60001189

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-288-98
AUTHOR	S. King; K. Allen; R Stoeberl
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 280' receipt; handwritten notes; downhole camera images 37p. 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: DP 5/14/08
Initials Date
DB: mdh
Initials Date
SCANNED: NB
Initials Date

Revised: 1/22/08

D-288-98

6000 1189 4010

G000 1189

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

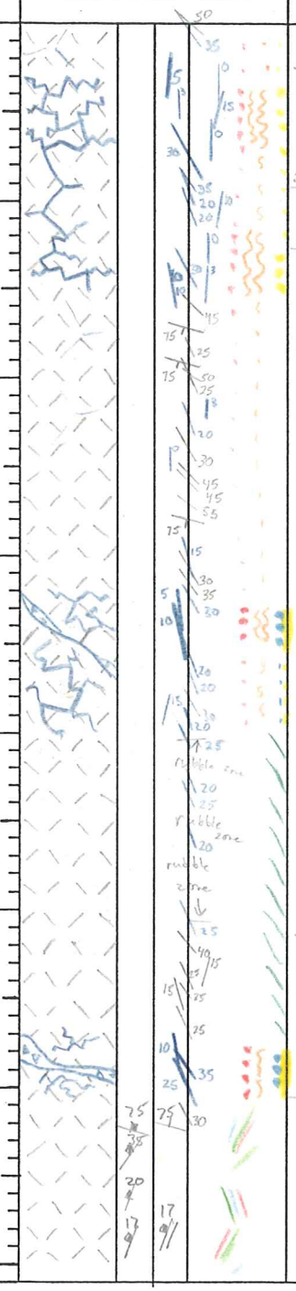
Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-288-98	LOCATION	North 1450 STOPE 50	REMARKS	
PAGE 1 OF 5		NORTHING			
DATE	9/22/98 – 10/1/98	EASTING			
LOGGED BY	ALLYN WILES / Randall K. Stoebert	ELEVATION			
SCALE	1" = 10'	AZIMUTH	S55E		
TOTAL DEPTH	280'	INCLINATION	70		

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2	Ag
		0 – 12 TOS / Green, Lt Green, Olive, Lt Gray and wht Dolomite tuff Note: Below contact w/ laminar unit; Brecciated down 2.5 ft. Nothing going on above the contact in the TOS.	0		@ 11.5' Grey Qtz Vein at 50°	@ 11.5' Small, ~3mm wide, vein	0	5					
		12 – 32' Slight Planar Laminar? / Light Gray, Off to Cream and Lt Green, IG to Med Green. Slight Planar Laminar * Note: So Brecciated it hard to tell Porphyritic: From 12 – 17' could be IG massive: after 17' definately Slight Planar Laminated so, the contact is @ 80°	10		12 – 14.5' Brecciated 14.5' – 25' Fract a) 15 – 20 Strg b) 20 – 25 mod – Strg	12 – 15' a) 12' – 14.5 Brecciated & re cemented w/ silica & calc. Strg Py not much Mc, minor Pale Green clay and trace wht clay 15 – 25' Fract cemented w/ drusy Qtz, Qtz, Green clay & sulfides. Sulfides are Py (dom) & Mc (trace). minor calcite cement, minor to mod overall calc cement	5	10					
			20		25 – 30' wk Fract overall	25 – 30' wk Fract (Sft 18-20)	10	12					
							12	15					
							15	20					
							20	25					
		32 – 48.5' Pink Matrix Brx / Pink to Red-Brown Lt matrix, Non Brecciated * Note Pina Samples @ 1) 17' 2) 37.5'	30		30 – 40 Mod to Lot Strg Frac Strong @ a) 34 – 36 b) 38 – 40	30 – 40' mod to Lot Strg Fract Fract Suff & Silica, Clay & +90% Pale Green w/ < 10% wht clay. Trace drusy Qtz Trace open space. minor to mod calc							
							25	30					
							30	35					
			40		40 – 45 mod Fract overall	40 – 45' Decreasing Intensity of Fract description Same as 30-40'.	35	40					
					45 – 53 very wk to wk Fract	45 – 53'	40	45					
		48.5 – 133.0 Slight Planar Laminar / Slight Planar Laminar or Stone	50				45	50					

