60001205

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-304-98
AUTHOR	S. King; K. Allen; D. Mackerrow
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 325' receipt; handwritten notes; downhole camera images 35p. 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 5/14/08
Initials Date
DB: mah
Initials Date
SCANNED: NB
Initials Date

Revised: 1/22/08

D-304-98

60001205 4010

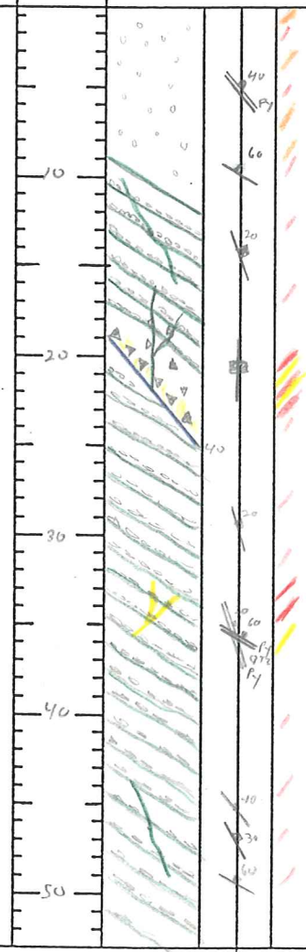
6000 1205

Hecla MINING COMPANY

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

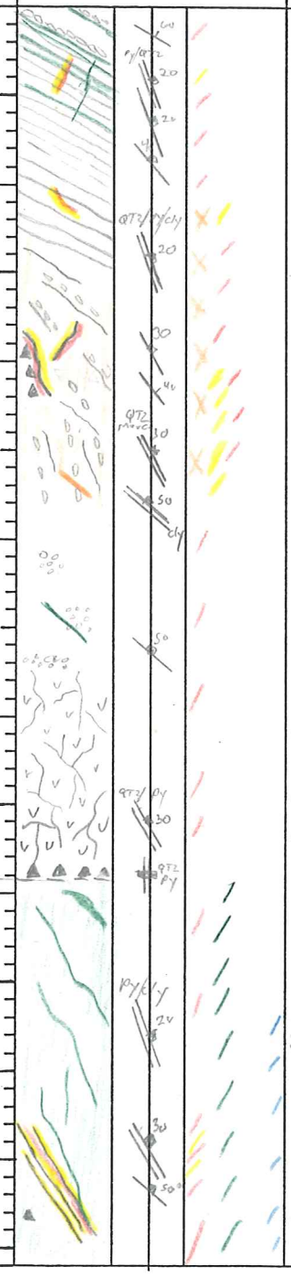
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-304-98	LOCATION	STOPE 50 Section 1575	REMARKS	
PAGE 1 OF 5		NORTHING			COMPLETED 8/30/98
DATE	10-20-98	EASTING			
LOGGED BY	D.G. Mackerron	ELEVATION			
SCALE	1" = 10'	AZIMUTH	125		
TOTAL DEPTH	325	INCLINATION	40		

TH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
P.L. J	Red	0-77.9 PLANAR LAMINAR Fine grained Laminitic flow Small individual vesicals. 9.5-21 vesicals follow Lamina foliation vesicals are small 30.5-48 vesicals become larger and form thicker, along flow foliation Foliation averages about 1" between lamina. Possible elongation of vesicals along Lamina	10 20 30 40 50		Lamina foliation 60° TCA. QTZ filled vug at 22' weak crackle B/4a from 20 to 22' 15' pyrite has coated or replace marcasite. By 30' marcasite can be found on fractures at 20° TCA	Pyrite is found as <1% dissemination Concentrations of pyrite are found along the lamination foliation and as local concentrations Cross cutting veins at 40° TCA of PY also present. Chlorite is found on foliation lamina and cross cutting fractures Hard "soapy" clays are on fractures In the chloritic zone clays are translucent from hydrothermal alteration

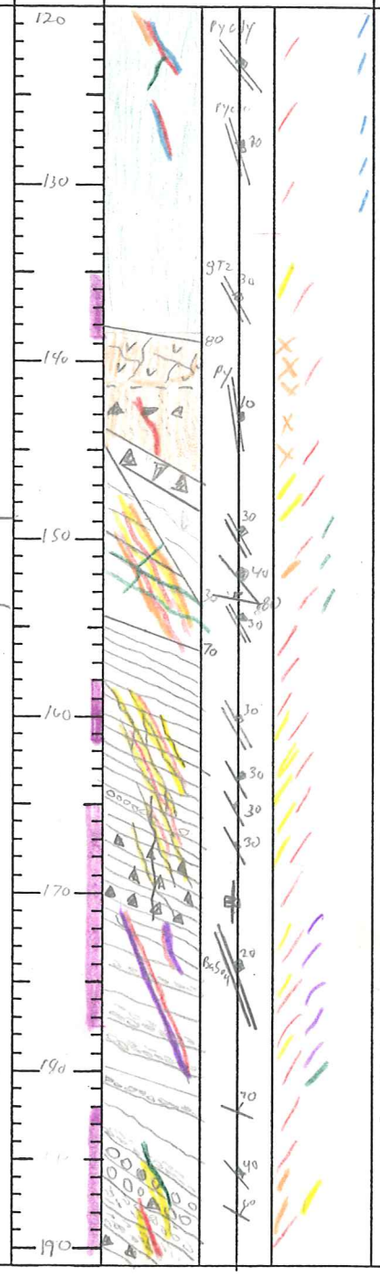
ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5					
5	10					
10	15					
15	20					
20	25					
25	30.5					
30.5	35.5					
35.5	40					
40	45					
45	50					
50	54.2					

HOLE NUMBER D-304-98 PAGE 2 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
P.L. ↓	Red ↓	0-77.9 PLANAR LAMINAR Fine grained flow with vesicular trains continues to 50'. Below 50' vesicuals become less distinct, but laminations continue. Texture begins to fine with a more dispersed vesicul pattern from 55' From 62' to 77.9 rock becomes irregularly argillized and bleached. This could be a devitrification texture. No distinct contact with FGM very gradational except for alteration from 62-77.9'	50 60 70		58-62 40° TCA Fracture set dominates QTZ VEINING and weak Crackle BXO are developed along heal fractures 69-74	54.5 1" BXO Filled QTZ Py vein Pale green Hydrothermal altered clay on fracture 54-65' Pyrite is found on 20° TCA VEINS and along laminar parting'	50 54.2 57 60.9 65 70 75	54.2 57 60.9 65 70 75 77.9				
F.G.M. ↓		77.9-87.6 FINE GRAINE MASSIVE Very fine grain part of flow with faint irregularly spaced vesicuals. Pale blotchy green-grey color Gradational contact with vitrophyre	80		Fine pyrite and QTZ veinlets but decreasing in number 84-87.6 increasing fracture pattern	Pyrite predominately in agglomeration forming dark patch on core surface	77.9 81.7 83.8	81.7 83.8 87.6				
VIT. ↓		87.6-99.4 VITROPHYRE Very fine and dense portion of flow concoidal fracture pattern, well welded. 2" Breccia at contact with fine grained mass.	90		High angle fracture and open spaces coated with Py and QTZ, Fracture at 89' shows apparent motion oblique to core axis of 40°	Pyrite is found as veinlets favouring a high angle to the core axis (30°)	87.6 92.3 95	92.3 95 99.4				
F.G.M. ↓		99.4- FINE GRAINED MASSIVE Fine grained flow with chloritized fractures. Disseminated sulfides are <1% moderate to well welded Possible "Mafic Megablebs"	100 110 120		Internal BXO texture healed with chloritized material Veinlet Swarm 115 to 117 QTZ, Py' an Calcite - 114 crackle BXO 4'	QTZ and pyrite veining in the FGM locally concentrated Calcite begins to be found in veinlets associated with qtz Py and sometimes clay from 107 to 132	99.4 105 110.3 115	105 110.3 115 120				

