6000 0651

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-267-98
AUTHOR	K. Allen; R. Stoeberl; S King
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, Hecla Mining Co; Rosebud Project Rosebud Mining Co., LLC
COMMODITY If not obvious	gold; silver
NOTES	drill logs; assay; geology; photographs; receipts; total depth 350'; hand written notes down hole 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 4/29/2008
Initials Date
DB:
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

D-267-98

60000651

4010

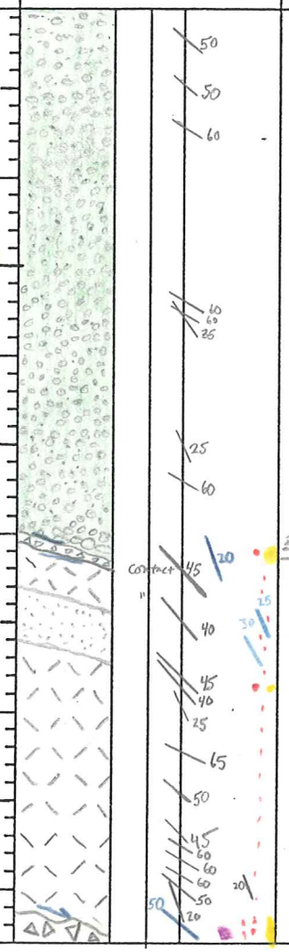
6000 0651

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

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-267-98	LOCATION	North 1325	REMARKS	0-31' TOS
PAGE 1 OF		NORTHING			31-51.5' Slight Planar Laminar + FG Massive
DATE	8/15/98 8/18/98	EASTING			51.5-63' Breccia / from S Planar Laminar
LOGGED BY	R.K. Stoeberl	ELEVATION			63'-174' Slight Planar Laminar
SCALE	1" = 10'	AZIMUTH	S55E		174- Vitrophyre
TOTAL DEPTH	350'	INCLINATION	55		

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-31 TOS Bud Lock Alite: Green, lt. gray, wht, polylithic, clast supported tuff; Clasts consists of Flow banded volcanic material, Fine grained tuff, & Auld Lang Syne. [Trash can Tuff] They range in size from 2mm - 2cm. The avg size is ±1cm; Rare clast >2cm. They are rounded to sub-angular with most (~75%) falling into the sub-rounded class. At the contact the clast size increases.	0			
		31' - 51.5 FG Massive + Planar Laminar At contact FG Flow banded: Planar Laminar for 2ft, then FG massive for 3ft. This takes us to 36 ft. Then Planar Laminar again down to 41ft. where it seems to grade into the mottled vesicular looking unit. From 36' downhole will be logged as the Slight Planar Laminar unit.	10		30-31' Breccia / Fault @ contact: silica cemented	30-31 Silica cemented Brx w/ open space filled w/ clay, Mc and Py. Micro Py dissem in silica cement 33-36 Trace tiny calcite/mc vns 36' contact: minor mc Py
			20			
			30			
			40			
			50			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5					
5	10					
10	15					
15	20					
20	25					
25	30					
30	31					
31	35					
35	40					
40	45					
45	50					
50	51.5					

HOLE NUMBER D-267-98 PAGE 2 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		51.5' - 63' Breccia (in Slighe Planar Lam) Intense Frax and Breccia: Open space common w/ clay, barite, druzy Qtz and sulf filled vugs. Sulfides are Py and Mc. *	50		51.5 - 56.5' Strong Frax + Lc Brecciation	51.5 - 56.5' Frax/Brx: silica, cemented w/ druzy Qtz Pale Green clay, Barite, minor Mc : Py
		63' - Slighe Planar Laminar. Same as above the Breccia zone. Pima sample @ 59' and at 68.5' *	60		58.5 - 63' mod - strong Frax + Lcl Brx SAA	58.5 - 63' Frax Lcl Brx SAA
					67-68.5 Frax mod-strg No Brecciation	66-69'
			70		70' .1' clay gouge/ground rock looks like poor Mn?	
					72-75' Frax mod-strg No Brecciation	72 - 75'
			80		82' small vein and open space, may be small strux?	@ 82' ~1cm wide druzy silica vein w/ Barite, wht clay and sulf: Mc Py Mc is Euhedral in vugs.
			90		94' Vein & vein Breccia may be small strux?	@ 94' ~2 cm wide silica vein & vn brx w/ very wk mc & Py
			100		75' - 128' wk to very wk crackle zone at best w/ Lcl minor Frax or veins.	
			110			
			120			

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
51.5	56.5				
56.5	58.5				
58.5	63				
63	66				
66	69				
69	72				
72	75				
75	80				
80	85				
85	90				
90	95				
95	100				
100	105				
105	110				
110	115				
115	120				

HOLE NUMBER D-267-98 PAGE 3 OF 5

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		63-174 Slight Planar Laminar SAA	120			123' one small calc/mc Vn
					128-130.5 Intense Frax w/ Lcl Brx	128-130.5' - Calcite, Druzy Qtz & clay filled frax zone wk overall sulf; mc Py Lcl Brx
			130	rubble		
					136-138 Frax: Mod-Strg	136-138' - Druzy Qtz, calcite and wht clay veins; open space vugs have calc & clay fillings
			140			
			150			154.5-159.5' minor Calc Vn
			160			
		174-196' Vitrophyre(?) Green to lt Green, Shattered looking Vitrophyre (?). wk to mod Lcl Devit. Text.	170		173' Small clay gouge zone ~.3' wide w/ ground up rock	@ 179' mod frax w/ mod Mc Veining; Trace Druzy Qtz & wht clay
			180			179'-187' wk to very wk frax w/ clay; mc Veining.
			190		189' Fault (?) 30°	189' Minor Fault(?): Calcite wht clay Py filled open space w/ trace to wk mc

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	A
120	125					
125	128					
128	130.5'					
130.5	136					
136	138					
138	140					
140	145					
145	150					
150	155					
155	160					
160	165					
165	170					
170	175					
175	178					
178	182.5					
182.5	185					
185	188.5'					
188.5	189.5'					

HOLE NUMBER D-267-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		174 – 196' Vitrophyre (?)	190			
		196 – 219' FG Massive unit — F.G. Massive Featureless	200		195 – 206.5' Frax / Brx — Strg Frax w/ lcl Brx @ 200-201.5'; recemented.	195 – 206.5' Frax & Brx — Brx @ 200-201.5', Silica, calc & clay cement w/ Py, mc. Lcl strg sulf but wk-mod overall.
			210		209 – 211' Frax, wk-mod, w/ Lcl (210.5) strg Frax.	209 – 211' Calcit, wht clay and mc cemented Frax. minor Drusy Qtz
		219 – 240 FG Slight Planar Laminar — FG mottled tiny vesicular planar Laminar	220			
			230			@ 225' One tiny vein of Drusy Qtz, wht Clay, mc; 40° — @ 228' SAA 5°
		240 – 249 Spotted Tuff (?) Wanna Be? — It looks like Leopard Skin.	240			234-235' Very wk Frax w/ calc, chlorite & clay filled seams minor mc & Py
		249 – 274 Slight Planar Laminar Again — F.G. mottled, tiny vesicular, planar Lam.	250			
			260			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
189.5	195				
195	200				
200	204				
204	206.5				
206.5	209				
209	211				
211	214				
214	219				
219	224				
224	229				
229	234				
234	239				
239	244				
244	249				
249	254				
254	260				

