60001179

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-278-98
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 354' receipt; handwritten notes; downhole camera images 45p. 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)

	Initials	Date
SS:	DP	5/14/08
DB:	mch	
SCANNED:	NB	

Revised: 1/22/08

D-278-98

60001179 4010

6000 1179

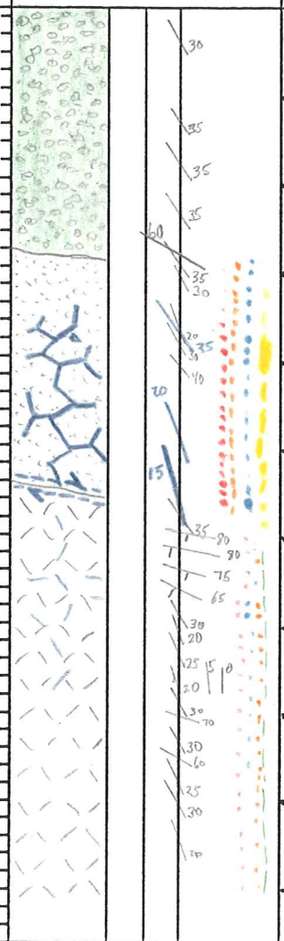
- ☐ quartz, chalcedony, silicification
- ☐ faults, fractures
- ☐ FeOx ☐ BARITE
- ☐ sulfide
- ☐ calcite, carbonate
- ☐ argillization, white clays
- ☐ propylitization
- ☐ potassic alteration
- ☐ chlorite, chloritic clays

Hecla
MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-278-98	LOCATION	North 1400
PAGE	1 OF 6	NORTHING	
DATE	9/3/98 9/5/98	EASTING	
LOGGED BY	Randall K. Stoeberl	ELEVATION	
SCALE	1" = 10'	AZIMUTH	S 55 E
TOTAL DEPTH	354'	INCLINATION	73°

REMARKS

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-14 Tos — Green, wht trace Fe Gray polylithic tuff	0			
		14-27 FG Massive — Wht, Lt Gray FG massive	10, 20		18-19 Frac stg re-cemented w/ calc & silica trace to minor Vein Breccia 27' Fault Contact? Busted up a bit. 27-44 Crackle Zone: wk to very wk Frac-Crackle 44-49 Trace - very wk crackle.	14-27' Bleached: minor calc Vn & sulfide veins a) 18-19' Inc Frac, re-cemented w/ calc & silica & stg mineral disem Py Trace - minor Pyr w/ minor Breccia in veins b) 19-27 Frac mod to lcl stg Fault contact? Contact busted up wd re-cemented w/ calc & silica. 27-44' wk Frac or crackle zone. w/ mostly clay in Frac seams & chlorite & calc & sulf. 44-49' Very wk to trace clay/chlorite filled cracks
		27-150 Slight Planar Laminar — Pale Green, Lt Gray	30, 40, 50			

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag
0	5					
5	9					
9	14					
14	19					
19	24					
24	29					
29	34					
34	39					
39	44					
44	49					

HOLE NUMBER D-278-98 PAGE 2 OF 6

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		27-150 Slight Planar Laminar SAL	50 60 70 80 90 100 110 120		49-134 wk to very wk Crackle & Not much going on	49-134 Not much going on wk to very wk Stress of Crackle w/ I clay suit. Lcl wk-mod crackle but very wk overall. Small calc vein @ 108' a) Starting to become bleached & Argillized @ 110. down to 114' then Pale Green

ANALYTICAL DATA

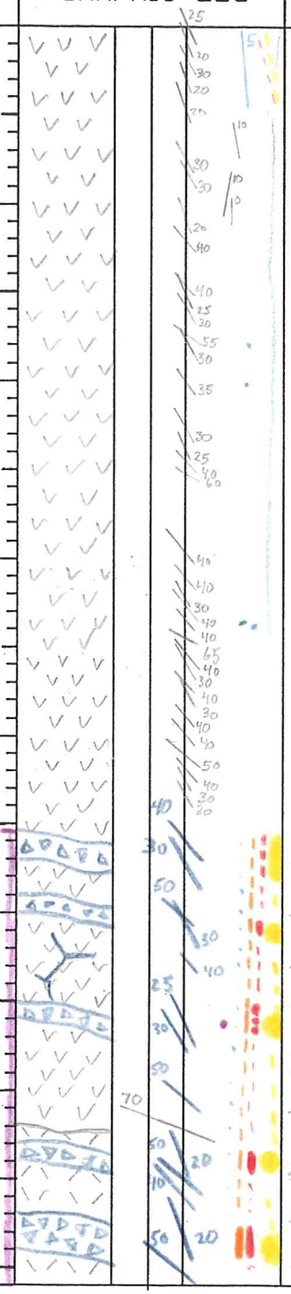
FROM	TO	W	Au	Ag	Au2	A
49	54					
54	59					
59	64					
64	69					
69	74					
74	79					
79	84					
84	89					
89	94					
94	99					
99	104					
104	109					
109	114					
114	119					

HOLE NUMBER D-278-98 PAGE 3 OF

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		27-150 Slight Planar Laminar	120			49-134 - Not much going on
			130			
		139-150 F.G. MMSS			134-140' wk to very wk Freq.	134 - 140' Slight incr Freq still wk overall Incr disseminated Sulf → Py: chlorite in seams
			140			
		150-202 Vitrophyre Pale Green, Green			144-150' minor wk Freq	144-150' SAA
		Sharpened looking Vitrophyre	150			150-189 - Slim
			160			
			170			
			180			
			190			

ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
119	124				
124	129				
129	134				
134	139				
139	144				
144	149				
149	154				
154	159				
159	164				
164	169				
169	174				
174	179				
179	184				
184	189				

