6000 0909

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-154-97
AUTHOR	R. Parish; S. King; K. Allen
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; Hecla Mining Co.; East Zone; Rosebud Mining Co. LLC
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; [redacted]; total depth 240'; receipt; handwritten notes; down hole camera images; photographs 43p. 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 5/5/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

D-154-97

6000 0909
4010

6000 0909

- 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-154-97	LOCATION	EAST ZONE	REMARKS	STOPE 43
PAGE 1 OF 4		NORTHING			Drill blocks in error.
DATE	1/6/98	EASTING			there were two 30' blocks.
LOGGED BY	R. PARISH	ELEVATION			Actual Hole Length is 240'
SCALE	1" = 10'	AZIMUTH			
TOTAL DEPTH	240'	INCLINATION			

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
DOZER		0-34.5 Fine grained, v. pale greenish gray (Dozer) Flows. Weak local flow banding and minor Auto Bx Texture. Abdnt matrix to clast sppt'd bx's w/ gray silica matrix. Intervening rock is crackle bx'd w/ gray SiO_2 ± marc. vns. Local large open matrix vugs filled with			3' 2" gray qtz breccia vein. 35° T.C.A. matrix sppt'd.	3' gray chalced. qtz. bx' vn. 0-17' gray silica matrix bx's and crackle bx vns ± marc. + abdnt white clay vug fill.
		1.5' CORE LOSS	10		8-10' clast sppt'd. bx. - some open vugs. 45° upper ctc,	8-10' gray chalced. SiO_2 matrix w/ white clay matrix/vug.
		white soft. clay. Abdnt white clay vns. Below 17' Bxn and veining less intense though still present. Decrease in silica veins and matrix.	20		17.5' Soft, gouge bx - silicified bx clasts in clay-rk flour matrix. 21' + 23' Angular, matrx sppt'd bx - gray wkly silic/fib matrix	17'-32 Decrease in Bx'n and veining, less silica. Bx matrix are gray, translucent, rk flour? w/ patchy silk. minor marcasite vns.
		34.5-54 Pale greenish gray Finegrained Flows w/ Faint, ghost Auto breccia clasts differentiated by weak pinkish hematite cast.	30	45 65	32' 6" Breccia vein 45° T.C.A.	32' gray silica matrix, white clay vugs, diss py. 34.5-50 wk. argillic; wk. persistent pyrite inlet stockwork.
			40			
			50			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5		.014	.09		
5	10		.051	.12	.049	
11.5	16.3		.047	.10		
16.3	20		.056	.11	.070	
20	25		.035	.34		
25	30		.009	.05		
30	32		.004	.06		
32	34.5		.062	.12	.053	
345	40		.006	.03		
40	45		.005	.04		
45	50		.003	.08		

HOLE NUMBER D-154-97 PAGE 2 OF 4

%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
DOZER		54-118 Pale greenish gray, Fine grained Flows, Dozer. Common Auto breccia texture, clasts rimmed by pink hematite. Matrix slightly more argillized than clasts.	60		56' matrix spp'd, Angular clast breccia - white clay matrix.	50-82.1 wk ly to Locally mod. Bleaching and argillization mild stockwork of marc. Vnlts. Diss. py. clots. Rare SiO_2 + marc vns as noted.
			70			68-72.4 mod. argillization slight increase in marc. + white clay veining.
		82.1 - 87 Clast spp'd, Angular clast Bxs and crackle breccias - gray and later white SiO_2 matrix. Minor Bladed marcasite.	80		82.6-85 clast spp'd. Breccia.	82.1 - 87 gray and white SiO_2 Bx matrix and vns w/ bladed marcasite - minor white, gritty, clay + SiO_2? vug fill.
			90			
		98 - 112 Prominent Auto Breccia texture.	100		98' clast spp'd, clay matrix Bx.	102 - gray SiO_2 + F.gr. py. Bx vn 112' 2" white, gritty clay vein - bladed marc. on walls.
		Below 112' rock less greenish - more Lt. gray white.	110			113-114.5 several gray SiO_2 + c.gr. bladed marc. vns * Barite
			120		80° clay vein, white	

FROM	TO	W	Au	Ag	Au2	A
50	55		.006	.05		
55	60		.054	.17	.042	
60	64.8		.025	.07		
64.8	68		.010	.05		
68	72.4		.029	.08	.033	
72.4	77		.010	.05		
77	82.1		.014	.04		
82.1	87		.052	.08	.039	
87	90		.013	.08		
90	95		.011	.06		
95	100		.022	.11		
100	104.8		.019	.06		
104.8	110		.063	.11	.072	
110	114.6		.116	.14	.125	
114.6	118.5		.147	.10	.196	

HOLE NUMBER D-154-97 PAGE 3 OF 4

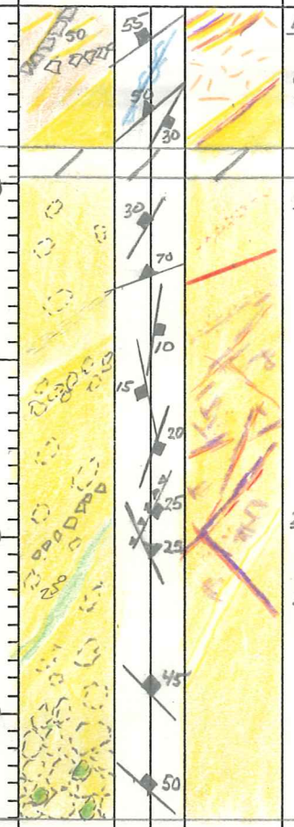
%REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
DOZER		118 – 195.8 massive, fine grained Dozer Flows. Local faint flow banding and minor auto breccia, both made apparent by weak, pink hematite staining. Greenish-gray to pale beige. 118.5 – 124 clast sppt'd crackle bx, v. minor clast rotation. Gray and later white silica matrix w/ bladed marcasite and late white clay vns. Stkwk veins of same, above and below bx. 124 – 138.2 Argillized Dozer Flows w/ common gray SiO_2 + bladed marc. vns. Local white late clay. ± stibnite 138.2 – 146 - Crackle to rotated clast bx - angular, monolithologic dozer clasts, gray to later white SiO_2 matrix and veins. Common bladed marcasite and white clay in vugs. 146 – 176.5 Argillized pale gray-beige Dozer Flows. Fairly high density of gray + white SiO_2 and Barite ± marcasite ± stibnite veins. Common angular clast bx veins to 1' thick w/ Barite + gray SiO_2 matrix. Clasts are heterolithic, un silicified. 176.5 – 179.1 crackle breccia with over print of matrix sppt'd bx vns - both w/ gray SiO_2 + Barite + bladed marcasite matrix. Wall Rx. mod. arg. Dozer w/ vennant flow banding. Bx vns are densly silicified - Bx'd bx clasts, clearly hydrothermal.	120 130 140 150 160 170	30 55 35	114.5 – 176.5 Rock is fractured and veined but no planar joints are present. 118.5 – 124 Crackle Bx, clast sppt'd, Angular, Hydro fractured Rock? 138.2 – 146 Clast sppt'd, Bx. Angular, mono lithic rotated clasts? Crackle Bx above and below interval 158' 6" Bx vein – 60° TCA Angular, hetero lithic clasts 163 – 167 Clast sppt'd, Angular Bx. cemented w/ SiO_2 + Barite, - vuggy w/ abdnt. white clay. 176.5 – 179.1 Numerous hydrothermal Bx vns - Soft, Rubbly zone – at core Loss	118.5 – 124 - gray + white SiO_2 Bx matrix and veins w/ marcasite ± white clay 124 – 138.2 Argillized and bleached Dozer w/ SiO_2 ± Barite ± marcasite ± stibnite 138.2 – 146 Bx matrix of gray + white SiO_2 + Barite + white, gritty clay + marcasite ± Stibnite. Dickite vugs and veins. 160 – 169.5 Abdnt veins and Bx matrix w/ gray + white SiO_2 + Barite + marcasite ± stib. + white, often gritty clay, Dickite 176.5 – 179 veins and Bx matrix of gray + white SiO_2 + Barite + bladed marcasite w/ tr. stibnite.
		1.7' CORE LOSS	180			
		180.8 – 183.2 Argillized, crumbly Dozer. Patchy and vein gray SiO_2 + Barite. 183.2 – 189 Dozer crackle breccia – matrix of gray SiO_2 + abdnt Barite. Moderate patchy silicification of Dozer clasts.	190	30 35 35	183 – 189 Crackle Breccia.	183.2 – 189 gray SiO_2 + black f-gr sulfide vns and crackle matrix. Abdnt Barite matrix - minor white clay

