60001220

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-320-98
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 258' receipt; handwritten notes; downhole camera images 36p. 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: WB
Initials Date

Revised: 1/22/08

D-320-98

6000 1220 4010

1238
1244
1258½

6000 1220

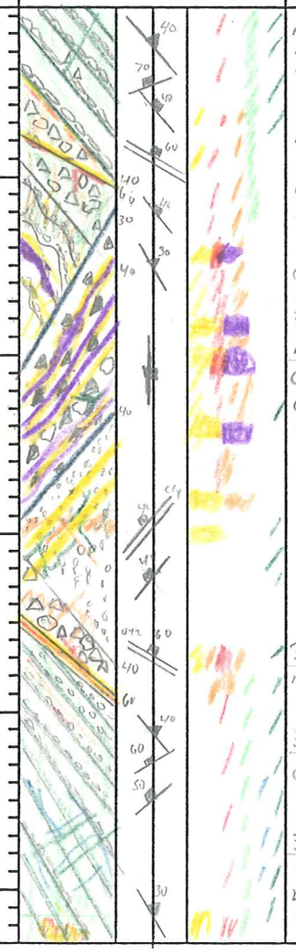
- quartz, chalcedony, silicification
- faults, fractures
- FeOx
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays
- $BaSO_4$

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-320-98	LOCATION	Stope 50 · Sec 170
PAGE 1 OF 4		NORTHING	
DATE	11-5-98	EASTING	
LOGGED BY	DG Muckerrow	ELEVATION	
SCALE	1" = 10'	AZIMUTH	125
TOTAL DEPTH	258	INCLINATION	+22.5

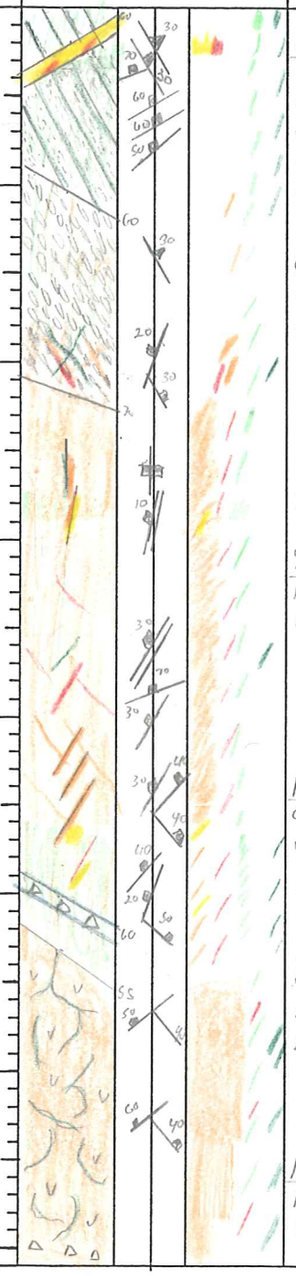
REMARKS: Drilling completed 9/11/98

LITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	A
P.L. ↓	Red ↓	0-72 SLIGHTLY PLANAR LAMINAR Fine grained Flow Rock has a Foliation fabric with Vesicular trains following Foliation. Locally monolithic autobxa with volcanic clay matrix are present. 14.5-26.3 MINERALIZED ZONE OF QTZ STOCKWORK and BaSO4 Flooding Marcasite blades and small individual blades. Some of the smallest marcasite I have seen here. Pmag 22.5 26.3-39 Very vesicular Flow with weak Foliation of the vesicals begining at 37.7 37.7-44.5 Vesicular Flow with Locallized leaching of vesicals. Greeny gray in color. 44.5-53.6 Yellow green brown colored Elevated remanent Propylitic alteration Diminished vesicals in Flow. Fractures contain chloritic alteration and clays	0 10 20 30 40 50		Auto bxa 4-4.5 monolithologic subrounded clast weakexpansion varible rotation Auto bxa 7.5-12 Mosaic bxa moderate Expansion and Rotation clast are subangular to subrounded with brown clay matrix 14.5-16.5 Heavy QTZ stockwork 16.5-26.3 Breccia zone with QTZ stock works and open Drozy QTZ coated Vugs Possible former autobxa with tectonic Over print. Sub rounded to rounded clast. Monolitho QTZ has been leached into bladed textures 33.5-36 Autobxa monolithologic brown volcanic clay matrix. 30.5-35 Fractures contain Hydrothermally altered clays upto ½" thick 36-37.7 QTZ marc. Py hydrothermal vugs 44-51.9 Trace HCL Rxn in fractures and core sucks	Chlorite alteration on fractures and foliation boundarys. 7.5-11 QTZ VEINS with Py marcasite 11-14.5 white clay on fractures with Py/marc. 14.5-15 QTZ, Barite, VEIN/vug? with Bladed marcasite and py 15-19 QTZ Stockwork and Bxa matrix with Py, marc. and BaSO4 19-21.5 Bladed marcasite and micro blades Forming a sulfide dusting over qtz and barite masses. 21.5-24 Drozy QTZ and large thin marcasite blades. Some white chly 24-26.3 Silica Flooded Breccia, bladed marc. drozy QTZ and py 27.6-28.7 Silica Flooded 29.5-30 Silica Flooded 51.9-53.6 QTZ Flooding with open space vugs. Marcasite in open space	FROM 0 5 7.5 9 12 14.5 19 21.5 24 26.3 27.6 30.5 33.5 36 37.7 42 44.5 49 51.9	TO 5 7.5 9 12 14.5 19 21.5 24 26.3 27.6 30.5 33.5 36 37.7 42 44.5 49 51.9						

HOLE NUMBER D-320-98 PAGE 2 OF 4

LITH.	OX/RED.	LITHOLOGY	STRUCTURE	ALTERATION AND MINERALIZATION
SPPL ↓	Red ↓	0-72 SLIGHTLY PLANAR LAMINAR Continues from begining of hole 53.6 - 60.6 Finely vesicular flow Pinu 56.5 Foliation is 30° TCA. 60.6 to 72 EXTREMELY VESICULAR SPLAT. Could be what is called Mottled SPLAT.	53.6-59 Fracture swarm with white clay and hydrothermally altered clay on fractures. Cross cutting fracture turned core to rubble 60.6 - 60° TCA contact with vesicular SPLAT. Change is sharp	53.6-59 Clays in fractures Talcy feeling 69-72 Fractures with Py more clay
F.G.M ↓		72-103.5 FINE GRAINED MASSIVE Highly altered fine grained flow. Argillization is very strong. Surface made of unaltered core surrounded by argillized rock. Portions approach the "worm" texture seen elsewhere. From 7.9 to 89' a very mottled appearance with harder brown rock with argillized green gray former (vesicule?). Decreased argillization 96.4 - 103.5	89-96.4 Fracture swarm 92-96.4 SWELLING CLAYS on fractures produce a "crackle BXX" like texture 100.2 - 101.4 Crackle BXX with white clay matrix	78-½" qtz VN with Py/Marc. on edges 89-94 Heavy argillization clay on fracture clays are swelling 94-96.4 Argillized clay filled fracture 2" qtz fragment at 96' 103.5-119 EXTREME Argillization Bleached Light Green color clays swelling core 22%
VIT ↓		103.5-127.9 VITROPHYRE Very fine grained welded flow core. Anomalously Argillized. Clay generation has produced a "soupy" feel to core. Clay swelling has distored core appearence 119-122 Possible F.G.M. Before returning to vitrophyre	Distinctive fracturing has been disrupted by alteration 119-126 INCREASED fracturing with clay fillings	