HOLE NUMBER D-278-98 PAGE 4 OF 6

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		150-257 Vitrophyre 202-257 F.G. MHSS 246-253 - Frac Mod to local Strg w/ vuggy drusy silica, ± calc, sulf = mc ; Py 253-254 - Brx Gray to Dk Gray silica and Strg wht Clay 254-257 - wk to very wk Crackle Zone 257-259 - Brx Zone Gray silica ; Strg vugs w/ Mc Chlorite Py ; clay in vugs. 257-283 Slight Planar Laminar Pima Samples @ 245.5' & 253.5'	190 200 210 220 230 240 250 260		189-194 235.5'-237 Brecciated / Fault Zone ? 237-239' Frac - Strg 239-240 Brecciated / Fault ? 240-245 Frac Mod overall 245-246 - Breccia / Fault ? 246-253 Frac Mod - Lcl Strg. 253-254 - Brx Fault ? 254-257 wk Frac → Crackle 257-259 - Brecciated Fault ?	189-194 Drusy Qtz ; Calc veins w/ Enh. Mc in Frac only one vein @ 5° runs the entire interval. Mc ; calc in Vugs. 194-222 - slim 219-224 Chlorite / calc filled cracks. 222-223 minor chlorite cemented Brx Veins minor calc 224-235.5' wk Frac w/ calc / clay / chlorite ; sulf 235.5-237' Silica cemented Brx w/ minor wht clay ; ± calc. Sulfides are mod to Lcl Strg w/ Mc ; Py. Vuggy drusy Qtz 237-239 Increase Frac w/ Silica cement ; drusy Qtz 239-240' Small Brx Zone SAA Brx 240-245 Frac Zone Mod Overall w/ calc-silica silt cement, Trace Barite 245-246 Small Brx Zone w/ lots of open space ; Enh. Mc.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	A
189	194					
194	199					
199	204					
204	209					
209	214					
214	219					
219	224					
224	229					
229	235.5					
235.5	240					
240	244					
244	249					
249	253					
253	254					
254	257					
257	259					

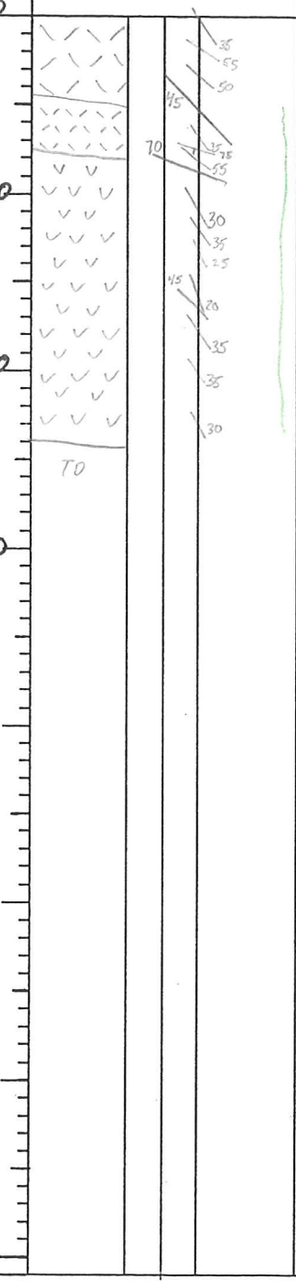
HOLE NUMBER D-278-98 PAGE 5 OF 6

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		[257-283' Slight Planar Laminar] Light Grey, Pale Green, Lt Tan Slight Planar Lam. * Piston Samples ① 1) 263 2) 269	260 270 280 290 300 310 320 330		259-274' - Fracs mod-strong Lil Intense	259-274' - Fracs w/ silica/clay/ Drusy Qtz/ mc ? Py filled cracks ± Calc.
					274-283' very wk fracs or crackle.	274-283' wk to slim
		283-296.5' LST Leopard Spotted Tuff			283-284.5 minor Brx may be Faulte? 284.5-292' Fracs mod to Lil strong	283-284.5 minor Brx Zone w/ silica drusy Qtz Lith Py ? mc in Fracs vugs. 284.5-292' Fracs : Calc Silica Sulf and Barite in open space
		296.5 - 334.5' Slight Planar Laminar				292-308' very wk to slim
						308- Slim → almost a trace of alteration looks bleach, minor Green to Pale Green clay in cracks @ 310-312' again 315-322'

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	
259	264					
264	269					
269	274					
274	278					
278	283					
283	285					
285	290					
290	292					
292	294					
294	299					
299	303					
303	308					
308	313					
313	318					
318	323					
323	326					
326	329					

HOLE NUMBER D-278-98 PAGE 6 OF 6

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		334.5 - 337.5 FG Slight Planar Laminar 329 - 354 F.G. MASS 337.5 - 354 Vitrophyre Green Shattered looking vitrophyre	330 340 350 360	TO		308 - 354 Slim



ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
329	334				
334	339				
339	344				
344	349				
349	354				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/3/98 LOGGED BY: Randall R. Siebert 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	94	92	48										
5	9	99	108	94										
9	14	100	100	100										
14	19	100	98	90										
19	24	100	102	88										
24	29	100	100	80										
29	34	100	98	58										
34	39	100	98	86										
39	44	100	100	100										
44	49	100	92	100										
49	54	100	108	92										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/3/98 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)
54	59	100	100	100										
59	64	100	100	86										
64	69	98	92	78										
69	74	100	98	92										
74	79	100	106	98										
79	84	100	102	98										
84	89	96	98	68										
89	94	100	100	98										
94	99	100	100	100										
99	104	100	102	100										
104	109	94	100	72										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/3/98 LOGGED BY: RKS PAGE 3 OF 7

3.0 ft
3.0 ft

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)
109	114	100	100	78										
114	119	100	100	85										
119	124	100	98	79										
124	129	100	97	48										
129	134	100	98	74										
134	139	100	102	84										
139	144	100	120?	94										
144	149	100	100	84										
149	154	100	90	60										
154	159	100	99	96										
159	164	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/4/98 LOGGED BY: DKS 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)
164	169	100	100	100										
169	174	100	99	100										
174	179	100	96	100										
179	184	100	98	98										
184	189	100	102	100										
189	194	100	103	100										
194	199	100	98	100										
199	204	100	99	100										
204	209	100	103	100										
209	214	100	101	100										
214	219	100	95	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/4/98 LOGGED BY: RKS PAGE 5 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)
219	224	100	102	98										
224	229	100	100	80										
229	234	100	99	100										
234	239	100	100	100										
239	244	100	90	100										
244	249	100	104	98										
249	254	100	104	98										
254	259	100	102	100										
259	264	90	86	22										
264	269	98	100	96										
269	274	98	102	80										

