60001100

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-220-98
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.; East Zone
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; photographs; total depth 275' receipt; handwritten notes; downhole camera images 32p. 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)

Revised: 1/22/08

	Initials	Date
SS:	DP	5/13/08
DB:	mah	
SCANNED:		

D-220-98

60001100 4/010

60001100

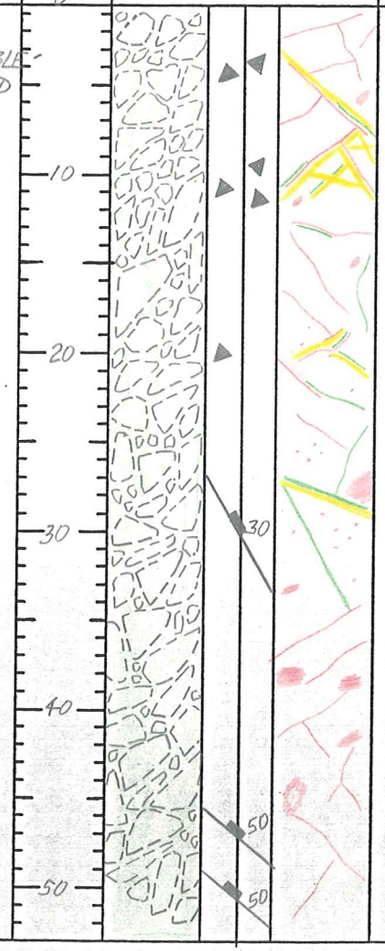
Hecla MINING COMPANY

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

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-220-98	LOCATION	STOPE 42, EAST
PAGE	1 OF 5	NORTHING	
DATE	05/22/98	EASTING	
LOGGED BY	KBM	ELEVATION	
SCALE	1"=10'	AZIMUTH	N54°W
TOTAL DEPTH	275'	INCLINATION	+6°

REMARKS

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0'- DOZER		0.0'- : WELL-DEVELOPED LIGHT GRNISH-GRAY DOZER. BLEACHED RIMS HI-LIGHT SUB-ANGULAR PEBBLE- TO VFG SAND-SIZED FRAGMENTS. WELL-DEVELOPED MOSAIC BXA TEXTURE. FROM ~30': COBBLE-SIZED FRAGMTS	0 10 20 30 40 50			0.0 - 20.0': MODERATE TO STR. SILICA +/- MARC/PY CEMENTED BRECCIA VNING & YELLOW-GRN CLAY COATING FRAX & VNLTS = MODERATE. LT GRN CLAY IS IN WITH SILICA. WK PERVASIVE GRN CLAY ALTERATN. 20.0'-86.6': FAINT RUDDINESS HI-LIGHTS FLOW-BANDING IN FRAGMTS. CONT'D WK PERVASIVE GRN CLAY ALT'N. WK PY BLEBBING. IN WALLROCK SILICA+ MARC VNING REDUCED TO TRACE. CONT'D TR. GRN CLAY ON FRAX. ~50': TRACE WHT CLAY ON FRAX & IN VUGS.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0.0	5.0					
5.0	10.0					
10.0	15.2					
15.2	20.0					
20.0	25.2					
25.2	30.0					
30.0	35.0					
35.0	40.0					
40.0	45.1					
45.1	50.0					

HOLE NUMBER D-220-98 PAGE 2 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
0.0'- DOZER		0.0'- : WELL-DEVELOPED MOSAIC BRECCIA TEXTURED DOZER. LT. GRN. AS ABOVE.	50				50.0	55.1				
			60				55.1	60.0				
						~63': FIRST BLOCKY BARITE ON OPEN QUARTZ+MARCASITE COATED FRAX.	60.0	64.7				
			70				64.7	70.0				
							70.0	75.0				
			80				75.0	80.0				
							80.0	83.6				
						86.6-90.0': STR. SILICA+ MARCASITE +/- WHT CLAY BRECCIA VNING.	83.6	86.6				
			90				86.6	90.0				
						90.0 - 114.3': MOD/WK QUARTZ+ MARC +/- DK Py & WHT CLAY VNLTS. CONT'D WK/TR PERVASIVE GREEN CLAY ALT'N.	90.0	94.8				
			100				94.8	100.0				
							100.0	104.9				
							104.9	110.0				
			110			114.3'- 117': MOD/STR SILICA +/- Py CEMENT IN AUTOBXA & X-CUTTING VNLTS..	110.0	114.3				
							114.3	120.0				
			120									

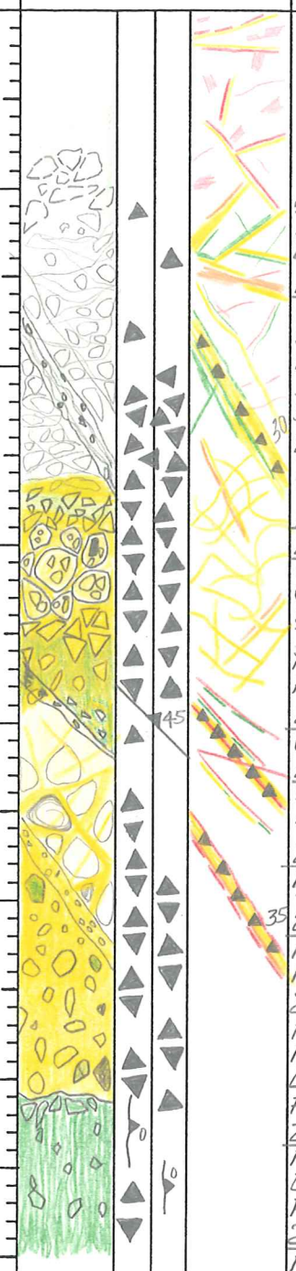
HOLE NUMBER D-220-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0.0' - DOZER		0.0' - 155' = WELL-DEVELOPED, MOSAIC TEXTURED AUTOBRECCIA. CONT'D AS ABOVE.	120			117' - 181.5' = CONT'D WK TO TRACE GRN CLAY ALT'N. VARIABLY MODERATE TO WEAK QUARTZ + MARCASITE VNING +/- BLOCKY BARITE IN OPEN SPACE/VUGS. WK PYRITIC BLEBBING IN GROUNDMASS.
		~155' - ~181' = AUTOBRECCIA TEXTURE GIVES WAY TO FLOW-BANDED, DOMINANTLY UNBRECCIATED, SOLID DOZER.	130			
			140			
			150			
			160	60		
			170			
		~181 - ~187' = AUTOBRECCIA	180			~181.5 - 185.5' = SILICA + BLADED MARCASITE +/- SOOTY BLK SULFIDE INCREASED TO STR./MOD VNLTS & BXA VN CEMENT. WITH WK GRN CLAY IN BXA VNS. CONT'D TR/WK PERVASIVE GRN CLAY WALLRK ALT'N.
			190			

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
120.0	125.0				
125.0	130.0				
130.0	135.0				
135.0	140.0				
140.0	145.0				
145.0	150.0				
150.0	155.2				
155.2	160.0				
160.0	165.0				
165.0	170.0				
170.0	175.0				
175.0	180.3				
180.3	185.5				
185.5	190.0				