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	
118.5	124		.173	.33	.143	
124	128		.178	.19	.152	
128	133		.354	.19	.326	
133	138.2		.275	.80	.398 .352	
138.2	143.7		.406	.30	.304 .259	
143.7	146.8		.325	.58	.277	
146.8	151.2		.194	.15	.209	
151.2	155		.098	.12	.083	
155	160		.219	.21	.232	
160	165		.546	.72	.465	
165	169.5		.239	.93	.256	
169.5	173		1.163	1.12	1.050	
173	176.5		.113	.19	.107	
176.5	179.1		.161	.66	.152	
180.8	183.2		.077	.36	.072	
183.2	187		.045	.39		
187	189		.029	.51		

HOLE NUMBER D-154-97 PAGE 4 OF 4

REC	RQD	LITHOLOGY	FT
Dozer ↓		189-195.8 Argillized dozer Flows. Clast sppt'd bx's @ 191.5 and 193.5' w/ Barite cement, silicified Dozer clasts. Fault zone @ 194' - crumbly - argillized, sheared @ 30-45° TCA	190
South Ridge Fault zone		1.7' CORE LOSS	
		195.8 - 236 SOUTH RIDGE FAULT ZONE 195.8 - 207 Dark greenish gray, Dense and complete Silicification. Cataclastic Breccia - strongly matrix sppt'd. Faint, ghost like, rounded clasts in rk. flour matrix. Textures mostly destroyed by dense silicification. 207 - 209 Lt. gray to white, locally banded SiO_2 vein. Faint banding @ 50° TCA. gradational upper ctc. Broken but sharp lower ctc. 209 - 223.5 greenish gray matrix to clast supported breccia. Appears to be tectonic breccia w/ hydrothermal overprint. Clast are more apparent than previous unit and appear to be mostly Dozer with some Bud. Fractures and some breccias are cemented with Barite. 223.5 - 236 - grayish green, silicified Tectonic bx, str. hydrothermal overprint of texture destructive silica to 229'. Hetero lithic clast component, Mostly Bud. Below 229 textures are much clearer. Silicification is still mostly complete but gray texture destruc silica limited to irregular veins.	200 210 220 230
			EOH 236'

GRAPHIC LOG



STRUCTURE	ALTERATION AND MINERALIZATION
189-195.8 Vns and crude jointing @ 50° TCA. Crumbly-strly sheared Flt zone @ 194' - 35° TCA.	189-195.8 Mod argill, local Barite cemented Bx's, mod. gray SiO_2 + marc. + Barite vns. 195.8-207 Dense silicification scattered, black sooty Pyrite
195.8-219 Fairly abdnt crude planar joints and fractures @ ~ 50° and 10-25° TCA.	Veins and dissem. bands that have been silicified. 207-209 White to lt. gray chalcedonic silica vein. 204.6-204.9 Black sooty Pyrite + Barite vein. Ext. f.gr. sulfides - Py? 209-236 Dense, complete silicification, minor Black sooty Py? Frocts and stringers. 214.7-219 Abdnt black sooty Py + Barite coated seams and Bx matrix. Tr. stibnite.
219' 2" Bx vein w/ Barite cement. 30° T.C.A.	219' 2" Bx vein w/ Barite + f.gr. sulfide + gray silica matrix
223' Crude planar texture to silicification @ 30° TCA.	219-236 Dense complete silicification. Lacking black sulfide fract. Contains minor bladed marcasite. 222' 1" Barite + Bladed marc. vein.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag
189	191.3		.098	.21	.152	
191.3	195.8		.159	.82	.169	
195.8	198		.058	.36	.064	
199.7	204		.052	.25	.057	
204	205		.072	6.78	.063	
205	207		.045	.44		
207	209		.013	.14		
209	212		.025	11.60		
212	214.7		.009	2.17		
214.7	219		.022	7.40		
219	223.5		.023	4.14		
223.5	224.8		.002	.08		
224.8	229		.003	.05		
229	232.6		.008	.07		
232.6	236		.001	.04		

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-154-97 DATE: 1/5/98 LOGGED BY: R. PARISH PAGE 1 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
0	10	98	98	31										
10	20	85	85	41										
20	30	96	96	37										
30	40	100	100	38										
40	50	100	100	72										
50	60	92	92	44										
60	70	102	102	61										
70	80	98	98	71										
80	90	100	100	53										
90	100	93	93	52										
100	110	96	96	49										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-154-97 DATE: 1/6/96 LOGGED BY: R. PARISH

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)
110	117.5	92	92	29										
117.5	121	100	100	20										
121	130	100	100	42										
130	140	102	102	63										
140	150	100	100	58										
150	160	100	100	70										
160	167.5	93	93	79										
167.5	172	90	90	49										
172	177.5	95	95	0										
177.5	180	64	64	0										
180	190	94	97	43										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-154-97 DATE: 1/6/98 LOGGED BY: R. PARISH PAGE 3 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
190	196	100	100	17										
196	199	67	67	0										
199	201	65	65	0										
201	202.5	80	80	0										
202.5	204	67	67	0										
204	205	50	100	0										
205	208	80	80	17										
208	213	16	16	0										
213	219	88	88	0										
219	221	100	100	0										
221	223	40	50	0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-154-97 DATE: 1/6/98 LOGGED BY: R. PARISH PAGE 4 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
223	224	100	100	40										
224	229	100	100	40										
229	234	85	85	52										
234	240	97	97	68										

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

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

METALLIC SCREENS

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-154-97/159-98 RECEIVED : 28 JAN 1998

No. SAMPLES : 99 REPORTED : 26 FEB 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
WT+65	MS65#	15%	GRAMS	0.1
WT-65#	MS65#	15%	GRAMS	0.1
Au+65#	MS65#	15%	OPT	0.001
Au-65#	MS65#	15%	OPT	0.001
Au-65#	MS65#	15%	OPT	0.001
AuCALC	MS65#	15%	OPT	0.001
Ag+65#	MS65#	15%	OPT	0.05
Ag-65#	MS65#	15%	OPT	0.05

SIGNATORY : Susan King M.S.