HOLE NUMBER D-288-98 PAGE 2 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
		/48.5' - 133.0 Slight Planar Laminae/ SAA * Note: Pima Samples @ 1) 57' 2) 79.5' 108.5 –	50, 60, 70, 80, 90, 100, 110, 120		53'-57' Strg Fract 57-62 mod Fract 62-65 mod, Lel strg Fract a) Strg @ 63-64.5' 65-70 wk to trace Fract 70-82 very wk to slim Fract 82-85' - Small vein Breccia 82'-83.5' and 5°-10° The entire vein may be up to 5cm thick? but runs down the core. Fract is strong in this interval 85-90 mod to wk Fract 90-100 Rubble Zone: Intense Fract w/ no mineralization associated w/ it. 100-107' very wk to trace Fract 107-110.1' Another Vein Brx running near Parallel to core. ∠ is 10°-35° Vein may be over 5cm wide? It pinches and swells	53-57' Strg Fract cemented w/ Strg Pale Green clay, and calcite trace silica. Trace creamy clay sulfides mod Py + trace mc 57-65' SAA except mc. on the increase but still very wk 80-82 Trace Clay filled cracks 82-85' Drusy Qtz, Pale Green clay and calcite veins and vein Breccia. Mc has been replaced by Py. Py domin. by 85/15 % 85-90 mod to wk Fract w/ chlorite, Pale Green clay trace calcite ± Qtz 90-107' chlorite filled cracks, ± trace calcite very little sulfides in cracks. 107-110.1' - vein + vein Brx Silica flooded clasts in Brx vein filled w/ Drusy Qtz, Grey Qtz, wht Qtz, calcite, chlorite & Green clay (as breccia clasts) and sulf. Sulf = Py 90%, mc 10-15%, Blk silver? sulf 5-10%.	50	53				
							53	57				
							57	62				
							62	65				
							65	70				
							70	75				
							75	80				
							80	82				
							82	85				
							85	90				
							90	95				
							95	100				
							100	105				
							105	107				
							107	108.5				
							108.5	110				
							110	115				
							115	120				

HOLE NUMBER D-288-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
48.0 – 133.0 PLANAR LAMINAR		?? – 133.0 VERY LT. GREEN → GREEN → PINK, FINE GRAIN VESICULAR TO BANDED FLOW(S) W/ NO DEFINED BOUNDRIES. VESICLES/BANDS FORM PLANAR FEATURES & FRACTURE ALONG THIS PLANES FORM LAMINAR PARTINGS.	120 130		108.5 – 124.0 FRACTURES & VEINS NEAR 90° TO BED PLANES. 131.0 – 135.0 MOD. VEINING FRACTURE FILLING 133.0 VERY GRADATIONAL CONTACT	107.0 – 135.8 WEAK CALCITE VEINING 131.0 – 135.0 VEINS/FRACTS. FILLED W/ PYRITE, GREEN CLAY, CALCITE, SOME QUARTZ
133.0 – 150.0 F.G. MASSIVE		133.0 – 150.0 LT. GREEN TO PURPLE, VERY FINE GRAIN FLOW W/ VERY RARE PLANAR FEATURES. DESICCATION/SHRINKAGE FRACTURES VERY COMMON, SIMILAR TO VITROPHYRE BUT NOT SINUOUS.	140		143.0 – 186.0 VEINS, FRACTURE FILLINGS, NATURAL FRACTURES VERY RARE, HIGH RQD.	135.0 – 156.5 MOD CALCITE VEINING 133 – 145 SHORTENED INTERVALS DUE TO DRILLER BREAKS
150.0 – 180.0 VITROPHYRE		150.0 – 180.0 LT. GREEN, EXTREEMLY FINE GRAIN, W/ CRACKED GLASS DEVIT. FRACTURE PATTERN,	150 160 170			156.5 – 208.5 WEAK → MOD. CALCITE VEINING
180.0 – 229.6 F.G. MASSIVE		180.0 – 229.6 GREEN, VERY FINE GRAIN FLOW(S) OR VITRIC TUFFS. DEVIT/DESICATION FRACTURES SIMILAR TO VITROPHYRE 180 – 190 & 199 – 209 WHICH MAY BE CHILLED MARGINS OF FLOW(S)	180 190		186.0 – 198.0 MOD THIN VEINS/FRACT. FILLINGS	186.0 – 198.0 VEINS/FRACTS FILLED W/ PYRITE & CALCITE.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
120.0	125.0				
125.0	128.0				
128.0	133.0				
133.0	138.0				
138.0	142.0				
142.0	145.0				
145.0	150.0				
150.0	155.0				
155.0	160.0				
160.0	165.0				
165.0	170.0				
170.0	175.0				
175.0	180.0				
180.0	185.0				
185.0	190.0				