HOLE NUMBER D-220-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY
0.0 - 219.0 DOZER		187 - 198': APHANITIC MASSIVE PALE GRY-GRN DOZER. WALLRK IS CRACKED WITH VNLTS BUT LACKS TRUE AUTOBXA TEXTURE. 198.0' - 201.0': WELL-DEVELOPED MOSAIC-TEXTURED AUTOBXA. FROM ~ 201.5': INCREASED SILICA +/- GRN CLAY MARCASITE & L WHT CLAY VNING CUT STRLY BXAT'D DOZER BUT THIS HYDROTHERMAL RELATED BXA IS LATE WRT AUTOBXA TEXTURE. 212.1 - 217.8': WK TO MODERATE TECTONICALLY MILLED BRECCIA IN MONOLITHIC DOZER. 217.8' - 218.5': STRLY GRY SILICA-FLOODED, MATRIX-SUPPORTED, PROBABLY HETEROLITHIC BRECCIA. 218.5' - 219.1': STRLY BRECCIATED CONTORTED DOZER (?) TAN APHANITIC. MULTI-EPISODE BXAT'N.
219.0 - 266.0' SOUTH RIDGE FAULT		219.1 - 224.5': MULTI-EPISODE BRECCIA: SUB-ROUND CLASTS OF FINELY MILLED ~~CATACL~~ MYLONITIC BRECCIA ARE STRLY SILICIFIED & CEMENTED WITH GRY VN SILICA +/- MARC/PY. FRAGMTS = COBBLE-SIZED, RED RK FLOUR MATRIX WITH HETEROLITHIC PEBBLE-SIZED FRAGMENTS.
224.5 - 239.5 PRIMARILY APHANITIC SUB-UNIT.	1 TAN	224.5' - ~ 226': CRACKLE/MOSAIC BRECCIA. GRY SILICA +/- MARC CEMENT. DK DULL TAN, APHANITIC, ANGULAR FRAGMTS SILICIFIED +/ PY DUSTED. 226.0' - 229.0': MORE EXPANDED, MATRIX-SUPPORTED BXA. FAINTLY GRNISH, STRONGLY SILICIFIED RK FLOUR MATRIX. PALE TAN-CRM APHANITIC ~~FRA~~ ANGULAR FRAGMTS. 229.0 - 233.3': VNED BUT UNBRECCIATED DULL DARK TAN APHANITIC UNIT LIKE THAT OF BXA FRAGMENTS FOUND FROM 224.5 - 226'; DUSTED W/ FG PY. BLCHED WKLY BELOW 230' TO AN APPEARANCE SIMILAR TO THE FRAGMTS FOUND FROM 226' - 229.0'. 233.3 - 239.5': SAME RK UNIT AS ABOVE. MONOLITHIC MOSAIC BRECCIA. ANGULAR FRAGMTS, CEMENTED WITH SILICA & FINER FRAGMENTS OF THE SAME. 239.5 - 243.0': SILICA-SOAKED, MATRIX-SUPPORTED, HETEROLITHIC MILLED BRECCIA. GRY SILICIFIED ROCK FLOUR MATRIX. ROUGH-SUB-ROUNDED FRAGMTS OF GRN BUD & VARIOUS OTHER LITHOLOGIES. 243.0 - 249.5': STR'LY TO MOD'LY SILICIFIED GRNISH-GRY ROCK FLOUR MATRIX. FRAGMTS = SUB-ROUNDED COBBLES TO PEBBLES COMPRISED OF PIECES OF EARLIER BXAS & SIGNIFICANT QUANTITIES OF LBT.



STRUCTURE
201.5 - 212.1': WK TECTONIC / HYDROTHERMAL CRACKLE BXA IN DOZER. 212.1 - 217.8': MONOLITHIC WKLY MILLED & SHEARED DOZER. 217.8 - 218.5': MATRIX-SUPPORTED, SILICA-FLOODED STR. FLT ZONE. 219.0 - 224.5 = OLDER, MILLED, MATRIX-RICH TECTONIC BXA REBXAT'D BY HYDROTHERMAL EVENT 224.5 - 226': SILICA-CEMENTED MONOLITHIC CRACKLE BXA. 226 - 229': MATRIX-SUPPORTED MONOLITHIC MILLED SILICIFIED SHEAR AT 45° TO C/A ~ 228.5'. 229' - 233.3': STKWK'D BUT UNBXAT'D. 233.3 - 239.5': MONOLITHIC SILICA CEMENTED MOSAIC BRECCIA. 239.5': STR. SILICIFIED MILLED BXA VN AT 35° TO C/A. 239.5' - 243.0': MATRIX-RICH, MATRIX-SUPPORTED, HETEROLITHIC BRECCIA 243.0' - 249.5': LESS MATRIX-RICH BXA, SIMILAR TO THE ABOVE W/ LARGER FRAGMTS OF PRIOR BXAS. 249.5' - 251.7': MATRIX-RICH, MATRIX-SUPPORTED; MONOLITHIC FRAG-POPULATN. 251.7 - 264.8': SHEARED MATRIX-SUPPORTED BXA UNIT

ALTERATION AND MINERALIZATION
201.5 - 206': STR. SILICA +/- GRN CLAY, MARC & L WHT CLAY VNS & VNLTS. CONT'D PERVASIVE TR. GRN CLAY ALTERATN OF WALLRK. 206' - 212.1': MORE MOD. VNING LESS SILICEOUS. 212.1 - 212.7': SILICA-SOAKED MILLED BXA. RESUMED FAINT RUDDY STAINING IN DOZER FRAGMENTS. 212.7 - 213.4': IRREGULAR-EDGED GRY SILICA +/- GRN CLAY & WK MARC VN AT 30° TO C/A. 213.4 - 217.8': CONT'D WK TO MOD. SILICA-SOAKED MILLED BRECCIA. FAINT RUDDY STAINING IN FRAGMTS. 217.8 - 218.5': STR. REPLACMT GRY SILICA. TR. DISS'D PY 219.0' - 224.5': STR. RUDDY HmOx IN FRAGMTS & STR. SiO_2. STR. GRY SILICA +/- PY/MARC VN/CEMENT. 224.5 - 226': STR. SiO_2 & MOD DISS'D PY IN FRAGMTS; CEMENTED W/ STR GRY SILICA + MARC. 226.0' - 229.0': WK GRN CLAY, STR SILICA IN MATRIX, WK DISS'D MARC/PY. 229.0 - 233.3': MOD. SILICA + MARC/PY + WAXY GRN CLAY VNLTS. WK DISS'D PY. 233.3' - 239.5': STR. GRY SILICA + MARC/PY CEMENT 239.5 - 243': STR/INT SiO_2 IN MATRIX, WK DISS'D MARC/PY. FRAGMT ARE MOSTLY STRLY SILICIFIED, WITH GRN CLAY ALT'N OF BUD MAT'L.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
190.0	194.0				
194.0	198.0				
198.0	201.4				
201.4	206.0				
206.0	212.1				
212.1	213.5				
	217.8				
217.8	219.1				
219.1	224.5				
224.5	226.0				
224.5	229.0				
229.0	233.3				
233.3	239.5				
239.5	243.0				
243.0	246.0				
246.0	249.5				
249.5	251.7				
251.7	256.0				

HOLE NUMBER D-220-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
219.0 - 266.0 SOUTH RIDGE FAULT	RIDGE	249.5 - 251.7': STRLY SILICIFIED GRNISH MATRIX RK FLOUR. PERLITICALLY CRACKED PUNKY PALE BRN SUB-ROUNDED (JUVENILE ?) FRAGMTS FLOAT IN THIS SILICIFIED MATRIX. THEY MAY HAVE CLAY VITROPHYRE AFFINITIES. 251.7 - 264.8': STRONGLY SHEARED GRN CLAY-ALTERED MATRIX-SUPPORTED BRECCIA UNIT. BANDED, MED. GRN VFG PLASTICALLY DEFORMED FRAGMTS FLOAT IN A VFG GRN CLAY MATRIX SHEAR BANDED // TO C/A. ~264 - 266': GRY SILICA FLOODED TECTONICALLY MILLED BXA BEGINS TO OVERPRINT THE ABOVE UNIT BY ~264', & COMPLETELY REPLACES IT AT 264.8'. THIS SILICA REPLACED BXA IS FOLIATED // TO 2 SLICKED JOINTS BTWN 265.6 - 266.0'. JNT AT 266'. HOLE ENDED IN FLT ZONE. 266' T.D.	260 270	85 40 40 20 25 30	264.8 - 266': MILLED, HETEROLITHIC MATRIX-SUPPORTED BXA. SHEAR // FROM 265.4'	243.0 - 249.5': STR SiO_2 OVERPRINTING MOD. GRN INT CLAY ALTN IN MATRIX. MOD/STR CLAY ALT'N IN FRAGMTS W/ VARIABLE SILICIFICATN. SPOTTY L. WHT CLAY + SILICA IN VUGS. WK DISS'D MARC/PY. 249.5' - 251.7': STR SILICIFIC ATN OVERPRINTING SOME GRN CLAY IN MATRIX. BLCHD PUNKY ARGILLIZED FRAGMTS. 251.7' - 264.8': STR. GRN CLAY ALT'N. MOD SILICA VNING, +/- WHT CLAY. ~263': PERVASIVE TO STRUCK GRY SILICA - SULFIDE PICKS UP INCREASING DOWN-WARDS TO > 90% REPLACE-MENT BY 264.8'. 264.8' - 266': >90% REPLACE-MT SILICA - SULFIDE. SOOTY SULFIDE ON ~~**~~ JNT @ 266'	256.0 260.8 263.0 264.8	260.8 263.0 264.8 266.0				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-220-98 DATE: 05/21/98 LOGGED BY: HBM PAGE 1 OF ____

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	ROD	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)
0.0	5.0	100.0	100.0	84.0										
5.0	10.0	92.0	92.0	58.0										
10.0	20.0	103.0	103.0	83.0										
20.0	30.0	92.0	92.0	52.0										
30.0	40.0	98.0	98.0	58.0										
40.0	50.0	101.0	101.0	50.0										
50.0	60.0	100.0	100.0	73.0										
60.0	70.0	100.0	100.0	76.0										
70.0	80.0	100.0	100.0	69.0										
80.0	90.0	105.0	105.0	80.0										
90.0	100.0	102.0	102.0	91.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-220-98 DATE: 05/21/98 LOGGED BY: HSM PAGE 2 OF 3

