6000 0655

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-170-98
AUTHOR	K. Allen; 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 160'; hand written notes down hole camera images 21 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 4/28/2008
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

D-170-98

6000 0655

4010

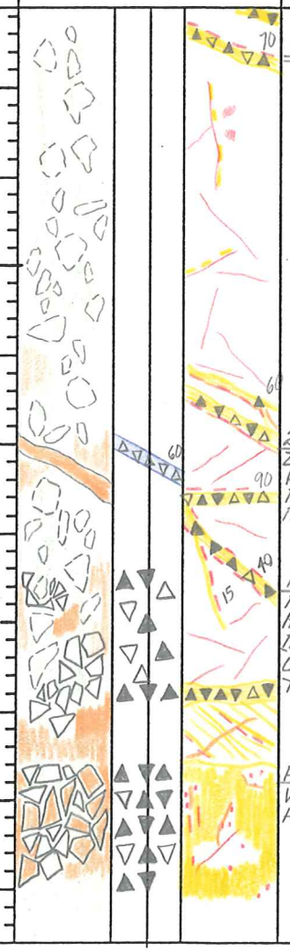
6000 0655

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

Hecla
MINING COMPANY

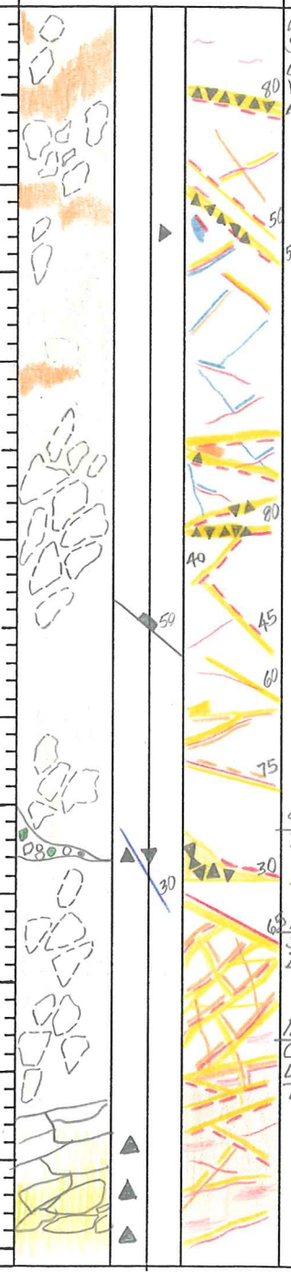
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-170-98	LOCATION	EAST ZONE	REMARKS	STOPE 43 ACCESS
PAGE 1 OF 3		NORTHING			
DATE	02/10/98	EASTING			
LOGGED BY	HJM	ELEVATION			
SCALE	1"=10'	AZIMUTH	N54°W		
TOTAL DEPTH	160.0	INCLINATION	+10°		

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0-120 DOZER	0'-160 REDUCED	0-117.9': PALE GREENISH GRY AUTOBRECCIATED APHANITIC DOZER. THE AUTOBRECCIA TEXTURE IS WELL-DEVELOPED IN THIS INTERVAL. SUB-ANGULAR FRAGMENTS ARE PICKED OUT BY GRY. (VFG SULFIDE?) OR RUDDY STAINING. THE MOSAIC TEXTURED BXA IS ESSENTIALLY CLAST-SUPPORTED WITHOUT MUCH DISTINCTION BTWN MATRIX & FRAGMENT.	0 10 20 30 40 50		3.0: QZ-MARC CEMENTED BXA VN. 25.4'-26.1': PALE GRN GOUGE ZONE LITTLE DIFFERENT FROM THE SURROUNDING ROCK. SOME GRANULAR MILLED MATERIAL IN GOUGE. FROM ~32'-~50': QUARTZ+ MARCASITE CEMENTED HYDROTHERMAL VEIN BXA INCREASES TO STR. AND OBSCURES EARLIER AUTOBXA TEXTURE. FROM ~25': QZ+MARCASITE VNS VNLTS AT DOMINANTLY HI ∠ TO C/A.	10.0-22': FAINT RUDDY HmOx STAIN IN LARGER FRAGMENTS OF DOZER AUTOBRECCIA. 0-10': MOD. TO STR. DISS'D, VFG PY. MOD/STR. QZ+ MARCASITE VNING. LATER WHT CLAY VNLTS. TR. TO MOD. PERVASIVE CLAY ALTN. 10.0-22': MOD. MARC+/-QZ VNLTS. WHT CLAY + MARC ON FRAX. 22.5'-49.6': INCREASE IN QZ-CEMENTED BXA VNING W/ LATE BLADED MARCASITE & WHT CLAY IN OPEN SPACE. TRACE DISS'D BRASSY PYRITE. FROM ~32'-~50': INCREASED WALLROCK CLAY ALTERATION TO SPOTTY MODERATE OR EVEN STR. IN BXA FRAGMTS. "VN" SiO_2 +/-MARC = WK TO STR. LOCAL SILICIFICATION OF FRAGMENTS. 38.0-39.5': SILICA-CEMENTED HYDROTHERMAL (VN) CRACKLE BRECCIA. PARTIALLY TO FULLY CEMENTED WITH SILICA; ARGILLIZED FRAGMENTS. 39.5-43.5': STR. QZ-MARC VN STKWK BTWN BXAS. MOD'LY ARGILLIZED WALLROCK. 43.5-49.6: SILICA-CEMENTED HYDROTHERMAL VEIN CRACKLE TO RUBBLE BXA. INCREASED ARGILLIZATION OF WALLROCK. BELOW 49.6': BXA'N & VNING DECREASE SIGNIFICANTLY.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag
0	5.0					
5.0	10.0					
10.0	15.0					
15.0	20.0					
20.0	22.5					
22.5	25.0					
25.0	27.6					
27.6	31.6					
31.6	35.0					
35.0	39.2					
39.2	43.5					
43.5	47.2					
47.2	49.8					

