60000679

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-194-98
AUTHOR	K. Allen; S King; B. Morris
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 260'; handwritten notes down hole camera images 38 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-194-98

6000 0679
4010

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

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

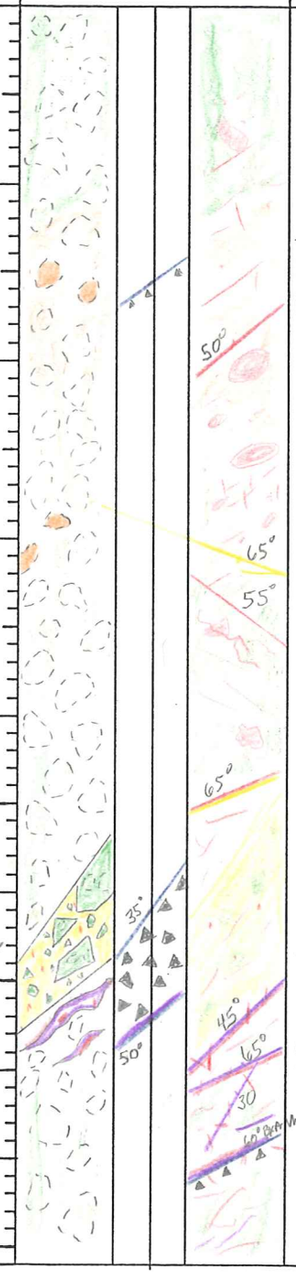
HOLE NUMBER	D-194-98	LOCATION	East Zone Stope 42
PAGE 1 OF		NORTHING	
DATE	3/26/98	EASTING	
LOGGED BY	Brian W. Morris	ELEVATION	
SCALE	1" = 10'	AZIMUTH	N44W
TOTAL DEPTH	260	INCLINATION	+10°

REMARKS

TH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	Reduced	0 - 15.5' Autobrecciated Dozer Rhyolite: Lt gry vfg equigranular w/ faint ghosts of rounded clasts, Mtx is wk sheared - str sheared.	5, 10			5 - 9.5 Str gouge-shears & Fx, Mod-Str argil & blch, Wk Sulf Vulets.
		Rhyolite Porphyry Contact 15.0'	15	40° contact		
		wh euhedral - subhedral raggie edge feld phenos supported by Lt gry vfg groundmass. Contact is argil & chlor w/ Rhyolite, more vitriphyric & hard from Dozer contact → .5' in Rhy.	20	60°		15.0 - 27.0' Feld phenos are str argil ≈ 20% are replaced w/ sulf, wk sulf Vulets
		Dozer Contact	25	60°		
		Autobrecciated Dozer Rhyolite: Lt gry vfg equigranular w/ faint ghosts of rounded clasts.	30	70°		33 - 33.3 Clast supported rubble BxA: Clasts are angular w/ str gr clay alt healed by wh SiO_2 + Bleached Marc.
			35	60°	35 - 37.3' Gry silica healed Rubble BxA,	35 - 37.3 SiO_2 Mtx is wk leached, Dozer clasts are mod argil to a gr clay.
			40			37.3 - 40.0' V. str argil, Mod sheared, Mod diss mg bright brassy py/marc.
			45			40 - 62.2' Mod gr clay alt. w/ Gry & red br FeOx mottling
			50			40 - 50' wk - Mod sulf + SiO_2 Vulets, Vulets have sulf core w/ SiO_2 Exterior. 49.7 - 50.5' Well developed - fg bright brassy sulf soaked patche

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag
0	5					
5	10					
10	15					
15	20					
20	25					
25	27					
27	30					
30	35					
35	37.5					
37.5	40.0					
40.0	45.0					
45.0	50.0					

HOLE NUMBER D-194-98 PAGE 2 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
	Reduced	50 – 120 Auto brecciated Dozer: Lt gry vfg Monolithic rounded-subangular faint clast ghosts supported in vfg groundmass.	55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120		65.5' 2 cm wide clast supported rubble BXA vn healed by gry SiO_2, Str bladed Marc in Mtx 103.5 – 107.2' Rubble BXA: Mtx supported Monolith Dozer subangular clasts, supported by Milled Mtx supported bxa Mtx, Mtx is comprised of gry Rx flour + SiO_2	62.2 – 82.3 Wk-Mod argil, locally clasts are str argil, wk-Mod blch, Wk-Mod sulf Vnlets + stkwk, Minor sulf soaked patches, wk diss sulf blebs 82.3 – Wk gr clay alt, wk-locally Mod sulf + SiO_2 w/ Mod leaching & ± barite in vugs, Minor sulf soaked patches 103.5-107.2 Wk diss sulf, locally Mod argil, clasts are typically more argil, wk sulf Vnlets & wh clay in Mtx, Mod gr clay + barite in Vugs + Rx. 110-114 Str 1-2 cm wide Vuggie barite + bladed Marc cl Filled Vns, wk sulf + SiO_2 ± wh clay Vnlets. 114-119.5 Minor SiO_2 + barite ± wh clay healed clast supported rubble bxa Vns 1-2cm wide, wk-Mod sulf Vn.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
50	55				
55	60				
60	62.2				
62.2	65				
65	70				
70	75				
75	80				
80	82.3				
82.3	85				
85	90				
90	95				
95	100				
100	103.5				
103.5	107.2				
107.2	110				
110	114				
114	119.5				