03/13/1998 12:23 7023561413 AMERICAN ASSAY LABS PAGE 01

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	WT+65	WT-65#	Au+65#	Au-65#	Au-65#	AuCALC
D-154-97 104.8-110.0	48.6	630.0	0.249	0.077	0.125	0.112
D-154-97 110.0-114.6	60.6	426.2	0.112	0.118	0.095	0.107
D-154-97 114.6-118.5	59.7	557.2	0.116	0.107	0.120	0.114
D-154-97 118.5-124.0	64.4	530.0	0.283	0.131	0.094	0.131
D-154-97 124-128	72.2	543.2	0.658	0.153	0.181	0.224
D-154-97 128-133	74.4	652.2	3.522	0.229	0.238	0.571
D-154-97 133.0-138.2	50.5	562.0	0.423	0.267	0.341	0.314
D-154-97 138.2-143.7	50.2	653.0	0.412	0.288	0.260	0.283
D-154-97 143.7-146.8	67.8	713.3	0.277	0.253	0.371	0.309
D-154-97 146.8-151.2	70.5	706.6	0.273	0.236	0.194	0.221
D-154-97 151.2-155.0	55.7	580.8	0.157	0.128	0.093	0.115
D-154-97 155-160	41.9	1107.8	0.026	0.229	0.299	0.255
D-154-97 160-165	43.4	918.4	0.826	0.415	0.496	0.472
D-154-97 165.0-169.5	49.7	655.1	0.248	0.200	0.256	0.229
D-154-97 169.5-173.0	46.7	636.1	1.992	0.808	1.114	1.031
D-154-97 173.0-176.5	51.6	590.4	0.190	0.083	0.099	0.099
D-154-97 176.5-179.1	77.4	662.1	0.178	0.187	0.114	0.154
D-154-97 180.8-183.2	79.3	516.4	0.063	0.155	0.068	0.105
D-154-97 183.2-187.0	53.8	636.0	0.076	0.042	0.050	0.048
D-154-97 187-189	38.5	569.5	0.060	0.041	0.020	0.033
D-154-97 189.0-191.3	51.0	498.7	0.185	0.077	0.137	0.114
D-154-97 191.3-195.8	48.5	685.6	0.197	0.106	0.090	0.105
D-154-97 195.8-198.0	75.6	707.7	0.056	0.099	0.048	0.071
D-154-97 199.7-204.0	71.6	663.2	0.030	0.100	0.083	0.086
D-154-97 204-205	58.1	529.9	0.060	0.064	0.051	0.058

03/13/1998 12:23 7023561413 AMERICAN ASSAY LABS PAGE 02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	WT+65	WT-65#	Au+65#	Au-65#	Au-65#	AuCALC
D-155-97 61.8-64.7	75.8	657.5	0.046	0.017	0.013	0.018
D-155-97 64.7-68.7	53.6	557.8	0.182	0.061	0.070	0.076
D-155-97 70.0-73.4	63.6	661.6	1.031	0.319	0.470	0.450
D-155-97 73.4-77.0	59.4	491.8	0.568	0.228	0.230	0.265
D-155-97 77.0-81.6	37.9	455.0	0.362	0.186	0.120	0.169
D-155-97 81.6-86.2	70.7	549.6	0.339	0.109	0.086	0.125
D-155-97 86.2-91.0	51.3	594.6	2.238	0.181	0.183	0.344
D-155-97 91-95	84.2	492.6	1.730	1.267	1.162	1.290
D-155-97 95-99	72.3	687.1	3.059	1.242	1.214	1.402
D-155-97 99.0-102.9	54.0	655.3	1.101	0.472	0.477	0.522
D-155-97 102.9-106.5	57.0	841.4	3.906	1.124	0.817	1.157
D-155-97 106.5-110.0	60.9	1085.0	5.755	0.403	0.537	0.751
D-155-97 110-113	58.4	736.2	0.088	0.032	0.060	0.050
D-155-97 113.0-117.2	41.0	874.9	0.059	0.028	0.022	0.027
D-155-97 120.0-122.4	63.3	546.1	0.072	0.114	0.105	0.105
D-155-97 122.4-125.8	62.2	584.3	2.072	0.619	0.890	0.881
D-155-97 130.0-131.4	48.1	753.9	0.088	0.262	0.279	0.259
D-155-97 131.4-132.2	INSUFFICIENT SAMPLE					
D-156-98 30.0-34.2	56.4	590.6	0.185	0.055	0.120	0.096
D-156-98 34.2-38.5	51.4	950.2	0.115	0.049	0.059	0.057
D-156-98 38.5-41.9	51.7	731.5	0.049	0.035	0.018	0.028
D-156-98 41.9-44.7	61.7	463.5	0.081	0.050	0.072	0.064
D-156-98 44.7-50.0	16.6	658.0	1.131	0.118	0.069	0.119
D-156-98 50-55	48.1	620.6	0.034	0.041	0.054	0.046
D-156-98 55.0-60.2	49.8	619.7	0.097	0.092	0.162	0.125

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	WT+65	WT-65#	Au+65#	Au-65#	Au-65#	AuCALC
D-156-98 60.2-65.0	65.3	579.0	0.246	0.158	0.116	0.148
D-156-98 65.0-69.6	55.9	606.3	0.234	0.118	0.121	0.131
D-156-98 69.6-73.6	59.6	638.6	0.873	0.126	0.204	0.226
D-156-98 73.6-77.6	55.6	663.9	2.543	0.340	0.302	0.493
D-156-98 77.6-79.1	60.3	638.6	0.362	0.179	0.205	0.207
D-156-98 79.1-81.4	12.6	647.9	5.167	0.500	0.413	0.547
D-156-98 81.4-83.9	55.4	706.0	0.447	0.408	0.749	0.569
D-156-98 83.9-84.7	INSUFFICIENT SAMPLE					
D-156-98 84.7-87.2	67.0	768.2	0.149	0.091	0.040	0.072
D-156-98 87.2-88.5	INSUFFICIENT SAMPLE					
D-156-98 88.5-89.5	60.6	715.8	0.030	0.035	0.041	0.037
D-156-98 89.5-90.5	50.5	592.4	0.060	0.064	0.032	0.049
D-156-98 90.5-92.0	47.1	781.7	0.018	0.022	0.078	0.048
D-156-98 92-95	58.7	763.4	0.004	0.005	0.006	0.005
D-156-98 95.0-97.2	59.4	597.5	0.022	0.009	0.002	0.007
D-156-98 97.2-97.7	44.0	145.9	0.026	0.021	0.026	0.024
D-157-98 45-50	54.0	738.1	0.243	0.090	0.081	0.097
D-157-98 50-55	54.0	639.8	0.267	0.114	0.087	0.114
D-157-98 55-60	11.6	738.2	3.530	0.058	0.071	0.109
D-157-98 60.0-61.3	61.2	695.0	1.309	0.163	0.198	0.270
D-157-98 61.3-64.2	22.7	705.9	0.118	0.016	0.024	0.023
D-157-98 64.2-66.0	60.3	738.3	3.302	1.238	0.668	1.130
D-157-98 66-70	25.0	741.6	2.122	0.141	0.170	0.219
D-157-98 70-74	58.6	594.9	0.275	0.062	0.043	0.073
D-158-98 61.3-67.0	32.6	687.7	0.199	0.036	0.044	0.047

