60001132

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-253-98
AUTHOR	S. King; K. Allen
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; Rosebud Project; Rosebud Mining Co. LLC Hecla Mining Co.
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; photographs; total depth 232' receipt; handwritten notes; downhole camera images 33p. 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: DP 5/13/08
Initials Date
DB: mch
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

D-253-98

60001132 4010

60001132

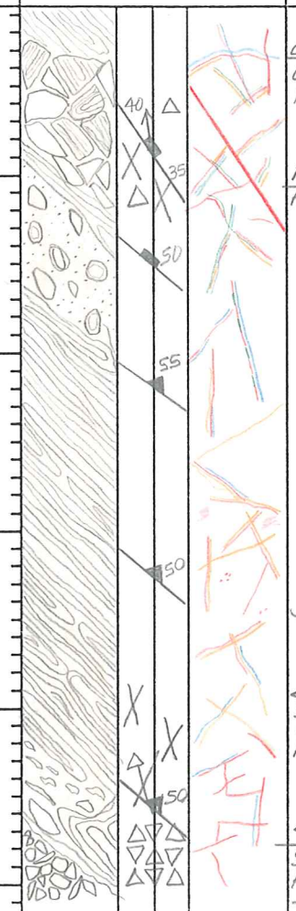
- quartz, chalcedony, silicification
- faults, fractures
- FeOx
- sulfide / BARITE
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

Hecla MINING COMPANY

ROSEBUD PROJECT DIAMOND DRILL LOG

HOLE NUMBER	D-253-98	LOCATION	STOPE ACCESS 13, SOUTH
PAGE 1 OF 4		NORTHING	
DATE	07/16/98	EASTING	
LOGGED BY	ASM	ELEVATION	
SCALE	1"=10'	AZIMUTH	S73W
TOTAL DEPTH	232'	INCLINATION	+30°

REMARKS

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0-232' PINK MATRIXED BRECCIA	REDUCED	0.0'-12.5': CRACKLE BRECCIATION OVERPRINTS BOTH PINK MATRIX BXA & APHANITIC FLOW BANDED LITHOLOGIES: TIGHTLY PACKED RUBBLE TO CRACKLE BRECCIA ~~W~~ WITH WHT CLAY ON SEAMS BTWN FRAGMTS. SEMI-HEALED & PROBABLY CONTEMPORARY WITH UNHEALED FRAX ELSEWHERE. 12.5'-20.0': PINK MATRIXED BRECCIA: APHANITIC SUB-ANGULAR FRAGMTS FLOAT IN MATRIX RK FLOUR. FULLY HEALED MATRIX-RICH MATRIX-SUPPORTED PRIMARY LITHOLOGIC BXA. 20.0-40.0': INTERMITTENTLY AUTOBRECCIATED, APHANITIC FLOW BANDED UNIT.	0 10 20 30 40 50		0-12.5': INTERMITTENT CRACKLE BRECCIA & OPEN FRAX. SEMI-HEALED 12.5'-39': MOD. UN-HEALED FRAX THRU OUT 39-48.7': STRLY BROKEN 41.5-50.0': INTERMITTENT TECTONIC OVERPRINT: MOD. TO INTENSE. 48.7-49.9': MODLY TO STRLY MILLED. SEMI-HEALED WITH WHT CLY +/- FG PY.	0'- : WK PERVASIVE ARGILLIZATN & BLCHING IN WALLRK. 3-5': FG PY + CALCITE +/- CLAY VNLTS, OR FRAX COATINGS STR TO MOD. 9-15': MODERATE SOOTY SULFIDE (?) OR GRAPHITIC SOOT + FG PY ON FRAX. +/- LT. GRN CLAY & CALCITE. LOCAL BLUE STAINING. MOD/WK WHT CLAY +/- MARC PY COATS FRAX OUTSIDE OF THESE ZONES. FROM 7-12': PY AFTER MARC IS SCATTERED THRU CRACKLE BXA'T'D FLOW. 15.0-39': MOD. FG PY AFTER MARC + WHT CLAY +/- CALCITE ON FRAX. CONT'D WK PERVASIVE ARGILLIZATION & BLCHING IN WALLRK. 39'-48.7': MOD WHT CLAY ON FRAX, + WK TO STR Py 42.0-46.0': + VFG SOOTY SULFIDES & BLUE STAINING = STR. 46-48.7': WK Py + WHT CLY 48.7'-49.9': MOD. WHT CLAY + WK DISS'D Py = FAULT GOUGE MATRIX.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	3.3					
3.3	5.3					
5.3	9.1					
9.1	15.3					
15.3	20.0					
20.0	25.5					
25.5	30.0					
30.0	35.0					
35.0	38.6					
38.6	42.0					
42.0	46.0					
46.0	48.7					
48.7	49.9					