GRAPHIC LOG



ANALYTICAL DATA

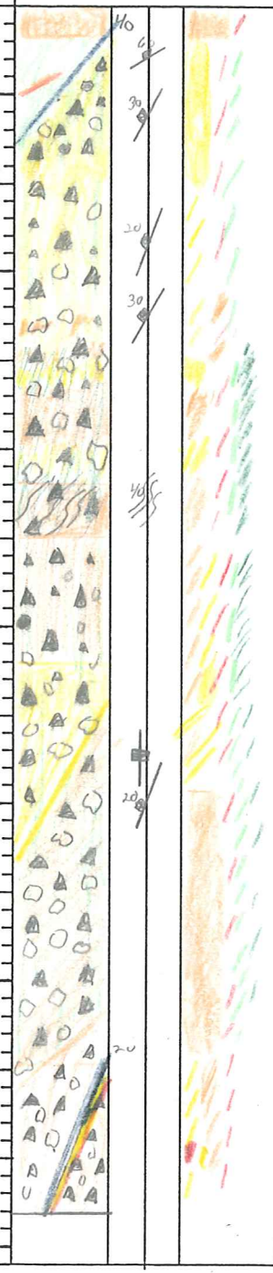
FROM	TO	W	Au	Ag	Au2
49	51.9				
51.9	53.6				
53.6	57				
57	60.6				
60.6	64				
64	69				
69	72				
72	75.5				
75.5	79				
79	84				
84	89				
89	94				
94	96.4				
96.4	100.2				
100.2	103.5				
103.5	109				
109	114				
114	119				
119	122				

HOLE NUMBER D-320-98 PAGE 3 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
VIT	Red ↓	103.5-127.9 VITROPHYRE PIMA 124 Sharp contact with SPLAT	120		119-127.9 multiple fractures Orientation 127.9 contact at 70° TCA	
SPLAT	Red ↓	127.9-258 SLIGHTLY PLANAR LAMINAR Fine to medium grained flow Poorly defined vesicular texture More massive in nature than general Planar Laminar. 151-155 - FINE GRAINED MASSIVE Textured SPLAT, Very homogeneous medium gray rock 160.8-165.8 Fine grained massive textured flow Pale green gray colored. Fracturing just lacking conchoidal fracture of vitrophyre 168-171 Fine grained massive textured SPLAT Highly fractured with moderate to heavy chlorite. 171-172 Vitrophyre like pale green gray 172-183.5 Fine grained massive Transition, very fine textured with gray green cubs with pyrite forming Dark gray patches 183.5-188 Fault Zone heavy core loss by Drill 188-192 Bleach gray white massively textured splat very fine grained 192-195.6 Very fine grained massive like Rock	130 140 150 160 170 180 190		127.9 - High angle fractures with clay fillings. Cut by lower angle fracture 138-143 highly fractured Crackle to mosaic BXU 160.8-165.8 Fracture Pattern is the same as you see approaching the vitrophyre 165.8-168 Highly fractured Drill returned rubble Auto BXU 181.5 to 183.5 Subangular clast of Planar laminar that show internal foliation 183.5-188 Tectonic BXU? Most of sample lost during drilling Possible 40° TCA Fracture fabric Both contacts lost	127.91-138 20° TCA fractures with white clay. 143-148 2% disseminated Py 143-160.8 white clay 143-148 Marc./Py veins with white clay and Barite Traces of stibnite associated with the barite at 148' 157-165.8 Argillization with white clay in fractures and Py/marc. veinlets 165.8-168 All surfaces coated in white clay QTZ VN in an Py/marc. vein 167-171 Heavy chlorite on all fractures 173-180 Fine grained Pyrite form dark gray Patches giving core a mottled appearance 188-192 EXTREME Argillization. 192-195.6 weak silicification

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
119	122				
122	125				
125	127.9				
127.9	131				
131	135				
135	138				
138	143				
143	148				
148	153				
153	158				
158	160.8				
160.8	165.8				
165.8	168				
168	171				
171	175				
175	180				
180	183.5				
183.5	188				
188	192				

HOLE NUMBER D-320-98 PAGE 4 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
SPLAT	Red. ↓	127.9–258 SLIGHTLY PLANAR LAMINAR Continued from page 3 195.6–258 Hanging wall Breccias of the South Ridge Fault. Heterolithic breccia. Occasional ALS. Fragments. Breccia has subrounded to rounded clast matrix consist of rock flour of Planar Laminar. Small masses of Pyrite and marcasite crystals Locally silicified or argillized. Moderate chloritic/Propyitic alteration * 234.4–241 Drill lost 3 FT of core at silicification argillization boundary core loss 250–258 still in hanging wall of SRF. Maybe SRF at 257? Notenough silica though High angle fracture that turns into a ≤ 1/4" pyrite and silica vein almost Parrallel to the hole (20° TCA). Argillization Past this point indicates still the hanging wall. E.O.H.	190 200 210 220 230 240 250 260		195.6–215 Milled Bxa 215–217 Crackle Bxa 217–220 Shear fabric 6-7 40° TCA could be argillized Bxa that has been compress 220–234 MILLED Breccia 234–250 Argillized Milled bxa Rotation and rounding of clast. 253.7–258 20° TCA Fracture that get silica flooded for 1/4"	195.6–199.3 Heavy Silica healed Bxa some absorbtion of clast 199.3–204 moderate Silica heal bxa 199.3–209 moderate Propylitic/chloritic alter. 209–220 moderate to heavy chloritic alteration 217–220 Argillized Shear. 234.4–250 Argillized Breccia Disseminated "shiny" Pyrite 1–2% 250–258 Partial Silicification 250–252 white qtz stockwork 254.5–258 silica with Fine sulfide but only 1/4" thick at the max.	188 192 195.6 199.3 204 209 214 217 220 222 227 231 core loss 3' 234.4 241 243 248 250 253.7 258	192 195.6 199.3 204 209 214 217 220 222 227 231 234.4 241 243 248 250 253.7 258					

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-320-98 DATE: 11-5-98 LOGGED BY: DG 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	62	100	50										
5	9	100	100	87										
9	14	98	100	56										
14	19	50	100	48										
19	24	24	100	28										
24	29	86	100	50										
29	34	80	100	28										
34	39	46	100	32										
39	44	100	100	72										
44	49	100	100	74										
49	54	100	100	60										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-320-98 DATE: 11-5-98 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)
54	59	0	100	0										
59	69	67	100	49										
69	79	66	100	31										
79	89	54	100	56										
89	99	19	100	6										
99	109	0	100	0										
109	119	0	100	0										
119	125	0	100	0										
125	131	0	100	20										
131	135	0	100	0										
135	138	0	100	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-320-98 DATE: 11-6-98 LOGGED BY: D MacHerron 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)
138	139	0	100	0										
139	143	0	100	0										
143	148	36	100	22										
148	158	68	100	50										
158	168	70	100	47										
168	171	66	100	0										
171	180	77	100	59										
180	188	0	62	0										
188	192	0	100	12										
192	197	75	100	42										
197	204	100	100	57										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-320-98 DATE: 11-6-98 LOGGED BY: D.G. MACHERROW. 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)
204	214	100	100	64										
214	220	37	100	28										
220	222	0	100	0										
222	227	0	100	40										
227	231	37	100	42										
231	241	26	70	13										
241	248	58	100	0										
248	258	71	100	25										

