60001224

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-324-98
AUTHOR	S. King; K. Allen; Whitney
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 253' receipt; handwritten notes; downhole camera images 42p. 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-324-98

60001224 4010

60001224

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	D324-98	LOCATION	Stope 50 Access; Section 1725
PAGE 1 OF 4		NORTHING	
DATE	11-08-98	EASTING	
LOGGED BY	WHITNEY	ELEVATION	
SCALE	1" = 10'	AZIMUTH	SLSE 115°
TOTAL DEPTH	253'	INCLINATION	27°

REMARKS: completed 10-8-98

ITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0–63.8		PLAGIOCLAS/LAMINAR med tan-gry fg volc, vesicular, prominent foliation from partings & vesicle trains. [0-9] crackle bx - hanging wall to fault. [9-33] FAULT brecciated to gouge between broken & rotated, but unbxtd blocks of plag/bm, clasts angular to milled, matrix argil to Si'd. 27 PIMA [33-37.5] strongly vesicular, w trains. [37.5-39.5] fault bx [39.5-44.5] weakly wormy 38 PIMA	10 20 30 40 50		[13] fol. 45° to CA [19] flt ctc 25° to CA [9-33] common post bx fxs 50, 40, 20, 75° to CA [13] fol. in flt 10° to CA. [33] flt ctc 30° to CA [34] fol. 35° to CA [40] fol. 45° to CA [50] fol. 35° to CA	[8-15] sparse to rare q-cly-marc vnlts, 20°, 25° to CA. [15-30] zone of vuggy, Si-flooded bx matrix w/ infill by grunaxy cly & marc. erratic distrib. also sev'l q-cly-marc vnlts (hairline to 1/8"), rare bx. [30-37.5] cly matrix bx to 33' w/ sparse dissem S. After 33', w/ uncommon q-cly-py-marc(±) vnlts 55° to CA. [37.5-40.5] cly-marc-infil, open bx. 1 3" q vn, 50° to CA, w/ crse marcs. radiat. from walls. [40.5-48] rare to sparse dendritic marcasite.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	A
0	5					
5	8					
8	11.3					
11.3	15					
15	18					
18	21.2					
21.2	24.2					
24.2	27					
27	30					
30	33					
33	37.5					
37.5	40.5					
40.5	44.5					
44.5	48					
48	52					

HOLE NUMBER D324-98 PAGE 2 OF 4

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0-63.8		PLANAR/LAMINAR 56-63.4 strly vesicular, w/ wk worm development 63.4 4" auto bx	61 PIMA 60		50-63.8 broken. 20, 65, 50 to CA 55 fol 25° to CA 63.8 cte 45° to CA	52-55 common dendritic marcasite 57.5-59.5 3 q-cly-marcas vnlts. to 2". 40° to CA. marc. is sparse. 59.5-63.8 uncommon q-marcas vnlts, 50° to CA
63.8-79.4		FINE GRAINED MASSIVE med gray, vfg, dense volcanic. nonfoliated, distinctively crackle fx't.	70			63.8-77 wk blch to mod arg. S⁻ rare 71-90 calcareous - both hairline vnlts & dissem.
79.4-155.5		VITROPHYRE lt to med gry, vfg, dense volcanic. nonfoliated, distinctive, conchoidal crackle fractures. Clast cores show xl development.	80 90 100 110 PIMA 120		79.4 cte irregular 89 start common fxs <5, 35, 65, 80.	82.6 3 q-cly-py-marc vnlts. ~1/8". <10° to CA 87-90 wk arg 90-99 wk-mod arg 99-102 vfg dk S⁻ along crackle fx in vitrophyre. also as replacement splotches. 1-3% S⁻ 104-134 a few cly-py vnlts ~40° to CA. wk-mod arg. pyr subhed to euhedral. Rare marcas. also ≤1% S⁻, vfg-fg dissem in irregular splotches. 119-120 si-flooded.

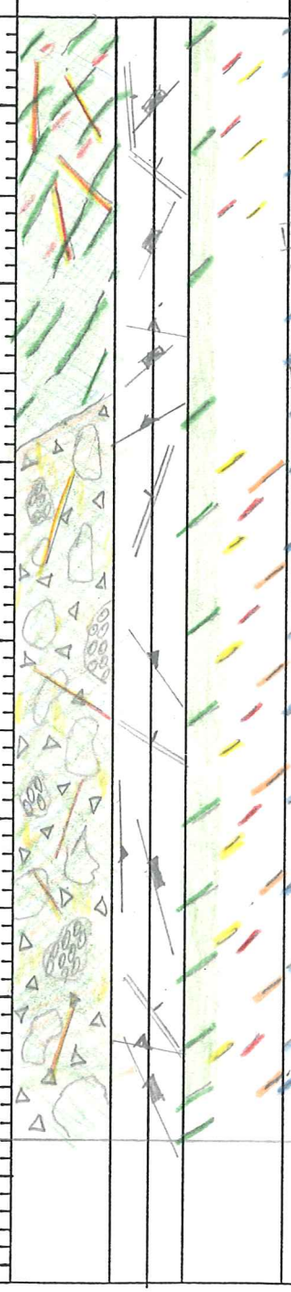
ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
48	52				
52	55				
55	57.5				
57.5	59.5				
59.5	63.8				
63.8	68				
68	72				
72	76				
76	79.4				
79.4	83				
83	87				
87	90				
90	93				
93	96				
96	99				
99	102				
102	104.5				
104.5	107.5				
107.5	110.5				
110.5	113.5				
113.5	117				
117	120				

HOLE NUMBER D324-98 PAGE 3 OF 4

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
79.4-155.5		VITROPHYRE continue as described previous.	130 140 150		125 fx become uncommon 134 bx ctc 50° to CA	134-142.6 wk arg sparse to rare py	120 123 126 130 134 138.3 142.6 146.9 151.4	123 126 130 134 138.3 142.6 146.9 151.4 155.5				
		134-ctc zone of bx. angular clasts of vitro, w/ rare planar/laminar close to the ctc. crackle to mosaic to slightly displaced & rotated. auto bx ? NOT LIKELY				142.6 no arg. essentially unmineralized, calcareous						
155.5-253 TD		PLANAR/LAMINAR med gry-tan, fg-vfg, foliated, gently non-vesiculate. More dense & less foliated than normal. Uncommon clots of vfg chlorite w/ rxn rims - after lithics? transitional texture to FGM	160 170		155.5 ctc 75° to CA, fol. 45° to CA 160 fol. 50° to CA 163 fol. 30° to CA 170 fol. 30° to CA	160.5-164 common hairline q-py-marc (?) crackle veinlets 161-162 q-chl-py vein vult 10° to CA (1/4" wide)	155.5 160.5 164 168	160.5 164 168 173				
		173-189 dull red-brn to maroon oxidation	180 190		180 fol. 45° to CA 189 ctc 55° to CA	164-193 essentially unmineralized.	173 178 183 186 189	178 183 186 189 193				