HOLE NUMBER D-304-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	STRUCTURE	ALTERATION AND MINERALIZATION
F.G.M. ↓	Red ↓	99.4 – 148.9 FINE GRAIN MASSIVE Fine texture continues to 126.5 – 129 where a mottle texture is present. From 129' FGM is irratically fine or course. Crackle Bxa with fine fragments in a fine matrix are present but short in length < 1'	Fracture with slicks 70° to core axis	Drozy qtz on fracture at 126 with Py Calcite in fractures at 128
		138.5 – 141.1 VITROPHYRE chill or welding margin upper contact very gradational back into FGM.		VITRO. is argillized from 138.5 – 139.5
		141.1 – 148.9 F.G.M. continues but is medium grained and shows a slight foliation. Breccia clast of weakly to non altered rock	Series of bxa with subrounded clast begin at 143 and continue to the contact with the P.L. contact 30° TCA with Py veins along the orientation	FGM is argillized from 141.1 to 145.5
P.L		148.9 – 314 PLANAR LAMINAR Fine to medium textured moderately welded flow lamination ie fracture portions at 60° TCA with bleaching along the lamina. 155 Laminated texture becomes strong but vesicular nature is weak Silica in fracture zone from 161.5 to 169 does not leave the veins and the dissolution cavities 184 – 188 SPOTTED TUFF Course vesicuals on devitrified texture with chlorite filled vesicuals spherulitic texture!	Fracture zone from 148.5 to 151 has drozy qtz in open spaces and forming a weak stock work From 161.5 to 169 there is a high angle fracture set flooded by qtz with marcasite. Small Hydrothermal related fracture set Crackle Bxa 166 – 169	Chlorite on fractures from 151 to 155 White clay on most fracture surfaces Heavy qtz and marcasite 165 – 168 Barite on fractures from 173. 20° TCA vein 176.5 has ½" Barite crystals with marcasite and drozy quartz Clay, marc, qtz and Py veins 189 – 190



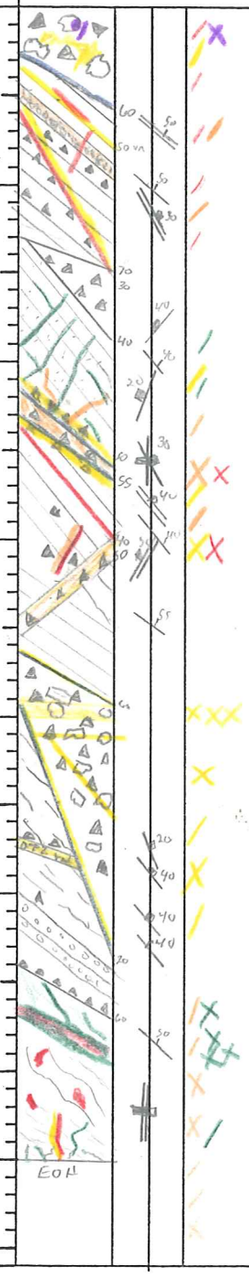
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
120	125				
125	130.5				
130.5	135				
135	138.5				
138.5	141.1				
141.1	145				
145	148.9				
148.9	151.9				
151.9	155				
155	157.8				
157.8	161.5				
161.5	165				
165	169				
169	172.4				
172.4	175				
175	177.3				
177.3	182.2				
182.2	185				
185	190				

HOLE NUMBER D-304-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
P.L. ↓	Red ↓	148.9 - 314 PLANAR LAMINAR Laminated flow with a variable texture Pinu 191.5 199.7 - 200 Very tuffaceous character Foliation to the clast 210 - 215 Texture approaches F.G.M. but returns to a tuffaceous or very fine vesicular texture 225 - 242 core is blue green in color with a bleach over print 228-230 Thin 1" vitrophyre like seams Pinu 219 230 - 242 Very vesicular texture with a foliation of 50° TCA Partial chloritization of the vesicles has taken place 257.5 - 260.6 BXA ZONE WITH CLAST of P.L. AND F.G.M. HYDROTHERMAL IN ORIGIN. DROZY QTZ in vugs with Pyrite and Barite. Barite is large ½" crystals	190 200 210 220 230 240 250 260		QTZ VN with associated Crackle BXA at 202' Rubble BXA healed by volcanic clay matrix 216-220 Veining is at 50° to core axis Crackle BXA from 228-230 Crackle BXA 235-236 241-242, 244-247.5 257.5 - 264.2 HYDROTHERMAL BXA QTZ FLOODING ANGULAR TO SUB ROUNDED CLA	Argillization becomes dominant alteration From 215 becoming very heavy from 216-220. Marcasite moss at 217 224.5-225.3 very bright Pyrite coating marcasite crystals Barite fill vug 259.5	FROM 190 195 199.7 205 210 215 220 225 230 235 240 245 249.7 255 257.5	TO 195 199.7 205 210 215 220 225 230 235 240 245 249.7 255 257.5 260.6				

HOLE NUMBER D-304-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
PL	Red	148.9-314 PLANAR LAMINAR 257.5-264.4 Breccia with P.L. VITRO, and F.G.M clasts. Vesicular development is weak and localized. 276.1-283.6 Fracture contain chloritized clay. 276.1 Planar laminar contains fine chloritize vesicals where are diseminated through the core 285.6- 1" thick mass of pyrite in clay filled fracture 292 Pina 287-292.3 Series of narrow bxa with matrixes of clay or pyrite with spotty qtz 292.5-296.1 Laminitic rock with lamina of ½" vesical are chlorite filled and very small, 55° TCA Foliation 296.3-305 Breccia zone with crachle to milled Bxa intensity. clast are all Pale blue green Planar. Clast are locally silicified, QTZ forms hydrothermally Leach box works	260 270 280 290 300 310 320 330		HYDRO THERMAL BXA 257.5 - 264.2 Barite, qtz, Pyrite, Pyrite replaced marcasite? Series of narrow Hydrothermal Bxa consisting of crachle to mosaic Bxa with spotty silica 266 - 270.8 1" thick qtz marc and Py vein with associated Bxa 269.8 Crachle Bxa 270-270.4 273.9-275.8 Auto Bxa generally expanded to crachle Bxa intensity. Fracture cross cut and P.L. Lamina as clay supported Bxa from 281.2 - 283.6 Pyrite matrix Bxa at 292-292.5 Bxa is crachle to mosaic in intenity and cross cutting Lamina 3' Autobxa 313.7-314 at contact with P.L. and FGM whispy 60° TCA Foliation	Silicification is Breccia is spotty most clast are not silicified. most of the silica is from 261.-262.5 265.4 1" qtz vein with marc. White clay or hydrothermal altered clay on fracture from 267 Pyrite marcasite veinlets crosscut lamina. 296.3-305 drozy qtz with pyrite in fracture in breccia zone Ayillization increase - from 315.5 to TD of hole Marcasite on fracture at 317.6
FGM		314-325 FINE GRAINE MASSIVE Fine to medium textured flow approaching vitrophyric text towards bottom of the hole Chloritized from 319-316				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
260.6	264.4				
264.4	270				
270	273.9				
273.9	276.1				
276.1	281.2				
281.2	283.6				
283.6	288				
288	292.5				
292.5	296.1				
296.1	301.1				
301.1	305				
305	307.2				
307.2	311.2				
311.2	314				
314	316.2				
316.2	319.8				
319.8	325				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-304-98 DATE: 10-20-98 LOGGED BY: D. G. Mackerrow 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	5	36	100	12										
5	10	68	100	44										
10	15	82	100	56										
15	20	70	100	44										
20	24	25	100	25										
24	25	0	100	0										
25	30.5	47	100	20										
30.5	40	35	100	38										
40	44	70	100	0										
44	50	26	100	0										
50	57	40	100	24										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-304-94 DATE: 10-20-95 LOGGED BY: D.G. MacKerrow 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
57	65	55	100	41										
65	75	89	100	50										
75	85	100	100	76										
85	95	100	100	80										
95	105	100	100	96										
105	115	100	100	85										
115	125	100	100	81										
125	135	100	100	81										
135	145	100	100	78										
145	155	65	100	58										
155	165	100	100	46										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-30U-98 DATE: 10-21-98 LOGGED BY: D.G. Mackerrow 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)
165	175	98	100	50										
175	185	67	100	36										
185	195	97	100	49										
195	205	98	100	69										
205	215	90	100	62										
215	225	100	100	71										
225	235	100	100	68										
235	245	100	100	79										
245	255	78	100	65										
255	265	100	100	87										
265	275	100	100	71										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-304-98 DATE: 10-21-98 LOGGED BY: D.G. Mackenzie PAGE 4 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)
27.5	28.5	100	100	64										
28.5	29.5	98	100	61										
29.5	30.5	100	100	71										
30.5	31.5	90	100	56										
31.5	32.5	100	100	88										

