60001164

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-313-98
AUTHOR	S. King; K. Allen; D. Mackerrow
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 278' receipt; handwritten notes; downhole camera images 36 p. 3 down hole camera images

Keep docs at about 250 pages if no oversized maps attached
(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

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

Revised: 1/22/08

D-313-98

6000 1161

4010

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

Barite

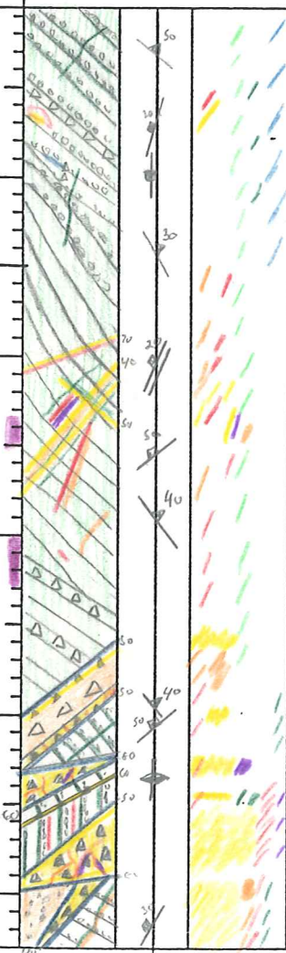
60001161

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-313-98	LOCATION	Stope 50 Sec 1650
PAGE 1 OF 5		NORTHING	
DATE	10-27-98	EASTING	
LOGGED BY	D.G. Mackerrow	ELEVATION	
SCALE	1"=10'	AZIMUTH	125°
TOTAL DEPTH	278	INCLINATION	+28

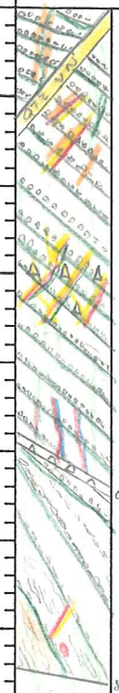
REMARKS: Drilling completed 9/17/98

TH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
SPLAT ↓	Red	0 SLIGHTLY PLANAR LAMINAR Fine to medium textured flow. Various widths of foliation lamina with chlorite stains marking boundarys. Vesicals train form along lamina boundary. Orientation to core axis of lamina varies from 30-70° 18-27 mineralized zone with pyrite, clay, Barite and Bladed marcasite. Traces of pyrurargyrite on barite found at . Calcopyrite was associated with the pyrurargyrite crystals 36.7-58.1 Second mineralized zone consisting of silicified breccia and stock works. Hydrothermally leach qtz forms vugs with pyrite and marcasite. This zone can be subdivided into the intervals 40.5-45 and 47.2 to 51.5 as having the highest alterations.	10 20 30 40 50		Narrow auto bxa with volcanic clay matrix and clast of surrounding SPLAT Autobxa 6.2-7 Mineralized zone 18-27 Cross cut high angle 20° TCA Fracture turns core to rubble. Cross cutting fracture are at 60° TCA Hydrothermally altered clays on fractures with white clay coating. The first clay, at 24.5' Autobxa at 32.8-33.2 and 35.3-36 At 37.8-38.2 silicified hanging wall mosaic bxa of mineralized zone 38.2-40.5 clay matrix milled rubble bxa. 40.5-41 silica healed mosaic bxa 43-44 QTZ HEALED MOSAIC BXA 44.6-45 QTZ healed mosaic bxa	Chlorite stains fractures. Calcite on some fractures surfaces from 0-14' Pyrite forms local accumulations with ≥50% concentrations. Kaolinite on fractures in the mineralized zones. Barite is spotty in the mineralized zones at 23' and 43'. Pyrurargyrite on barite crystals at 43' General argillization increase below 35' to 86' Marcasite vein at 36.9' at 30° TCA with clay and pyrite. 44.5 1" qtz VN

PEMA 39

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	5					
5	9					
9	14					
14	18					
18	20					
20	23.5					
23.5	25					
25	27					
27	29.8					
29.8	33					
33	36.7					
36.7	40.5					
40.5	43					
43	45					
45	47.2					
47.2	49.6					
49.6	51.5					

