60001185

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-284-98
AUTHOR	S. King; K. Allen; A. Niles
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 219' receipt; handwritten notes; downhole camera images 31p. 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)

	Initials	Date
SS:	DD	5/14/08
DB:	mch	
SCANNED:	NB	

Revised: 1/22/08

D-284-98

C0001185 4010

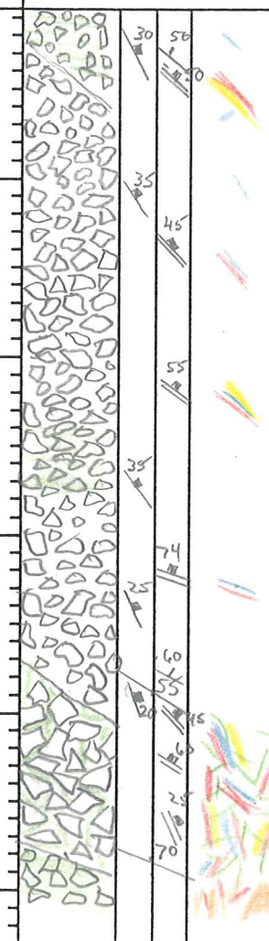
6000 1185

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

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-284-98	LOCATION	STOPE 50 NORTH SEC 1450	REMARKS	
PAGE 1 OF	4	NORTHING			
DATE	9/14-15/98	EASTING			
LOGGED BY	ALLYN NILES	ELEVATION			
SCALE	1"=10'	AZIMUTH	125		
TOTAL DEPTH	219	INCLINATION	3		

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0.0 - 39.6 TOS		0.0 - 39.6 GREEN TO PINKISH LAPILLI TUFF W/ ANGULAR TO SUBROUND LAPILLIS OF WHITE GREEN, GRAY, PINK & BLACK (ALS) VOLCANIC ROCK OR CLAYSTONE, RARE, SCATTERED FABRIC ALIGNMENT FEATURES	10 20 30 40 50		0.0 - 39.6 MINOR NATURAL FRACTURES, HIGH RQD.	0.0 - 74.0 WEAK CALCITE VEINING, LOCALLY MOD. 39.6 - 48.0 & 51.0 - 56.5 0.0 - 39.6 WEAK VEINING W/ MARC., PYRITE, CALCITE & QUARTZ. 21.1 1" QUART/PYRITE VN W/ RED OXIDE COLOR IN QUARTZ.
39.6 - 48.0 F.G. MASSIVE		39.6 - 48.0 LT. GRAYISH PINK, VERY FINE GRAIN, BRECCIATED W/ PROPYLITIC CLAY, BLADED MARC. & WHITE CLAY W/ CALCITE, QUARTZ.			39.6 CONTACT APPEARS NORMAL, NON-FAULT. 39.6 - 48.0 MOD VEINING OPEN SPACE FILLING DUE TO LEACHING OF INTERFRAGMENT CEMENT	39.6 - 48.0 OPEN SPACES/ VEINS FILLED/ LINED W/ BLADED MARC., MINOR PYRITE, CALCITE, WHITE CLAY, QUARTZ.
48.0 - 64.2 TOS		48.0 - 64.2 SEE DESCRIPTION FOR 0.0 - 39.6			48.0 CONTACT SEEMS NORMAL W/ CLASTS OF F.G. MASSIVE TYPE LAPILLIS IN THE TUFF	

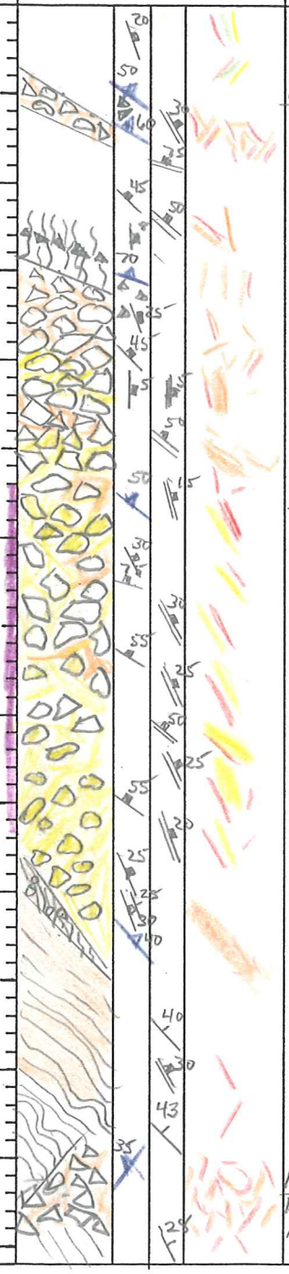
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag
0.0	5.0					
5.0	9.0					
9.0	14.0					
14.0	19.0					
19.0	24.0					
24.0	29.0					
29.0	34.0					
34.0	39.6					
39.6	44.0					
44.0	48.0					