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 0051368-IN
INVOICE DATE: 11/18/98

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-304-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
79	SAMPLES RECEIVED	.00	.00
78	DRYING	1.00	78.00
78	JAW CRUSHING CHARGE	1.30	101.40
78	COARSE MILLING CHARGE	4.50	351.00
78	SPLITTING CHARGE	2.40	187.20
78	RING MILLING CHARGE	2.00	156.00
79	Au (1 A.T. FIRE ASSAY)	8.00	632.00
18	Au ANALYSES/GRAVIMETRIC	8.75	157.50
79	HYDROCHLORIC/NITRIC DIGESTION	2.00	158.00
79	Ag ANALYSES	1.00	79.00

86-5110-477
GA

NET INVOICE:	1,900.10
LESS DISCOUNT:	380.02
FREIGHT:	.00
INVOICE TOTAL:	1,520.08

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

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-304-98 RECEIVED : 2 NOV 1998

No. SAMPLES : 79 REPORTED : 18 NOV 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 SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 00-05	0.043			0.04
D-304-98 05-10	0.014			0.51
D-304-98 10-15	0.007			0.02
D-304-98 15-20	0.002			0.02
D-304-98 20-25	0.002			0.04
D-304-98 25.0-30.5	0.006			<0.02
D-304-98 30.5-35.5	0.005			0.04
D-304-98 35.5-40.0	0.030			0.05
D-304-98 40-45	0.010			0.07
D-304-98 45-50	<0.001			0.03
D-304-98 50.0-54.2	<0.001			0.02
D-304-98 54.2-57.0	0.021			0.08
D-304-98 57.0-60.9	0.017			0.03
D-304-98 60.9-65.0	0.004			0.04
D-304-98 65-70	0.029			0.10
D-304-98 70-75	0.009			0.07
D-304-98 75.0-77.9	0.023			0.05
D-304-98 77.9-81.7	0.002			0.02
D-304-98 81.7-83.8	<0.001			0.02
D-304-98 83.8-87.6	0.001			0.05
D-304-98 87.6-92.3	0.011			0.07
D-304-98 92.3-95.0	<0.001			0.06
D-304-98 95.0-99.4	<0.001			0.10
D-304-98 99.4-105.0	<0.001			0.69
D-304-98 105.0-110.3	0.031			0.37

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 110.3-115.0	0.001			0.07
D-304-98 115-120	0.007			0.06
D-304-98 120-125	0.018			0.02
D-304-98 125.0-130.5	0.024			0.03
D-304-98 130.5-135.0	0.098		0.118	0.03
D-304-98 135.0-138.5	0.156		0.230	0.08
D-304-98 138.5-141.1	0.015			0.08
D-304-98 141.1-145.0	0.004			0.05
D-304-98 145.0-148.9	0.110		0.151	0.10
D-304-98 148.9-151.9	0.077		0.127	0.19
D-304-98 151.9-155.0	0.029			0.06
D-304-98 155.0-157.8	0.032			0.08
D-304-98 157.8-161.5	0.251		0.264	0.16
D-304-98 161.5-165.0	0.035			0.15
D-304-98 165-169	0.804		0.926	0.34
D-304-98 169.0-172.4	0.534		0.576	0.36
D-304-98 172.4-175.0	0.327		0.260	0.21
D-304-98 175.0-177.3	0.228		0.252	0.17
D-304-98 177.3-182.2	0.070		0.068	0.12
D-304-98 182.2-185.0	0.205		0.177	0.25
D-304-98 185-190	1.601		1.619	0.66
D-304-98 190-195	1.166		1.278	0.59
D-304-98 195.0-199.7	0.400		0.375	0.18
D-304-98 199.7-205.0	0.052		0.085	0.12
D-304-98 205-210	0.007			0.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 210-215	0.004			<0.02
D-304-98 215-220	0.137		0.126	0.15
D-304-98 220-225	0.025			0.08
D-304-98 225-230	0.041			0.07
D-304-98 230-235	0.006			0.09
D-304-98 235-240	0.041			0.06
D-304-98 240-245	0.001			0.03
D-304-98 245.0-249.7	0.006			0.07
D-304-98 249.7-255.0	0.007			0.04
D-304-98 255.0-257.5	<0.001			0.03
D-304-98 257.5-260.6	0.010			0.02
D-304-98 260.6-264.4	0.024			0.13
D-304-98 264.4-270.0	0.054		0.084	0.10
D-304-98 270.0-273.9	0.004			0.04
D-304-98 273.9-276.1	0.002			0.03
D-304-98 276.1-281.2	0.007			0.04
D-304-98 281.2-283.6	0.031			0.04
D-304-98 283.6-288.0	0.008			0.05
D-304-98 288.0-292.5	0.006			0.10
D-304-98 292.5-296.1	0.017			0.07
D-304-98 296.1-301.1	0.024			0.05
D-304-98 301.1-305.0	0.009			0.04
D-304-98 305.0-307.2	0.004			0.04
D-304-98 307.2-311.2	0.006			0.03
D-304-98 311.2-314.0	0.002			0.05

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 314.0-316.2	<0.001			0.05
D-304-98 316.2-319.8	0.002			0.03
D-304-98 319.8-325.0	0.085		0.099	0.05
46554	0.547			2.94

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SPØ51368

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-304-98 RECEIVED : 2 NOV 1998

No. SAMPLES : 79 REPORTED : 18 NOV 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 SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 00-05	0.043			0.04
D-304-98 05-10	0.014			0.51
D-304-98 10-15	0.007			0.02
D-304-98 15-20	0.002			0.02
D-304-98 20-25	0.002			0.04
D-304-98 25.0-30.5	0.006			<0.02
D-304-98 30.5-35.5	0.005			0.04
D-304-98 35.5-40.0	0.030			0.05
D-304-98 40-45	0.010			0.07
D-304-98 45-50	<0.001			0.03
D-304-98 50.0-54.2	<0.001			0.02
D-304-98 54.2-57.0	0.021			0.08
D-304-98 57.0-60.9	0.017			0.03
D-304-98 60.9-65.0	0.004			0.04
D-304-98 65-70	0.029			0.10
D-304-98 70-75	0.009			0.07
D-304-98 75.0-77.9	0.023			0.05
D-304-98 77.9-81.7	0.002			0.02
D-304-98 81.7-83.8	<0.001			0.02
D-304-98 83.8-87.6	0.001			0.05
D-304-98 87.6-92.3	0.011			0.07
D-304-98 92.3-95.0	<0.001			0.06
D-304-98 95.0-99.4	<0.001			0.10
D-304-98 99.4-105.0	<0.001			0.69
D-304-98 105.0-110.3	0.031			0.37