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	WT+65	WT-65#	Au+65#	Au-65#	Au-65#	AuCALC
D-158-98 67.0-72.6	59.1	654.1	0.432	0.210	0.135	0.194
D-158-98 72.6-77.7	55.6	680.9	0.261	0.115	0.116	0.127
D-158-98 77.7-82.7	60.6	621.8	0.501	0.225	0.205	0.240
D-158-98 82.7-85.5	60.6	675.6	0.325	0.089	0.107	0.117
D-159-98 77.4-80.0	29.3	733.7	1.400	0.260	0.273	0.310
D-159-98 80.0-84.7	40.9	675.7	0.235	0.030	0.060	0.055
D-159-98 84.7-90.0	50.7	666.8	0.087	0.042	0.044	0.046
D-159-98 90.0-94.8	45.3	783.6	0.170	0.094	0.110	0.105
D-159-98 94.8-98.0	31.2	789.0	0.189	0.072	0.071	0.076
D-159-98 98.0-102.7	58.9	644.0	0.164	0.121	0.089	0.110
D-159-98 102.7-105.7	42.3	760.6	0.859	0.376	0.464	0.443
D-159-98 105.7-110.0	62.7	648.5	0.333	0.161	0.151	0.171
D-159-98 110-115	43.2	845.3	1.388	0.482	0.512	0.541
D-159-98 115-120	59.1	733.1	2.080	0.762	1.009	0.974
D-159-98 120-123	58.7	786.0	0.260	0.117	0.146	0.140
D-159-98 123.0-126.3	57.7	607.6	2.535	1.809	1.781	1.859
D-159-98 126.3-126.9	59.7	234.6	0.311	0.275	0.280	0.284
D-159-98 126.9-129.2	69.3	732.9	1.981	0.543	0.430	0.615
D-159-98 129.2-131.9	60.7	847.3	5.012	2.373	3.028	2.855
D-159-98 131.9-134.8	59.5	750.3	2.511	0.291	0.348	0.480
D-159-98 134.8-138.9	30.3	802.0	0.510	0.230	0.158	0.206
D-159-98 138.9-143.0	24.8	1007.4	1.235	0.105	0.109	0.134
D-159-98 143-147	37.4	751.3	0.070	0.021	0.040	0.032
D-159-98 147-150	46.4	697.6	0.309	0.084	0.063	0.088
D-159-98 150.0-152.5	68.4	815.5	0.513	0.226	0.206	0.239

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	WT+65	WT-65#	Au+65#	Au-65#	Au-65#	AuCALC
D-159-98 152.5-155.8	51.2	697.8	0.294	0.864	0.928	0.855
D-159-98 155.8-159.7	63.8	666.9	0.694	0.156	0.106	0.181

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AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	Ag+65#	Ag-65#
D-154-97 104.8-110.0	0.31	0.11
D-154-97 110.0-114.6	0.18	0.21
D-154-97 114.6-118.5	0.08	0.15
D-154-97 118.5-124.0	0.08	<0.05
D-154-97 124-128	0.25	0.17
D-154-97 128-133	0.85	0.43
D-154-97 133.0-138.2	0.31	0.51
D-154-97 138.2-143.7	0.52	0.31
D-154-97 143.7-146.8	0.66	0.33
D-154-97 146.8-151.2	0.08	0.21
D-154-97 151.2-155.0	0.09	<0.05
D-154-97 155-160	<0.05	0.31
D-154-97 160-165	0.95	0.63
D-154-97 165.0-169.5	0.62	0.40
D-154-97 169.5-173.0	2.32	1.46
D-154-97 173.0-176.5	0.12	<0.05
D-154-97 176.5-179.1	0.52	<0.05
D-154-97 180.8-183.2	0.36	0.17
D-154-97 183.2-187.0	0.08	<0.05
D-154-97 187-189	0.62	<0.05
D-154-97 189.0-191.3	<0.05	<0.05
D-154-97 191.3-195.8	0.77	0.10
D-154-97 195.8-198.0	0.42	0.32
D-154-97 199.7-204.0	0.35	0.06
D-154-97 204-205	10.53	4.21

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	Ag+65#	Ag-65#
D-155-97 61.8-64.7	0.05	<0.05
D-155-97 64.7-68.7	0.50	0.09
D-155-97 70.0-73.4	0.10	0.96
D-155-97 73.4-77.0	0.24	0.20
D-155-97 77.0-81.6	0.05	0.37
D-155-97 81.6-86.2	0.11	0.18
D-155-97 86.2-91.0	0.23	0.37
D-155-97 91-95	1.65	1.32
D-155-97 95-99	0.95	1.18
D-155-97 99.0-102.9	0.85	0.55
D-155-97 102.9-106.5	0.65	1.64
D-155-97 106.5-110.0	1.05	0.68
D-155-97 110-113	5.22	3.17
D-155-97 113.0-117.2	6.53	5.54
D-155-97 120.0-122.4	3.68	3.29
D-155-97 122.4-125.8	28.45	17.28
D-155-97 130.0-131.4	38.50	33.20
D-155-97 131.4-132.2	INSUFFICIENT SAMPLE	
D-156-98 30.0-34.2	0.25	<0.05
D-156-98 34.2-38.5	0.32	<0.05
D-156-98 38.5-41.9	0.21	0.05
D-156-98 41.9-44.7	0.13	0.09
D-156-98 44.7-50.0	<0.05	0.09
D-156-98 50-55	0.10	<0.05
D-156-98 55.0-60.2	0.17	0.08

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	Ag+65#	Ag-65#
D-156-98 60.2-65.0	0.70	0.33
D-156-98 65.0-69.6	0.37	0.40
D-156-98 69.6-73.6	0.70	0.44
D-156-98 73.6-77.6	1.87	0.31
D-156-98 77.6-79.1	0.20	0.11
D-156-98 79.1-81.4	0.88	0.58
D-156-98 81.4-83.9	1.24	1.40
D-156-98 83.9-84.7		INSUFFICIENT SAMPLE
D-156-98 84.7-87.2	2.75	8.15
D-156-98 87.2-88.5		INSUFFICIENT SAMPLE
D-156-98 88.5-89.5	0.30	7.23
D-156-98 89.5-90.5	1.82	2.26
D-156-98 90.5-92.0	2.22	7.61
D-156-98 92-95	0.84	1.78
D-156-98 95.0-97.2	1.11	4.17
D-156-98 97.2-97.7	8.14	17.85
D-157-98 45-50	0.32	0.13
D-157-98 50-55	0.64	0.18
D-157-98 55-60	0.33	0.23
D-157-98 60.0-61.3	1.99	0.35
D-157-98 61.3-64.2	<0.05	<0.05
D-157-98 64.2-66.0	2.89	1.45
D-157-98 66-70	1.96	1.36
D-157-98 70-74	0.27	<0.05
D-158-98 61.3-67.0	0.15	<0.05

