6000 0678

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-193-98
AUTHOR	K. Allen; B. Morris; S King
DATE OF DOC(S)	1998
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 Rosebud Mining Co., LLC
COMMODITY If not obvious	gold; silver
NOTES	drill logs; assay; geology; photographs; receipts; total depth 330'; handwritten notes down hole camera images 48 p. 3 down hole camera images

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 4/28/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

D-193-98

60000678
4010

6000 0678

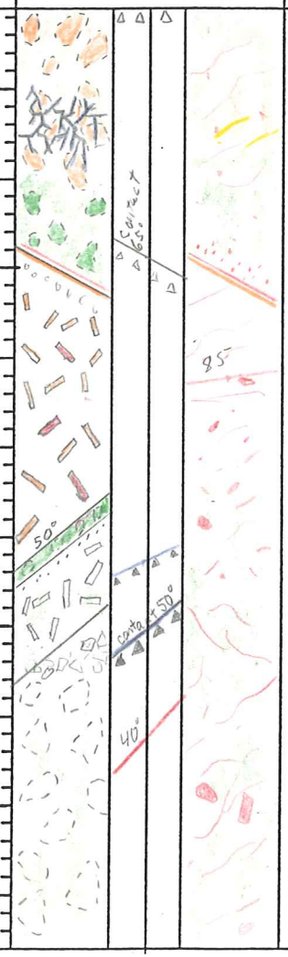
Hecla MINING COMPANY

- quartz, chalcedony, silicification
- faults, fractures
- FeOx
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-193-98	LOCATION	Eastzone Stope 42 EOA
PAGE 1 OF		NORTHING	
DATE	3/20/98	EASTING	
LOGGED BY	Brian W. Morris	ELEVATION	
SCALE	1" = 10'	AZIMUTH	N47W
TOTAL DEPTH	330'	INCLINATION	+4

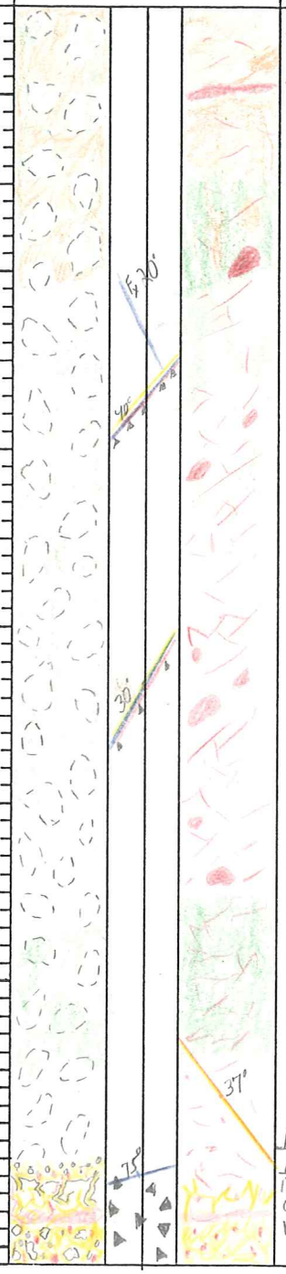
REMARKS

TH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	Reduced	0-13.6' Autobrecciated Dozer: Wk-Lt gry V.fg ghost clasts supported by Lt olive br-Lt gry gr vfg Mtx 13.6' Rhyolite Porphyry Contact Lt gry V.fg groundmass w/ well developed plag. laths 15-17 then becoming completely leach w/ only cast left in groundmass of replaced by sulf plag comprising 15-20%, 80-85% wk ragg ie edge feld phenos, Phenos are str argil. 30-31 Narrow sliver, Zenolith?? of Autobrecca Dozer, Contact is not present @ 30', 31' contact porph has a .3' chill margin. 35.8- Dozer Fault Contact 1.4' wide Bxa Zone. Well rounded monolithic clast ghosts, dry gr vfg Mtx.	5 10 15 20 25 30 35 40 45 50		0-.8' Milled gouge Mtx BXA: heterolithic well rounded clasts, composed of Dozer Rhy. & Milled barite xls, wk diss py. 5-8.5' Rx is perv. Fx 13.6' Contact: contact is sharp w/ str diss sulf + Vn .2' Approach contact & v. str argil .2' preceeding contact grading into a milled bxa w/a clay mtx .5' thick 35-36.8' Crackle bxa grading to Clast Supported rubble bxa; clast are mono-lithic subangular-subrounded .5-2cm dia healed w/ silic Rx flour Mtx, wk diss sulf, str leaching @ 35'	0-14.6' Dozer ghost clasts are Mod-str argil. 8.5'/14.6 Wk-Mod gr clay alt. 5-8.5' str argil, wk disspy, Mod bleach 8.5-13.6' Wk sulf Vnlets + disss sulf, wk-Mod gr clay alt. 13.6'-30.0' Str py replacement of plag phenos, strong argil of feld phenos, wk sulfvnlets 36.8-40.0' Mod hairline stkwk of SiO_2 ± sulf ± gr clay, 38.3 .2' wide milled bxa vn healed by gry Rx flour Mtx 35-65.8' Wk gr clay alt becoming Mod @ 57.0'. 40-45 Mod SiO_2 ± bladed Marc locally st sulf soaked outclasses

ANALYTICAL DATA

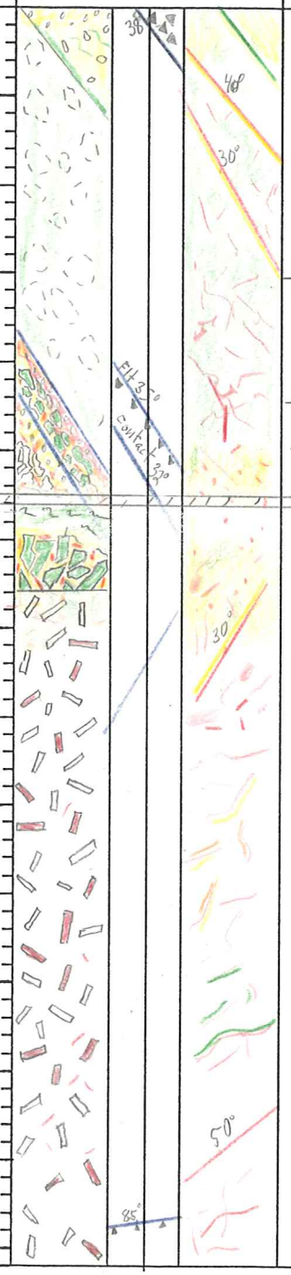
FROM	TO	W	Au	Ag	Au2	Ac
0	.8					
.8	5					
5	8.5					
8.5	13.6					
13.6	15.0					
15.0	20.0					
20.0	25.0					
25.0	30.0					
30.0	31.0					
31.0	35.0					
35.0	36.8					
36.8	40					
40	45					
45	50					

