60001177

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-276-98
AUTHOR	S. King; K. Allen; A Niles
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 323' receipt; handwritten notes; downhole camera images 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 5/14/08
Initials Date

DB: mah
Initials Date

SCANNED: NB
Initials Date

Revised: 1/22/08

D-276-98

60001177 4010

6000 1177

- 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	D276-98	LOCATION	STOPE 50 SEC 1400
PAGE 1 OF 5		NORTHING	
DATE	7/2 - 7/8/98	EASTING	
LOGGED BY	ALLYN NILES	ELEVATION	
SCALE	1" = 10'	AZIMUTH	
TOTAL DEPTH	323'	INCLINATION	

REMARKS

REC	RQD	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0.0 - 9.4 TOS		GREEN, APHANITIC MATRIX W/ OFTEN WELL DEFINED FLOW FEATURES SUPPORTING SMALL HOMOLITHIC ANGULAR CLASTS WHICH EXHIBIT SOME BUT POOR SORTING. GRADING INTO HETEROLITHIC, CLAST SUPPORTED PYROCLASTIC W/ RARE FRAGS OF ADLO LANGSIDE Fm.			0.0 - 9.4 STRUCTURE LIMITED TO MODERATE FRACTURING	0.0 - 9.4 DISSEM. PYRITE IS WEAK, MARCASITE IS WEAK & IN VEINS & CRYSTAL CLUSTERS. CALCITE IS VEINS & OPEN SPACE FILLINGS.
9.4 - 46.0 FINE GRAIN MASSIVE		9.4 - 26.5 PINK TO LTGREEN, APHANITIC FLOW W/ RARE FAINT LINEAR FEATURES (FLOW STRUCTURES) RARE SILICIOUS CLASTS (23-24) ARE HAVE DEVITRIFIED RIMS, CONTACT W/ OVERLYING FLOW IS MARKED BY 4" WEATHED SURFACE W/ ROUNDED CLASTS IN A WAVY BOUNDED GREEN CLAY. THIS FEATURE IS 30° OFF FROM ALIGNMENT OF FLOW FEATURES ABOVE & BELOW	10	28	CONTACT SHARP, CLEAN W/ WHAT MAY BE A FINELY WEATHERED SURFACE W/ POLISHED CLAY FRAG SURFACES. MAY BE A VERY THIN <.05" CHILL MARGIN IN FLOW	9.4 - 26.0 MINOR DISSEM. PY.
			20	30 30 58		
		30.0 - 30.5 BED OF THIN LAYERED COMPACTED TUFF, VERY LTGREEN. PIMA →	30	70 35	27.5 - 27.8 HEALED FAULT BRECCIA	CALCITE, MARCASITE, DISSEM. PYRITE
		26.5 - 46.0 LT. GREEN, APHANITIC, FLOW BANDED, RHYOLITIC FLOWS. OCCASSIONAL, RARE, SMALL, ROUND CLAY FILLED VESICLES.	40	20 68 30 60	33.0 - 33.3 HEALED BXA	CEMENTED W/ BARITE WHITE CLAY & SULFIDES.
		36.0 - 41.0 STEEPLY DIPPING INTERBEDS OF FINE GRAIN OFF WHITE → PINKISH TUFF & APHANITIC THIN FLOWS.			36.0 - 40.0 SEVERAL THIN (1 ± 3") HEALED BRECCIA ZONES. 36.0 - 39.0 VERY SEGMENTED, CRACKLE BRECCIA LIKE, MAYBE RELATED TO THIN BRECCIA ZONES	CEMENTED W/ PINK CLAY, WHITE CLAY, CALCITE, MINOR QUARTZ & SULFIDES
46.0 - 102.4 PLANAR LAMINAR			50	25 60		

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0.0	5.0					
5.0	8.0					
8.0	9.4					
9.4	13.0					
13.0	18.0					
18.0	20.0					
20.0	23.0					
23.0	28.0					
28.0	33.0					
33.0	36.0					
36.0	38.0					
38.0	43.0					
43.0	48.0					

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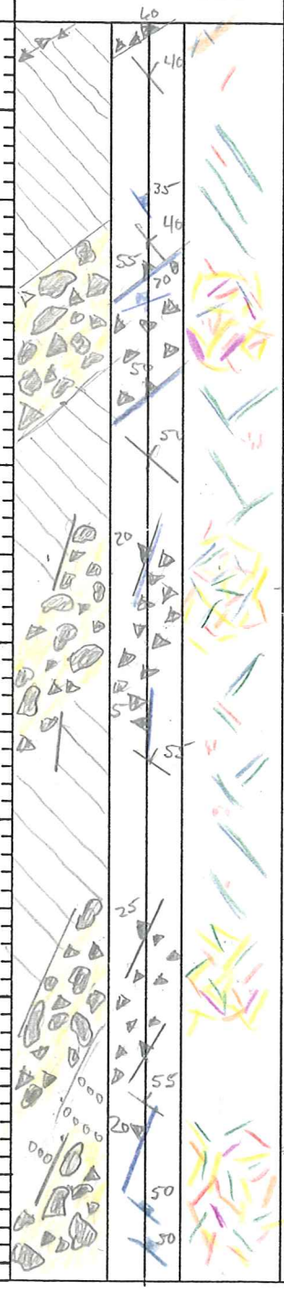
LITH.	OX/RED.	LITHOLOGY	STRUCTURE	ALTERATION AND MINERALIZATION
46.0 - 102.4 PLANAR LAMINAR		46.0 - 102.4 GRADUAL CHANGE TO FINE GRAIN FLOW(S) W/ VARIABLE INDISTINCT TO PROMINENT FLOW FEATURE: FLOW BANDS, LINEAR ALIGNMENTS OF VERY SMALL CLAY FILLED VESICLES AND/OR CLAY ALT. PHENO'S. MAYBE A SERIES OF FLOWS. THERE ARE REGULARLY SPACED THIN ZONES OF APHANITIC ROCK WHICH MAYBE CLOSE TO THE EXPOSED BOUNDRY.	64.7 - 71.3 STRUCTURAL ZONE HOMOLITHIC; ROUND CLASTS MOSTLY CLAST SUPPORTED, SOME QUARTZ/SULFIDE MATRIX. 71.3 - 80.5 STRONG FRACTURING 80.5 - 91.0 STRUCTURAL ZONE. HOMOLITHIC BRECCIA FRAGS, MOSTLY ANGULAR LARGELY CLAST SUPPORTED	58.0 - 64.7 SULFIDIC SELVAGES RELATED TO FRACTURING WHICH IS OFTEN FILLED/LINED W/ SULFIDES +/- WHITE OR DK. GREEN CLAY 64.7 - 71.3 QUARTZ IS MOST COMMON CEMENT W/ SOME WHITE OR GREEN CLAY. SULFIDES ASSOC. W/ BOTH. RARE PINKISH QUARTZ OR ADULARIA?, SOME BARITE, SULFIDES TOTAL 1% - 2% 80.5 - 91.0 CEMENT IS VUGGY QUARTZ W/ WHITE CLAY & BLADED MARCASITE FILLING OPEN SPACES
102.4 - 147.6 SPOTTED TUFF		102.4 - 108.4 PURPLE TO YELLOW IN COLOR W/ GRAY QUARTZ STOCKWORK. FRAGS HAVE SPOTTED TEXTURE (VESICLES FILLED W/ CLAY & SULFIDES) AND ARE APHANITIC GROUNDMASS. SMALLER FRAGS ARE SILICIFIED INDICATING A SINGLE EVENT IN THIS ZONE. 112.4 - 123.0 SAME DESCRIPTION AS 102.4 - 108.4 PROBABLE MAIN FAULT WHILE ABOVE ZONE IS A SPLAY OR SPLIT.	102.4 - 108.4 STRUCTURAL ZONE ROUND BXA FRAGS, HOMOLITHIC, IN A VARIABLE CLAST TO MATRIX SUPPORTED. 112.4 - 123.0 STRUCTURAL ZONE ANGULAR BXA FRAGS IN QUARTZ/CLAY MATRIX	102.4 - 108.4 CEMENT IS QUARTZ (102.4 - 105.4) CHANGING TO QUARTZ SULFIDE RICH GREEN CLAY AROUND 106.0 112.4 - 123.0 DRUZY QUARTZ VEINS, WHITE CLAY, BARITE & SULFIDES, SOME GREEN CLAY. SMALLER CLASTS ARE SILICIFIED.