HOLE NUMBER D324-98 PAGE 4 OF 4

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
155.5-253 TD		PLANAR/LAMINAR continue as previous. [213-253TD] bx zone. clasts of densely vesicular to vfg, dense, crackled pl/bas. non vesicular is transitional to FGM. Matrix support to clast support. matrix is clay or Si. Clast size & angularity is variable. healed. look more like an autobx than a fault bx. ↓ possibly some tectonic bx overprint. [250] change in bx - from permissive to seams for last 3'. foliation ~25° to CA 253TD	200 210 220 230 240 250 260		[195] fol. 40° to CA [203] fol 25° to CA [210] fol 50° to CA [213] bx ck 60° to CA [236] foliation & vult alignment @ 15° to CA	[193-203] common q-chlor-pyr vultts (± marcas), hairline to ⅛", 55, 40, <20 to CA. Also splotchy, vfg-fg py & dks-. against foliation [215.8-249] rare to sparse q-chl-py-marcas vultts. 60, 55, 30° to CA & irregular in matrix. gently hairline to ⅛". rare splotchy fg pyr. wk arg. [249] end calcite

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
189	193				
193	196.5				
196.5	199.8				
199.8	203				
203	208				
208	213				
213	215.8				
215.8	218.5				
218.5	221.8				
221.8	225				
225	228.3				
228.3	231.3				
231.3	234.7				
234.7	237.7				
237.7	240.9				
240.9	244				
244	249				
249	253				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 324-98 DATE: 11-08-98 LOGGED BY: WHITNEY PAGE 1 OF 3

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
0	5	80	92	48										
5	8	127	127	63										
8	13	88	100	24										
13	18	100	100	22										
18	28	87	100	26										
28	38	71	97	21										
38	48	88	100	25										
48	58	74	100	16										
58	68	57	103	13										
68	76	87	92	25										
76	83	90	108	26										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D324-98 DATE: 11-08-98 LOGGED BY: WHITNEY PAGE 2 OF 3

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
83	93	100	100	42										
93	103	95	100	24										
103	113	90	100	32										
113	123	88	100	11										
123	133	93	100	37										
133	143	87	96	33										
143	153	100	100	65										
153	163	100	100	46										
163	173	97	97	55										
173	183	102	102	53										
183	193	72	97	41										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 324-98 DATE: 11-08-98 LOGGED BY: WHITNEY PAGE 3 OF 3

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY /FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
193	203	101	101	34										
203	213	96	96	60										
213	223	97	100	48										
223	233	100	100	56										
233	243	98	100	46										
243	253 TD	70	91	29										

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 0051572-IN
INVOICE DATE: 11/30/98

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-324-98	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

86-5110-444
KAA

NET INVOICE:	1,595.95
LESS DISCOUNT:	319.19
FREIGHT:	.00
INVOICE TOTAL:	1,276.76

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051572

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-324-98 RECEIVED : 17 NOV 1998

No. SAMPLES : 72 REPORTED : 1 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 SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 0-5	<0.001			<0.02
D-324-98 5-8	0.002			<0.02
D-324-98 8.0-11.3	0.014			0.03
D-324-98 11.3-15.0	0.002			<0.02
D-324-98 15-18	0.146		0.147	0.25
D-324-98 18.0-21.2	0.004			<0.02
D-324-98 21.2-24.2	0.003			0.02
D-324-98 24.2-27.0	0.003			0.02
D-324-98 27-30	0.004			0.02
D-324-98 30-33	0.002			<0.02
D-324-98 33.0-37.5	0.002	0.002		<0.02
D-324-98 37.5-40.5	0.016			0.05
D-324-98 40.5-44.5	<0.001			<0.02
D-324-98 44.5-48.0	<0.001			<0.02
D-324-98 48-52	<0.001			<0.02
D-324-98 52-55	<0.001			<0.02
D-324-98 55.0-57.5	0.014			<0.02
D-324-98 57.5-59.5	0.007			0.04
D-324-98 59.5-63.8	0.002	0.002		<0.02
D-324-98 63.8-68.0	0.001			<0.02
D-324-98 68-72	<0.001			<0.02
D-324-98 72-76	<0.001			<0.02
D-324-98 76.0-79.4	0.004			<0.02
D-324-98 79.4-83.0	<0.001			0.02
D-324-98 83-87	0.034			0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 87-90	0.002			<0.02
D-324-98 90-93	<0.001			<0.02
D-324-98 93-96	<0.001			<0.02
D-324-98 96-99	<0.001			<0.02
D-324-98 99-102	<0.001			<0.02
D-324-98 102.0-104.5	<0.001	<0.001		<0.02
D-324-98 104.5-107.5	0.002			<0.02
D-324-98 107.5-110.5	<0.001			<0.02
D-324-98 110.5-113.5	<0.001			<0.02
D-324-98 113.5-117.0	<0.001			<0.02
D-324-98 117-120	<0.001			<0.02
D-324-98 120-123	0.003			<0.02
D-324-98 123-126	0.001			<0.02
D-324-98 126-130	0.004			0.04
D-324-98 130-134	0.001			<0.02
D-324-98 134.0-138.3	<0.001			<0.02
D-324-98 138.3-142.6	0.011			<0.02
D-324-98 142.6-146.9	0.004	0.002		<0.02
D-324-98 146.9-151.4	0.004			<0.02
D-324-98 151.4-155.5	<0.001			<0.02
D-324-98 155.5-160.5	<0.001			<0.02
D-324-98 160.5-164.0	<0.001			<0.02
D-324-98 164-168	<0.001			<0.02
D-324-98 168-173	<0.001			<0.02
D-324-98 173-178	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 178-183	<0.001			<0.02
D-324-98 183-186	<0.001			<0.02
D-324-98 186-189	<0.001			<0.02
D-324-98 189-193	<0.001			<0.02
D-324-98 193.0-196.5	<0.001			<0.02
D-324-98 196.5-199.8	0.009			0.03
D-324-98 199.8-203.0	0.004			<0.02
D-324-98 203-208	<0.001			<0.02
D-324-98 208-213	<0.001			<0.02
D-324-98 213.0-215.8	<0.001			<0.02
D-324-98 215.8-218.5	<0.001			<0.02
D-324-98 218.5-221.8	<0.001			<0.02
D-324-98 221.8-225.0	<0.001			<0.02
D-324-98 225.0-228.3	0.004			<0.02
D-324-98 228.3-231.3	0.001			<0.02
D-324-98 231.3-234.7	<0.001			<0.02
D-324-98 234.7-237.7	0.007			0.03
D-324-98 237.7-240.9	<0.001			<0.02
D-324-98 240.9-244.0	<0.001			<0.02
D-324-98 244-249	<0.001			<0.02
D-324-98 249-253	<0.001			<0.02
46609	0.116			2.48