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 110.3-115.0	0.001			0.07
D-304-98 115-120	0.007			0.06
D-304-98 120-125	0.018			0.02
D-304-98 125.0-130.5	0.024			0.03
D-304-98 130.5-135.0	0.098		0.118	0.03
D-304-98 135.0-138.5	0.156		0.230	0.08
D-304-98 138.5-141.1	0.015			0.08
D-304-98 141.1-145.0	0.004			0.05
D-304-98 145.0-148.9	0.110		0.151	0.10
D-304-98 148.9-151.9	0.077		0.127	0.19
D-304-98 151.9-155.0	0.029			0.06
D-304-98 155.0-157.8	0.032			0.08
D-304-98 157.8-161.5	0.251		0.264	0.16
D-304-98 161.5-165.0	0.035			0.15
D-304-98 165-169	0.804		0.926	0.34
D-304-98 169.0-172.4	0.534		0.576	0.36
D-304-98 172.4-175.0	0.327		0.260	0.21
D-304-98 175.0-177.3	0.228		0.252	0.17
D-304-98 177.3-182.2	0.070		0.068	0.12
D-304-98 182.2-185.0	0.205		0.177	0.25
D-304-98 185-190	1.601		1.619	0.66
D-304-98 190-195	1.166		1.278	0.59
D-304-98 195.0-199.7	0.400		0.375	0.18
D-304-98 199.7-205.0	0.052		0.085	0.12
D-304-98 205-210	0.007			0.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 210-215	0.004			<0.02
D-304-98 215-220	0.137		0.126	0.15
D-304-98 220-225	0.025			0.08
D-304-98 225-230	0.041			0.07
D-304-98 230-235	0.006			0.09
D-304-98 235-240	0.041			0.06
D-304-98 240-245	0.001			0.03
D-304-98 245.0-249.7	0.006			0.07
D-304-98 249.7-255.0	0.007			0.04
D-304-98 255.0-257.5	<0.001			0.03
D-304-98 257.5-260.6	0.010			0.02
D-304-98 260.6-264.4	0.024			0.13
D-304-98 264.4-270.0	0.054		0.084	0.10
D-304-98 270.0-273.9	0.004			0.04
D-304-98 273.9-276.1	0.002			0.03
D-304-98 276.1-281.2	0.007			0.04
D-304-98 281.2-283.6	0.031			0.04
D-304-98 283.6-288.0	0.008			0.05
D-304-98 288.0-292.5	0.006			0.10
D-304-98 292.5-296.1	0.017			0.07
D-304-98 296.1-301.1	0.024			0.05
D-304-98 301.1-305.0	0.009			0.04
D-304-98 305.0-307.2	0.004			0.04
D-304-98 307.2-311.2	0.006			0.03
D-304-98 311.2-314.0	0.002			0.05

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051368

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-304-98 314.0-316.2	<0.001			0.05
D-304-98 316.2-319.8	0.002			0.03
D-304-98 319.8-325.0	0.085		0.099	0.05
46554	0.547			2.94

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051368

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-304-98 RECEIVED : 2 NOV 1998

No. SAMPLES : 79 REPORTED : 18 NOV 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 SP051368

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-304-98 00-05	0.043			0.04
D-304-98 05-10	0.014			0.51
D-304-98 10-15	0.007			0.02
D-304-98 15-20	0.002			0.02
D-304-98 20-25	0.002			0.04
D-304-98 25.0-30.5	0.006			<0.02
D-304-98 30.5-35.5	0.005			0.04
D-304-98 35.5-40.0	0.030			0.05
D-304-98 40-45	0.010			0.07
D-304-98 45-50	<0.001			0.03
D-304-98 50.0-54.2	<0.001			0.02
D-304-98 54.2-57.0	0.021			0.08
D-304-98 57.0-60.9	0.017			0.03
D-304-98 60.9-65.0	0.004			0.04
D-304-98 65-70	0.029			0.10
D-304-98 70-75	0.009			0.07
D-304-98 75.0-77.9	0.023			0.05
D-304-98 77.9-81.7	0.002			0.02
D-304-98 81.7-83.8	<0.001			0.02
D-304-98 83.8-87.6	0.001			0.05
D-304-98 87.6-92.3	0.011			0.07
D-304-98 92.3-95.0	<0.001			0.06
D-304-98 95.0-99.4	<0.001			0.10
D-304-98 99.4-105.0	<0.001			0.69
D-304-98 105.0-110.3	0.031			0.37

11/18/1998 10:33 7023561414 AMERICAN ASSAY LABS PAGE 06

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051368

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-304-98 110.3-115.0		0.001			0.07	
D-304-98 115-120		0.007			0.06	
D-304-98 120-125		0.018			0.02	
D-304-98 125.0-130.5		0.024			0.03	
D-304-98 130.5-135.0		0.098		0.118	0.03	
D-304-98 135.0-138.5		0.156		0.230	0.08	
D-304-98 138.5-141.1		0.015			0.08	
D-304-98 141.1-145.0		0.004			0.05	
D-304-98 145.0-148.9		0.110		0.151	0.10	
D-304-98 148.9-151.9		0.077		0.127	0.19	
D-304-98 151.9-155.0		0.029			0.06	157.8 - 199.7'
D-304-98 155.0-157.8		0.032			0.08	= 41.9 @
D-304-98 157.8-161.5	3.7	0.251		0.264	0.16	
D-304-98 161.5-165.0	3.5	0.035			0.15	0.575 Au
D-304-98 165-169	4	0.804		0.926	0.34	0.31 Ag
D-304-98 169.0-172.4	3.4	0.534		0.576	0.36	
D-304-98 172.4-175.0	2.6	0.327		0.260	0.21	
D-304-98 175.0-177.3	2.3	0.228		0.252	0.17	
D-304-98 177.3-182.2	4.9	0.070		0.068	0.12	
D-304-98 182.2-185.0	2.8	0.205		0.177	0.25	
D-304-98 185-190	5	1.601		1.619	0.66	
D-304-98 190-195	5	1.166		1.278	0.59	
D-304-98 195.0-199.7	4.7	0.400		0.375	0.18	
D-304-98 199.7-205.0		0.052		0.085	0.12	
D-304-98 205-210		0.007			0.08	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051368

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-304-98 210-215	0.004			<0.02
D-304-98 215-220	0.137		0.126	0.15
D-304-98 220-225	0.025			0.08
D-304-98 225-230	0.041			0.07
D-304-98 230-235	0.006			0.09
D-304-98 235-240	0.041			0.06
D-304-98 240-245	0.001			0.03
D-304-98 245.0-249.7	0.006			0.07
D-304-98 249.7-255.0	0.007			0.04
D-304-98 255.0-257.5	<0.001			0.03
D-304-98 257.5-260.6	0.010			0.02
D-304-98 260.6-264.4	0.024			0.13
D-304-98 264.4-270.0	0.054		0.084	0.10
D-304-98 270.0-273.9	0.004			0.04
D-304-98 273.9-276.1	0.002			0.03
D-304-98 276.1-281.2	0.007			0.04
D-304-98 281.2-283.6	0.031			0.04
D-304-98 283.6-288.0	0.008			0.05
D-304-98 288.0-292.5	0.006			0.10
D-304-98 292.5-296.1	0.017			0.07
D-304-98 296.1-301.1	0.024			0.05
D-304-98 301.1-305.0	0.009			0.04
D-304-98 305.0-307.2	0.004			0.04
D-304-98 307.2-311.2	0.006			0.03
D-304-98 311.2-314.0	0.002			0.05