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	ROD	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)
100.0	110.0	92.0	92.0	66.0										
110.0	120.0	96.0	96.0	83.0										
120.0	130.0	100.0	100.0	80.0										
130.0	140.0	95.0	95.0	48.0										
140.0	150.0	105.0	105.0	12.0										
150.0	160.0	101.0	101.0	90.0										
160.0	170.0	90.0	90.0	6.0										
170.0	179.5	80.0	84.2	27.4										
179.5	182.5	146.7	146.7	40.0										
182.5	188.0	87.3	87.3	45.5										
188.0	194.0	100.0	100.0	15.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-220-98 DATE: 05/21/98 LOGGED BY: HSM 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
194.0	199.0	94.0	94.0	44.0										
199.0	204.0	96.0	96.0	44.0										
204.0	206.0	100.0	100.0	80.0										
206.0	211.0	100.0	100.0	66.0										
211.0	216.0	104.0	104.0	54.0										
216.0	221.0	100.0	100.0	74.0										
221.0	226.0	102.0	102.0	62.0										
226.0	236.0	105.0	105.0	74.0										
236.0	246.0	100.0	100.0	83.0										
246.0	256.0	99.0	99.0	77.0										
256.0	266.0	93.0	93.0	70.0										

T.D.

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 0048978-IN
INVOICE DATE: 06/05/98

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-220-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
62	SAMPLES RECEIVED	.00	.00
61	JAW CRUSHING CHARGE	1.30	79.30
61	COARSE MILLING CHARGE	4.50	274.50
61	SPLITTING CHARGE	2.40	146.40
61	RING MILLING CHARGE	2.00	122.00
62	Au (1 A.T. FIRE ASSAY)	8.00	496.00
25	Au ANALYSES/GRAVIMETRIC	8.75	218.75
62	HYDROCHLORIC/NITRIC DIGESTION	2.00	124.00
62	Ag ANALYSES	1.00	62.00
1	Ag (ore grade) ANALYSES	5.00	5.00

86 - 5110-477
FBA

NET INVOICE:	1,527.95
LESS DISCOUNT:	305.59
FREIGHT:	.00
INVOICE TOTAL:	1,222.36

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

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-220-98

No. SAMPLES : 62

MAIN SAMPLE TYPE : DRILL CORE

RECEIVED : 28 MAY 1998

REPORTED : 5 JUN 1998

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 SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 00-05	0.009			0.06
D-220-98 05-10	0.006			0.03
D-220-98 10.0-15.2	0.006			0.03
D-220-98 15.2-20.0	0.008			0.03
D-220-98 20.0-25.2	0.003			0.03
D-220-98 25.2-30.0	0.006			0.03
D-220-98 30-35	0.001			0.02
D-220-98 35-40	0.006			0.03
D-220-98 40.0-45.1	0.004			0.03
D-220-98 45.1-50.0	<0.001			<0.02
D-220-98 50.0-55.1	0.001	0.001		0.03
D-220-98 55.1-60.0	0.019	0.016		0.05
D-220-98 60.0-64.7	0.006			0.04
D-220-98 64.7-70.0	0.014			0.03
D-220-98 70-75	0.032			0.06
D-220-98 75-80	0.005			0.05
D-220-98 80.0-83.6	0.009			0.04
D-220-98 83.6-86.6	0.016			0.07
D-220-98 86.6-90.0	0.334		0.302	0.12
D-220-98 90.0-94.8	0.239		0.202	0.11
D-220-98 94.8-100.0	0.470		0.573	0.20
D-220-98 100.0-104.9	0.120		0.110	0.11
D-220-98 104.9-110.0	0.034			0.09
D-220-98 110.0-114.3	0.016			0.06
D-220-98 114.3-120.0	0.174		0.188	0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 120-125	0.027			0.04
D-220-98 125-130	0.008			0.04
D-220-98 130-135	0.120		0.109	0.19
D-220-98 135-140	0.022			0.08
D-220-98 140-145	0.032			0.07
D-220-98 145-150	0.022			0.07
D-220-98 150.0-155.2	0.005			0.04
D-220-98 155.2-160.0	0.007			0.04
D-220-98 160-165	0.060		0.055	0.09
D-220-98 165-170	0.134	0.082	0.296	0.07
D-220-98 170-175	0.113		0.125	0.07
D-220-98 175.0-180.3	0.055		0.044	0.04
D-220-98 180.3-185.5	0.215		0.212	0.20
D-220-98 185.5-190.0	0.067		0.057	0.07
D-220-98 190-194	0.052		0.038	0.05
D-220-98 194-199	0.160		0.146	0.42
D-220-98 199.0-201.4	0.042			0.05
D-220-98 201.4-206.0	0.108		0.104	0.05
D-220-98 206.0-212.1	0.424		0.471	0.10
D-220-98 212.1-213.5	0.067		0.061	0.02
D-220-98 213.5-217.8	0.188		0.200	0.36
D-220-98 217.8-219.1	0.387		0.502	0.21
D-220-98 219.1-224.5	0.228		0.290	0.57
D-220-98 224.5-226.0	0.615		0.615	0.75
D-220-98 226-229	1.889		1.829	2.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 229.0-233.3	0.242	0.494	0.350	0.25
D-220-98 233.3-239.5	0.524		0.350	1.23
D-220-98 239.5-243.0	0.204		0.147	0.09
D-220-98 243-246	0.004			0.06
D-220-98 246.0-249.5	0.003			0.49
D-220-98 249.5-251.7	0.002			0.21
D-220-98 251.7-256.0	0.003			0.74
D-220-98 256.0-260.8	0.008			0.03
D-220-98 260.8-263.0	0.019			0.18
D-220-98 263.0-264.8	0.003			0.75
D-220-98 264.8-266.0	0.002			0.38
33718	0.137			2.58

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

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-220-98 RECEIVED : 28 MAY 1998

No. SAMPLES : 62 REPORTED : 5 JUN 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 SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 00-05	0.009			0.06
D-220-98 05-10	0.006			0.03
D-220-98 10.0-15.2	0.006			0.03
D-220-98 15.2-20.0	0.008			0.03
D-220-98 20.0-25.2	0.003			0.03
D-220-98 25.2-30.0	0.006			0.03
D-220-98 30-35	0.001			0.02
D-220-98 35-40	0.006			0.03
D-220-98 40.0-45.1	0.004			0.03
D-220-98 45.1-50.0	<0.001			<0.02
D-220-98 50.0-55.1	0.001	0.001		0.03
D-220-98 55.1-60.0	0.019	0.016		0.05
D-220-98 60.0-64.7	0.006			0.04
D-220-98 64.7-70.0	0.014			0.03
D-220-98 70-75	0.032			0.06
D-220-98 75-80	0.005			0.05
D-220-98 80.0-83.6	0.009			0.04
D-220-98 83.6-86.6	0.016			0.07
D-220-98 86.6-90.0	0.334		0.302	0.12
D-220-98 90.0-94.8	0.239		0.202	0.11
D-220-98 94.8-100.0	0.470		0.573	0.20
D-220-98 100.0-104.9	0.120		0.110	0.11
D-220-98 104.9-110.0	0.034			0.09
D-220-98 110.0-114.3	0.016			0.06
D-220-98 114.3-120.0	0.174		0.188	0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 120-125	0.027			0.04
D-220-98 125-130	0.008			0.04
D-220-98 130-135	0.120		0.109	0.19
D-220-98 135-140	0.022			0.08
D-220-98 140-145	0.032			0.07
D-220-98 145-150	0.022			0.07
D-220-98 150.0-155.2	0.005			0.04
D-220-98 155.2-160.0	0.007			0.04
D-220-98 160-165	0.060		0.055	0.09
D-220-98 165-170	0.134	0.082	0.296	0.07
D-220-98 170-175	0.113		0.125	0.07
D-220-98 175.0-180.3	0.055		0.044	0.04
D-220-98 180.3-185.5	0.215		0.212	0.20
D-220-98 185.5-190.0	0.067		0.057	0.07
D-220-98 190-194	0.052		0.038	0.05
D-220-98 194-199	0.160		0.146	0.42
D-220-98 199.0-201.4	0.042			0.05
D-220-98 201.4-206.0	0.108		0.104	0.05
D-220-98 206.0-212.1	0.424		0.471	0.10
D-220-98 212.1-213.5	0.067		0.061	0.02
D-220-98 213.5-217.8	0.188		0.200	0.36
D-220-98 217.8-219.1	0.387		0.502	0.21
D-220-98 219.1-224.5	0.228		0.290	0.57
D-220-98 224.5-226.0	0.615		0.615	0.75
D-220-98 226-229	1.889		1.829	2.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048978

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-220-98 229.0-233.3	0.242	0.494	0.350	0.25
D-220-98 233.3-239.5	0.524		0.350	1.23
D-220-98 239.5-243.0	0.204		0.147	0.09
D-220-98 243-246	0.004			0.06
D-220-98 246.0-249.5	0.003			0.49
D-220-98 249.5-251.7	0.002			0.21
D-220-98 251.7-256.0	0.003			0.74
D-220-98 256.0-260.8	0.008			0.03
D-220-98 260.8-263.0	0.019			0.18
D-220-98 263.0-264.8	0.003			0.75
D-220-98 264.8-266.0	0.002			0.38
33718	0.137			2.58

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048978

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-220-98 RECEIVED : 28 MAY 1998

No. SAMPLES : 62 REPORTED : 5 JUN 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.