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ANALYSIS REPORT SP051572

American Assay Laboratories

PO BOX 11530
RENO NV,USA
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HECLA MINING COMPANY

COPIES TO : KURT ALLEN
:
:
:

CLIENT REFERENCE No: D-324-98 RECEIVED : 17 NOV 1998

No. SAMPLES : 72 REPORTED : 1 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 SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 0-5	<0.001			<0.02
D-324-98 5-8	0.002			<0.02
D-324-98 8.0-11.3	0.014			0.03
D-324-98 11.3-15.0	0.002			<0.02
D-324-98 15-18	0.146		0.147	0.25
D-324-98 18.0-21.2	0.004			<0.02
D-324-98 21.2-24.2	0.003			0.02
D-324-98 24.2-27.0	0.003			0.02
D-324-98 27-30	0.004			0.02
D-324-98 30-33	0.002			<0.02
D-324-98 33.0-37.5	0.002	0.002		<0.02
D-324-98 37.5-40.5	0.016			0.05
D-324-98 40.5-44.5	<0.001			<0.02
D-324-98 44.5-48.0	<0.001			<0.02
D-324-98 48-52	<0.001			<0.02
D-324-98 52-55	<0.001			<0.02
D-324-98 55.0-57.5	0.014			<0.02
D-324-98 57.5-59.5	0.007			0.04
D-324-98 59.5-63.8	0.002	0.002		<0.02
D-324-98 63.8-68.0	0.001			<0.02
D-324-98 68-72	<0.001			<0.02
D-324-98 72-76	<0.001			<0.02
D-324-98 76.0-79.4	0.004			<0.02
D-324-98 79.4-83.0	<0.001			0.02
D-324-98 83-87	0.034			0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 87-90	0.002			<0.02
D-324-98 90-93	<0.001			<0.02
D-324-98 93-96	<0.001			<0.02
D-324-98 96-99	<0.001			<0.02
D-324-98 99-102	<0.001			<0.02
D-324-98 102.0-104.5	<0.001	<0.001		<0.02
D-324-98 104.5-107.5	0.002			<0.02
D-324-98 107.5-110.5	<0.001			<0.02
D-324-98 110.5-113.5	<0.001			<0.02
D-324-98 113.5-117.0	<0.001			<0.02
D-324-98 117-120	<0.001			<0.02
D-324-98 120-123	0.003			<0.02
D-324-98 123-126	0.001			<0.02
D-324-98 126-130	0.004			0.04
D-324-98 130-134	0.001			<0.02
D-324-98 134.0-138.3	<0.001			<0.02
D-324-98 138.3-142.6	0.011			<0.02
D-324-98 142.6-146.9	0.004	0.002		<0.02
D-324-98 146.9-151.4	0.004			<0.02
D-324-98 151.4-155.5	<0.001			<0.02
D-324-98 155.5-160.5	<0.001			<0.02
D-324-98 160.5-164.0	<0.001			<0.02
D-324-98 164-168	<0.001			<0.02
D-324-98 168-173	<0.001			<0.02
D-324-98 173-178	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051572

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-324-98 178-183	<0.001			<0.02
D-324-98 183-186	<0.001			<0.02
D-324-98 186-189	<0.001			<0.02
D-324-98 189-193	<0.001			<0.02
D-324-98 193.0-196.5	<0.001			<0.02
D-324-98 196.5-199.8	0.009			0.03
D-324-98 199.8-203.0	0.004			<0.02
D-324-98 203-208	<0.001			<0.02
D-324-98 208-213	<0.001			<0.02
D-324-98 213.0-215.8	<0.001			<0.02
D-324-98 215.8-218.5	<0.001			<0.02
D-324-98 218.5-221.8	<0.001			<0.02
D-324-98 221.8-225.0	<0.001			<0.02
D-324-98 225.0-228.3	0.004			<0.02
D-324-98 228.3-231.3	0.001			<0.02
D-324-98 231.3-234.7	<0.001			<0.02
D-324-98 234.7-237.7	0.007			0.03
D-324-98 237.7-240.9	<0.001			<0.02
D-324-98 240.9-244.0	<0.001			<0.02
D-324-98 244-249	<0.001			<0.02
D-324-98 249-253	<0.001			<0.02
46609	0.116			2.48

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051572

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-324-98 RECEIVED : 17 NOV 1998

No. SAMPLES : 72 REPORTED : 1 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

PROVISIONAL REPORT SP051572

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-324-98 0-5	<0.001			<0.02
D-324-98 5-8	0.002			<0.02
D-324-98 8.0-11.3	0.014			0.03
D-324-98 11.3-15.0	0.002			<0.02
D-324-98 15-18	0.146		0.147	0.25
D-324-98 18.0-21.2	0.004			<0.02
D-324-98 21.2-24.2	0.003			0.02
D-324-98 24.2-27.0	0.003			0.02
D-324-98 27-30	0.004			0.02
D-324-98 30-33	0.002			<0.02
D-324-98 33.0-37.5	0.002	0.002		<0.02
D-324-98 37.5-40.5	0.016			0.05
D-324-98 40.5-44.5	<0.001			<0.02
D-324-98 44.5-48.0	<0.001			<0.02
D-324-98 48-52	<0.001			<0.02
D-324-98 52-55	<0.001			<0.02
D-324-98 55.0-57.5	0.014			<0.02
D-324-98 57.5-59.5	0.007			0.04
D-324-98 59.5-63.8	0.002	0.002		<0.02
D-324-98 63.8-68.0	0.001			<0.02
D-324-98 68-72	<0.001			<0.02
D-324-98 72-76	<0.001			<0.02
D-324-98 76.0-79.4	0.004			<0.02
D-324-98 79.4-83.0	<0.001			0.02
D-324-98 83-87	0.034			0.07