HOLE NUMBER D-284-98 PAGE 2 OF 4

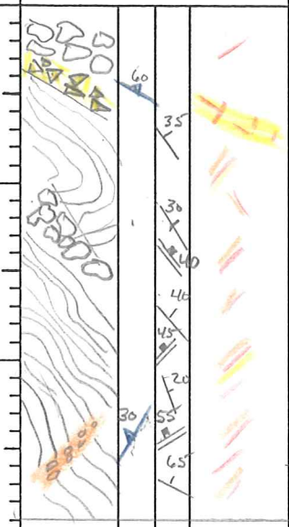
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
48.0 - 64.2 TOS		48.0 - 64.2 SEE DESCRIPTION PAGE 1, 0.0 - 39.6.	60			48.8 - 51.6 MOD ARGILLIC ALT. W/ ASSOC. INCREASE IN DISSEM PYRITE	48.0	51.6				
							51.6	54.0				
							54.0	59.0				
							59.0	64.0				
64.2 - 80.3 F.G. MASSIVE		64.2 - 80.3 LT. GRAYISH-PINK, VERY FINE GRAIN MASSIVE TYPE FLOW(S) W/ NO OBSERVED FABRIC ALIGNMENT FEATURES.	70		64.2 CONTACT GRADATIONAL AUTOBRECCIATED. 69.0 - 76.4 MOD. -> STRONG FRACTURING & VEINING.	69.0 - 76.4 FRACTURES/VEINS FILLED W/ CALCITE, PROPYLITIC CLAY, PYRITE, MINOR QUARTZ	64.0	69.0				
							69.0	74.0				
		PIMA →			76.4 80.0 HEALED MOSAIC CLAST SUPPORTED BXA.	76.4 - 80.0 CEMENTED W/ QUARTZ, DROZY QUARTZ, BLADED MARC., WHITE CLAY, RARE PROPYLITIC CLAY	74.0	76.4				
			80		80.3 CONTACT SHARP		76.4	80.0				
80.3 - 135.6 PLANAR LAMINAR		80.3 - 135.6 PINK, FINE GRAIN FLOW(S) W/ ABUNDANT VERY SMALL VESICLES, NO DEFINATE FABRIC FEATURES ALTHOUGH BXA RESEMBLE PINK MATRIX BXA UNIT.			80.0 - 82.0 MOD. VEINING & OPEN SPACE FILLING.	80.0 - 82.0 VEINS & OPEN SPACES FILLED W/ WHITE CLAY, BLADED MARC, MINOR QUARTZ	80.0	84.0				
			90		83.6 - 93.0 HEALED OLDER BXA, HOMOLITHIC ANGULAR FRAGS, CLAST & MATRIX SUPPORTED	83.6 - 93.0 QUART OR PINK CLAY IS CEMENTING AGENT. CLASTS OFTEN SILICIFIED WHERE QUART CEMENT IS EXTENSIVE, WEAK TO MOD. BLADED MARC & PYRITE IS ASSOC. W/ QUARTZ.	84.0	89.0				
							89.0	94.0				
							94.0	99.0				
			100				99.0	101.5				
					101.5 - 105.5 OPEN FRACTURES & VEINING. 104.0 - 105.0 BXA	101.5 - 105.5 VEINS/OPEN FRACTURES LINED/FILLED W/ DROZY QUARTZ, BLADED MARC., BARITE, MINOR-MOD. WHITE CLAY.	101.5	104.0				
					107.0 - 109.0 HEALED BXA	107.0 - 109.0 CEMENTED W/ PINK CLAY, SOME QUARTZ FLOODING OF MATRIX & CLASTS. MARC. & BARITE LINING OPEN SPACES	104.0	107.0				
			110		112.0 - 114.4 MOD OPEN FRACTURES & VEINING ASSOC. W/ BXA @ 114.4 114.4 - 116.4 HEALED BXA MOSAIC, MATRIX SUPPORT.	114.4 - 116.4 CEMENTED W/ QUARTZ GRADING INTO HARD YELLOW CLAY. MOD. PYRITE, WEAK MARC. 112.0 - 114.4 VEINS OPEN FRACS LINED/FILLED W/ DROZY QUARTZ, WHITE CLAY, PYRITE, MINOR MARC.	107.0	109.0				
							109.0	114.0				
							114.0	116.7				
			120				116.7	119.0				

HOLE NUMBER D-284-98 PAGE 3 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
80.3	135.6	80.3-135.6 SEE DESCRIPTION PAGE 2			125.2-127.2 WEAKLY HEALED BXA 133.0-135.6 CRACKLE ZONE W/ STRESS FRACTURES NEAR 0° TO CORE AXIS, BXA-HEALED 133.5-134.2 147.6-164.0 MOD. VUGS & OPEN FRACTURES. 185.3-189.0 WEAKLY HEALED, INCOMPETENT FAULT BXA.	125.2-127.2 CEMENTED W/ GREENISH YELLOW CLAY W/ MARC. BLADES, MINOR QUARTZ. 133.0-135.6 FRACTURES FILLED W/ HARD WHITE → LT. GREEN CLAY ± MARC. BXA CEMENTED W/ QUARTZ, CLAY, MARC. 135.6-147.6 MATRIX IS LT. GREEN → WHITE CLAY W/ ZONED SILICA/QUARTZ REPLACEMENT, MINOR MARC. VEINS & OPEN FRACTURE FILLING 144.0-147.6 147.6-164.0 VERY STRONG SILICA FLOODING OF MATRIX, ~50% OF CLASTS ARE MOD → STRONG SILICIFIED, VUGS & OPEN FRACTURES LINED W/ DRUZY QUARTZ, MINOR WHITE CLAY, VARIABLE BLADED MARC. SOME VEINS UP TO 3" ø W/ QUARTZ & STRONG MARC. 164.0-169.6 COMPLETE SILICA FLOODING OF ALL BXA COMPONENTS. SILICA IS DK. GRAY INDICATING STRONG F.G. SULFIDES. ALTHOUGH OBSERVED MARC. IS MINOR AS DISSEM. BLADES & SOME OPEN SPACE LINING. 169.6-171.5 DK. GRAY CLAY AS STRONG DISSEM. CRYSTAL PYRITE (15% +). 171.5-180.7 STRONG ARGILLIC ALT. W/ VERY MINOR DISSEM. SULFIDES & VEINLETS. 185.3-189.0 MATRIX IS ROCK FLOUR, WHITE CLAY PYRITE, MOST CLASTS SILICIFIED 188-189.
135.6 – S.R.F.	171.5	135.6 - 147.6 BRECCIA, HOMOLITHIC W/ ANGULAR CLASTS TO 142.5', MOSTLY ROUNDED 142.5 - 147.6, MOSTLY MATRIX SUPPORTED PMA → 144.5 - 147.6 CLASTS ARE FROM DOZER UNIT, HOMOLITHIC, CLAST SUPPORTED 147.6 - 164.0 HETEROLITHIC BXA W/ MOSTLY ROUND, SOME ANGULAR CLASTS FROM LIST & DOZER. MATRIX SUPPORTED, VARIABLE COLORS: GREEN, PINK, LT. GRAY, DK. PINK, RARE SCATTERED BLACK FRAGS MAYBE ALS. 164.0 - 169.6 HETEROLITHIC (?) BXA, DK. GRAY → GREEN, ROUNDED → WELL ROUNDED FRAGS, MATRIX SUPPORTED. EVERTHING IS SILICA REPLACED. 169.6 - 171.5 NEAR WHITE CLAY ALT. DOZED CLASTS, WELL ROUNDED IN A DK. GRAY STRONGLY SHEARED MYLONITIC CLAY	130 140 150 160 170 180 190			
171.5 – DOZER:	219.0	171.5 - 219.0 VERY LT. GRAY → NEAR WHITE, FINE GRAIN FLOWS. FLOW BANDS COMMON, SOMETIMES W/ CONVOLUTED PATTERNS. AUTOBRECCIA TOPS/BASES ALSO OBSERVED				

ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
119.0	124.0				
124.0	129.0				
129.0	134.0				
134.0	135.6				
135.6	137.6				
137.6	141.0				
141.0	144.0				
144.0	147.6				
147.6	149.0				
149.0	152.0				
152.0	155.0				
155.0	158.0				
158.0	161.0				
161.0	164.0				
164.0	166.7				
166.7	169.6				
169.6	171.5				
171.5	174.0				
174.0	179.0				
179.0	181.0				
181.0	184.0				
184.0	189.0				

HOLE NUMBER D-284-98 PAGE 4 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
171.5-219.0 DOZER		171.5-219.0 SEE DESCRIPTION PAGE 3	200, 210, 219		192.0 - 194.8 AUTO BRECCIA W/ TECTONIC BXA OVERPRINT 194-194.8 198.0 - 219.0 MOD. VEINING & FRACTURE FILLING VEINS COMMONLY OBLIQUE TO BEDS. 202.0 - 204.3 AUTO BXA. 215.0 - 215.6 FAULT GOUGE.	192.0 - 194.8 IRREGULAR SHAPED PINKISH CLASTS IN VERY LT. GREEN VOLCANIC CLAY MATRIX. GRADES INTO MARC/QUARTZ RICH MATRIX W/SILIC. CLASTS 194-194.8. 198.0-219.0 FRACTURES/VEINS FILLED W/ QUARTZ MARC., PYRITE, WHITE CLAY 202.0-204.3 IRREGULAR SHAPED CLASTS, PINKISH IN A VERY LT. GREEN VOLCANIC CLAY MATRIX. 215.0-215.6 VERY SMALL ROUND BXA FRAGS IN LT. GREENISH-GRAY ROCK FLOUR CLAY.	189.0 194.0 199.0 204.0 209.0 214.0	194.0 199.0 204.0 209.0 214.0 219.0				
		T.D. 219.0										

66

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-284-98 DATE: 9/14/98 LOGGED BY: ALLYN NILES PAGE 1 OF 4

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
0.0	5.0	100.0	100.0	90.0										
5.0	9.0	92.5	92.5	66.0										
9.0	14.0	98.0	98.0	92.0										
14.0	19.0	100.0	100.0	90.0										
19.0	24.0	100.0	100.0	90.0										
24.0	29.0	100.0	100.0	90.0										
29.0	34.0	100.0	100.0	92.0										
34.0	39.0	96.0	96.0	86.0										
39.0	44.0	84.0	90.0	70.0										
44.0	49.0	98.0	98.0	40.0										
49.0	54.0	106.0	106.0	82.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-284-98 DATE: LOGGED BY: PAGE 2 OF 4

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)
54.0	59.0	106.0	106.0	76.0										
59.0	64.0	106.0	106.0	84.0										
64.0	69.0	100.0	100.0	76.0										
69.0	74.0	100.0	100.0	60.0										
74.0	79.0	94.0	94.0	72.0										
79.0	84.0	80.0	106.0	30.0										
84.0	89.0	94.0	94.0	78.0										
89.0	94.0	96.0	96.0	92.0										
94.0	99.0	100.0	100.0	84.0										
99.0	104.0	102.0	104.0	80.0										
104.0	109.0	92.0	96.0	84.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-284-98 DATE: LOGGED BY: PAGE 3 OF 4

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)
109.0	114.0	100.0	100.0	60.0										
114.0	119.0	96.0	100.0	46.0										
119.0	124.0	100.0	100.0	58.0										
124.0	129.0	100.0	100.0	30.0										
129.0	134.0	96.0	100.0	60.0										
134.0	139.0	100.0	100.0	92.5										
139.0	144.0	104.0	104.0	64.0										
144.0	149.0	96.0	96.0	44.0										
149.0	154.0	96.0	96.0	88.0										
154.0	158.0	100.0	100.0	78.0										
158.0	163.0	102.0	102.0	74.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-284-98 DATE: 9/14/98 LOGGED BY: ALLYN NILES PAGE 4 OF 4

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)
163.0	164.0	80.0	80.0	70.0										
164.0	169.0	96.0	96.0	62.0										
169.0	174.0	100.0	100.0	72.0										
174.0	179.0	96.0	100.0	32.0										
179.0	184.0	96.0	100.0	44.0										
184.0	189.0	30.0	90.0	14.0										
189.0	194.0	100.0	100.0	66.0										
194.0	199.0	100.0	100.0	62.0										
199.0	204.0	100.0	100.0	100.0										
204.0	209.0	100.0	100.0	84.0										
209.0	214.0	100.0	100.0	80.0										
214.0	219.0	86.0	100.0	64.0										

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 005063/-IN
INVOICE DATE: 10/01/98

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-284-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
58	SAMPLES RECEIVED	.00	.00
57	DRYING	1.00	57.00
57	JAW CRUSHING CHARGE	1.30	74.10
57	COARSE MILLING CHARGE	4.50	256.50
57	SPLITTING CHARGE	2.40	136.80
57	RING MILLING CHARGE	2.00	114.00
58	Au (1 A.T. FIRE ASSAY)	8.00	464.00
17	Au ANALYSES/GRAVIMETRIC	8.75	148.75
58	HYDROCHLORIC/NITRIC DIGESTION	2.00	116.00
58	Ag ANALYSES	1.00	58.00
2	Ag (ore grade) ANALYSES	5.00	10.00

86-5110-477
CAA

NET INVOICE:	1,435.15
LESS DISCOUNT:	287.03
FREIGHT:	.00
INVOICE TOTAL:	1,148.12

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050637

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-284-98 RECEIVED : 17 SEP 1998

No. SAMPLES : 58 REPORTED : 1 OCT 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 SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 0-5	0.085		0.085	0.20
D-284-98 5-9	0.001			0.03
D-284-98 9-14	0.001			<0.02
D-284-98 14-19	0.001			0.03
D-284-98 19-24	0.008			0.04
D-284-98 24-29	0.001			0.03
D-284-98 29-34	0.003			0.05
D-284-98 34.0-39.6	0.002			0.04
D-284-98 39.6-44.0	0.053			0.09
D-284-98 44-48	0.053		0.058	0.10
D-284-98 48.0-51.6	0.002			0.05
D-284-98 51.6-54.0	0.033			0.58
D-284-98 54-59	0.103		0.118	0.15
D-284-98 59-64	0.235		0.204	0.24
D-284-98 64-69	0.042			0.14
D-284-98 69-74	0.061		0.071	0.20
D-284-98 74.0-76.4	0.091		0.105	0.29
D-284-98 76.4-80.0	0.038			0.24
D-284-98 80-84	0.133		0.155	0.11
D-284-98 84-89	0.033			0.04
D-284-98 89-94	0.032			0.11
D-284-98 94-99	0.014			0.09
D-284-98 99.0-101.5	0.008			0.09
D-284-98 101.5-104.0	0.037			0.12
D-284-98 104-107	0.011			0.10