HOLE NUMBER D-253-98 PAGE 2 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
0-232' PINK MATRIXED BRECCIA		49.9'-105.5': MASSIVE TO WKLY FLOW BANDED, APHANITIC LT. GREY ROCK. LOCALLY ~15% FLOW BRECCIATED TO PINK MATRIXED BRECCIA. MATRIX IS PINK COMPRISED OF RK FLOUR & SPARSE.	50 60 70 80	40 20 50 50 60	49.9'-70.5': MODLY BROKEN & JNTED. JNTING PROBABLY SUB // TO CRYPTIC BANDING. 70.3-70.8': UNHEALED FRIABLE SHEAR ZONE, SUB ⊥ TO C/A. 71.0-76.0': UNHEALED VN CRACKLE BXA BELOW SHEAR.	49.9'-70.5': CONT'D WK PERVASIVE BLCHING & ARGILLIZATION. MOD. FG PY + WHT CLY +/- CALCITE VNLTS. ~65': FIRST OBVIOUS SILICA IN WITH PYRITIC VNLTS. 70.3-70.8': STRLY SOOTY & BLUE STAINED. (STR. SULFIDES?) 71.0-~76.0': STR. SOOTY PY + WHT CLAY STKWK TO CRACKLE BXA. POSS. TR. SILICA IN VNLTS.	50.0	54.0				
							54.0	58.0				
							58.0	62.0				
							62.0	66.3				
							66.3 70.3	70.3 70.8				
							70.8	75.2				
							75.2	80.9				
					LOSS							
		105.5'-~120': FLOW BRECCIA SUB // FLOW BANDING IN SURROUNDING RX. OVERPRINTED BY LATER VN BXA FROM 113.5' DIFFICULT TO SEE WHERE FABRIC GIVES WAY TO MASSIVE.	90 100 110 120	50 55	92.2-98.5': STRLY BROKEN 113.5-119': MOD. BROKEN	75.2-92.2': MOD. PYRITE +/- GRN CLAY +/- WHT CLAY ON FLOW BAND PARTINGS & SOME FRAX. WHT CLAY ON X-CUTTING FRAX & PROBABLY LATER. CONT'D PERVASIVE WK ARGILLIZATN, & BLCHING. 92.2-98.5': STRLY BROKEN WITH MOD/STR WHT CLY & WK/MOD. DK GRN CLAY + Py ON FRAX. 98.5-106.5': MOD. WHT CLAY + PY/MARC +/- TR. SILICA COATS FRAX. CONT'D WK PERVASIVE WALLRK ARGILLIZATN & BLCHING. 113.5-119.0': MOD/STR. WHT CLAY + PY/MARC +/- TR. SILICA ON FRAX.	83.0	87.3				
							87.3	92.2				
							92.2	95.0				
							95.0	98.5				
							98.5	102.4				
							102.4	106.5				
							106.5	109.1				
							109.1	113.5				
					LOSS		113.5	119.0				

HOLE NUMBER D-253-98 PAGE 3 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
0-232' ~~[illegible]~~ ? DOMINANTLY FG FLOW (LBT)		120.0-136.0': V. LT. GREY MASSIVE FG FLOW.	120 130		125.0-131.0': SEMI-HEAL FAULT BXA OVERPRINTING ALL WALLRK ~~[illegible]~~ FEATURES MILLED GRIT + WHT CLAY = MATRIX.	120.0-141.0': MOD/WK WHT CLAY + MARC/PY ON OPEN FRAX, CONT'D WK ARG. + STR BLCHING OF WALLRK, TRACE SILICA ON FRAX INCREASING TO WK DOWNHOLE.	120.0 125.0 129.0	125.0 129.0 131.0				
					LOSS							
LBT		136.0'-~180': VARIABLY FLOW BANDED TO MASSIVE, APHANITIC, LT. GREY OR BANDED LT. PINK-GRY & GRN-GRY. MINIMAL WALLRK BXA ~10%. RK IS SO STRLY BROKEN THRU THIS INTERVAL THAT ORIGINAL BXA TEXTURE MAY BE OBSCURED.	140	40	140.9-~147': SEMI-HEAL FAULT BRECCIA OVERPRINTING EARLIER BXA ~~POSSIBLY FORMATIONAL~~ CRACKLE BXA HEALED W/ SILICA + PYRITE.	WALLRK ARGILLIZATN IS SPOTTILY STR/MOD. IN TECTONIC BXA ZONES. FROM ~136': STRGER ARGILLIZATN & BLCHING IN SPECIFIC FLOW BANDS, & WK WISPY PY/MARC +/-	133.0 137.0 140.9	137.0 140.9 144.5				
					LOSS							
			150			SILICA VNLTS, MOD. ARG + BLCHING IN TECTONICALLY BRECCIATED ZONES. TO 153'.	145.5	151.0				
					LOSS							
		180.0-198': FLOW BANDED, LT. GRN-GRY TO PK-GRY, APHANITIC LBT.	160 170 180 190	45 40	153-162.0': CUMMULATIVE SMALL LOSSES TOTALING ~1'. STR. TO INTENSE UNHEALED & MOSTLY UNMINERALIZED JNTS & FRAX. 172.5-179.0': CUMMULATIVE ~1' LOSS. STR TO INT. UNHEALED FRAX & JNTS	153'-~179': MOD./WK PY/MARC + WHT CLAY ON FRAX. CONT'D WK ARGILLIZATN & STR BLCHING OF WALLRK. TR BLUE-GRN CLAY ON FRAX. 179'-189': INCREASED WHT CLAY + PY/MARC VNLTS TO MOD. CONT'D WK ARGILLIZATION & MOD. BLCHING. VNLT SILICA ~~TO~~ INCREASED TO WK/MOD. DECREASING PY OVERPRINT, MORE BLADED MARCASITE THRU THIS INTERVAL.	153.0 158.5 164.0 169.0 174.0 179.0 184.0 189.0	158.5 164.0 169.0 174.0 179.0 184.0 189.0				

HOLE NUMBER D-253-98 PAGE 4 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
0-232' LBT			190			189-200': WK/MOD. PY/MARC & WHT CLAY VNLTS +/- BLUE-GRN CLAY SELVAGES.	189.0	194.4				
					LOSS							
		196.5-200': FLOW BANDING DISAPPEARS IN UNHEALED BROKEN ZONE.			196.5-200': STRLY BROKEN							
			200			LOSS	196.5	200.0				
		200-220.0': MASSIVE, APHANITIC, LT. GRNISH-GRY LBT.				200.-205': CONT'D WK WALLRK ARGILLIZATION, STR BLCHING. MOD/WK MARC/PY +/- WHT CLAY & SILICA VNLTS WITH TRACE BLUE-GRN CLAY SELVAGES.	201.0	204.9				
			210				204.9	211.0				
					205.-211': STRONGLY BROKEN 212.6-213.2': SEMI-HEAL FAULT RUBBLE ZONE	205.0'-211.0': SLIGHTLY STRONGER WHT CLAY ON FRAX IN BROKEN ZONE.	211.0	216.0				
		220.0'-232.0': FLOW BANDED, PINKISH TO BUFF GRY, APHANITIC LBT.	220		215-216': STRLY BROKEN.	211.0'-220.0': WK PY/MARC +WHT CLAY VNLTS. WHT CLAY TO MOD. IN BROKEN RK.	216.0	220.0				
					220-223: HEALED HYDROTHERMAL CRACKLE BXA.	220.0-~223.': STR WHT SILICA+ PY/MARC CEMENTS CRACKLE BXA // FLOW BANDS AT TOP OF FLOW BANDED UNIT.	220.0	223.0				
			230			223.0-226.5': FINELY CRACKLE BXAT'D & CEMENTED WITH HAIRLINE WHT CLAY + SILICA, +/- PY/MARC; EQUIVALENT TO MODERATE VNLTS. WALLRK ALT'N AS ABOVE.	223.0	226.5				
		TD 232'				226.5-232': WHT CLAY + PY/MARC VNLTS = WK/MOD + TRACE SILICA.	226.5	232.0				
			240									