FT: 60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
48.0	51.0				
51.0	53.0				
53.0	58.0				
58.0	61.1				
61.1	64.7				
64.7	68.0				
68.0	70.3				
70.3	73.0				
73.0	75.8				
75.8	78.0				
78.0	80.5				
80.5	83.0				
83.0	84.9				
84.9	88.0				
88.0	90.5				
90.5	93.0				
93.0	98.0				
98.0	100.3				
100.3	102.4				
102.4	104.1				
104.1	106.5				
106.5	108.6				
108.6	112.4				
112.4	115.5				
115.5	118.0				
118.0	120.5				

HOLE NUMBER D276-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
102.4 – 147.6 SPOTTED TUFF		123.0 – 147.6 YELLOW, APHANITIC GROUNDMASS W/ SMALL IRREGULAR, ELONGATED TO ROUND CLAY FILLED VESICLES OFTEN W/ CONCENTRATED SULFIDES. VESICLES ARE ZONED & ALIGNED ALONG BEDDING PLANES.	130 140 150 160 170 180 190		FRACTURES COMMONLY AT OBLIQUE ∡'S TO BEDDING. 143.2 – 144.6 BXA ZONE 147.6 CONTACT IS CLAY FILLED FRACTURE. 150.5 – 154.0 STRUCTURAL ZONE, FRACTURES COMMONLY OBLIQUE TO FLOW FEATURES. 155.0 – 157.2 HEALED BXA 171.3 – 173.6 CONTACT IS 2.2' LONG STRUCTURAL FEATURE, 50°→15° TO CORE AXIS. 173.6 – 175.4 BRECCIA ZONE, MOSAIC CLAST SUPPORTED 190.4 – 193.0 BRECCIA ZONE; MOSAIC TYPE.	FRACTURES LINED/FILLED W/ DRUZY QUARTZ, GREEN CLAY, SULFIDES, SOME WHITE CLAY HEALED W/ DRUZY QUARTZ & WHITE CLAY. BXA HEALED W/ QUARTZ, WHITE CLAY, SOME GREEN CLAY, SULFIDES. FRACTURES LINED/FILLED W/ WHITE CLAY, GREEN CLAY, SULFIDES, MINOR QUARTZ. 155 – 157.2 CEMENTED W/ WHITE & GREEN CLAY, BLADED MARCASITE, MINOR QUARTZ. 171.3 – 173.6 MOSTLY CRACKLE BXA W/ SULFIDES & THIN CLAY SEAMS 173.6 – 175.4 CEMENTED W/ SULFIDES, WHITE CLAY & DRUZY QUARTZ. 191.0 – 209.0 INCREASE MARCASITE VEINS, ~2% TOTAL SULFIDES.
147.6 – 171.3 PLANAR LAMINAR		147.6 – 171.3 YELLOW TO LT. GREEN-GRAY, APHANITIC FLOW. 147.6 – 163.4 SHOWS FLOW BANDS AND RARE VESICLE TRAINS. UNIT BECOMES MASSIVE AFTER 163' W/ RARE ROUND TO ELONGATED-FLATTENED VESICLES. WHICH ARE FILLED W/ SULFIDES &/OR GREEN CLAY.	PIMA → PIMA →			
171.3 – 226.4 VITROPHYRE		171.3 – 175.4 DEVITRIFIED STRUCTURAL ZONE, PRIMARILY ROUNDED THOUGH SOME FRAGS ARE ANGULAR SHARD-LIKE CLASTS. 175.4 – 207.0 DEVITRIFIED YELLOW; APHANITIC, ROUND FRAGS IN A CRACKLE-LIKE NETWORK OF THIN GREEN CLAY FILLED FRACTURES W/ RANDOM PATTERN. RESEMBLES SHATTERED AUTO WINDSHIELD. 189.0 – 193.0 COLOR CHANGING FROM YELLOW TO GREEN-YELLOW & GREEN				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
120.5	123.0				
123.0	128.0				
128.0	131.5				
131.5	136.5				
136.5	141.0				
141.0	144.3				
144.3	147.6				
147.6	150.5				
150.5	153.0				
153.0	155.2				
155.2	158.0				
158.0	160.5				
160.5	163.0				
163.0	168.0				
168.0	171.1				
171.1	173.0				
173.0	175.7				
175.7	178.0				
178.0	181.1				
181.1	183.0				
183.0	188.0				