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051572

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-324-98 87-90	0.002			<0.02
D-324-98 90-93	<0.001			<0.02
D-324-98 93-96	<0.001			<0.02
D-324-98 96-99	<0.001			<0.02
D-324-98 99-102	<0.001			<0.02
D-324-98 102.0-104.5	<0.001	<0.001		<0.02
D-324-98 104.5-107.5	0.002			<0.02
D-324-98 107.5-110.5	<0.001			<0.02
D-324-98 110.5-113.5	<0.001			<0.02
D-324-98 113.5-117.0	<0.001			<0.02
D-324-98 117-120	<0.001			<0.02
D-324-98 120-123	0.003			<0.02
D-324-98 123-126	0.001			<0.02
D-324-98 126-130	0.004			0.04
D-324-98 130-134	0.001			<0.02
D-324-98 134.0-138.3	<0.001			<0.02
D-324-98 138.3-142.6	0.011			<0.02
D-324-98 142.6-146.9	0.004	0.002		<0.02
D-324-98 146.9-151.4	0.004			<0.02
D-324-98 151.4-155.5	<0.001			<0.02
D-324-98 155.5-160.5	<0.001			<0.02
D-324-98 160.5-164.0	<0.001			<0.02
D-324-98 164-168	<0.001			<0.02
D-324-98 168-173	<0.001			<0.02
D-324-98 173-178	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051572

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-324-98

REPORTED : 1 DEC 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-324-98 178-183	<0.001			<0.02
D-324-98 183-186	<0.001			<0.02
D-324-98 186-189	<0.001			<0.02
D-324-98 189-193	<0.001			<0.02
D-324-98 193.0-196.5	<0.001			<0.02
D-324-98 196.5-199.8	0.009			0.03
D-324-98 199.8-203.0	0.004			<0.02
D-324-98 203-208	<0.001			<0.02
D-324-98 208-213	<0.001			<0.02
D-324-98 213.0-215.8	<0.001			<0.02
D-324-98 215.8-218.5	<0.001			<0.02
D-324-98 218.5-221.8	<0.001			<0.02
D-324-98 221.8-225.0	<0.001			<0.02
D-324-98 225.0-228.3	0.004			<0.02
D-324-98 228.3-231.3	0.001			<0.02
D-324-98 231.3-234.7	<0.001			<0.02
D-324-98 234.7-237.7	0.007			0.03
D-324-98 237.7-240.9	<0.001			<0.02
D-324-98 240.9-244.0	<0.001			<0.02
D-324-98 244-249	<0.001			<0.02
D-324-98 249-253	<0.001			<0.02
46609	0.116			2.48

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

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Tucson, AZ 85706
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(520) 294-6352

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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: 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: 11/12/98 Number of Samples: 71

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

Au-Ag ACCORDING TO ROSEBUD MINING PROTOCOL

D-324-98 SAMPLE IDENTIFICATION				TYPE	ELEMENTS REQUIRED
0-5	52-55	102-104.5	155.5-160.5		215.8-218.5
5-8	55-57.5	104.5-107.5	160.5-164		218.5-221.8
8-11.3	57.5-59.5	107.5-110.5	164-168		221.8-225
11.3-15	59.5-63.8	110.5-113.5	168-173		225-228.3
15-18	63.8-66	113.5-117	173-178		228.3-231.3
18-21.2	66-72	117-120	178-183		231.3-234.7
21.2-24.2	72-76	120-123	183-186		234.7-237.7
24.2-27	76-79.4	123-126	186-189		237.7-240.9
27-30	79.4-83	126-130	189-193		240.9-244
30-33	83-87	130-134	193-196.5		244-249
33-37.5	87-90	134-138.3	196.5-199.8		249-253 TD
37.5-40.5	90-93	138.3-142.6	199.8-203		
40.5-44.5	93-96	142.6-146.9	203-208		
44.5-48	96-99	146.9-151.4	208-213		
48-52	99-102	151.4-155.5	213-215.8		

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

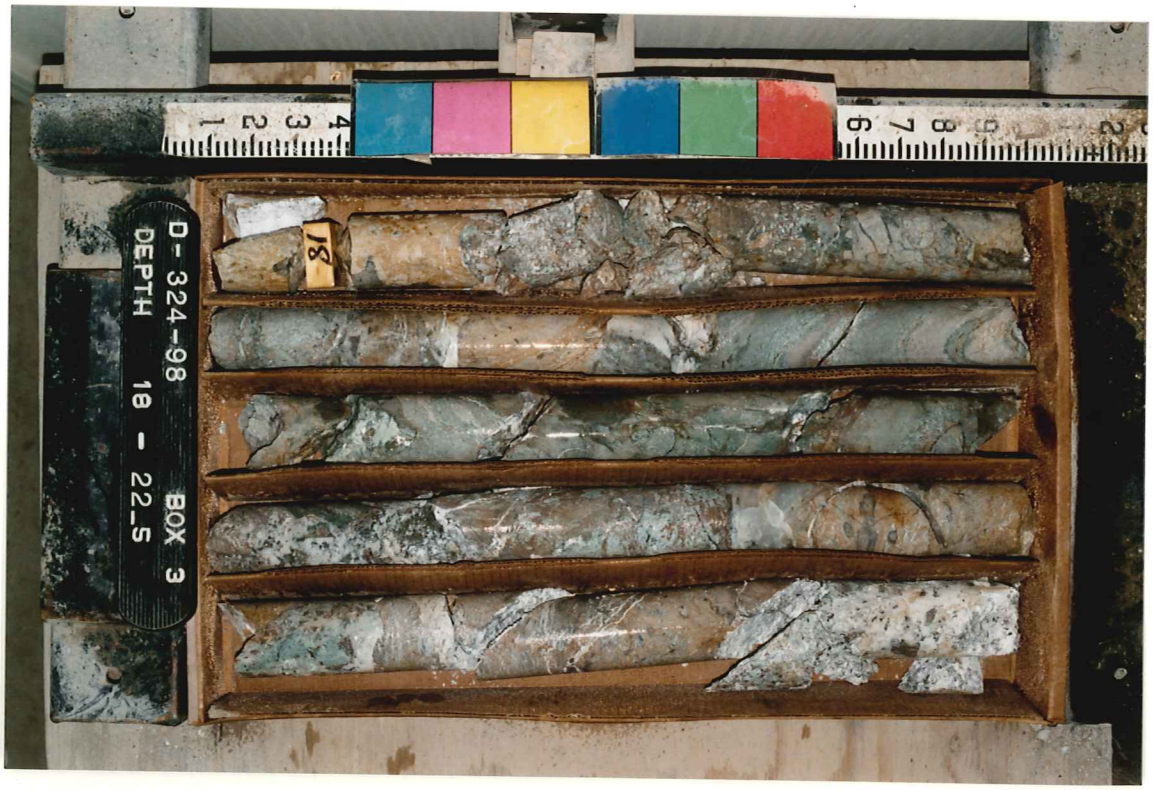
Comments:

CLIENT FILE COPY

D-324-98	45	36	123.7
	125	35.5	123.2
	253	36	123.7

D- 324-98 BOX 2
DEPTH 8_5 - 18
13

D- 324-98 BOX 1
DEPTH 0 - 8_5
5
8


D- 324-98 BOX 3
DEPTH 18 - 22_5
18

D- 324-98 BOX 5
DEPTH 37 - 45_5
38

D- 324-98 BOX 4
DEPTH 22_5 - 37
38

D- 324-98 BOX 6
DEPTH 45_5 - 54
48

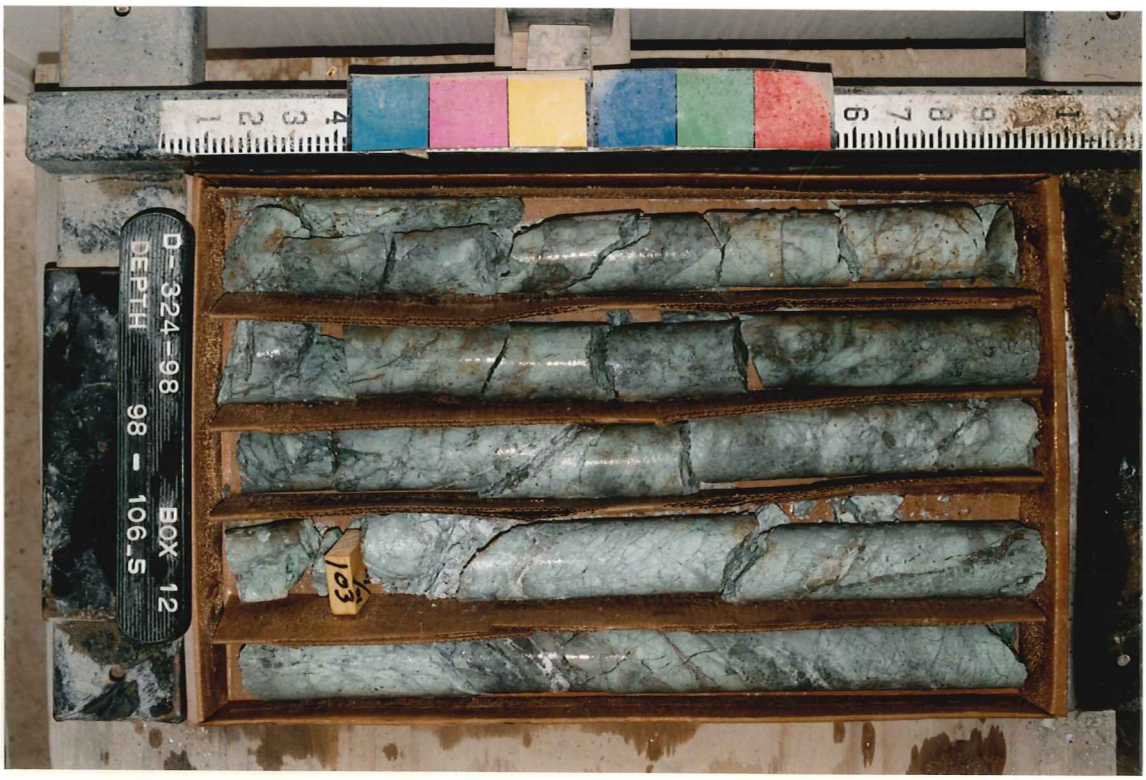
D- 324-98 BOX 8
DEPTH 63 - 71

58
D- 324-98 BOX 7
DEPTH 54 - 63

D- 324-98 BOX 9
DEPTH 71 - 80.5
76

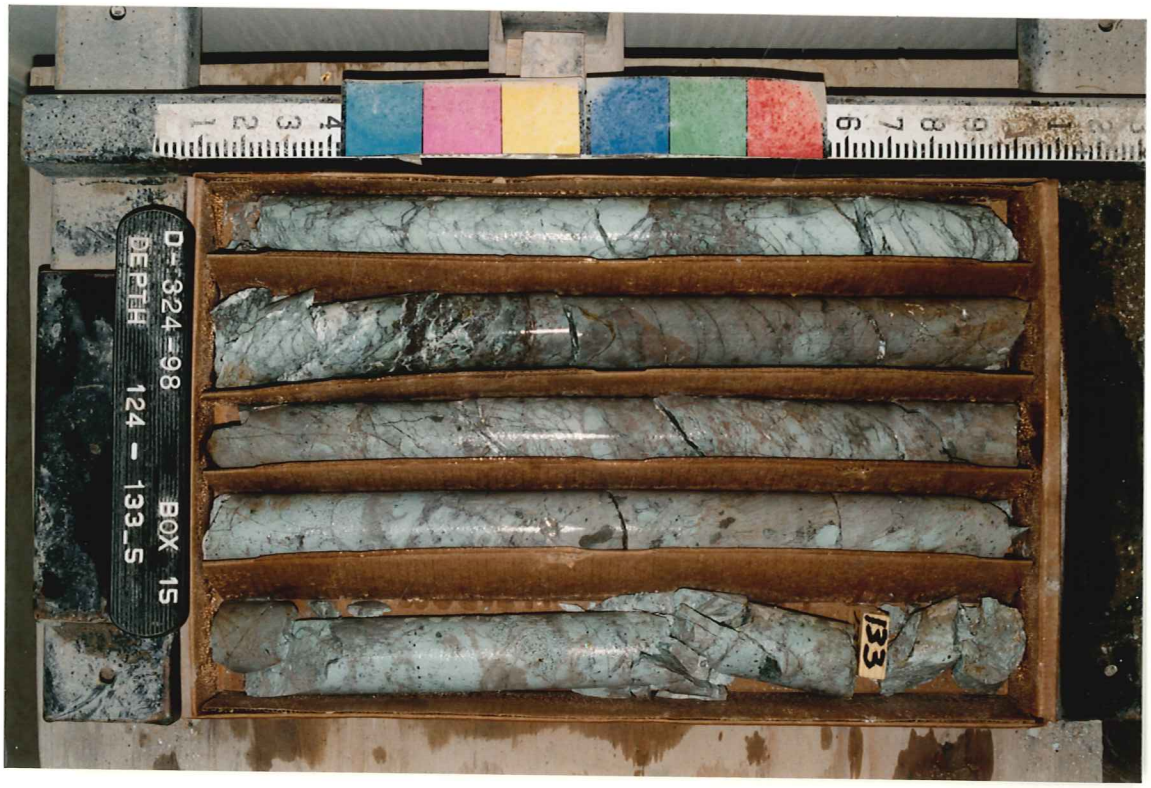
93
D- 324-98 BOX 11
DEPTH 89_5 - 98

83
D- 324-98 BOX 10
DEPTH 80_5 - 89_5


D- 324-98 BOX 12
DEPTH 98 - 106_5
103

123
D-324-98 BOX 14
DEPTH 115 - 124

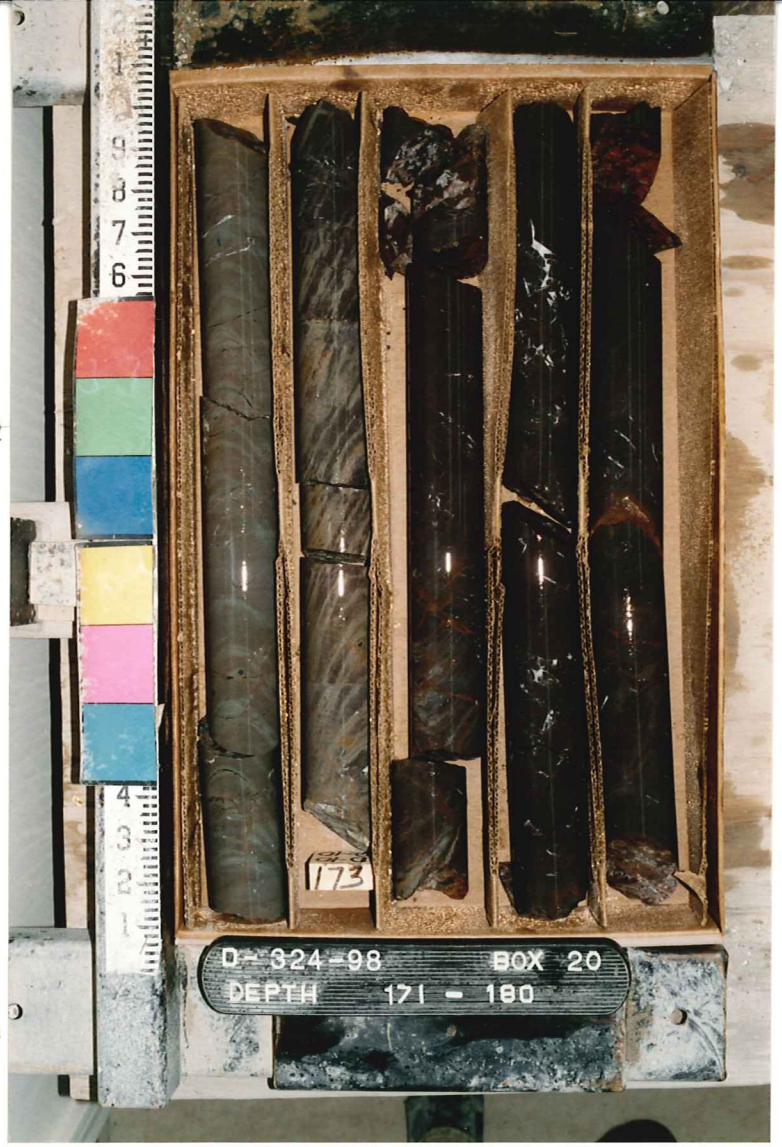
113
D-324-98 BOX 13
DEPTH 106_5 - 115


133
D-324-98 BOX 15