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: HBM PAGE 1 OF 7

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	1.0	90.0	100.0	0										
1.0	6.0	90.0	102.0	8.0										
6.0	10.0	85.0	95.0	45.0										
10.0	13.0	90.0	93.3	0										
13.0	18.0	97.0	100.0	20.0										
18.0	23.0	90.0	98.0	20.0										
23.0	25.5	120.0	120.0	0										
25.5	26.0	80.0	80.0	0										
26.0	29.0	113.3	113.3	0										
29.0	32.0	62.5	62.5	0										
32.0	37.0	96.0	96.0	36.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: ASM PAGE 2 OF 7

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)
37.0	42.0	96.0	100.0	8.0										
42.0	46.0	102.0	112.5	0										
46.0	51.0	94.0	94.0	0										
51.0	54.0	85.0	85.0	0										
54.0	58.0	95.0	95.0	10.0										
58.0	60.0	110.0	110.0	0										
60.0	64.0	97.5	97.5	10.0										
64.0	67.0	110.0	110.0	0										
67.0	70.0	110.0	110.0	13.3										
70.0	72.5	10.0	72.0	0										
72.5	77.5	96.0	100.0	10.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 7/16/98 LOGGED BY: HBM PAGE 3 OF 7

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
77.5	83.0	20.0	58.2	0										
83.0	88.0	100.0	100.0	16.0										
88.0	93.0	76.0	90.0	24.0										
93.0	96.0	33.3	83.3	0										
96.0	98.5	32.0	98.0	0										
98.5	103.5	97.0	98.0	64.0										
103.5	108.5	80.0	90.0	22.0										
108.5	113.5	90.0	92.0	48.0										
113.5	116.0	32.0	64.0	0										
116.0	120.0	65.0	67.5	0										
120.0	124.5	64.4	71.1	8.9										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: HSM PAGE 4 OF 7

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)
124.5	129.0	108.0	111.1	33.3										
129.0	133.0	0	90.0	0										
133.0	137.0	75.0	107.5	10.0										
137.0	140.0	76.7	93.3	0										
140.0	143.5	57.1	77.1	0										
143.5	145.5	20.0	55.0	20.0										
145.5	148.0	40.0	96.0	0										
148.0	153.0	20.0	60.0	0										
153.0	154.0	50.0	90.0	0										
154.0	155.0	10.0	60.0	0										
155.0	158.5	25.7	85.7	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-249-98 DATE: 07/16/98 LOGGED BY: HJM PAGE 5 OF 7

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)
158.5	159?	0	80.0	0										
159	159.5	0	100.0	0										
159.5	162.0	22.9	88.0	0										
162.0	164.0	30.0	75.0	0										
164.0	167.0	13.3	73.3	0										
167.0	168.0	60.0	80.0	0										
168.0	169.0	40.0	70.0	0										
169.0	170.0	30.0	70.0	0										
170.0	171.0	0	70.0	0										
171.0	172.5	24.0	44.0	0										
172.5	173.5	0	50.0	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: HSM PAGE 6 OF 7

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)
173.5	174.0	0	60.0	0										
174.0	176.0	20.0	60.0	0										
176.0	177.0	0	90.0	0										
177.0	178.0	0	90.0	0										
178.0	179.0	0	80.0	0										
179.0	181.0	100.0	100.0	25.0										
181.0	183.0	80.0	85.0	20.0										
183.0	185.5	75.0	92.0	0										
185.5	189.0	20.0	91.4	0										
189.0	193.0	62.0	115.0	26.0										
193.0	196.5	14.3	37.1	14.3										
196.5	199.0	28.0	76.0	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: ZSM PAGE 6 OF 7

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
199.0	201.0	0	60.0	0										
201.0	203.0	65.0	110.0	30.0										
203.0	204.5	73.3	86.7	60.0										
204.5	209.0	51.4	105.7	0										
209.0	211.0	15.0	90.0	0										
211.0	214.0	73.3	80.0	13.3										
214.0	216.0	55.0	80.0	20.0										
216.0	218.0	75.0	80.0	20.0										
218.0	220.0	50.0	70.0	0										
220.0	224.0	32.5	95.0	72.5										
224.0	226.5	88.0	96.0	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-253-98 DATE: 07/16/98 LOGGED BY: HSM PAGE 7 OF 7

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)
226.5	228.5	50.0	100.0	0										
228.5	232.0	97.1	97.1	37.1										
	T.D.													