HOLE NUMBER D-193-98 PAGE 2 OF

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
		50 - 120 Autobrecciated, Dozer; vfg rounded faint ghost clasts in supported by v. fg Mtx.	55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120		50-66 Red br FeOx st. of Autobxa Mtx.	50-66 Mod - Str gr clay alt. 54-55 V Str bright brassy sulf along vert. Fx, Mod argil, Str gr clay alt.	50	55				
							55	60				
							60	66				
						66 - 100' Strong bleaching Mod Sulf + SiO_2 Vnlets + Stkwk, Minor Bladed Marc + leach SiO_2 vnlets, Minor 1cm wide bxa vnlets healed by SiO_2 + (marc) locally ghosts are str argil, Minor sulf soaked patches.	66	70				
							70	75				
							75	80				
							80	85				
							85	90				
							90	95				
						100-109.2' Mod gr clay alt, wk - Mod sulf vnlets	95	100				
							100	105				
							105	110				
		116 - 118.7' Grading to Limeckle BXA then grading to str SiO_2 + sulf vnlets & stkwk	115		115.3 - 121' Fault BXA Zone 115.3 - 116' Rx flbar + SiO_2 supported Milled bxa, Clasts are composed of Autobxa Dozer, Mtx, s gr-gry w/ Mod diss sulf + Sulf blebs.		110	115.3				
		118.7 - 121': Mtx supported Milled bxa: Clasts are angular - rounded autobxa Dozer healed by gry Rx flour + SiO_2 Mtx, Mod diss sulf blebs, localized gr clay replacement of Mtx.	120			117' V Str diss sulf + hairline vnlets. 117.3 - 117.6' Gry - blk SiO_2 healed Mtx supported bxa, locally leached w/ barite & bladed Marc.	115.3	116				
							116	118.7				

145.5
1.7
145.2
145.9

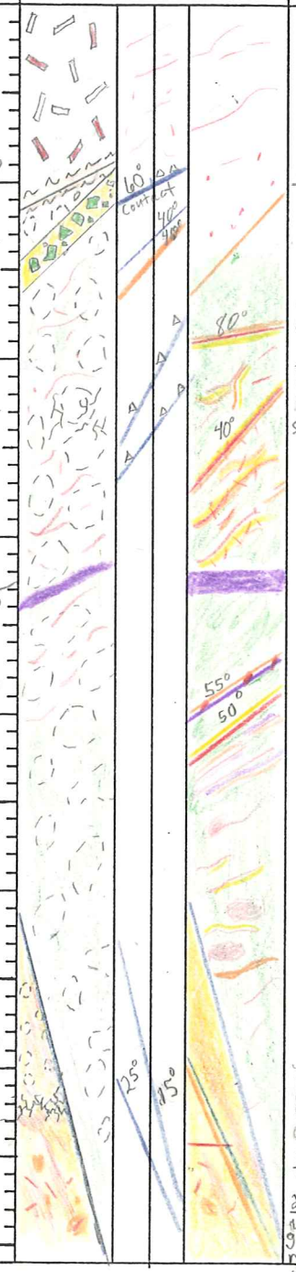
HOLE NUMBER D-193-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		120-145.9 Autobrecciate Dozer: Lt gry rounded clast ghosts supported by vfg equigranular Mtx.	125, 130, 135, 140, 145		135.3-139' Mod SiO_2+Marc ± Barite healed Fx.	121-135.3 Wk-Mod Marc+ SiO_2 ± gr clay vn, Wk hairline sulf vnlets + Stk wk, wk gr clay alt.
		Rhyolite Porphyry Fault Contact 147'-200.9' Narrow .5" wide Mosaic BXA Vn @ Contact, becoming Milled bxa healed by a Rx flour Mtx, grading into a mylonitic shear @ 148.2 @149'-155.3 Gry. SiO_2 healed Mosaic-Milled bxa: Clast supported, clasts are composed of angular Monolithic Rhy porph.			143.5-144.3' BXA Vn: Mtx supported rubble BXA, angular Dozer clasts healed by wh-gry + sulf Mtx, wk leaching of Mtx, Mod diss bright brassy marc blebs.	135.3-139' Str Gray SiO_2 Mosaic BXA vns & blk SiO_2+ Sulf Vnlets, Mod bladed Marc xls diss in BXA Mtx, Minor barite xls in vugs. 139-143.5 Wk-Mod Dk gry-blk SiO_2+Sulf vn-vnlets & Stk wk 143.5-145.2' Mod vuggie marc ± SiO_2 vn.
			150, 155, 160, 165, 170, 175, 180, 185, 190		155-200.1' 20% of feld phenos are replaced by sulf.	149-152.1 Mtx mod leach Wh wh clay replacement, Mod diss marc blebs, locally str gr clay replacement of Mtx. 155-160 Mod sulf soaked patches; Mod SiO_2+ bladed Marc ± wh clay Vn & Vnlets, 160-175 Wk-Mod SiO_2+ bladed Marc + Wh Clay .1-.3 cm wide vn, SiO_2 is str leached in vns. 175-180' Mod gr clay w/ Exterior of vns sulf rich, 177.4' .3cm wide wh alum+Marc, Wk leaching. 175-200 Mod vuggie SiO_2+ Marc ± wh clay ~30% sulf replacement of feld phenos.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
118.7	121				
121	125				
125	129				
129	134				
134	135.3				
135.3	139				
139	143.5				
143.5	144.3				
144.3	147				
147	148.5				
148.5	148	Loss			
148	152				
152	155				
155	160				
160	165				
165	170				
170	175				
175	180				
180	185				
185	200				