HOLE NUMBER D-288-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
180.0 – 229.6 F.G. MASSIVE		180.0 – 229.6 SEE DESCRIPTION PAGE 3.	190				190.0	195.5				
			200		198.0 – 223.0 VEINS, FRACTURE FILLINGS, NATURAL FRACTURES ARE RARE	197.0 – 211.5 WEAK INTERSTITIAL CALCITE 198.0 – 223.0 VEINS & FRACTS FILLED W/ PYRITE, QUARTZ, DK. GRN CLAY.	195.5	200.0				
							200.0	205.0				
			210				205.0	210.0				
							210.0	215.0				
			220				215.0	220.0				
224.5 – 229.6 FAULT ZONE		224.5 – 229.6 F.G. MASSIVE & VITROPHYRE-LIKE FRAGS CHANGING TO PLANAR FRAGS ~226.5. 222.5 – 225.0 EXTREEMLY FINE GRAIN, VITROPHYRE-LIKE CHILLED CONTACT/BASE? W/ CRACKED GLASS FRACTURE PATTERN.			224.5 – 229.6 HEALED FAULT BXA W/ ANGULAR → SUBROUND F.G. MASSIVE FRAGS GRADING INTO PLANAR FRAGS ~226.5. MOSTLY CLAST SUPPORT, SOME ROCK FLOUR MATRIX. 229.0 – 237.0 MOD. VEINING.	223.0 – 224.5 MOD CALCITE VEINING W/ PYRITE, SOME QUARTZ. 224.5 – 229.6 DISSEM. PYRITE & VEIN-LIKE AGGREGATES, IRREGULAR SULFIDE SELVAGES, MOD CALCITE VEINING, MINOR MARC.	220.0	225.0				
229.6 – 255.0 PLANAR LAMINAR		229.6 – 255.0 ALTERNATING PINK & GREEN LAYERS W/ VESICLE TRAINS & BANDS ALIGNED ALONG BED PLANES. OCCASIONAL LAMINAR FRACTURES W/ SAME ORIENTATION.	230			229.0 – 232.0 MOD. CALCITE VEINING W/ PYRITE, HARD LT. GRN. CLAY, WHITE CLAY, MINOR MARC.	225.0	230.0				
							230.0	235.0				
					237.0 – 247.5 STRONG VEINING & OPEN FRACTURES NEAR PARALLEL TO CORE AXIS. HEALED BXA 237.0 – 237.5	237.0 – 247.5 OPEN FRACTURES LINED W/ DRUZY QUARTZ, BLADED MARC., WHITE CLAY, LOCALIZED BARITE. VEINS ARE QUARTZ, BLADED MARC., MINOR CALCITE. SOME LATE STAGE VEINS W/ HARD LT. GRN → WHITE CLAY, CALCITE	235.0	237.0				
			240 PIMA →				237.0	240.0				
							240.0	242.6				
							242.6	245.0				
							245.0	247.5				
			250		247.5 – 260.0 MOD. VEINING, SOME VUGS	247.5 – 260.0 VEINS MOSTLY THIN, FILLED W/ HARD GREEN CLAY, PYRITE, WHITE CLAY, VARIABLE QUARTZ, MINOR MARC.	247.5	250.0				
							250.0	252.6				
255.0 – 265.0 SPOTTED TUFF		255.0 – 265.0 LT. GREEN VOLCANIC CLAY W/ OVAL TO IRREGULAR SHAPED PINK VESICLES OFTEN FILLED W/ LT. → DK. GREEN CLAY OR PINKISH QUARTZ. VARIABLE DISSEM PYRITE IN BOTH MATRIX & VESICLES.			255.0 GRADATIONAL CONTACT		252.6	255.0				
							255.0	257.5				
			260				257.5	260.0				

HOLE NUMBER D-288-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
255.0 - 265.0 SPOTTED TUFF		255.0 - 265.0 SEE DESCRIPTION PAGE 4	260		260.0 - 271.8 MOD. → STRONG VEINING & OPEN FRACTURES, AT LOW ∡ TO CORE AXIS 265.0 GRADATIONAL CONTACT 271.6 - 272.6 CRACKLE ZONE 272.6 - 277.0 HEALED PRE-MIN. BXA. ROUND PLANAR FRAGS IN A PINK F.G. ROCK FLOUR CEMENT.	260.0 - 271.8 FRACTURES LINED W/ DRUZY QUARTZ, BLADED MARC., WHITE CLAY, VEINS FILLED W/ HARD GRN. CLAY, PYRITE, MINOR WHITE CLAY 272.6 - 277.0 SULFIDIC SELVAGES (PYRITE) ASSOC. W/ PYRITE VEINS.
265.0 - 280.0 PLANAR LAMINAR		265.0 - 280.0 ALTERNATING GREEN TO PINK LAYERS OF FINE GRAIN FLOW OR TUFF W/ VESICLE TRAINS GRADING INTO FLOW BANDS ~ 271. RARE LAMINAR FRACTURES ALONG BED PLANES.	270			
		T.D. 280.0'	280 TD			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
260.0	262.5				
262.5	265.0				
265.0	267.7				
267.7	270.0				
270.0	272.6				
272.6	275.0				
275.0	280.0				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: 9/22/98 LOGGED BY: Ronald K. Stoeberl PAGE 1 OF 6