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

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-253-98 RECEIVED : 23 JUL 1998

No. SAMPLES : 54 REPORTED : 4 AUG 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 SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 0.0-3.3	0.021			0.25
D-253-98 3.3-5.3	0.234		0.231	1.45
D-253-98 5.3-9.1	0.048			0.51
D-253-98 9.1-15.3	0.414		0.514	1.75
D-253-98 15.3-20.0	0.018			1.22
D-253-98 20.0-25.5	0.036			0.22
D-253-98 25.5-30.0	0.012			0.16
D-253-98 30-35	0.015			0.10
D-253-98 35.0-38.6	0.021	0.018		0.14
D-253-98 38.6-42.0	0.118		0.085	2.77
D-253-98 42-46	0.141		0.142	3.24
D-253-98 46.0-48.7	0.298		0.317	0.94
D-253-98 48.7-49.9	0.013	0.015		0.31
D-253-98 49.9-54.0	0.008			0.16
D-253-98 54-58	0.005			0.32
D-253-98 58-62	0.185		0.235	1.32
D-253-98 62.0-66.3	0.042			0.89
D-253-98 66.3-70.3	0.029			0.57
D-253-98 70.3-70.8	0.577		0.603	27.50
D-253-98 70.8-75.2	0.062		0.061	2.20
D-253-98 75.2-80.9	0.018			0.92
D-253-98 83.0-87.3	0.007			0.27
D-253-98 87.3-92.2	0.042			0.31
D-253-98 92.2-95.0	0.014			0.29
D-253-98 95.0-98.5	0.011			0.16

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 98.5-102.4	0.021			0.32
D-253-98 102.4-106.5	0.011			0.11
D-253-98 106.5-109.1	0.027			0.16
D-253-98 109.1-113.5	0.012			0.11
D-253-98 113.5-119.0	0.058		0.055	0.22
D-253-98 120-125	0.015			0.09
D-253-98 125-129	0.024			0.16
D-253-98 129-131	0.015	0.015		0.13
D-253-98 133-137	0.015			0.12
D-253-98 137.0-140.9	0.009			0.12
D-253-98 140.9-144.5	0.016			0.12
D-253-98 145.5-151.0	0.006			0.08
D-253-98 153.0-158.5	0.006	0.007		0.08
D-253-98 158.5-164.0	0.010			0.07
D-253-98 164-169	0.009			0.09
D-253-98 169-174	0.005			0.06
D-253-98 174-179	0.004			0.05
D-253-98 179-184	0.010			0.12
D-253-98 184-189	0.004			0.08
D-253-98 189.0-194.4	0.004			0.12
D-253-98 196.5-200.0	0.004			0.09
D-253-98 201.0-204.9	0.004			0.18
D-253-98 204.9-211.0	0.003			0.07
D-253-98 211-216	0.003			0.08
D-253-98 216-220	0.003			0.17

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 220-223	0.005			0.06
D-253-98 223.0-226.5	0.004	0.005		0.06
D-253-98 226.5-232.0	0.004			0.06
34475	0.546			5.10

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 89431-5902

(702) 356-0606

INVOICE NO: SP 0049714-IN
INVOICE DATE: 08/04/98

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
0-253-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
54	SAMPLES RECEIVED	.00	.00
53	JAW CRUSHING CHARGE	1.30	68.90
53	COARSE MILLING CHARGE	4.60	238.50
53	SPLITTING CHARGE	2.40	127.20
53	FINE MILLING CHARGE	2.00	106.00
54	Au (1 A.T. FIRE ASSAY)	8.00	432.00
9	Au ANALYSES/GRAVIMETRIC	8.75	78.75
54	HYDROCHLORIC/NITRIC DIGESTION	2.00	108.00
54	Ag ANALYSES	1.00	54.00
5	Ag (ore grade) ANALYSES	5.00	25.00

4200-13-9999-477
EDA

NET INVOICE:	1,238.35
LESS DISCOUNT:	247.67
FREIGHT:	.00
INVOICE TOTAL:	990.68

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

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-253-98 RECEIVED : 23 JUL 1998

No. SAMPLES : 54 REPORTED : 4 AUG 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 SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 0.0-3.3	0.021			0.25
D-253-98 3.3-5.3	0.234		0.231	1.45
D-253-98 5.3-9.1	0.048			0.51
D-253-98 9.1-15.3	0.414		0.514	1.75
D-253-98 15.3-20.0	0.018			1.22
D-253-98 20.0-25.5	0.036			0.22
D-253-98 25.5-30.0	0.012			0.16
D-253-98 30-35	0.015			0.10
D-253-98 35.0-38.6	0.021	0.018		0.14
D-253-98 38.6-42.0	0.118		0.085	2.77
D-253-98 42-46	0.141		0.142	3.24
D-253-98 46.0-48.7	0.298		0.317	0.94
D-253-98 48.7-49.9	0.013	0.015		0.31
D-253-98 49.9-54.0	0.008			0.16
D-253-98 54-58	0.005			0.32
D-253-98 58-62	0.185		0.235	1.32
D-253-98 62.0-66.3	0.042			0.89
D-253-98 66.3-70.3	0.029			0.57
D-253-98 70.3-70.8	0.577		0.603	27.50
D-253-98 70.8-75.2	0.062		0.061	2.20
D-253-98 75.2-80.9	0.018			0.92
D-253-98 83.0-87.3	0.007			0.27
D-253-98 87.3-92.2	0.042			0.31
D-253-98 92.2-95.0	0.014			0.29
D-253-98 95.0-98.5	0.011			0.16

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 98.5-102.4	0.021			0.32
D-253-98 102.4-106.5	0.011			0.11
D-253-98 106.5-109.1	0.027			0.16
D-253-98 109.1-113.5	0.012			0.11
D-253-98 113.5-119.0	0.058		0.055	0.22
D-253-98 120-125	0.015			0.09
D-253-98 125-129	0.024			0.16
D-253-98 129-131	0.015	0.015		0.13
D-253-98 133-137	0.015			0.12
D-253-98 137.0-140.9	0.009			0.12
D-253-98 140.9-144.5	0.016			0.12
D-253-98 145.5-151.0	0.006			0.08
D-253-98 153.0-158.5	0.006	0.007		0.08
D-253-98 158.5-164.0	0.010			0.07
D-253-98 164-169	0.009			0.09
D-253-98 169-174	0.005			0.06
D-253-98 174-179	0.004			0.05
D-253-98 179-184	0.010			0.12
D-253-98 184-189	0.004			0.08
D-253-98 189.0-194.4	0.004			0.12
D-253-98 196.5-200.0	0.004			0.09
D-253-98 201.0-204.9	0.004			0.18
D-253-98 204.9-211.0	0.003			0.07
D-253-98 211-216	0.003			0.08
D-253-98 216-220	0.003			0.17