4.7 +1
4.5 >4

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278-98 DATE: 9/4/98 LOGGED BY: RKS PAGE 6 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)
274	278	100	92	100										
278	283	100	104	100										
283	286	100	100	90										
286	288.5	100	97	88										
288.5	290	100	99	100										
290	294	100	93	100										
294	299	100	100	96										
299	303	100	105	100										
303	308	100	98	100										
308	313	100	101	100										
313	318	100	98	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-278 DATE: 9/4/98 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)
318	323	100	104	96										
323	326	100	98	100										
326	329	100	100	100										
329	334	100	99	100										
334	339	100	98	100										
339	344	100	102	100										
344	349	100	99	100										
349	354	100	98	98										
	TD													

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 005056/-IN
INVOICE DATE: 10/02/98

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-278-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
77	SAMPLES RECEIVED	.00	.00
75	DRYING	1.00	75.00
76	JAW CRUSHING CHARGE	1.30	98.80
76	COARSE MILLING CHARGE	4.50	342.00
76	SPLITTING CHARGE	2.40	182.40
76	RING MILLING CHARGE	2.00	152.00
77	Au (1 A.T. FIRE ASSAY)	8.00	616.00
12	Au ANALYSES/GRAVIMETRIC	8.75	105.00
77	HYDROCHLORIC/NITRIC DIGESTION	2.00	154.00
77	Ag ANALYSES	1.00	77.00
3	Ag (ore grade) ANALYSES	5.00	15.00

86-5110-477

NET INVOICE:	1,818.20
LESS DISCOUNT:	363.64
FREIGHT:	.00
INVOICE TOTAL:	1,454.56

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP050567

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-278-98 RECEIVED : 11 SEP 1998

No. SAMPLES : 77 REPORTED : 1 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 SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 0-5	<0.001			0.02
D-278-98 5-9	0.001			0.02
D-278-98 9-14	0.015			0.03
D-278-98 14-19	0.005			0.10
D-278-98 19-24	0.005			0.06
D-278-98 24-29	0.023			0.04
D-278-98 29-34	0.002			0.02
D-278-98 34-39	0.005			0.06
D-278-98 39-44	0.002			0.05
D-278-98 44-49	<0.001			0.02
D-278-98 49-54	0.038			0.04
D-278-98 54-59	<0.001			<0.02
D-278-98 59-64	0.002			0.02
D-278-98 64-69	0.014			0.03
D-278-98 69-74	<0.001			<0.02
D-278-98 74-79	0.001			0.04
D-278-98 79-84	0.001			0.03
D-278-98 84-89	0.004			0.03
D-278-98 89-94	<0.001			0.03
D-278-98 94-99	<0.001			<0.02
D-278-98 99-104	<0.001			0.02
D-278-98 104-109	0.004			0.05
D-278-98 109-114	0.003			0.03
D-278-98 114-119	<0.001			<0.02
D-278-98 119-124	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 124-129	<0.001			<0.02
D-278-98 129-134	<0.001			<0.02
D-278-98 134-139	0.001			<0.02
D-278-98 139-144	<0.001			<0.02
D-278-98 144-149	<0.001			<0.02
D-278-98 149-154	0.005			0.07
D-278-98 154-159	0.003			0.04
D-278-98 159-164	<0.001			<0.02
D-278-98 164-169	<0.001			<0.02
D-278-98 169-174	0.001			0.02
D-278-98 174-179	<0.001			0.02
D-278-98 179-184	<0.001			0.03
D-278-98 184-189	<0.001			<0.02
D-278-98 189-194	0.010			0.05
D-278-98 194-199	0.003			0.02
D-278-98 199-204	0.010			0.04
D-278-98 204-209	<0.001			<0.02
D-278-98 209-214	<0.001			<0.02
D-278-98 214-219	<0.001			<0.02
D-278-98 219-224	0.003			<0.02
D-278-98 224-229	0.022			0.03
D-278-98 229.0-235.5	0.003			0.03
D-278-98 235.5-240.0	0.277		0.310	0.94
D-278-98 240-244	0.330		0.326	0.42
D-278-98 244-249	1.047		1.050	1.23

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 249-253	0.093		0.113	0.18
D-278-98 253-254	2.723		2.998	4.05
D-278-98 254-257	0.013			0.44
D-278-98 257-259	0.161		0.152	0.22
D-278-98 259-264	0.017			0.06
D-278-98 264-269	0.242		0.296	0.39
D-278-98 269-274	0.244		0.256	0.18
D-278-98 274-278	0.004			0.06
D-278-98 278-283	0.026			0.07
D-278-98 283-285	0.413		0.345	0.39
D-278-98 285-290	1.395		1.512	2.71
D-278-98 290-292	2.512		2.114	3.24
D-278-98 292-294	0.010			0.12
D-278-98 294-299	0.066		0.086	0.06
D-278-98 299-303	0.006			0.03
D-278-98 303-308	0.003			0.02
D-278-98 308-313	<0.001			<0.02
D-278-98 313-318	<0.001			<0.02
D-278-98 318-323	<0.001			<0.02
D-278-98 323-326	<0.001			<0.02
D-278-98 326-329	<0.001			<0.02
D-278-98 329-334	<0.001			<0.02
D-278-98 334-339	<0.001			<0.02
D-278-98 339-344	0.001			<0.02
D-278-98 344-349	0.001			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 349-354	<0.001			<0.02
40510	0.540			3.34

xAMERICAN ASSAY LABORATORIES
ANALYSIS REPORT SP050567

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-278-98 RECEIVED : 11 SEP 1998