HOLE NUMBER D-313-98 PAGE 2 OF 5

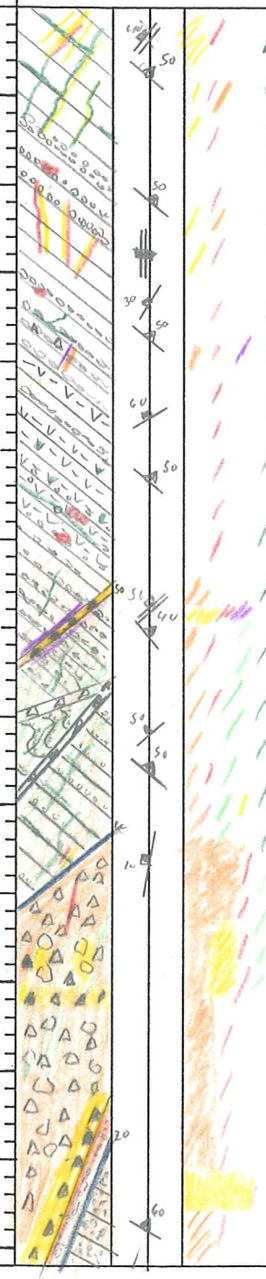
LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
SPLAT.		0-87.7 SLIGHTY PLANAR LAMINAR Vesicular P.L. in mineralized zone continues. ALTERATION Begins to tail of Below 54.5. 1" silicified Veins are present to 57.6. Spotty silicification found to 61.5 77-87.7 SPLAT Become increasingly massive. Lamina appear to be relatively steep. 83.5-86.3 core has a mottle appearance This is a probable Alteration (argillization) or devitrification result	50 60 70 80		QTZ VEIN/BXU ZONE 53.4-54.5 cross cut Foliation and forms footwall to main mineralization From 61.5 There are Hydrothermally formed vug High angle 20° TCA fracture with calcite, marcasite and clay between 71.8-75' Autobxu at 75.5-76' Healed crackle Bxu locally associated with QTZ stockwork	Hydrothermally altered clay veins cross cut Lamination From 51.5 to 53. 53.4 to 54.5 QTZ VEIN with sulfide masses. Vein cross cut Foliation of PL From 63' chloritic alteration of fractures and lamina boundary becomes stronger QTZ STOCKWORK From 63-68' Calcite on fractures begins at 73' found in micro fracture giving the appearance of calcareous rocks Calcite forms veins in the FGM Argillization / Bleaching begins at 97.2 Rocks are calcareous 95-97.2'
		87.7-119.7 FINE GRAINED MASSIVE Very fine grained flow with little foliation. Rock is gray green in color. Pyrite dissemination is <1% but local concentrations and veins are Present Contact appears gradational with Vitrophyre From 116.2 to 119.7 A small Breccia is at the contact. Breccia is only 2" wide	90 100 110 120		Fracturing increase From 93'-103 with Pyrite, qtz, or clay on the surface 111.6-112 Leached QTZ VN Auto BXU 118.7-119.9	
VIT		119.7-141.2 VITROPHYRE				

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
51.5	53.4				
53.4	54.5				
54.5	57.6				
57.6	61.5				
61.5	63				
63	68				
68	71.8				
71.8	75				
75	78				
78	83.5				
83.5	87.7				
87.7	93				
93	97.2				
97.2	103				
103	108				
108	113				
113	116.2				
116.2	119.7				

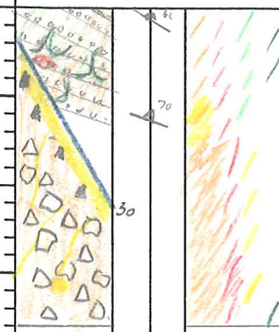
HOLE NUMBER D-313-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
VIT		119.7-136.7 VITROPHYRE Highly fracture fine grained well welded flow core. Pale green white in color. Propylitic with an argillization over print Lower contact is gradational with FGR	120 130		Autobxu 126.6-127 clay matrix subrounded clast	Pyrite forms agglomeration and veinlets. QTZ veins at 50°TCA up to 1" thick 130.7 to 133.7. Drozy QTZ located in small vugs	119.7 123 127 130.7 133.7	123 127 130.7 133.7 136.7				
FGR		136.7-177.6 FINE GRAINED MASSIVE Fine grain portion of flow Very uniform in texture 163-167.7 Texture coarsen to medium with visible small specks of alteration or devitrification textures 167.7 to 177.9 ARGillized Breccia Clasts up to 3" in diameter matrix is dark gray volcanic clay with clast of light green FGM. This is at the contact with the planar laminar	140 150 160 170		Highly fracture like vitrophyre but without concoidal nature to 141.2 Weak Bxu with predominantly crackle Bxu intensity from 155-159. Autobxu of flow boundary Bxu for 167.7 to 177.6 High angle (0°TCA) fractures with sulfide	Fine chlorite veinlets. Present. Pyrite dissemination <1% but veinlet and veins cross core at high angle up to 0° silicified Breccia at 156' Argillization increases from 163 to 177' Barite qtz, Py vein 175.1	136.7 138.5 143 148 153 156 160 163 167.7 172.3 174.7	138.5 143 148 153 156 160 163 167.7 172.3 174.7 177.6				
		177.6-278 PLANAR LAMINAR Fine to medium textured flow with increasing foliation with distance from contact.	180 190		BXU zone 179.6-184.5 Crackle BXU 179.6-180.5 Mosaic BXU 180.5-181.5 Crackle BXU 181.5-183	Hydrothermal QTZ veins forming weak stockwork from 178-195 Hydrothermal altered clays 183-185	177.6 183 185 188.7	183 185 188.7 191				