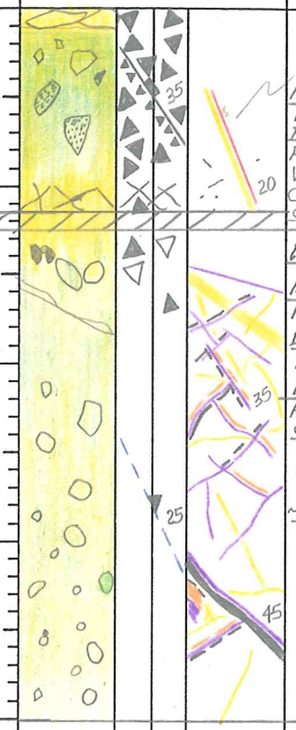
HOLE NUMBER D-170-98 PAGE 2 OF 3

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0'-120.7' DOZER	0'-160' REDUCED	0'-~67': CONTINDED GRAY/GRN-GRY FAINTLY AUTOBRECCIATED DOZER. TEXTURE DECREASES IN CLARITY. MATRIX RK FLOUR IS COMMONLY PICKED OUT BY STRONGER ARGILLIZATN & TR. BLCHING - IT IS LIGHTER & CAN BE PUNKY.	50 60 70 80 90 100 110 120		WK FRAX; LITTLE TO NO STRAIGHT-WALLED JOINTING. QUARTZ-MARCASITE ~~STOIA~~ VNLS & VNLTS DOMINANTLY HI ∠ TO C/A	49.6-75.7': LESS MINERALIZED, UNBRECCIATED. MOD TO WK QUARTZ-MARCASITE BXA VNING AND VNLTS. ~~MARCASITE~~? IN WAVY PARTINGS SUB ⊥ C/A. WK PYRITIC BLEBBING IN WALLROCKS. SPOTTY, LOCAL PUNKY STR/MOD. ARGILLIZATN
		67.0-~75': AUTOBXA EXTREMELY FAINT TO ABSENT. SOME PSEUDO BXA MOTTLING W/ LIGHTER MATRIX.				67': CALCITE APPEARS W/ QZ-MARC +/- WHT CLAY. GONE BY ~75'. ASSOC'D GENERAL DECREASE IN DENSITY & THICKNESS OF QZ+MARC VNING. TR. WALLROCK CLAY.
		~75': AUTOBXA TEXTURE PICKS UP SLIGHTLY.				75.7'-80.5': QUARTZ + MARCASITE +/- WHT CLAY INCREASED TO STRONG VEINING & VN BXA. NOTE SILICA OVERPRINTS OR DEPOSITED W/ CLAY. LATE WHT CLAY ON FRAX & IN LEACHED VUGS IN QZ. SLIGHT INCREASE IN Py STRINGER VNLTS & BLEBS. TR/WK WALLROCK ARGILLIZATION.
		~84-90': NO AUTOBXA. FLOW BANDING AT LOW ∠S TO C/A				
		90-~109': FAINT AUTOBXA UNTIL LATER HYDROTHERMAL BRECCIATION OBSCURES IT.				
					98': SILICIFIED MILLED ZONE. 30° TO C/A.	98': LARGE IRREGULAR QUARTZ + MARCASITE VEIN BRECCIA CONTAINING GREENISH PEBBLES OF POSS. BUD DERIVATION, GRY SULFIDIC SILICA.
					101.5-110': STRONGLY STRWKED, STILL SOLID DOZER	101.5-110.0': STRONGLY QUARTZ + MARCASITE VEINED W/ GRY SULFIDIC SILICA-CEMENTED BXA VNS. TR./WK ARGILLIZATION OF WALLROCK. BELOW 110.0': RUDDY TEXTURE PICKS UP IN GROUNDMASS/DOZER FRAGMTS,
					110.0-117.2': HYDROTHERMAL CRACKLE BRECCIA IN FOOTWALL DOZER PROXIMAL TO S. RIDGE FAULT ZONE.	110.0-117.9': CRACKLE BRECCIATED DOZER: QUARTZ + MARCASITE +/- LATE CLAY VNING CREATES A SILICA-CEMENTED CRACKLE BXA. TR. SiO_2 IN FRAGMENTS.
		118.0-121': MIXED DOZER AND GREEN VOLCANICLASTIC BUD, SUB-ANGULAR TO SUB-ROUNDED, PEBBLE-SIZED FRAGMENTS IN SILICA MATRIX.				
117.9-137.3' S. RIDGE	FLT	121.0': BRECCIA FRAGMTS BECOME > 90 % GRN BUD.				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
49.8	55.3				
55.3	60.0				
60.0	65.0				
65.0	70.0				
70.0	75.5				
75.5	80.0				
80.0	85.0				
85.0	90.0				
90.0	93.8				
93.8	97.2				
97.2	98.1				
98.1	101.6				
101.6	102.8				
102.8	104.1				
104.1	106.9				
106.9	110.0				
110.0	113.8				
113.8	117.9				
117.9	120.0				