No. SAMPLES : 77 REPORTED : 1 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 SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 0-5	<0.001			0.02
D-278-98 5-9	0.001			0.02
D-278-98 9-14	0.015			0.03
D-278-98 14-19	0.005			0.10
D-278-98 19-24	0.005			0.06
D-278-98 24-29	0.023			0.04
D-278-98 29-34	0.002			0.02
D-278-98 34-39	0.005			0.06
D-278-98 39-44	0.002			0.05
D-278-98 44-49	<0.001			0.02
D-278-98 49-54	0.038			0.04
D-278-98 54-59	<0.001			<0.02
D-278-98 59-64	0.002			0.02
D-278-98 64-69	0.014			0.03
D-278-98 69-74	<0.001			<0.02
D-278-98 74-79	0.001			0.04
D-278-98 79-84	0.001			0.03
D-278-98 84-89	0.004			0.03
D-278-98 89-94	<0.001			0.03
D-278-98 94-99	<0.001			<0.02
D-278-98 99-104	<0.001			0.02
D-278-98 104-109	0.004			0.05
D-278-98 109-114	0.003			0.03
D-278-98 114-119	<0.001			<0.02
D-278-98 119-124	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 124-129	<0.001			<0.02
D-278-98 129-134	<0.001			<0.02
D-278-98 134-139	0.001			<0.02
D-278-98 139-144	<0.001			<0.02
D-278-98 144-149	<0.001			<0.02
D-278-98 149-154	0.005			0.07
D-278-98 154-159	0.003			0.04
D-278-98 159-164	<0.001			<0.02
D-278-98 164-169	<0.001			<0.02
D-278-98 169-174	0.001			0.02
D-278-98 174-179	<0.001			0.02
D-278-98 179-184	<0.001			0.03
D-278-98 184-189	<0.001			<0.02
D-278-98 189-194	0.010			0.05
D-278-98 194-199	0.003			0.02
D-278-98 199-204	0.010			0.04
D-278-98 204-209	<0.001			<0.02
D-278-98 209-214	<0.001			<0.02
D-278-98 214-219	<0.001			<0.02
D-278-98 219-224	0.003			<0.02
D-278-98 224-229	0.022			0.03
D-278-98 229.0-235.5	0.003			0.03
D-278-98 235.5-240.0	0.277		0.310	0.94
D-278-98 240-244	0.330		0.326	0.42
D-278-98 244-249	1.047		1.050	1.23

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 249-253	0.093		0.113	0.18
D-278-98 253-254	2.723		2.998	4.05
D-278-98 254-257	0.013			0.44
D-278-98 257-259	0.161		0.152	0.22
D-278-98 259-264	0.017			0.06
D-278-98 264-269	0.242		0.296	0.39
D-278-98 269-274	0.244		0.256	0.18
D-278-98 274-278	0.004			0.06
D-278-98 278-283	0.026			0.07
D-278-98 283-285	0.413		0.345	0.39
D-278-98 285-290	1.395		1.512	2.71
D-278-98 290-292	2.512		2.114	3.24
D-278-98 292-294	0.010			0.12
D-278-98 294-299	0.066		0.086	0.06
D-278-98 299-303	0.006			0.03
D-278-98 303-308	0.003			0.02
D-278-98 308-313	<0.001			<0.02
D-278-98 313-318	<0.001			<0.02
D-278-98 318-323	<0.001			<0.02
D-278-98 323-326	<0.001			<0.02
D-278-98 326-329	<0.001			<0.02
D-278-98 329-334	<0.001			<0.02
D-278-98 334-339	<0.001			<0.02
D-278-98 339-344	0.001			<0.02
D-278-98 344-349	0.001			0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP050567

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-278-98 349-354	<0.001			<0.02
40510	0.540			3.34

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050567

PO BOX 11530
RENO NV, USA
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HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: D-278-98 RECEIVED : 11 SEP 1998

No. SAMPLES : 77 REPORTED : 1 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(BZ)	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 SP050567

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ)	Au(R2)	AuGRAV	Ag(OZ)
D-278-98 0-5	<0.001			0.02
D-278-98 5-9	0.001			0.02
D-278-98 9-14	0.015			0.03
D-278-98 14-19	0.005			0.10
D-278-98 19-24	0.005			0.06
D-278-98 24-29	0.023			0.04
D-278-98 29-34	0.002			0.02
D-278-98 34-39	0.005			0.06
D-278-98 39-44	0.002			0.05
D-278-98 44-49	<0.001			0.02
D-278-98 49-54	0.038			0.04
D-278-98 54-59	<0.001			<0.02
D-278-98 59-64	0.002			0.02
D-278-98 64-69	0.014			0.03
D-278-98 69-74	<0.001			<0.02
D-278-98 74-79	0.001			0.04
D-278-98 79-84	0.001			0.03
D-278-98 84-89	0.004			0.03
D-278-98 89-94	<0.001			0.03
D-278-98 94-99	<0.001			<0.02
D-278-98 99-104	<0.001			0.02
D-278-98 104-109	0.004			0.05
D-278-98 109-114	0.003			0.03
D-278-98 114-119	<0.001			<0.02
D-278-98 119-124	<0.001			<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050567

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-278-98 124-129	<0.001			<0.02	
D-278-98 129-134	<0.001			<0.02	
D-278-98 134-139	0.001			<0.02	
D-278-98 139-144	<0.001			<0.02	
D-278-98 144-149	<0.001			<0.02	
D-278-98 149-154	0.005			0.07	
D-278-98 154-159	0.003			0.04	
D-278-98 159-164	<0.001			<0.02	
D-278-98 164-169	<0.001			<0.02	
D-278-98 169-174	0.001			0.02	
D-278-98 174-179	<0.001			0.02	
D-278-98 179-184	<0.001			0.03	
D-278-98 184-189	<0.001			<0.02	
D-278-98 189-194	0.010			0.05	
D-278-98 194-199	0.003			0.02	
D-278-98 199-204	0.010			0.04	
D-278-98 204-209	<0.001			<0.02	
D-278-98 209-214	<0.001			<0.02	
D-278-98 214-219	<0.001			<0.02	
D-278-98 219-224 4.5	0.003			<0.02	235.5-292
D-278-98 224-229	0.022			0.03	56.5' @
D-278-98 229.0-235.5	0.003			0.03	
D-278-98 235.5-240.0 4.5	0.277		0.310	0.94	
D-278-98 240-244 4	0.330		0.326	0.42	0.473 Au
D-278-98 244-249 5	1.047		1.050	1.23	0.76 Ag

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050567

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES		Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-278-98 249-253	4	0.093		0.113	0.18
D-278-98 253-254	1	2.723		2.998	4.05
D-278-98 254-257	3	0.013			0.44
D-278-98 257-259	2	0.161		0.152	0.22
D-278-98 259-264	5	0.017			0.06
D-278-98 264-269	5	0.242		0.296	0.39
D-278-98 269-274	5	0.244		0.256	0.18
D-278-98 274-278	4	0.004			0.06
D-278-98 278-283	5	0.026			0.07
D-278-98 283-285	2	0.413		0.345	0.39
D-278-98 285-290	5	1.395		1.512	2.71
D-278-98 290-292	2	2.512		2.114	3.24
D-278-98 292-294		0.010			0.12
D-278-98 294-299		0.066		0.086	0.06
D-278-98 299-303		0.006			0.03
D-278-98 303-308		0.003			0.02
D-278-98 308-313		<0.001			<0.02
D-278-98 313-318		<0.001			<0.02
D-278-98 318-323		<0.001			<0.02
D-278-98 323-326		<0.001			<0.02
D-278-98 326-329		<0.001			<0.02
D-278-98 329-334		<0.001			<0.02
D-278-98 334-339		<0.001			<0.02
D-278-98 339-344		0.001			<0.02
D-278-98 344-349		0.001			0.04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP050567