DRILL RUN		SOLID CORE	TOTAL CORE	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO	RECOVERY (%)	RECOVERY (%)		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	98	98	68										
5	10	98	100	90										
10	15	100	95	100										
15	20	100	103	100										
20	25	100	98	100										
25	30	100	104	100										
30	35	100	102	100										
35	40	100	97	100										
40	45	100	102	100										
45	50	100	100	100										
50	55	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: 9/22/98 LOGGED BY: RKS PAGE 3 OF 6

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)
55	60	100	105	96										
60	65	100	98	100										
65	70	98	108	100										
70	75	100	102	100										
75	80	100	97	84										
80	85	100	98	90										
85	90	100	101	68										
90	95	96	97	64										
95	100	92	94	15										
100	105	98	100	49										
105	110	100.0	100.0	100.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: 9/30/98 LOGGED BY: ALLAN NILES. PAGE 3 OF 6

DRILL RUN		SOLID CORE	TOTAL CORE	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO	RECOVERY (%)	RECOVERY (%)		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)
110	115	98.0	100.0	50.0										
115	120	94.0	100.0	60.0										
120	125	88.0	100.0	32.0										
125	128	90.0	100.0	44.0										
128	133	80.0	92.0	52.0										
133	138	100.0	100.0	82.0										
138	142	95.0	95.0	46.0										
142	145	90.0	90.0	50.0										
145	150	100.0	100.0	94.0										
150	155	96.0	100.0	100.0										
155	160	100.0	100.0	94.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: _____ LOGGED BY: _____ PAGE 4 OF 6

DRILL RUN		SOLID CORE	TOTAL CORE	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO	RECOVERY (%)	RECOVERY (%)		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)
160	165	100.0	100.0	100.0										
165	170	100.0	100.0	100.0										
170	175	100.0	100.0	100.0										
175	180	100.0	100.0	100.0										
180	185	100.0	100.0	100.0										
185	190	100.0	100.0	92.0										
190	195	100.0	100.0	100.0										
195	200	100.0	100.0	100.0										
200	205	100.0	100.0	100.0										
205	210	100.0	100.0	100.0										
210	215	96.0	96.0	100.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: LOGGED BY: PAGE 5 OF 6

DRILL RUN		SOLID CORE	TOTAL CORE	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO	RECOVERY (%)	RECOVERY (%)		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)
215	220.0	100.0	100.0	100.0										
220.0	225.0	100.0	100.0	100.0										
225.0	230.0	100.0	100.0	100.0										
230.0	235.0	100.0	100.0	100.0										
235.0	240.0	104.0	104.0	88.0										
240.0	245.0	96.0	96.0	90.0										
245.0	250.0	100.0	100.0	90.0										
250.0	255.0	102.0	102.0	86.0										
255.0	260.0	94.0	96.0	70.0										
260.0	265.0	100.0	100.0	92.0										
265.0	270.0	94.0	100.0	90.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-288-98 DATE: 9/30/98 LOGGED BY: ALLYN NILES. PAGE 6 OF 6

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)
270.0	275.0	100.0	100.0	92.0										
275.0	280.0	100.0	100.0	100.0										

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051001

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-288-98 RECEIVED : 9 OCT 1998

No. SAMPLES : 71 REPORTED : 20 OCT 1998

MAIN SAMPLE TYPE : DRILL CORE

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

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

SIGNATORY : Susan King M.S.

10/20/1998 14:15 7023561413 AMERICAN ASSAY LABS PAGE 01
7023561413

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051001

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-288-98 00-05	0.001			0.02
D-288-98 05-10	<0.001			0.02
D-288-98 10-12	<0.001			<0.02
D-288-98 12-15	0.002			0.07
D-288-98 15-20	0.003	0.002		0.04
D-288-98 20-25	0.001			0.04
D-288-98 25-30	<0.001			0.03
D-288-98 30-35	0.004			0.06
D-288-98 35-40	0.003			0.06
D-288-98 40-45	0.005			0.04
D-288-98 45-50	0.001			0.03
D-288-98 50-53	<0.001			0.03
D-288-98 53-57	0.005			0.05
D-288-98 57-62	0.005			0.06
D-288-98 62-65	0.003			0.10
D-288-98 65-70	0.001			0.03
D-288-98 70-75	0.003			0.05
D-288-98 75-80	0.003			0.03
D-288-98 80-82	0.001			0.03
D-288-98 82-85	0.005	0.006		0.06
D-288-98 85-90	0.012			0.06
D-288-98 90-95	0.002			0.06
D-288-98 95-100	<0.001			0.02
D-288-98 100-105	<0.001			0.03
D-288-98 105-107	<0.001			0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051001