HOLE NUMBER D-313-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
P.L.		226.-278 PLANAR LAMINAR Continued fine to medium texture Pinu 195 flow, occasional vesicul trains following foliation 211.2 – 218.8 Very tuffaceous in character, vesiculs that have been leached leaving snallpits. Foliation steepens from 50° TCA to 40° TCA at 220 and returns to 50° TCA 229.5. Foliation becomes disrupted around Breccia at 229.5 to 230. this Breccia cross cuts foliation 239.1 – 261.1 Breccia original Breccia may have been and autobxa but it has now been partially silicified 239.1 – 242.8 Highly argillized milled Breccia with clay matrix and highly altered clast 242.8 – 248 SPOTTY silicification has Healed breccia. Clast are still mostly argillized 248 – 255.6 Argillized crackle to mosaic Breccia spotty silica 255 – 255.6 255.6 – 258 Silica healed milled Bxa 258 – 261.1 Fine vesicular? textured portion of flow 261.1 – 263.3 Vitrophyric like welded portion of flow	190 200 210 220 230 240 250 260		Vesiculs 195 – 197 QTZ vn swarm 188.3 – 193, 40° TCA Crackle Bxa 207.5 – 207.8 QTZ marcasite pyrite Crackle bxa at 225.1 229.5 – 230 mosaic Bxa with subrounded clast 239.1 – 261.1 Some breccia seen in Marks hole on the other section D-309-98 High angle sulfide veins are present in this portion of Bxa High angle fracture 257.7 to 261.1 Slicks are present 50° TCA	QTZ veins with drozy QTZ in vugs with Pyrite associated Hydrothermal altered clay at 200'. Barite in open vug 209.5 Some vesicul in "Tuffaceous" Portion of P.L. have altered by chlorite Pyrite accumulations along veins form 3" dia masses at 220. Disseminated Py increases below 245' approaching up to 7° QTZ veining in the Breccia has been leached at 246' forming vugs	188.8 191 195 200 204 208 211.2 214.9 218.8 224.6 227 232 236.5 239.1 242.8 248 251.7 255.6 258	191 195 200 204 208 211.2 214.9 218.8 224.6 227 232 236.5 239.1 242.8 248 251.7 255.6 258 261.1				

HOLE NUMBER D-313-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
P.L. ↓		177.6-278 PLANAR LAMINA 263.1-265.9 Partially silicified P.L. with some "vitrophyre like" characteristic 271-274.4 MOSAIC BXX with some Rotation of clast. Clast supported by a white clay matrix Pinx 272	260 270 280		Fault zone 265.9 to TD. silicified hanging wall to 267	Pyrite after arsenopyrite in BXX 271-278 271-276.5 Heavy clay development healing breccia 276.5-278 Heavy argillization

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
258	261.1				
261.1	263.1				
263.1	265.9				
265.9	268				
268	271.				
271	274.4				
274.4	278				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-313-98 DATE: 10/27/98 LOGGED BY: D. G. Mackerrow PAGE 1 OF 3

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	2.5	0	100	0										
2.5	9.0	100	100	64										
9.0	18.0	74	100	54										
18.0	23.5	27	100	18										
23.5	27	17	100	26										
27	33	97	100	53										
33	43	98	100	51										
43	53	61	100	26										
53	63	86	100	58										
63	71	90	100	52										
71	78	48	100	34										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-313-98 DATE: 10-27-97 LOGGED BY: D. MacKerrow PAGE 2 OF 3

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)
78	83.5	100	100	76										
83.5	93	100	100	63										
93	103	100	100	78										
103	113	100	100	81										
113	123	100	100	51										
123	133	100	100	84										
133	143	100	100	85										
143	153	100	100	69										
153	163	100	100	55										
163	173	100	100	71										
173	183	100	100	79										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-313-98 DATE: 10-28-98 LOGGED BY: D. G. Mackerrow PAGE 3 OF 3