DEPTH 124 - 133_5

D-324-98 BOX 17
DEPTH 143 - 153

143
D-324-98 BOX 16
DEPTH 133_5 - 143

153
D-324-98 BOX 18
DEPTH 153 - 161


173
D-324-98 BOX 20
DEPTH 171 - 180

163
D-324-98 BOX 19
DEPTH 161 - 171

183
D-324-98 BOX 21
DEPTH 180 - 189

203
D-324-98 BOX 23
DEPTH 199 - 207

193
D-324-98 BOX 22
DEPTH 189 - 199

D-324-98 BOX 24
DEPTH 207 - 216

13
D- 324-98 BOX 2
DEPTH 8_5 - 18

5
8
D- 324-98 BOX 1
DEPTH 0 - 8_5

18
D- 324-98 BOX 3
DEPTH 18 - 27_5

D- 324-98 BOX 5
DEPTH 37 - 45_5
38

D- 324-98 BOX 4
DEPTH 27_5 - 37
28

D- 324-98 BOX 6
DEPTH 45_5 - 54
48

D- 324-98
BOX 8
DEPTH
63 - 71

D- 324-98
BOX 7
DEPTH
54 - 63

D- 324-98
BOX 9
DEPTH
71 - 80_5

93
D- 324-98 BOX 11
DEPTH 89_5 - 98

93
D- 324-98 BOX 10