HOLE NUMBER J-170-98 PAGE 3 OF 3

LITH.	OX/RED	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0-120.7 DOZER 117.9-137.3 S. RIDGE PRIMARILY IN UBUD FROM 120.7 137.3-160.0' UBUD		120.0-120.7: DOMINANTLY ANGULAR FRACTURED DOZER FRAGMENTS IN DARK GRAY SULFIDIC SILICA CEMENT ~120.7: ROUGH CONTACT IN FAULT BRECCIA ZONE 120.0-121.0': INTENSELY SILICIFIED FAULT/HYDROTHERMAL BRECCIA. GRADES DOWN INTO: ~121.0-125.0': FAINTLY GRNISH GRY RK FLOOR MATRIX, SILICA FLOODED AND VNED MOD. TEXTURE DESTRUCTION. MATRIX-SUPPORTED, SUB-ROUNDED, GRN CLAY ALTERED, BUD FRAGMENTS. MOD'LY/WKLY SILICIFIED & MOSTLY PEBBLE-SIZED. 125.0'-127.4': BELOW WHT MILKY SILICA VN FAULT, SHEARED DEFORMED COBBLES OF BLUE-GRN BUD ARE CEMENTED BY GRY SILICA. 127.4'-130.0': MOTTLED, INTENSE TEXTURE-DESTRUCTIVE SILICA AND TOTAL REPLACEMENT SILICA. 130.0-131.1': SOOTY SILICIFIED SULFIDE MATRIX WKLY CEMENTS BROKEN, TIGHTLY-PACKED, GRY REPLACEMENT SILICA. 131.1-131.5': BROKEN, COMPLETELY UNHEALED GRY REPLACEMENT SILICA. 132.5'-137.3': MOTTLED GRY REPLACEMENT SILICA IS LOCALLY LEACHED A/O BRECCIATED BY LATER EVENT. STOCKWORKED & RE-CEMENTED W/ VNS OF BLOCKY WHT BARITE +/- SOOTY GRY-BLK SULFIDE +/- LATE STIBNITE SPRAYS. 137.3-160.0: VEINS OF "REPLACEMT" SILICA IN PLASTICALLY DEFORMED, DISTORTED FUZZY GRN BUD. T.D. 160.0'	120 130 140 150 160		LATER WHT SILICA VN/FT 117.9-137.3: SOUTH RIDGE FAULT 120.0-121.0': MULTI-EPISODE HYDROTHERMAL A/O FAULT BRECCIA. FRAGMTS = SUB-ANGULAR DOZER CHIPS IN V. DARK SILICA-SULFIDE. CEMENTED W/ SLIGHTLY LESS SULFIDIC GRY SILICA. 125': VN/FAULT AT 35° TO C/A 130.0-131.1': BROKEN, SEMI-HEALED. 131.1-131.5': UNHEALED RUBBLE. 132.5-137.3': HEALED & SEMI-HEALED SILICA. BARITE VN STKWK BELOW 135'. ~148.5': WK SHEAR AT 25° TO C/A.	118.0'-120.0': GRADUAL INCREASE IN WALLROCK SILICIFICATION. 120.0-121.0': TOTAL SILICA-SULFIDE REPLACEMENT IN MATRIX, INTENSE SILICA & VFG DARK SULFIDE. 121.0- : CONT'D INTENSE TO STRONG SILICIFICATION, OVERPRINTING GRN CLY ALTERATION. MODERATE/WK BLEBS DISS'D MARCASITE. 127.4': STIBNITE IN SILICA & ON OPEN IRREGULAR FRAX. INCREASE IN TEXTURE-DESTRUCTIVE GRY SILICA. 137.3-160.0: STR. GRY SILICA VNING MOD. DISS'D MARCASITE. MOD. LATE BARITE + STIBNITE + WHT CLAY OPEN VNS. WANING STRONG TO MOD. SILICIFICATION. 154.0': 1" WIDE MASSIVE STIBNITE VN RIMMED W/ BARITE

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
120.0	121.3				
	125.0				
125.0	127.4				
127.4	130.0				
130.0	131.1				
132.5	135.0				
135.0	137.3				
137.3	140.0				
140.0	145.0				
145.0	150.0				
150.0	155.0				
155.0	160.0				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-170-98 DATE 2/2/98 LOGGED BY: R. PARISH PAGE 1 OF 3

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	84	84	14										
5	10	98	98	42										
10	15	102	102	61										
15	20	100	100	84.0										
20	25	100	100	64.0										
25	30	102.0	102.0	58.0										
30	35	92.0	92.0	60.0										
35	40	100.0	100.0	72.0										
40	45	81.0	86.0	48.0										
45	50	100.0	100.0	56.0										
50	55	102.0	102.0	60.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-170-98 DATE 2/2/98 LOGGED BY: R PARISH PAGE 2 OF 3

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)
55	60	104.0	104.0	60.0										
60	65	88.0	88.0	38.0										
65	70	104.0	104.0	78.0										
70	75	100.0	100.0	72.0										
75	80	102.0	102.0	50.0										
80.0	85.0	100.0	100.0	78.0										
85.0	90.0	102.0	102.0	64.0										
90.0	95.0	100.0	100.0	78.0										
95.0	100.0	98.0	98.0	98.0										
100.0	105.0	100.0	100.0	52.0										
105.0	110.0	94.0	94.0	10.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-170-98 DATE 02/10/98 LOGGED BY: HJM PAGE 3 OF 3

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)
110.0	115.0	92.0	92.0	32.0										
115.0	120.0	96.0	96.0	72.0										
120.0	125.0	100.0	100.0	80.0										
125.0	130.0	100.0	100.0	66.0										
130.0	132.5	48.0	60.0	36.0										
132.5	135.0	100.0	100.0	96.0										
135.0	140.0	80.0	97.0	54.0										
140.0	145.0	102.0	102.0	60.0										
145.0	150.0	92.0	92.0	50.0										
150.0	155.0	102.0	102.0	72.0										
155.0	160.0	96.0	96.0	44.0										

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048152

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0605; Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-170-98 RECEIVED : 18 FEB 1998