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD PRODUCTION
REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	Ag+65#	Ag-65#
D-158-98 67.0-72.6	0.25	0.05
D-158-98 72.6-77.7	0.86	0.55
D-158-98 77.7-82.7	0.64	0.16
D-158-98 82.7-85.5	0.28	0.17
D-159-98 77.4-80.0	1.12	0.36
D-159-98 80.0-84.7	0.25	<0.05
D-159-98 84.7-90.0	0.23	<0.05
D-159-98 90.0-94.8	0.52	0.15
D-159-98 94.8-98.0	0.18	<0.05
D-159-98 98.0-102.7	0.45	<0.05
D-159-98 102.7-105.7	0.78	0.49
D-159-98 105.7-110.0	0.60	0.18
D-159-98 110-115	0.18	0.52
D-159-98 115-120	0.65	1.13
D-159-98 120-123	0.35	0.25
D-159-98 123.0-126.3	3.20	1.94
D-159-98 126.3-126.9	1.25	1.11
D-159-98 126.9-129.2	0.89	0.75
D-159-98 129.2-131.9	6.27	2.96
D-159-98 131.9-134.8	0.17	0.86
D-159-98 134.8-138.9	0.15	0.31
D-159-98 138.9-143.0	0.83	0.23
D-159-98 143-147	0.12	0.19
D-159-98 147-150	0.53	0.21
D-159-98 150.0-152.5	2.05	1.28

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047992

CLIENT : HECLA MINING COMPANY
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REFERENCE : D-154-97/159-98

REPORTED : 26 FEB 1998

SAMPLES	Ag+65#	Ag-65#
D-159-98 152.5-155.8	1.05	0.88
D-159-98 155.8-159.7	35.30	41.42

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SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
Telephone
(702) 356-0606
Fax
(702) 356-1413

Tucson Office
2775 E. Ganley
Tucson, AZ 85706
Telephone
(520) 294-8078
Fax
(520) 294-6352

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

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

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: ROSEBUD MINING Co. LLC

Address: P.O. BOX 2610

City WINNEMUCCA State NV Zip 89446

Telephone Number: (702) 623-6912 Fax Number: (702) 623-6967

Project Name: DEVELOPMENT Purchase Order Number:

Date Submitted: 1-13-98 Number of Samples: 58

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

Hole #	SAMPLE IDENTIFICATION		TYPE	ELEMENTS REQUIRED
D-154-97	64.8-68	133-138.2		191.3-195.8
0-5	68-72.4	138.2-143.7		195.8-199
5-10	72.4-77	143.7-146.8		199.7-204
11.5-16.3	77-82.1	146.8-151.2	CORE	204-205 Au-Ag BY ROSEBUD
16.3-20	82.1-87	151.2-155		205-207 MINE PROTOCOL
20-25	87-90	155-160		207-209
25-30	90-95	160-165		209-212
30-32	95-100	165-169.5		212-214.7
32-34.5	100-104.8	169.5-173		214.7-219
34.5-40	104.8-110	173-176.5		219-223.5
40-45	110-114.6	176.5-179.1		223.5-224.8
45-50	114.6-118.5	180.8-183.2		224.8-229
50-55	118.5-124	183.2-187		229-232.6
55-60	124-128	187-189		232.6-236
60-64.8	128-133	189-191.3		

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

(702) 356-0606

INVOICE NO: SP 0047897-IN
INVOICE DATE: 01/27/98

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-154-97	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
58	SAMPLES RECEIVED	.00	.00
58	DRYING	1.00	58.00
58	JAW CRUSHING CHARGE	1.30	75.40
58	COARSE MILLING CHARGE	4.50	261.00
58	SPLITTING CHARGE	2.40	139.20
58	RING MILLING CHARGE	2.00	116.00
58	Au (1 A.T. FIRE ASSAY)	8.00	464.00
27	Au ANALYSES/GRAVIMETRIC	8.75	236.25
58	HYDROCHLORIC/NITRIC DIGESTION	2.00	116.00
58	Ag ANALYSES	1.00	58.00
5	Ag (ore grade) ANALYSES	5.00	25.00

86-5110-477
DA

NET INVOICE:	1,548.85
LESS DISCOUNT:	309.77
FREIGHT:	.00
INVOICE TOTAL:	1,239.08

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047897

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-154-97 RECEIVED : 14 JAN 1998

No. SAMPLES : 58 REPORTED : 26 JAN 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 SP047897

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 00-05	0.014			0.09
D-154-97 05-10	0.051		0.049	0.12
D-154-97 11.5-16.3	0.047			0.10
D-154-97 16.3-20.0	0.056		0.070	0.11
D-154-97 20-25	0.035			0.34
D-154-97 25-30	0.009			0.05
D-154-97 30-32	0.004			0.06
D-154-97 32.0-34.5	0.062		0.053	0.12
D-154-97 34.5-40.0	0.006			0.03
D-154-97 40-45	0.005			0.04
D-154-97 45-50	0.003			0.08
D-154-97 50-55	0.006			0.05
D-154-97 55-60	0.054		0.042	0.17
D-154-97 60.0-64.8	0.025			0.07
D-154-97 64.8-68.0	0.010			0.05
D-154-97 68.0-72.4	0.029	0.033		0.08
D-154-97 72.4-77.0	0.010			0.05
D-154-97 77.0-82.1	0.014			0.04
D-154-97 82.1-87.0	0.052	0.039		0.08
D-154-97 87-90	0.013			0.08
D-154-97 90-95	0.011			0.06
D-154-97 95-100	0.022			0.11
D-154-97 100.0-104.8	0.019			0.06
D-154-97 104.8-110.0	0.063		0.072	0.11
D-154-97 110.0-114.6	0.116		0.125	0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047897

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 114.6-118.5	0.147		0.196	0.10
D-154-97 118.5-124.0	0.173		0.143	0.33
D-154-97 124-128	0.178		0.152	0.19
D-154-97 128-133	0.394		0.326	0.19
D-154-97 133.0-138.2	0.275	0.398	0.352	0.80
D-154-97 138.2-143.7	0.406	0.304	0.259	0.30
D-154-97 143.7-146.8	0.305		0.277	0.58
D-154-97 146.8-151.2	0.194		0.209	0.15
D-154-97 151.2-155.0	0.098		0.083	0.12
D-154-97 155-160	0.219		0.232	0.21
D-154-97 160-165	0.546		0.465	0.72
D-154-97 165.0-169.5	0.239		0.256	0.93
D-154-97 169.5-173.0	1.163		1.080	1.12
D-154-97 173.0-176.5	0.113		0.107	0.19
D-154-97 176.5-179.1	0.161		0.152	0.66
D-154-97 180.8-183.2	0.077		0.072	0.36
D-154-97 183.2-187.0	0.045			0.39
D-154-97 187-189	0.029			0.51
D-154-97 189.0-191.3	0.098		0.152	0.21
D-154-97 191.3-195.8	0.159		0.169	0.82
D-154-97 195.8-198.0	0.058		0.064	0.36
D-154-97 199.7-204.0	0.052		0.057	0.25
D-154-97 204-205	0.072		0.063	6.78
D-154-97 205-207	0.045			0.44
D-154-97 207-209	0.013			0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047897

American Assay Laboratories

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REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 209-212	0.025			11.60
D-154-97 212.0-214.7	0.009			2.17
D-154-97 214.7-219.0	0.022			7.40
D-154-97 219.0-223.5	0.023			4.14
D-154-97 223.5-224.8	0.002			0.08
D-154-97 224.8-229.0	0.003			0.05
D-154-97 229.0-232.6	0.008			0.07
D-154-97 232.6-236.0	0.001			0.04

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP047897

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-154-97 RECEIVED : 14 JAN 1998