HOLE NUMBER D-194-98 PAGE 3 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
	Reduced	120'-127.5' Auto brecciated Dozer Rhyolite. Ltgry vfg subrounded monolithic clast ghosts supported by Lt gry-gry mottled vfg mtx.	125			120.7' 6cm wide: Vuggie SiO_2 + barite vs + bladed Marc + gr clay Vn		124				
		127.5-139.0' Rhyolite Porphyry				127.5-134' Mod. 5cm-1cm wide Bladed Marc + barite + wh clay, approx 20% sulf replacement of phenos.	124	127.5				
		wh .1-.5cm long euhedral-subhedral raggie edge feld phenos supported by vfg Ltgry groundmass. Contact: gradational - Dozer becomes bxa healed by Rx flour + SiO_2 Mtx .5' then becoming str argil w/ Tope + Lt gry mottle alt color for .4' @ Contact w/ porph porph exhibits chilled margin characteristics (harder & finer gr) for .5' then into massive wk-mod bleh + argil for the remainder of the Rx unit.	130			133' .5' wide gr clay healed + sulf + SiO_2 bxa Vn.	127.5	129				
			135			134-135' Str Micro bxa Vn & gray SiO_2 Vnlets + stkwk	129	134				
							134	135				
			140			135-139 mod sulf + SiO_2 + wh clay vn, mod sulf soaked patches.	135	139				
		139.0-152.0' Dozer Rhyolite Contact: Contact grades over .6' with afg argil chill Margin with dkgry vitric spherical blobs, Dozer is Lt gry v. fg & Autobrecciated.	145			144-147.7' Str Marc + gry SiO_2 + wh Clay Vn & stkwk, Mod diss sulf.	139	144				
			150				144	147.7				
		152'-191.2 BMB Like Porphyry				152-159.5'	147.7	152				
		Lt gry vfg equigranular groundmass supporting wh euhedral-anhedral .1-.5 long raggie edge feld phenos. Contact: Sharp uneven contact, From contact to .4' into porph Rx is hard w/ wk v.fg diss sulf. w/ .5cm wide bladed Marc + barite.	155			Str sub parallel SiO_2 + Marc Vn, wk-mod silic, mod sulf soaked patches, 50-75% of phenos are sulf replaced.	152	154.3				
			160				154.3	159.5				
			165				159.5	164.7				
			170		168.5'-174 Core Box was dropped. The core was not placed back in order.	170-175' Mod 1-2cm wide Bladed Marc + silica + wh Clay + barite.	164.7	170				
			175				170	175				
			180			180-191.4' V. Str gry SiO_2 + bladed Marc + wh Clay Vn, Vnlets, hairline Vn & stkwk, Gr clay alt along hairline Fx, locally str microbxa Vnlets, mod SiO_2 leaching w/ wh clay replacement, mod sulf soaking of Mtx along Fx, approx. 50% sulf replacement of phenos.	175	180				
			185				180	185				
			190				185	190				

HOLE NUMBER D-194-98 PAGE 4 OF

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
	Reduced	191.2 - South Ridge Fault Zone 191.2-193.5 Milled bxa w/rounded Tos clasts. Blk phyllite clasts are abundant in Mtx grading to sparce, MTx is gry gr grading to gr, str SiO_2 flooding w/ mod SiO_2 leaching. 193.5-203' Mtx supported Milled bxa: Mtx is gr SiO_2 + Minor Rx flour constituent supporting rounded gr-lt br fg-Mg epiclastic (Bud) clasts 203-210 Gr Mg w/minor Cg Volcaniclastic (Bud), larger Clasts are mod argil 210-225' Clast Supported rubble - Mtx Supported subrounded - subangular 4-.1cm dia volcaniclastic (Bud) Clasts healed by silica + Rx flour Mtx + dkgry sult + bladed Marc. 248.5-255' Olive gr - olive br fg equigranular massive. 255' Becoming br in color w/ faint Autobrecciated text T.D. 260'	195 200 205 210 215 220 225 230 235 240 245 250 255 260	50° 55° 10° 35° 45° 48° 50° 50°	191.2' Lower SRF Plane, Contact is Sharp w/ .1' wide dkgry sult + SiO_2 flooded w/ a 50° Shear text. 207.3-207.7' Gougy Shears & Str argil Mtx + Clasts, barite coated Fx surfaces. 213-214' Str high & locally to core axis gougy & argil Fx. 255-260 Mod Fine gr gr SiO_2 healed bxa Vn	190-191.2 High & to Core Axis Marc + SiO_2 + barite + Late bright brassy Py xls on bladed Marc xls. 191.2-203' Mod leaching, Vugs have fine botrioidal SiO_2 Coating, Wk bladed Marc + py + Cpy, Wk wh clay Coating in vugs ± barite 210-215' Bxa healed by fg dk gry sult + Bladed Marc, Str Secondary gry SiO_2 replacement of gr Rx flour + SiO_2 Mtx. Gry Secondary SiO_2 Mtx locally strongly leached w/ wh clay replacement, Minor barite Vn 215-225' Mod Secondary gry SiO_2 Patches. SiO_2 patches are mod leached w/ wh clay + bladed Marc xls replacement, Clasts wk-Mod argil w/ wk bleaching, Minor barite in clay replacement. 228.2-235' Mtx Supported Rubble BxA: Subrounded Volcaniclastic Clasts .5-3cm dia supported by gry SiO_2 flood Mtx, Minor 1-2cm wide wh Clay + Marc Vns wk 235-243.5' Milled BXA: Wh Qt angular clasts healed by dk gry SiO_2 flood Mtx, Some Clasts are gr maybe Silic Bud. 243.5-248.5' Str Massive stilbite Vn + Wh clay + barite 248.5-255' Mod argil w/ str gr clay alt along Fx & shear 255-260' v. str 4-6cm wide barite Vns, 259.5-260 barite healed rubble bxa.	190 191.2 195 200 203 207.3 210 215 220 225 228.2 230 235 239 243.5 248.5 253.5 258.5	191.2 195 200 203 207.3 210 215 220 225 228.2 230 235 239 243.5 248.5 253.5 258.5 260				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-194-98 DATE: 3/25/98 LOGGED BY: Brian W. Morris PAGE 1 OF 5