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-278-98

REPORTED : 1 OCT 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-278-98 349-354	<0.001			<0.02
40510	0.540			3.34

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: Hecla Rosebud

Address: PO Box 2610

City Winnemucca State NV Zip 89445

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

Project Name: Rosebud Purchase Order Number:

Date Submitted: 9/9/98 Number of Samples: 76

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

SAMPLE IDENTIFICATION				TYPE	ELEMENTS REQUIRED	
D-278-98				Core	Au/Ag Rosebud Specs	
0-5	69-74	139-144	209-214			
5-9	74-79	144-149	214-219		269-274	323-326
9-14	79-84	149-154	219-224		274-278	326-329
14-19	84-89	154-159	224-229		278-283	329-334
19-24	89-94	159-164	229-235.5		283-285	334-339
24-29	94-99	164-169	235.5-240		285-290	339-344
29-34	99-104	169-174	240-244		290-292	344-349
34-39	104-109	174-179	244-249		292-294	349-354 TD
39-44	109-114	179-184	249-253		294-299	
44-49	114-119	184-189	253-254		299-303	
49-54	119-124	189-194	254-257		303-308	
54-59	124-129	194-199	257-259		308-313	
59-64	129-134	199-204	259-264		313-318	
64-69	134-139	204-209	264-269		318-323	

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-278-98	0	72	125.7
	175	73	124.7
	354	73	124.2