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051368

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-304-98

REPORTED : 18 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-304-98 314.0-316.2	<0.001			0.05
D-304-98 316.2-319.8	0.002			0.03
D-304-98 319.8-325.0	0.085		0.099	0.05
46554	0.547			2.94

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) 623-6412 Fax Number: (702) 623-6167

Project Name: Development Purchase Order Number:

Date Submitted: 10/28/98 Number of Samples: 78

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

Au Ag according to Rosebud mine route sul

D-304-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED		
0-5	70-75	135-138.5		185-190	257.5-260.6	314-316.2
5-10	75-77.9	138.5-141.1		190-195	260.6-264.4	316.2-319.8
10-15	77.9-81.7	141.1-145		145-149.7	264.4-270	319.8-325
15-20	81.7-83.8	145-148.9		149.7-205	270-273.9	TD
20-25	83.8-87.6	148.9-151.9		205-210	273.9-276.1	
25-30.5	87.6-92.3	151.9-155		210-215	276.1-281.2	
30.5-35.5	92.3-95	155-157.8		215-220	281.2-283.6	
35.5-40	95-99.4	157.8-161.5		220-225	283.6-288	
40-45	99.4-105	161.5-165		225-230	288-292.5	
45-50	105-110.3	165-169		230-235	292.5-296.1	
50-54.2	110.3-115	169-172.4		235-240	296.1-301.1	
54.2-57	115-120	172.4-175		240-245	301.1-305	
57-60.9	120-125	175-177.3		245-249.7	305-307.2	
60.9-65	125-130.5	177.3-182.2		249.7-255	307.2-311.2	
65-70	130.5-135	182.2-185		255-257.5	311.2-314	

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-304-98	35	38.5	123.7
	160	39	122.7
	325	39	121.7