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)
0	5	78	78	38										
5	10	100	100	0										
10	15	94	94	87										
15	20	98	98	88										
20	25	106	106	83										
25	27	50	50	0										
27	30	90	90	71										
30	35	88	88	50										
35	40	86	86	21										
40	45	96	96	90										
45	50	92	92	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-194-98 DATE 3-26-98 LOGGED BY: BWM. PAGE 2 OF 5

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)
50	55	90	90	80										
55	56	100	100	0										
56	60	85	85	56										
60	65	92	92	89										
65	70	96	96	88										
70	75	94	94	96										
75	80	98	98	100										
80	85	96	96	96										
85	90	96	96	100										
90	95	82	82	76										
95	100	94	94	94										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-194-98 DATE: 3-26-98 LOGGED BY: B.W.M. PAGE 3 OF 5

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)
100	105	88	88	80										
105	109.5	88	88	35										
109.5	114.5	84	84	32										
114.5	119.5	80	80	90										
119.5	124	98	98	76										
124	129	100	100	38										
129	134	90	90	56										
134	139	92	92	87										
139	144	98	98	65										
144	149	94	94	94										
149	154.3	94	94	70										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-194-98 DATE 3/31/98 LOGGED BY: BWM PAGE 4 OF 5

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)
154.3	159.5	94	94	77										
159.5	164.7	96	96	89										
164.7	170	100	100	98										
170	175	74	74	65										
175	180	80	80	59										
180	185	94	94	100										
185	190	96	96	71										
190	195	96	96	98										
195	200	96	96	94										
200	205	86	86	84										
205	210	88	88	79										

169' → 179'
Box was dropped

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-194-98 DATE: 4/1/98 LOGGED BY: BWM PAGE 5 OF 5

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)
210	215	94	94	55										
215	220	94	94	91										
220	225	98	98	76										
225	230	98	98	86										
230	235	86	86	95										
235	239	88	88	29										
239	244	60	60	67										
244	248.5	78	78	0										
248.5	253.5	92	92	50										
253.5	258.5	86	86	12										
258.5	260	100	100	47										

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 0048440-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-194-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
65	SAMPLES RECEIVED	.00	.00
64	JAW CRUSHING CHARGE	1.30	83.20
64	COARSE MILLING CHARGE	4.50	288.00
64	SPLITTING CHARGE	2.40	153.60
64	RING MILLING CHARGE	2.00	128.00
65	Au (1 A.T. FIRE ASSAY)	8.00	520.00
24	Au ANALYSES/GRAVIMETRIC	8.75	210.00
65	HYDROCHLORIC/NITRIC DIGESTION	2.00	130.00
65	Ag ANALYSES	1.00	65.00
14	Ag (ore grade) ANALYSES	5.00	70.00

86-5110-477
RDA

NET INVOICE:	1,647.80
LESS DISCOUNT:	329.56
FREIGHT:	.00
INVOICE TOTAL:	1,318.24

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

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

HECLA MINING COMPANY

COPIES TO : KURT ALLEN
:
:
:

CLIENT REFERENCE No: D-194-98 RECEIVED : 3 APR 1998

No. SAMPLES : 65 REPORTED : 3 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