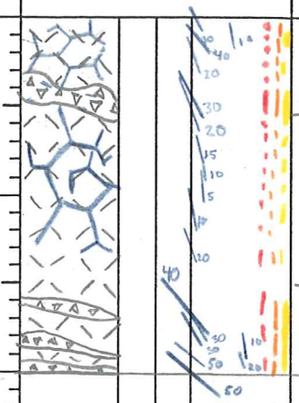
HOLE NUMBER D-267-98 PAGE 5 OF 6

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		249 - 274' Slight Planar Lam	260		260-270 Frax : mod, lcl Stng : cemented w/ SiO_2 clay, ± sulf. Very wk to mod lcl Brecciation	260-263' Frax w/ druzy Qtz wht clay and more. cement
		274 - 298' Vitrophyre Green, shattered looking chloritic alt. ± Devit. text.	270		270-282' Crackle Zone ± lcl Frax/Brx; Brx zone is @ 272-272.3' Crackle Frax seams filled w/ chlorite, wht clay, calcite Py and Mc.	269-270' Frax : wht Clay druzy Qtz, mc cement wk sulf overall.
			280			272-272.3' Frax/Brx cemented w/ wht clay, chlorite, silica and very wk - wk sulf: Py, Mc
			290		282-320' Crackle Zone Very Wk to wk at best. Chlorite, ± calc. ± Py filled seams. most seams are < 1mm wide and density 1/2 to 3 ft. Not much going on.	
		298 - 308' FG Massive(?) Green to Pale Gry-Green and Olive Green FG mostly massive.	300			@ 297' one small 1cm wide calc. vn., it cross-cuts the chlorite/Py/calc veins.
		308 - 350' Slight Planar Lam Slight Planar Laminar Looks the Same as the above Planar unit up hole but finer grain and looks more compressed ... or more competent? May or may not be the same unit.	310			
			320		320-323' Frax/Fault Fault may be @ 322' and @ 40'	320-323' Frax/Fault zone open space vugs common and ± filled w/ clay, druzy Qtz, Mc, Py.
			330		326.5-330 Frax/Fault SAA -	326.5-330' SAA except Increase in Sulfide; mostly massive. Euhedral

*Note: At Contact w/ FG Massive this unit is Dark Forest Green 308 - 311'

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	A
260	263					
263	265					
265	269					
269	270					
270	275					
275	280					
280	284					
284	289					
289	294					
294	299					
299	304					
304	308					
308	310					
310	315					
315	320					
320	323					
323	326.5					
326.5	330.					

HOLE NUMBER D-265-98 PAGE 5 OF 5

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		308 - 350' Slight Planar Laminar	330		234-235' Fault(?) Breccia enveloped with Intense Fracture 346 - TD Frax / Fault Brecciated	331 - 343' - Frax Zone w/ open space common lined w/ drusy Qtz, ± wkr clay ± sulf. 346 - TD' - Slfd Brx Strg Frax in Wlrck wk - mod sulf; mc Py *
		Note: Very Good Rck Alt @ end of Hole (350') Should have Kept drilling until out of altered / Brecciated Rck.	340 350			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	A
330	335					
335	340					
340	343					
343	346					
346	350					

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/15/98 LOGGED BY: RK Stoeberl PAGE 1 OF 7

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	100	98	36										
5	10	100	96	66										
10	15	100	106	100										
15	20	100	98	96										
20	30	100	98	91										
30	40	100	101	92										
40	50	100	100	77										
50	57.5	84	100	56										
7.5 57.5	65	100	100	92										
65	70	100	106	96										
70	75	98	80	98										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267 DATE: 8/15/98 LOGGED BY: RKS PAGE 2 OF 7

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)
75	79	100	102	94										
79	84	100	94	86										
84	85	100	90	75										
85	90	100	100	90										
90	95	100	98	100										
95	100	100	100	98										
100	105	100	104	96										
105	110	100	100	98										
110	115	100	102	98										
115	120	100	102	96										
120	125	100	102	100										
125	130	90	86	64										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/16/98 LOGGED BY: RKS PAGE 3 OF 7

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
130	135	94	100.	94										
135	140	100	98	96										
140	145	100	102	94										
145	150	100	100	100										
150	155	98	98	100										
155	160	100	102	100										
160	165	98	100	80										
165	170	98	98	44										
170	175	96	100	74										
175	178	100	100	90										
178	183	100	100	98										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/16/98 LOGGED BY: RKS PAGE 4 OF 7

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY/FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
183	185	100	110	100										
185	190	100	100	96										
190	195	100	86	100										
195	200	100	100	96										
200	204	100	100	100										
204	209	100	102	98										
209	214	100	100	100										
214	219	100	98	96										
219	224	100	94	76										
224	229	96	100	70										
229	234	96	92	90										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/16/98 LOGGED BY: RKS PAGE 5 OF 7

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)
234	239	100	104	96										
239	244	100	98	96										
244	249	96	98	100										
249	254	100	98	100										
254	258	90	88	89.										
258	263	96	110.	91.										
263	265	100	85	100										
265	270	100	104	100										
270	275	100	94	96										
275	280	100	98	100										
280	284	96	106	92.5										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/18/98 LOGGED BY: RKS

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)
284	289	100	94.	96.										
289	294	100	102	98										
294	299	94	100.	100										
299	304	98	101	100										
304	308	100	98	95.										
308	310	70	75	50.										
310	315	88	96	66.										
315	320	100	100	96.										
320	325	94	92	98										
325	330	98	94	100										
330	335	96	100	96										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-267-98 DATE: 8/18/98 LOGGED BY: RKS PAGE 7 OF 7

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)
335	340	96	94	96										
340	345	100	99	100										
345	350	98	101	100										

D-267-98	0	53.5	123.7
	175	53	121.7
	350	53.5	120.7

89 10
90
36,5
53,5

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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2320 Last Chance Rd.
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Mazatlan Office
Telephone/Fax
011-52-69-170035

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: Hecla Rosebud

Address: PO Box

City Winnemucca State NV Zip 89445

Telephone Number: (702) Fax Number: ( )

Project Name: Rosebud Purchase Order Number:

Date Submitted: 8/24/98 Number of Samples: 85

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

SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED			
D-267-98			Core	Au-Ag According to Rosebud Mine Protocol			
0-5	59.5-63	120-125					
5-10	63-66	125-128					
10-15	66-69	128-130.5					
15-20	69-72	130.5-136		178-182.5	214-219	265-269	310-315
20-25	72-75	136-138		182.5-185	219-224	269-270	315-320
25-30	75-80	138-140		185-188.5	224-229	270-275	320-323
30-31	80-85	140-145		188.5-189.5	229-234	275-280	323-326.5
31-35	85-90	145-150		189.5-195	234-239	280-284	326.5-330
35-40	90-95	150-155		195-200	239-244	284-289	330-335
40-45	95-100	155-160		200-204	244-249	289-294	335-340
45-50	100-105	160-165		204-206.5	249-254	294-299	340-343
50-51.5	105-110	165-170		206.5-209	254-260	299-304	343-346
51.5-56.5	110-115	170-175		209-211	260-263	304-308	346-350
56.5-59.5	115-120	175-178		211-214	263-265	308-310	

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

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 0050321-IN
INVOICE DATE: 09/18/98

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
0-267-98	ROSEBUD	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
86	SAMPLES RECEIVED	.00	.00
85	JAW CRUSHING CHARGE	1.30	110.50
85	COARSE MILLING CHARGE	4.50	382.50
85	SPLITTING CHARGE	2.40	204.00
85	RING MILLING CHARGE	2.00	170.00
86	Au (1 A.T. FIRE ASSAY)	8.00	688.00
10	Au ANALYSES/GRAVIMETRIC	8.75	87.50
86	HYDROCHLORIC/NITRIC DIGESTION	2.00	172.00
86	Ag ANALYSES	1.00	86.00

86-5110-477
EDA

NET INVOICE:	1,900.50
LESS DISCOUNT:	380.10
FREIGHT:	.00
INVOICE TOTAL:	1,520.40

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

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-267-98 RECEIVED : 25 AUG 1998

No. SAMPLES : 86 REPORTED : 17 SEP 1998

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(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 SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 00-05	<0.001			0.02
D-267-98 05-10	0.001			<0.02
D-267-98 10-15	<0.001			<0.02
D-267-98 15-20	<0.001			<0.02
D-267-98 20-25	<0.001			<0.02
D-267-98 25-30	0.001			0.02
D-267-98 30-31	0.006			0.08
D-267-98 31-35	0.004			0.08
D-267-98 35-40	0.001			0.04
D-267-98 40-45	0.002			0.04
D-267-98 45-50	0.013			0.05
D-267-98 50.0-51.5	0.024			0.05
D-267-98 51.5-56.5	0.076		0.051	0.07
D-267-98 56.5-58.5	0.074		0.091	0.05
D-267-98 58.5-63.0	0.028			0.05
D-267-98 63-66	0.027			0.07
D-267-98 66-69	0.032			0.07
D-267-98 69-72	0.004			0.06
D-267-98 72-75	0.005			0.08
D-267-98 75-80	0.028			0.15
D-267-98 80-85	0.010			0.09
D-267-98 85-90	0.013			0.09
D-267-98 90-95	0.007			0.06
D-267-98 95-100	0.014			0.04
D-267-98 100-105	0.006			0.06

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 105-110	0.002			0.05
D-267-98 110-115	0.005			0.05
D-267-98 115-120	<0.001			<0.02
D-267-98 120-125	0.296		0.283	0.08
D-267-98 125-128	0.434		0.285	0.20
D-267-98 128.0-130.5	0.840	0.766	0.980	0.62
D-267-98 130.5-136.0	0.045			0.05
D-267-98 136-138	0.015			0.05
D-267-98 138-140	<0.001			0.02
D-267-98 140-145	0.007			0.03
D-267-98 145-150	<0.001			0.02
D-267-98 150-155	<0.001			0.02
D-267-98 155-160	<0.001			<0.02
D-267-98 160-165	<0.001			<0.02
D-267-98 165-170	<0.001			<0.02
D-267-98 170-175	0.005			0.04
D-267-98 175-178	0.162	0.180	0.143	0.08
D-267-98 178.0-182.5	0.260		0.224	0.13
D-267-98 182.5-185.0	0.018			0.11
D-267-98 185.0-188.5	0.005			0.06
D-267-98 188.5-189.5	0.009			0.09
D-267-98 189.5-195.0	0.003			0.04
D-267-98 195-200	1.586		0.938	0.78
D-267-98 200-204	1.280		1.568	1.08
D-267-98 204.0-206.5	0.330		0.292	0.09

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 206.5-209.0	0.021			0.90
D-267-98 209-211	0.007			0.05
D-267-98 211-214	0.007			0.07
D-267-98 214-219	0.011			0.08
D-267-98 219-224	0.010			0.08
D-267-98 224-229	0.049			0.07
D-267-98 229-234	0.004			0.06
D-267-98 234-239	0.013			0.08
D-267-98 239-244	0.025			0.06
D-267-98 244-249	0.011			0.06
D-267-98 249-254	0.023			0.05
D-267-98 254-260	0.035			0.09
D-267-98 260-263	0.017			0.11
D-267-98 263-265	0.026			0.14
D-267-98 265-269	0.006			0.08
D-267-98 269-270	0.005			0.06
D-267-98 270-275	0.005			0.06
D-267-98 275-280	0.003			0.04
D-267-98 280-284	0.003			0.03
D-267-98 284-289	<0.001			<0.02
D-267-98 289-294	<0.001			0.02
D-267-98 294-299	<0.001			0.09
D-267-98 299-304	<0.001			0.23
D-267-98 304-308	0.002			0.03
D-267-98 308-310	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 310-315	0.001			0.04
D-267-98 315-320	0.002			0.02
D-267-98 320-323	0.006			0.07
D-267-98 323.0-326.5	0.005			0.07
D-267-98 326.5-330.0	0.012			0.06
D-267-98 330-335	0.007			0.08
D-267-98 335-340	0.016			0.06
D-267-98 340-343	0.026			0.12
D-267-98 343-346	0.004			0.07
D-267-98 346-350	0.011	0.009		0.08
40466	0.508			2.68

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ANALYSIS REPORT SP050321

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-267-98 RECEIVED : 25 AUG 1998