06/05/1998 11:32 7023561413 AMERICAN ASSAY LABS PAGE 01
7023561413

AMERICAN ASSAY LAPORATORIES

PROVISIONAL REPORT SP0488978

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-220-98 00-05		0.009			0.05	
D-220-98 05-10		0.006			0.03	
D-220-98 10.0-15.2		0.006			0.03	
D-220-98 15.2-20.0		0.008			0.03	
D-220-98 20.0-25.2		0.003			0.03	
D-220-98 25.2-30.0		0.006			0.03	
D-220-98 30-35		0.001			0.02	
D-220-98 35-40		0.006			0.03	
D-220-98 40.0-45.1		0.004			0.03	
D-220-98 45.1-50.0		<0.001			<0.02	
D-220-98 50.0-55.1		0.001	0.003		0.03	
D-220-98 55.1-60.0		0.019	0.016		0.05	
D-220-98 60.0-64.7		0.006			0.04	
D-220-98 64.7-70.0		0.014			0.03	
D-220-98 70-75		0.032			0.06	
D-220-98 75-80		0.005			0.05	
D-220-98 80.0-83.6		0.009			0.04	86.6 - 100 = 13.4'
D-220-98 83.6-86.6		0.016			0.07	
D-220-98 86.6-90.0	3.4	0.334		0.302	0.12	0.353 Au
D-220-98 90.0-94.8	4.8	0.232		0.202	0.11	0.15 Ag
D-220-98 94.8-100.0	5.2	0.470		0.573	0.20	
D-220-98 100.0-104.9		0.120		0.110	0.11	
D-220-98 104.9-110.0		0.034			0.09	
D-220-98 110.0-114.3		0.016			0.06	
D-220-98 114.3-120.0		0.174		0.188	0.14	

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AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048978

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-220-98 120-125	0.027			0.04	
D-220-98 125-130	0.008			0.04	
D-220-98 130-135	0.120		0.109	0.19	
D-220-98 135-140	0.022			0.08	
D-220-98 140-145	0.032			0.07	
D-220-98 145-150	0.022			0.07	
D-220-98 150.0-155.2	0.005			0.04	
D-220-98 155.2-160.0	0.007			0.04	
D-220-98 160-165	0.060		0.055	0.09	
D-220-98 165-170	0.134	0.082	0.296	0.07	
D-220-98 170-175	0.113		0.125	0.07	
D-220-98 175.0-180.3	0.055		0.044	0.04	
D-220-98 180.3-185.5	0.215		0.212	0.20	
D-220-98 185.5-190.0	0.067		0.057	0.07	
D-220-98 190-194	0.052		0.038	0.05	
D-220-98 194-199	0.160		0.146	0.42	
D-220-98 199.0-201.4	0.042			0.05	206 - 243 = 37' @
D-220-98 201.4-206.0	0.108		0.104	0.05	
D-220-98 206.0-212.1 6.1	0.424		0.471	0.10	
D-220-98 212.1-213.5 1.4	0.067		0.061	0.02	0.454 Au
D-220-98 213.5-217.8 4.3	0.188		0.200	0.36	0.59 Ag
D-220-98 217.8-219.1 1.3	0.387		0.502	0.21	
D-220-98 219.1-224.5 5.4	0.228		0.290	0.57	
D-220-98 224.5-226.0 1.5	0.615		0.615	0.75	
D-220-98 226-229 3	1.889		1.829	2.08	

06/05/1998 11:32 7023561413 AMERICAN ASSAY LABS PAGE 03

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP0489?8

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-220-98

REPORTED : 5 JUN 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-220-98 229.0-233.3	4.3	0.242	0.494	0.350	0.25
D-220-98 233.3-239.5	6.2	0.524		0.350	1.23
D-220-98 239.5-243.0	3.5	0.204		0.147	0.09
D-220-98 243-245		0.004			0.06
D-220-98 246.0-249.5		0.003			0.49
D-220-98 249.5-251.7		0.002			0.21
D-220-98 251.7-256.0		0.003			0.74
D-220-98 256.0-260.8		0.008			0.03
D-220-98 260.8-263.0		0.019			0.18
D-220-98 263.0-264.8		0.003			0.75
D-220-98 264.8-266.0		0.002			0.38
33718		0.137			2.58

06/05/1998 11:32 7023561413 AMERICAN ASSAY LABS PAGE 04

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: 05/27/98 Number of Samples: 61

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

D-220-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED	
0.0-5.0	75.0-80.0		CORE	Au-Ag ACCORDING TO	
5.0-10.0	80.0-83.6			ROSEBUD MINE	
10.0-15.2	83.6-86.6	145.0-150.0		PROTOCOLS	
15.2-20.0	86.6-90.0	150.0-155.2		206.0-212.1	249.5-251.7
20.0-25.2	90.0-94.8	155.2-160.0		212.1-213.5	251.7-256.0
25.2-30.0	94.8-100.0	160.0-165.0		213.5-217.8	256.0-260.8
30.0-35.0	100.0-104.9	165.0-170.0		217.8-219.1	260.8-263.0
35.0-40.0	104.9-110.0	170.0-175.0		219.1-224.5	263.0-264.8
40.0-45.1	110.0-114.3	175.0-180.3		224.5-226.0	264.8-266.0
45.1-50.0	114.3-120.0	180.3-185.5		226.0-229.0	
50.0-55.1	120.0-125.0	185.5-190.0		229.0-233.3	
55.1-60.0	125.0-130.0	190.0-194.0		233.3-239.5	
60.0-64.7	130.0-135.0	194.0-199.0		239.5-243.0	
64.7-70.0	135.0-140.0	199.0-201.4		243.0-246.0	
70.0-75.0	140.0-145.0	201.4-206.0		246.0-249.5	

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:

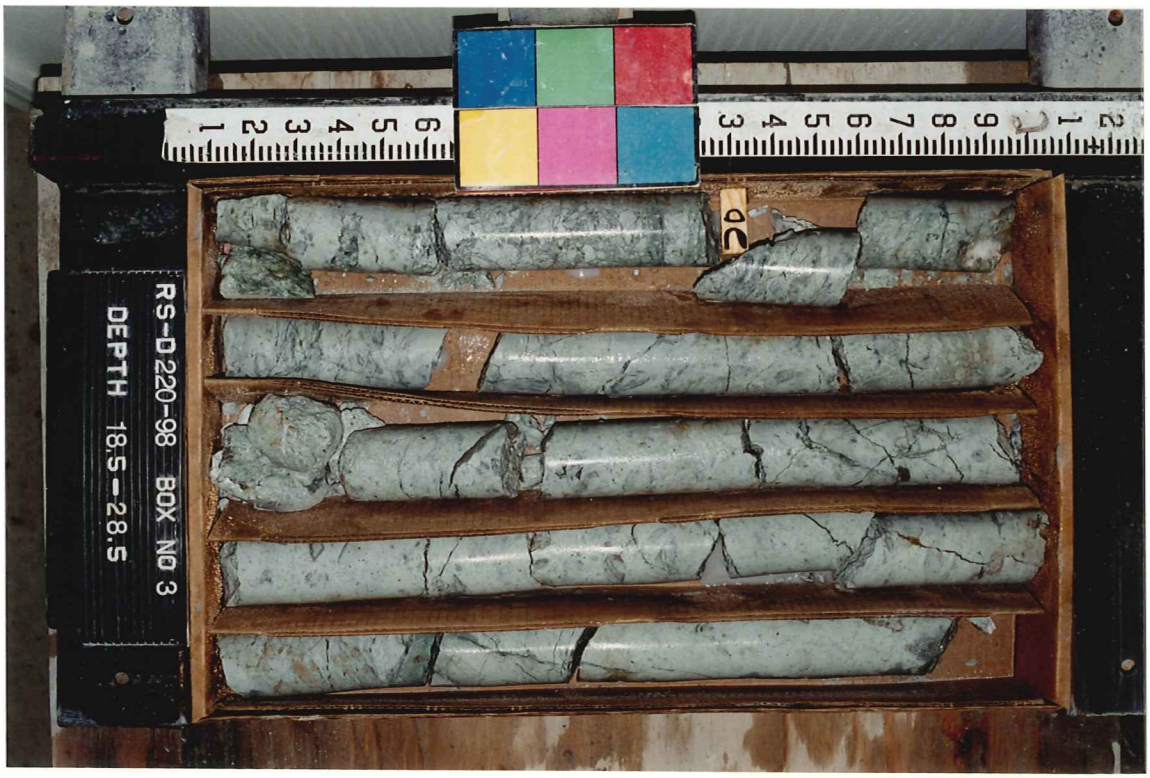
KURT ALLEN

Comments:

CLIENT FILE COPY

RS-D220-98 BOX NO 2
DEPTH 9.5-18.5

RS-D220-98 BOX NO 1
DEPTH 0-9.5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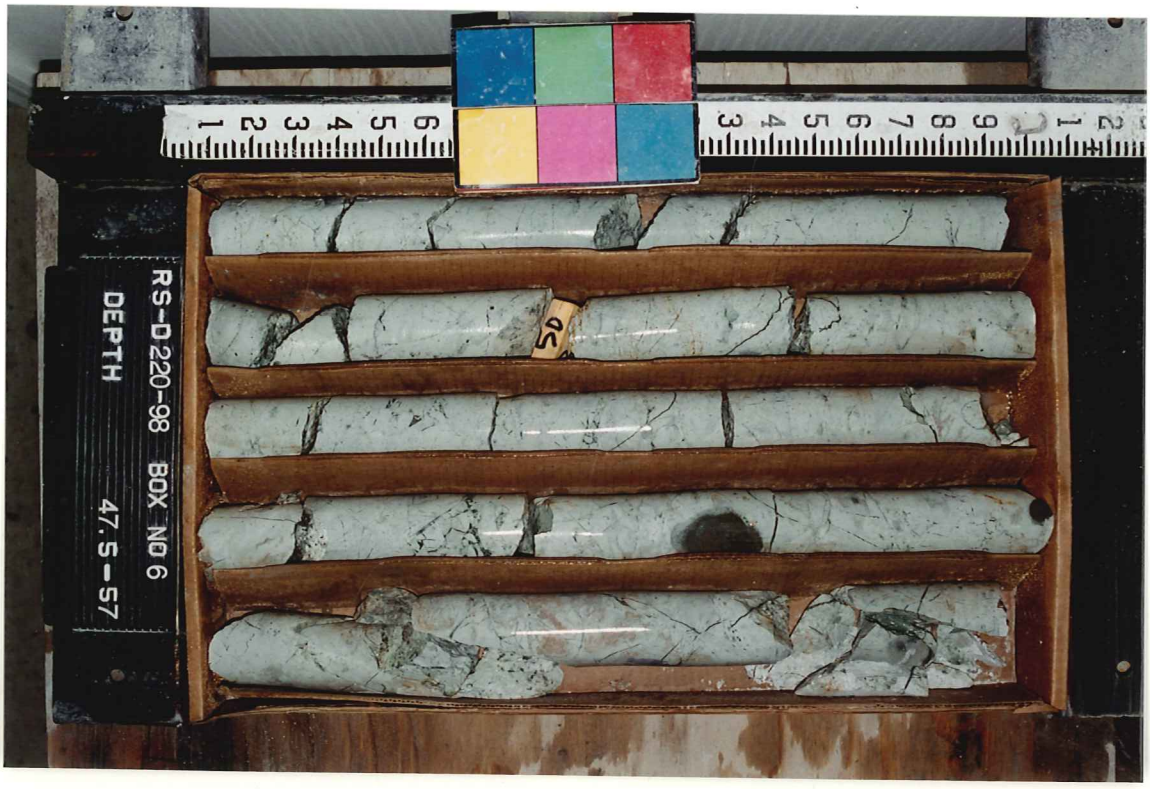
RS-D 220-98 BOX NO 5
DEPTH 38 - 47.5

RS-D 220-98 BOX NO 4
DEPTH 28.5 - 38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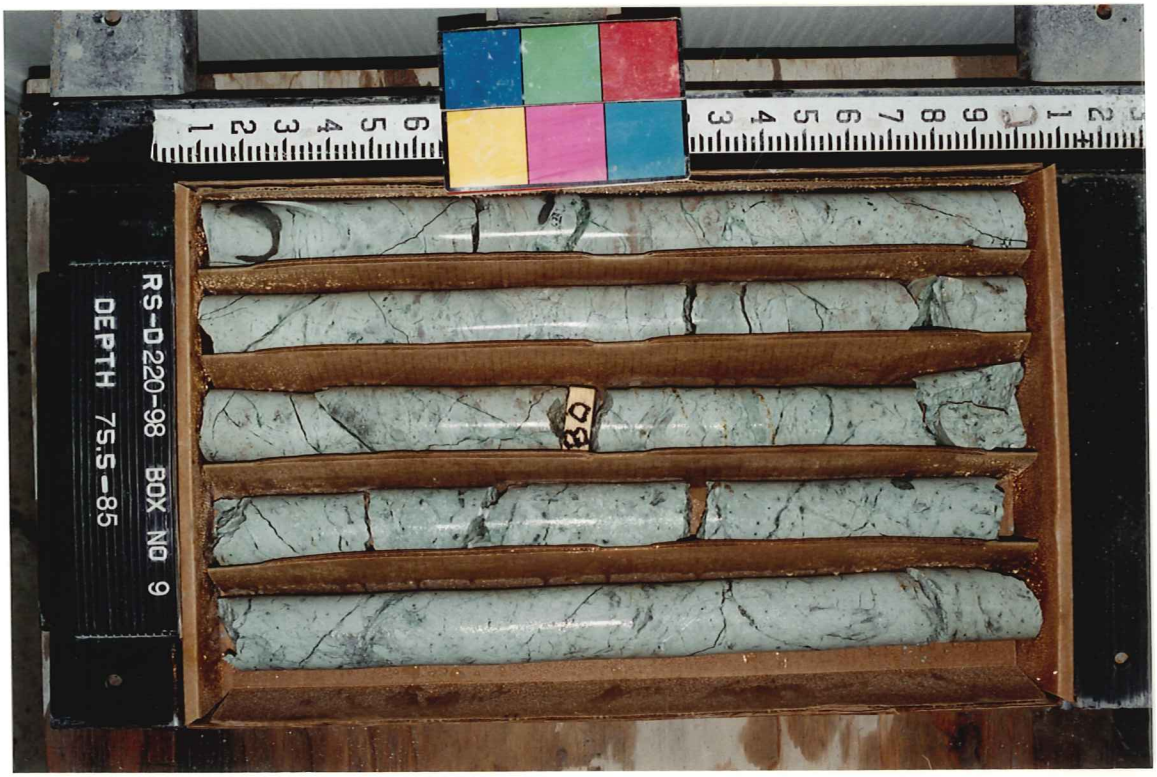
DEPTH 57-66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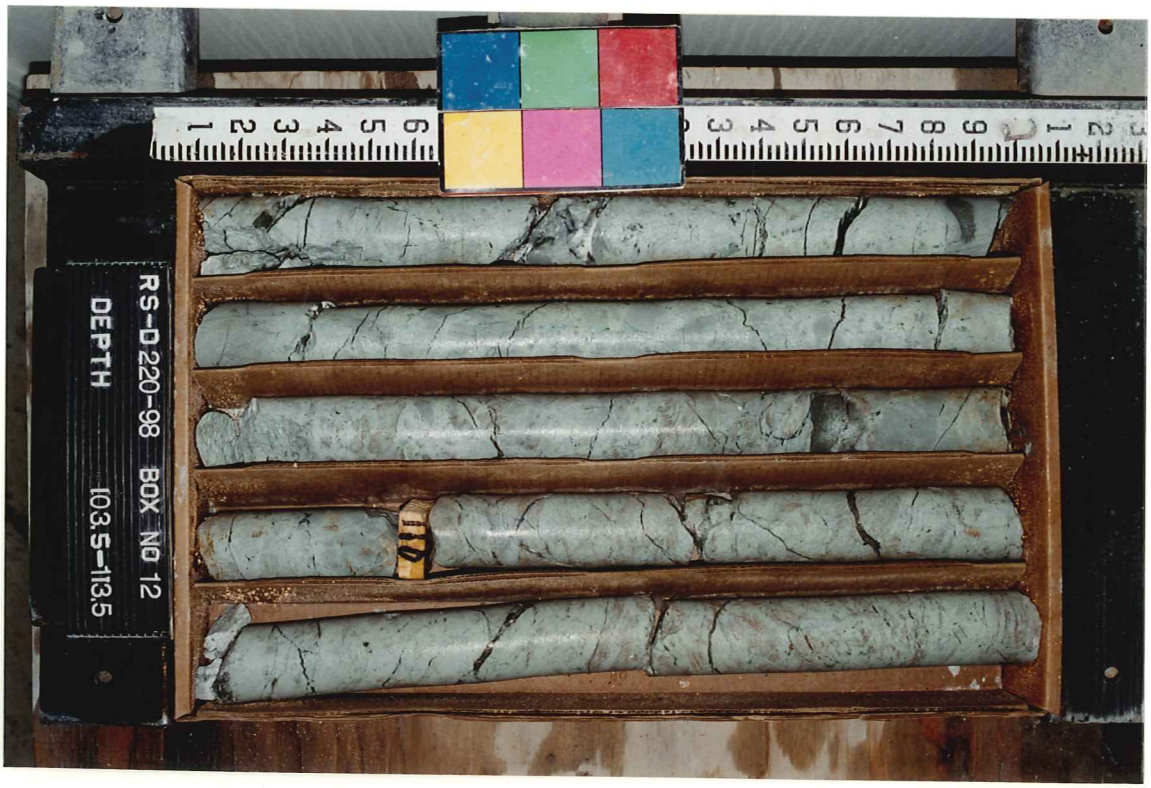
DEPTH 85-94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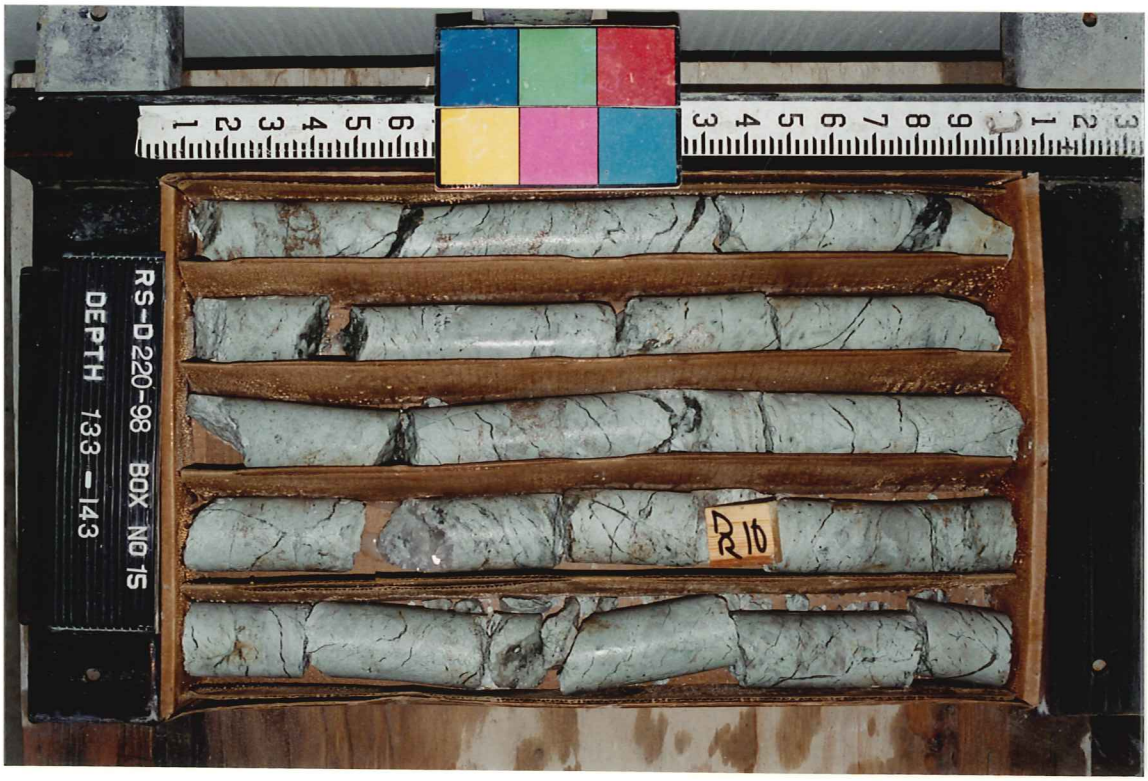
DEPTH 123.5-133