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)
183	193	100	100	37										
193	203	100	100	64										
203	208	72	100	64										
208	217	100	100	42										
217	227	100	100	54										
227	232	100	100	44										
232	238	63	100	78										
238	248	100	100	48										
248	258	100	100	100										
258	268	100	100	58										
268	278	100	100	76										

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051499

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-313-98 RECEIVED : 10 NOV 1998

No. SAMPLES : 80 REPORTED : 24 NOV 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 SP051499

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-313-98 0-5	<0.001			<0.02
D-313-98 5-9	<0.001			0.02
D-313-98 9-14	<0.001			<0.02
D-313-98 14-18	<0.001			<0.02
D-313-98 18-20	0.001			<0.02
D-313-98 20.0-23.5	0.071		0.058	2.95
D-313-98 23.5-25.0	0.626		0.658	0.90
D-313-98 25-27	0.014			0.05
D-313-98 27.0-29.8	0.007			0.02
D-313-98 29.8-33.0	0.239		0.251	0.34
D-313-98 33.0-36.7	0.051		0.080	0.18
D-313-98 36.7-40.5	0.094		0.081	0.06
D-313-98 40.5-43.0	0.006			0.07
D-313-98 43-45	0.009			0.05
D-313-98 45.0-47.2	0.004			0.03
D-313-98 47.2-49.6	0.031			0.59
D-313-98 49.6-51.5	0.003			0.04
D-313-98 51.5-53.4	0.005			0.03
D-313-98 53.4-54.5	0.002			0.02
D-313-98 54.5-57.6	0.024			0.10
D-313-98 57.6-61.5	0.006			0.04
D-313-98 61.5-63.0	0.005			0.03
D-313-98 63-68	0.014			0.05
D-313-98 68.0-71.8	0.001			<0.02
D-313-98 71.8-75.0	0.004			<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051499

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-313-98 75-78	0.005			<0.02
D-313-98 78.0-83.5	0.001			<0.02
D-313-98 83.5-87.7	0.051		0.047	0.09
D-313-98 87.7-93.0	0.003			0.04
D-313-98 93.0-97.2	0.075		0.090	0.02
D-313-98 97.2-103.0	<0.001			0.02
D-313-98 103-108	<0.001			0.02
D-313-98 108-113	0.004			0.03
D-313-98 113.0-116.2	0.002			<0.02
D-313-98 116.2-119.7	<0.001			<0.02
D-313-98 119.7-123.0	<0.001			0.02
D-313-98 123-127	0.002			0.02
D-313-98 127.0-130.7	0.004			0.11
D-313-98 130.7-133.7	0.021			0.15
D-313-98 133.7-136.7	0.001			0.02
D-313-98 136.7-138.5	0.018			0.08
D-313-98 138.5-143.0	0.063		0.064	0.11
D-313-98 143-148	0.004			0.03
D-313-98 148-153	0.012			0.05
D-313-98 153-156	0.008			0.06
D-313-98 156-160	0.003			0.06
D-313-98 160-163	0.006			0.13
D-313-98 163.0-167.7	0.001			0.06
D-313-98 167.7-172.3	0.030			0.06
D-313-98 172.3-174.7	0.002			0.03

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051499

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-313-98 174.7-177.6	0.031			0.06
D-313-98 177.6-183.0	0.015			0.06
D-313-98 183-185	0.002	0.002		0.05
D-313-98 185.0-188.3	0.006			0.05
D-313-98 188.3-191.0	0.021			0.05
D-313-98 191-195	0.011			0.06
D-313-98 195-200	0.010			0.05
D-313-98 200-204	0.010	0.006		0.08
D-313-98 204-208	0.003			0.06
D-313-98 208.0-211.2	0.031			0.08
D-313-98 211.2-214.9	0.019			0.04
D-313-98 214.9-218.8	<0.001			0.02
D-313-98 218.8-224.6	0.002			0.06
D-313-98 224.6-227.0	0.012			0.14
D-313-98 227-232	<0.001			0.03
D-313-98 232.0-236.5	0.046			0.08
D-313-98 236.5-239.1	0.003			0.02
D-313-98 239.1-242.8	0.057		0.047	0.05
D-313-98 242.8-248.0	0.024			0.07
D-313-98 248.0-251.7	0.022			0.09
D-313-98 251.7-255.6	0.024			0.09
D-313-98 255.6-258.0	0.084		0.078	0.39
D-313-98 258.0-261.1	0.063		0.068	0.40
D-313-98 261.1-263.1	0.016			0.06
D-313-98 263.1-265.9	0.001			0.07