DEPTH 80_5 - 89_5

103
D- 324-98 BOX 12
DEPTH 98 - 106_5

D- 324-98
BOX 14
DEPTH 115 - 124
123

D- 324-98
BOX 13
DEPTH 106_5 - 115

D- 324-98
BOX 15
DEPTH 124 - 133_5
133

D- 324-98
BOX 17
DEPTH
143 - 153

143
D- 324-98
BOX 16
DEPTH
133_5 - 143

153
D- 324-98
BOX 18
DEPTH
153 - 161

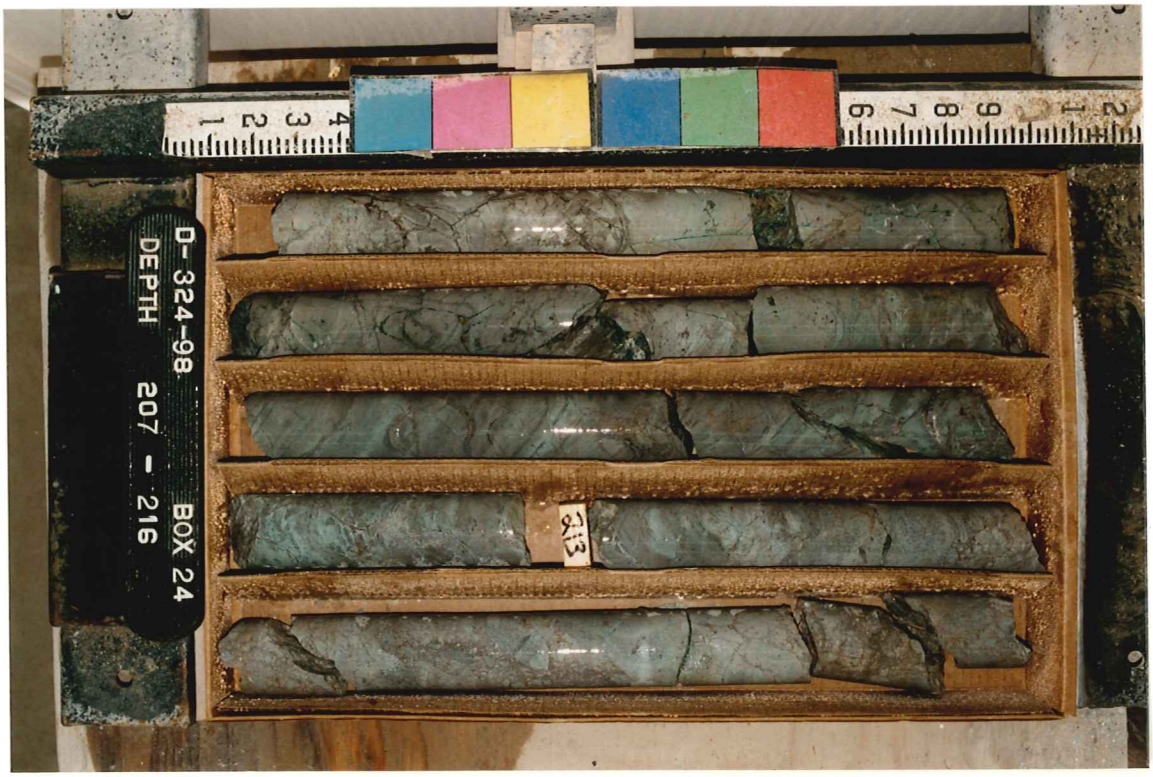
173
D- 324-98 BOX 20
DEPTH 171 - 180

163
D- 324-98 BOX 19
DEPTH 161 - 171

183
D- 324-98 BOX 21
DEPTH 180 - 189

203
D- 324-98
BOX 23
DEPTH 199 - 207

193
D- 324-98
BOX 22
DEPTH 189 - 199


D- 324-98
BOX 24
DEPTH 207 - 216

223
D- 324-98 BOX 25
DEPTH 216 - 225

223
D- 324-98 BOX 25
DEPTH 216 - 225

D- 324-98 BOX 26
DEPTH 225 - 234
233

243
D- 324-98 BOX 27
DEPTH 234 - 243

233
D- 324-98 BOX 26