HOLE NUMBER D276-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
171.3 - 226.4 VITROPHYRE		175.4 - 207.0 DEVITRIFIED SEE DESCRIPTION PAGE 3 EXCEPT COLOR IS GREEN-YELLOW TO GREEN FROM 193.0 - 207.0 207.0 - 226.4 DEVITRIFIED SAME DESCRIPTION AS 175.4 - 207.0 EXCEPT HAIRLINE FRACTURES ARE FILLED W/ QUARTZ INSTEAD OF GREEN CLAY. COLOR IS PRIMARILY GREEN-YELLOW & GREEN	200 210 220		190.4 - 193 BRECCIA ZONE 193.0 - 201.0 INCREASED FRACTURE DENSITY DUE TO BRECCIA ZONE 208.0 - 0.2' BXA 207 - 220 STRUCTURE LIMITED TO FRACTURES FILLED/LINED W/ QUARTZ/SULFIDES. 220 - 226.4 INCREASED FRACTURES PROBABLY DUE TO ABOVE FAULT CONTACT CONTACT @ 226.4 IS FAULT CONTACT, 1' Ø W/ BRECCIA.	190.4 - 193.0 HEALED W/ DRUZY QUARTZ, SULFIDES, GREEN CLAY & SOME WHITE CLAY ABUNDANT SULFIDES, QUARTZ, SOME WHITE CLAY. FRACTURES MOSTLY FILLED W/ GREEN CLAY, QUARTZ & SULFIDES
226.4 - 258.8 PLANAR LAMINAR		226.4 - 258.0 GREENISH YELLOW TO GREEN, APHANITIC, FLOW BANDED W/ POSSIBLE TUFFACEOUS LAMINAE/THIN BEDS.	230 240 PIKKA → 250 260		226.4 - 247.0 FRACTURES, VEINS & BRECCIAS AT ∠ OR OBLIQUE ∠'S TO BED PLANES. 239.0 - 239.3 BRECCIA 241.7 - 242.0 BRECCIA - HYDROTHERMAL? 247.0 - 250.0 BRECCIA ZONE - FAULT	MOSAIC BRECCIA IS CEMENTED W/ DRUZY QUARTZ, WHITE & GREEN CLAY, SULFIDES. SOME SMALLER BXA FRAGS ARE SILICIFIED 226.4 - 247.0 FRACTURES OFTEN FILLED/LINED W/ "DUCKS BUTTER" CLAY, +/- SULFIDES, +/- DRUZY QUARTZ. BRECCIA CEMENTED W/ "DUCKS BUTTER" CLAY. 240.3 - 242.5 BLADED MARCASITE VEINS UP TO 1/4" Ø +/- "DUCKS BUTTER" CLAY. BRECCIA HAS SILICIFIED FRAGS IN A HARD "DUCKS BUTTER" CLAY 247.0 - 250.0 BRECCIA LOOSELY CEMENTED W/ "DUCKS BUTTER" CLAY, BARITE & DRUZY QUARTZ, SOME SULFIDES & MARCASITE VEINS. WEAK ARGILLICALT

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
188.0	191.0				
191.0	193.0				
193.0	195.6				
195.6	198.0				
198.0	201.0				
201.0	205.7				
205.7	207.4				
207.4	208.5				
208.5	213.0				
213.0	218.0				
218.0	223.0				
223.0	226.0				
226.0	228.0				
228.0	230.5				
230.5	233.0				
233.0	237.5				
237.5	240.3				
240.3	242.5				
242.5	247.0				
247.0	248.0				
248.0	250.0				
250.0	253.0				
253.0	255.7				
255.7	258.0				
258.0	260.7				

HOLE NUMBER D276-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
226.4-298.8 PLANAR LAMINAR		258.0 - 264.1 SPOTTED TUFF INTERBEDDED TUFF & FLOWS, TUFF BEDS ARE VARIABLE COLOR W/ GREEN BEING DOMINANT. VESICLES ARE FILLED W/ GRAINY WHITE CLAY, OR APHANITIC GREEN CLAY. DISSEM. LIKE SULFIDES ARE COMMON W/ THE CLAYS AND IN THE APHANITIC GROUNDMASS. FLOWS ARE BANDED, APHANITIC, LT. GREENISH YELLOW IN COLOR, ELONGATED VESICLE TRAINS FILLED W/ DK. GREEN CLAY. 264.1 - 298.8 INTERBEDDED FLOWS W/ THIN TUFFACEOUS LAYERS/BEDS. GREEN-GRAY TO YELLOW COLOR W/ FLOW BANDS/BED PLANES. 270.7 - 281.1 TECTONIC ZONE PROP. ALT. FRAGS IN A REDDISH, SILICIOUS CLAY OR DRUZY QUARTZ CEMENT 284.0 - 290.5 TECTONIC BRECCIA ZONE.	270 280 290		270.1 - 281.1 MOSAIC, CLAST SUPPORTED MATRIX BRECCIA 284.0 - 290.5 HYDROTHERMAL BRECCIA MIXED SILICIOUS & NONSILICIOUS CLASTS IN PLACES 294.0 - 29.80 SCATTERED AUTO BRECCIA ZONES TO 0.3' ø	258.0 - 261.0 STOCKWORK DRUZY QUARTZ IN TUFF BEDS 264.1 - 268.0 GRAY SULFIDIC SELVAGES ASSOC. W/ THIN SULFIDE VEINS & SOME BEDDING PLANES. 270.1 - 281.1 CEMENT IS STOCKWORK LIKE DRUZY QUARTZ, BLADED MARCASITE & SOME LATE STAGE "DUCKS BUTTER" CLAY 284.0 - 290.5. BRECCIA HEALED W/ DRUZY QUARTZ, BLADED MARCASITE, "DUCKS BUTTER" CLAY. 289.0 SUDDEN & ABRUPT DECREASE IN WHITE & "DUCKS BUTTER" CLAY, QUARTZ VEINING 296.0 - 298.8 BLADED MARCASITE VEINS TO 1/2" ø W/ VERY MINOR WHITE OR GREEN CLAY. VEINS CONTAIN COMMON OPEN SPACES, CLAY MAY HAVE BEEN LEACHED.
298.8 - 323.0 ???		298.8 - 314.6 HETEROLITHIC AUTOBRECCIA. ANGULAR CLASTS W/ SHARP EDGES, OFTEN GREEN OR GREENISH-YELLOW, IN A GREEN TO REDDISH CLAY CEMENT. CLAST SIZE IS VERY SMALL TO 4" +, NO EVIDENCE OF SORTING 314.6 - 323.0 LT. YELLOW TO GREEN-GRAY, SMALL FLOWS, VARIABLE OVER SHORT DISTANCES, SPOTTED TEXTURE FLOW BANDS, MASSIVE W/ CRACKED FRACTURE PATTERN, COLOR CHANGE @ 321.5 SEEMS TO BE RELATED TO ARGILLIC ALT. OF YELLOW COLORED SECTION OF FLOW.	300 310 320 330		314.6 - 315.6 & 317.0 - 317.3 HOMOLITHIC BRECCIAS, MOSAIC TYPE	300.5 - 305.2 BLADED MARCASITE VEINS W/ DRUZY QUARTZ. OPEN SPACES (VUGS) COMMON. 314.6 - 318.0 & BRECCIA ZONES W/ STOCKWORK DRUZY QUARTZ 319.2 - 321.5 DK. DRUZY QUARTZ STOCKWORK/VEINS W/ BLADED MARCASITE.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
260.7	264.1				
264.1	268.0				
268.0	270.7				
270.7	273.3				
273.3	275.3				
275.3	278.0				
278.0	281.1				
281.1	283.0				
283.0	286.0				
286.0	288.0				
288.0	290.5				
290.5	293.0				
293.0	296.0				
296.0	298.8				
298.8	300.5				
300.5	303.0				
303.0	305.2				
305.2	308.0				
308.0	310.5				
310.5	313.0				
313.0	314.4				
314.4	318.0				
318.0	319.2				
319.2	321.5				
321.5	323.0				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D276-98 DATE: 7/1/98 LOGGED BY: ALLYN NILES PAGE 1 OF 7