HOLE NUMBER D-193-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		Dozer Fault Contact 200.9' Lt gray v. fg equigranular Autobrecciated - locally massive 202 - 204.3' Rubble Mtx supported Breccia: Lt. Gr gry v. fg angular - Subangular autobxa Dozer Clasts healed by gry gr SiO_2 + Rx flour Mtx.	195 200 205 210 215 220 225 230 235 240 245 250 255 260		200.9' Fault Contact 200.2 - 201' gougy Shears & Milled bxa w/ Clay Mtx, <20% Dozer & porphyry - .3 cm diam. clasts, At 200' - 200.3' Flt bxa becomes heterolithic clast supported rubble bxa, Clasts consist of angular gry Qts & gr argill Dozer healed by a finely milled gr Clay rich Mtx, Bxa Contains a str ~~shear~~ 60° shear fabric.	202 - 204.3 Wk diss py blebs, Clasts are str argil. 204.3 - 205.1' Mtx becomes wh SiO_2 + wh Clay + bladed Marc 209 - 231.5' Str SiO_2 + Bladed Marc + wh Clay Vns, Str leaching + wh Clay replacement. 212.5' - 213 SiO_2 - wh healed Crackle bxa, Mod bladed Marc in Mtx. 214 - 214.5' Same as 112.5-113. 222 - 223' Str Fx & vuggiew abundant barite x/s & veining, Str bladed Marc, Rx is ground to coarse gr size. 229.3' Vuggie barite Vn w/ Chalcopyrite blebs on barite x/s. 231 - 235' V. Str 1-2cm wide SiO_2 + barite + bladed Marc + wh Clay, Str leached wh clay replacement. 235 - 250.5' Wk - Mod Sulf + SiO_2 + wh clay, Minor Sulf patches
		South Ridge Fault Zone 250.5 - 260'			250.5 - 254.2 DK gry - DK gr gry silica flooded bxa, faint ghosts of Clasts are visible - 251.8 - 253' V. Strong - perv. Fracturing 257.9 - 260' Milled BXA: Heterolithic well rounded Clast supported - Mostly ghosts, Str silic gr Mtx w/ mod retrograde alt of Mtx, str argil Clasts, wk sulf blebs.	250 - 254.2 DK gry - locally gr SiO_2 flooded w/ localized blk SiO_2 Vn + stk wk, localized leach w/ wh clay replacement. 254.2 - 256.7' Milled BXA healed by gr SiO_2 flooded Rx flour Mtx. Mod leaching of Mtx w/ wh Clay + bladed Marc replacement. 256.7 - 257.9' Milled BXA: Gry SiO_2 flooded w/ faint gr rounded clast ghosts, Wk leach wk wh Clay + Marc replacement.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
190	195				
195	200				
200	201.4				
201.4	202.4				
202.4	204				
204	209				
209	212.5				
212.5	214				
214	214.5				
214.5	219				
219	222				
222	223				
223	226				
226	331				
331	235				
235	240				
240	245				
245	250				
250	254.2				
254.2	256.7				
256.7	257.9				
257.9	260				

HOLE NUMBER D-193-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		TOS 260' — 292.2' 260-261.2' Green fg-Mg Volcaniclastic w/ blk phyllitic JTRS Clasts. 261.2' Wh SiO_2 + wh Clay + bladed Marc Vn Then Rx becomes Mg-Cg w/ larger blk phyllitic JTRS clasts 292.2' Dozer Contact Ltgry - Olive gr Vfg equigranular, locally some autobxa Text is visible. Contact is an abrupt bxa clast lith change from Tos → Dozer	265 270 275 280 285 290 295 300	55° 25° 45° 50° 30°		261.2-270 Strong alt of Volc Clasts, Mod wh SiO_2 + wh Clay Vn w/ Str leaching of SiO_2, WK blch, wk sulf blebs 270 - 285' Mod argil, WK blch, locally Mtx is leached w/ Wh Clay replacement, Clast are locally v Str argil, WK-Mod diss sulf blebs
		LOSS	305	LOSS	LOSS	
		325' Bud Contact Cg w/ fg Mtx Volcaniclastic Rx. Mod gr clay alt, Mod wh Qtzn w/ Mod leaching & wh Clay replacement T.D. 330'	310 315 320 325 330	35° Sbs Vn 10°	289.5-292.2' Milled BXA: Mtx Supported heterolithic subangular + Subrounded Tos + Dozer Clasts 292.2-301.3' Rubble BXA: Mostly Clast Supported, angular - Subangular Ltgry Vfg equigranular Dozer clasts healed by Ltgry - Milkgry SiO_2. 301-310' Rubble - Milled BXA: Lt Milky gry subangular-angular SiO_2 clasts (reworked qtzn?) healed by blk SiO_2 Flooded + Stibnite Mtx. 301.5-308 Perv-Fx & Shattering 310'-325' Milled BXA: Hetrolithic Mtx supported, Clast Consist of Dozer & LBT healed by gr SiO_2 Mtx.	289.5-292.2' Mod wh SiO_2 Vn w/ Str leaching w/ Wh Clay replacement, Mod gr chlor alt, WK diss marcasite Blebs 292.2-301.3' locally Mod leaching, Wk diss bladed Marc Mod Wh Clay replacement of wh SiO_2 vns. 299' Jarositic earthy yell Fx coating w/ Fine soft ivory color botrioidal growth on Earthy yell coating.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
260	261.2				
261.2	265				
265	270				
270	274				
274	279				
279	284				
284	289				
289	292.2				
292.2	294				
294	299				
299	301.5				
301.5	302.0				
302	304		LOSS		
304	308				
308	310				
310	315				
315	320				
320	325				
325	330				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE: 3-20-98 LOGGED BY: Brian W. Morris PAGE 1 OF 8

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	5	92	92	0										
5	9	93	93	0										
9	15	83	92	39										
15	20	100	100	50										
20	25	90	90	47										
25	30	90	90	27										
30	35	94	94	55										
35	40	100	100	66										
40	45	90	90	73										
45	50	94	94	89										
50	55	94	94	96										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE: 3-20-98 LOGGED BY: B.W.M. PAGE 2 OF 8

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)
55	60	96	96	100										
60	65	90	90	100										
65	70	100	100	94										
70	75	96	96	100										
75	80	96	96	100										
80	85	94	94	100										
85	90	94	94	100										
90	95	86	86	86										
95	100	100	100	100										
100	105	100	100	100										
105	110	96	96	81										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE: 3-20-98 LOGGED BY: BWM PAGE 3 OF 8

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY /FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
110	115	100	100	100										
115	120	100	100	70										
120	125	88	88	82										
125	129	90	90	88										
129	134	100	100	90										
134	139	100	100	88										
139	142.5	82	82	97										
142.5	148	90	96	74										
148	150	95	95	100										
150	155	94	94	87										
155	160	106	100	96										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE 3-20-98 LOGGED BY: BWM PAGE 4 OF 8

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)
160	165	98	98	92										
165	170	92	92	96										
170	175	96	96	92										
175	180	98	98	80										
180	185	94	94	98										
185	190	96	96	96										
190	195	88	88	100										
195	200	100	100	97										
200	204	120	120	44										
204	209	98	98	78										
214	219	96	96	75										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE: 3-22-98 LOGGED BY: BWM PAGE 5 OF 8

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)
219	224	94	94	36										
224	226	100	100	100										
226	229	87	87	40										
229	231	100	100	25										
231	235	78	78	23										
235	238	100	100	50										
238	243	102	102	100										
243	245	80	80	100										
245	250	86	86	56										
250	253	100	100	47										
253	255	100	100	75										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE 3/22/98 LOGGED BY: BWM PAGE 6 OF 9

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)
255	260	96	96	68										
260	265	92	92	83										
265	270	94	94	91										
270	274	75	100	23										
274	279	94	94	100										
279	284	90	90	100										
284	289	100	100	100										
289	294	96	96	85										
294	299	94	94	78										
299	301.5	100	100	16										
301.5	304	100	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE: 3-25-98 LOGGED BY: BWM PAGE 7 OF 8