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT 8P051499

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-313-98 265.9-268.0	0.008			0.10
D-313-98 268-271	0.010	0.009		0.25
D-313-98 271.0-274.4	0.022			0.12
D-313-98 274.4-278.0	0.035			0.11
46581	0.506			3.29

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

INVOICE NO: SP 0051499-IN
INVOICE DATE: 11/25/98

(702) 356-0606

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-313-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
80	SAMPLES RECEIVED	.00	.00
79	DRYING	1.00	79.00
79	JAW CRUSHING CHARGE	1.30	102.70
79	COARSE MILLING CHARGE	4.50	355.50
79	SPLITTING CHARGE	2.40	189.60
79	RING MILLING CHARGE	2.00	158.00
80	Au (1 A.T. FIRE ASSAY)	8.00	640.00
11	Au ANALYSES/GRAVIMETRIC	8.75	96.25
80	HYDROCHLORIC/NITRIC DIGESTION	2.00	160.00
80	Ag ANALYSES	1.00	80.00
1	Ag (ore grade) ANALYSES	5.00	5.00

86-5110-477

NET INVOICE:	1,866.05
LESS DISCOUNT:	373.21
FREIGHT:	.00
INVOICE TOTAL:	1,492.84

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051499

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-313-98 RECEIVED : 10 NOV 1998

No. SAMPLES : 80 REPORTED : 24 NOV 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 SP051499

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-313-98 0-5	<0.001			<0.02
D-313-98 5-9	<0.001			0.02
D-313-98 9-14	<0.001			<0.02
D-313-98 14-18	<0.001			<0.02
D-313-98 18-20	0.001			<0.02
D-313-98 20.0-23.5	0.071		0.058	2.95
D-313-98 23.5-25.0	0.626		0.658	0.90
D-313-98 25-27	0.014			0.05
D-313-98 27.0-29.8	0.007			0.02
D-313-98 29.8-33.0	0.239		0.251	0.34
D-313-98 33.0-36.7	0.051		0.080	0.18
D-313-98 36.7-40.5	0.094		0.081	0.06
D-313-98 40.5-43.0	0.006			0.07
D-313-98 43-45	0.009			0.05
D-313-98 45.0-47.2	0.004			0.03
D-313-98 47.2-49.6	0.031			0.59
D-313-98 49.6-51.5	0.003			0.04
D-313-98 51.5-53.4	0.005			0.03
D-313-98 53.4-54.5	0.002			0.02
D-313-98 54.5-57.6	0.024			0.10
D-313-98 57.6-61.5	0.006			0.04
D-313-98 61.5-63.0	0.005			0.03
D-313-98 63-68	0.014			0.05
D-313-98 68.0-71.8	0.001			<0.02
D-313-98 71.8-75.0	0.004			<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051499

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REFERENCE : D-313-98

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-313-98 75-78	0.005			<0.02
D-313-98 78.0-83.5	0.001			<0.02
D-313-98 83.5-87.7	0.051		0.047	0.09
D-313-98 87.7-93.0	0.003			0.04
D-313-98 93.0-97.2	0.075		0.090	0.02
D-313-98 97.2-103.0	<0.001			0.02
D-313-98 103-108	<0.001			0.02
D-313-98 108-113	0.004			0.03
D-313-98 113.0-116.2	0.002			<0.02
D-313-98 116.2-119.7	<0.001			<0.02
D-313-98 119.7-123.0	<0.001			0.02
D-313-98 123-127	0.002			0.02
D-313-98 127.0-130.7	0.004			0.11
D-313-98 130.7-133.7	0.021			0.15
D-313-98 133.7-136.7	0.001			0.02
D-313-98 136.7-138.5	0.018			0.08
D-313-98 138.5-143.0	0.063		0.064	0.11
D-313-98 143-148	0.004			0.03
D-313-98 148-153	0.012			0.05
D-313-98 153-156	0.008			0.06
D-313-98 156-160	0.003			0.06
D-313-98 160-163	0.006			0.13
D-313-98 163.0-167.7	0.001			0.06
D-313-98 167.7-172.3	0.030			0.06
D-313-98 172.3-174.7	0.002			0.03