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)
0.0	5.0	100.0	92.0	52.0										
5.0	8.0	100.0	96.6	76.6										
8.0	13.0	100.0	88.0	42.0										
13.0	18.0	100.0	90.0	0.0										
18.0	20.0	100.0	120.0	0.0										
20.0	23.0	100.0	96.6	30.0										
23.0	28.0	100.0	100.0	40.0										
28.0	33.0	100.0	100.0	54.0										
33.0	38.0	100.0	94.0	52.0										
38.0	43.0	100.0	102.0	72.0										
43.	48.0	100.0	100.0	62.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-276-98 DATE: LOGGED BY: 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)
48.0	53.0	100.0	94.0	54.0										
53.0	58.0	100.0	98.0	74.0										
58.0	63.0	100.0	100.0	60.0										
63.0	68.0	100.0	98.0	50.0										
68.0	73.0	100.0	98.0	56.0										
73.0	78.0	100.0	104.0	76.0										
78.0	83.0	100.0	102.0	82.0										
83.0	88.0	100.0	100.0	78.0										
88.0	93.0	100.0	100.0	26.0										
93.0	98.0	100.0	100.0	50.0										
98.0	103.0	100.0	92.0	28.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-276-98 DATE: LOGGED BY: PAGE 3 OF 7

DRILL RUN FROM	DRILL RUN TO	SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH DOWNHOLE DEPTH	ROCK STRENGTH POINT LOAD INDEX (psi)	FRACTURE DATA FRACTURE DENSITY /FT.	FRACTURE DATA AVG. ANGLE TO C.A.	FRACTURE DATA ROUGHNESS	FRACTURE DATA INFILL	DENSITY DATA DOWNHOLE DEPTH	DENSITY DATA SAMPLE WEIGHT (g)	DENSITY DATA DISPLACEMENT (cc)	DENSITY DATA DENSITY (g/cc)
103.0	108.0	100.0	100.0	88.0										
108.0	113.0	100.0	100.0	68.0										
113.0	118.0	100.0	100.0	72.0										
118.0	123.0	100.0	100.0	52.0										
123.0	128.0	100.0	93.0	70.0										
128.0	131.5	100.0	97.2	54.3										
131.5	136.5	100.0	102.0	44.0										
136.5	141.0	100.0	95.5	17.7										
141.0	143.0	100.0	80.0	20.0										
143.0	148.0	100.0	100.0	50.0										
148.0	153.0	100.0	88.0	72.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-276-98 DATE: LOGGED BY: 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
153.0	158.0	100.0	90.0	12.0										
158.0	163.0	100.0	100.0	68.0										
163.0	168.0	100.0	94.0	58.0										
168.0	173.0	100.0	104.0	40.0										
173.0	178.0	100.0	100.0	70.0										
178.0	183.0	100.0	100.0	88.0										
183.0	188.0	100.0	98.0	82.0										
188.0	193.0	100.0	102.0	82.0										
193.0	198.0	100.0	98.0	86.0										
198.0	203.0	100.0	102.0	96.0										
203.0	208.0	100.0	98.0	90.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-276-98 DATE: 7/2 - 7/7/98 LOGGED BY: ALLYN NILES PAGE 5 OF 7

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.	A/G ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
208.0	213.0	100.0	104.0	92.0										
213.0	218.0	100.0	90.0	76.0										
218.0	223.0	100.0	100.0	78.0										
223.0	228.0	100.0	92.0	36.0										
228.0	233.0	100.0	100.0	0.0										
233.0	237.5	94.0	88.8	53.3										
237.5	242.5	100.0	98.0	58.0										
242.5	247.0	100.0	91.1	46.0										
247.0	248.0	100.0	130.0	60.0										
248.0	253.0	96.0	90.0	30.0										
253.0	258.0	100.0	100.0	26.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D 276 - 98 DATE: 7/7/98 LOGGED BY: _____ 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
258.0	263.0	100.0	102.0	58.0										
263.0	268.0	100.0	98.0	26.0										
268.0	273.0	100.0	100.0	32.0										
273.0	278.0	100.0	100.0	40.0										
278.0	283.0	100.0	100.0	36.0										
283.0	288.0	100.0	104.0	78.0										
288.0	293.0	100.0	104.0	82.0										
293.0	298.0	98.0	100.0	48.0										
298.0	303.0	100.0	90.0	44.0										
303.0	308.0	100.0	100.0	68.0										
308.0	313.0	100.0	102.0	80.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-276-98 DATE: 7/7/98 LOGGED BY: ALLYN NILES. 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)
313.0	318.0	100.0	96.0	70.0										
318.0	323.0	100.0	100.0	58.0										

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

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-276-98 RECEIVED : 22 JUL 1998

No. SAMPLES : 111 REPORTED : 22 JUL 1998

MAIN SAMPLE TYPE : DRILL CORE

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

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

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

CLIENT : BECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-276-98 0-5	0.002			0.02
D-276-98 5-8	0.002			0.03
D-276-98 8.0-9.4	0.004			0.02
D-276-98 9.4-13.0	<0.001			0.03
D-276-98 13-18	<0.001	<0.001		<0.02
D-276-98 18-20	<0.001			<0.02
D-276-98 20-23	<0.001			0.02
D-276-98 23-28	0.005			0.07
D-276-98 28-33	0.003			0.06
D-276-98 33-36	0.005			0.06
D-276-98 36-38	0.003			0.07
D-276-98 38-43	0.003			0.05
D-276-98 43-48	0.006			0.06
D-276-98 48-51	0.007			0.04
D-276-98 51-53	0.009			0.07
D-276-98 53-58	0.011			0.07
D-276-98 58.0-61.1	0.056	0.057	0.029	0.12
D-276-98 61.1-64.7	0.012			0.06
D-276-98 64.7-68.0	0.011			0.05
D-276-98 68.0-70.3	0.031	0.032		0.10
D-276-98 70.3-73.0	0.011			0.07
D-276-98 73.0-75.8	0.021			0.11
D-276-98 75.8-78.0	0.012			0.09
D-276-98 78.0-80.5	0.029			0.07
D-276-98 80.5-83.0	0.016			0.06