No. SAMPLES : 46 REPORTED : 4 MAR 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 SP048152

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-170-98

REPORTED : 4 MAR 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-170-98 00-05		0.020			0.25	
D-170-98 05-10		0.005			0.07	
D-170-98 10-15		0.004			0.03	
D-170-98 15-20		0.030			0.05	
D-170-98 20.0-22.5		0.006			0.04	
D-170-98 22.5-25.0		0.016			0.05	
D-170-98 25.0-27.6		0.012			0.06	
D-170-98 27.6-31.6		0.008			0.04	
D-170-98 31.6-35.0		0.022			0.07	
D-170-98 35.0-39.2		0.023			0.94	
D-170-98 39.2-43.5		0.040			0.16	
D-170-98 43.5-47.2		0.039			0.07	
D-170-98 47.2-49.8		0.019			0.07	
D-170-98 49.8-55.3		0.094		0.089	0.10	
D-170-98 55.3-60.0		0.035	0.031		0.03	
D-170-98 60-65		0.061		0.030	0.05	
D-170-98 65-70		0.085		0.058	0.05	
D-170-98 70.0-75.5		0.068		0.059	0.62	
D-170-98 75.5-80.0		0.123		0.113	0.14	
D-170-98 80-85		0.104		0.100	0.11	90-125 = 35' @
D-170-98 85-90		0.119		0.170	0.08	
D-170-98 90.0-93.8	3.8	0.275		0.285	0.85	
D-170-98 93.8-97.2	3.4	0.174		0.141	0.07	0.722 opt Au
D-170-98 97.2-98.1	0.9	0.810		1.078	0.51	1.13 opt Ag
D-170-98 98.1-101.6	3.5	0.162		0.139	0.11	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048152

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-170-98

REPORTED : 4 MAR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-170-98 101.6-102.8 1.2	5.362		5.375	6.12
D-170-98 102.8-104.1 1.3	0.328		0.342	1.13
D-170-98 104.1-106.9 2.8	1.369		1.475	2.67
D-170-98 106.9-110.0 3.1	0.780		0.852	1.35
D-170-98 110.0-113.8 3.8	0.392		0.422	0.25
D-170-98 113.8-117.9 4.1	0.875		0.919	0.92
D-170-98 117.9-120.0 2.1	0.898		1.113	1.87
D-170-98 120.0-121.3 1.3	0.816		0.915	2.52
D-170-98 121.3-125.0 3.7	0.320		0.320	0.81
D-170-98 125.0-127.4	0.017			0.04
D-170-98 127.4-130.0	0.007			0.33
D-170-98 130.0-131.1	0.013			2.44
D-170-98 131.1-131.5	0.009			1.67
D-170-98 132.5-135.0	0.009			2.52
D-170-98 135.0-137.3	0.009			0.25
D-170-98 137.3-140.0	0.002			0.03
D-170-98 140-145	0.002			0.20
D-170-98 145-150	0.002			0.14
D-170-98 150-155	0.004			0.69
D-170-98 155-160	0.003			0.19
26748	0.544			ISF

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 0048152-IN
INVOICE DATE: 03/09/98

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-170-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
46	SAMPLES RECEIVED	.00	.00
45	DRYING	1.00	45.00
45	JAW CRUSHING CHARGE	1.30	58.50
45	COARSE MILLING CHARGE	4.50	202.50
45	SPLITTING CHARGE	2.40	108.00
45	RING MILLING CHARGE	2.00	90.00
46	Au (1 A.T. FIRE ASSAY)	8.00	368.00
20	Au ANALYSES/GRAVIMETRIC	8.75	175.00
45	HYDROCHLORIC/NITRIC DIGESTION	2.00	90.00
45	Ag ANALYSES	1.00	45.00
7	Ag (ore grade) ANALYSES	5.00	35.00

86-5110-477

NET INVOICE:	1,217.00
LESS DISCOUNT:	243.40
FREIGHT:	.00
INVOICE TOTAL:	973.60

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP048152

American Assay Laboratories

PO BOX 11530
RENO NV,USA
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HECLA MINING COMPANY

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SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048152

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-170-98

REPORTED : 4 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-170-98 00-05	0.020			0.25
D-170-98 05-10	0.005			0.07
D-170-98 10-15	0.004			0.03
D-170-98 15-20	0.030			0.05
D-170-98 20.0-22.5	0.006			0.04
D-170-98 22.5-25.0	0.016			0.05
D-170-98 25.0-27.6	0.012			0.06
D-170-98 27.6-31.6	0.008			0.04
D-170-98 31.6-35.0	0.022			0.07
D-170-98 35.0-39.2	0.023			0.94
D-170-98 39.2-43.5	0.040			0.16
D-170-98 43.5-47.2	0.039			0.07
D-170-98 47.2-49.8	0.019			0.07
D-170-98 49.8-55.3	0.094		0.089	0.10
D-170-98 55.3-60.0	0.035	0.031		0.03
D-170-98 60-65	0.061		0.030	0.05
D-170-98 65-70	0.085		0.058	0.05
D-170-98 70.0-75.5	0.068		0.059	0.62
D-170-98 75.5-80.0	0.123		0.113	0.14
D-170-98 80-85	0.104		0.100	0.11
D-170-98 85-90	0.119		0.170	0.08
D-170-98 90.0-93.8	0.275		0.285	0.85
D-170-98 93.8-97.2	0.174		0.141	0.07
D-170-98 97.2-98.1	0.810		1.078	0.51
D-170-98 98.1-101.6	0.162		0.139	0.11