No. SAMPLES : 58 REPORTED : 26 JAN 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 SP047897

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 00-05	0.014			0.09
D-154-97 05-10	0.051		0.049	0.12
D-154-97 11.5-16.3	0.047			0.10
D-154-97 16.3-20.0	0.056		0.070	0.11
D-154-97 20-25	0.035			0.34
D-154-97 25-30	0.009			0.05
D-154-97 30-32	0.004			0.06
D-154-97 32.0-34.5	0.062		0.053	0.12
D-154-97 34.5-40.0	0.006			0.03
D-154-97 40-45	0.005			0.04
D-154-97 45-50	0.003			0.08
D-154-97 50-55	0.006			0.05
D-154-97 55-60	0.054		0.042	0.17
D-154-97 60.0-64.8	0.025			0.07
D-154-97 64.8-68.0	0.010			0.05
D-154-97 68.0-72.4	0.029	0.033		0.08
D-154-97 72.4-77.0	0.010			0.05
D-154-97 77.0-82.1	0.014			0.04
D-154-97 82.1-87.0	0.052	0.039		0.08
D-154-97 87-90	0.013			0.08
D-154-97 90-95	0.011			0.06
D-154-97 95-100	0.022			0.11
D-154-97 100.0-104.8	0.019			0.06
D-154-97 104.8-110.0	0.063		0.072	0.11
D-154-97 110.0-114.6	0.116		0.125	0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047897

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 114.6-118.5	0.147		0.196	0.10
D-154-97 118.5-124.0	0.173		0.143	0.33
D-154-97 124-128	0.178		0.152	0.19
D-154-97 128-133	0.394		0.326	0.19
D-154-97 133.0-138.2	0.275	0.398	0.352	0.80
D-154-97 138.2-143.7	0.406	0.304	0.259	0.30
D-154-97 143.7-146.8	0.305		0.277	0.58
D-154-97 146.8-151.2	0.194		0.209	0.15
D-154-97 151.2-155.0	0.098		0.083	0.12
D-154-97 155-160	0.219		0.232	0.21
D-154-97 160-165	0.546		0.465	0.72
D-154-97 165.0-169.5	0.239		0.256	0.93
D-154-97 169.5-173.0	1.163		1.080	1.12
D-154-97 173.0-176.5	0.113		0.107	0.19
D-154-97 176.5-179.1	0.161		0.152	0.66
D-154-97 180.8-183.2	0.077		0.072	0.36
D-154-97 183.2-187.0	0.045			0.39
D-154-97 187-189	0.029			0.51
D-154-97 189.0-191.3	0.098		0.152	0.21
D-154-97 191.3-195.8	0.159		0.169	0.82
D-154-97 195.8-198.0	0.058		0.064	0.36
D-154-97 199.7-204.0	0.052		0.057	0.25
D-154-97 204-205	0.072		0.063	6.78
D-154-97 205-207	0.045			0.44
D-154-97 207-209	0.013			0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047897

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-154-97 209-212	0.025			11.60
D-154-97 212.0-214.7	0.009			2.17
D-154-97 214.7-219.0	0.022			7.40
D-154-97 219.0-223.5	0.023			4.14
D-154-97 223.5-224.8	0.002			0.08
D-154-97 224.8-229.0	0.003			0.05
D-154-97 229.0-232.6	0.008			0.07
D-154-97 232.6-236.0	0.001			0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047897

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HECLA MINING COMPANY

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CLIENT REFERENCE No: D-154-97 RECEIVED : 14 JAN 1998

No. SAMPLES : 58 REPORTED : 26 JAN 1998

MAIN SAMPLE TYPE : DRILL CORE

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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 SP047897

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-154-97 00-05	0.014			0.09
D-154-97 05-10	0.051		0.049	0.12
D-154-97 11.5-16.3	0.047			0.10
D-154-97 16.3-20.0	0.056		0.070	0.11
D-154-97 20-25	0.035			0.34
D-154-97 25-30	0.009			0.05
D-154-97 30-32	0.004			0.06
D-154-97 32.0-34.5	0.062		0.053	0.12
D-154-97 34.5-40.0	0.006			0.03
D-154-97 40-45	0.005			0.04
D-154-97 45-50	0.003			0.08
D-154-97 50-55	0.006			0.05
D-154-97 55-60	0.054		0.042	0.17
D-154-97 60.0-64.8	0.025			0.07
D-154-97 64.8-68.0	0.010			0.05
D-154-97 68.0-72.4	0.029	0.033		0.08
D-154-97 72.4-77.0	0.010			0.05
D-154-97 77.0-82.1	0.014			0.04
D-154-97 82.1-87.0	0.052	0.039		0.08
D-154-97 87-90	0.013			0.08
D-154-97 90-95	0.011			0.05
D-154-97 95-100	0.022			0.11
D-154-97 100.0-104.8	0.019			0.06
D-154-97 104.8-110.0	0.063		0.072	0.11
D-154-97 110.0-114.6	0.116		0.125	0.14

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REFERENCE : D-154-97

REPORTED : 26 JAN 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-154-97 114.6-118.5	0.147		0.196	0.10
D-154-97 118.5-124.0	0.173		0.143	0.33
D-154-97 124-128	0.178		0.152	0.19
D-154-97 128-133	0.394		0.326	0.19
D-154-97 133.0-138.2	0.275	0.398	0.352	0.80
D-154-97 138.2-143.7	0.406	0.304	0.259	0.30
D-154-97 143.7-146.8	0.305		0.277	0.58
D-154-97 146.8-151.2	0.194		0.209	0.15
D-154-97 151.2-155.0	0.098		0.083	0.12
D-154-97 155-160	0.219		0.232	0.21
D-154-97 160-165	0.546		0.465	0.72
D-154-97 165.0-169.5	0.239		0.256	0.93
D-154-97 169.5-173.0	1.163		1.080	1.12
D-154-97 173.0-176.5	0.113		0.107	0.19
D-154-97 176.5-179.1	0.161		0.152	0.66
D-154-97 180.8-183.2	0.077		0.072	0.36
D-154-97 183.2-187.0	0.045			0.39
D-154-97 187-189	0.029			0.51
D-154-97 189.0-191.3	0.098		0.152	0.21
D-154-97 191.3-195.8	0.159		0.169	0.82
D-154-97 195.8-198.0	0.053		0.064	0.36
D-154-97 199.7-204.0	0.052		0.057	0.25
D-154-97 204-205	0.072		0.063	6.78
D-154-97 205-207	0.045			0.44
D-154-97 207-209	0.013			0.14