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)
304	305	100	100	0										
305	306	70	70	0										
306	306.5	150	150	0										
306.5	308	100	100	0										
308	310	100	100	75										
310	310.5	100	100	0										
310.5	313	100	100	28										
313	315	75	75	0										
315	316	80	80	0										
316	318	100	100	0										
318	320	90	90	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-193-98 DATE 3-25-98 LOGGED BY: BWM PAGE 8 OF 8

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
320	325	94	94	51										
325	330	90	90	82										

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0048370-IN
INVOICE DATE: 04/16/98

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
D-193-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
88	SAMPLES RECEIVED	.00	.00
87	DRYING	2.00	174.00
87	JAW CRUSHING CHARGE	2.60	226.20
87	COARSE MILLING CHARGE	9.00	783.00
87	SPLITTING CHARGE	2.40	208.80
87	RING MILLING CHARGE	2.00	174.00
88	Au (1 A.T. FIRE ASSAY)	8.00	704.00
32	Au ANALYSES/GRAVIMETRIC	8.75	280.00
88	HYDROCHLORIC/NITRIC DIGESTION	2.00	176.00
88	Ag ANALYSES	1.00	88.00
8	Ag (ore grade) ANALYSES	5.00	40.00

86-5110-477
EAA

NET INVOICE:	2,854.00
LESS DISCOUNT:	570.80
FREIGHT:	.00
INVOICE TOTAL:	2,283.20

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048370

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN
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CLIENT REFERENCE No: D-193-98 RECEIVED : 27 MAR 1998

No. SAMPLES : 88 REPORTED : 15 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

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ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048370

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-193-98

REPORTED : 15 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-193-98 0.8-5.0	0.009			0.10
D-193-98 5.0-8.5	0.002			0.04
D-193-98 8.5-13.6	0.003			0.05
D-193-98 13.6-15.0	0.004			0.05
D-193-98 15-20	0.004			0.04
D-193-98 20-25	0.005			0.03
D-193-98 25-30	0.005			0.03
D-193-98 30-31	0.002			0.03
D-193-98 31-35	0.003			0.03
D-193-98 35.0-36.8	0.025	0.010		0.92
D-193-98 36.8-40.0	0.013			0.04
D-193-98 40-45	0.018	0.020		0.06
D-193-98 45-50	0.007			0.04
D-193-98 50-55	<0.001			0.04
D-193-98 55-60	<0.001			0.03
D-193-98 60-65	0.001			0.02
D-193-98 65-70	<0.001			<0.02
D-193-98 70-75	0.014			0.05
D-193-98 75-80	0.010			0.04
D-193-98 80-85	0.021			0.17
D-193-98 85-90	0.016	0.025		0.05
D-193-98 90-95	0.031			0.06
D-193-98 95-100	0.002			0.04
D-193-98 100-105	0.002			0.04
D-193-98 105-110	0.021			0.05

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D-193-98 115.3-116.0	0.050		0.058	0.12
D-193-98 116.0-118.7	0.094		0.079	0.07
D-193-98 118.7-121.0	0.009	0.006		0.04
D-193-98 121-125	0.019			0.31
D-193-98 125-129	0.173		0.177	0.21
D-193-98 129-134	0.083		0.069	0.25
D-193-98 134.0-135.3	0.015			0.07
D-193-98 135.3-139.0	0.090		0.085	0.08
D-193-98 139.0-143.5	0.031			0.08
D-193-98 143.5-144.3	0.253		0.271	0.91
D-193-98 144.3-147.0	0.091		0.123	0.87
D-193-98 147.0-147.5	0.060		0.065	0.08
D-193-98 148-152	0.140		0.110	0.32
D-193-98 152-155	0.033			0.23
D-193-98 155-160	0.111		0.130	0.09
D-193-98 160-165	0.033			0.08
D-193-98 165-170	0.019			0.18
D-193-98 170-175	0.004			0.05
D-193-98 175-180	0.013			0.08
D-193-98 180-185	0.015			0.17
D-193-98 185-190	0.037			0.10
D-193-98 190-195	0.016			0.07
D-193-98 195-200	0.046			0.12
D-193-98 200.0-201.4	0.035			0.08

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-193-98 201.4-202.4	0.012			0.05
D-193-98 202.4-204.0	0.024			0.06
D-193-98 204-209	0.089		0.087	0.28
D-193-98 209.0-212.5	0.089		0.098	0.10
D-193-98 212.5-214.0	0.065		0.088	0.09
D-193-98 214.0-214.5	0.130		0.071	0.11
D-193-98 214.5-219.0	0.085		0.080	0.14
D-193-98 219-222	0.166		0.105	2.73
D-193-98 222-223	0.135		0.108	1.97
D-193-98 223-226	0.040		0.064	0.16
D-193-98 226-231	0.095		0.144	0.39
D-193-98 231-235	0.215		0.219	1.14
D-193-98 235-240	0.242		0.190	0.45
D-193-98 240-245	0.057		0.054	0.13
D-193-98 245-250	0.014	0.012		1.90
D-193-98 250.0-254.2	0.030			0.37
D-193-98 254.2-256.7	0.039			29.15
D-193-98 256.7-257.9	0.011	0.011		1.12
D-193-98 257.9-260.0	0.012			0.62
D-193-98 260.0-261.2	0.058		0.082	0.90
D-193-98 261.2-265.0	0.096	0.044	0.073	0.14
D-193-98 265-270	0.028			0.06
D-193-98 270-274	0.048		0.087	0.07
D-193-98 274-279	0.028			0.14
D-193-98 279-284	0.060		0.043	0.18

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-193-98 284-289	0.052		0.054	0.11
D-193-98 289.0-292.2	0.080		0.052	0.11
D-193-98 292.2-294.0	0.034			1.28
D-193-98 294-299	0.044		0.043	3.32
D-193-98 299.0-301.5	0.073		0.077	0.41
D-193-98 301.5-302.0	0.004			1.18
D-193-98 304-308	0.004			2.35
D-193-98 308-310	0.003			0.39
D-193-98 310-315	0.002			0.72
D-193-98 315-320	0.013			2.84
D-193-98 320-325	0.052		0.064	12.72
D-193-98 325-330	0.015			1.34
27809	0.114			2.69

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No. SAMPLES : 88 REPORTED : 15 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

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ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