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048152

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-170-98

REPORTED : 4 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-170-98 101.6-102.8	5.362		5.375	6.12
D-170-98 102.8-104.1	0.328		0.342	1.13
D-170-98 104.1-106.9	1.369		1.475	2.67
D-170-98 106.9-110.0	0.780		0.862	1.35
D-170-98 110.0-113.8	0.392		0.422	0.25
D-170-98 113.8-117.9	0.875		0.919	0.92
D-170-98 117.9-120.0	0.898		1.113	1.87
D-170-98 120.0-121.3	0.816		0.915	2.52
D-170-98 121.3-125.0	0.320		0.320	0.81
D-170-98 125.0-127.4	0.017			0.04
D-170-98 127.4-130.0	0.007			0.33
D-170-98 130.0-131.1	0.013			2.44
D-170-98 131.1-131.5	0.009			1.67
D-170-98 132.5-135.0	0.009			2.52
D-170-98 135.0-137.3	0.009			0.25
D-170-98 137.3-140.0	0.002			0.03
D-170-98 140-145	0.002			0.20
D-170-98 145-150	0.002			0.14
D-170-98 150-155	0.004			0.69
D-170-98 155-160	0.003			0.19
26748	0.544			ISF

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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(702) 738-2594

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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: 02/17/98 Number of Samples: 44

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

D-170-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED
0-5.0	60.0-65.0		CORE	AU-AG ACCORDING TO ROSEBUD
5.0-10.0	65.0-70.0			MINE PROTOCOL
10.0-15.0	70.0-75.5			
15.0-20.0	75.5-80.0	113.8-117.9		140.0-145.0
20.0-22.5	80.0-85.0	117.9-120.0		145.0-150.0
22.5-25.0	85.0-90.0	120.0-121.3		150.0-155.0
25.0-27.6	90.0-93.8	121.3-125.0		155.0-160.0
27.6-31.6	93.8-97.2	125.0-127.4		
31.6-35.0	97.2-98.1	127.4-130.0		
35.0-39.2	98.1-101.6	130.0-131.1		
39.2-43.5	101.6-102.8	131.1-131.5		
43.5-47.2	102.8-104.1	132.5-135.0		
47.2-49.8	104.1-106.9	135.0-137.3		
49.8-55.3	106.9-110.0	137.3-140.0		
55.3-60.0	110.0-113.8			

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:

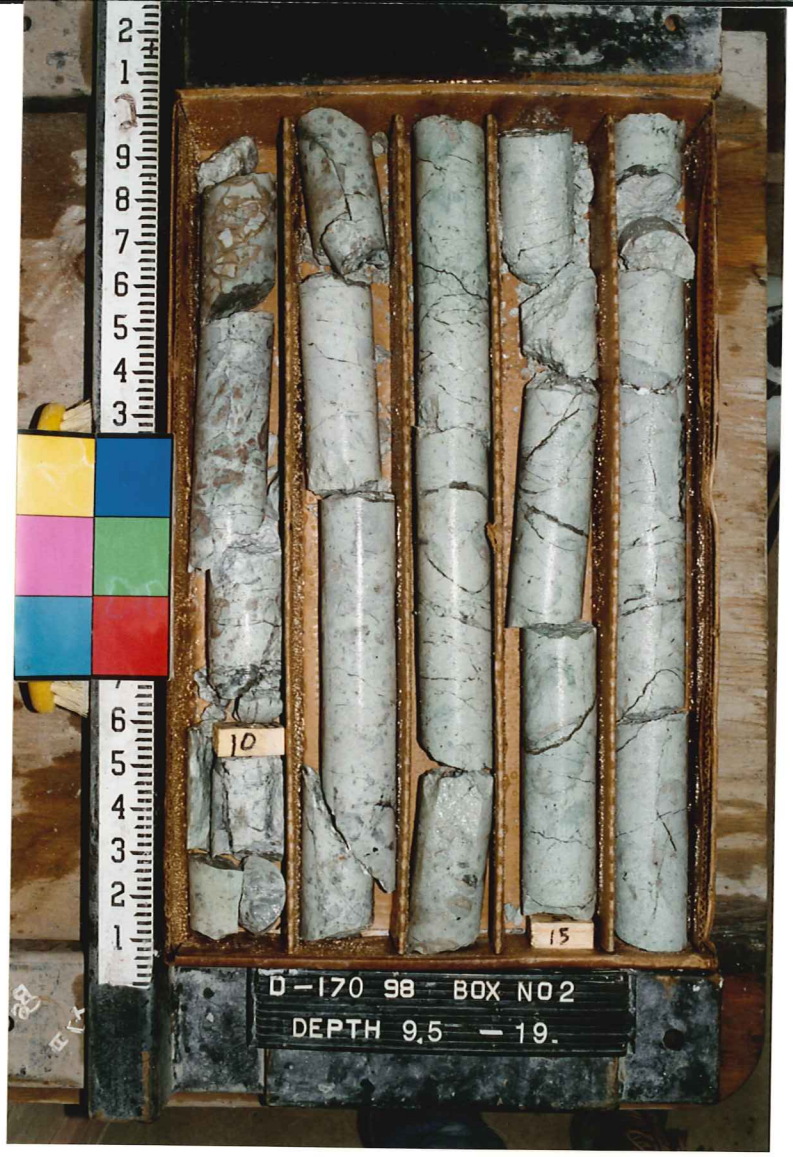
KURT ALLEN

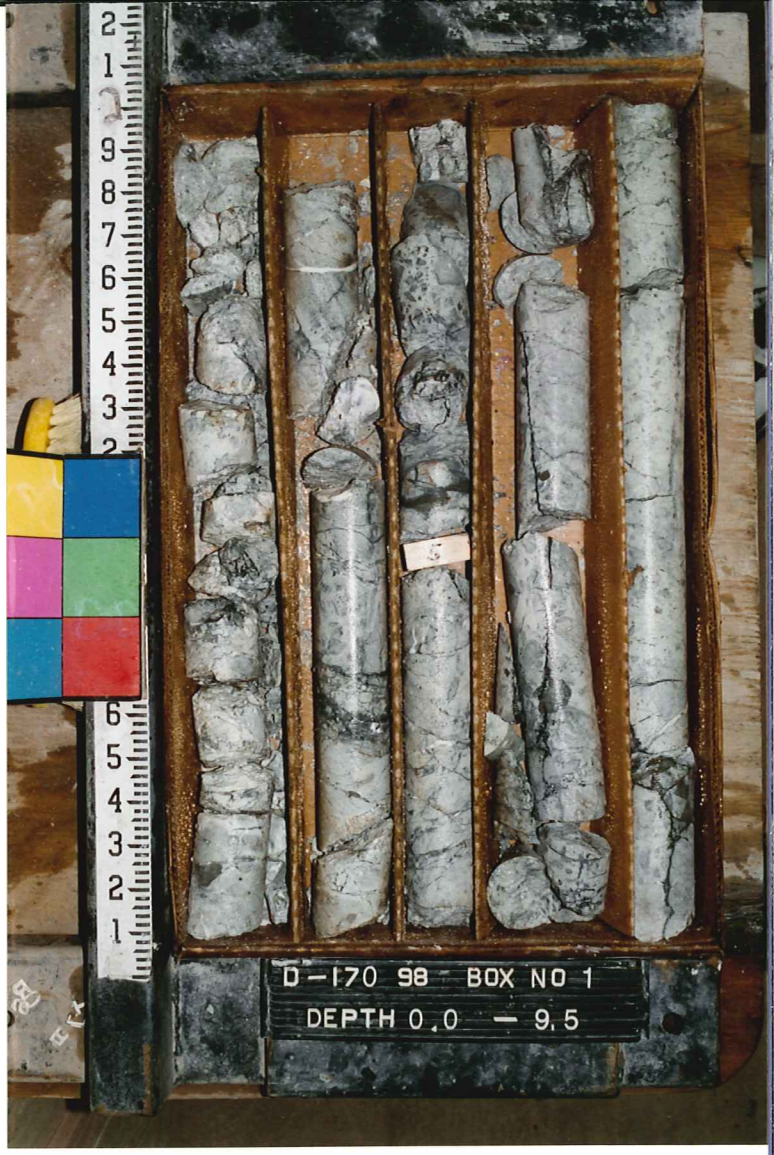
Comments:

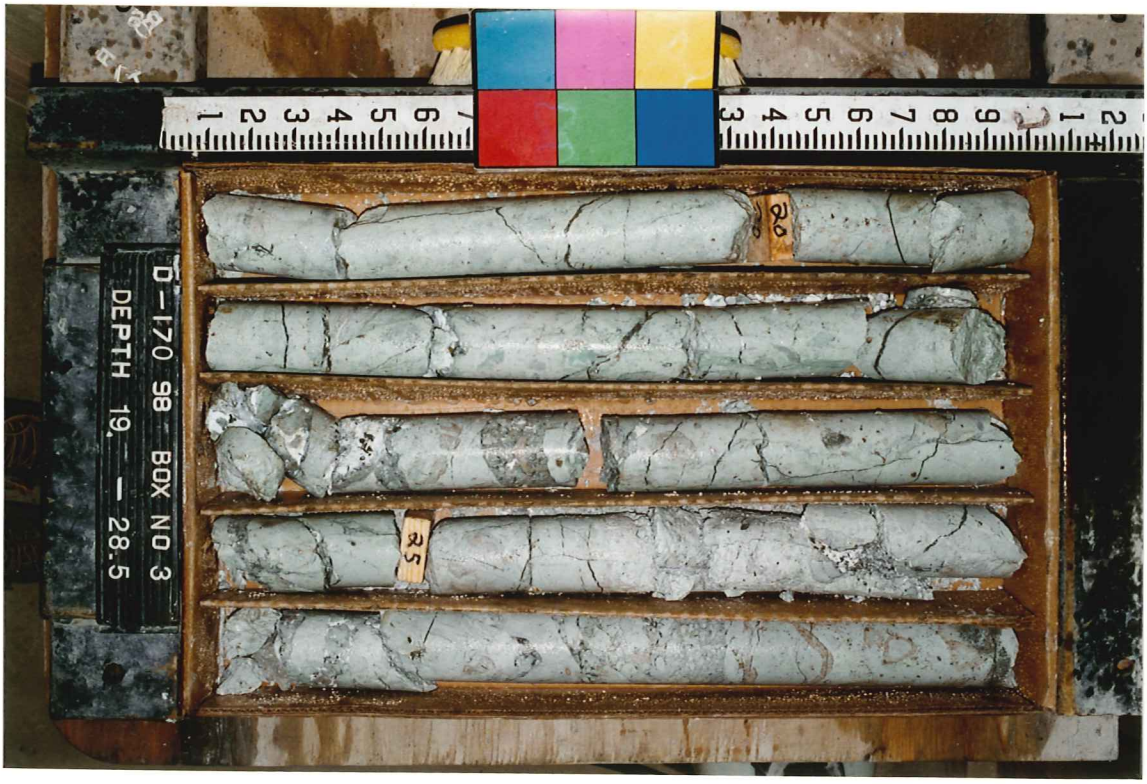
CLIENT FILE COPY

DOWNHOLE SURVEY MAGNETIC DECLINATION: 15.7°

DRILLHOLE #	FILM FOOTAGE	BEARING	DIP	TRUE BEARING	TRUE DIP
D-170-98	COLLAR	S71.0E	80.5°	N55.3°W	+9.5°
	80'	S71.0E	81.0°	N55.3°W	+9.0°
	160'	S71.5E	81.0°	N55.8°W	+9.0°