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 00-05	0.023			0.04
D-194-98 05-10	0.004			0.06
D-194-98 10-15	0.003			0.04
D-194-98 15-20	0.004			0.03
D-194-98 20-25	0.003			0.03
D-194-98 25-27	0.005			0.04
D-194-98 27-30	0.007	0.008		0.04
D-194-98 30-35	0.049	0.040		0.07
D-194-98 35.0-37.5	0.150		0.132	0.54
D-194-98 37.5-40.0	0.003			0.05
D-194-98 40-45	0.003			0.03
D-194-98 45-50	0.002			0.04
D-194-98 50-55	<0.001			0.02
D-194-98 55-60	<0.001			<0.02
D-194-98 60.0-62.2	0.001			0.03
D-194-98 62.2-65.0	0.036			0.04
D-194-98 65-70	0.012			0.04
D-194-98 70-75	0.004			0.04
D-194-98 75-80	0.008			0.03
D-194-98 80.0-82.3	0.028			0.05
D-194-98 82.3-85.0	0.360		0.341	0.15
D-194-98 85-90	0.060		0.061	0.05
D-194-98 90-95	0.024			0.04
D-194-98 95-100	0.016			0.02
D-194-98 100.0-103.5	0.032	0.026		0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 103.5-107.2	0.108		0.097	0.22
D-194-98 107.2-110.0	0.008			0.13
D-194-98 110-114	0.026			0.13
D-194-98 114.0-119.5	0.025			0.07
D-194-98 119.5-124.0	0.016			0.06
D-194-98 124.0-127.5	0.023			0.09
D-194-98 127.5-129.0	0.101		0.108	0.48
D-194-98 129-134	0.082		0.067	0.13
D-194-98 134-135	0.234		0.233	0.24
D-194-98 135-139	0.034			0.11
D-194-98 139-144	0.094		0.088	0.09
D-194-98 144.0-147.7	0.094		0.134	0.16
D-194-98 147.7-152.0	0.151		0.195	0.09
D-194-98 152.0-154.3	0.034			0.11
D-194-98 154.3-159.5	0.043			0.09
D-194-98 159.5-164.7	0.026			0.45
D-194-98 164.7-170.0	0.044			0.38
D-194-98 170-175	0.075		0.090	0.15
D-194-98 175-180	0.076		0.075	0.10
D-194-98 180-185	0.056		0.061	0.10
D-194-98 185-190	0.092		0.076	0.45
D-194-98 190.0-191.2	0.262		0.275	0.34
D-194-98 191.2-195.0	0.451		0.608	0.20
D-194-98 195-200	0.270		0.267	2.33
D-194-98 200-203	0.028			8.89

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 203.0-207.3	0.007			8.72
D-194-98 207.3-210.0	0.054		0.069	0.83
D-194-98 210-215	0.577		0.518	10.26
D-194-98 215-220	0.113		0.107	1.69
D-194-98 220-225	0.091		0.110	5.95
D-194-98 225.0-228.2	0.170		0.201	2.19
D-194-98 228.2-230.0	0.387		0.440	5.30
D-194-98 230-235	0.168		0.145	22.42
D-194-98 235-239	0.038			9.04
D-194-98 239.0-243.5	0.031			4.02
D-194-98 243.5-248.5	0.009			3.36
D-194-98 248.5-253.5	0.015			2.65
D-194-98 253.5-258.5	0.009			0.76
D-194-98 258.5-260.0	0.016			3.21
27827	0.133			2.55

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

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

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-194-98 RECEIVED : 3 APR 1998

No. SAMPLES : 65 REPORTED : 3 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 Kim M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 00-05	0.023			0.04
D-194-98 05-10	0.004			0.06
D-194-98 10-15	0.003			0.04
D-194-98 15-20	0.004			0.03
D-194-98 20-25	0.003			0.03
D-194-98 25-27	0.005			0.04
D-194-98 27-30	0.007	0.008		0.04
D-194-98 30-35	0.049	0.040		0.07
D-194-98 35.0-37.5	0.150		0.132	0.54
D-194-98 37.5-40.0	0.003			0.05
D-194-98 40-45	0.003			0.03
D-194-98 45-50	0.002			0.04
D-194-98 50-55	<0.001			0.02
D-194-98 55-60	<0.001			<0.02
D-194-98 60.0-62.2	0.001			0.03
D-194-98 62.2-65.0	0.036			0.04
D-194-98 65-70	0.012			0.04
D-194-98 70-75	0.004			0.04
D-194-98 75-80	0.008			0.03
D-194-98 80.0-82.3	0.028			0.05
D-194-98 82.3-85.0	0.360		0.341	0.15
D-194-98 85-90	0.060		0.061	0.05
D-194-98 90-95	0.024			0.04
D-194-98 95-100	0.016			0.02
D-194-98 100.0-103.5	0.032	0.026		0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 103.5-107.2	0.108		0.097	0.22
D-194-98 107.2-110.0	0.008			0.13
D-194-98 110-114	0.026			0.13
D-194-98 114.0-119.5	0.025			0.07
D-194-98 119.5-124.0	0.016			0.06
D-194-98 124.0-127.5	0.023			0.09
D-194-98 127.5-129.0	0.101		0.108	0.48
D-194-98 129-134	0.082		0.067	0.13
D-194-98 134-135	0.234		0.233	0.24
D-194-98 135-139	0.034			0.11
D-194-98 139-144	0.094		0.088	0.09
D-194-98 144.0-147.7	0.094		0.134	0.16
D-194-98 147.7-152.0	0.151		0.195	0.09
D-194-98 152.0-154.3	0.034			0.11
D-194-98 154.3-159.5	0.043			0.09
D-194-98 159.5-164.7	0.026			0.45
D-194-98 164.7-170.0	0.044			0.38
D-194-98 170-175	0.075		0.090	0.15
D-194-98 175-180	0.076		0.075	0.10
D-194-98 180-185	0.056		0.061	0.10
D-194-98 185-190	0.092		0.076	0.45
D-194-98 190.0-191.2	0.262		0.275	0.34
D-194-98 191.2-195.0	0.451		0.608	0.20
D-194-98 195-200	0.270		0.267	2.33
D-194-98 200-203	0.028			8.89