645 / 27.775 = 0.43 Ag

AMERICAN ASSAY LABORATORIES

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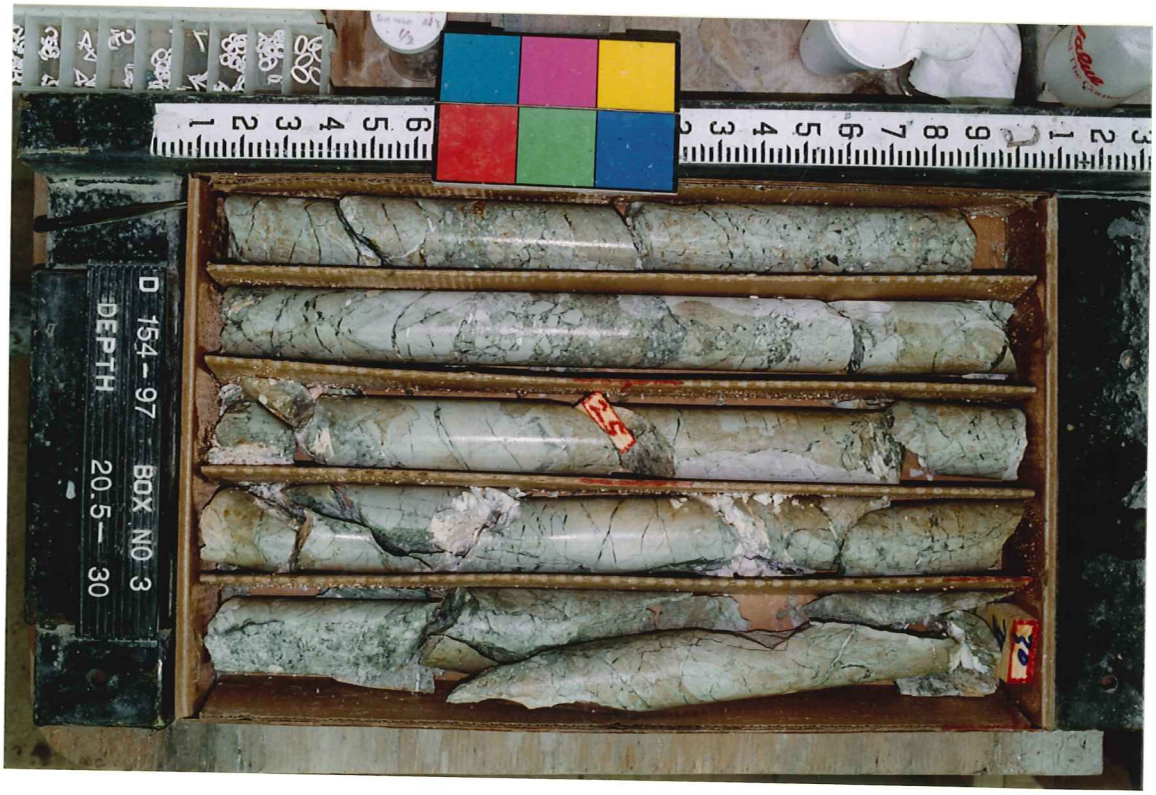
SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-154-97 209-212	0.025			11.60
D-154-97 212.0-214.7	0.009			2.17
D-154-97 214.7-219.0	0.022			7.40
D-154-97 219.0-223.5	0.023			4.14
D-154-97 223.5-224.8	0.002			0.08
D-154-97 224.8-229.0	0.003			0.05
D-154-97 229.0-232.6	0.008			0.07
D-154-97 232.6-236.0	0.001			0.04

D-154-97

FILM FOOTAGE	SURVEY BEARING	SURVEY DIP	TRUE BEARING	TRUE DIP
COLLAR	S 56 E	91°	N 40° W	1°
115	S 57.5 E	91	N 41° W	1°
230	S 58 E	91	N 42° W	1°

D 154-97 BOX NO 2
DEPTH 9.5-20.5

D 154-97 BOX NO 1
DEPTH 0-9.5


D 154-97 BOX NO 3
DEPTH 20.5- 30

45
40
D 154-97 BOX NO 5
DEPTH 39.5-49

34.5
32
D 154-97 BOX NO 4
DEPTH 30-39.5

50
55
D 154-97 BOX NO 6
DEPTH 49 - 59

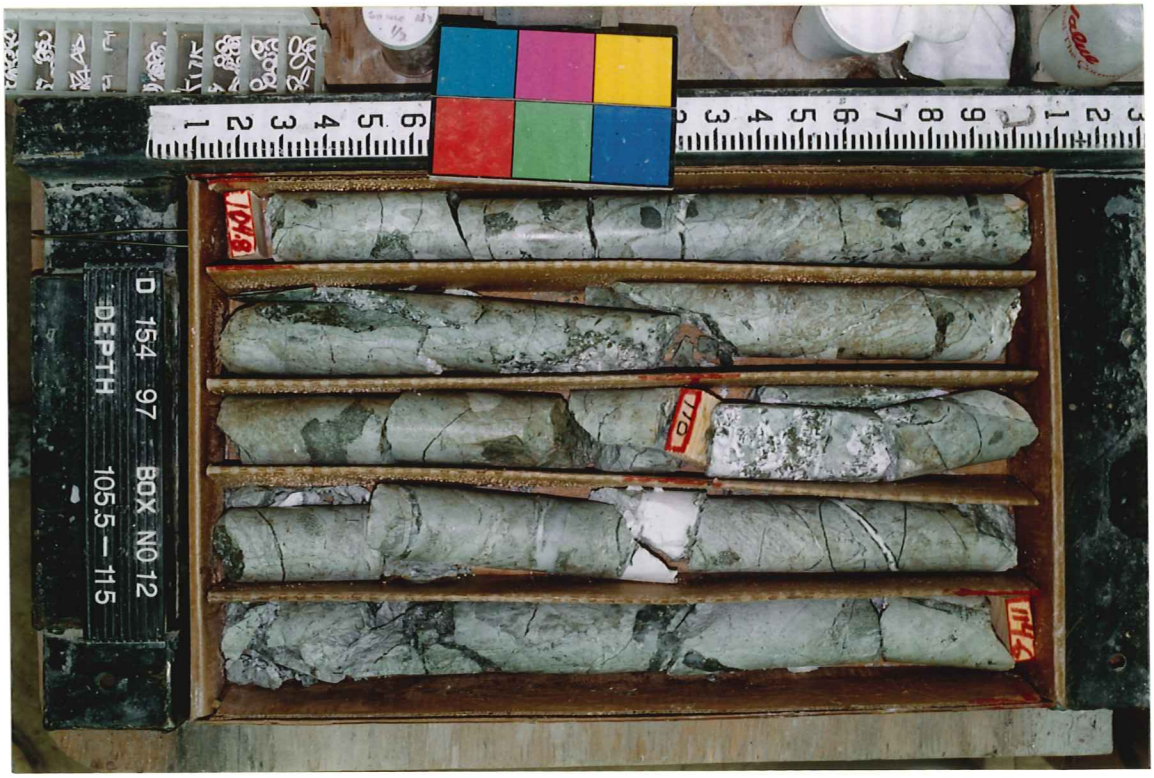
72.4
70
68
D 154-97 BOX NO 8
DEPTH 67.5 – 77