RS-D220-98 BOX NO13
DEPTH 113.5-123.5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RS-D 220-98 BOX NO 17
DEPTH 151.5-160.5

RS-D 220-98 BOX NO 16
DEPTH 143-151.5
150

RS-D 220-98 BOX NO 18
DEPTH 160.5-170.5
170

185.5
182.5
188
D- 220- 98 BOX NO 20
DEPTH- 180. - 188.5

180.3
175.0
179.5
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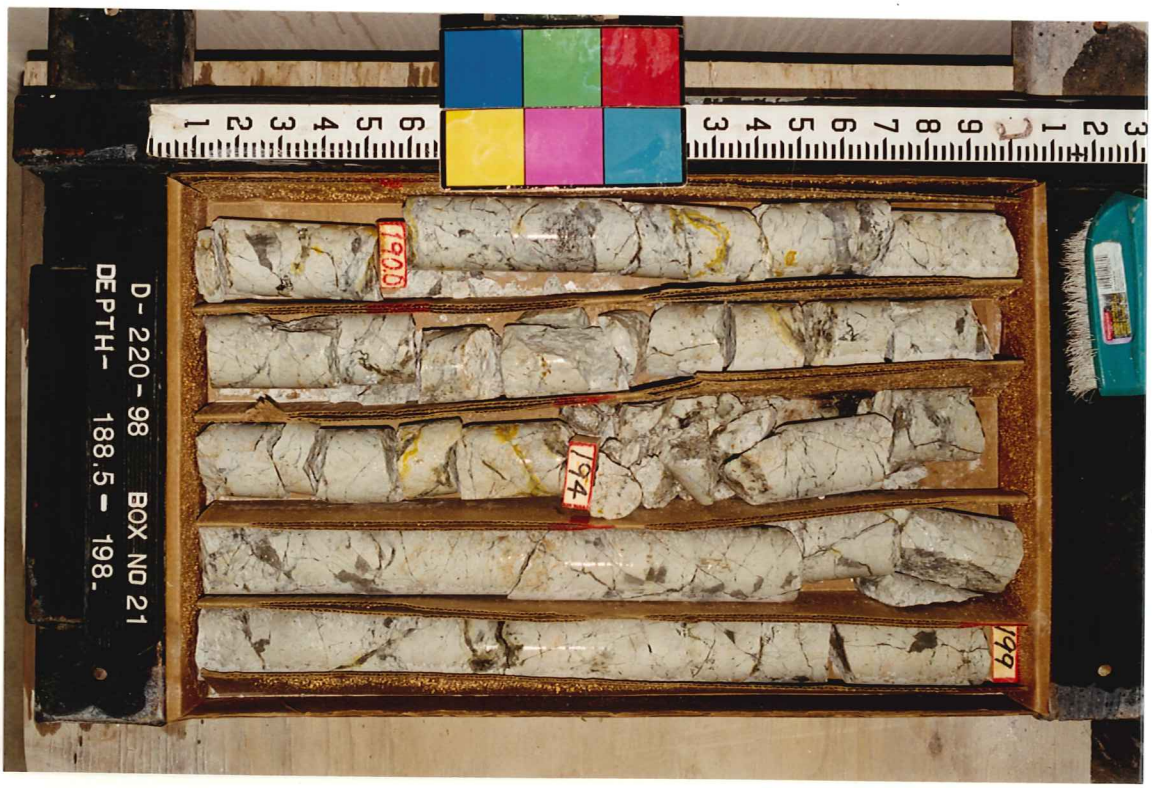
DEPTH- 170.5 - 180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199
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DEPTH- 188.5 - 198.

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213.5
211
216
D- 220- 98 BOX NO 23
DEPTH- 207.5 - 217.