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-288-98 107.0-108.5	0.105		0.089	0.17
D-288-98 108.5-110.0	0.001			0.04
D-288-98 110-115	0.001	0.002		0.02
D-288-98 115-120	<0.001			0.03
D-288-98 120-125	0.003			0.03
D-288-98 125-128	<0.001			<0.02
D-288-98 128-133	<0.001			<0.02
D-288-98 133-138	<0.001			0.05
D-288-98 138-142	<0.001			<0.02
D-288-98 142-145	<0.001	<0.001		<0.02
D-288-98 145-150	<0.001			<0.02
D-288-98 150-155	<0.001			<0.02
D-288-98 155-160	<0.001			<0.02
D-288-98 160-165	<0.001			<0.02
D-288-98 165-170	<0.001			<0.02
D-288-98 170-175	<0.001			<0.02
D-288-98 175-180	<0.001			<0.02
D-288-98 180-185	<0.001			<0.02
D-288-98 185-190	0.001			<0.02
D-288-98 190.0-195.5	0.004	0.004		<0.02
D-288-98 195.5-200.0	0.003			<0.02
D-288-98 200-205	<0.001			<0.02
D-288-98 205-210	0.001			<0.02
D-288-98 210-215	<0.001			<0.02
D-288-98 215-220	0.044			0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051001

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ) 230-247.5
D-288-98 220-225	0.028			0.04 =17.5'@
D-288-98 225-230	0.084		0.070	0.10
D-288-98 230-235 5	0.209		0.166	0.48
D-288-98 235-237 2	<0.001			0.03 1.372 Au
D-288-98 237-240 3	5.884		5.605	4.92 1.29 Ag
D-288-98 240.0-242.6 2.6	1.408		1.452	0.90
D-288-98 242.6-245.0 2.4	0.389		0.368	0.78
D-288-98 245.0-247.5 2.5	0.289		0.202	0.48
D-288-98 247.5-250.0	0.007			0.10
D-288-98 250.0-252.6	0.085		0.081	0.11
D-288-98 252.6-255.0	0.007			0.07
D-288-98 255.0-257.5	0.030			0.06
D-288-98 257.5-260.0	0.012			0.05
D-288-98 260.0-262.5	0.038			0.17
D-288-98 262.5-265.0	0.014			0.09
D-288-98 265.0-267.7	0.627		0.578	0.84
D-288-98 267.7-270.0	0.040			0.14
D-288-98 270.0-272.6	0.009			0.11
D-288-98 272.6-275.0	0.006			0.04
D-288-98 275-280	0.020			0.04
43529	0.538			3.04

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 0051001-IN
INVOICE DATE: 10/21/98

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-288-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
43	SAMPLES RECEIVED	.00	.00
70	DRYING	1.00	70.00
70	JAW CRUSHING CHARGE	1.30	91.00
70	COARSE MILLING CHARGE	4.50	315.00
70	SPLITTING CHARGE	2.40	168.00
70	RING MILLING CHARGE	2.00	140.00
71	Au (1 A.T. FIRE ASSAY)	8.00	568.00
9	Au ANALYSES/GRAVIMETRIC	8.75	78.75
71	HYDROCHLORIC/NITRIC DIGESTION	2.00	142.00
71	Ag ANALYSES	1.00	71.00
1	Ag (ore grade) ANALYSES	5.00	5.00

86-5110-477
KDH

NET INVOICE:	1,648.75
LESS DISCOUNT:	329.75
FREIGHT:	.00
INVOICE TOTAL:	1,319.00

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051001

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-288-98 RECEIVED : 9 OCT 1998

No. SAMPLES : 71 REPORTED : 20 OCT 1998

MAIN SAMPLE TYPE : DRILL CORE

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

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

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051001

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-288-98 00-05	0.001			0.02
D-288-98 05-10	<0.001			0.02
D-288-98 10-12	<0.001			<0.02
D-288-98 12-15	0.002			0.07
D-288-98 15-20	0.003	0.002		0.04
D-288-98 20-25	0.001			0.04
D-288-98 25-30	<0.001			0.03
D-288-98 30-35	0.004			0.06
D-288-98 35-40	0.003			0.06
D-288-98 40-45	0.005			0.04
D-288-98 45-50	0.001			0.03
D-288-98 50-53	<0.001			0.03
D-288-98 53-57	0.005			0.05
D-288-98 57-62	0.005			0.06
D-288-98 62-65	0.003			0.10
D-288-98 65-70	0.001			0.03
D-288-98 70-75	0.003			0.05
D-288-98 75-80	0.003			0.03
D-288-98 80-82	0.001			0.03
D-288-98 82-85	0.005	0.006		0.06
D-288-98 85-90	0.012			0.06
D-288-98 90-95	0.002			0.06
D-288-98 95-100	<0.001			0.02
D-288-98 100-105	<0.001			0.03
D-288-98 105-107	<0.001			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051001