D-278-98 BOX 2
DEPTH 9_5 - 19
14
19

D-278-98 BOX 1
DEPTH 0 - 9_5
5
9

D-278-98 BOX 3
DEPTH 19 - 28
24

39'
D-278-98 BOX 5
DEPTH 37_5 - 46_5

29'
34'
D-278-98 BOX 4
DEPTH 28 - 37_5

D-278-98 BOX 6
DEPTH 46_5 - 56
54
54

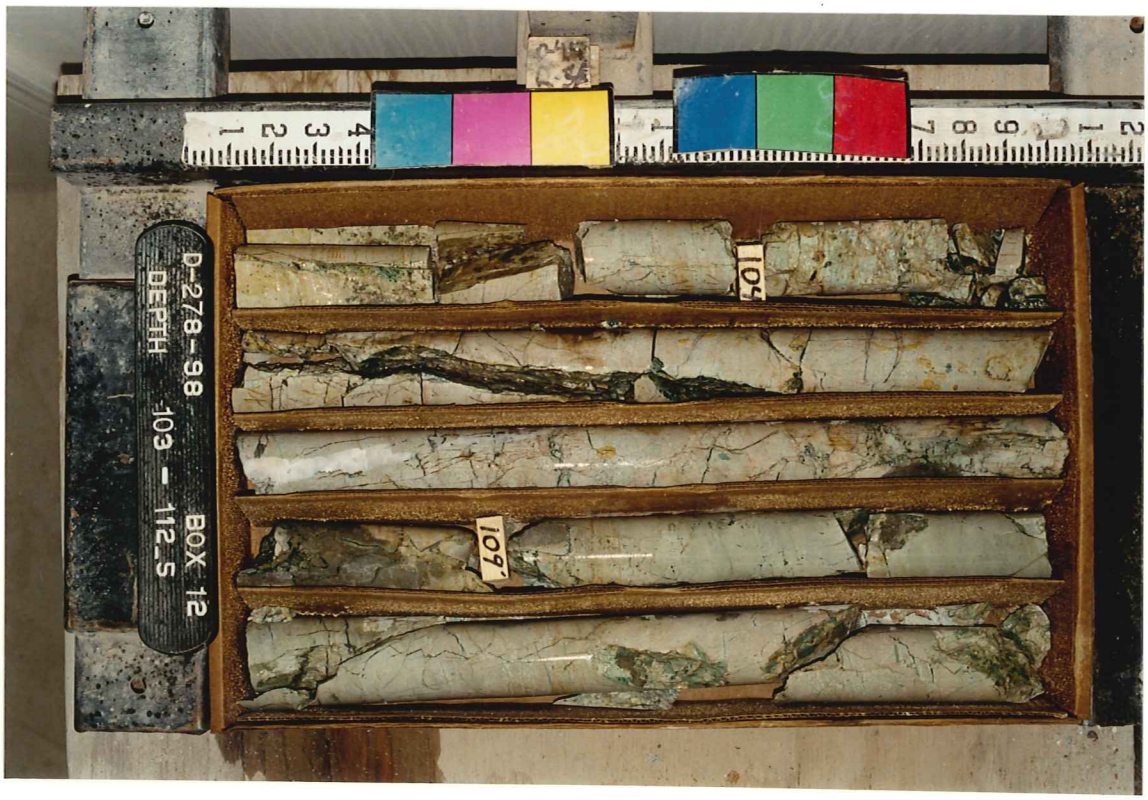
D-278-98 BOX 8
DEPTH 65 - 75_S
69
74

D-278-98 BOX 7
DEPTH 56 - 65
59
64

D-278-98 BOX 9
DEPTH 75_S - 84
79
84

99'
94
D-278-98 BOX 11
DEPTH 93_5 - 103

89
D-278-98 BOX 10
DEPTH 84 - 93_5


107
109'
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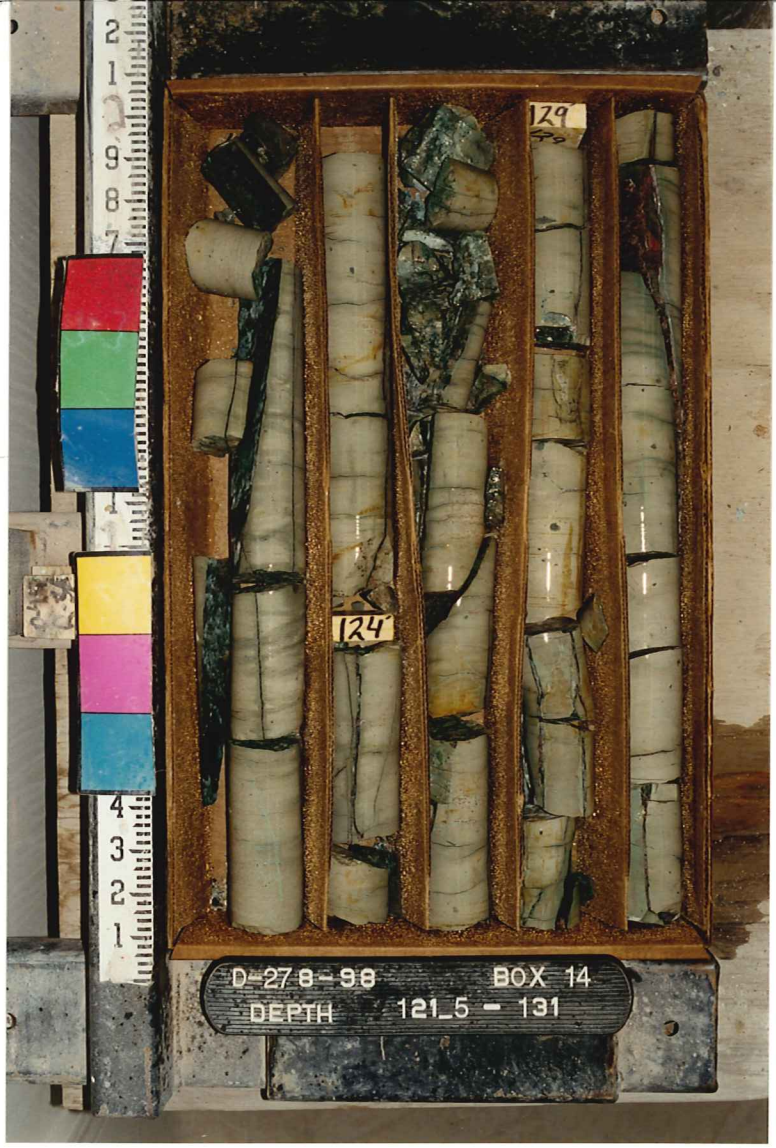
DEPTH 103 - 112_5