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049714

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-253-98 220-223	0.005			0.06
D-253-98 223.0-226.5	0.004	0.005		0.06
D-253-98 226.5-232.0	0.004			0.06
34475	0.546			5.10

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049714

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-253-98 RECEIVED : 23 JUL 1998

No. SAMPLES : 54 REPORTED : 4 AUG 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 SP049714

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	3.3 - 15.3 = 12' @
D-253-98 0.0-3.3	0.021			0.25	
D-253-98 3.3-5.3 2	0.234		0.231	1.45	0.268 Ag
D-253-98 5.3-9.1 3.8	0.048			0.51	1.31 Ag
D-253-98 9.1-15.3 6.2'	0.414		0.514	1.75	
D-253-98 15.3-20.0	0.018			1.22	
D-253-98 20.0-25.5	0.036			0.22	
D-253-98 25.5-30.0	0.012			0.16	
D-253-98 30-35	0.015			0.10	38.6 48.7 = 10.1' @
D-253-98 35.0-38.6	0.021	0.018		0.14	
D-253-98 38.6-42.0 3.4	0.118		0.085	2.77	
D-253-98 42-46 4	0.141		0.142	3.24	0.202 Ag
D-253-98 46.0-48.7 2.7	0.298		0.317	0.94	2.47 Ag
D-253-98 48.7-49.9	0.013	0.015		0.31	
D-253-98 49.9-54.0	0.008			0.16	
D-253-98 54-58	0.005			0.32	
D-253-98 58-62	0.185		0.235	1.32	
D-253-98 62.0-66.3	0.042			0.89	
D-253-98 66.3-70.3	0.029			0.57	
D-253-98 70.3-70.8	0.577		0.603	27.50	
D-253-98 70.8-75.2	0.062		0.061	2.20	
D-253-98 75.2-80.9	0.018			0.92	
D-253-98 83.0-87.3	0.007			0.27	
D-253-98 87.3-92.2	0.042			0.31	
D-253-98 92.2-95.0	0.014			0.29	
D-253-98 95.0-98.5	0.011			0.16	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049714

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-253-98 98.5-102.4	0.021			0.32
D-253-98 102.4-106.5	0.011			0.11
D-253-98 106.5-109.1	0.027			0.16
D-253-98 109.1-113.5	0.012			0.13
D-253-98 113.5-119.0	0.058		0.055	0.22
D-253-98 120-125	0.015			0.09
D-253-98 125-129	0.024			0.16
D-253-98 129-131	0.015	0.015		0.13
D-253-98 133-137	0.015			0.12
D-253-98 137.0-140.9	0.009			0.12
D-253-98 140.9-144.5	0.016			0.12
D-253-98 145.5-151.0	0.006			0.08
D-253-98 153.0-158.5	0.006	0.007		0.08
D-253-98 158.5-164.0	0.010			0.07
D-253-98 164-169	0.009			0.09
D-253-98 169-174	0.005			0.06
D-253-98 174-179	0.004			0.05
D-253-98 179-184	0.010			0.12
D-253-98 184-189	0.004			0.08
D-253-98 189.0-194.4	0.004			0.12
D-253-98 196.5-200.0	0.004			0.09
D-253-98 201.0-204.9	0.004			0.18
D-253-98 204.9-211.0	0.003			0.07
D-253-98 211-216	0.003			0.08
D-253-98 216-220	0.003			0.17

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049714

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-253-98

REPORTED : 4 AUG 1998

SAMPLES	AU(OZ)	AU(RZ)	AUGRAV	Ag(OZ)
D-253-98 220-223	0.005			0.06
D-253-98 223.0-226.5	0.004	0.005		0.06
D-253-98 226.5-232.0	0.004			0.06
34475	0.546			5.10

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 LLC

Address: P.O. BOX 2610

City WINNEMUCCA State NV Zip 89446

Telephone Number: (702) ~~625~~ 623-6912 Fax Number: (702) 623-6967

Project Name: DEVELOPMENT Purchase Order Number:

Date Submitted: 7/22/98 Number of Samples: 53

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

D-253-98 SAMPLE IDENTIFICATION				TYPE	ELEMENTS REQUIRED
0-3.3	58-62	113.5-119	189-194.4	CORE	AU-Ag ACCORDING TO ROSEBUD MINE PROTOCOL
3.3-5.3	62-66.3	120-125	196.5-200		
5.3-9.1	66.3-70.3	125-129	201-204.9		
9.1-15.3	70.3-70.8	129-131	204.9-211		
15.3-20	70.8-75.2	133-137	211-216		
20-25.5	75.2-80.9	137-140.9	216-220		
25.5-30	[illegible]	140.9-144.5	220-223		
30-35	83-87.3	145.5-151.0	223-226.5		
35-38.6	87.3-92.2	153-158.5	226.5-232		
38.6-42	92.2-95	158.5-164			
42-46	95-98.5	164-169			
46-48.7	98.5-102.4	169-174			
48.7-49.9	102.4-106.5	174-179			
49.9-54	106.5-109.1	179-184			
54-58	109.1-113.5	184-189			

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 253 -98 BOX NO 2
DEPTH- 9.5- 19.5