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-288-98 107.0-108.5	0.105		0.089	0.17
D-288-98 108.5-110.0	0.001			0.04
D-288-98 110-115	0.001	0.002		0.02
D-288-98 115-120	<0.001			0.03
D-288-98 120-125	0.003			0.03
D-288-98 125-128	<0.001			<0.02
D-288-98 128-133	<0.001			<0.02
D-288-98 133-138	<0.001			0.05
D-288-98 138-142	<0.001			<0.02
D-288-98 142-145	<0.001	<0.001		<0.02
D-288-98 145-150	<0.001			<0.02
D-288-98 150-155	<0.001			<0.02
D-288-98 155-160	<0.001			<0.02
D-288-98 160-165	<0.001			<0.02
D-288-98 165-170	<0.001			<0.02
D-288-98 170-175	<0.001			<0.02
D-288-98 175-180	<0.001			<0.02
D-288-98 180-185	<0.001			<0.02
D-288-98 185-190	0.001			<0.02
D-288-98 190.0-195.5	0.004	0.004		<0.02
D-288-98 195.5-200.0	0.003			<0.02
D-288-98 200-205	<0.001			<0.02
D-288-98 205-210	0.001			<0.02
D-288-98 210-215	<0.001			<0.02
D-288-98 215-220	0.044			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051001

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-288-98 220-225	0.028			0.04
D-288-98 225-230	0.084		0.070	0.10
D-288-98 230-235	0.209		0.166	0.48
D-288-98 235-237	<0.001			0.03
D-288-98 237-240	5.884		5.605	4.92
D-288-98 240.0-242.6	1.408		1.452	0.90
D-288-98 242.6-245.0	0.389		0.368	0.78
D-288-98 245.0-247.5	0.289		0.202	0.48
D-288-98 247.5-250.0	0.007			0.10
D-288-98 250.0-252.6	0.085		0.081	0.11
D-288-98 252.6-255.0	0.007			0.07
D-288-98 255.0-257.5	0.030			0.06
D-288-98 257.5-260.0	0.012			0.05
D-288-98 260.0-262.5	0.038			0.17
D-288-98 262.5-265.0	0.014			0.09
D-288-98 265.0-267.7	0.627		0.578	0.84
D-288-98 267.7-270.0	0.040			0.14
D-288-98 270.0-272.6	0.009			0.11
D-288-98 272.6-275.0	0.006			0.04
D-288-98 275-280	0.020			0.04
43529	0.538			3.04

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ANALYSIS REPORT SP051001

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-288-98
No. SAMPLES : 71
MAIN SAMPLE TYPE : DRILL CORE

RECEIVED : 9 OCT 1998
REPORTED : 20 OCT 1998

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 SR051001

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-288-98

REPORTED : 20 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-288-98 220-225	0.028			0.04
D-288-98 225-230	0.084		0.070	0.10
D-288-98 230-235	0.209		0.166	0.48
D-288-98 235-237	<0.001			0.03
D-288-98 237-240	5.884		5.605	4.92
D-288-98 240.0-242.6	1.408		1.452	0.90
D-288-98 242.6-245.0	0.389		0.368	0.78
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D-288-98 247.5-250.0	0.007			0.10
D-288-98 250.0-252.6	0.085		0.081	0.11
D-288-98 252.6-255.0	0.007			0.07
D-288-98 255.0-257.5	0.030			0.06
D-288-98 257.5-260.0	0.012			0.05
D-288-98 260.0-262.5	0.038			0.17
D-288-98 262.5-265.0	0.014			0.09
D-288-98 265.0-267.7	0.627		0.578	0.84
D-288-98 267.7-270.0	0.040			0.14
D-288-98 270.0-272.6	0.009			0.11
D-288-98 272.6-275.0	0.006			0.04
D-288-98 275-280	0.020			0.04
43529	0.538			3.04

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, AZ 85706
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(520) 294-6352

Elko Office
2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Mazatlan Office
Telephone/Fax
011-52-69-170035

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: ROSEBUD MINING LLC

Address: 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: _____ Number of Samples: _____

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

Au-Ag ACCORDING TO ROSEBUD MINE PROTOCOL

D-288-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED	
0-5	65-70	125-130		195.5-200	252.6-255
5-10	70-75	130-135	core	200-205	255-257.5
10-12	75-80	135-136		205-210	257.5-260
12-15	80-82	136-142		210-215	260-262.5
15-20	82-85	142-145		215-220	262.5-265
20-25	85-90	145-150		220-225	265-267.7
25-30	90-95	150-155		225-230	267.7-270
30-35	95-100	155-160		230-235	270-272.6
35-40	100-105	160-165		235-237	272.6-275
40-45	105-107	165-170		237-240	275-280
45-50	107-108.5	170-175		240-242.6	
50-53	108.5-110	175-180		242.6-245	
53-57	110-115	180-185		245-247.5	
57-62	115-120	185-190		247.5-250	
62-65	120-125	190-195.5		250-252.6	