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 0051542-IN
INVOICE DATE: 12/04/98

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
D-320-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
72	SAMPLES RECEIVED	.00	.00
71	DRYING	1.00	71.00
71	JAW CRUSHING CHARGE	1.30	92.30
71	COARSE MILLING CHARGE	4.50	319.50
71	SPLITTING CHARGE	2.40	170.40
71	RING MILLING CHARGE	2.00	142.00
72	Au (1 A.T. FIRE ASSAY)	8.00	576.00
1	Au ANALYSES/GRAVIMETRIC	8.75	8.75
72	HYDROCHLORIC/NITRIC DIGESTION	2.00	144.00
72	Ag ANALYSES	1.00	72.00
1	Ag (ore grade) ANALYSES	5.00	5.00

86-5710-477

NET INVOICE:	1,600.95
LESS DISCOUNT:	320.17
FREIGHT:	.00
INVOICE TOTAL:	1,280.78

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051542

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-320-98 RECEIVED : 13 NOV 1998

No. SAMPLES : 72 REPORTED : 4 DEC 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 SP051542

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 0-5	<0.001			<0.02
D-320-98 5.0-7.5	0.008			0.03
D-320-98 7.5-9.0	0.014			0.05
D-320-98 9-12	0.003			0.10
D-320-98 12.0-14.5	0.004			0.05
D-320-98 14.5-19.0	0.197		0.156	0.64
D-320-98 19.0-21.5	0.005			0.42
D-320-98 21.5-24.0	0.004			0.17
D-320-98 24.0-26.3	0.004			0.07
D-320-98 26.3-27.6	<0.001			0.03
D-320-98 27.6-30.5	0.002			0.03
D-320-98 30.5-33.5	0.002			0.03
D-320-98 33.5-36.0	0.002			0.07
D-320-98 36.0-37.7	0.010			0.21
D-320-98 37.7-42.0	0.002			0.05
D-320-98 42.0-44.5	<0.001			0.03
D-320-98 44.5-49.0	0.015			0.03
D-320-98 49.0-51.9	0.001			0.04
D-320-98 51.9-53.6	0.005			0.14
D-320-98 53.6-57.0	0.003			0.63
D-320-98 57.0-60.6	0.004			0.07
D-320-98 60.6-64.0	0.018	0.021		0.09
D-320-98 64-69	<0.001			0.03
D-320-98 69-72	0.006			0.06
D-320-98 72.0-75.5	0.002			0.07

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ANALYSIS REPORT SP051542

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 75.5-79.0	0.040	0.048		0.11
D-320-98 79-84	0.001			0.03
D-320-98 84-89	0.002	0.002		0.05
D-320-98 89-94	0.002			0.08
D-320-98 94-96.4	0.004			0.28
D-320-98 96.4-100.2	0.004			0.47
D-320-98 100.2-103.5	0.003			0.06
D-320-98 103.5-109.0	0.004			0.06
D-320-98 109-114	0.004			0.10
D-320-98 114-119	0.003			0.10
D-320-98 119-122	0.002			0.44
D-320-98 122-125	0.004			0.68
D-320-98 125.0-127.9	0.009			0.34
D-320-98 127.9-131.0	0.002			1.11
D-320-98 131-135	0.001	0.001		0.37
D-320-98 135-138	0.002			0.21
D-320-98 138-143	0.003			1.47
D-320-98 143-148	0.003			0.47
D-320-98 148-153	0.006			1.07
D-320-98 153-158	0.003			0.44
D-320-98 158.0-160.8	0.005			1.00
D-320-98 160.8-165.8	0.004			0.42
D-320-98 165.8-168.0	0.003			0.68
D-320-98 168-171	0.002			0.11
D-320-98 171-175	0.003			0.41

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051542

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CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 175-180	0.004			0.28
D-320-98 180.0-183.5	0.003			0.19
D-320-98 183.5-188.0	0.005	0.006		0.49
D-320-98 188-192	0.005			0.26
D-320-98 192.0-195.6	0.005			0.48
D-320-98 195.6-199.3	0.006			0.13
D-320-98 199.3-204.0	0.016			0.12
D-320-98 204-209	0.009			0.11
D-320-98 209-214	0.002			0.08
D-320-98 214-217	0.002			0.23
D-320-98 217-220	0.003			0.06
D-320-98 220-222	0.002			0.05
D-320-98 222-227	<0.001			0.03
D-320-98 227-231	0.002	0.003		0.03
D-320-98 231.0-234.4	<0.001			0.03
D-320-98 234.4-241.0	0.001			0.04
D-320-98 241-243	0.001			0.03
D-320-98 243-248	<0.001			0.04
D-320-98 248-250	<0.001			0.03
D-320-98 250.0-253.7	<0.001			0.03
D-320-98 253.7-258.0	0.003			0.04
46594	0.549			5.26

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ANALYSIS REPORT SR051542

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

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CLIENT REFERENCE No: D-320-98 RECEIVED : 13 NOV 1998

No. SAMPLES : 72 REPORTED : 4 DEC 1998

MAIN SAMPLE TYPE : DRILL CORE

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SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051542

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 0-5	<0.001			<0.02
D-320-98 5.0-7.5	0.008			0.03
D-320-98 7.5-9.0	0.014			0.05
D-320-98 9-12	0.003			0.10
D-320-98 12.0-14.5	0.004			0.05
D-320-98 14.5-19.0	0.197		0.156	0.64
D-320-98 19.0-21.5	0.005			0.42
D-320-98 21.5-24.0	0.004			0.17
D-320-98 24.0-26.3	0.004			0.07
D-320-98 26.3-27.6	<0.001			0.03
D-320-98 27.6-30.5	0.002			0.03
D-320-98 30.5-33.5	0.002			0.03
D-320-98 33.5-36.0	0.002			0.07
D-320-98 36.0-37.7	0.010			0.21
D-320-98 37.7-42.0	0.002			0.05
D-320-98 42.0-44.5	<0.001			0.03
D-320-98 44.5-49.0	0.015			0.03
D-320-98 49.0-51.9	0.001			0.04
D-320-98 51.9-53.6	0.005			0.14
D-320-98 53.6-57.0	0.003			0.63
D-320-98 57.0-60.6	0.004			0.07
D-320-98 60.6-64.0	0.018	0.021		0.09
D-320-98 64-69	<0.001			0.03
D-320-98 69-72	0.006			0.06
D-320-98 72.0-75.5	0.002			0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051542