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-276-98 83.0-84.9	0.018			0.07
D-276-98 84.9-88.0	0.028	0.028		0.15
D-276-98 88.0-90.5	0.029			0.18
D-276-98 90.5-93.0	0.011			0.10
D-276-98 93-98	0.025			0.16
D-276-98 98.0-100.3	0.018			0.07
D-276-98 100.3-102.4	0.007			0.08
D-276-98 102.4-104.1	0.009			0.07
D-276-98 104.1-106.5	0.019			0.05
D-276-98 106.5-108.6	0.007			0.05
D-276-98 108.6-112.4	0.023			0.09
D-276-98 112.4-115.5	0.026			0.15
D-276-98 115.5-118.0	0.005			0.08
D-276-98 118.0-120.5	0.008	0.007		0.06
D-276-98 120.5-123.0	0.018			0.10
D-276-98 123-128	0.053		0.036	0.11
D-276-98 128.0-131.5	0.020			0.15
D-276-98 131.5-136.5	0.012	0.025		0.12
D-276-98 136.5-141.0	0.053	0.051	0.090	0.06
D-276-98 141.0-144.3	0.011			0.12
D-276-98 144.3-147.6	0.030			0.13
D-276-98 147.6-150.5	0.006			0.10
D-276-98 150.5-153.0	0.013			0.14
D-276-98 153.0-155.2	0.007			0.09
D-276-98 155.2-158.0	0.011			0.10

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-276-98 158.0-160.5	0.017			0.13
D-276-98 160.5-163.0	0.008			0.09
D-276-98 163-168	0.007			0.07
D-276-98 168.0-171.1	0.018			0.11
D-276-98 171.1-173.0	0.006			0.06
D-276-98 173.0-175.7	0.052		0.070	0.29
D-276-98 175.7-178.0	0.625		0.807	0.73
D-276-98 178.0-181.1	0.022			0.50
D-276-98 181.1-183.0	0.005			0.12
D-276-98 183-188	0.009	0.008		0.11
D-276-98 188-191	0.004			0.07
D-276-98 191-193	0.027			0.11
D-276-98 193.0-195.6	0.018			0.12
D-276-98 195.6-198.0	0.011			0.10
D-276-98 198-201	0.006			0.08
D-276-98 201.0-205.7	0.011			0.11
D-276-98 205.7-207.4	0.012	0.014		0.10
D-276-98 207.4-208.5	0.019			0.09
D-276-98 208.5-213.0	0.012			0.06
D-276-98 213-218	0.006			0.07
D-276-98 218-223	0.007			0.08
D-276-98 223-226	0.004			0.05
D-276-98 226-228	0.033			0.12
D-276-98 228.0-230.5	0.009			0.09
D-276-98 230.5-233.0	0.018			0.14

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-276-98 233.0-237.5	0.028			0.12
D-276-98 237.5-240.3	0.017			0.13
D-276-98 240.3-242.5	0.024	0.020		0.11
D-276-98 242.5-247.0	0.032	0.026		0.17
D-276-98 247-248	0.026			0.10
D-276-98 248-250	0.049			0.13
D-276-98 250-253	0.038			0.09
D-276-98 253.0-255.7	0.281		0.237	0.12
D-276-98 255.7-258.0	0.019			0.08
D-276-98 258.0-260.7	0.025			0.09
D-276-98 260.7-264.1	0.024			0.07
D-276-98 264.1-268.0	0.025			0.07
D-276-98 268.0-270.7	0.010			0.07
D-276-98 270.7-273.3	0.060		0.080	0.12
D-276-98 273.3-275.3	0.032			0.09
D-276-98 275.3-278.0	0.072		0.081	0.13
D-276-98 278.0-281.1	0.062		0.039	0.19
D-276-98 281.1-283.0	0.013			0.07
D-276-98 283-286	0.009			0.05
D-276-98 286-288	0.007			0.05
D-276-98 288.0-290.5	0.007			0.05
D-276-98 290.5-293.0	0.021			0.10
D-276-98 293-296	0.007			0.06
D-276-98 296.0-298.8	0.007			0.10
D-276-98 298.8-300.5	0.003			0.05

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP049625

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-276-98 300.5-303.0	0.010			0.07
D-276-98 303.0-305.2	0.002			0.04
D-276-98 305.2-308.0	0.001			0.05
D-276-98 308.0-310.5	<0.001			0.07
D-276-98 310.5-313.0	0.029			0.13
D-276-98 313.0-314.4	0.008			0.11
D-276-98 314.4-318.0	0.006			0.07
D-276-98 318.0-319.2	0.009			0.11
D-276-98 319.2-321.5	0.020			0.13
D-276-98 321.5-323.0	0.005			0.04
34469	0.530			2.94

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 0049625-IN
INVOICE DATE: 08/04/98

=$6.00/foot

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-276-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
111	SAMPLES RECEIVED	.00	.00
110	JAW CRUSHING CHARGE	1.30	143.00
110	COARSE MILLING CHARGE	4.50	495.00
110	SPLITTING CHARGE	2.40	264.00
110	RING MILLING CHARGE	2.00	220.00
111	Au (1 A.T. FIRE ASSAY)	8.00	888.00
9	Au ANALYSES/GRAVIMETRIC	8.75	78.75
111	HYDROCHLORIC/NITRIC DIGESTION	2.00	222.00
111	Ag ANALYSES	1.00	111.00

86-5110-477
EA

NET INVOICE:	2,421.75
LESS DISCOUNT:	484.35
FREIGHT:	.00
INVOICE TOTAL:	1,937.40

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ANALYSIS REPORT SP049625

American Assay Laboratories

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

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

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CLIENT REFERENCE No: D-276-98 RECEIVED : 22 JUL 1998

No. SAMPLES : 111 REPORTED : 22 JUL 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 SP049625

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 0-5	0.002			0.02
D-276-98 5-8	0.002			0.03
D-276-98 8.0-9.4	0.004			0.02
D-276-98 9.4-13.0	<0.001			0.03
D-276-98 13-18	<0.001	<0.001		<0.02
D-276-98 18-20	<0.001			<0.02
D-276-98 20-23	<0.001			0.02
D-276-98 23-28	0.005			0.07
D-276-98 28-33	0.003			0.06
D-276-98 33-36	0.005			0.06
D-276-98 36-38	0.003			0.07
D-276-98 38-43	0.003			0.05
D-276-98 43-48	0.006			0.06
D-276-98 48-51	0.007			0.04
D-276-98 51-53	0.009			0.07
D-276-98 53-58	0.011			0.07
D-276-98 58.0-61.1	0.056	0.057	0.029	0.12
D-276-98 61.1-64.7	0.012			0.06
D-276-98 64.7-68.0	0.011			0.05
D-276-98 68.0-70.3	0.031	0.032		0.10
D-276-98 70.3-73.0	0.011			0.07
D-276-98 73.0-75.8	0.021			0.11
D-276-98 75.8-78.0	0.012			0.09
D-276-98 78.0-80.5	0.029			0.07
D-276-98 80.5-83.0	0.016			0.06