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048440

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-194-98 203.0-207.3	0.007			8.72
D-194-98 207.3-210.0	0.054		0.069	0.83
D-194-98 210-215	0.577		0.518	10.26
D-194-98 215-220	0.113		0.107	1.69
D-194-98 220-225	0.091		0.110	5.95
D-194-98 225.0-228.2	0.170		0.201	2.19
D-194-98 228.2-230.0	0.387		0.440	5.30
D-194-98 230-235	0.168		0.145	22.42
D-194-98 235-239	0.038			9.04
D-194-98 239.0-243.5	0.031			4.02
D-194-98 243.5-248.5	0.009			3.36
D-194-98 248.5-253.5	0.015			2.65
D-194-98 253.5-258.5	0.009			0.76
D-194-98 258.5-260.0	0.016			3.21
27827	0.133			2.55

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

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

HECLA MINING COMPANY

COPIES TO : KURT ALLEN
:
:
:

CLIENT REFERENCE No: D-194-98 RECEIVED : 3 APR 1998

No. SAMPLES : 65 REPORTED : 3 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.

04/15/1998 13:26 7023561413 AMERICAN ASSAY LABS PAGE 05

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 00-05	0.023			0.04
D-194-98 05-10	0.004			0.06
D-194-98 10-15	0.003			0.04
D-194-98 15-20	0.004			0.03
D-194-98 20-25	0.003			0.03
D-194-98 25-27	0.005			0.04
D-194-98 27-30	0.007	0.008		0.04
D-194-98 30-35	0.049	0.040		0.07
D-194-98 35.0-37.5	0.150		0.132	0.54
D-194-98 37.5-40.0	0.003			0.05
D-194-98 40-45	0.003			0.03
D-194-98 45-50	0.002			0.04
D-194-98 50-55	<0.001			0.02
D-194-98 55-60	<0.001			<0.02
D-194-98 60.0-62.2	0.001			0.03
D-194-98 62.2-65.0	0.036			0.04
D-194-98 65-70	0.012			0.04
D-194-98 70-75	0.004			0.04
D-194-98 75-80	0.008			0.03
D-194-98 80.0-82.3	0.028			0.05
D-194-98 82.3-85.0	0.360		0.341	0.15
D-194-98 85-90	0.060		0.061	0.05
D-194-98 90-95	0.024			0.04
D-194-98 95-100	0.016			0.02
D-194-98 100.0-103.5	0.032	0.026		0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 103.5-107.2	0.108		0.097	0.22
D-194-98 107.2-110.0	0.008			0.13
D-194-98 110-114	0.026			0.13
D-194-98 114.0-119.5	0.025			0.07
D-194-98 119.5-124.0	0.016			0.06
D-194-98 124.0-127.5	0.023			0.09
D-194-98 127.5-129.0	0.101		0.108	0.48
D-194-98 129-134	0.082		0.067	0.13
D-194-98 134-135	0.234		0.233	0.24
D-194-98 135-139	0.034			0.11
D-194-98 139-144	0.094		0.088	0.09
D-194-98 144.0-147.7	0.094		0.134	0.16
D-194-98 147.7-152.0	0.151		0.195	0.09
D-194-98 152.0-154.3	0.034			0.11
D-194-98 154.3-159.5	0.043			0.09
D-194-98 159.5-164.7	0.026			0.45
D-194-98 164.7-170.0	0.044			0.38
D-194-98 170-175	0.075		0.090	0.15
D-194-98 175-180	0.076		0.075	0.10
D-194-98 180-185	0.056		0.061	0.10
D-194-98 185-190	0.092		0.076	0.45
D-194-98 190.0-191.2	0.262		0.275	0.34
D-194-98 191.2-195.0	0.451		0.608	0.20
D-194-98 195-200	0.270		0.267	2.33
D-194-98 200-203	0.028			8.89

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 203.0-207.3	0.007			8.72
D-194-98 207.3-210.0	0.054		0.069	0.83
D-194-98 210-215	0.577		0.518	10.26
D-194-98 215-220	0.113		0.107	1.69
D-194-98 220-225	0.091		0.110	5.95
D-194-98 225.0-228.2	0.170		0.201	2.19
D-194-98 228.2-230.0	0.387		0.440	5.30
D-194-98 230-235	0.168		0.145	22.42
D-194-98 235-239	0.038			9.04
D-194-98 239.0-243.5	0.031			4.02
D-194-98 243.5-248.5	0.009			3.36
D-194-98 248.5-253.5	0.015			2.65
D-194-98 253.5-258.5	0.009			0.76
D-194-98 258.5-260.0	0.016			3.21
27827	0.133			2.55

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

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

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-194-98 RECEIVED : 3 APR 1998

NO. SAMPLES : 65 REPORTED : 3 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.

6000 0679

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 00-05	0.023			
D-194-98 05-10	0.004			
D-194-98 10-15	0.003			
D-194-98 15-20	0.004			
D-194-98 20-25	0.003			
D-194-98 25-27	0.005			
D-194-98 27-30	0.007	0.008		
D-194-98 30-35	0.049	0.040		
D-194-98 35.0-37.5	0.150		0.132	TD Autogy
D-194-98 37.5-40.0	0.003			
D-194-98 40-45	0.003			
D-194-98 45-50	0.002			
D-194-98 50-55	<0.001			
D-194-98 55-60	<0.001			
D-194-98 60.0-62.2	0.001			
D-194-98 62.2-65.0	0.036			
D-194-98 65-70	0.012			
D-194-98 70-75	0.004			
D-194-98 75-80	0.008			
D-194-98 80.0-82.3	0.028			
D-194-98 82.3-85.0	0.360		0.341	TD Auto By
D-194-98 85-90	0.060		0.061	
D-194-98 90-95	0.024			
D-194-98 95-100	0.016			
D-194-98 100.0-103.5	0.032	0.026		