No. SAMPLES : 86 REPORTED : 17 SEP 1998

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(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 SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 00-05	<0.001			0.02
D-267-98 05-10	0.001			<0.02
D-267-98 10-15	<0.001			<0.02
D-267-98 15-20	<0.001			<0.02
D-267-98 20-25	<0.001			<0.02
D-267-98 25-30	0.001			0.02
D-267-98 30-31	0.006			0.08
D-267-98 31-35	0.004			0.08
D-267-98 35-40	0.001			0.04
D-267-98 40-45	0.002			0.04
D-267-98 45-50	0.013			0.05
D-267-98 50.0-51.5	0.024			0.05
D-267-98 51.5-56.5	0.076		0.051	0.07
D-267-98 56.5-58.5	0.074		0.091	0.05
D-267-98 58.5-63.0	0.028			0.05
D-267-98 63-66	0.027			0.07
D-267-98 66-69	0.032			0.07
D-267-98 69-72	0.004			0.06
D-267-98 72-75	0.005			0.08
D-267-98 75-80	0.028			0.15
D-267-98 80-85	0.010			0.09
D-267-98 85-90	0.013			0.09
D-267-98 90-95	0.007			0.06
D-267-98 95-100	0.014			0.04
D-267-98 100-105	0.006			0.06

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 105-110	0.002			0.05
D-267-98 110-115	0.005			0.05
D-267-98 115-120	<0.001			<0.02
D-267-98 120-125	0.296		0.283	0.08
D-267-98 125-128	0.434		0.285	0.20
D-267-98 128.0-130.5	0.840	0.766	0.980	0.62
D-267-98 130.5-136.0	0.045			0.05
D-267-98 136-138	0.015			0.05
D-267-98 138-140	<0.001			0.02
D-267-98 140-145	0.007			0.03
D-267-98 145-150	<0.001			0.02
D-267-98 150-155	<0.001			0.02
D-267-98 155-160	<0.001			<0.02
D-267-98 160-165	<0.001			<0.02
D-267-98 165-170	<0.001			<0.02
D-267-98 170-175	0.005			0.04
D-267-98 175-178	0.162	0.180	0.143	0.08
D-267-98 178.0-182.5	0.260		0.224	0.13
D-267-98 182.5-185.0	0.018			0.11
D-267-98 185.0-188.5	0.005			0.06
D-267-98 188.5-189.5	0.009			0.09
D-267-98 189.5-195.0	0.003			0.04
D-267-98 195-200	1.586		0.938	0.78
D-267-98 200-204	1.280		1.568	1.08
D-267-98 204.0-206.5	0.330		0.292	0.09

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 206.5-209.0	0.021			0.90
D-267-98 209-211	0.007			0.05
D-267-98 211-214	0.007			0.07
D-267-98 214-219	0.011			0.08
D-267-98 219-224	0.010			0.08
D-267-98 224-229	0.049			0.07
D-267-98 229-234	0.004			0.06
D-267-98 234-239	0.013			0.08
D-267-98 239-244	0.025			0.06
D-267-98 244-249	0.011			0.06
D-267-98 249-254	0.023			0.05
D-267-98 254-260	0.035			0.09
D-267-98 260-263	0.017			0.11
D-267-98 263-265	0.026			0.14
D-267-98 265-269	0.006			0.08
D-267-98 269-270	0.005			0.06
D-267-98 270-275	0.005			0.06
D-267-98 275-280	0.003			0.04
D-267-98 280-284	0.003			0.03
D-267-98 284-289	<0.001			<0.02
D-267-98 289-294	<0.001			0.02
D-267-98 294-299	<0.001			0.09
D-267-98 299-304	<0.001			0.23
D-267-98 304-308	0.002			0.03
D-267-98 308-310	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050321

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-267-98 310-315	0.001			0.04
D-267-98 315-320	0.002			0.02
D-267-98 320-323	0.006			0.07
D-267-98 323.0-326.5	0.005			0.07
D-267-98 326.5-330.0	0.012			0.06
D-267-98 330-335	0.007			0.08
D-267-98 335-340	0.016			0.06
D-267-98 340-343	0.026			0.12
D-267-98 343-346	0.004			0.07
D-267-98 346-350	0.011	0.009		0.08
40466	0.508			2.68

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050321

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-267-98 RECEIVED : 25 AUG 1998

No. SAMPLES : 86 REPORTED : 17 SEP 1998

MAIN SAMPLE TYPE : DRILL CORE

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

09/17/1998 15:11 7023561413 AMERICAN ASSAY LABS PAGE 01
7023561413

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050321

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-267-98 00-05	<0.001			0.02
D-267-98 05-10	0.001			<0.02
D-267-98 10-15	<0.001			<0.02
D-267-98 15-20	<0.001			<0.02
D-267-98 20-25	<0.001			<0.02
D-267-98 25-30	0.001			0.02
D-267-98 30-31	0.006			0.08
D-267-98 31-35	0.004			0.08
D-267-98 35-40	0.001			0.04
D-267-98 40-45	0.002			0.04
D-267-98 45-50	0.013			0.05
D-267-98 50.0-51.5	0.024			0.05
D-267-98 51.5-56.5	0.076		0.051	0.07
D-267-98 56.5-58.5	0.074		0.091	0.05
D-267-98 58.5-63.0	0.028			0.05
D-267-98 63-66	0.027			0.07
D-267-98 66-69	0.032			0.07
D-267-98 69-72	0.004			0.06
D-267-98 72-75	0.005			0.08
D-267-98 75-80	0.028			0.15
D-267-98 80-85	0.010			0.09
D-267-98 85-90	0.013			0.09
D-267-98 90-95	0.007			0.06
D-267-98 95-100	0.014			0.04
D-267-98 100-105	0.006			0.06

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050321

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-267-98 105-110	0.002			0.05	
D-267-98 110-115	0.005			0.05	
D-267-98 115-120	<0.001			<0.02	120-130.5' = 10.5' @
D-267-98 120-125 5	0.296		0.283	0.08	
D-267-98 125-128 3	0.434		0.285	0.20	0.465 Au 0.24 Ag
D-267-98 128.0-130.5 7.5	0.840	0.766	0.980	0.62	
D-267-98 130.5-136.0	0.045			0.05	
D-267-98 136-138	0.015			0.05	
D-267-98 138-140	<0.001			0.02	
D-267-98 140-145	0.007			0.03	
D-267-98 145-150	<0.001			0.02	
D-267-98 150-155	<0.001			0.02	
D-267-98 155-160	<0.001			<0.02	
D-267-98 160-165	<0.001			<0.02	
D-267-98 165-170	<0.001			<0.02	175-182.5 = 7.5' @
D-267-98 170-175	0.005			0.04	
D-267-98 175-178 3	0.162	0.180	0.143	0.08	0.221 Au 0.11 Ag
D-267-98 178.0-182.5 4.5	0.260		0.224	0.13	
D-267-98 182.5-185.0	0.018			0.11	
D-267-98 185.0-188.5	0.005			0.06	
D-267-98 188.5-189.5	0.009			0.09	195-206.5 = 11.5' @
D-267-98 189.5-195.0	0.003			0.04	
D-267-98 195-200 5	1.586		0.938	0.78	1.207 Au 0.73 Ag
D-267-98 200-204 4	1.280		1.568	1.08	
D-267-98 204.0-206.5 2.5	0.330		0.292	0.09	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050321