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049625

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 83.0-84.9	0.018			0.07
D-276-98 84.9-88.0	0.028	0.028		0.15
D-276-98 88.0-90.5	0.029			0.18
D-276-98 90.5-93.0	0.011			0.10
D-276-98 93-98	0.025			0.16
D-276-98 98.0-100.3	0.018			0.07
D-276-98 100.3-102.4	0.007			0.08
D-276-98 102.4-104.1	0.009			0.07
D-276-98 104.1-106.5	0.019			0.05
D-276-98 106.5-108.6	0.007			0.05
D-276-98 108.6-112.4	0.023			0.09
D-276-98 112.4-115.5	0.026			0.15
D-276-98 115.5-118.0	0.005			0.08
D-276-98 118.0-120.5	0.008	0.007		0.06
D-276-98 120.5-123.0	0.018			0.10
D-276-98 123-128	0.053		0.036	0.11
D-276-98 128.0-131.5	0.020			0.15
D-276-98 131.5-136.5	0.012	0.025		0.12
D-276-98 136.5-141.0	0.053	0.051	0.090	0.06
D-276-98 141.0-144.3	0.011			0.12
D-276-98 144.3-147.6	0.030			0.13
D-276-98 147.6-150.5	0.006			0.10
D-276-98 150.5-153.0	0.013			0.14
D-276-98 153.0-155.2	0.007			0.09
D-276-98 155.2-158.0	0.011			0.10

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049625

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

REPORTED : 22 JUL 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 158.0-160.5	0.017			0.13
D-276-98 160.5-163.0	0.008			0.09
D-276-98 163-168	0.007			0.07
D-276-98 168.0-171.1	0.018			0.11
D-276-98 171.1-173.0	0.006			0.06
D-276-98 173.0-175.7	0.052		0.070	0.29
D-276-98 175.7-178.0	0.625		0.807	0.73
D-276-98 178.0-181.1	0.022			0.50
D-276-98 181.1-183.0	0.005			0.12
D-276-98 183-188	0.009	0.008		0.11
D-276-98 188-191	0.004			0.07
D-276-98 191-193	0.027			0.11
D-276-98 193.0-195.6	0.018			0.12
D-276-98 195.6-198.0	0.011			0.10
D-276-98 198-201	0.006			0.08
D-276-98 201.0-205.7	0.011			0.11
D-276-98 205.7-207.4	0.012	0.014		0.10
D-276-98 207.4-208.5	0.019			0.09
D-276-98 208.5-213.0	0.012			0.06
D-276-98 213-218	0.006			0.07
D-276-98 218-223	0.007			0.08
D-276-98 223-226	0.004			0.05
D-276-98 226-228	0.033			0.12
D-276-98 228.0-230.5	0.009			0.09
D-276-98 230.5-233.0	0.018			0.14

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049625

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 233.0-237.5	0.028			0.12
D-276-98 237.5-240.3	0.017			0.13
D-276-98 240.3-242.5	0.024	0.020		0.11
D-276-98 242.5-247.0	0.032	0.026		0.17
D-276-98 247-248	0.026			0.10
D-276-98 248-250	0.049			0.13
D-276-98 250-253	0.038			0.09
D-276-98 253.0-255.7	0.281		0.237	0.12
D-276-98 255.7-258.0	0.019			0.08
D-276-98 258.0-260.7	0.025			0.09
D-276-98 260.7-264.1	0.024			0.07
D-276-98 264.1-268.0	0.025			0.07
D-276-98 268.0-270.7	0.010			0.07
D-276-98 270.7-273.3	0.060		0.080	0.12
D-276-98 273.3-275.3	0.032			0.09
D-276-98 275.3-278.0	0.072		0.081	0.13
D-276-98 278.0-281.1	0.062		0.039	0.19
D-276-98 281.1-283.0	0.013			0.07
D-276-98 283-286	0.009			0.05
D-276-98 286-288	0.007			0.05
D-276-98 288.0-290.5	0.007			0.05
D-276-98 290.5-293.0	0.021			0.10
D-276-98 293-296	0.007			0.06
D-276-98 296.0-298.8	0.007			0.10
D-276-98 298.8-300.5	0.003			0.05

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP049625

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CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 300.5-303.0	0.010			0.07
D-276-98 303.0-305.2	0.002			0.04
D-276-98 305.2-308.0	0.001			0.05
D-276-98 308.0-310.5	<0.001			0.07
D-276-98 310.5-313.0	0.029			0.13
D-276-98 313.0-314.4	0.008			0.11
D-276-98 314.4-318.0	0.006			0.07
D-276-98 318.0-319.2	0.009			0.11
D-276-98 319.2-321.5	0.020			0.13
D-276-98 321.5-323.0	0.005			0.04
34469	0.530			2.94

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ANALYSIS REPORT SP049625

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Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

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:

CLIENT REFERENCE No: D-276-98 RECEIVED : 22 JUL 1998

No. SAMPLES : 111 REPORTED : 22 JUL 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 SP049625

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-276-98

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 0-5	0.002			0.02
D-276-98 5-8	0.002			0.03
D-276-98 8.0-9.4	0.004			0.02
D-276-98 9.4-13.0	<0.001			0.03
D-276-98 13-18	<0.001	<0.001		<0.02
D-276-98 18-20	<0.001			<0.02
D-276-98 20-23	<0.001			0.02
D-276-98 23-28	0.005			0.07
D-276-98 28-33	0.003			0.06
D-276-98 33-36	0.005			0.06
D-276-98 36-38	0.003			0.07
D-276-98 38-43	0.003			0.05
D-276-98 43-48	0.006			0.06
D-276-98 48-51	0.007			0.04
D-276-98 51-53	0.009			0.07
D-276-98 53-58	0.011			0.07
D-276-98 58.0-61.1	0.056	0.057	0.029	0.12
D-276-98 61.1-64.7	0.012			0.06
D-276-98 64.7-68.0	0.011			0.05
D-276-98 68.0-70.3	0.031	0.032		0.10
D-276-98 70.3-73.0	0.011			0.07
D-276-98 73.0-75.8	0.021			0.11
D-276-98 75.8-78.0	0.012			0.09
D-276-98 78.0-80.5	0.029			0.07
D-276-98 80.5-83.0	0.016			0.06