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

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

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

Comments:

CLIENT FILE COPY

D-288-98	35	69.5	125.7
	140	69.25	126.7
	280	69	126.7

D - 288 - 98 BOX 2
DEPTH 9 - 19
10
15

D - 288 - 98 BOX 1
DEPTH 0 - 9
5

D - 288 - 98 BOX 3
DEPTH 19 - 28
20
25

D- 288 - 98 BOX 5
DEPTH 36_5 - 45

D- 288 - 98 BOX 4
DEPTH 28 - 36_5

D- 288 - 98 BOX 6
DEPTH 45 - 54

70
65
D- 288 - 98 BOX 8
DEPTH 63 - 72

55
60
D- 288 - 98 BOX 7
DEPTH 54 - 63

D- 288 - 98 BOX 9
DEPTH 72 - 81
75
80

D - 288 - 98 BOX 11
DEPTH 90_5 - 100
95
100

D - 288 - 98 BOX 10
DEPTH 81 - 90_5
85
90

D - 288 - 98 BOX 12
DEPTH 100 - 109
105

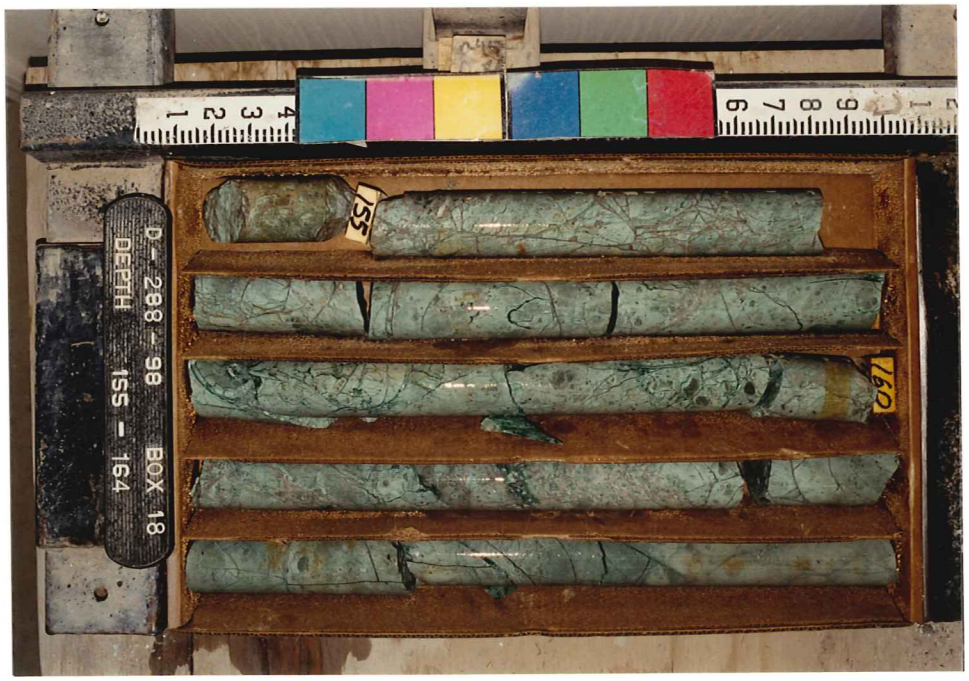
D - 288 - 98 BOX 14
DEPTH 118_5 - 126_5
120
125