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-267-98 206.5-209.0	0.021			0.90
D-267-98 209-211	0.007			0.05
D-267-98 211-214	0.007			0.07
D-267-98 214-219	0.011			0.08
D-267-98 219-224	0.010			0.08
D-267-98 224-229	0.049			0.07
D-267-98 229-234	0.004			0.06
D-267-98 234-239	0.013			0.08
D-267-98 239-244	0.025			0.06
D-267-98 244-249	0.011			0.06
D-267-98 249-254	0.023			0.05
D-267-98 254-260	0.035			0.09
D-267-98 260-263	0.017			0.11
D-267-98 263-265	0.026			0.14
D-267-98 265-269	0.006			0.08
D-267-98 269-270	0.005			0.06
D-267-98 270-275	0.005			0.06
D-267-98 275-280	0.003			0.04
D-267-98 280-284	0.003			0.03
D-267-98 284-289	<0.001			<0.02
D-267-98 289-294	<0.001			0.02
D-267-98 294-299	<0.001			0.09
D-267-98 299-304	<0.001			0.23
D-267-98 304-308	0.002			0.03
D-267-98 308-310	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050321

CLIENT : HECLA MINING COMPANY
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REFERENCE : D-267-98

REPORTED : 17 SEP 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-267-98 310-315	0.001			0.04
D-267-98 315-320	0.002			0.02
D-267-98 320-323	0.006			0.07
D-267-98 323.0-326.5	0.005			0.07
D-267-98 326.5-330.0	0.012			0.06
D-267-98 330-335	0.007			0.08
D-267-98 335-340	0.016			0.06
D-267-98 340-343	0.026			0.12
D-267-98 343-346	0.004			0.07
D-267-98 346-350	0.011	0.009		0.08
40466	0.508			2.68