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D-276-98 83.0-84.9	0.018			0.07
D-276-98 84.9-88.0	0.028	0.028		0.15
D-276-98 88.0-90.5	0.029			0.18
D-276-98 90.5-93.0	0.011			0.10
D-276-98 93-98	0.025			0.16
D-276-98 98.0-100.3	0.018			0.07
D-276-98 100.3-102.4	0.007			0.08
D-276-98 102.4-104.1	0.009			0.07
D-276-98 104.1-106.5	0.019			0.05
D-276-98 106.5-108.6	0.007			0.05
D-276-98 108.6-112.4	0.023			0.09
D-276-98 112.4-115.5	0.026			0.15
D-276-98 115.5-118.0	0.005			0.08
D-276-98 118.0-120.5	0.008	0.007		0.06
D-276-98 120.5-123.0	0.018			0.10
D-276-98 123-128	0.053		0.036	0.11
D-276-98 128.0-131.5	0.020			0.15
D-276-98 131.5-136.5	0.012	0.025		0.12
D-276-98 136.5-141.0	0.053	0.051	0.090	0.06
D-276-98 141.0-144.3	0.011			0.12
D-276-98 144.3-147.6	0.030			0.13
D-276-98 147.6-150.5	0.006			0.10
D-276-98 150.5-153.0	0.013			0.14
D-276-98 153.0-155.2	0.007			0.09
D-276-98 155.2-158.0	0.011			0.10

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 158.0-160.5	0.017			0.13
D-276-98 160.5-163.0	0.008			0.09
D-276-98 163-168	0.007			0.07
D-276-98 168.0-171.1	0.018			0.11
D-276-98 171.1-173.0	0.006			0.06
D-276-98 173.0-175.7	0.052		0.070	0.29
D-276-98 175.7-178.0	0.625		0.807	0.73
D-276-98 178.0-181.1	0.022			0.50
D-276-98 181.1-183.0	0.005			0.12
D-276-98 183-188	0.009	0.008		0.11
D-276-98 188-191	0.004			0.07
D-276-98 191-193	0.027			0.11
D-276-98 193.0-195.6	0.018			0.12
D-276-98 195.6-198.0	0.011			0.10
D-276-98 198-201	0.006			0.08
D-276-98 201.0-205.7	0.011			0.11
D-276-98 205.7-207.4	0.012	0.014		0.10
D-276-98 207.4-208.5	0.019			0.09
D-276-98 208.5-213.0	0.012			0.06
D-276-98 213-218	0.006			0.07
D-276-98 218-223	0.007			0.08
D-276-98 223-226	0.004			0.05
D-276-98 226-228	0.033			0.12
D-276-98 228.0-230.5	0.009			0.09
D-276-98 230.5-233.0	0.018			0.14

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 233.0-237.5	0.028			0.12
D-276-98 237.5-240.3	0.017			0.13
D-276-98 240.3-242.5	0.024	0.020		0.11
D-276-98 242.5-247.0	0.032	0.026		0.17
D-276-98 247-248	0.026			0.10
D-276-98 248-250	0.049			0.13
D-276-98 250-253	0.038			0.09
D-276-98 253.0-255.7	0.281		0.237	0.12
D-276-98 255.7-258.0	0.019			0.08
D-276-98 258.0-260.7	0.025			0.09
D-276-98 260.7-264.1	0.024			0.07
D-276-98 264.1-268.0	0.025			0.07
D-276-98 268.0-270.7	0.010			0.07
D-276-98 270.7-273.3	0.060		0.080	0.12
D-276-98 273.3-275.3	0.032			0.09
D-276-98 275.3-278.0	0.072		0.081	0.13
D-276-98 278.0-281.1	0.062		0.039	0.19
D-276-98 281.1-283.0	0.013			0.07
D-276-98 283-286	0.009			0.05
D-276-98 286-288	0.007			0.05
D-276-98 288.0-290.5	0.007			0.05
D-276-98 290.5-293.0	0.021			0.10
D-276-98 293-296	0.007			0.06
D-276-98 296.0-298.8	0.007			0.10
D-276-98 298.8-300.5	0.003			0.05

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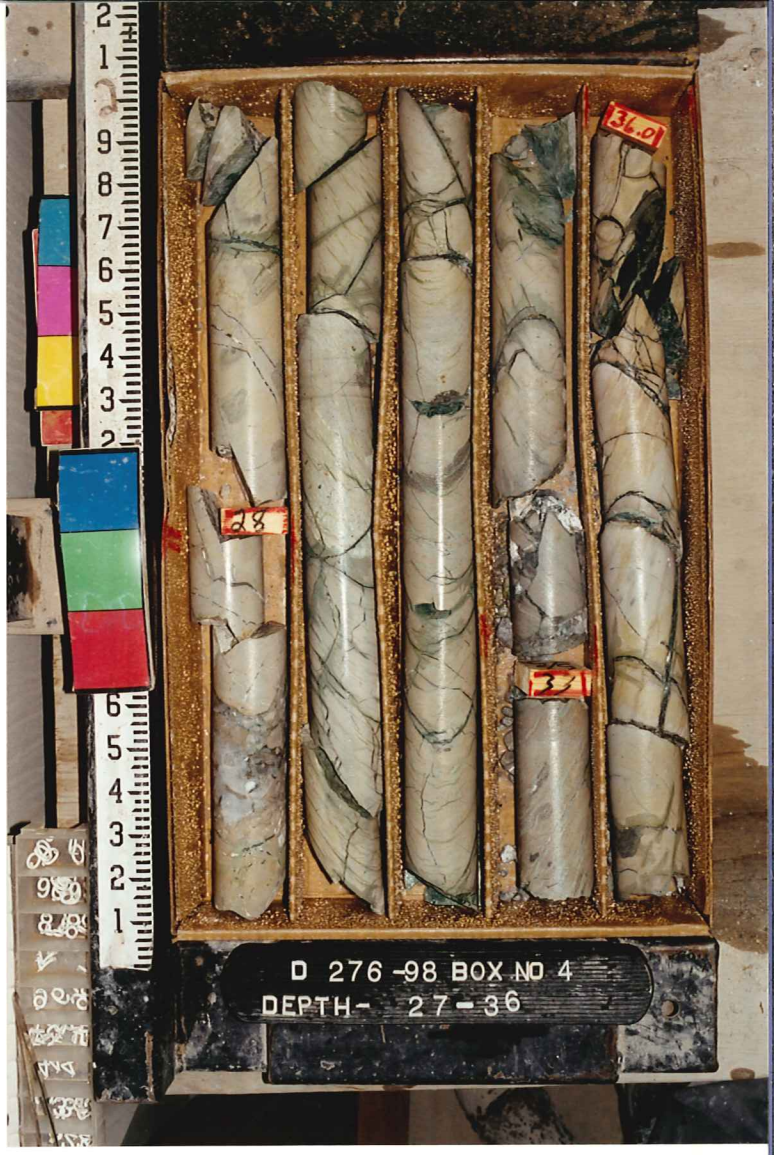
SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-276-98 300.5-303.0	0.010			0.07
D-276-98 303.0-305.2	0.002			0.04
D-276-98 305.2-308.0	0.001			0.05
D-276-98 308.0-310.5	<0.001			0.07
D-276-98 310.5-313.0	0.029			0.13
D-276-98 313.0-314.4	0.008			0.11
D-276-98 314.4-318.0	0.006			0.07
D-276-98 318.0-319.2	0.009			0.11
D-276-98 319.2-321.5	0.020			0.13
D-276-98 321.5-323.0	0.005			0.04
34469	0.530			2.94