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D-193-98 30-31	0.002			0.03
D-193-98 31-35	0.003			0.03
D-193-98 35.0-36.8	0.025	0.010		0.92
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D-193-98 45-50	0.007			0.04
D-193-98 50-55	<0.001			0.04
D-193-98 55-60	<0.001			0.03
D-193-98 60-65	0.001			0.02
D-193-98 65-70	<0.001			<0.02
D-193-98 70-75	0.014			0.05
D-193-98 75-80	0.010			0.04
D-193-98 80-85	0.021			0.17
D-193-98 85-90	0.016	0.025		0.05
D-193-98 90-95	0.031			0.06
D-193-98 95-100	0.002			0.04
D-193-98 100-105	0.002			0.04
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D-193-98 270-274	0.048		0.087	0.07
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D-193-98 294-299	0.044		0.043	3.32
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D-193-98 308-310	0.003			0.39
D-193-98 310-315	0.002			0.72
D-193-98 315-320	0.013			2.84
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D-193-98 30-31	0.002			0.03
D-193-98 31-35	0.003			0.03
D-193-98 35.0-36.8	0.025	0.010		0.92
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D-193-98 65-70	<0.001			<0.02
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D-193-98 75-80	0.010			0.04
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D-193-98 85-90	0.016	0.025		0.05
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D-193-98 95-100	0.002			0.04
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D-193-98 147.0-147.5	0.060		0.065	0.08
D-193-98 148-152	0.140		0.110	0.32
D-193-98 152-155	0.033			0.23
D-193-98 155-160	0.111		0.130	0.09
D-193-98 160-165	0.033			0.08
D-193-98 165-170	0.019			0.18
D-193-98 170-175	0.004			0.05
D-193-98 175-180	0.013			0.08
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D-193-98 204-209	0.089		0.087	0.28
D-193-98 209.0-212.5	0.089		0.098	0.10
D-193-98 212.5-214.0	0.065		0.088	0.09
D-193-98 214.0-214.5	0.130		0.071	0.11
D-193-98 214.5-219.0	0.085		0.080	0.14
D-193-98 219-222	0.166		0.105	2.73
D-193-98 222-223	0.135		0.108	1.97
D-193-98 223-226	0.040		0.064	0.16
D-193-98 226-231	0.095		0.144	0.39
D-193-98 231-235	0.215		0.219	1.14
D-193-98 235-240	0.242		0.190	0.45
D-193-98 240-245	0.057		0.054	0.13
D-193-98 245-250	0.014	0.012		1.90
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D-193-98 261.2-265.0	0.096	0.044	0.073	0.14
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D-193-98 301.5-302.0	0.004			1.18
D-193-98 304-308	0.004			2.35
D-193-98 308-310	0.003			0.39
D-193-98 310-315	0.002			0.72
D-193-98 315-320	0.013			2.84
D-193-98 320-325	0.052		0.064	12.72
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PH.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-193-98 RECEIVED : 27 MAR 1998

No. SAMPLES : 88 REPORTED : 8 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048370

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-193-98

REPORTED : 8 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-193-98 0.8-5.0	0.009			
D-193-98 5.0-8.5	0.002			
D-193-98 8.5-13.6	0.003			
D-193-98 13.6-15.0	0.004			
D-193-98 15-20	0.004			
D-193-98 20-25	0.005			
D-193-98 25-30	0.005			
D-193-98 30-31	0.002			
D-193-98 31-35	0.003			
D-193-98 35.0-36.8	0.025	0.010		
D-193-98 36.8-40.0	0.013			
D-193-98 40-45	0.018	0.020		
D-193-98 45-50	0.007			
D-193-98 50-55	<0.001			
D-193-98 55-60	<0.001			
D-193-98 60-65	0.001			
D-193-98 65-70	<0.001			
D-193-98 70-75	0.014			
D-193-98 75-80	0.010			
D-193-98 80-85	0.021			
D-193-98 85-90	0.016	0.025		
D-193-98 90-95	0.031			
D-193-98 95-100	0.002			
D-193-98 100-105	0.002			
D-193-98 105-110	0.021			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048370

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REFERENCE : D-193-98

REPORTED : 8 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-193-98 110.0-115.3	0.074		0.093	
D-193-98 115.3-116.0	0.050		0.058	
D-193-98 116.0-118.7	0.094		0.079	
D-193-98 118.7-121.0	0.009	0.006		
D-193-98 121-125	0.019			
D-193-98 125-129	0.173		0.177	
D-193-98 129-134	0.083		0.069	
D-193-98 134.0-135.3	0.015			
D-193-98 135.3-139.0	0.090		0.085	
D-193-98 139.0-143.5	0.031			
D-193-98 143.5-144.3	0.253		0.271	
D-193-98 144.3-147.0	0.091		0.123	
D-193-98 147.0-147.5	0.060		0.065	
D-193-98 148-152	0.140		0.110	
D-193-98 152-155	0.033			
D-193-98 155-160	0.111		0.130	
D-193-98 160-165	0.033			
D-193-98 165-170	0.019			
D-193-98 170-175	0.004			
D-193-98 175-180	0.013			
D-193-98 180-185	0.015			
D-193-98 185-190	0.037			
D-193-98 190-195	0.016			
D-193-98 195-200	0.046			
D-193-98 200.0-201.4	0.035			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP0483370

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-193-98

REPORTED : 8 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-193-98 201.4-202.4	0.012			
D-193-98 202.4-204.0	0.024			
D-193-98 204-209	0.089		0.087	
D-193-98 209.0-212.5	0.089		0.098	
D-193-98 212.5-214.0	0.065		0.088	
D-193-98 214.0-214.5	0.130		0.071	
D-193-98 214.5-219.0	0.085		0.080	
D-193-98 219-222 3	0.166		0.105	
D-193-98 222-223 1	0.135		0.108	
D-193-98 223-226 3	0.040		0.064	
D-193-98 226-231 5	0.095		0.144	
D-193-98 231-235 4	0.215		0.219	
D-193-98 235-240 5	0.242		0.190	
D-193-98 240-245	0.057		0.054	
D-193-98 245-250	0.014	0.012		
D-193-98 250.0-254.2	0.030			
D-193-98 254.2-256.7	0.039			
D-193-98 256.7-257.9	0.011	0.011		
D-193-98 257.9-260.0	0.012			
D-193-98 260.0-261.2	0.058		0.082	
D-193-98 261.2-265.0	0.096	0.044	0.073	
D-193-98 265-270	0.028			
D-193-98 270-274	0.048		0.087	
D-193-98 274-279	0.028			
D-193-98 279-284	0.060		0.043	

219-240 21' @ 0.157 Au

231-240' = 9' @ 0.230 Au

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048370

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-193-98

REPORTED : 8 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-193-98 284-289	0.052		0.054	
D-193-98 289.0-292.2	0.080		0.052	
D-193-98 292.2-294.0	0.034			
D-193-98 294-299	0.044		0.043	
D-193-98 299.0-301.5	0.073		0.077	
D-193-98 301.5-302.0	0.004			
D-193-98 304-308	0.004			
D-193-98 308-310	0.003			
D-193-98 310-315	0.002			
D-193-98 315-320	0.013			
D-193-98 320-325	0.052		0.064	
D-193-98 325-330	0.015			
27809	0.114			

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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011-52-69-170035

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Mendoza, Argentina

Company: Rosebud Mining Co.