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 75.5-79.0	0.040	0.048		0.11
D-320-98 79-84	0.001			0.03
D-320-98 84-89	0.002	0.002		0.05
D-320-98 89-94	0.002			0.08
D-320-98 94-96.4	0.004			0.28
D-320-98 96.4-100.2	0.004			0.47
D-320-98 100.2-103.5	0.003			0.06
D-320-98 103.5-109.0	0.004			0.06
D-320-98 109-114	0.004			0.10
D-320-98 114-119	0.003			0.10
D-320-98 119-122	0.002			0.44
D-320-98 122-125	0.004			0.68
D-320-98 125.0-127.9	0.009			0.34
D-320-98 127.9-131.0	0.002			1.11
D-320-98 131-135	0.001	0.001		0.37
D-320-98 135-138	0.002			0.21
D-320-98 138-143	0.003			1.47
D-320-98 143-148	0.003			0.47
D-320-98 148-153	0.006			1.07
D-320-98 153-158	0.003			0.44
D-320-98 158.0-160.8	0.005			1.00
D-320-98 160.8-165.8	0.004			0.42
D-320-98 165.8-168.0	0.003			0.68
D-320-98 168-171	0.002			0.11
D-320-98 171-175	0.003			0.41

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051542

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-320-98 175-180	0.004			0.28
D-320-98 180.0-183.5	0.003			0.19
D-320-98 183.5-188.0	0.005	0.006		0.49
D-320-98 188-192	0.005			0.26
D-320-98 192.0-195.6	0.005			0.48
D-320-98 195.6-199.3	0.006			0.13
D-320-98 199.3-204.0	0.016			0.12
D-320-98 204-209	0.009			0.11
D-320-98 209-214	0.002			0.08
D-320-98 214-217	0.002			0.23
D-320-98 217-220	0.003			0.06
D-320-98 220-222	0.002			0.05
D-320-98 222-227	<0.001			0.03
D-320-98 227-231	0.002	0.003		0.03
D-320-98 231.0-234.4	<0.001			0.03
D-320-98 234.4-241.0	0.001			0.04
D-320-98 241-243	0.001			0.03
D-320-98 243-248	<0.001			0.04
D-320-98 248-250	<0.001			0.03
D-320-98 250.0-253.7	<0.001			0.03
D-320-98 253.7-258.0	0.003			0.04
46594	0.549			5.26

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051542

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-320-98 RECEIVED : 13 NOV 1998

No. SAMPLES : 72 REPORTED : 4 DEC 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 SP051542

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 0-5	<0.001			<0.02
D-320-98 5.0-7.5	0.008			0.03
D-320-98 7.5-9.0	0.014			0.05
D-320-98 9-12	0.003			0.10
D-320-98 12.0-14.5	0.004			0.05
D-320-98 14.5-19.0	0.197		0.156	0.64
D-320-98 19.0-21.5	0.005			0.42
D-320-98 21.5-24.0	0.004			0.17
D-320-98 24.0-26.3	0.004			0.07
D-320-98 26.3-27.6	<0.001			0.03
D-320-98 27.6-30.5	0.002			0.03
D-320-98 30.5-33.5	0.002			0.03
D-320-98 33.5-36.0	0.002			0.07
D-320-98 36.0-37.7	0.010			0.21
D-320-98 37.7-42.0	0.002			0.05
D-320-98 42.0-44.5	<0.001			0.03
D-320-98 44.5-49.0	0.015			0.03
D-320-98 49.0-51.9	0.001			0.04
D-320-98 51.9-53.6	0.005			0.14
D-320-98 53.6-57.0	0.003			0.63
D-320-98 57.0-60.6	0.004			0.07
D-320-98 60.6-64.0	0.018	0.021		0.09
D-320-98 64-69	<0.001			0.03
D-320-98 69-72	0.006			0.06
D-320-98 72.0-75.5	0.002			0.07

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051542

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 4 DEC 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 75.5-79.0	0.040	0.048		0.11
D-320-98 79-84	0.001			0.03
D-320-98 84-89	0.002	0.002		0.05
D-320-98 89-94	0.002			0.08
D-320-98 94-96.4	0.004			0.28
D-320-98 96.4-100.2	0.004			0.47
D-320-98 100.2-103.5	0.003			0.06
D-320-98 103.5-109.0	0.004			0.06
D-320-98 109-114	0.004			0.10
D-320-98 114-119	0.003			0.10
D-320-98 119-122	0.002			0.44
D-320-98 122-125	0.004			0.68
D-320-98 125.0-127.9	0.009			0.34
D-320-98 127.9-131.0	0.002			1.11
D-320-98 131-135	0.001	0.001		0.37
D-320-98 135-138	0.002			0.21
D-320-98 138-143	0.003			1.47
D-320-98 143-148	0.003			0.47
D-320-98 148-153	0.006			1.07
D-320-98 153-158	0.003			0.44
D-320-98 158.0-160.8	0.005			1.00
D-320-98 160.8-165.8	0.004			0.42
D-320-98 165.8-168.0	0.003			0.68
D-320-98 168-171	0.002			0.11
D-320-98 171-175	0.003			0.41

AMERICAN ASSAY LABORATORIES

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PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

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SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 175-180	0.004			0.28
D-320-98 180.0-183.5	0.003			0.19
D-320-98 183.5-188.0	0.005	0.006		0.49
D-320-98 188-192	0.005			0.26
D-320-98 192.0-195.6	0.005			0.48
D-320-98 195.6-199.3	0.006			0.13
D-320-98 199.3-204.0	0.016			0.12
D-320-98 204-209	0.009			0.11
D-320-98 209-214	0.002			0.08
D-320-98 214-217	0.002			0.23
D-320-98 217-220	0.003			0.06
D-320-98 220-222	0.002			0.05
D-320-98 222-227	<0.001			0.03
D-320-98 227-231	0.002	0.003		0.03
D-320-98 231.0-234.4	<0.001			0.03
D-320-98 234.4-241.0	0.001			0.04
D-320-98 241-243	0.001			0.03
D-320-98 243-248	<0.001			0.04
D-320-98 248-250	<0.001			0.03
D-320-98 250.0-253.7	<0.001			0.03
D-320-98 253.7-258.0	0.003			0.04
46594	0.549			5.26

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051542

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-320-98 RECEIVED : 13 NOV 1998

No. SAMPLES : 72 REPORTED : 30 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 SP051542

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 30 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 0-5	<0.001			
D-320-98 5.0-7.5	0.008			
D-320-98 7.5-9.0	0.014			
D-320-98 9-12	0.003			
D-320-98 12.0-14.5	0.004			
D-320-98 14.5-19.0	0.197		0.156	
D-320-98 19.0-21.5	0.005			
D-320-98 21.5-24.0	0.004			
D-320-98 24.0-26.3	0.004			
D-320-98 26.3-27.6	<0.001			
D-320-98 27.6-30.5	0.002			
D-320-98 30.5-33.5	0.002			
D-320-98 33.5-36.0	0.002			
D-320-98 36.0-37.7	0.010			
D-320-98 37.7-42.0	0.002			
D-320-98 42.0-44.5	<0.001			
D-320-98 44.5-49.0	0.015			
D-320-98 49.0-51.9	0.001			
D-320-98 51.9-53.6	0.005			
D-320-98 53.6-57.0	0.003			
D-320-98 57.0-60.6	0.004			
D-320-98 60.6-64.0	0.018	0.021		
D-320-98 64-69	<0.001			
D-320-98 69-72	0.006			
D-320-98 72.0-75.5	0.002			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051542