125
D-304-98 BOX 14
DEPTH 121_5 - 131

115
D-304-98 BOX 13
DEPTH 112 - 121_5

135
D-304-98 BOX 15
DEPTH 131 - 140

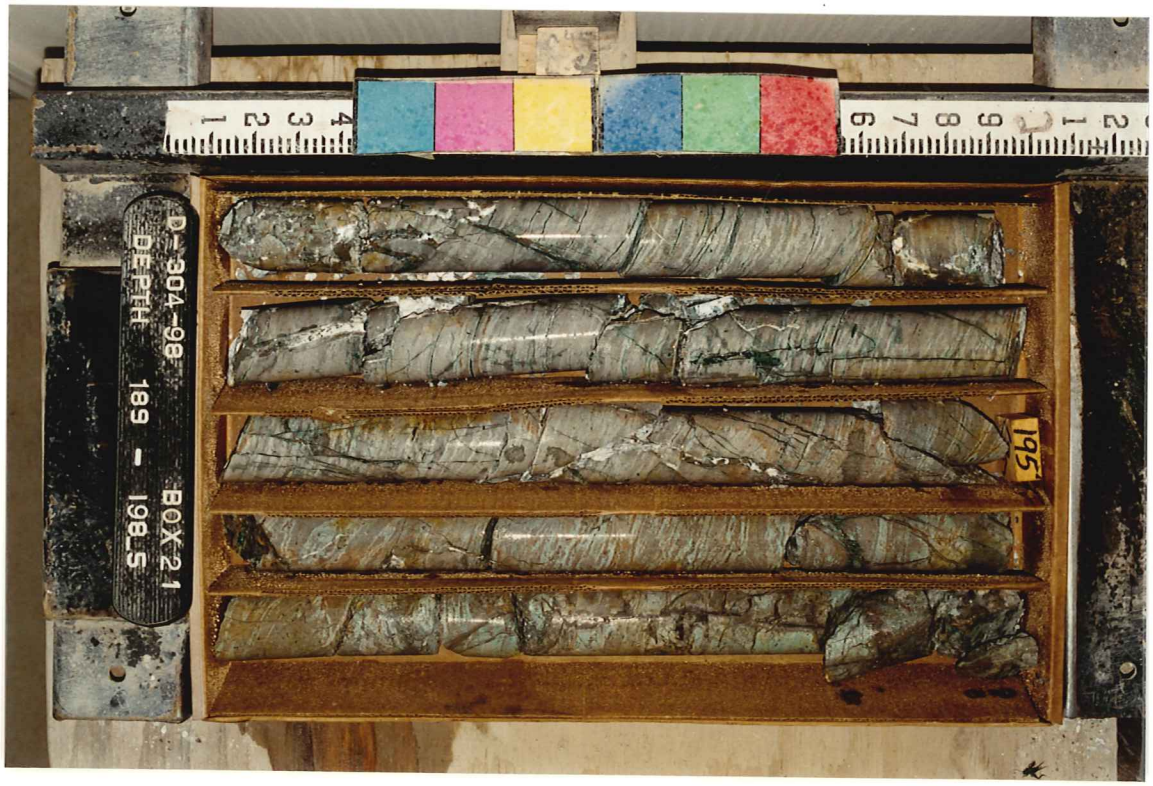
155
D-304-98 BOX 17
DEPTH 149_5 - 159

145
D-304-98 BOX 16
DEPTH 140 - 149_5

D-304-98 BOX 18
DEPTH 159 - 168_5
165

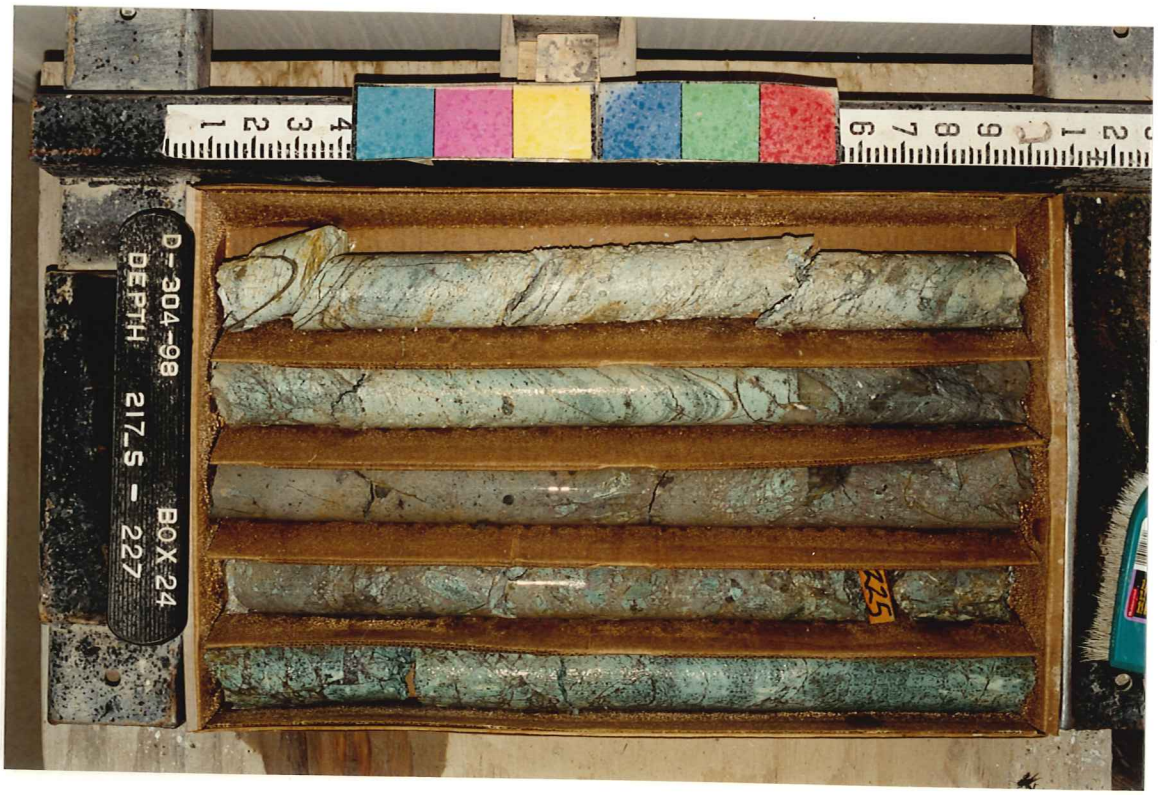
185
D-304-98
BOX 20
DEPTH 178 - 189

175
D-304-98
BOX 19
DEPTH 168_5 - 178

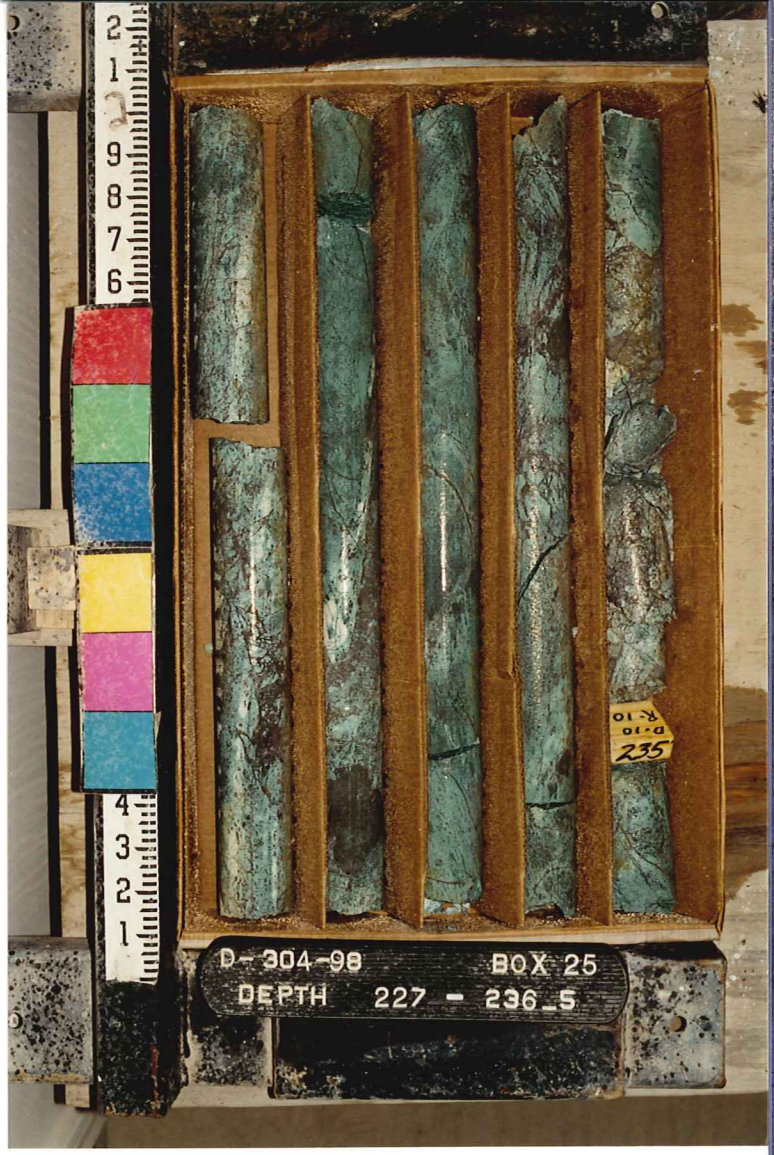

D-304-98
BOX 21
DEPTH 189 - 198_5
195

D-304-98
BOX 23
DEPTH 208 - 217_5

D-304-98
BOX 22
DEPTH 198_5 - 208
205

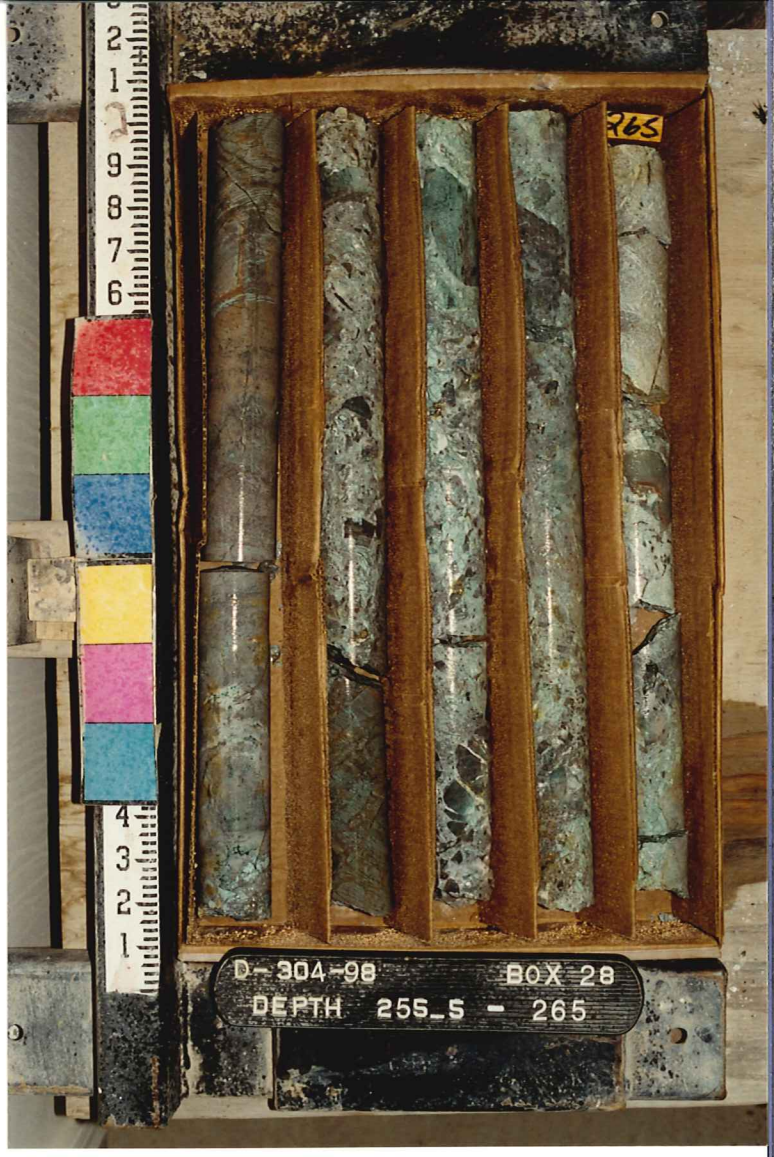