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051499

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CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-313-98 174.7-177.6	0.031			0.06
D-313-98 177.6-183.0	0.015			0.06
D-313-98 183-185	0.002	0.002		0.05
D-313-98 185.0-188.3	0.006			0.05
D-313-98 188.3-191.0	0.021			0.05
D-313-98 191-195	0.011			0.06
D-313-98 195-200	0.010			0.05
D-313-98 200-204	0.010	0.006		0.08
D-313-98 204-208	0.003			0.06
D-313-98 208.0-211.2	0.031			0.08
D-313-98 211.2-214.9	0.019			0.04
D-313-98 214.9-218.8	<0.001			0.02
D-313-98 218.8-224.6	0.002			0.06
D-313-98 224.6-227.0	0.012			0.14
D-313-98 227-232	<0.001			0.03
D-313-98 232.0-236.5	0.046			0.08
D-313-98 236.5-239.1	0.003			0.02
D-313-98 239.1-242.8	0.057		0.047	0.05
D-313-98 242.8-248.0	0.024			0.07
D-313-98 248.0-251.7	0.022			0.09
D-313-98 251.7-255.6	0.024			0.09
D-313-98 255.6-258.0	0.084		0.078	0.39
D-313-98 258.0-261.1	0.063		0.068	0.40
D-313-98 261.1-263.1	0.016			0.06
D-313-98 263.1-265.9	0.001			0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051499

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-313-98 265.9-268.0	0.008			0.10
D-313-98 268-271	0.010	0.009		0.25
D-313-98 271.0-274.4	0.022			0.12
D-313-98 274.4-278.0	0.035			0.11
46581	0.506			3.29

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP061499

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-313-98 RECEIVED : 10 NOV 1998

No. SAMPLES : 80 REPORTED : 24 NOV 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 SP051499

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PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-313-98

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-313-98 0-5	<0.001			<0.02
D-313-98 5-9	<0.001			0.02
D-313-98 9-14	<0.001			<0.02
D-313-98 14-18	<0.001			<0.02
D-313-98 18-20	0.001			<0.02
D-313-98 20.0-23.5	0.071		0.058	2.95
D-313-98 23.5-25.0	0.626		0.658	0.90
D-313-98 25-27	0.014			0.05
D-313-98 27.0-29.8	0.007			0.02
D-313-98 29.8-33.0	0.239		0.251	0.34
D-313-98 33.0-36.7	0.051		0.080	0.18
D-313-98 36.7-40.5	0.094		0.081	0.06
D-313-98 40.5-43.0	0.006			0.07
D-313-98 43-45	0.009			0.05
D-313-98 45.0-47.2	0.004			0.03
D-313-98 47.2-49.6	0.031			0.59
D-313-98 49.6-51.5	0.003			0.04
D-313-98 51.5-53.4	0.005			0.03
D-313-98 53.4-54.5	0.002			0.02
D-313-98 54.5-57.6	0.024			0.10
D-313-98 57.6-61.5	0.006			0.04
D-313-98 61.5-63.0	0.005			0.03
D-313-98 63-68	0.014			0.05
D-313-98 68.0-71.8	0.001			<0.02
D-313-98 71.8-75.0	0.004			<0.02

AMERICAN ASSAY LABORATORIES

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D-313-98 78.0-83.5	0.001			<0.02
D-313-98 83.5-87.7	0.051		0.047	0.09
D-313-98 87.7-93.0	0.003			0.04
D-313-98 93.0-97.2	0.075		0.090	0.02
D-313-98 97.2-103.0	<0.001			0.02
D-313-98 103-108	<0.001			0.02
D-313-98 108-113	0.004			0.03
D-313-98 113.0-116.2	0.002			<0.02
D-313-98 116.2-119.7	<0.001			<0.02
D-313-98 119.7-123.0	<0.001			0.02
D-313-98 123-127	0.002			0.02
D-313-98 127.0-130.7	0.004			0.11
D-313-98 130.7-133.7	0.021			0.15
D-313-98 133.7-136.7	0.001			0.02
D-313-98 136.7-138.5	0.018			0.08
D-313-98 138.5-143.0	0.063		0.064	0.11
D-313-98 143-148	0.004			0.03
D-313-98 148-153	0.012			0.05
D-313-98 153-156	0.008			0.06
D-313-98 156-160	0.003			0.06
D-313-98 160-163	0.006			0.13
D-313-98 163.0-167.7	0.001			0.06
D-313-98 167.7-172.3	0.030			0.06
D-313-98 172.3-174.7	0.002			0.03

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D-313-98 183-185	0.002	0.002		0.05
D-313-98 185.0-188.3	0.006			0.05
D-313-98 188.3-191.0	0.021			0.05
D-313-98 191-195	0.011			0.06
D-313-98 195-200	0.010			0.05
D-313-98 200-204	0.010	0.006		0.08
D-313-98 204-208	0.003			0.06
D-313-98 208.0-211.2	0.031			0.08
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D-313-98 224.6-227.0	0.012			0.14
D-313-98 227-232	<0.001			0.03
D-313-98 232.0-236.5	0.046			0.08
D-313-98 236.5-239.1	0.003			0.02
D-313-98 239.1-242.8	0.057		0.047	0.05
D-313-98 242.8-248.0	0.024			0.07
D-313-98 248.0-251.7	0.022			0.09
D-313-98 251.7-255.6	0.024			0.09
D-313-98 255.6-258.0	0.084		0.078	0.39
D-313-98 258.0-261.1	0.063		0.068	0.40
D-313-98 261.1-263.1	0.016			0.06
D-313-98 263.1-265.9	0.001			0.07