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 103.5-107.2	0.108		0.097	
D-194-98 107.2-110.0	0.008			
D-194-98 110-114	0.026			
D-194-98 114.0-119.5	0.025			
D-194-98 119.5-124.0	0.016			
D-194-98 124.0-127.5	0.023			
D-194-98 127.5-129.0	0.101		0.108	
D-194-98 129-134	0.082		0.067	
D-194-98 134-135	0.234		0.233	BMB
D-194-98 135-139	0.034			
D-194-98 139-144	0.094		0.088	
D-194-98 144.0-147.7	0.094		0.134	
D-194-98 147.7-152.0	0.151		0.195	TD Auto BX
D-194-98 152.0-154.3	0.034			
D-194-98 154.3-159.5	0.043			
D-194-98 159.5-164.7	0.026			
D-194-98 164.7-170.0	0.044			
D-194-98 170-175	0.075		0.090	
D-194-98 175-180	0.076		0.075	
D-194-98 180-185	0.056			
D-194-98 185-190	0.092			190-200 = 10' @
D-194-98 190.0-191.2 1.2	0.262		0.275	
D-194-98 191.2-195.0 3.8	0.451		0.608	0.338 Au
D-194-98 195-200 5	0.270		0.267	SRF
D-194-98 200-203	0.028			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048440

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-194-98

REPORTED : 3 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-194-98 203.0-207.3	0.007			
D-194-98 207.3-210.0	0.054			
D-194-98 210-215 5	0.577		0.518	
D-194-98 215-220 5	0.113		0.107	
D-194-98 220-225 5	0.091			
D-194-98 225.0-228.2 3.2	0.170		0.201	
D-194-98 228.2-230.0 1.8	0.387		0.440	
D-194-98 230-235 5	0.168		0.145	
D-194-98 235-239	0.038			
D-194-98 239.0-243.5	0.031			
D-194-98 243.5-248.5	0.009			
D-194-98 248.5-253.5	0.015			
D-194-98 253.5-258.5	0.009			
D-194-98 258.5-260.0	0.016			
27827	0.133			

210 - 235 = 25'

0.240 Au

SPF

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
Telephone
(702) 356-0606
Fax
(702) 356-1413

Tucson Office
2775 E. Ganley
Tucson, AZ 85706
Telephone
(520) 294-8078
Fax
(520) 294-6352

Elko Office
2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Mazatlan Office
Telephone/Fax
011-52-69-170035

Other Offices
Lima, Peru
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: 64

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

D-194-98 SAMPLE IDENTIFICATION		TYPE	ELEMENTS REQUIRED		
0-5	62.2-65.0	CORE	AU-AG ACCORDING TO		
5-10	65.0-70.0		ROSEBUD MINE		
10-15	70.0-75.0		PROTOCOLS		
15-20	75.0-80.0	124-127.5			
20-25	80.0-82.3	127.5-129.0	170-175	215-220	
25-27	82.3-85.0	129-134	175-180	220-225	
27-30	85.0-90.0	134-135	180-185	225-228.2	
30-35	90.0-95.0	135-139	185-190	228.2-230	
35-37.5	95.0-100.0	139-144	190-191.2	230-235	
37.5-40.0	100.0-103.5	144-147.7	191.2-195	235-239	
40.0-45.0	103.5-107.2	147.7-152	195-200	239-243.5	
45.0-50.0	107.2-110	152-154.3	200-203	243.5-248.5	
50.0-55.0	110-114	154.3-159.5	203-207.3	248.5-253.5	
55.0-60.0	114-119.5	159.5-164.7	207.3-210	253.5-258.5	
60.0-62.2	119.5-124	164.7-170	210-215	258.5-260	

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:

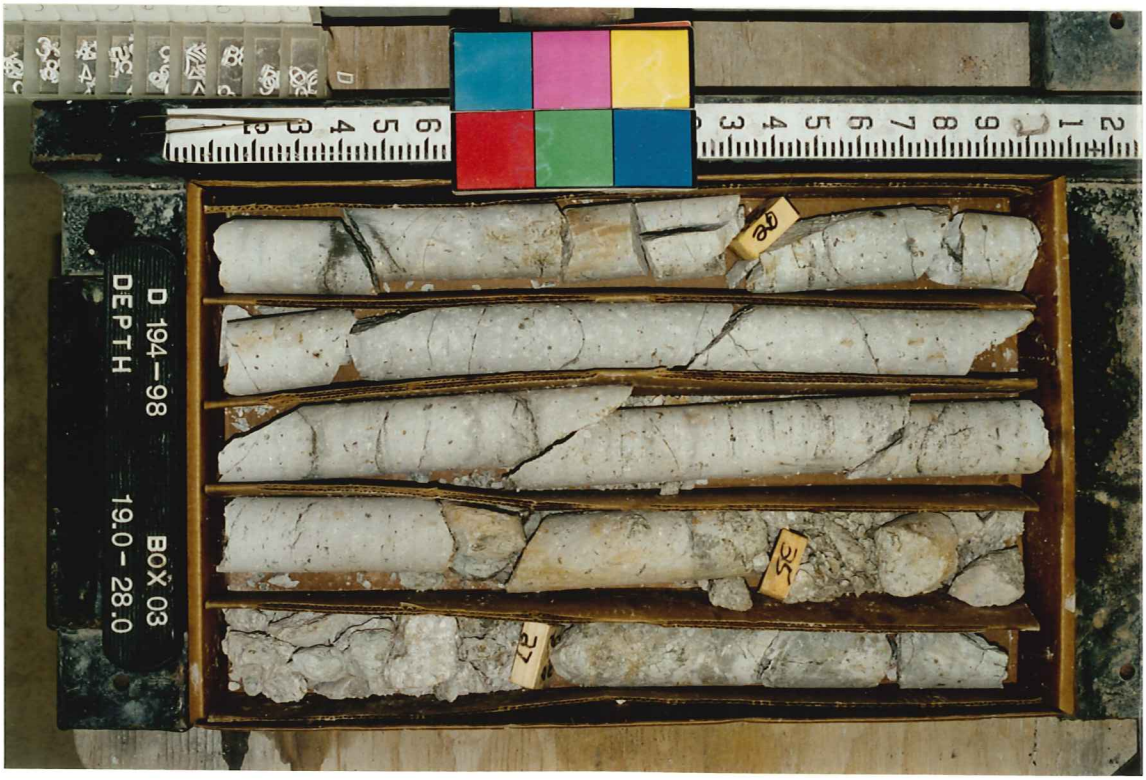
KURT ALLEN

Comments:

CLIENT FILE COPY

D 194-98
DEPTH
BOX 02
9.5- 19.0

D 194-98
DEPTH
BOX 01
0.0- 9.5


D 194-98
DEPTH
BOX 03
19.0- 28.0

D 194-98
DEPTH
BOX 05
37.5- 47.0

D 194-98
DEPTH
BOX 04
28.0- 37.5

D 194-98
DEPTH
BOX 06
47.0- 56.5

75
70
D 194-98
DEPTH
BOX 08
66.0 - 75.5

65
D 194-98
DEPTH
BOX 07
56.5- 66.0

D 194-98
DEPTH
BOX 09
75.5 - 84.5

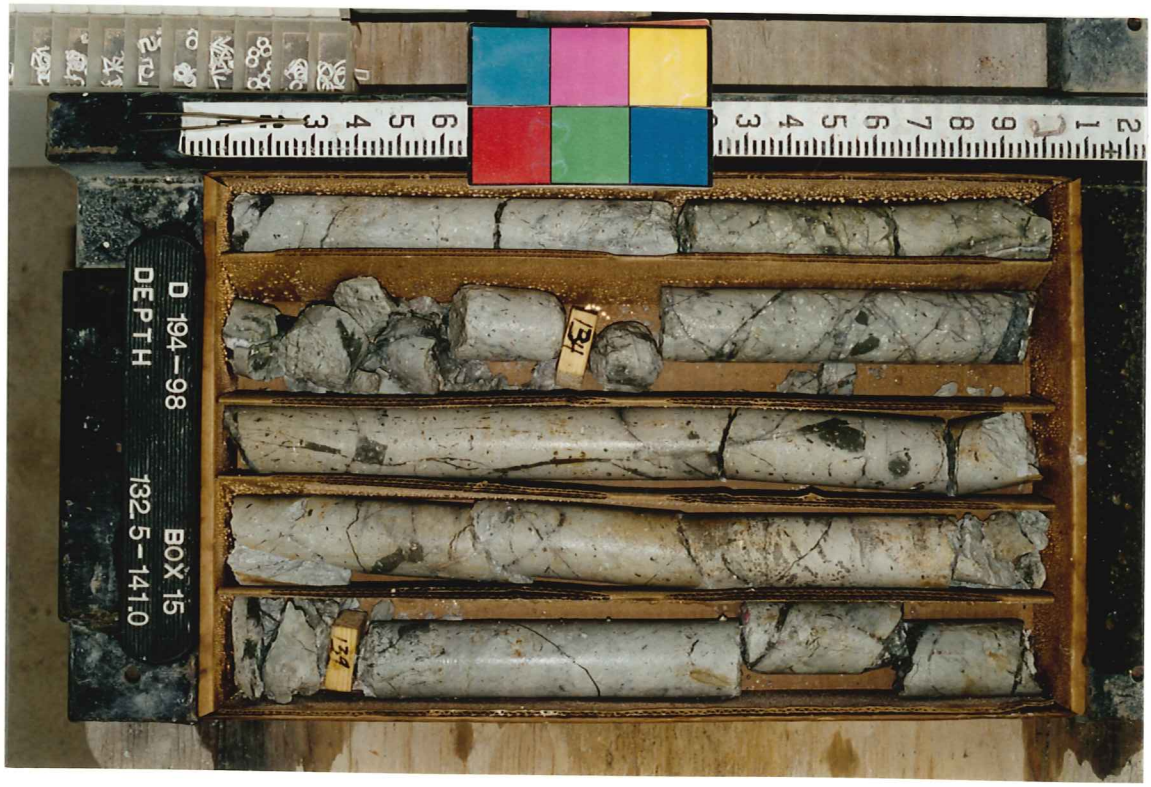
D 194-98
DEPTH
BOX 11
94.0 - 103.5

D 194-98
DEPTH
BOX 10
84.5 - 94.0

D 194-98
DEPTH
BOX 12
103.5 - 113.0

D 194-98
DEPTH
BOX 14
123.0-132.5

D 194-98
DEPTH
BOX 13
113.0-123.0


D 194-98
DEPTH
BOX 15
132.5-141.0

159.5
154.3
D 194-98
DEPTH
BOX 17
150.0 - 159.5

D 194-98
DEPTH
BOX 16
141.0 - 150.0

D 194-98
DEPTH
BOX 18
159.5 - 169.0

D 194-98
BOX 20
DEPTH
179.0-188.0

D 194-98
BOX 19
DEPTH
169.0-179.0

D 194-98
BOX 21
DEPTH
188.0-197.0

D 194-98
BOX 23
DEPTH
206.2-215.8

D 194-98
BOX 22
DEPTH
197.0-206.2

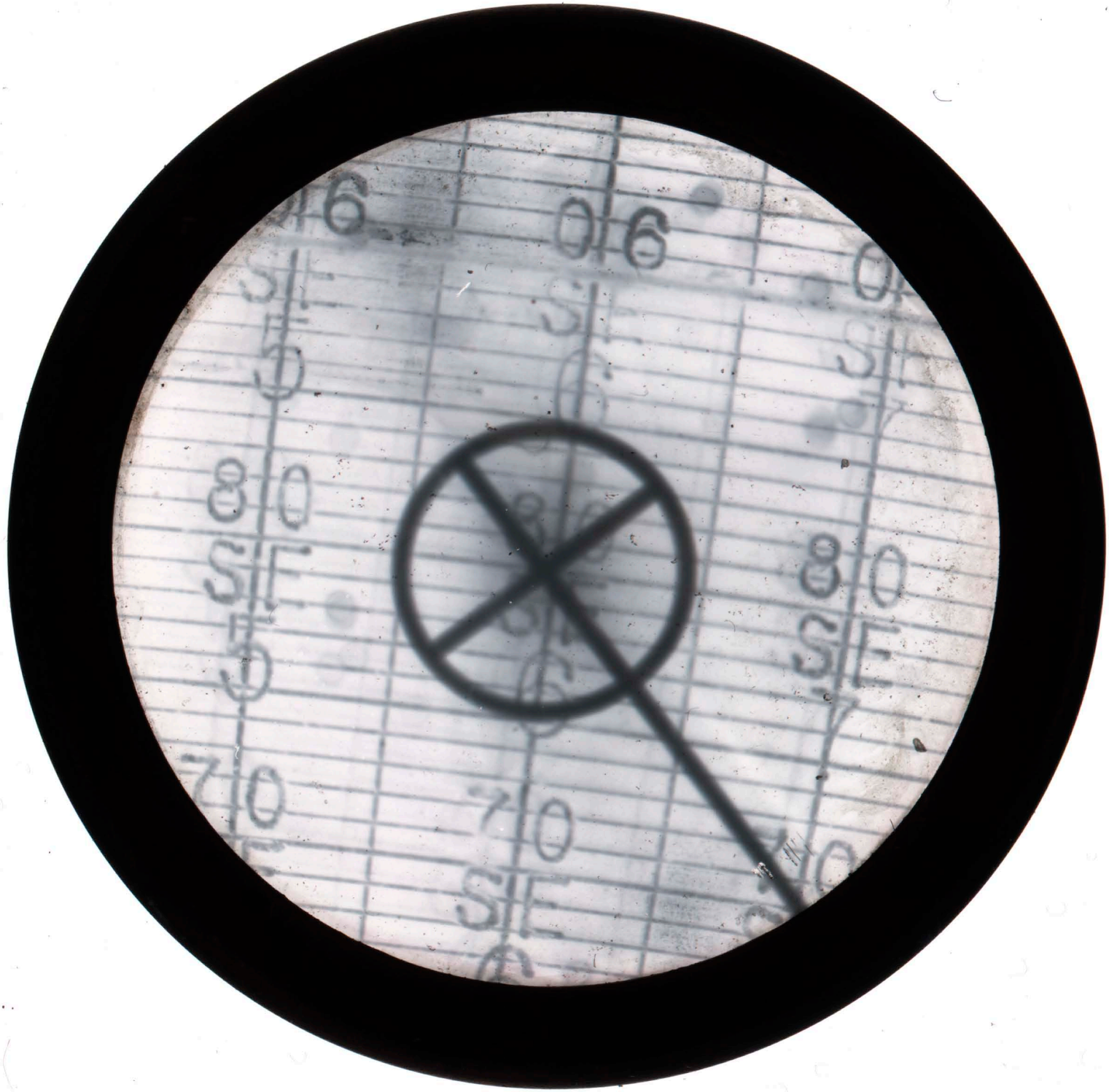
D 194-98
BOX 24
DEPTH
215.8-225.0

D 194-98
BOX 26
DEPTH
234.5-246.5

D 194-98
BOX 25
DEPTH
225.0-234.5

D 194-98
BOX 27
DEPTH
246.5-256.0

258.5
D 194-98
BOX 28
DEPTH
256.0 -260.TD


016
016
80
SE
80
SE
70
SE

06
06
SE
SE
80
80
SE
SE
70
70
SE
SE