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 107-109	0.088		0.080	0.24
D-284-98 109-114	0.069		0.091	0.26
D-284-98 114.0-116.7	0.014			0.07
D-284-98 116.7-119.0	0.017			0.10
D-284-98 119-124	0.011			0.07
D-284-98 124-129	0.024			0.10
D-284-98 129-134	0.013			0.06
D-284-98 134.0-135.6	0.015			0.09
D-284-98 135.6-137.6	0.007			0.08
D-284-98 137.6-141.0	0.031			0.05
D-284-98 141-144	0.004			0.05
D-284-98 144.0-147.6	0.140		0.146	0.15
D-284-98 147.6-149.0	0.420		0.406	0.36
D-284-98 149-152	0.194		0.156	0.14
D-284-98 152-155	0.206		0.209	1.20
D-284-98 155-158	0.187		0.124	0.12
D-284-98 158-161	2.532		2.829	2.92
D-284-98 161-164	2.890		3.035	4.63
D-284-98 164.0-166.7	0.700		0.702	1.11
D-284-98 166.7-169.6	0.034			0.05
D-284-98 169.6-171.5	0.010			0.08
D-284-98 171.5-174.0	0.001			0.02
D-284-98 174-179	0.003			0.03
D-284-98 179-181	0.010			0.07
D-284-98 181-184	0.003			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 184-189	0.012			0.07
D-284-98 189-194	0.002			0.04
D-284-98 194-199	0.005			<0.02
D-284-98 199-204	0.002			0.03
D-284-98 204-209	0.014			0.04
D-284-98 209-214	0.010			0.05
D-284-98 214-219	0.018			0.09
40522	0.120			3.13

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP050637

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-284-98 RECEIVED : 17 SEP 1998

No. SAMPLES : 58 REPORTED : 1 OCT 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 SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 0-5	0.085		0.085	0.20
D-284-98 5-9	0.001			0.03
D-284-98 9-14	0.001			<0.02
D-284-98 14-19	0.001			0.03
D-284-98 19-24	0.008			0.04
D-284-98 24-29	0.001			0.03
D-284-98 29-34	0.003			0.05
D-284-98 34.0-39.6	0.002			0.04
D-284-98 39.6-44.0	0.053			0.09
D-284-98 44-48	0.053		0.058	0.10
D-284-98 48.0-51.6	0.002			0.05
D-284-98 51.6-54.0	0.033			0.58
D-284-98 54-59	0.103		0.118	0.15
D-284-98 59-64	0.235		0.204	0.24
D-284-98 64-69	0.042			0.14
D-284-98 69-74	0.061		0.071	0.20
D-284-98 74.0-76.4	0.091		0.105	0.29
D-284-98 76.4-80.0	0.038			0.24
D-284-98 80-84	0.133		0.155	0.11
D-284-98 84-89	0.033			0.04
D-284-98 89-94	0.032			0.11
D-284-98 94-99	0.014			0.09
D-284-98 99.0-101.5	0.008			0.09
D-284-98 101.5-104.0	0.037			0.12
D-284-98 104-107	0.011			0.10

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 107-109	0.088		0.080	0.24
D-284-98 109-114	0.069		0.091	0.26
D-284-98 114.0-116.7	0.014			0.07
D-284-98 116.7-119.0	0.017			0.10
D-284-98 119-124	0.011			0.07
D-284-98 124-129	0.024			0.10
D-284-98 129-134	0.013			0.06
D-284-98 134.0-135.6	0.015			0.09
D-284-98 135.6-137.6	0.007			0.08
D-284-98 137.6-141.0	0.031			0.05
D-284-98 141-144	0.004			0.05
D-284-98 144.0-147.6	0.140		0.146	0.15
D-284-98 147.6-149.0	0.420		0.406	0.36
D-284-98 149-152	0.194		0.156	0.14
D-284-98 152-155	0.206		0.209	1.20
D-284-98 155-158	0.187		0.124	0.12
D-284-98 158-161	2.532		2.829	2.92
D-284-98 161-164	2.890		3.035	4.63
D-284-98 164.0-166.7	0.700		0.702	1.11
D-284-98 166.7-169.6	0.034			0.05
D-284-98 169.6-171.5	0.010			0.08
D-284-98 171.5-174.0	0.001			0.02
D-284-98 174-179	0.003			0.03
D-284-98 179-181	0.010			0.07
D-284-98 181-184	0.003			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050637

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-284-98 184-189	0.012			0.07
D-284-98 189-194	0.002			0.04
D-284-98 194-199	0.005			<0.02
D-284-98 199-204	0.002			0.03
D-284-98 204-209	0.014			0.04
D-284-98 209-214	0.010			0.05
D-284-98 214-219	0.018			0.09
40522	0.120			3.13

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP0501637

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-284-98 RECEIVED : 17 SEP 1998

No. SAMPLES : 58 REPORTED : 30 SEP 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(R2)	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 SP050637

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 30 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-284-98 0-5	0.085		0.085	0.20
D-284-98 5-9	0.001			0.03
D-284-98 9-14	0.001			<0.02
D-284-98 14-19	0.001			0.03
D-284-98 19-24	0.008			0.04
D-284-98 24-29	0.001			0.03
D-284-98 29-34	0.003			0.05
D-284-98 34.0-39.6	0.002			0.04
D-284-98 39.6-44.0	0.053			0.09
D-284-98 44-48	0.053		0.058	0.10
D-284-98 48.0-51.6	0.002			0.05
D-284-98 51.6-54.0	0.033			0.58
D-284-98 54-59	0.103		0.118	0.15
D-284-98 59-64	0.235		0.204	0.24
D-284-98 64-69	0.042			0.14
D-284-98 69-74	0.061		0.071	0.20
D-284-98 74.0-76.4	0.091		0.105	0.29
D-284-98 76.4-80.0	0.038			0.24
D-284-98 80-84	0.133		0.155	0.11
D-284-98 84-89	0.033			0.04
D-284-98 89-94	0.032			0.11
D-284-98 94-99	0.014			0.09
D-284-98 99.0-101.5	0.008			0.09
D-284-98 101.5-104.0	0.037			0.12
D-284-98 104-107	0.011			0.10