D-267-98 BOX 2
DEPTH 10.0 -19.5

D-267-98 BOX 01
DEPTH 0.0 -10.0

D-267-98 BOX 3
DEPTH 19.0 -29.5

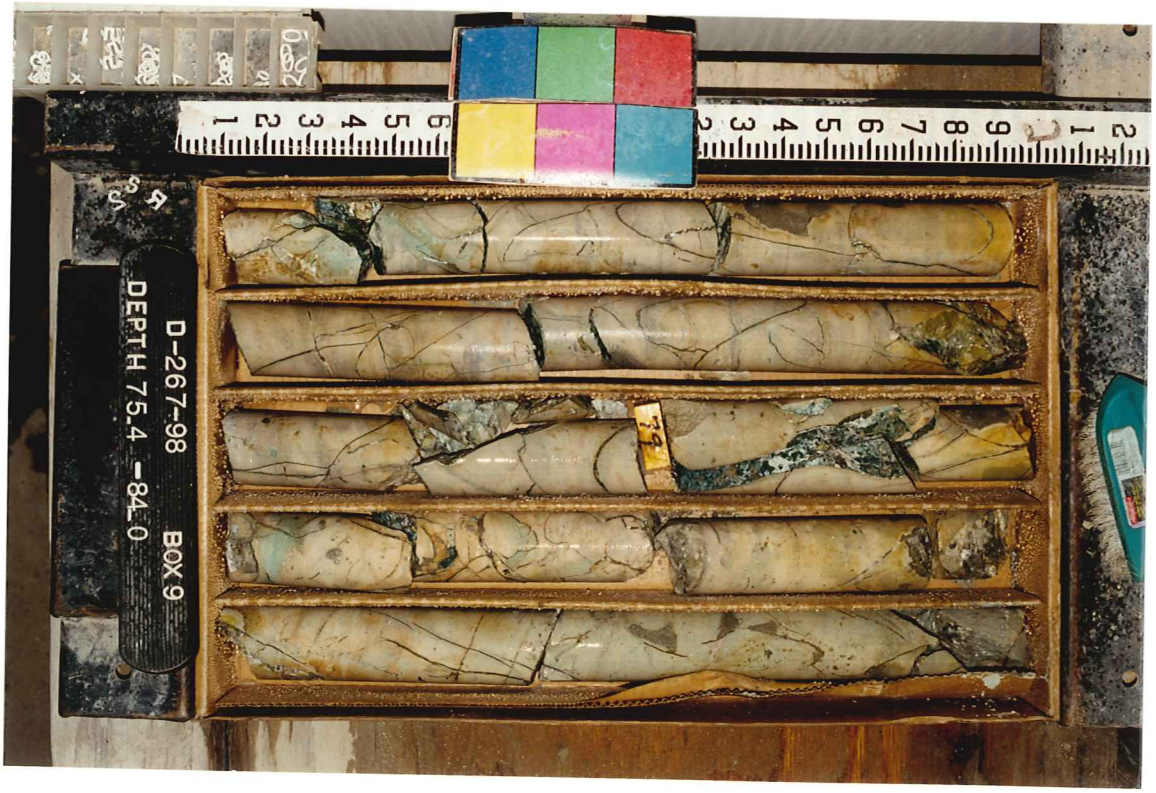
40
D-267-98 BOX 5
DEPTH 39.0 -48.5

30
D-267-98 BOX 4
DEPTH 29.5 -39.0

50
D-267-98 BOX 6
DEPTH 48.5 -57.5

D-267-98 BOX 8
DEPTH 66.0 -75.4
70
75

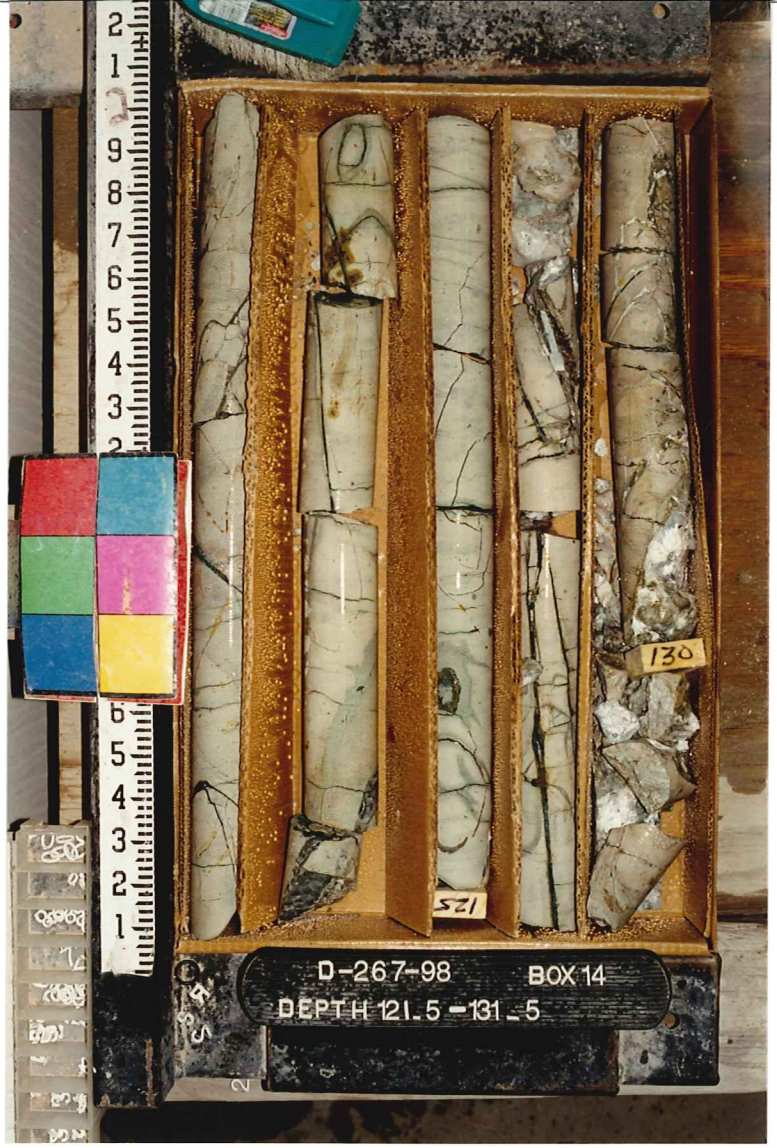
D-267-98 BOX 7
DEPTH 57.5 -66.0
65


D-267-98 BOX 9
DEPTH 75.4 -84.0

95
100
D-267-98 BOX11
DEPTH 94.0 -103.5

85
90
84
D-267-98 BOX10
DEPTH 84.0 -94.0

110
D-267-98 BOX12
DEPTH 103.5 -112.5

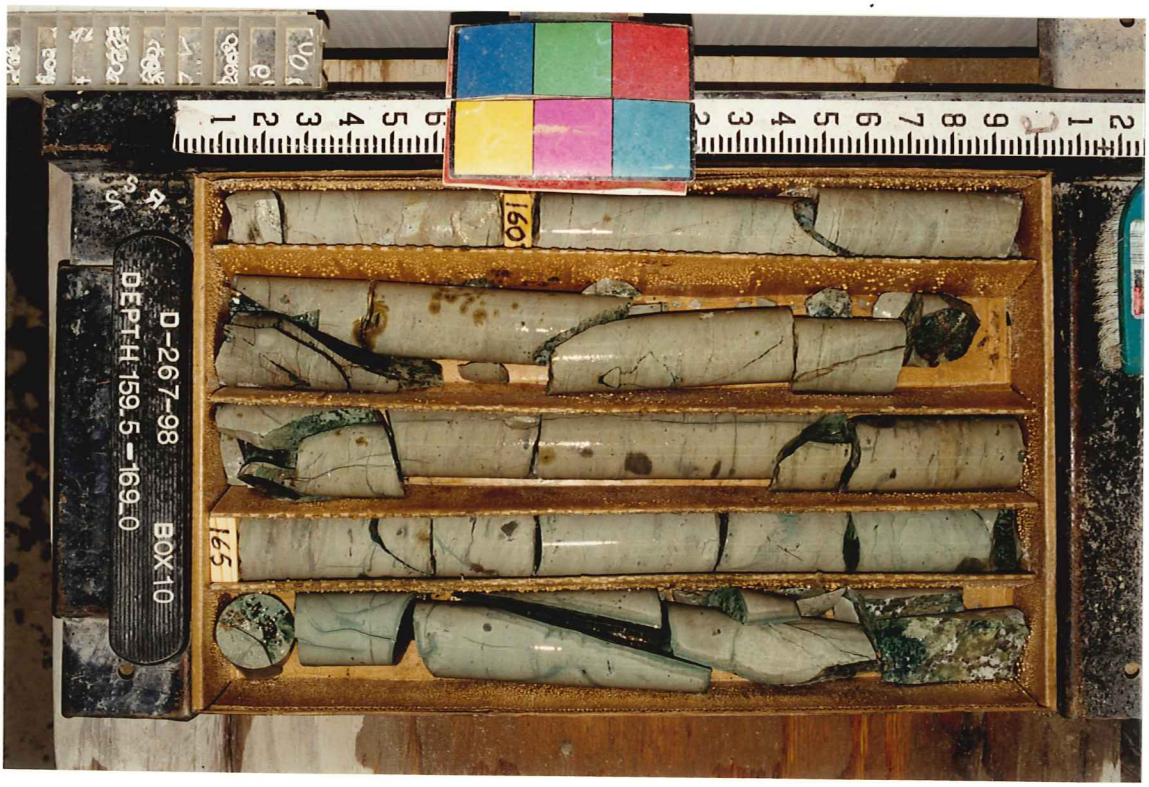

D-267-98 BOX 14
DEPTH 121.5 - 131.5
125
130

D-267-98 BOX 13
DEPTH 112.5 - 121.5
115
120

D-267-98 BOX 15