Address: PO Box 2610

City Winnemucca State NV Zip 89446

Telephone Number: (702) 623-6912 Fax Number: (702) 623-6967

Project Name: Rosebud Production Purchase Order Number:

Date Submitted: 3/26/98 Number of Samples: ~~44~~ 43

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [ ]

D-193-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED
170-175	223-226	279-284		
175-180	226-231	284-289		Au - Ag According to Rosebud mine protocol
185-190	231-235	289-292.2	RC	
190-195	235-240	292.2-294		
195-200	240-245	294-299		
200-201.4	245-250	299-301.5		
201.4-202.4	250-254.2	301.5-302.0		
202.4-204	254.2-256.7	~~302.0-304~~		
204-209	256.7-257.9	304-308		
209-212.5	257.9-260	308-310		
212.5-214	260-261.2	310-315		
214-214.5	261.2-265	315-320		
214.5-219	265-270	320-325		
219-222	270-274	325-330		
222-223	274-279			

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

Kurt Allen
S.A.A.

Results to:

Kurt Allen
S.A.A.

Comments:

submittal 2 of 2
86 samples total

CLIENT FILE COPY

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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Santiago, Chile
Mendoza, Argentina

Company: ROSEBUD MINING CO. LLT

Address: P.O. BOX 2610

City WINNEMUCCA State NV Zip 89446

Telephone Number: (702) 623-6912 Fax Number: (702) 623-6967

Project Name: DEVELOPMENT Purchase Order Number:

Date Submitted: 03/ /98 Number of Samples: 43

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [X]

D-193-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED
0-5	60-65	125-129	RC	Au-Ag ACCORDING TO ROSEBUD
5-8.5	65-70	129-134		MINE PROTOCOL
8.5-13.6	70-75	134-135.3		
13.6-15	75-80	135.3-139		
15-20	80-85	139-143.5		
20-25	85-90	143.5-144.3		
25-30	90-95	144.3-147		
30-31	95-100	147-147.5		
31-35	100-105	[illegible]		
35-36.8	105-110	148-152		
36.8-40	110-115.3	152-155		
40-45	115.3-116	155-160		
45-50	116-118.7	160-165		
50-55	118.7-121	165-170		
55-60	121-125			

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

Comments:

Submittal 1 of 2
86 sample totals

CLIENT FILE COPY

D193-98
DEPTH
BOX 2
9.5- 19.5
15

D193-98
DEPTH
BOX 1
0.0- 9.5
5
9

D193-98
DEPTH
BOX 3
19. - 29.5

40
45
D193-98
DEPTH
BOX 5
38.5- 40.

30
35
D193-98
DEPTH
BOX 4
29.5- 38.5

50
55
D193-98
DEPTH
BOX 6
48. - 57.

70'
75'
D193-98
DEPTH
BOX 8
66.5- 76.

60
65
D193-98
DEPTH
BOX 7
57. - 66.5

80
85
D193-98
DEPTH
BOX 9
76. - 85.5

100'
D193-98
BOX 11
DEPTH
95. - 104.

95'
90'
D-5
D193-98
BOX 10
DEPTH
85.5- 95.