D - 288 - 98 BOX 13
DEPTH 109 - 118_5
110
115

D - 288 - 98 BOX 15
DEPTH 126_5 - 136
128
133

150
D - 288 - 98 BOX 17
DEPTH 145 - 155

145
138
D - 288 - 98 BOX 16
DEPTH 136 - 145


155
160
D - 288 - 98 BOX 18
DEPTH 155 - 164

D - 288 - 98 BOX 20
DEPTH 173 - 182
175

D - 288 - 98 BOX 19
DEPTH 164 - 173
165
165
170

D - 288 - 98 BOX 21
DEPTH 182 - 191
185
190

205
200
D - 288 - 98 BOX 23
DEPTH 200 - 209_5

195
D - 288 - 98 BOX 22
DEPTH 191 - 200

210
215
D - 288 - 98 BOX 24
DEPTH 209_5 - 219

D - 288 - 98 BOX 26
DEPTH 228 - 237.5

D - 288 - 98 BOX 25
DEPTH 219 - 228

D - 288 - 98 BOX 27
DEPTH 237.5 - 246.5

D- 288 - 98 BOX 29
DEPTH 255_5 - 265
260

D- 288 - 98 BOX 28
DEPTH 246_5 - 255_5
250
255

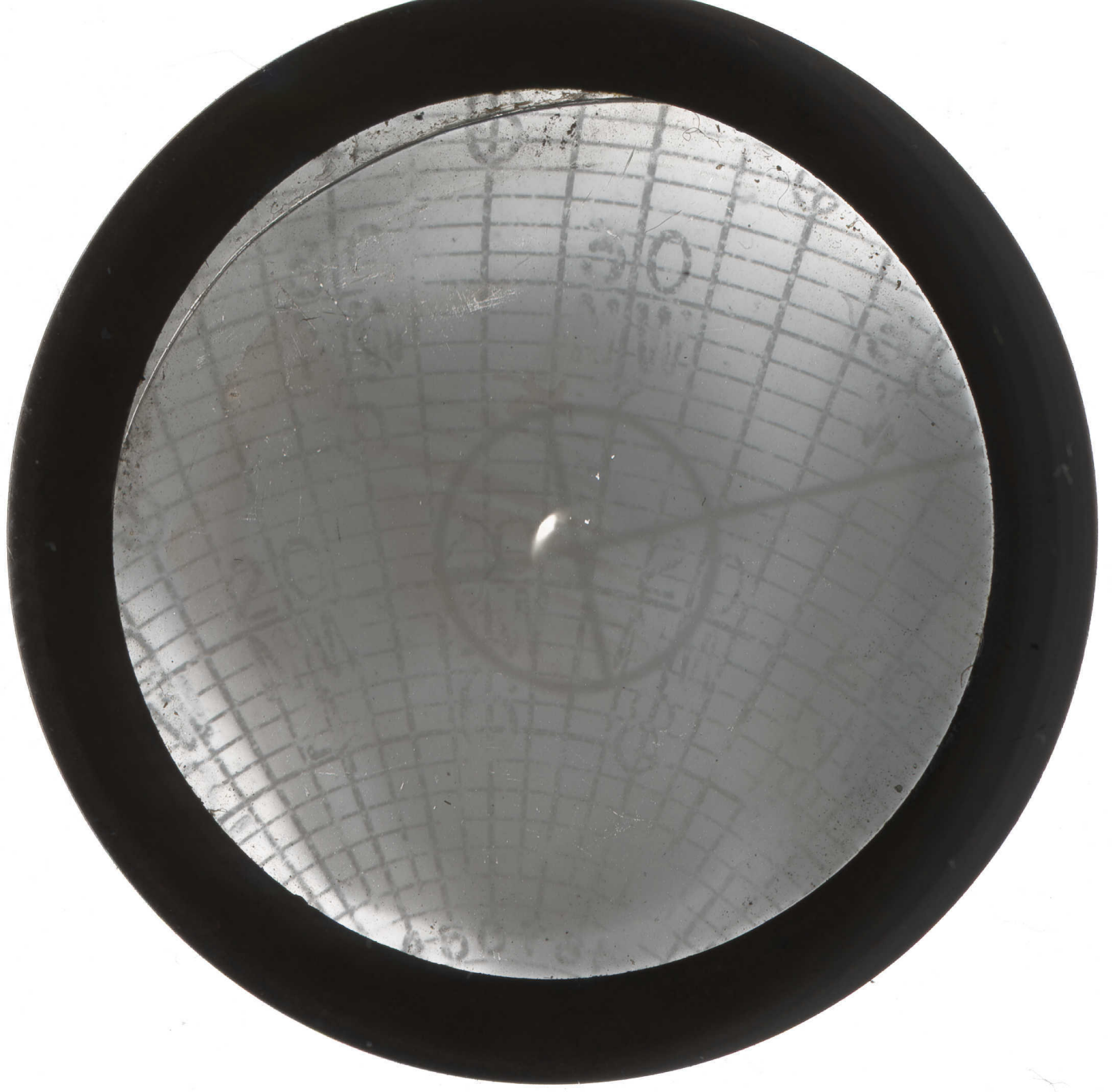
D- 288 - 98 BOX 30
DEPTH 265 - 274_5
270

280
275
D - 288 - 98 BOX 31
DEPTH 274.5 - 280 TD

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME RB
LEASE D-28698
TAKEN BY McEnkovich
DEPTH 280
DATE 8-8-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO. 1

HI-1408



SINGLE SHOT
PHOTO DISC RECORD

COMPANY Heck
WELL NAME RB
LEASE D28896
TAKEN BY M Crnkovich
DEPTH 140
DATE 8-8-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO. 1

HI-1408

30
NW
30
NW
20
NW
20
NW
20
NW
20
NW

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hec IA
WELL NAME RB
LEASE D298-98
TAKEN BY M Crnkovic
DEPTH 35
DATE 8898
DRIFT ANGLE
DIRECTION [redacted] S.E.
TYPE
JOB NO. 1
HI-1408

30
N W
30
N W
30
W
20
S W
20
N W
20
N W
10
10
10