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050637

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 30 SEP 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-284-98 107-109		0.088		0.080	0.24	
D-284-98 109-114		0.069		0.091	0.26	
D-284-98 114.0-116.7		0.014			0.07	
D-284-98 116.7-119.0		0.017			0.10	
D-284-98 119-124		0.011			0.07	
D-284-98 124-129		0.024			0.10	
D-284-98 129-134		0.013			0.06	
D-284-98 134.0-135.6		0.015			0.09	
D-284-98 135.6-137.6		0.007			0.08	147.6-166.7' =
D-284-98 137.6-141.0		0.031			0.05	19.1' @
D-284-98 141-144		0.004			0.05	
D-284-98 144.0-147.6		0.140		0.146	0.15	
D-284-98 147.6-149.0	1.4	0.420		0.406	0.36	
D-284-98 149-152	3	0.194		0.156	0.14	1.074 Ag
D-284-98 152-155	3	0.206		0.209	1.20	
D-284-98 155-158	3	0.187		0.124	0.12	1.61 Ag
D-284-98 158-161	3	2.532		2.829	2.92	
D-284-98 161-164	3	2.890		3.035	4.63	
D-284-98 164.0-166.7	2.7	0.700		0.702	1.11	
D-284-98 166.7-169.6		0.034			0.05	
D-284-98 169.6-171.5		0.010			0.08	
D-284-98 171.5-174.0		0.001			0.02	
D-284-98 174-179		0.003			0.03	
D-284-98 179-181		0.010			0.07	
D-284-98 181-184		0.003			0.04	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050637

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-284-98

REPORTED : 30 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-284-98 184-189	0.012			0.07
D-284-98 189-194	0.002			0.04
D-284-98 194-199	0.005			<0.02
D-284-98 199-204	0.002			0.03
D-284-98 204-209	0.014			0.04
D-284-98 209-214	0.010			0.05
D-284-98 214-219	0.018			0.09
40522	0.120			3.13

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 LLC

Address: P.O. Box 2610

City Winnemucca State NV Zip 89445

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

Project Name: Development Purchase Order Number:

Date Submitted: 9/15/98 Number of Samples: ~~9~~ 57

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

Au-Ag According to Rosebud mine Protocol

D-284-18 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED
0-5	69-74	124-129		
5-9	74-76.4	129-134		169.6-171.5
9-14	76.4-80	134-135.6		171.5-174
14-19	80-84	135.6-137.6		174-179
19-24	84-89	137.6-141		179-181
24-29	89-94	141-144		181-184
29-34	94-99	144-147.6		184-189
34-39.6	99-101.5	147.6-149		189-194
39.6-44	101.5-104	149-152		194-199
44-48	104-107	152-155		199-204
48-51.6	107-109	155-158		204-209
51.6-54	109-114	158-161		209-214
54-59	114-116.7	161-164		214-219 TD
59-64	116.7-119	164-166.7		
64-69	119-124	166.7-169.6		

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-284-98	15	2.5	125.2
	45	1.75	124.7
	105	1.25	124.2
	210	0	125.2

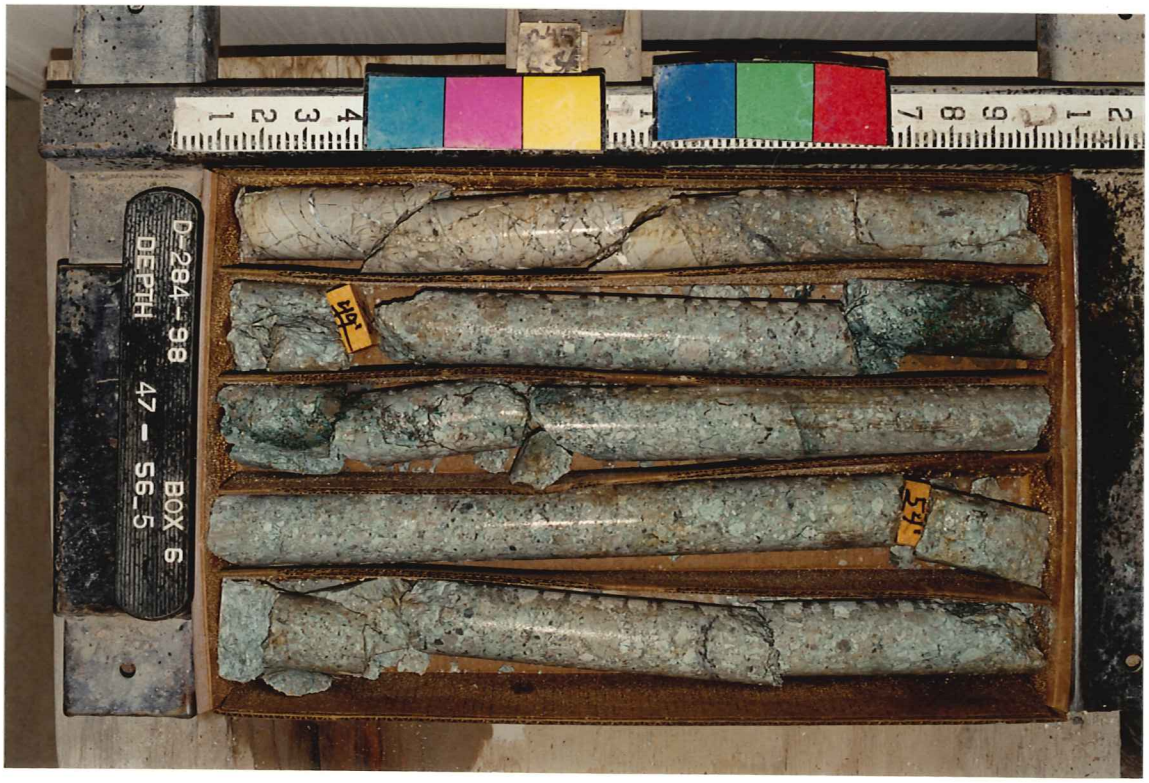
D-284-98
BOX 2
DEPTH 9_5 - 19

D-284-98
BOX 1
DEPTH 0 - 9_5

D-284-98
BOX 3
DEPTH 19 - 28_5

D-284-98 BOX 5
DEPTH 37.5 - 47

D-284-98 BOX 4
DEPTH 28.5 - 37.5


D-284-98 BOX 6
DEPTH 47 - 56.5

D-284-98 BOX 8
DEPTH 65 - 74
69'

D-284-98 BOX 7
DEPTH 56_5 - 65
59'
64'

D-284-98 BOX 9
DEPTH 74 - 83_5
74'
78'