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 30 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 75.5-79.0	0.040	0.048		
D-320-98 79-84	0.001			
D-320-98 84-89	0.002	0.002		
D-320-98 89-94	0.002			
D-320-98 94-96.4	0.004			
D-320-98 96.4-100.2	0.004			
D-320-98 100.2-103.5	0.003			
D-320-98 103.5-109.0	0.004			
D-320-98 109-114	0.004			
D-320-98 114-119	0.003			
D-320-98 119-122	0.002			
D-320-98 122-125	0.004			
D-320-98 125.0-127.9	0.009			
D-320-98 127.9-131.0	0.002			
D-320-98 131-135	0.001	0.001		
D-320-98 135-138	0.002			
D-320-98 138-143	0.003			
D-320-98 143-148	0.003			
D-320-98 148-153	0.006			
D-320-98 153-158	0.003			
D-320-98 158.0-160.8	0.005			
D-320-98 160.8-165.8	0.004			
D-320-98 165.8-168.0	0.003			
D-320-98 168-171	0.002			
D-320-98 171-175	0.003			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051542

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-320-98

REPORTED : 30 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-320-98 175-180	0.004			
D-320-98 180.0-183.5	0.003			
D-320-98 183.5-188.0	0.005	0.006		
D-320-98 188-192	0.005			
D-320-98 192.0-195.6	0.005			
D-320-98 195.6-199.3	0.006			
D-320-98 199.3-204.0	0.016			
D-320-98 204-209	0.009			
D-320-98 209-214	0.002			
D-320-98 214-217	0.002			
D-320-98 217-220	0.003			
D-320-98 220-222	0.002			
D-320-98 222-227	<0.001			
D-320-98 227-231	0.002	0.003		
D-320-98 231.0-234.4	<0.001			
D-320-98 234.4-241.0	0.001			
D-320-98 241-243	0.001			
D-320-98 243-248	<0.001			
D-320-98 248-250	<0.001			
D-320-98 250.0-253.7	<0.001			
D-320-98 253.7-258.0	0.003			
46594	0.549			

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
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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 L.L.C

Address: P.O. Box 2610

City Winnemucca State NV Zip 89445

Telephone Number: (702) 623-6912 Fax Number: (702) 623-6767

Project Name: Development Purchase Order Number:

Date Submitted: 11/10/98 Number of Samples: 71

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [ ] Au Ag according to Rosebud Mining Protocol

D-320-98	SAMPLE IDENTIFICATION		TYPE	ELEMENTS REQUIRED	
0-5	42-44.5	96.4-100.2		158-160.8	217-220
5-7.5	44.5-49	100.2-103.5		160.8-165.8	220-222
7.5-9	49-51.9	103.5-109		165.8-168	222-227
9-12	51.9-53.6	109-114		168-171	227-231
12-14.5	53.6-57	114-119		171-175	231-234.4
14.5-19	57-60.6	119-122		175-180	234.4-241
19-21.5	60.6-64	122-125		180-183.5	241-243
21.5-24	64-69	125-127.9		183.5-188	243-248
24-26.3	69-72	127.9-131		188-192	248-250
26.3-27.6	72-75.5	131-135		192-195.6	250-253.7
27.6-30.5	75.5-79	135-138		195.6-199.3	253.7-258 TD
30.5-33.5	79-84	138-143		199.3-204	
33.5-36	84-89	143-148		204-209	
36-37.7	89-94	148-153		209-214	
37.7-42	94-96.4	153-158		214-217	

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-320-98	40	22	128.2
	130	21.5	127.7
	258	21	127.2