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D-313-98 265.9-268.0	0.008			0.10
D-313-98 268-271	0.010	0.009		0.25
D-313-98 271.0-274.4	0.022			0.12
D-313-98 274.4-278.0	0.035			0.11
46581	0.506			3.29

D-313-98	35	26	125.7
	140	26.5	127.7
	275	26	126.2

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 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: 11/5/98 Number of Samples: 79

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [ ] Au Ag according to Rosebud Mine Protocol

D-313-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED		
0-5	47.2-49.6	97.2-103		156-160	211.2-214.9	265.9-268
5-9	49.6-51.5	103-108		160-163	214.9-218.8	268-271
9-14	51.5-53.4	108-113		163-167.7	218.8-224.6	271-274.4
14-18	53.4-54.5	113-116.2		167.7-172.3	224.6-227	274.4-278 TD
18-20	54.5-57.6	116.2-119.7		172.3-174.7	227-232	
20-23.5	57.6-61.5	119.7-123		174.7-177.6	232-236.5	
23.5-25	61.5-63	123-127		177.6-183	236.5-239.1	
25-27	63-68	127-130.7		183-185	239.1-242.8	
27-29.8	68-71.8	130.7-133.7		185-188.3	242.8-248	
29.8-33	71.8-75	133.7-136.7		188.3-191	248-251.7	
33-36.7	75-78	136.7-138.5		191-195	251.7-255.6	
36.7-40.5	78-83.5	138.5-143		195-200	255.6-258	
40.5-43	83.5-87.7	143-148		200-204	258-261.1	
43-45	87.7-93	148-153		204-208	261.1-263.1	
45-47.2	93-97.2	153-156		208-211.2	263.1-265.9	