105
110
D193-98
BOX 12
DEPTH
104. - 113.5

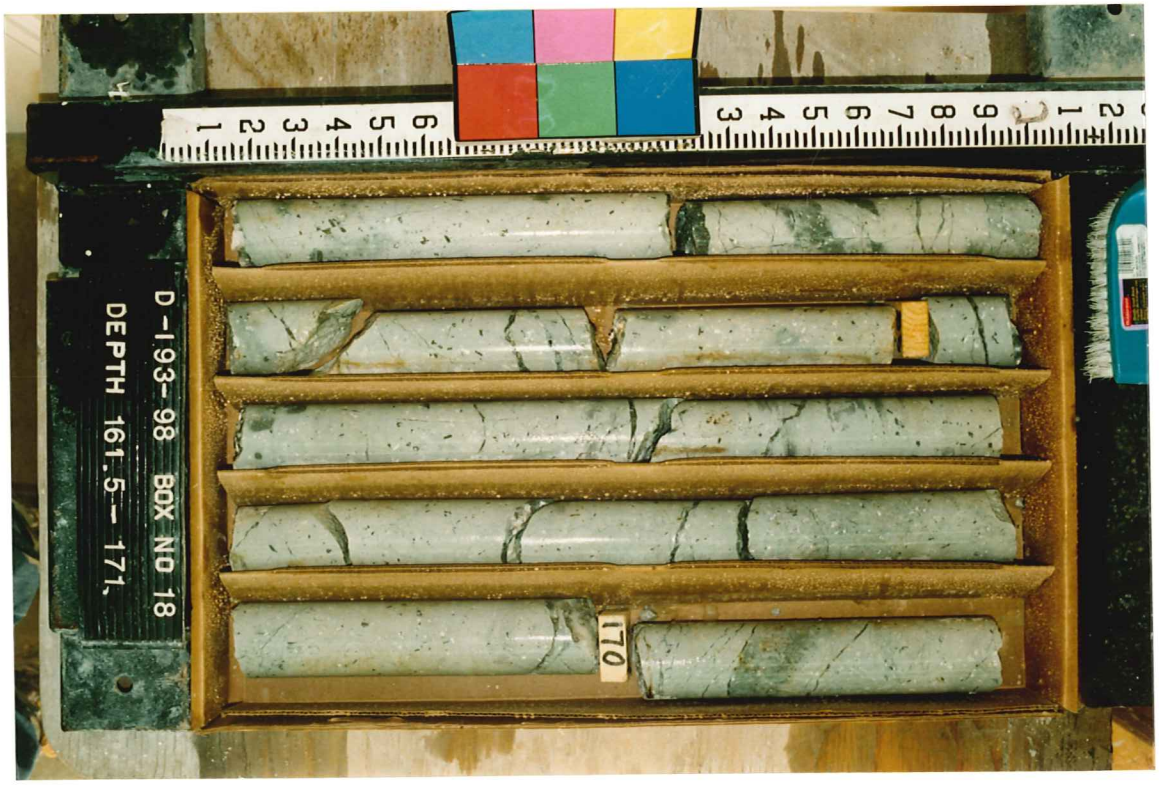
D193-98
DEPTH
BOX 14
122.5- 132.
129

D193-98
DEPTH
BOX 13
113.5- 122.5
115
120

D193-98
DEPTH
BOX 15
132. - 141.
139

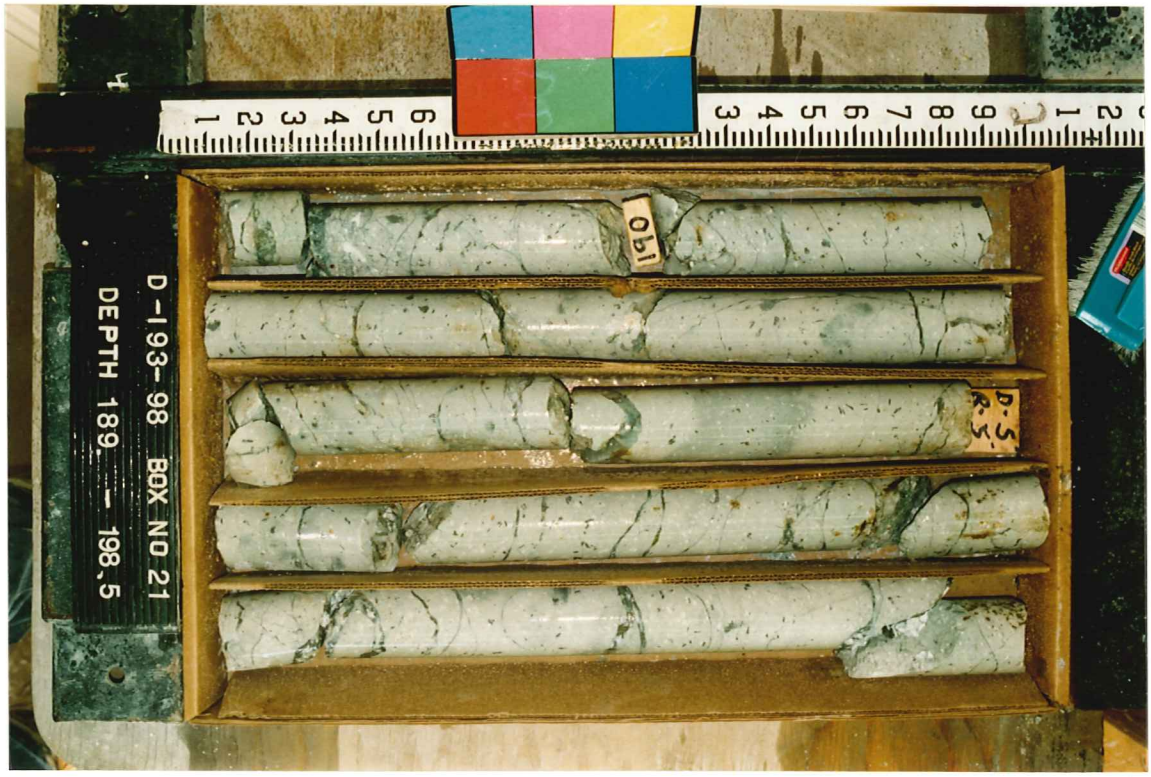
153
160
D193-98
DEPTH
BOX 17
152. - 161.5

142.5
148
150
D193-98
DEPTH
BOX 16
141. - 152.


170
D-193-98 BOX NO 18
DEPTH 161.5 - 171.

D-193-98 BOX NO 20
DEPTH 179.5 - 189.

D-193-98 BOX NO 19
DEPTH 171. - 179.5


D-193-98 BOX NO 21
DEPTH 189. - 198.5

D193-98 BOX 23
DEPTH 207.5-217.

D-193-98 BOX NO 22
DEPTH 198.5 - 207.5

D-193-98 BOX NO 24
DEPTH 217 - 225.5

D-193-98 BOX NO 26
DEPTH 234.5 - 244.

D193-98 BOX 25
DEPTH 225.5-234.5

D-193-98 BOX NO 27
DEPTH 244. - 253.2

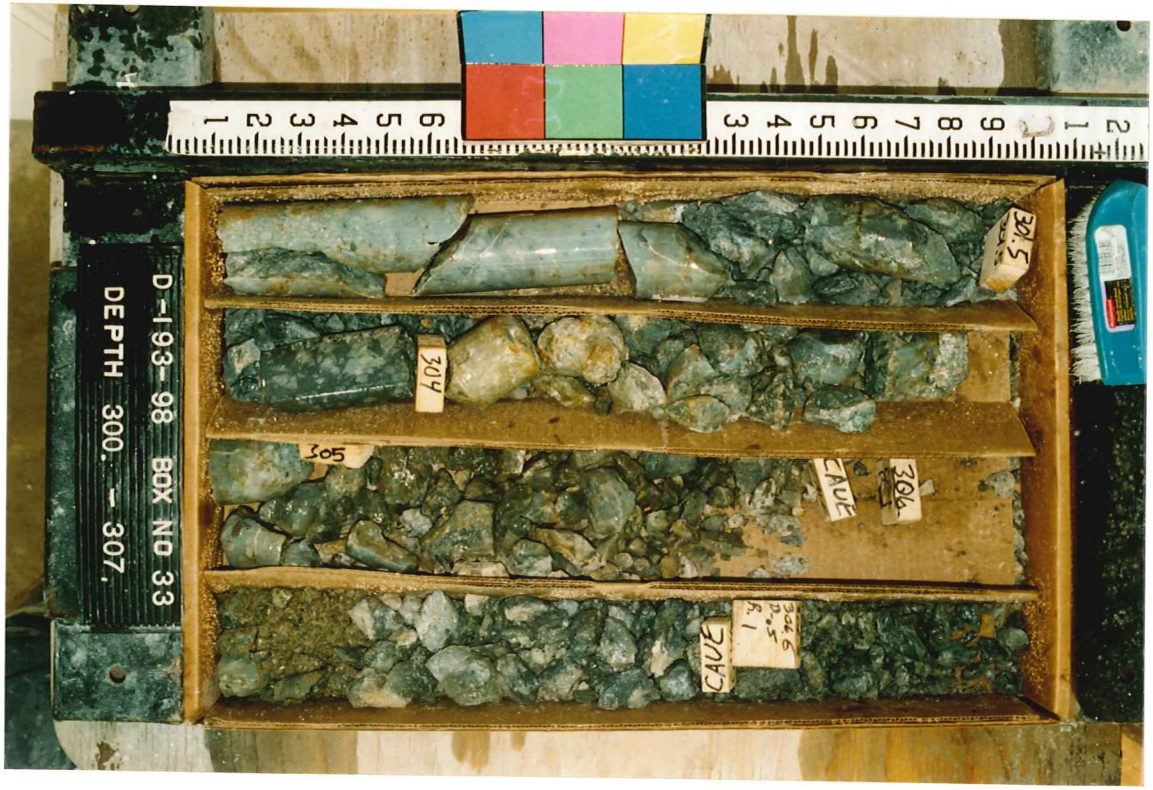
D-193-98 BOX NO 29
DEPTH 262.5- 271.8
265
270