94'
99'
D-284-98 BOX 11
DEPTH 92_5 - 101_5

84'
89'
D-284-98 BOX 10
DEPTH 83_5 - 92_5

104'
105'
D-284-98 BOX 12
DEPTH 101_5 - 110_5

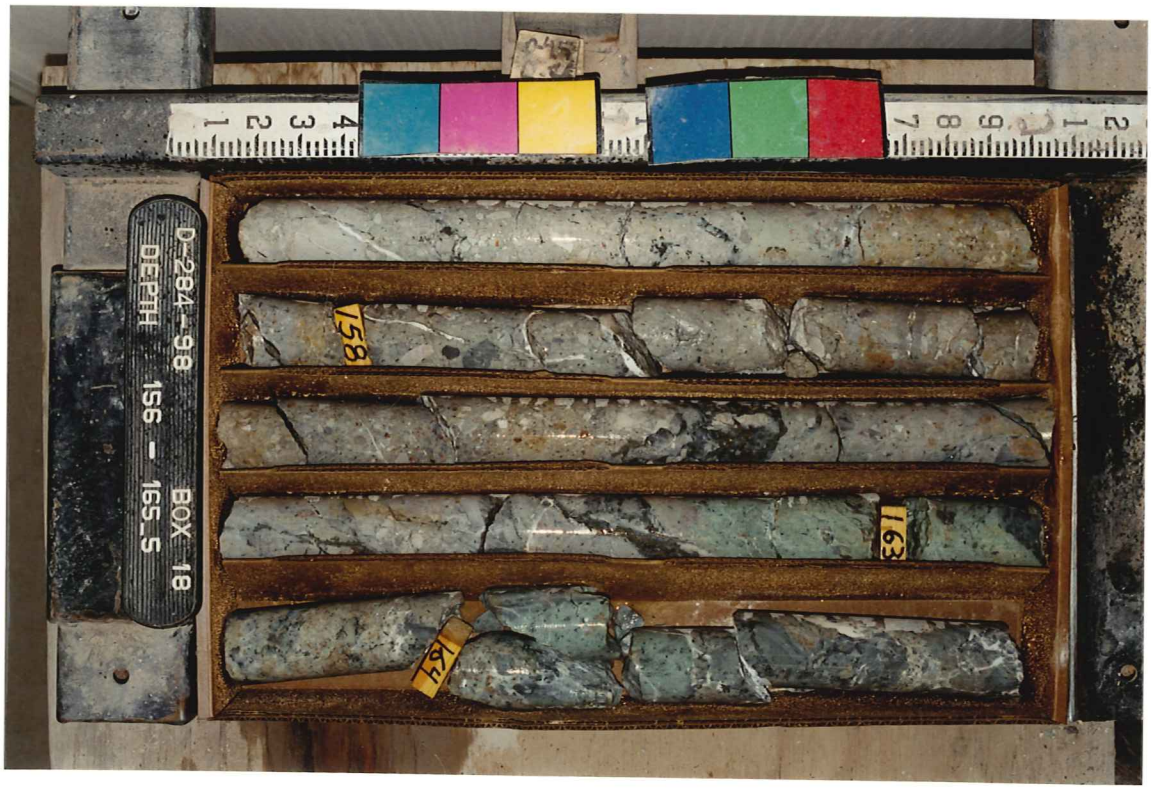
D-284-98 BOX 14
DEPTH 119_5 - 129

D-284-98 BOX 13
DEPTH 110_5 - 119_5

D-284-98 BOX 15
DEPTH 129 - 137_5

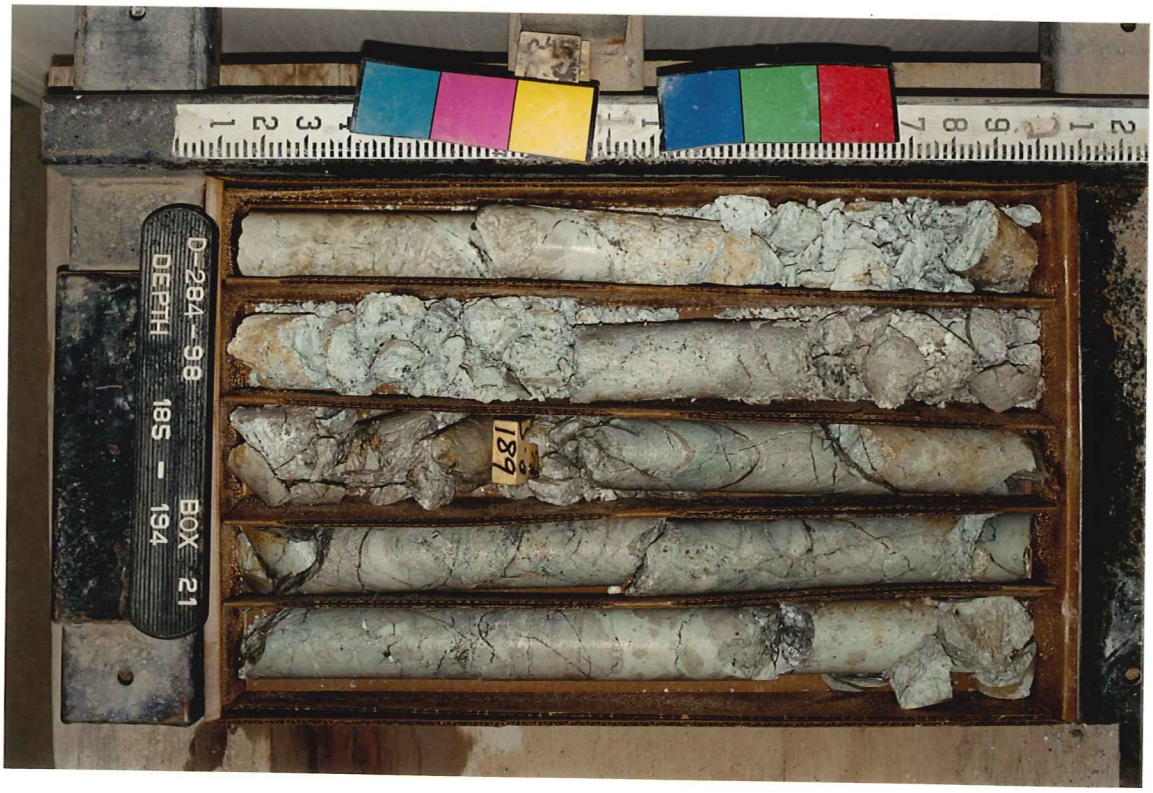
149'
154'
D-284-98 BOX 17
DEPTH 146 - 156