D-170 98 BOX NO 2
DEPTH 9.5 — 19.
10
15


D-170 98 BOX NO 1
DEPTH 0.0 — 9.5
5

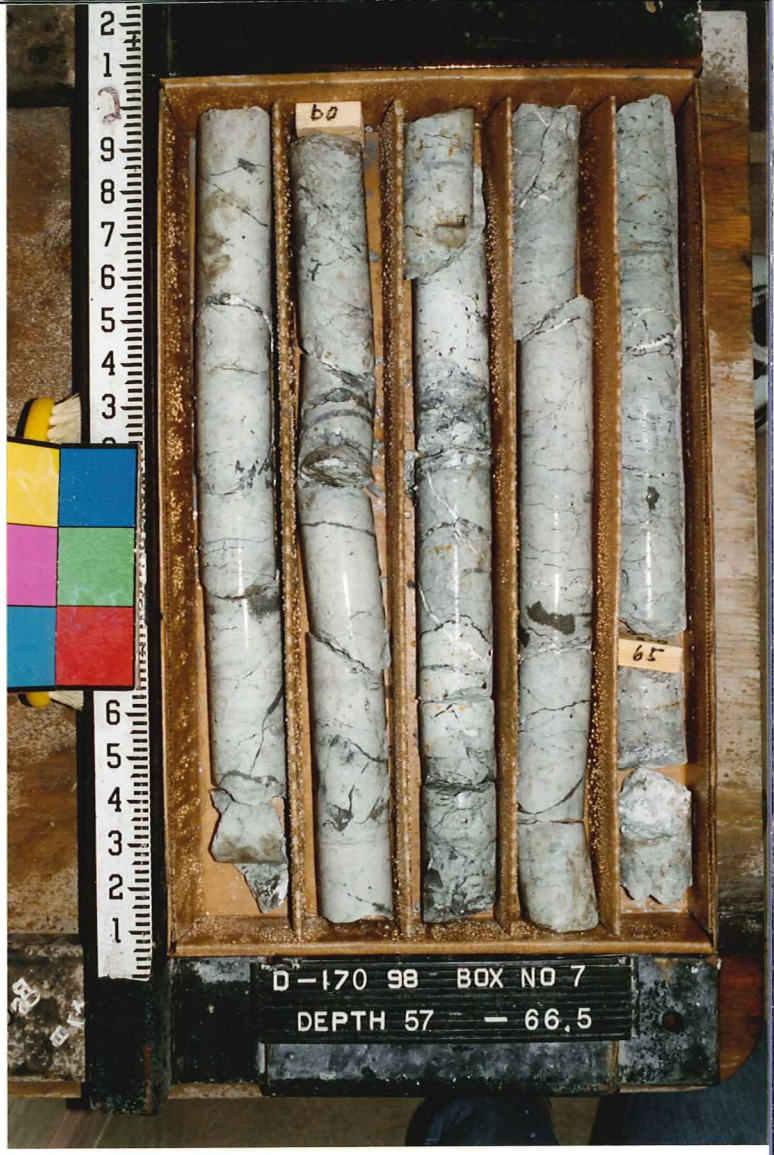

D-170 98 BOX NO 3
DEPTH 19. — 28.5
20
25

D-170 98 BOX NO 5
DEPTH 38. — 47.5
40
45

D-170 98 BOX NO 4
DEPTH 28.5 — 38.
35

D-170 98 BOX NO 6
DEPTH 47.5 — 57
50
55

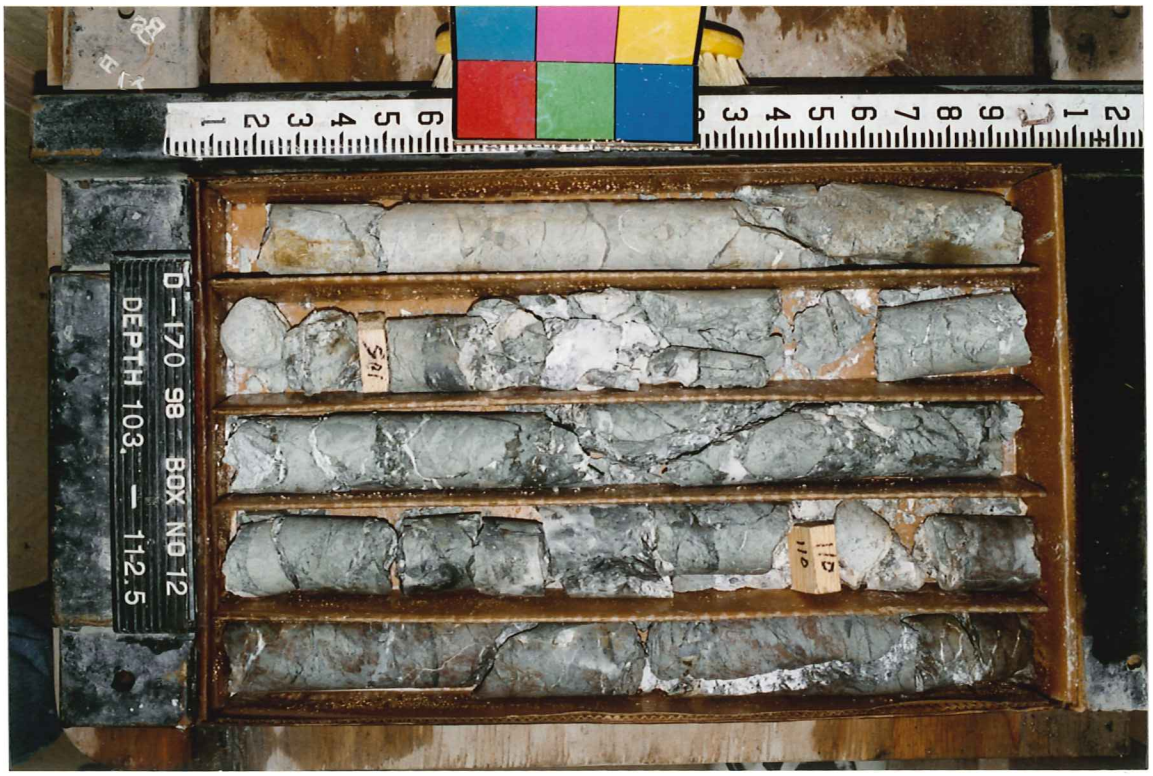
D-170 98 BOX NO 8
DEPTH 66.5 — 75.5


D-170 98 BOX NO 7
DEPTH 57 — 66.5

D-170 98 BOX NO 9
DEPTH 75.5 — 84.5

D-170 98 BOX NO 11