60
64.8
D 154-97 BOX NO 7
DEPTH 59 –67.5

77
80
82
D 154-97 BOX NO 9
DEPTH 77 –86.5

D 154-97 BOX NO 11
DEPTH 96.5 -105,5

D 154-97 BOX NO 10
DEPTH 86.5 -96,5


D 154 97 BOX NO 12
DEPTH 105.5 - 115

D 154 - 97 BOX NO 14
DEPTH 125 — 135

D 154 - 97 BOX NO 13
DEPTH 115 — 125

D 154 - 97 BOX NO 15
DEPTH 135 — 145

D 154-97 BOX NO 17
DEPTH 152-161
155
160

D 154-97 BOX NO 16
DEPTH 145-152
145
146
151
150

D 154-97 BOX NO 18
DEPTH 161-171
165
167
169
171

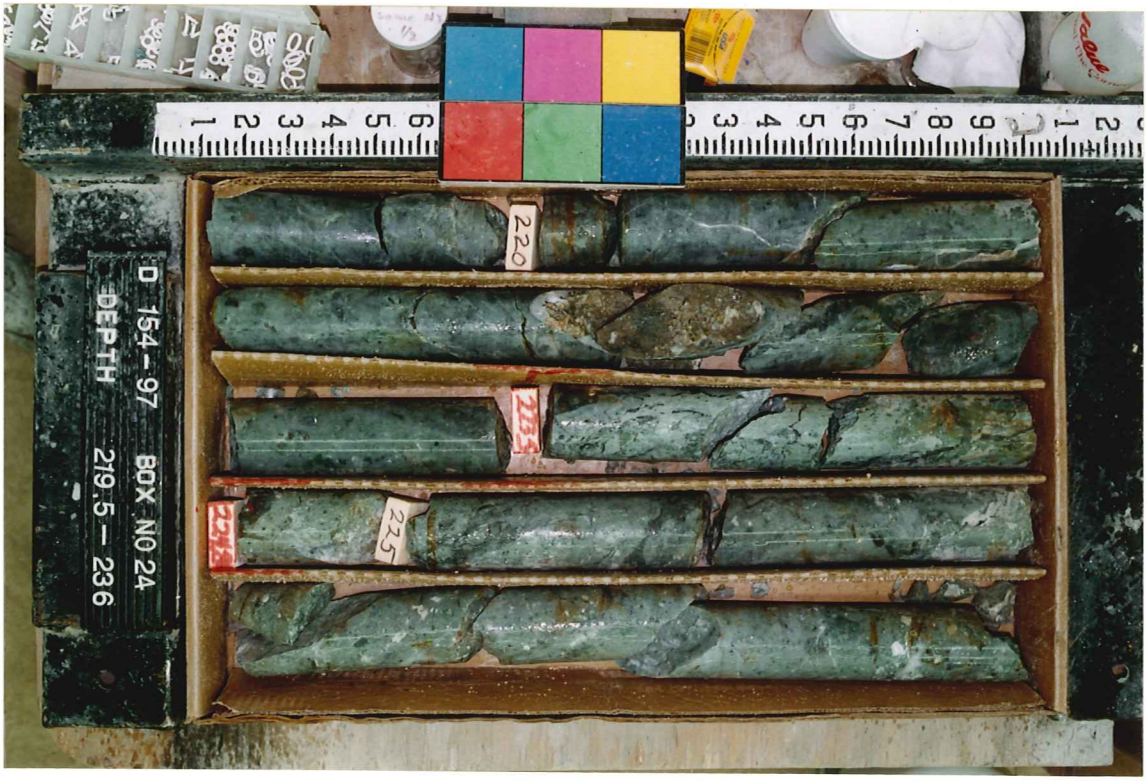
D 154-97 BOX NO 20
DEPTH 181-191

D 154-97 BOX NO 19
DEPTH 171-181

D 154-97 BOX NO 21
DEPTH 191-200

215
D 154-97 BOX NO 23
DEPTH 209,5—219,5

208
205
209
207
201
192,5
202,5
D 154-97 BOX NO 22
DEPTH 200—209,5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225
D 154-97 BOX NO 24
DEPTH 219,5 — 236

D 154-97 BOX NO 25
DEPTH 229 - 236

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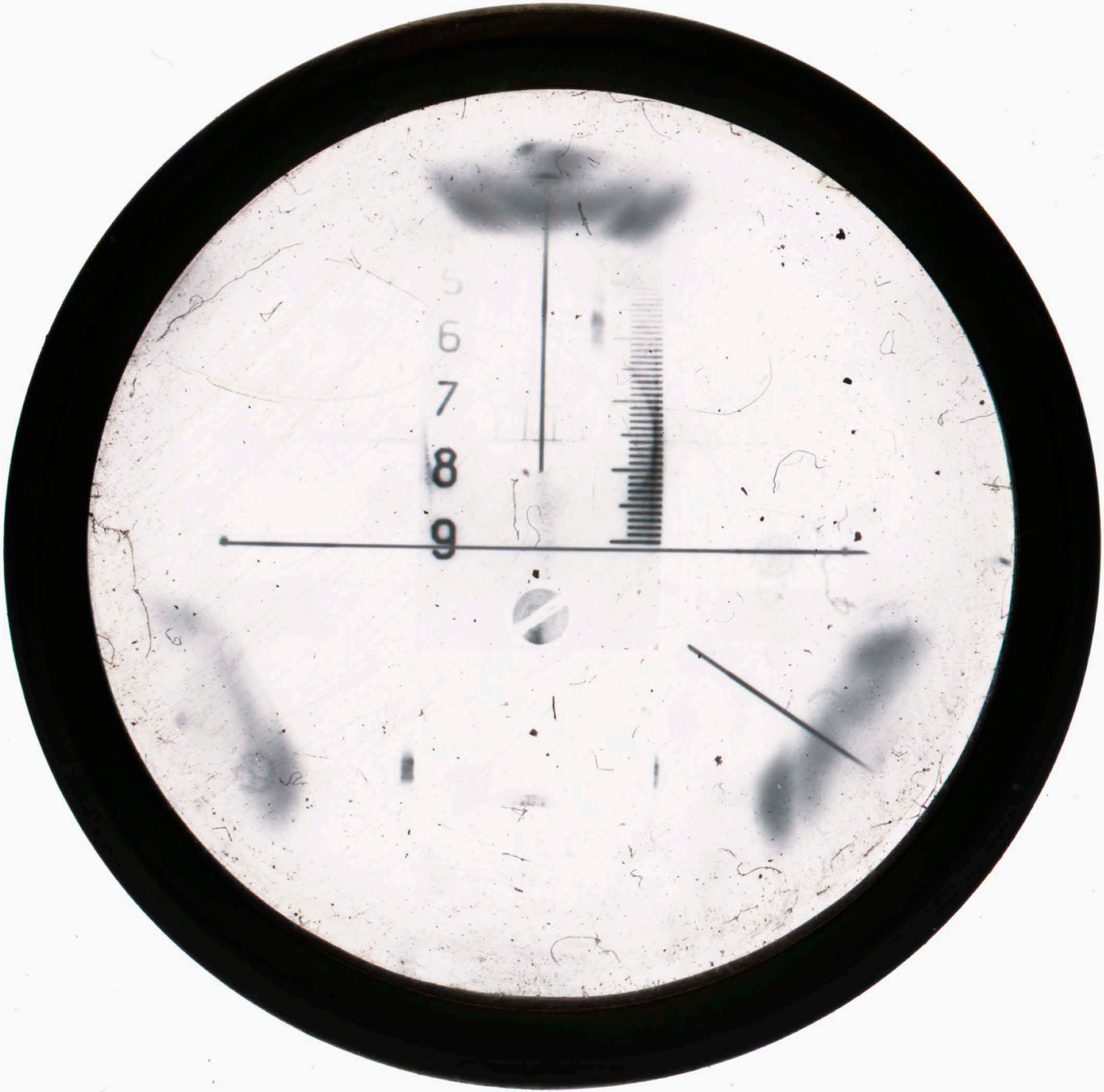
D 154-97 BOX NO 24
DEPTH 219.5-229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