DEPTH 225 - 234

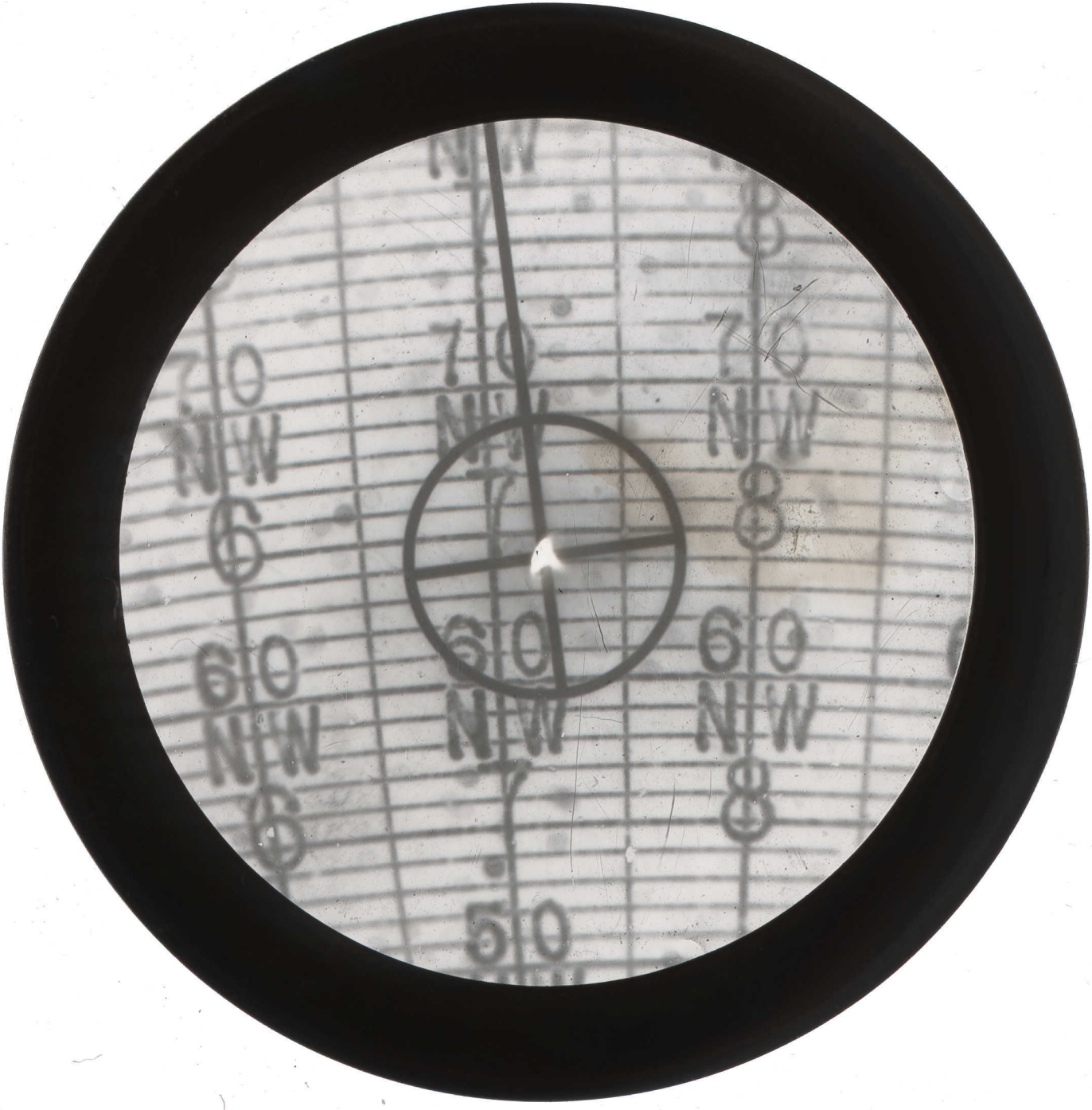
D- 324-98 BOX 27
DEPTH 234 - 243
243

253
D- 324-98 BOX 28
DEPTH 243 - 253 TD

253
D- 324-98 BOX 28
DEPTH 243 - 253 TD

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-324-98
LEASE
TAKEN BY Hughes
DEPTH 253
DATE 10/8/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

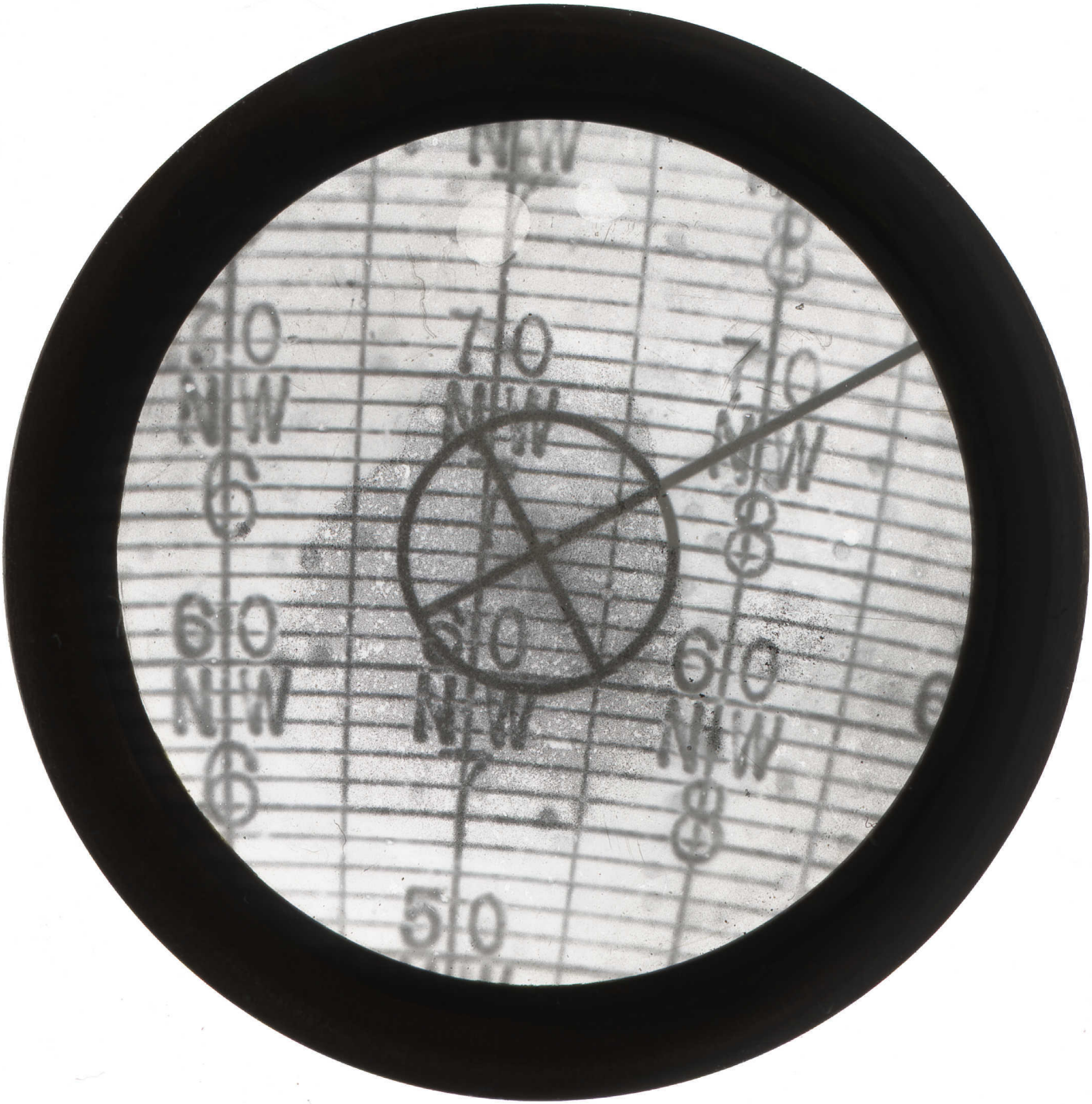

70
NW
6
60
NW
6
70
NW
7
60
NW
7
50
70
NW
8
60
NW
8

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-324 98
LEASE
TAKEN BY Hubbher
DEPTH 125
DATE 10/8/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-324-98
LEASE
TAKEN BY Hughes
DEPTH 45
DATE 10/8/98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408


NEW
70
NW
60
NW
70
NW
60
NW
50