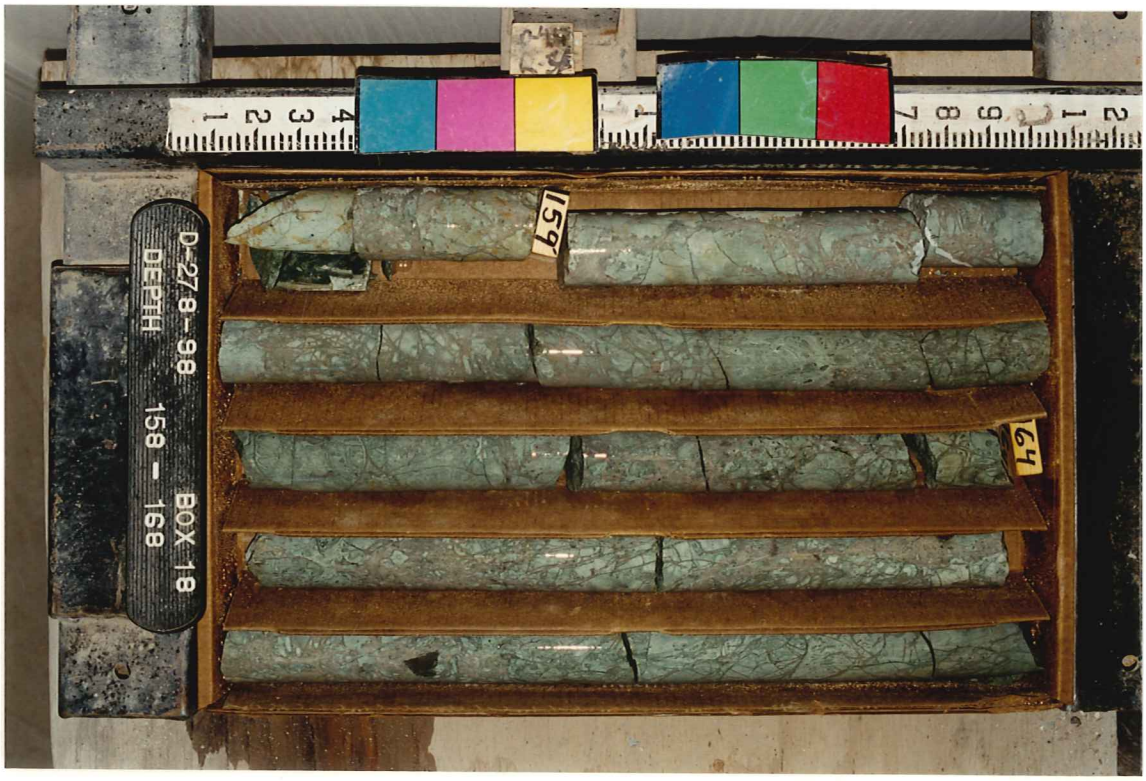

129
124
D-278-98
BOX 14
DEPTH
121_5 - 131

119
114
D-278-98
BOX 13
DEPTH
112_5 - 121_5

D-278-98
BOX 15
DEPTH
131 - 140_5
134
139

MIS-
LATCH
154
149
D-278-98 BOX 17
DEPTH 148_5 - 158

144
D-278-98 BOX 16
DEPTH 140_5 - 148_5


159
164
D-278-98 BOX 18
DEPTH 158 - 168

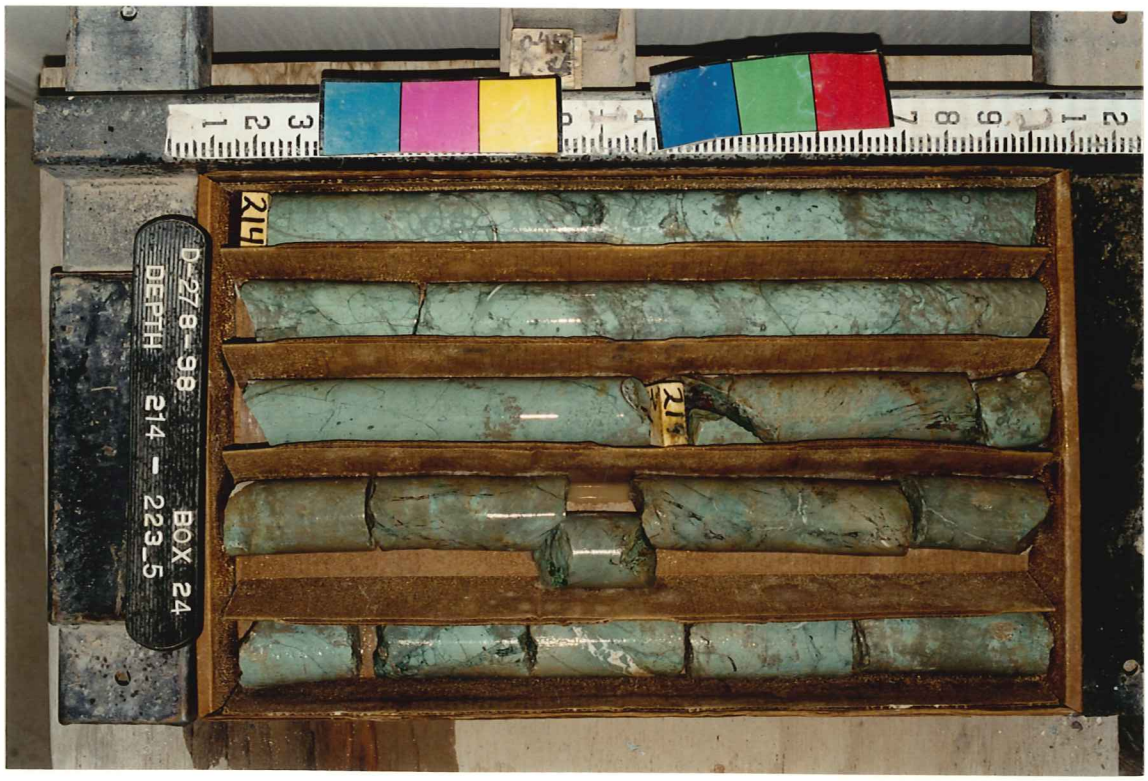
179
184
D-27 8-98
BOX 20
DEPTH 177_5 - 187

169
174
D-27 8-98
BOX 19
DEPTH 168 - 177_5

D-27 8-98
BOX 21
DEPTH 187 - 195_5
189
194

209
D-278-98 BOX 23
DEPTH 205 - 214

199
204
D-278-98 BOX 22
DEPTH 195_5 - 205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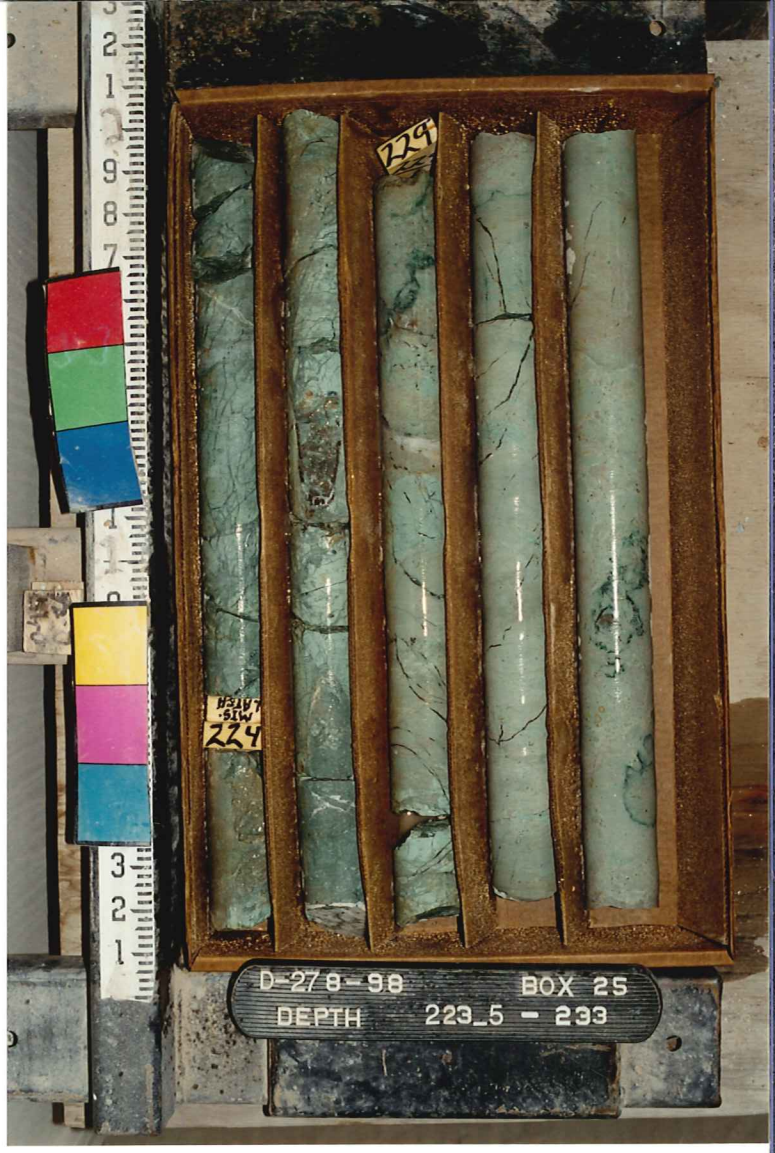
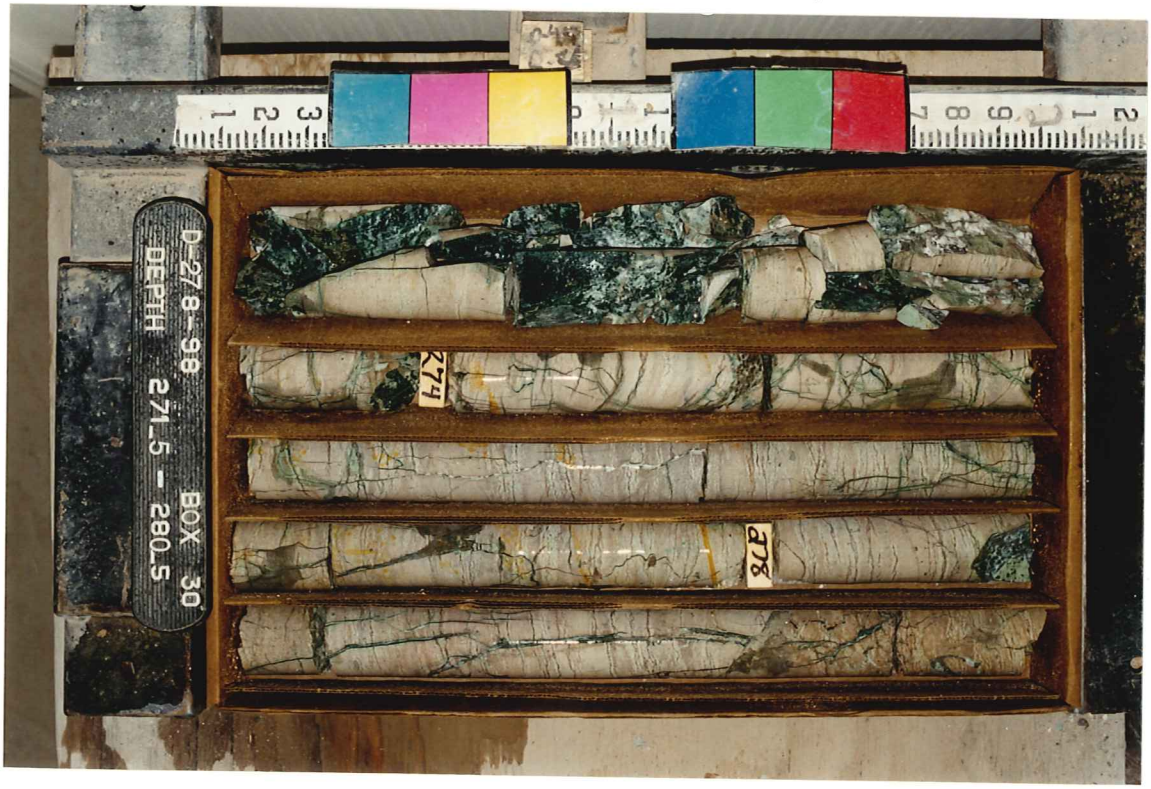
BOX 26
DEPTH 233 - 242_5