139'
144'
D-284-98 BOX 16
DEPTH 137_5 - 146


158'
163'
167'
D-284-98 BOX 18
DEPTH 155 - 165_5

184
179
D-284-98 BOX 20
DEPTH 175.5 - 185

169
174
D-284-98 BOX 19
DEPTH 165.5 - 175.5


189
D-284-98 BOX 21
DEPTH 185 - 194

204
209
D-284-98 BOX 23
DEPTH 203 - 212

199
194
D-284-98 BOX 22
DEPTH 194 - 203

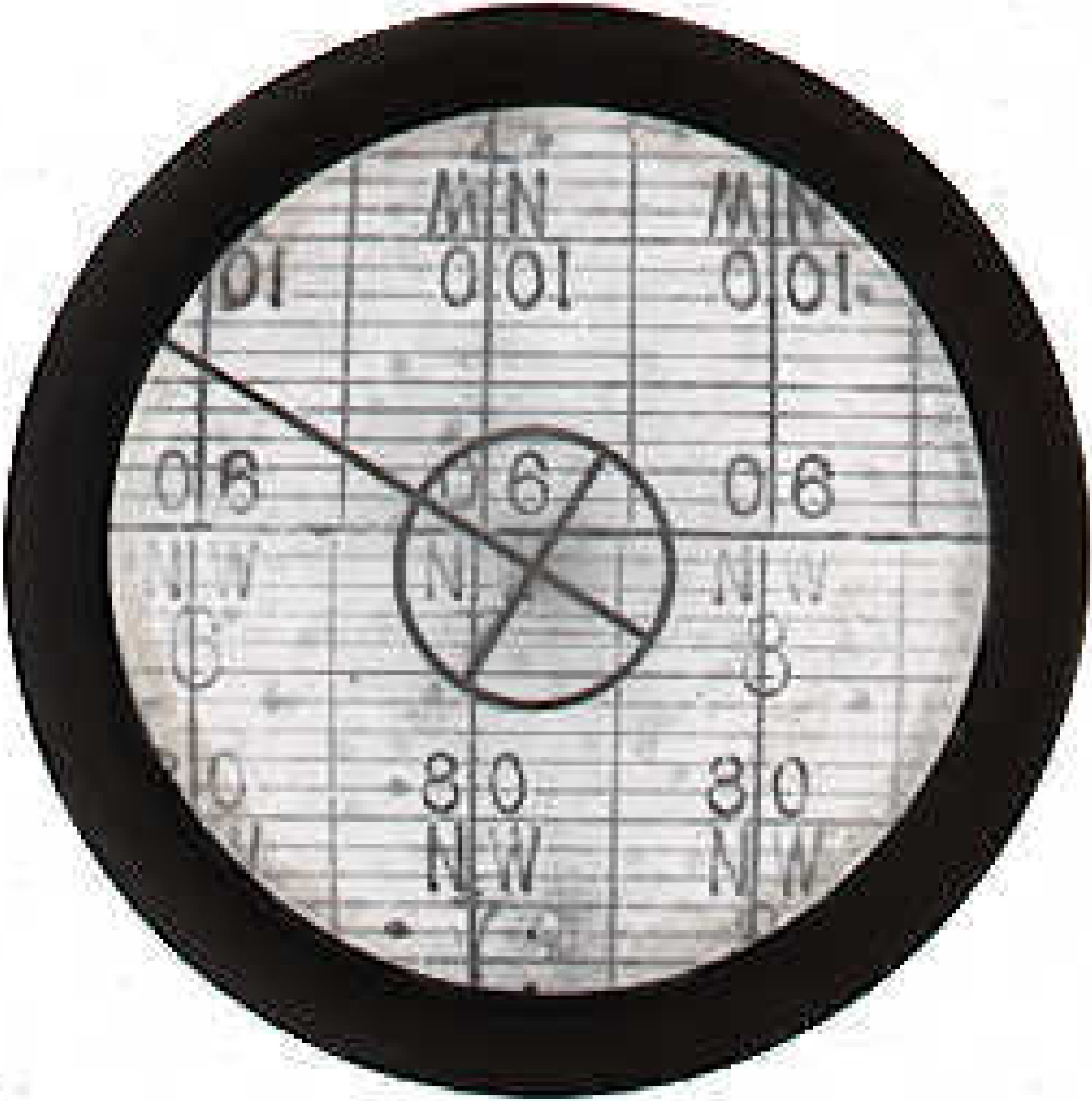
D-284-98 BOX 24
DEPTH 212 - 219 TD
214
219

SINGLE SHOT
PHOTO DISC RECORD

COMPANY HELLA
WELL NAME D 284 98
LEASE
TAKEN BY BAMFORD
DEPTH 210
DATE 7-29-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