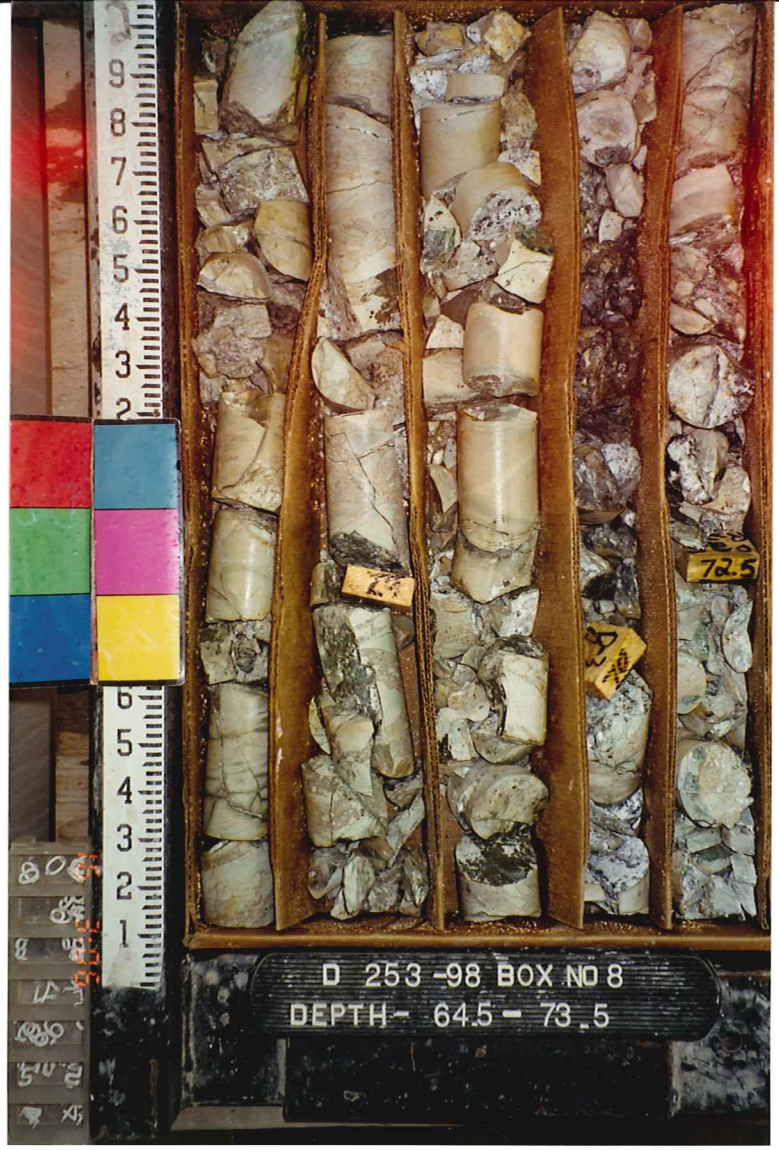
D 253 -98 BOX NO 1
DEPTH- 0.0 - 9.5

D 253 -98 BOX NO 3
DEPTH- 18.5- 27.5

D 253 -98 BOX NO 5
DEPTH- 37.0 - 46.0

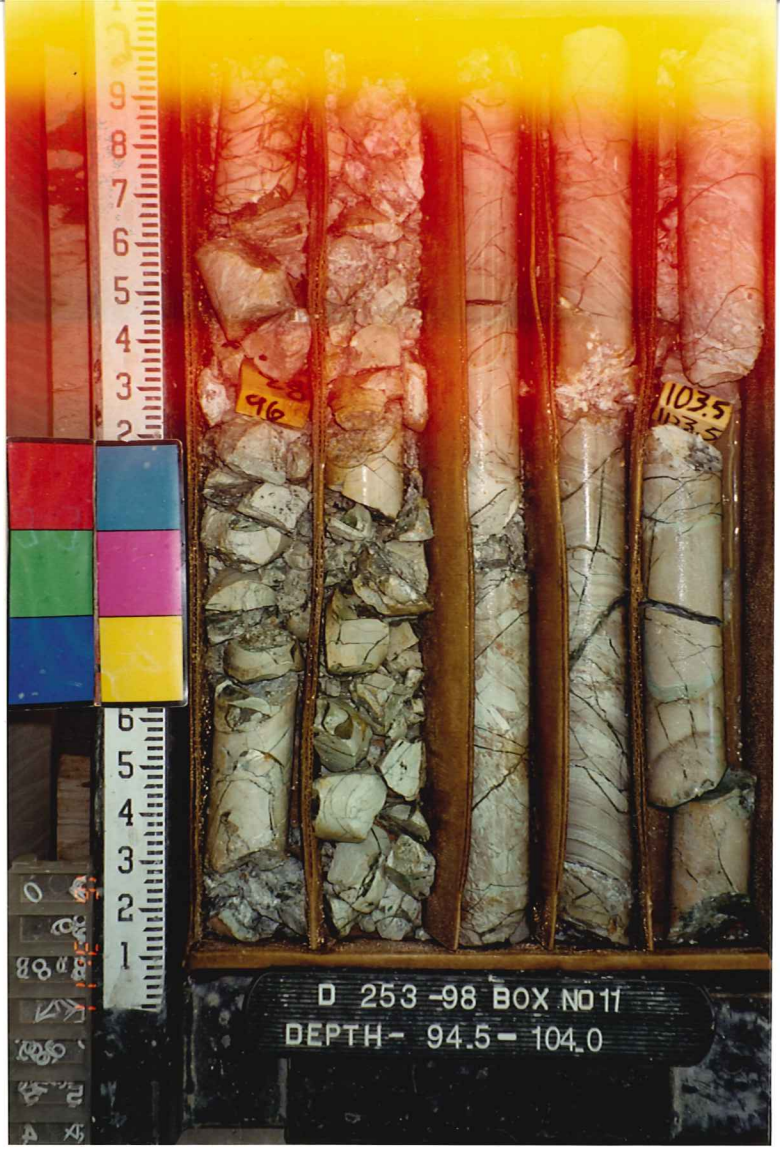
D 253 -98 BOX NO 4
DEPTH- 27.5- 37.0

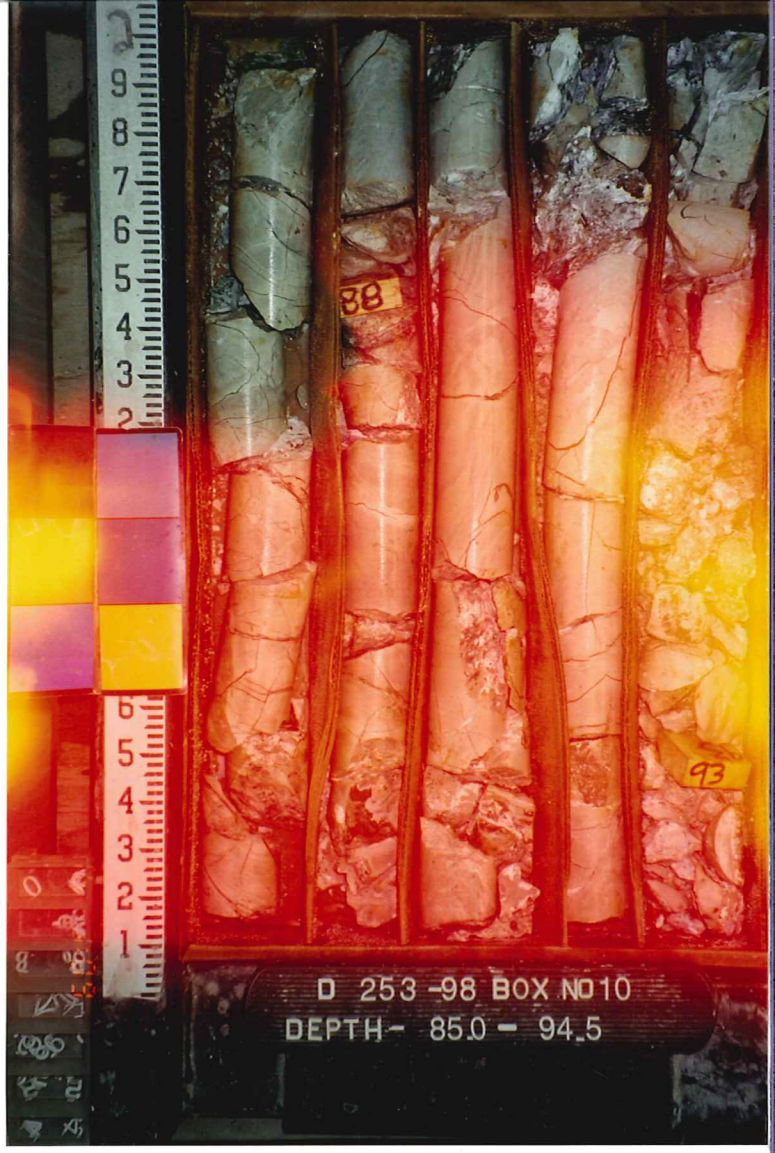
D 253 -98 BOX NO 6
DEPTH- 46.0 - 55.5


D 253 -98 BOX NO 8
DEPTH- 64.5 - 73.5

D 253 -98 BOX NO 7
DEPTH- 55.5 - 64.5

D 253 -98 BOX NO 9
DEPTH- 73.5 - 85.0


96
103.5
D 253 -98 BOX NO11
DEPTH- 94.5 - 104.0

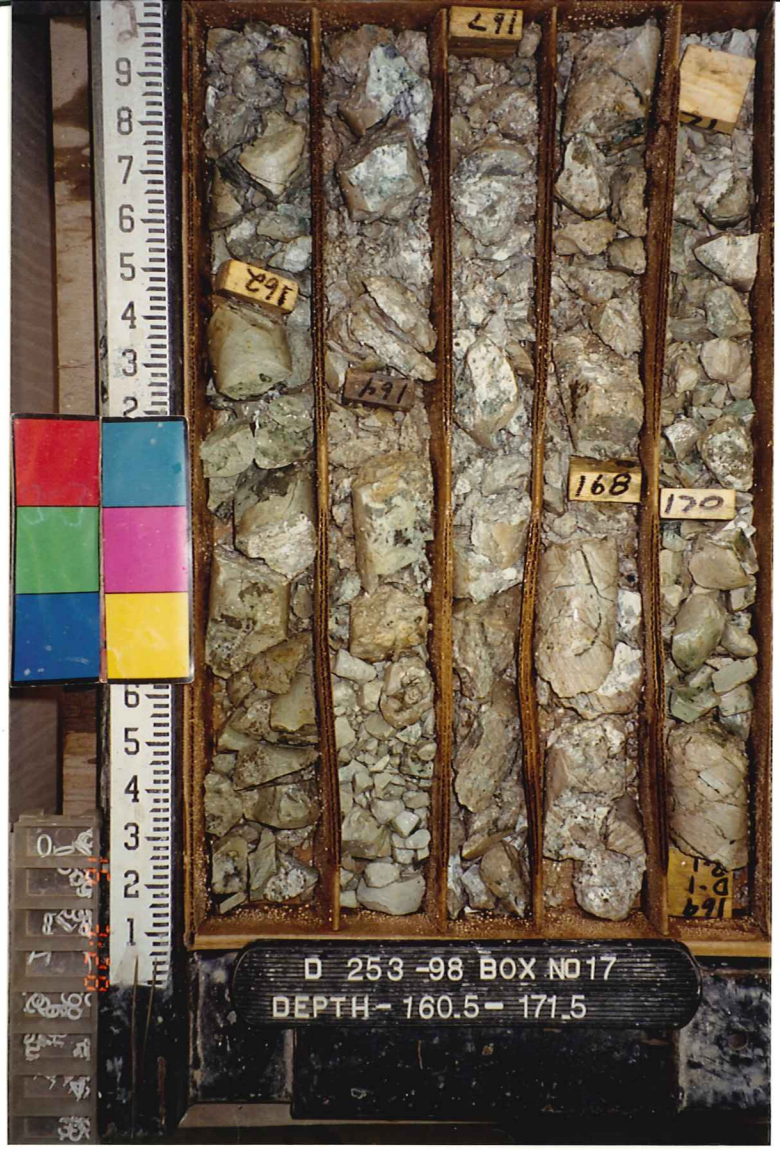

88
93
D 253 -98 BOX NO10