D-193-98 BOX NO 28
DEPTH 253.2- 262.5
D-5
R-5
255

D193-98
DEPTH
BOX 30
271.8-282.
274
279

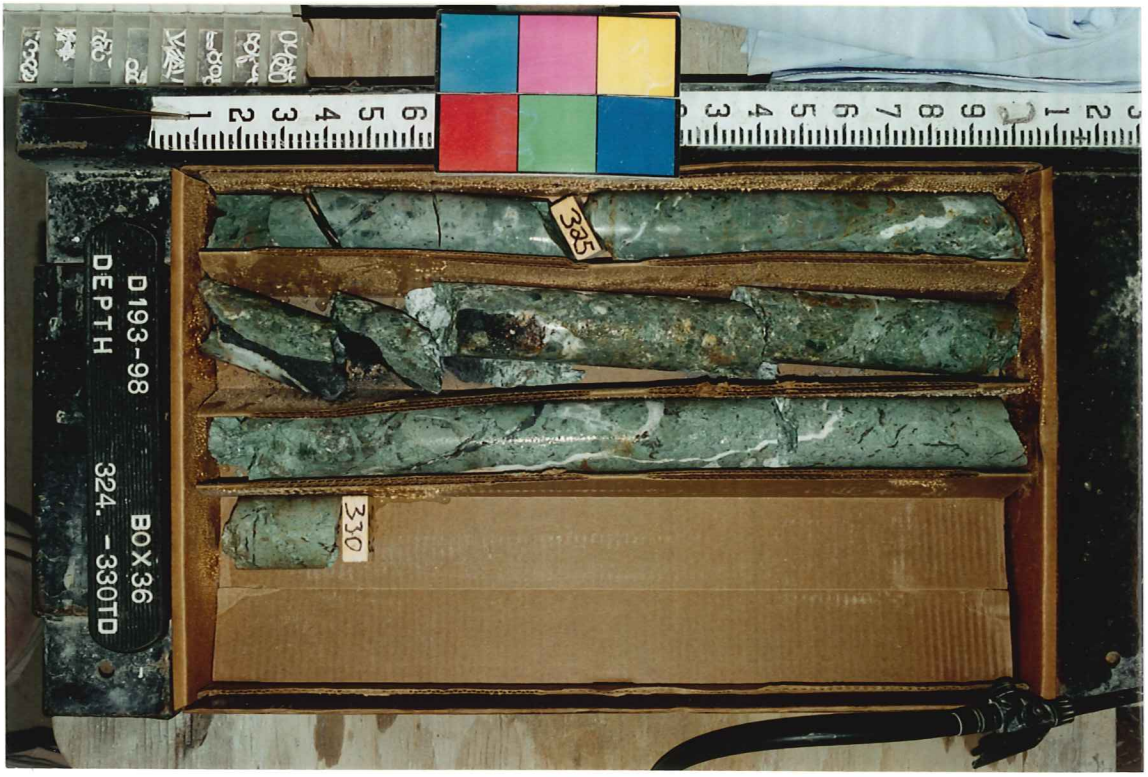
294
299
D-193-98 BOX NO 32
DEPTH 291. - 300.

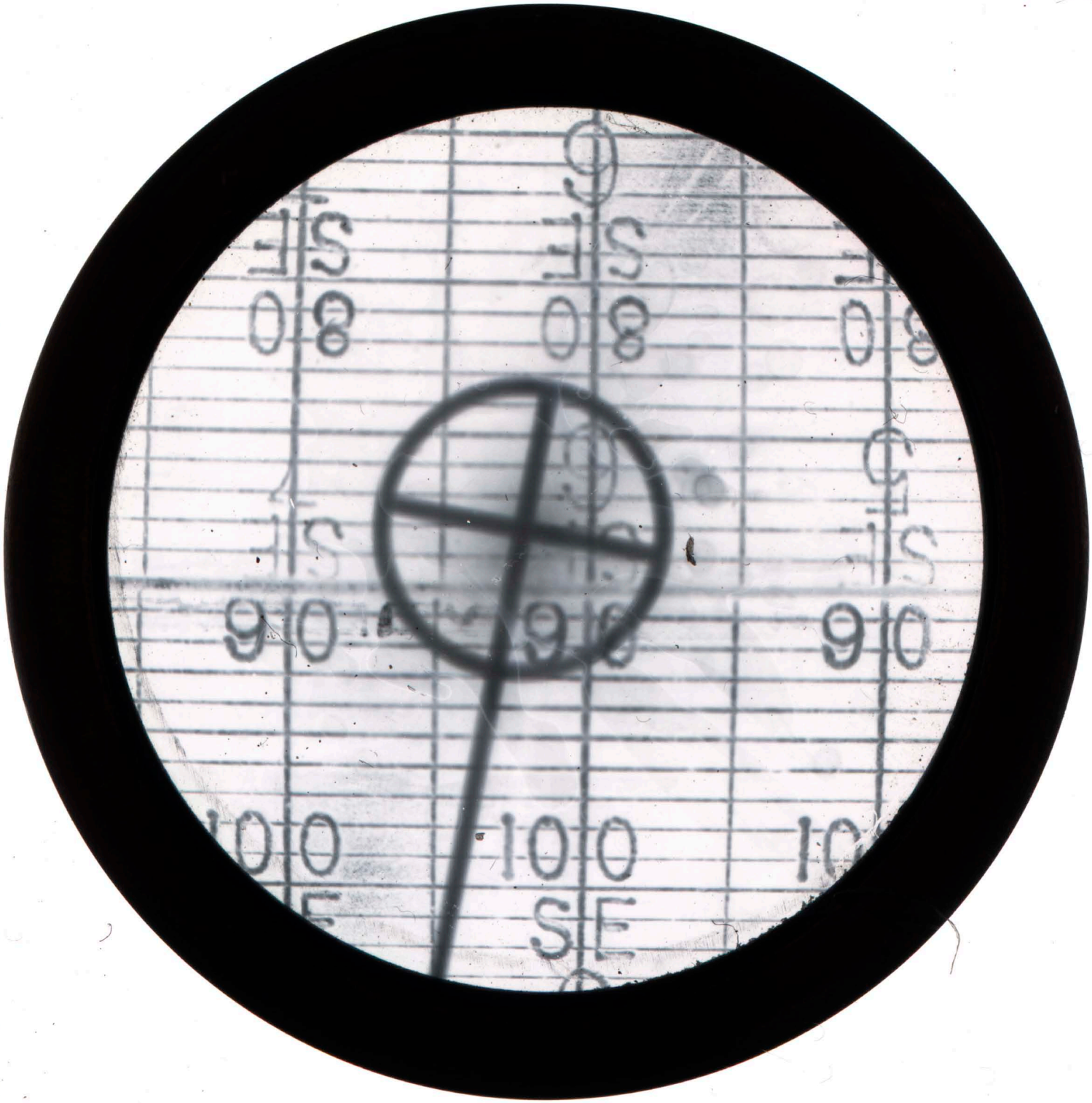
289
284
D-193-98 BOX NO 31
DEPTH 282. - 291.


D-193-98 BOX NO 33
DEPTH 300. - 307.
304
305
CAVE
306
CAVE

318
320
316
315
D-193-98 BOX NO 35
DEPTH 314.5 - 324.

308
310
D-193-98 BOX NO 34
DEPTH 307. - 314.5


385
330
D193-98 BOX 36
DEPTH 324. -330TD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80