D- 320-98
BOX 2
DEPTH 8_5 - 18
9
14

D- 320-98
BOX 1
DEPTH 0 - 8_5
5

D- 320-98
BOX 3
DEPTH 18 - 27
19
24

39
44
D- 320-98 BOX 5
DEPTH 36 - 44_5

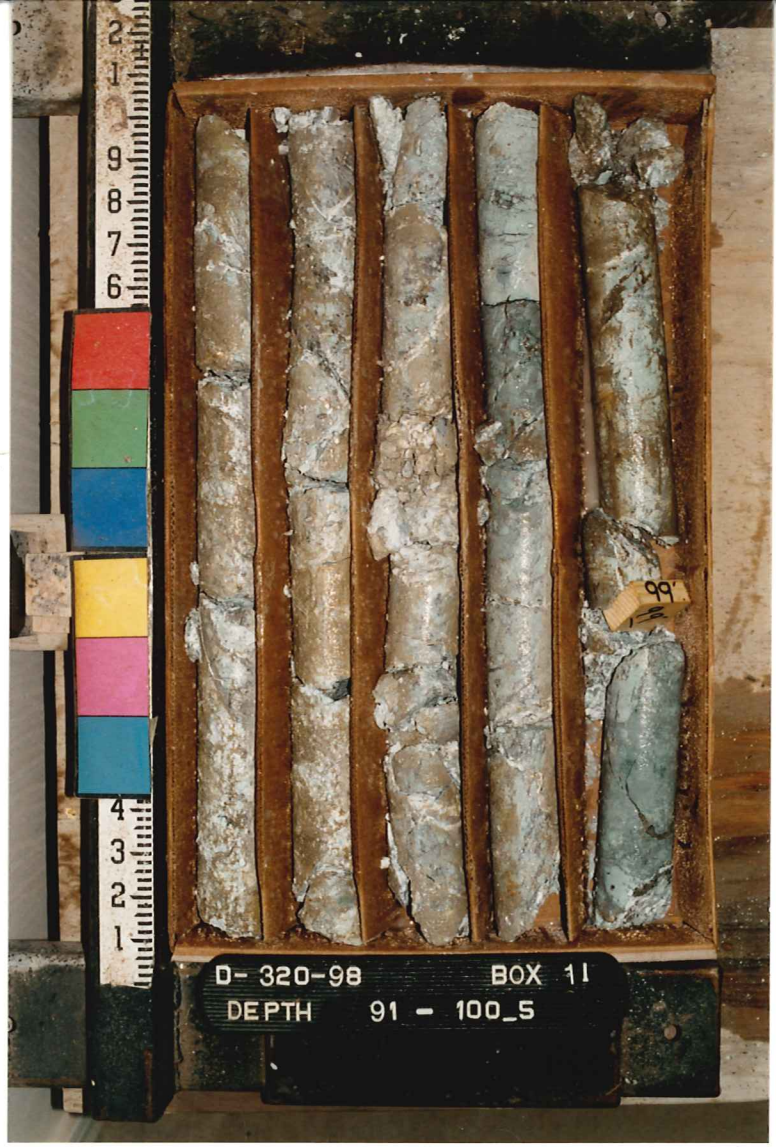
29
34
D- 320-98 BOX 4
DEPTH 27 - 36

44
D- 320-98 BOX 6
DEPTH 44_5 - 53_5

D- 320-98
BOX 8
DEPTH 63 - 72_5
64

D- 320-98
BOX 7
DEPTH 53_5 - 63
59
54

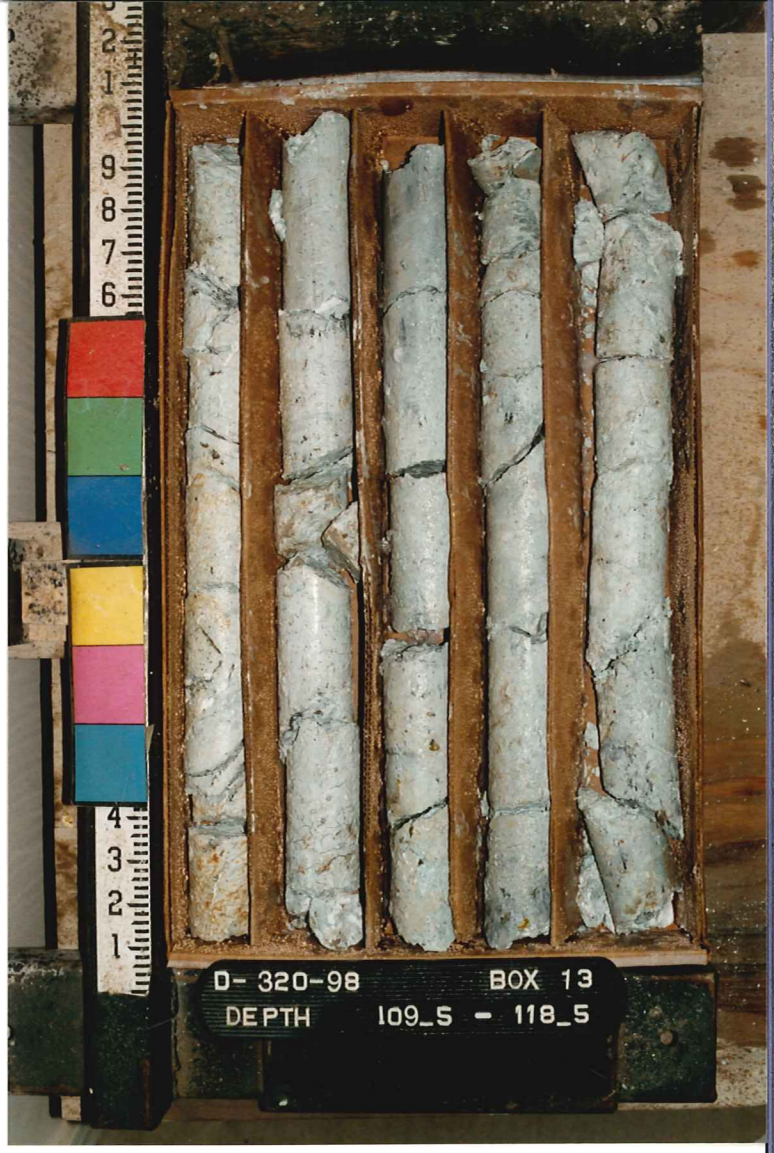
D- 320-98
BOX 9
DEPTH 72_5 - 81_5
79


D- 320-98 BOX 11
DEPTH 91 - 100_5
99'

D- 320-98 BOX 10
DEPTH 81_5 - 91
89'

D- 320-98 BOX 12
DEPTH 100_5 - 109_5
109'

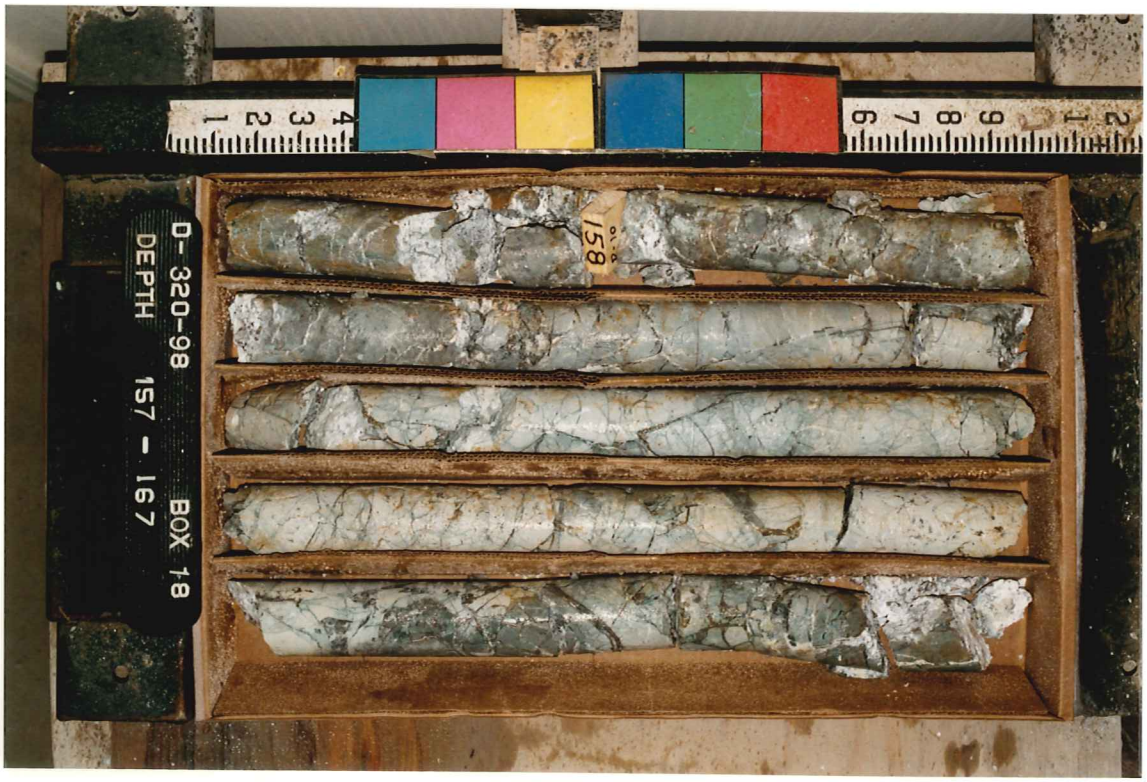
119'
125
D- 320-98 BOX 14
DEPTH 118_5 - 128