DEPTH- 85.0 - 94.5

108.5
113.5
D 253 -98 BOX NO12
DEPTH- 104.0 - 114.5

D 253 -98 BOX NO 14
DEPTH - 127.5 - 138.0

D 253 -98 BOX NO 13
DEPTH - 114.5 - 127.5

D 253 -98 BOX NO 15
DEPTH - 138.0 - 149.5


D 253 -98 BOX NO17
DEPTH- 160.5- 171.5

D 253 -98 BOX NO16
DEPTH- 149.5- 160.5

D 253 -98 BOX NO18
DEPTH- 171.0- 181.5

D 253 -98 BOX NO 20
DEPTH- 191.0-203
193
196.5
199

D 253 -98 BOX NO 19
DEPTH- 181.5- 191.0
183
184
185.5

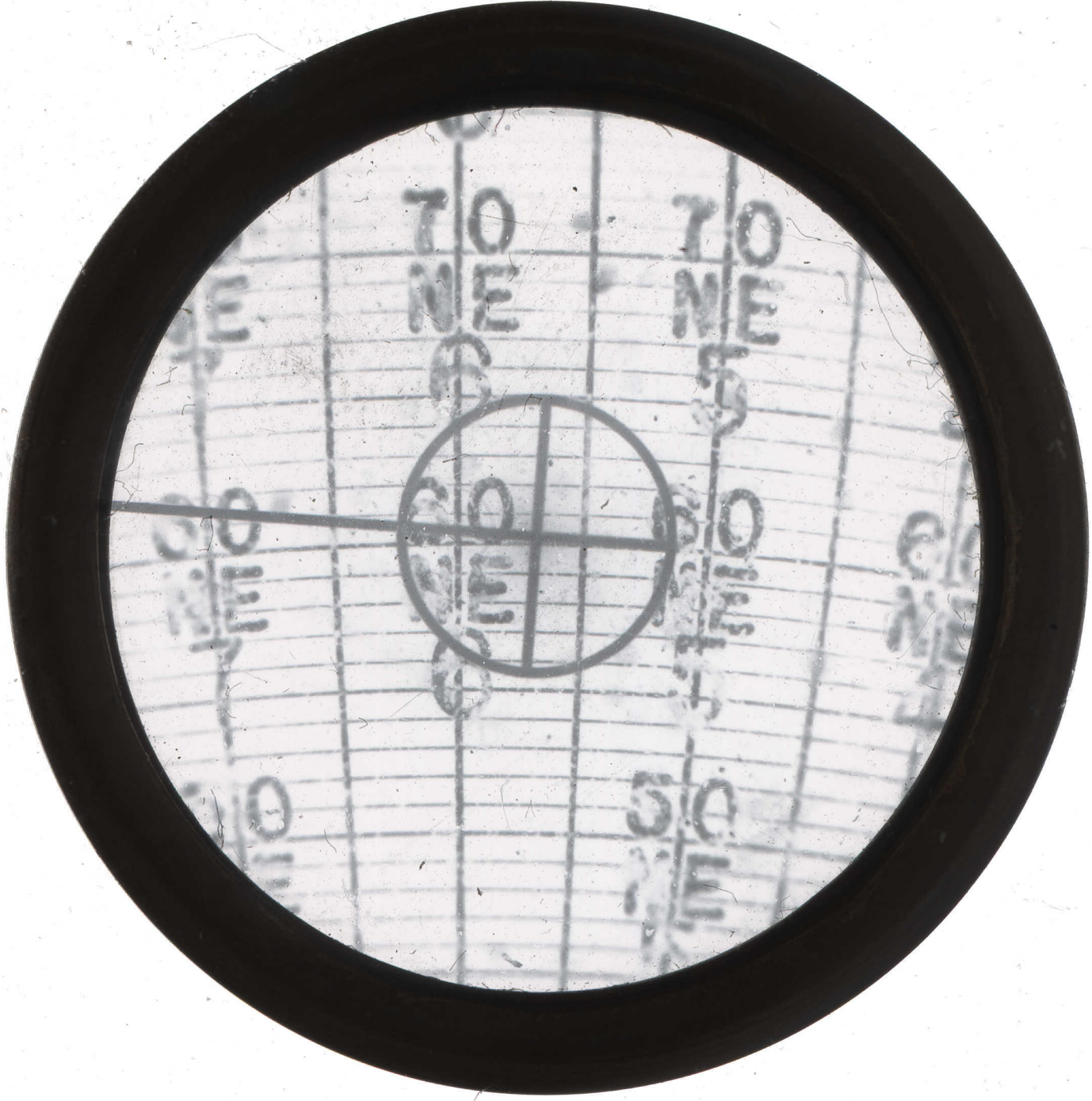
D 253 -98 BOX NO 21
DEPTH- 203.0-213.0

D 253 -98 BOX NO 23
DEPTH - 223.0 - 232.0

D 253 -98 BOX NO 22
DEPTH - 213.0 - 223.0

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-253-58
LEASE
TAKEN BY Jerome
DEPTH Coll'r
DATE 5-12-58
DRIFT ANGLE 0
DIRECTION +30°
TYPE
JOB NO. 1
HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME P-253-98
LEASE
TAKEN BY Jerome
DEPTH 115'
DATE 5-12-98
DRIFT ANGLE 0
DIRECTION +30°
TYPE
JOB NO. 1
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-253-98
LEASE
TAKEN BY Jerome
DEPTH 232'
DATE 5-12-98
DRIFT ANGLE 0
DIRECTION +30
TYPE
JOB NO. 1
HI-1408

TONE
TONE
TONE
TONE
TONE
TONE
TONE
TONE