DEPTH 131.5 - 140.5
135
140

D-267-98
BOX 17
DEPTH 150.0 - 159.5
150

D-267-98
BOX 16
DEPTH 140.5 - 150.0
145


D-267-98
BOX 10
DEPTH 159.5 - 169.0
160
165

D-267-98 BOX20
DEPTH 178.5 -187.5
183
185

D-267-98 BOX19
DEPTH 169.0 -178.5
170
175
178

D-267-98 BOX21
DEPTH 187.5 -197.5
190
195

214
209
D-267-98
BOX23
DEPTH 207.0 -216.0

200
204
D-267-98
BOX22
DEPTH 197.5 -207.0

219
224
D-267-98
BOX24
DEPTH 216.0 -225.5

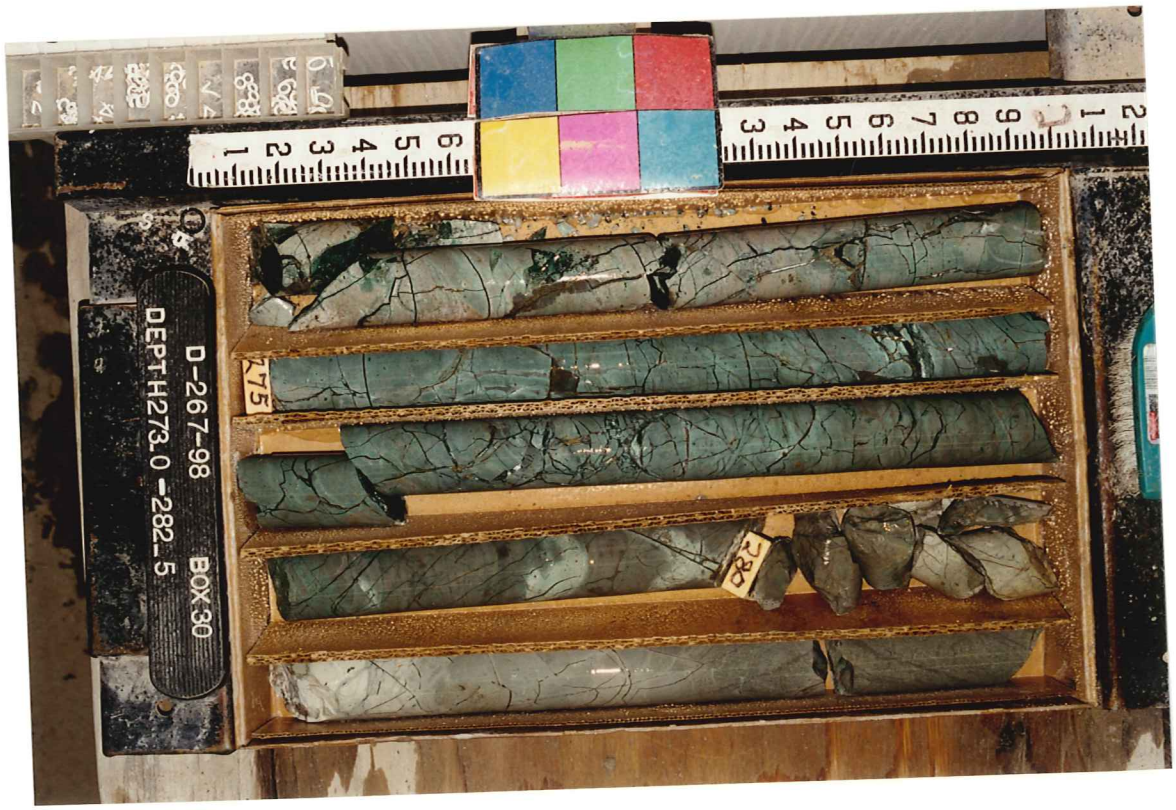
244
D-267-98 BOX26
DEPTH 235.0 -244_0

234
D-267-98 BOX25
DEPTH 225.5 -235_0

D-267-98 BOX27
DEPTH 244.0 -253_5
247

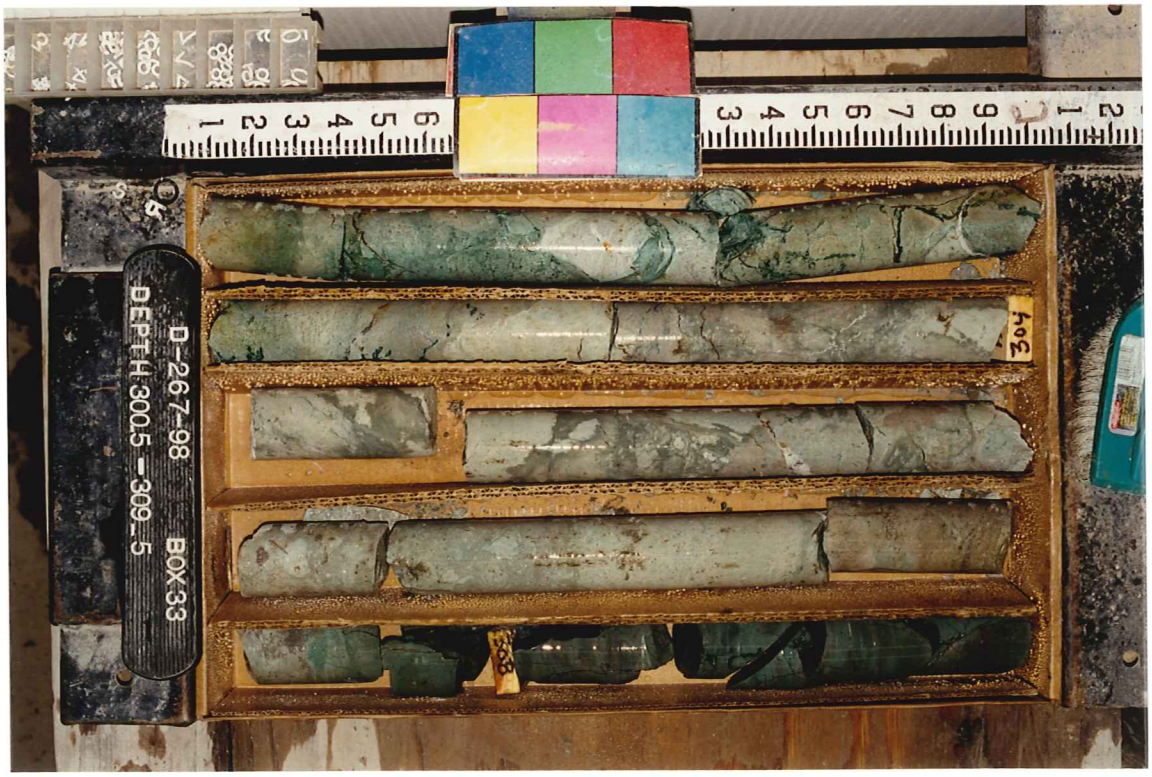
265
270
D-267-98 BOX29
DEPTH263.0 -273.0