D-304-98
BOX 24
DEPTH 217_5 - 227
225

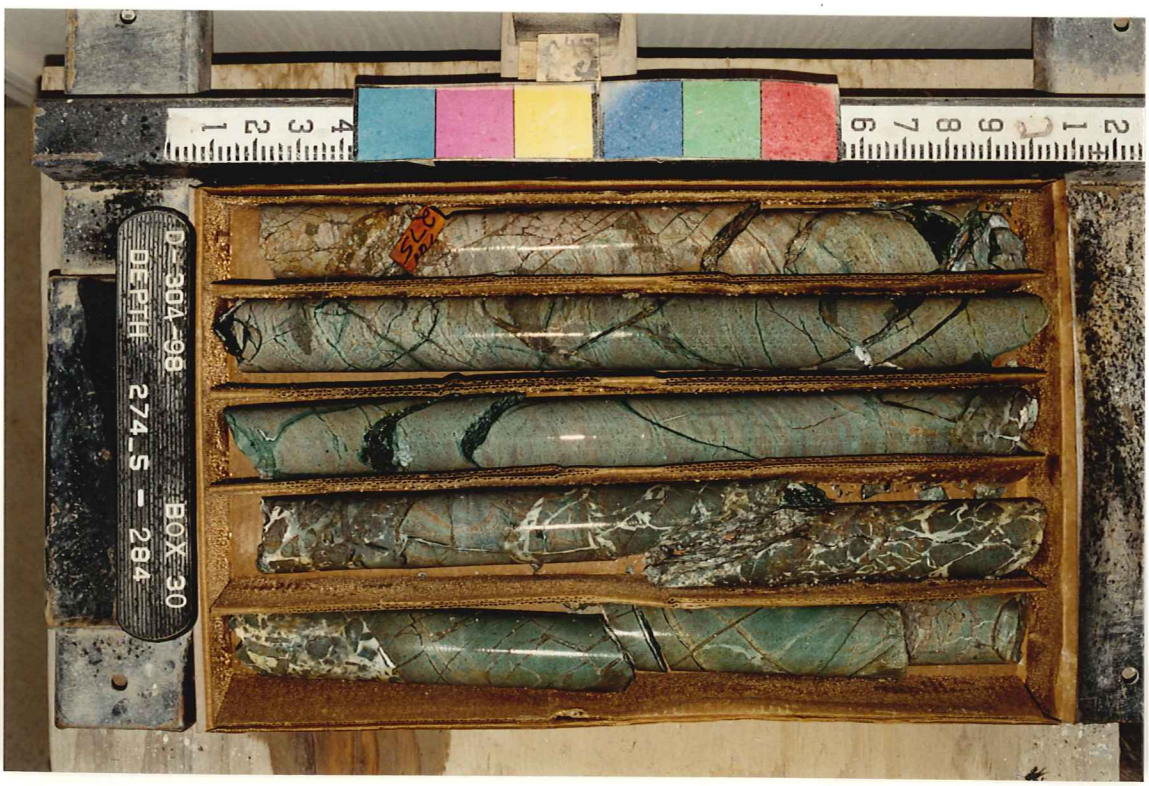
D-304-98
BOX 26
DEPTH 236_5 - 246
245


D-304-98
BOX 25
DEPTH 227 - 236_5
235

D-304-98
BOX 27
DEPTH 246 - 255_5
255

D-304-98
BOX 29
DEPTH 265 - 274_5


D-304-98
BOX 28
DEPTH 255_5 - 265


D-304-98
BOX 30
DEPTH 274_5 - 284

D-304-98
BOX 32
DEPTH 294 - 303_S
295

D-304-98
BOX 31
DEPTH 284 - 294
285

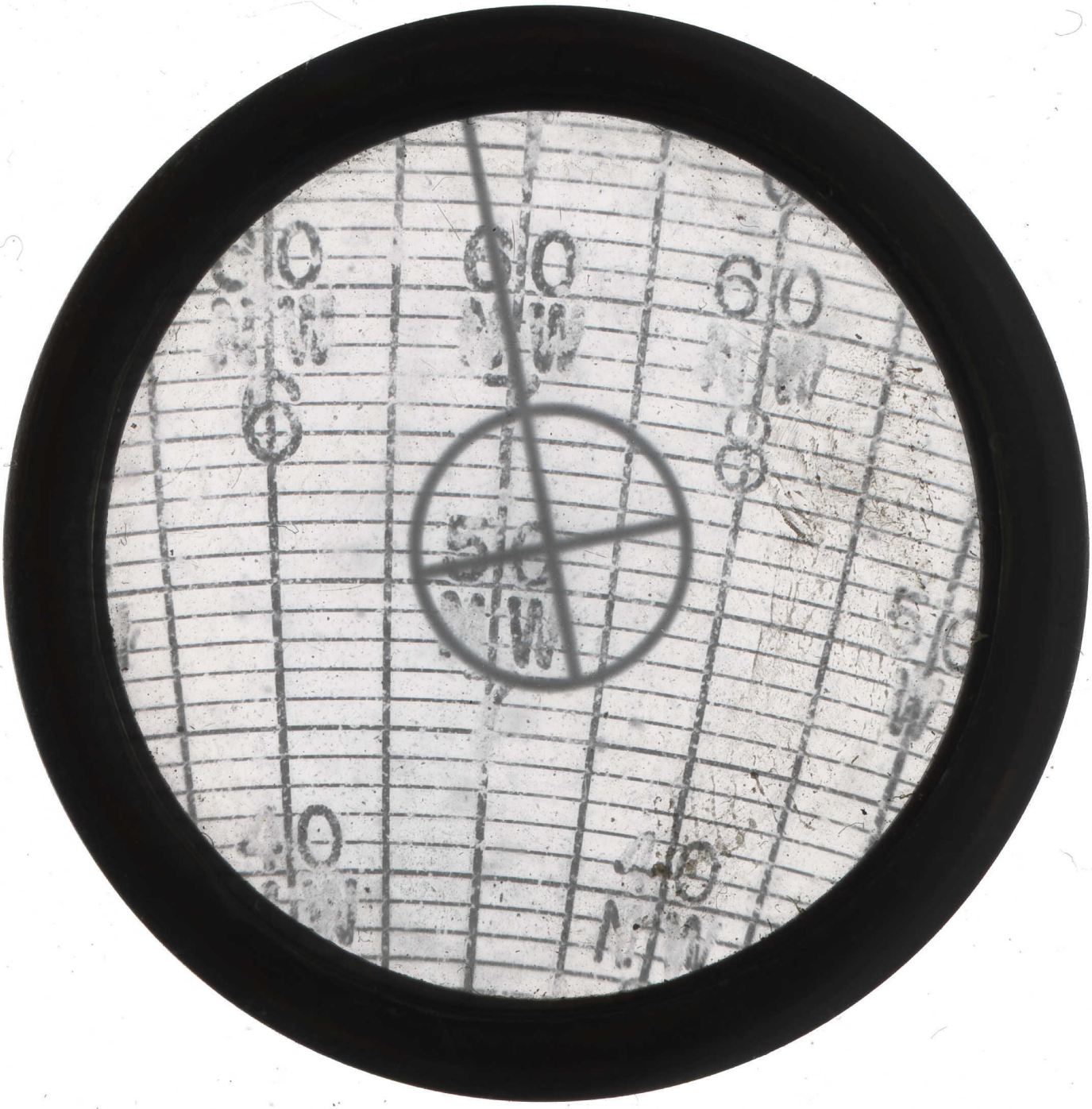
D-304-98
BOX 33
DEPTH 303_S - 313
305

325
D-304-98 BOX 35
DEPTH 322 - 325 TD

315
D-304-98 BOX 34
DEPTH 313 - 322

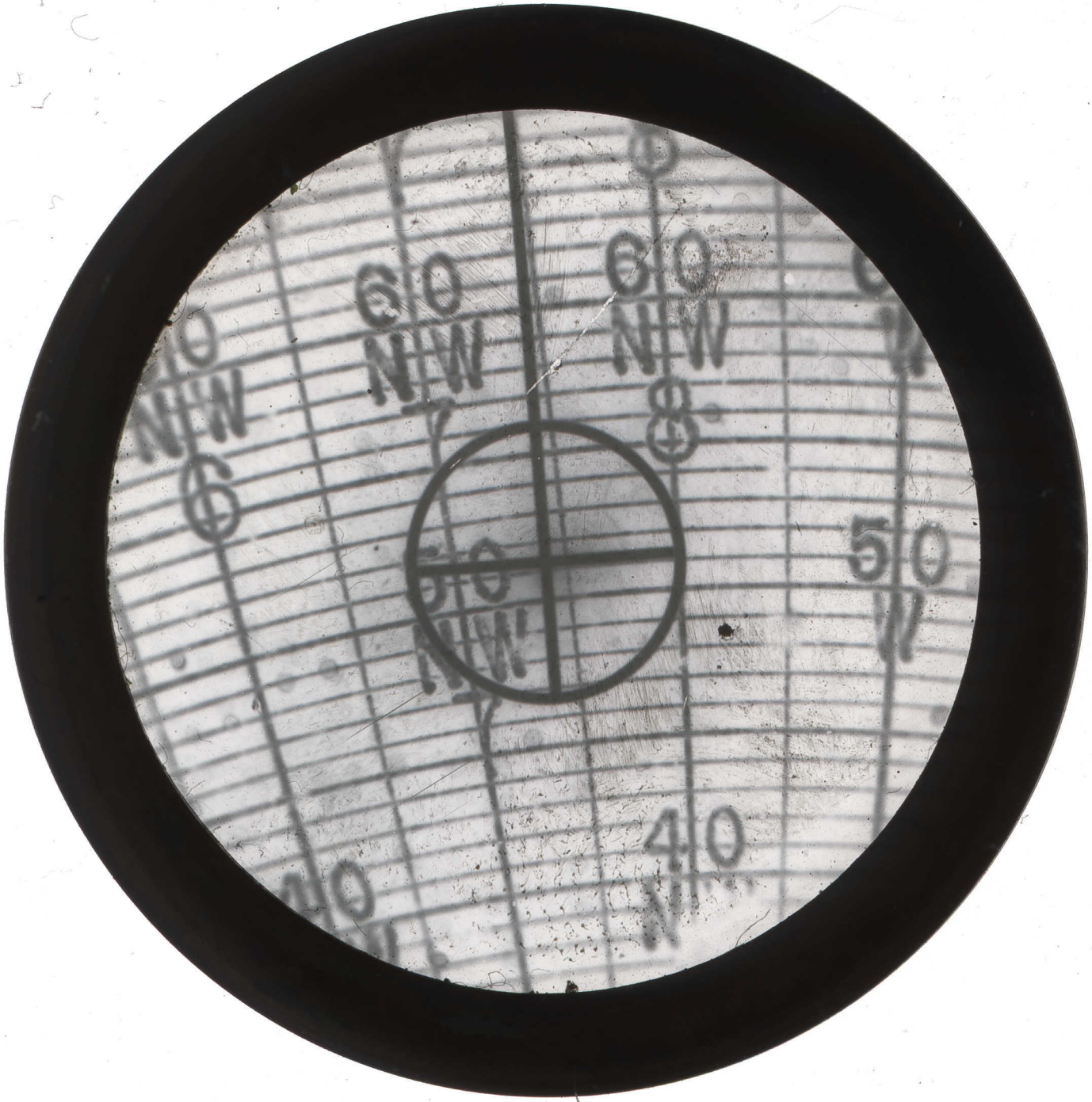
SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-304-98
LEASE
TAKEN BY Magoon / Jerome
DEPTH 35
DATE 9-3-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408



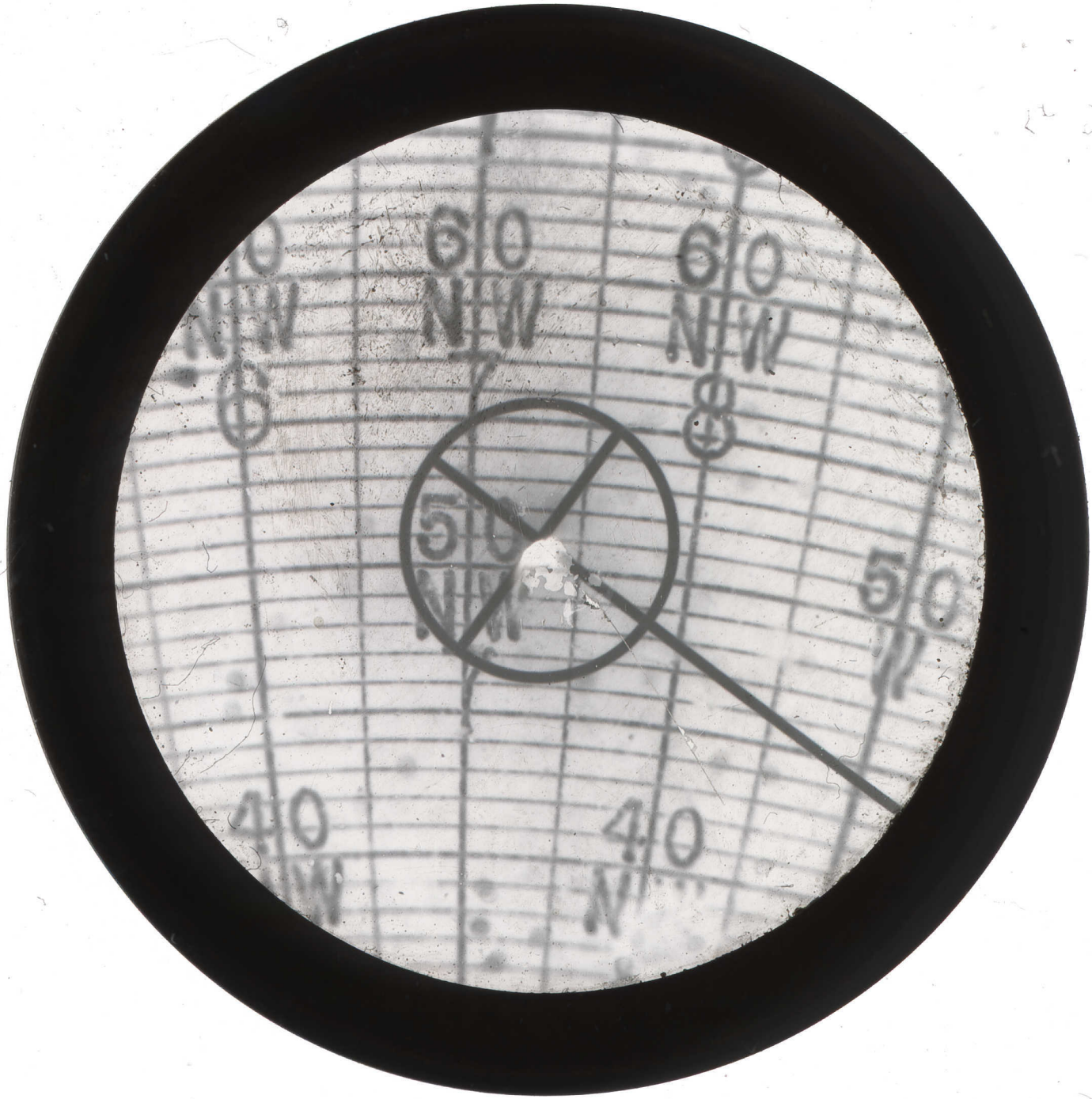
SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-304-98
LEASE
TAKEN BY Magoon / Jerome
DEPTH 325'
DATE 9-3-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408


60
NW
60
NW
50
40

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-304-98
LEASE
TAKEN BY Megoon / Jerome
DEPTH 160
DATE 9-3-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408


60
NW
60
NW
50
NW
50
40
40