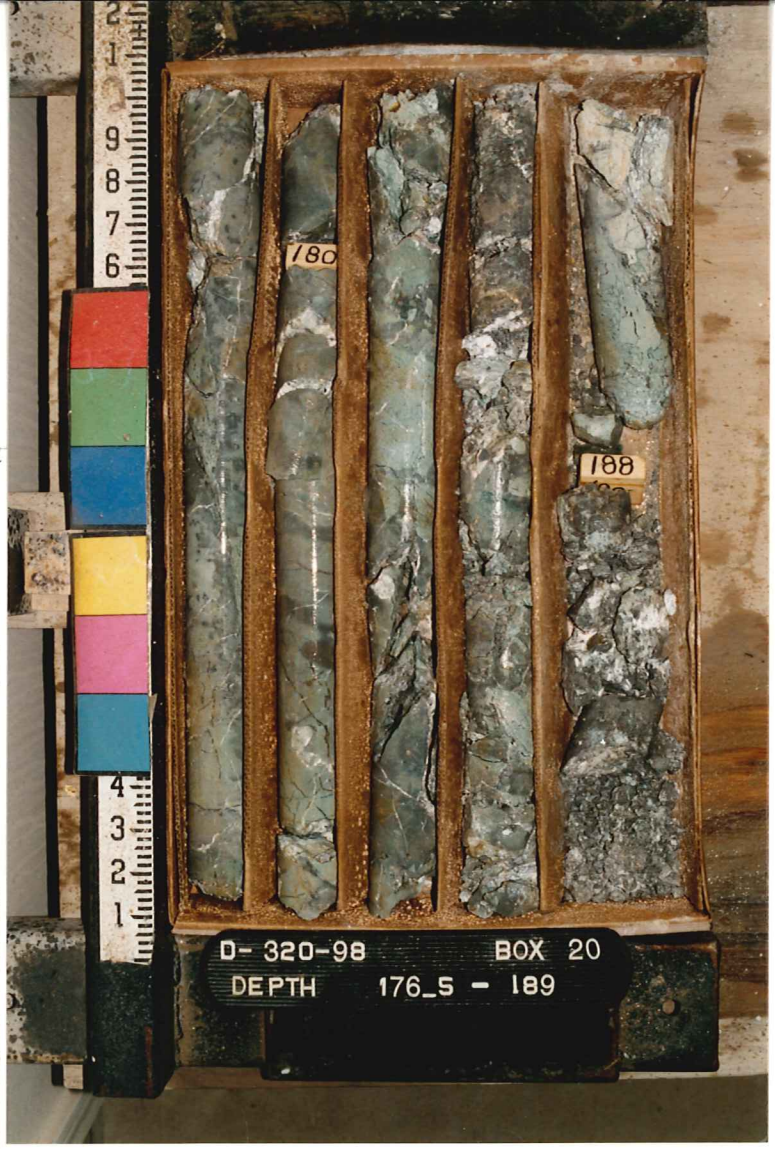

D- 320-98 BOX 13
DEPTH 109_5 - 118_5

137
135
138
D- 320-98 BOX 15
DEPTH 128 - 138

148
D- 320-98 BOX 17
DEPTH 148 - 157

139
143
D- 320-98 BOX 16
DEPTH 138 - 148


158
D- 320-98 BOX 18
DEPTH 157 - 167


180
188
D- 320-98 BOX 20
DEPTH 176_5 - 189

168'
171'
D- 320-98 BOX 19
DEPTH 167 - 176_5

192
197
D- 320-98 BOX 21
DEPTH 189 - 199_5

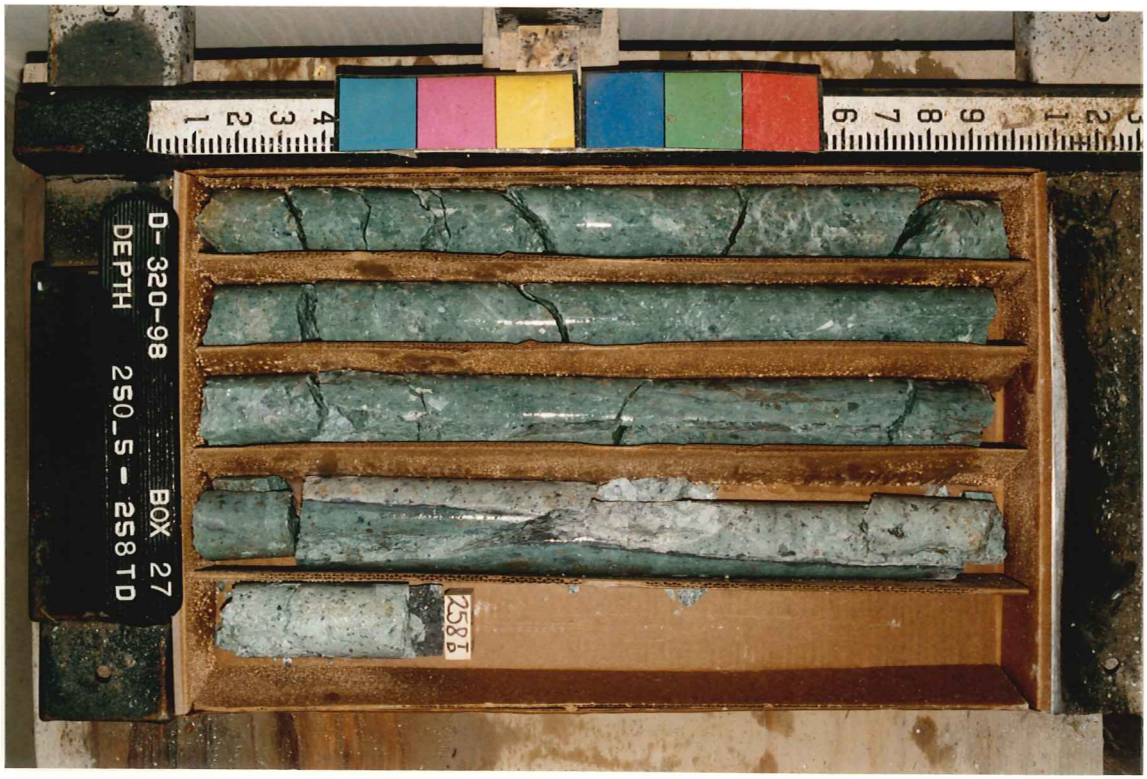
214
D- 320-98 BOX 23
DEPTH 209 - 217_5

204
D- 320-98 BOX 22
DEPTH 199_5 - 209

D- 320-98 BOX 24
DEPTH 217_5 - 227
220
222
227

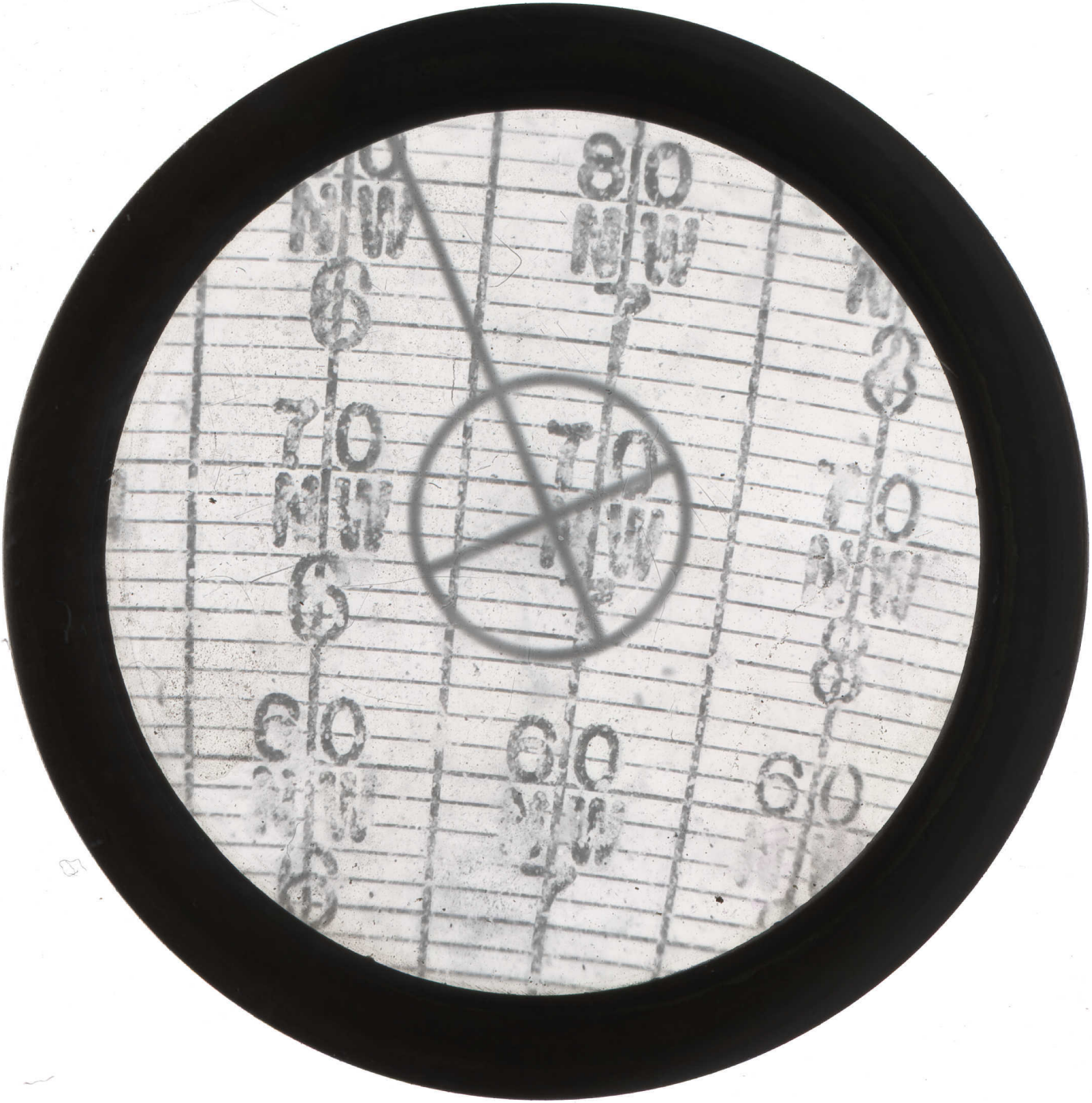
248
D- 320-98 BOX 26
DEPTH 241 - 250_5