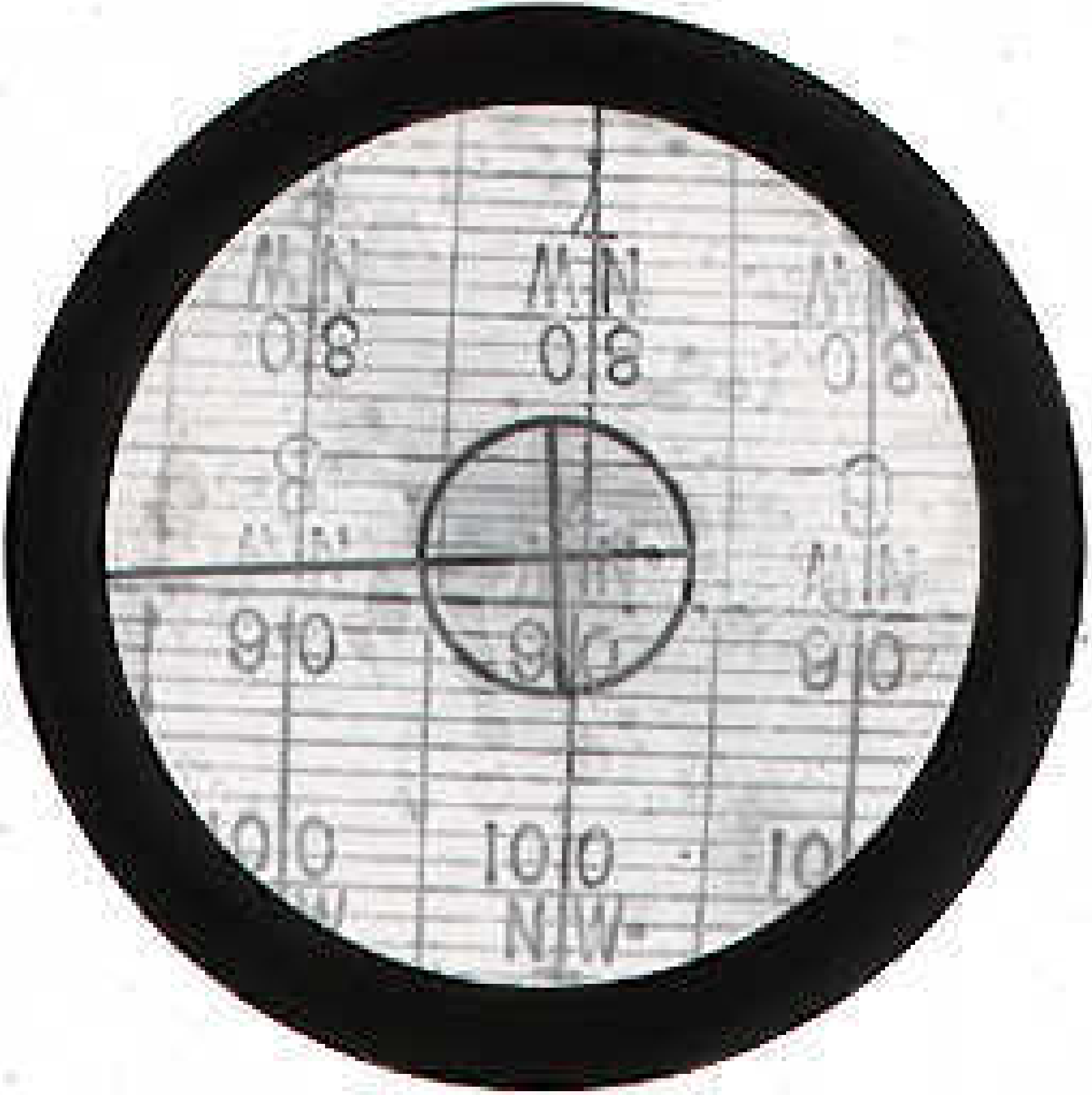
SINGLE SHOT
PHOTO DISC RECORD

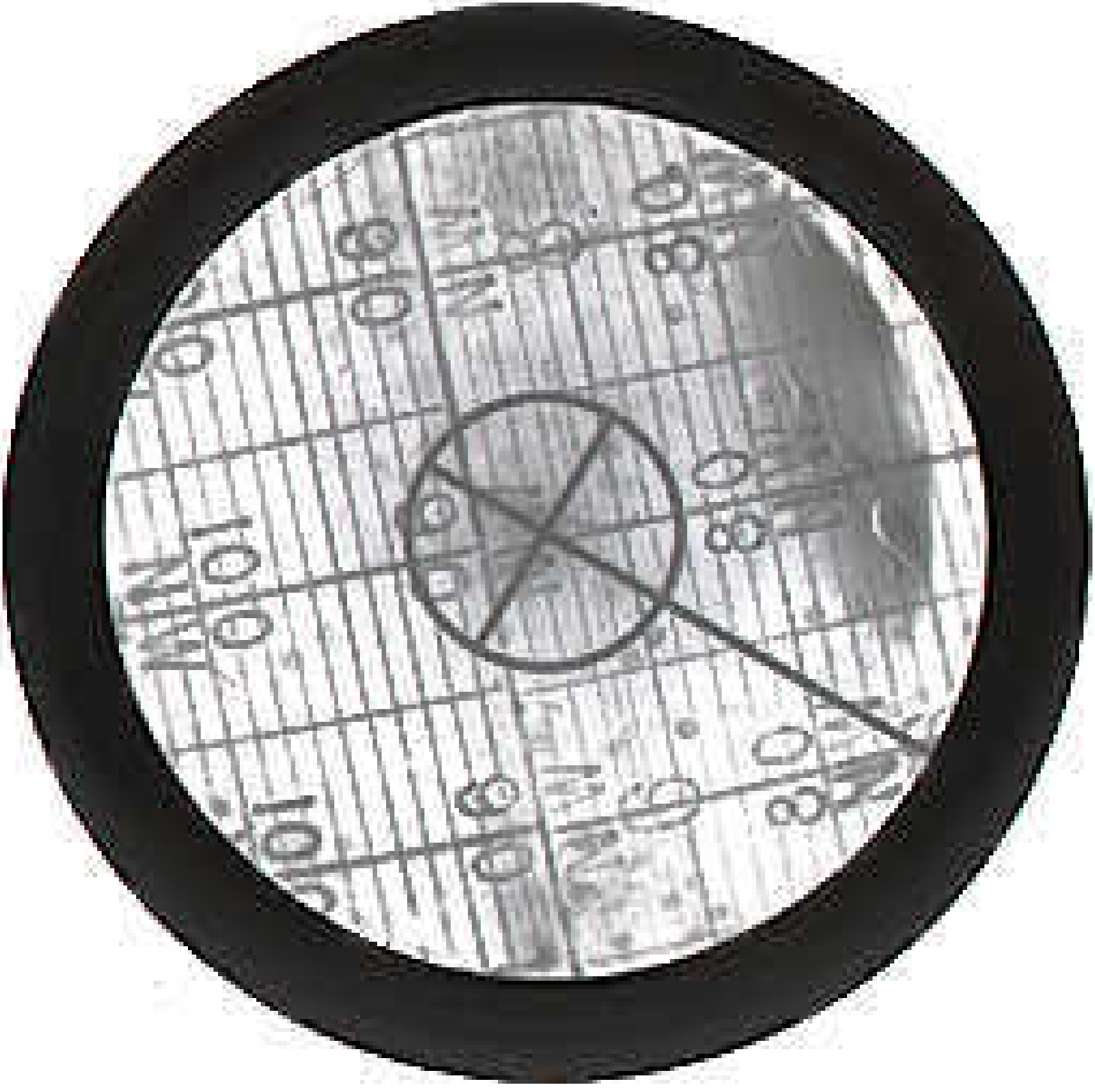
COMPANY HECLA
WELL NAME D 284-98
LEASE
TAKEN BY BAMFORD
DEPTH 105
DATE 7-29-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY HECLA
WELL NAME D28498
LEASE
TAKEN BY BAMFORD
DEPTH 45' (COLLAR)
DATE 7-29-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY
WELL NAME D-284-98
LEASE
TAKEN BY TEST, ASW
DEPTH 15'
DATE 7/29/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408