D 276-98 BOX NO 2
DEPTH- 10-19.5

D 276-98 BOX NO 1
DEPTH- 0-10

D 276-98 BOX NO 3
DEPTH- 19.5-27

D 276 -98 BOX NO 5
DEPTH- 36-45.5


D 276 -98 BOX NO 4
DEPTH- 27-36

D 276 -98 BOX NO 6
DEPTH- 45.5-54

D 276 -98 BOX NO 8
DEPTH- 63 - 72.5

D 276 -98 BOX NO 7
DEPTH- 54 - 63

D 276 -98 BOX NO 9
DEPTH- 72.5 - 81

D 276-98 BOX NO 11
DEPTH- 91.5-99

D 276-98 BOX NO 10
DEPTH- 81-91.5

D 276-98 BOX NO 12
DEPTH- 99-108

120.5
118
123
D 276 -98 BOX NO 14
DEPTH - 117.5 - 126

113
108.2
124
108
115.5
D 276 -98 BOX NO 13
DEPTH - 117.5 - 126

127
131.5
D 276 -98 BOX NO 15
DEPTH - 126 - 135

148
147.6
153
150.5
D 276 -98 BOX NO 17
DEPTH- 144.5- 154

143.3
136.9
143
141
D 276 -98 BOX NO 16
DEPTH- 135- 144.5

158
157
159
D 276 -98 BOX NO 18
DEPTH- 154- 163

D 276 -98 BOX NO 20
DEPTH- 172.5-182

D 276 -98 BOX NO 19
DEPTH- 163-172.5

D 276 -98 BOX NO 21
DEPTH- 182-190.5

D 276 -98 BOX NO 23
DEPTH - 199.5 - 209

D 276 -98 BOX NO 22
DEPTH- 190.5 -199.5

D 276 -98 BOX NO 24
DEPTH - 209 - 218.5

D 276 -98 BOX NO 26
DEPTH- 228 - 237.5

D 276 -98 BOX NO 25
DEPTH- 218.5 - 228

D 276 -98 BOX NO 27
DEPTH- 237.5 - 247

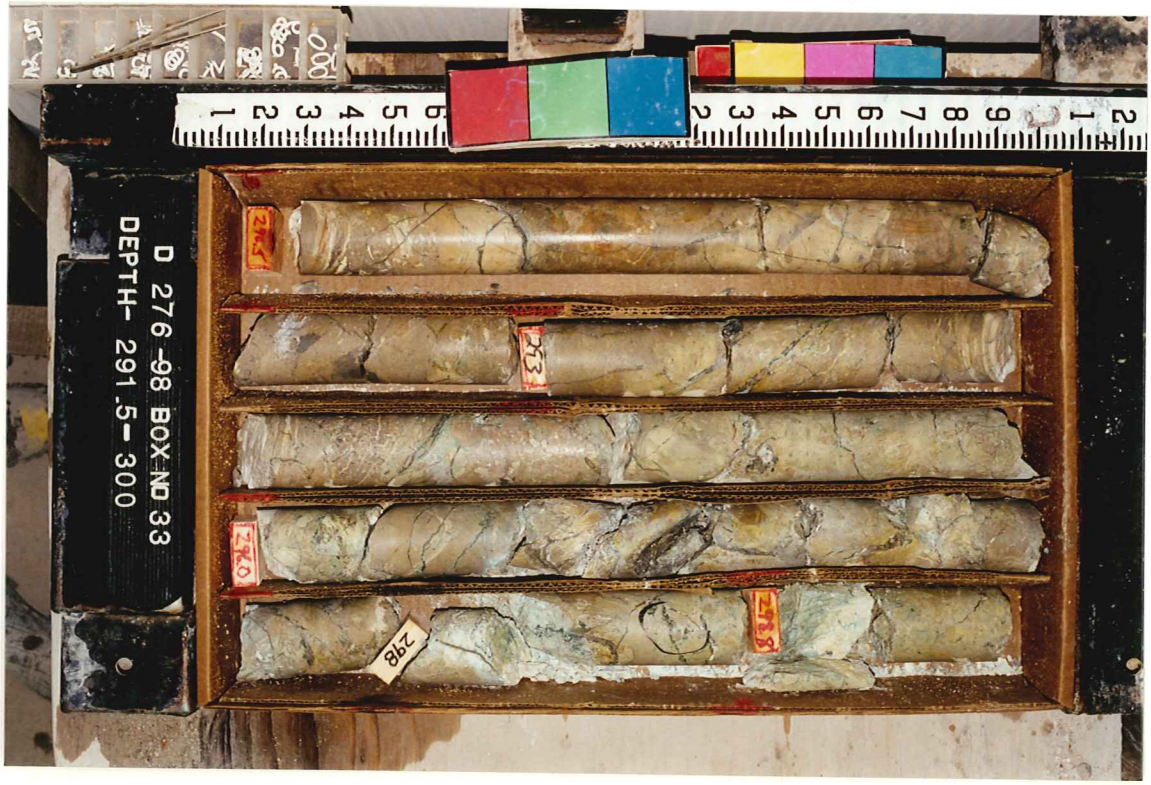
D 276 -98 BOX NO 29
DEPTH- 256 - 265
257.7
258
260.7
261
263

D 276 -98 BOX NO 28
DEPTH- 247 - 256
248
250.8
253

D 276 -98 BOX NO 30
DEPTH- 265 - 273.5
268
270.7
272
273.3

D 276 -98 BOX NO 32
DEPTH- 282.5- 291.5

D 276 -98 BOX NO 31
DEPTH- 273.5- 282.5


D 276 -98 BOX NO 33
DEPTH- 291.5- 300

D 276 -98 BOX NO 35
DEPTH- 309 - 318

D 276 -98 BOX NO 34
DEPTH- 300 - 309

D 276 -98 BOX NO 35
DEPTH- 318 - 323

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME 0-276-98
LEASE
TAKEN BY Hunter
DEPTH Collar
DATE 6-30-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO. 1
HI-1498

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-276-98
LEASE
TAKEN BY Hunter
DEPTH 323'
DATE 6-30-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO. 1
HI-1408

70
NW
70
NW
8
60
NW
60
NW
8
50
NW
50
NW
8

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-276-98
LEASE
TAKEN BY Hunter
DEPTH 160'
DATE 6-30-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO. 1

HI-1408

7 10
NW
8
6 10
NW
8
6 10
NW
8
6 10
NW
8
6 10
NW
8
5 10
NW