241
231
D- 320-98 BOX 25
DEPTH 227 - 241


D- 320-98 BOX 27
DEPTH 250_5 - 258 TD
258 TD

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-320-98
LEASE
TAKEN BY Hughes
DEPTH 258
DATE 10/1/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

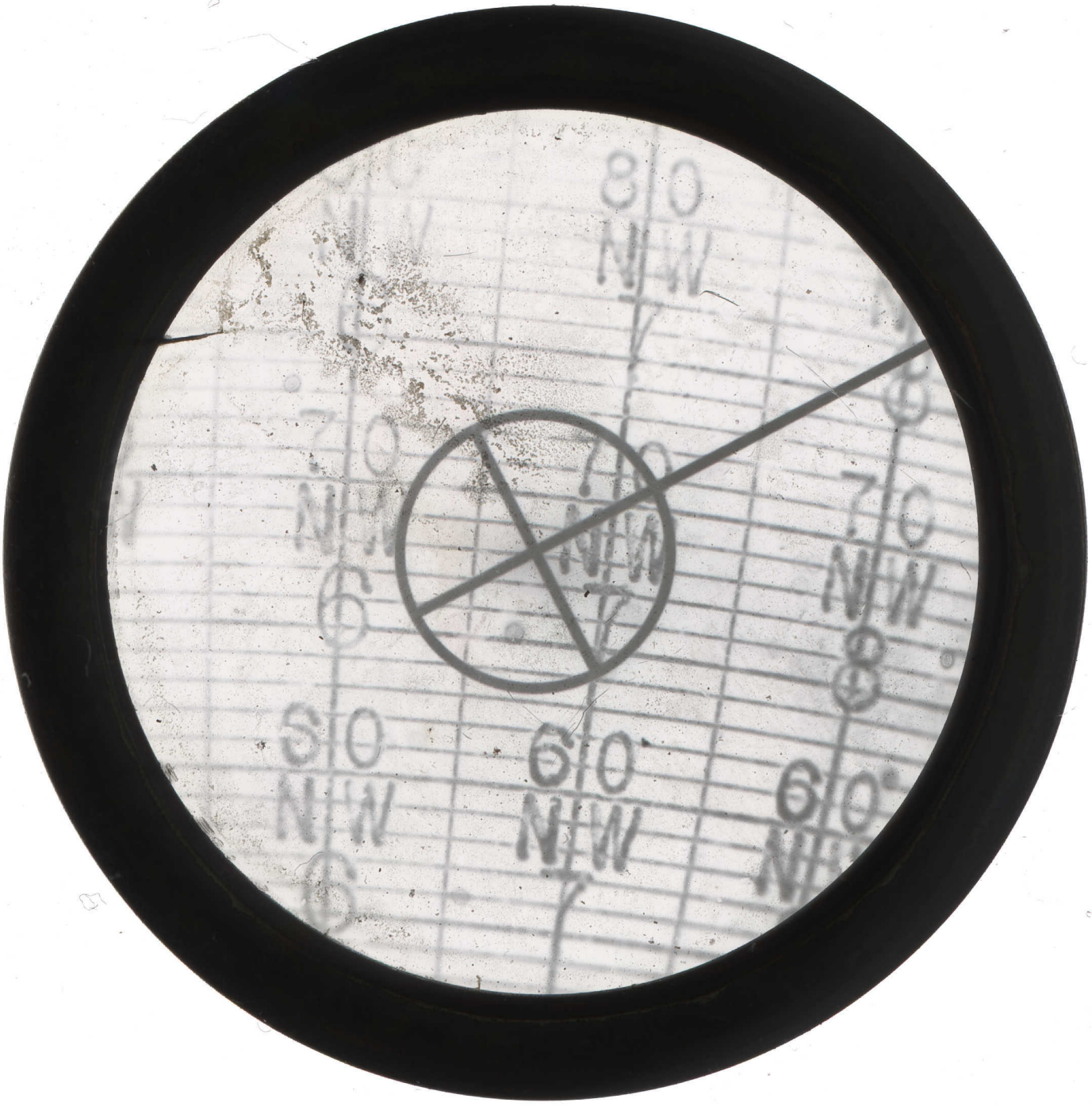

80
NW
70
NW
60
NW

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-320-98
LEASE
TAKEN BY Hughes
DEPTH 130
DATE 10/1/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hcll
WELL NAME D-320-98
LEASE
TAKEN BY Huger
DEPTH 40
DATE 10/1/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408


8 0
N W
7 0
N W
6 0
N W
5 0
N W
7 0
N W
6 0
N W