206
204
201.5
D- 220- 98 BOX NO 22
DEPTH- 198. - 207.5

217.2
221
221
226
D- 220- 98 BOX NO 24
DEPTH- 217. - 225.5

236
239.5
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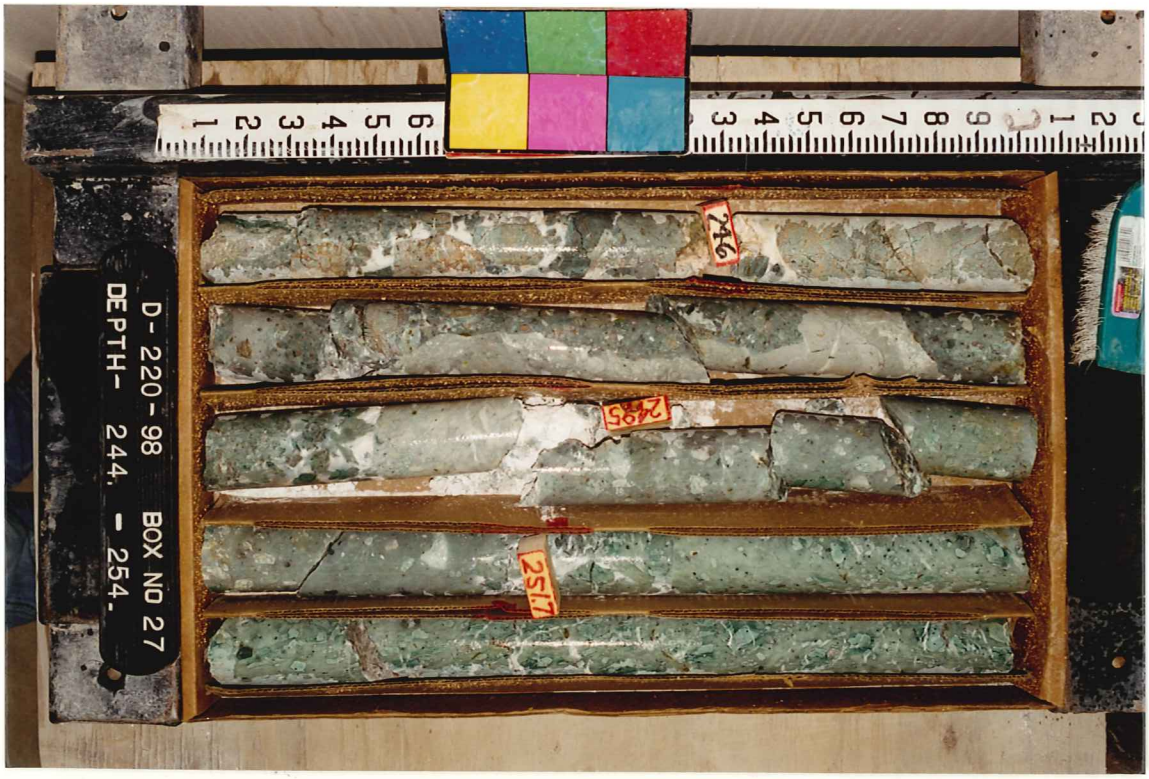
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251.7
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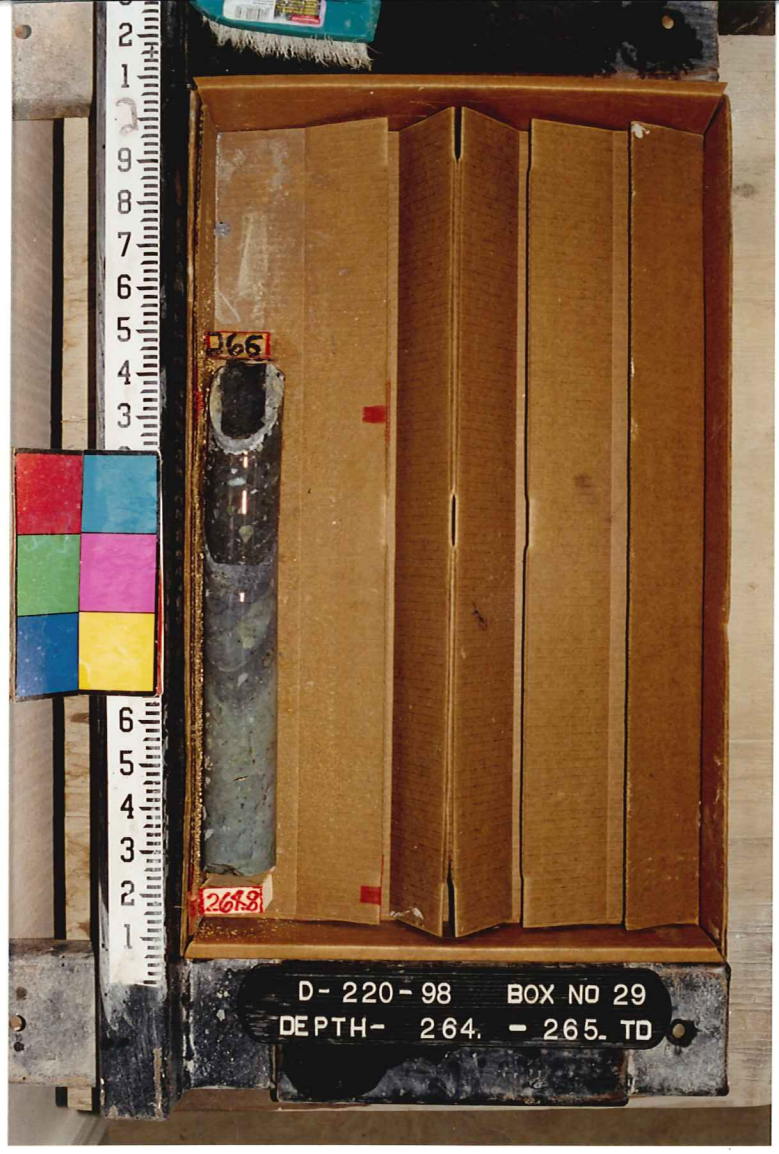
DEPTH- 244. - 254.


D-220-98 BOX NO 29
DEPTH- 264. - 265. TD

D-220-98 BOX NO 28
DEPTH- 254. - 264.

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla

WELL NAME

LEASE

TAKEN BY

DEPTH Collar

DATE 4-6-98

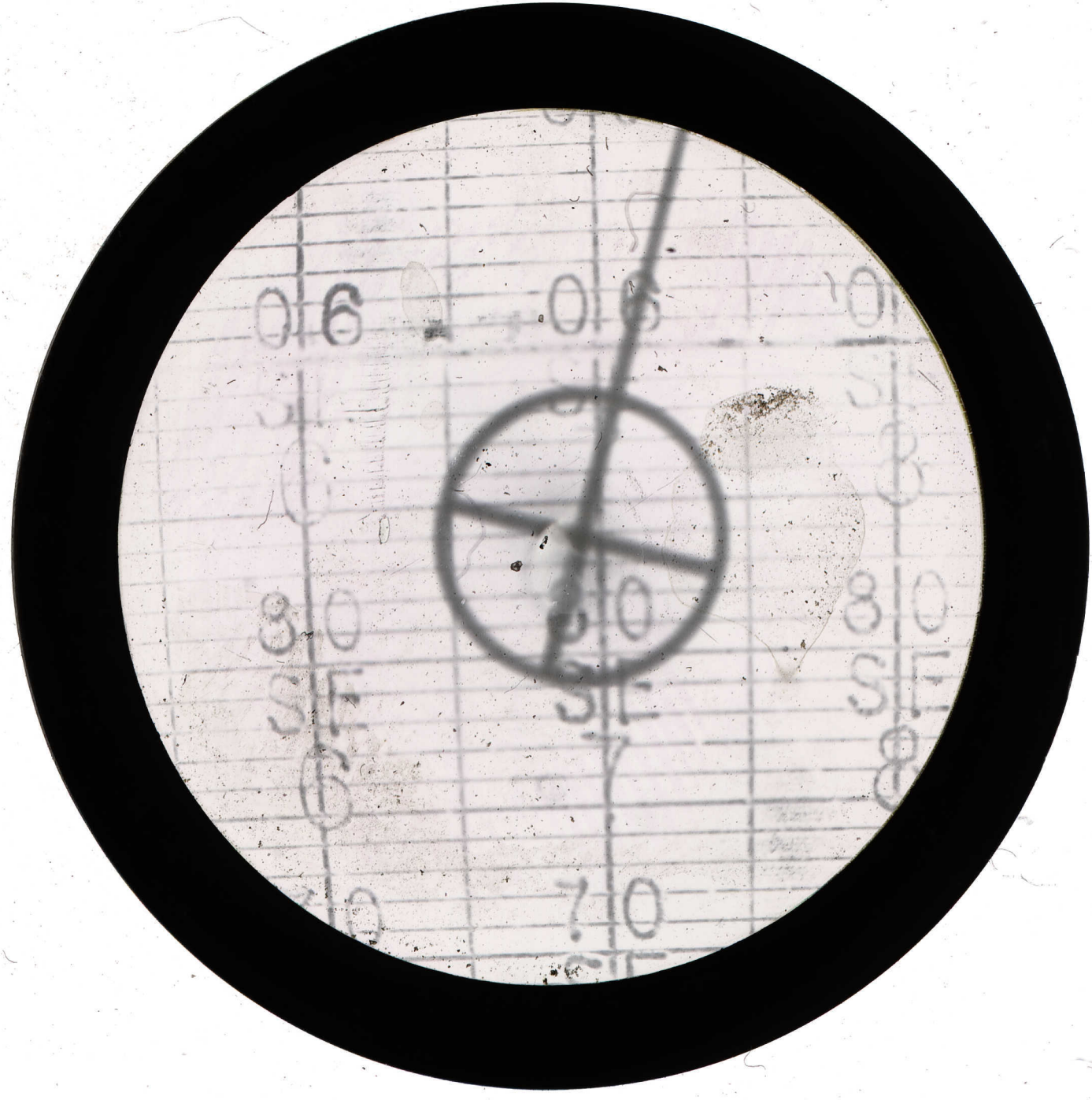
DRIFT ANGLE +6°

DIRECTION

TYPE

JOB NO.

HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla

WELL NAME D-220-98

LEASE

TAKEN BY

DEPTH 135'

DATE 4-6-98

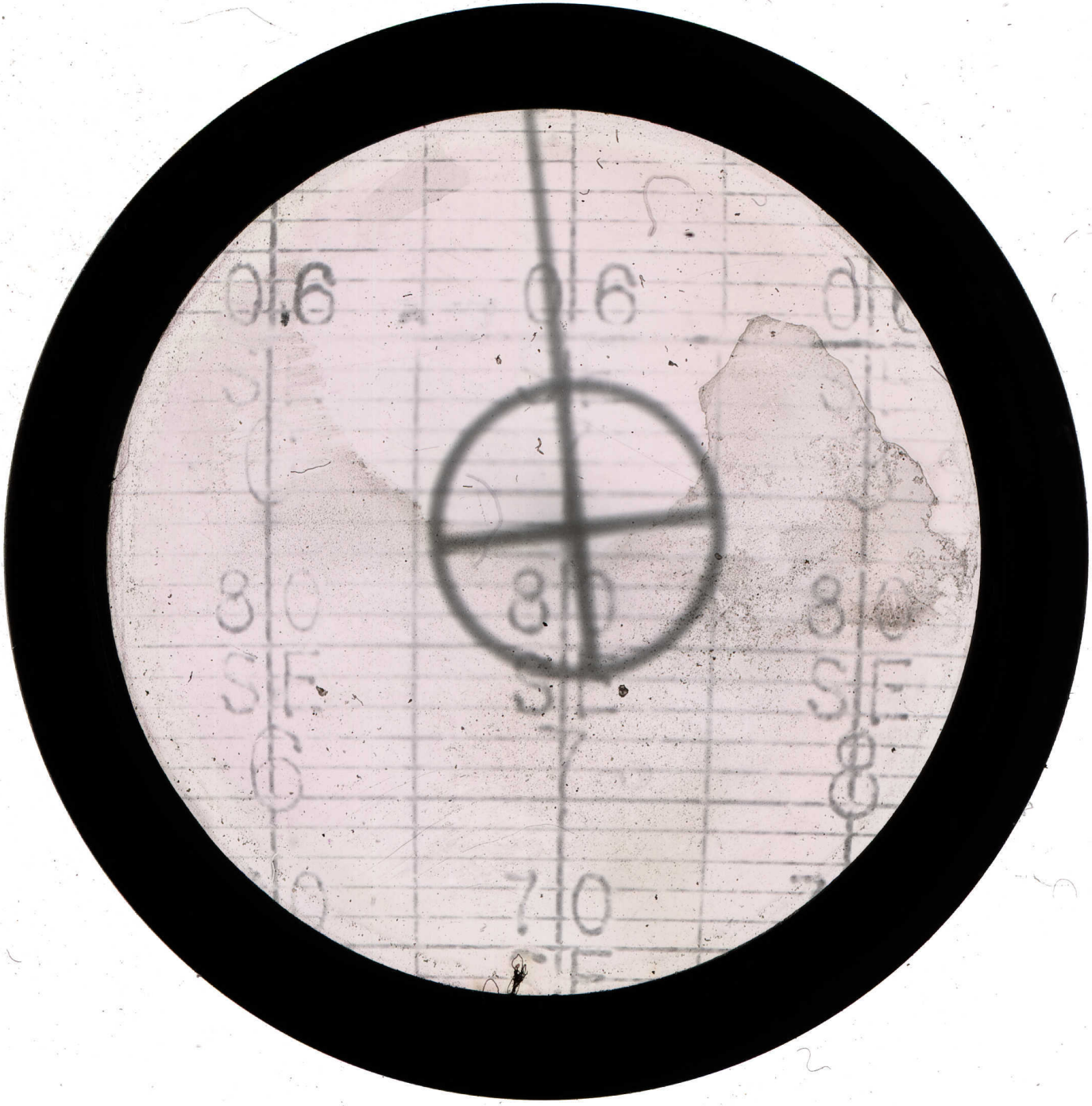
DRIFT ANGLE +6°

DIRECTION

TYPE

JOB NO.

HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla

WELL NAME D-220-94

LEASE

TAKEN BY

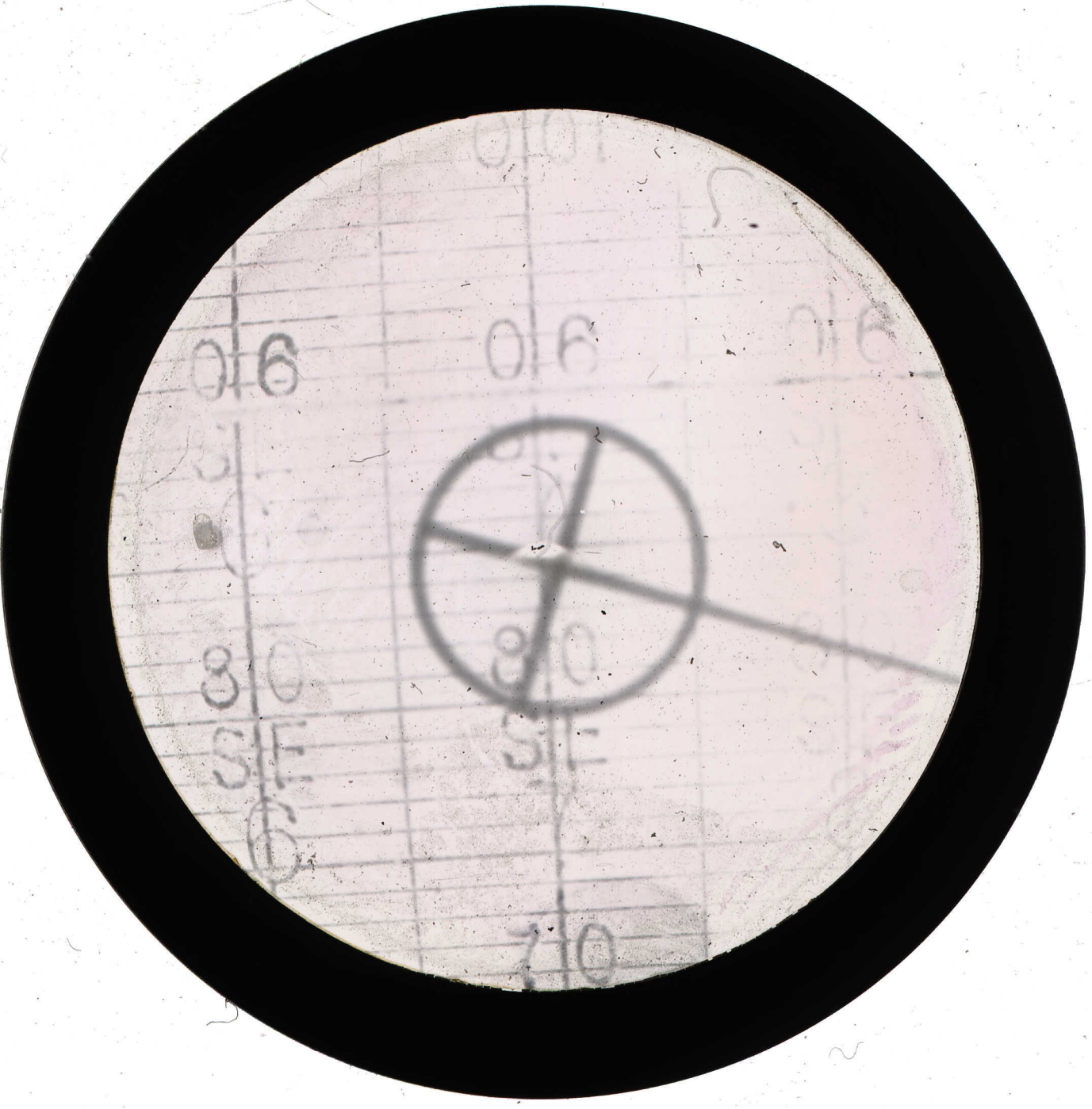
DEPTH 275'

DATE 4-6-98

DRIFT ANGLE +6°

DIRECTION

TYPE

JOB NO.

HI-1408