263
258
D-267-98 BOX28
DEPTH253.5 -263.0


275
280
D-267-98 BOX30
DEPTH273.0 -282.5

294
297
D-267-98
BOX 32
DEPTH 292.0 -300.5

289
284
D-267-98
BOX 31
DEPTH 282.5 -292.0


304
D-267-98
BOX 33
DEPTH 300.5 -309.5

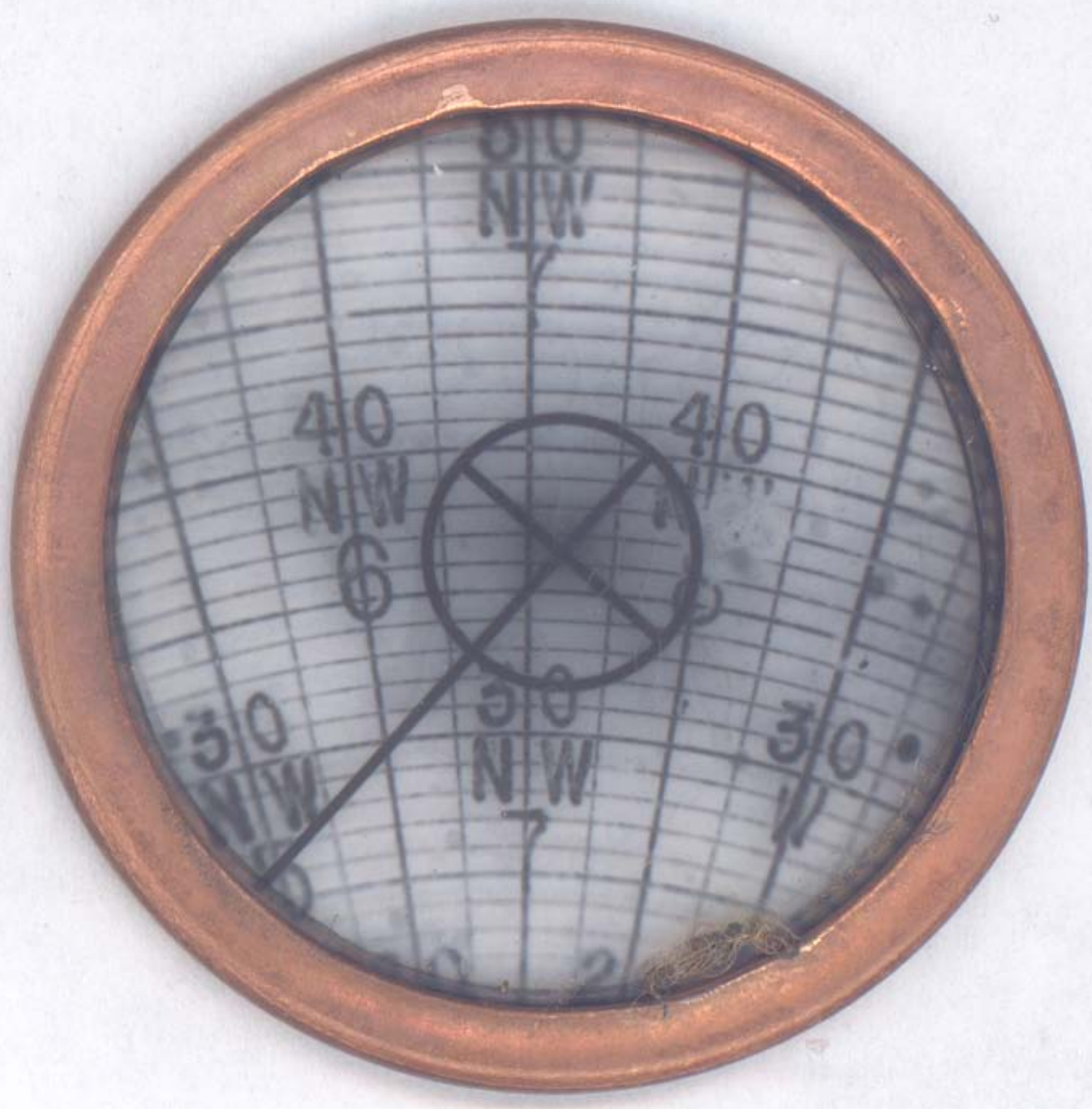
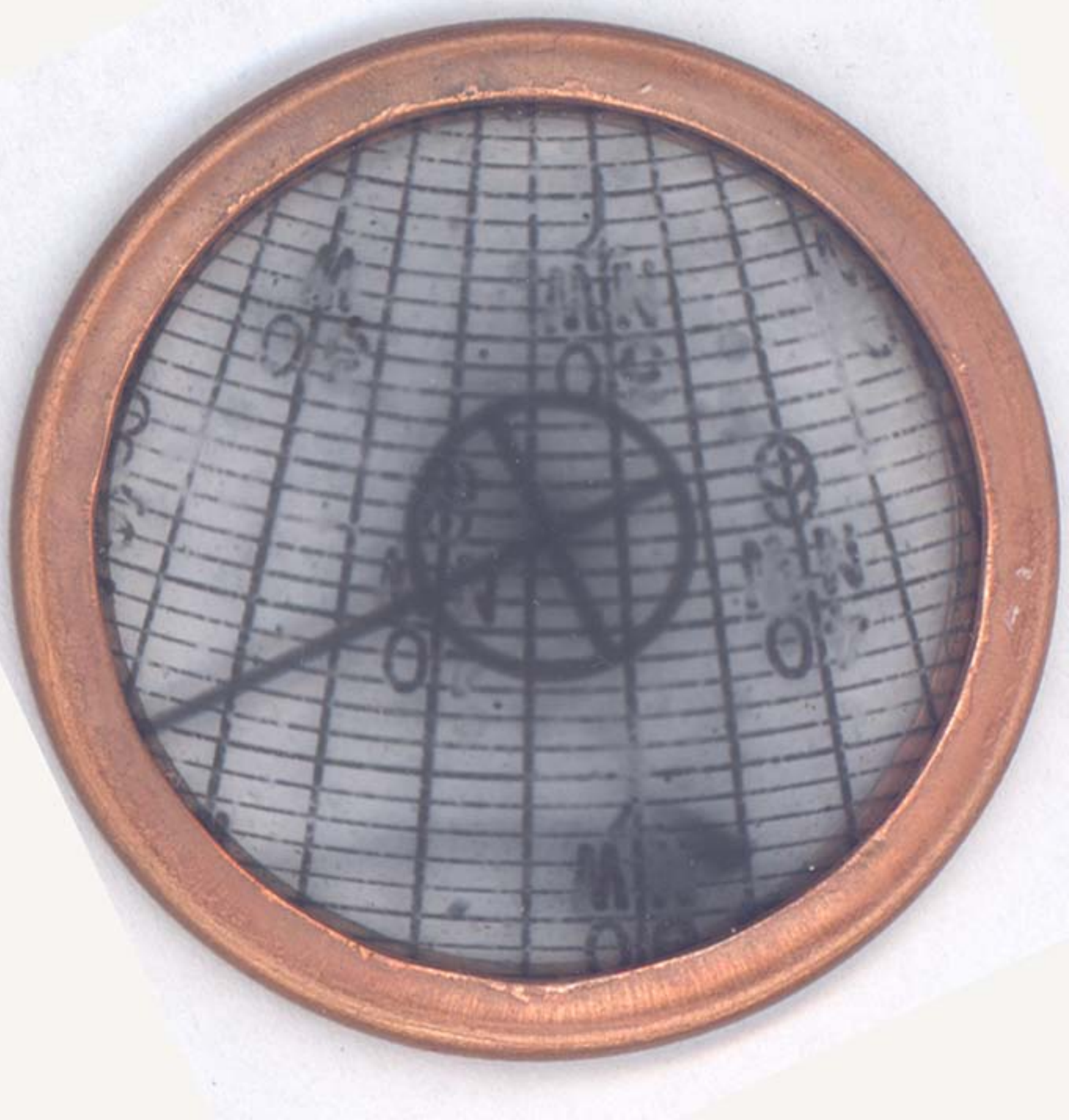
D-267-98
BOX 35
DEPTH 319.0 - 329.0
320
325

D-267-98
BOX 34
DEPTH 309.5 - 319.0
310

D-267-98
BOX 36
DEPTH 329.0 - 338.5
330
335

350
D-267-98 BOX 38
DEPTH 348. -350.0 TD

345
D-267-98 BOX 37
DEPTH 338.5 -348.0


40
NW
40
NW
30
NW
30
NW