | | | | | |
| 100 | .90 | | | | | |
| 189 | | | | | | |
| | | | 190 | | | |

ANALYTICAL DATA

| FROM | TO | W | Au | Ag | Au2 | Ag2 |
|---|---|---|---|---|---|---|
| 120 | 125 | 5.0' | .013 | .15 | | |
| 125 | 129 | 4.0' | .016 | .11 | .013 | |
| 129 | 133 | 4.0' | .007 | .08 | | |
| 133 | 138 | 5.0' | .013 | .10 | | |
| 138 | 142 | 4.0' | .004 | .06 | | |
| 142 | 146.5 | 4.5' | .009 | .07 | | |
| 146.5 | 150 | 3.5' | .005 | .04 | | |
| 150 | 155 | 5.0 | .005 | .05 | | |
| 155 | 160 | 5.0' | .005 | .04 | | |
| 160 | 165 | 5.0' | .003 | .04 | | |
| 165 | 170 | 5.0' | .004 | .06 | | |
| 170 | 176. | 6.0' | .005 | .05 | | |
| 176 | 180 | 4.0' | .002 | .04 | | |
| 180 | 185 | 5.0' | .013 | .08 | .008 | |
| 185 | 190 | 5.0 | .005 | .06 | | |

HOLE NUMBER D-86-94 PAGE 4 OF 4

| %REC | RQD | LITHOLOGY | FT | GRAPHIC LOG | STRUCTURE | ALTERATION AND MINERALIZATION |
|---|---|---|---|---|---|---|
| 194 | | | | | | |
| 100 | .74 | | | | 196.5-197.7' micro fault vn-bx on 5° & 55° stx's | |
| 199 | | 197.7-213' Fault breccia Δ ing ↓ to crackle breccia w/in f.g. massive-bedded well-sorted, slightly porphyritic tephra. Silic. crackle bx 210.5-213 | 200 | | 197.7' intersection of 2 interg chlorite slicks @ 55° & 65° 197.7- Clast-supported fault bx w/ angular tuff/tephra fragments in a dark green chloritic matrix. | 197.7-210.5' v. wk silic + mod int. arg-T + chl-T + Tr py-T + Tr alun.; discont. irreg. min stx's w/ chl-Q-py |
| 204 | | | | | | |
| 92 | .70 | | | | | 208' tan chalc. $SiO_2$ flooded fault bx @ 65° |
| 209 | | | 210 | | | 210.5-213 mod. silic + wk arg-T + mod. chl-T + wk py-T + stkwk ferrug. $SiO_2$ ? opal/fine $SiO_2$ ? open-space xln Q. |
| 214 | | | | | | |
| 96 | .75 | | | | | 213-219' mod. silic + ND arg-T + wk chl-T as frac-coatings & diss. + Tr py-T + alun - as salvages on chl-Q-py fracs. |
| 219 | | END OF HOLE @ 219' | 219 | | | |

| ANALYTICAL DATA | | | | | | |
|---|---|---|---|---|---|---|
| FROM | TO | W | Au | Ag | Au2 | Ag2 |
| 190 | 197.7 | 7.7' | .009 | .05 | | |
| 197.7' | 203 | 5.3' | .008 | .06 | | |
| 203 | 209 | 6.0' | .003 | .05 | | |
| 209 | 214 | 5.0' | .021 | .06 | | |
| 214 | 219 | 5.0' | .011 | .07 | | |

# 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-86-94

LABORATORY JOB No. : SP031327

SAMPLE TYPE :

RECEIVED : 18 OCT 1994

REPORTED :

No. SAMPLES : 45

| ANALYSIS | ANALYTICAL METHOD | QUALITY PARAMETER | UNIT | DETECTION |
|---|---|---|---|---|
| Au(OZ) | FA60 | 15% | OPT | 0.001 |
| Au(RZ) | FA60 | 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 : MECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-86-94
JOB NUMBER : SP031327
REPORTED :

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| D-86-94 00-05 | 0.002 | | 0.02 |
| D-86-94 05-10 | 0.002 | | 0.02 |
| D-86-94 10-15 | 0.001 | | 0.03 |
| D-86-94 15-19 | 0.003 | | 0.05 |
| D-86-94 19-23 | 0.010 | | 0.05 |
| D-86-94 23-28 | 0.041 | | 0.08 |
| D-86-94 28-33 | 0.014 | | 0.06 |
| D-86-94 33-38 | 0.001 | | 0.03 |
| D-86-94 38-43 | 0.002 | | 0.06 |
| D-86-94 43-48 | 0.002 | | 0.05 |
| D-86-94 48-53 | 0.046 | | 0.10 |
| D-86-94 53-58 | 0.026 | 0.027 | 0.07 |
| D-86-94 58-62 | 0.022 | | 0.58 |
| D-86-94 62-66 | 0.007 | | 0.07 |
| D-86-94 66-69 | 0.004 | | 0.06 |
| D-86-94 69-75.5 | 0.038 | | 0.26 |
| D-86-94 75.5-79.5 | 0.018 | 0.014 | 0.07 |
| D-86-94 79.5-85 | 0.009 | | 0.06 |
| D-86-94 85-90 | 0.014 | | 0.08 |
| D-86-94 90-95 | 0.004 | | 0.05 |
| D-86-94 95-101.7 | 0.006 | | 0.06 |
| D-86-94 101.7-105 | 0.006 | | 0.11 |
| D-86-94 105-110 | 0.017 | | 0.12 |
| D-86-94 110-115 | 0.004 | | 0.07 |
| D-86-94 115-120 | 0.009 | | 0.08 |

AMERICAN ASSAY LABORATORIES
# ANALYSIS REPORT

American Assay Laboratories Inc.

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : D-86-94
JOB NUMBER : SP031327
REPORTED :

| SAMPLES | Au(OZ) FA60 OPT | Au(RZ) FA60 OPT | Ag(OZ) D210 OPT |
|---|---|---|---|
| D-86-94 120-125 | 0.013 | | 0.15 |
| D-86-94 125-129 | 0.016 | 0.013 | 0.11 |
| D-86-94 129-133 | 0.007 | | 0.08 |
| D-86-94 133-138 | 0.013 | | 0.10 |
| D-86-94 138-142 | 0.004 | | 0.06 |
| D-86-94 142-146.5 | 0.009 | | 0.07 |
| D-86-94 146.5-150 | 0.005 | | 0.04 |
| D-86-94 150-155 | 0.005 | | 0.05 |
| D-86-94 155-160 | 0.005 | | 0.04 |
| D-86-94 160-165 | 0.003 | | 0.04 |
| D-86-94 165-170 | 0.004 | | 0.06 |
| D-86-94 170-176 | 0.005 | | 0.05 |
| D-86-94 176-180 | 0.002 | | 0.04 |
| D-86-94 180-185 | 0.013 | 0.008 | 0.08 |
| D-86-94 185-190 | 0.005 | | 0.06 |
| D-86-94 190-197.7 | 0.009 | | 0.05 |
| D-86-94 197.7-203 | 0.008 | | 0.06 |
| D-86-94 203-209 | 0.003 | | 0.05 |
| D-86-94 209-214 | 0.021 | | 0.06 |
| D-86-94 214-219 | 0.011 | | 0.07 |