229
224
D-278-98
BOX 25
DEPTH 223_5 - 233

244
249
D-278-98
BOX 27
DEPTH 242_5 - 252

D-278-98
BOX 29
DEPTH 261_5 - 271_5
269
MES-LMECH
264

D-278-98
BOX 28
DEPTH 252 - 261_5
259
254


D-278-98
BOX 30
DEPTH 271_5 - 280_5
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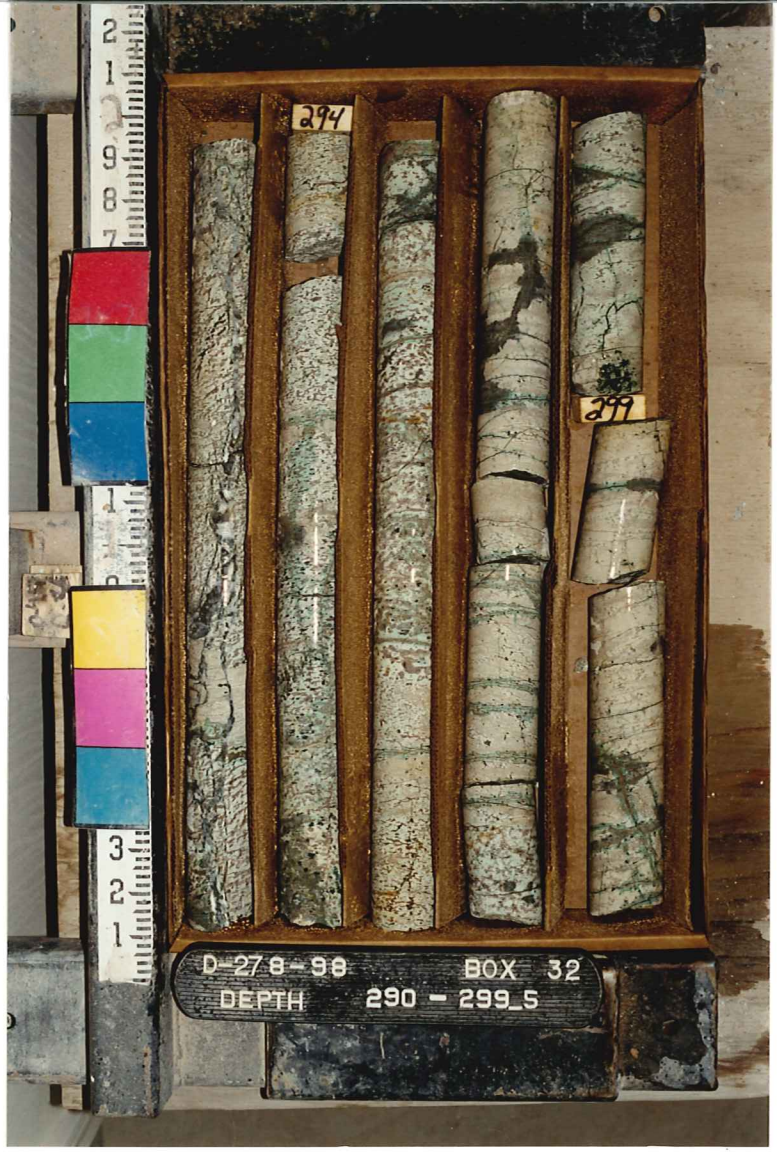
278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299
D-278-98 BOX 32
DEPTH 290 - 299_5

284
290
283
285
D-278-98 BOX 31
DEPTH 280_5 - 290

303
308
D-278-98 BOX 33
DEPTH 299_5 - 309_5

323
326
D-278-98
BOX 35
DEPTH 318_5 - 327_5

318
313
D-278-98
BOX 34
DEPTH 309_5 - 318_5

329
334
D-278-98
BOX 36
DEPTH 327_5 - 337

354
349
D-278-98
BOX 38
DEPTH 346 - 354 TD

339
344
D-278-98
BOX 37
DEPTH 337 - 346_5

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-278-98
LEASE
TAKEN BY Hughes
DEPTH 354
DATE 7-7-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-278-98
LEASE
TAKEN BY Hickes
DEPTH 175
DATE 7-7-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-278-98
LEASE
TAKEN BY Hughes
DEPTH Collar
DATE 7-7-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408