DEPTH 93.5 — 103.

D-170 98 BOX NO 10
DEPTH 84.5 — 93.5


D-170 98 BOX NO 12
DEPTH 103. — 112.5

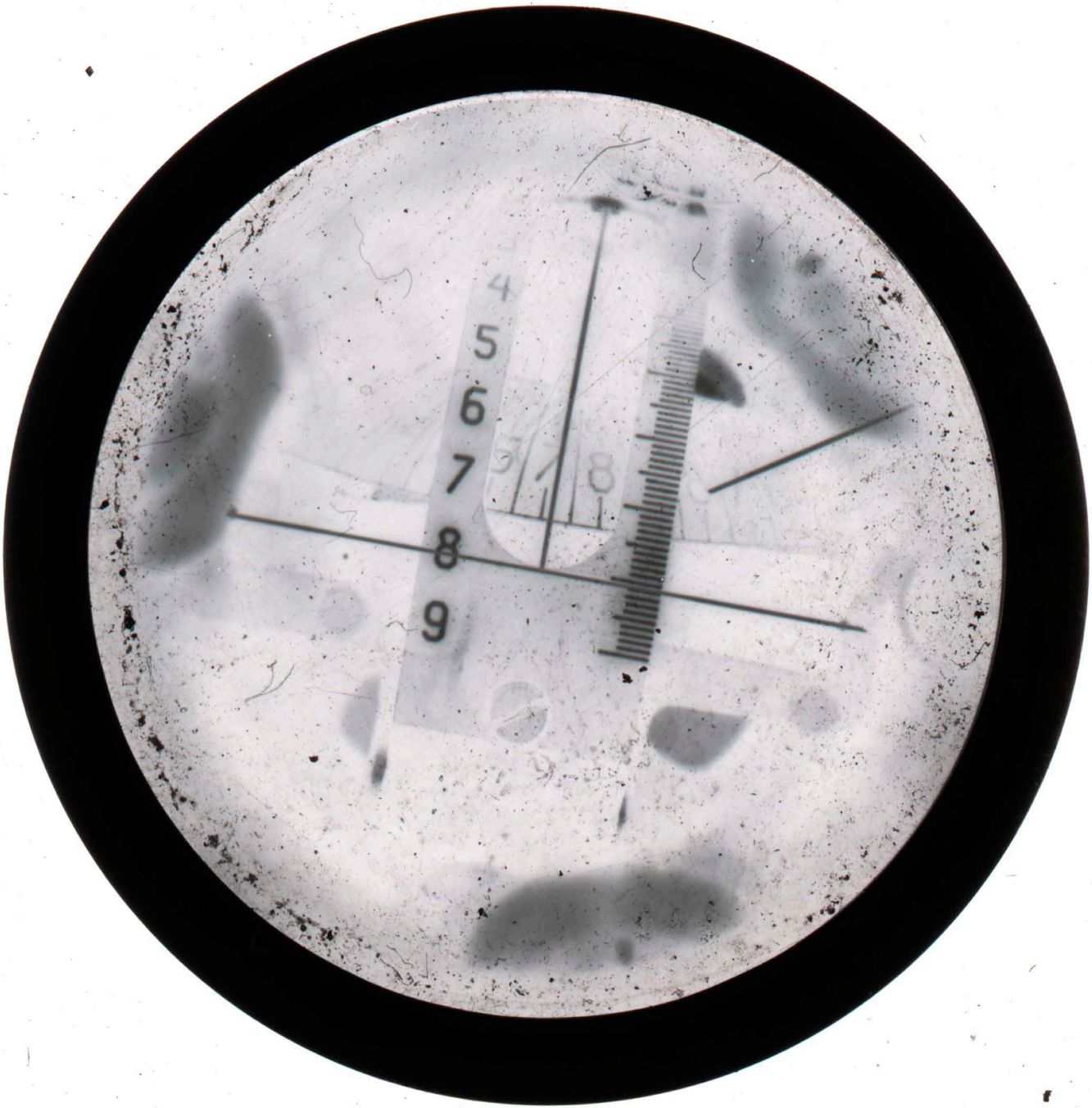
125
130
D-170 98 BOX NO 14
DEPTH 122. — 131.5

120
115
D-170 98 BOX NO 13
DEPTH 112.5 — 122.

VOID
132.5
135
140
D-170 98 BOX NO 15
DEPTH 131.5 — 141.

160'
155'
D-170 98 BOX NO 17
DEPTH 150.5 — 160.TD

150'
145'
D-170 98 BOX NO 16
DEPTH 141. — 150.5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