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

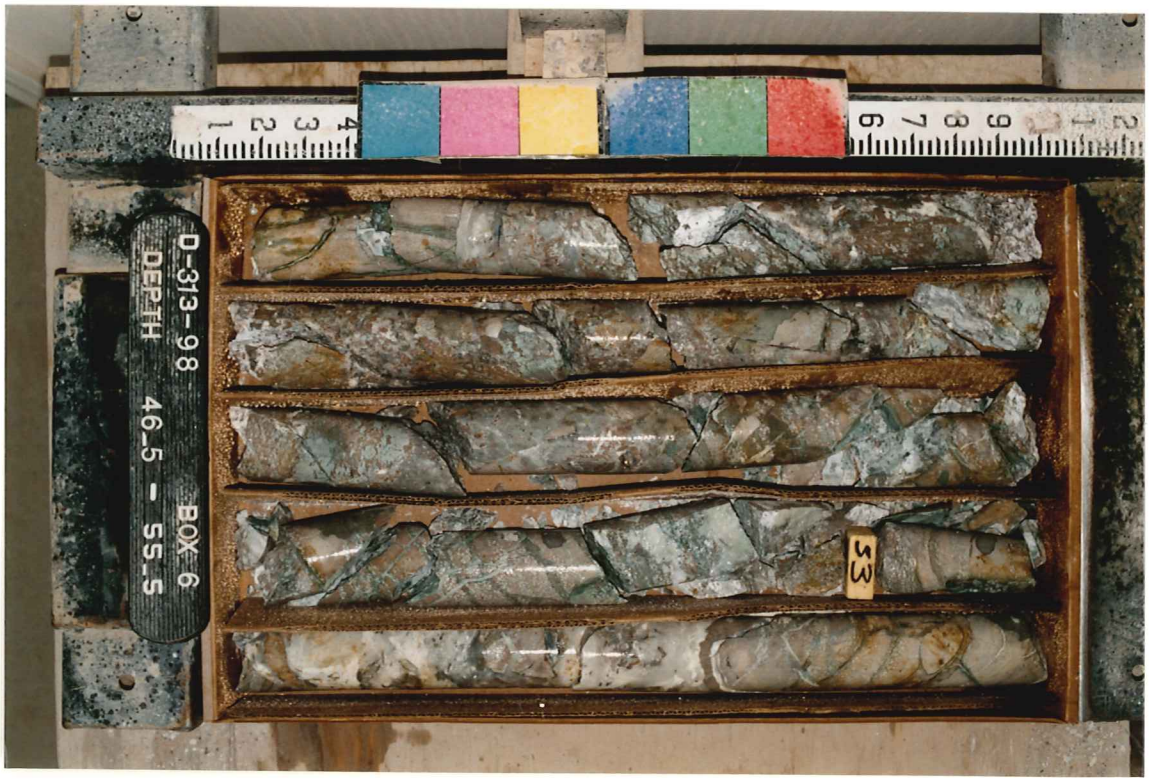
18
D-313-98 BOX 2
DEPTH 9_5 - 19

2.5
9
D-313-98 BOX 1
DEPTH 0 - 9_5

23.5
27
D-313-98 BOX 3
DEPTH 19 - 29

D-313-98 BOX 5
DEPTH 37 - 46_5
43

D-313-98 BOX 4
DEPTH 29 - 37
33


D-313-98 BOX 6
DEPTH 46_5 - 55_5
53

D-313-98
BOX 8
DEPTH 64_5 - 73
71

D-313-98
BOX 7
DEPTH 55_5 - 64_5
63

D-313-98
BOX 9
DEPTH 73 - 82_5
78

93
D-313-98 BOX 11
DEPTH 92 - 101_5

93.5
D-313-98 BOX 10
DEPTH 82_5 - 92

D-313-98 BOX 12
DEPTH 101_5 - 110_5
103

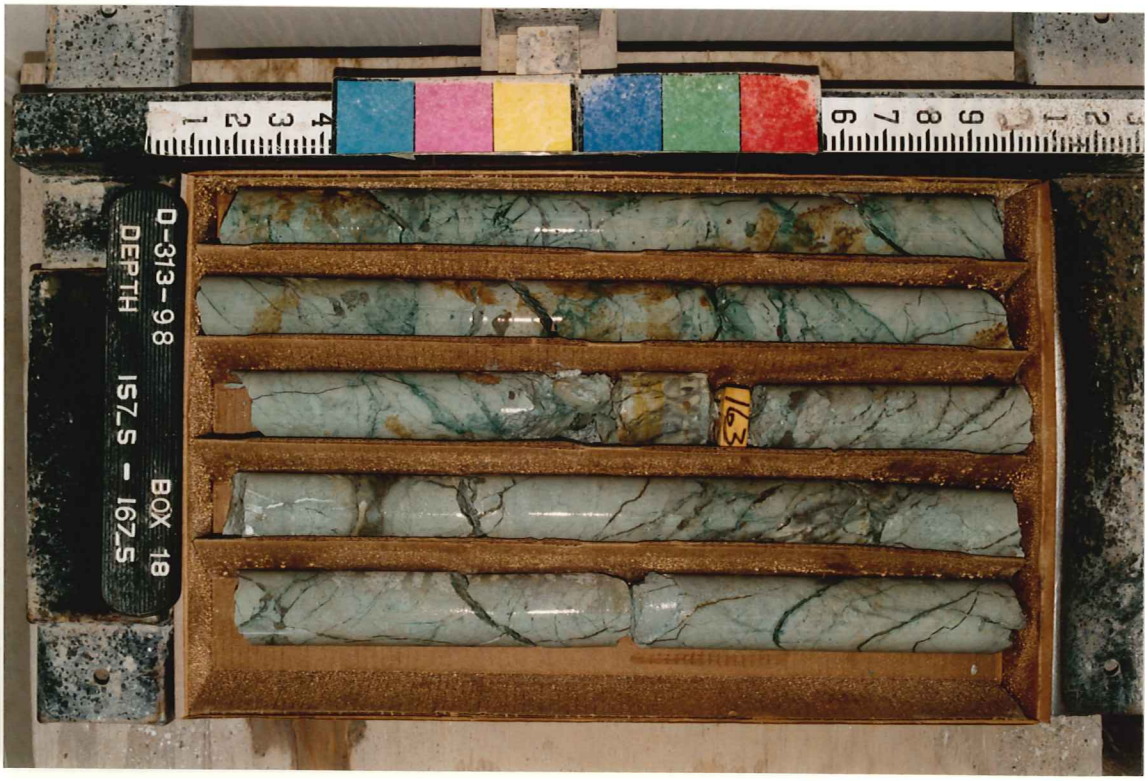
123
D-313-98
BOX 14
DEPTH 119 - 129

113
D-313-98
BOX 13
DEPTH 110_5 - 119

D-313-98
BOX 15
DEPTH 129 - 138_5

D-313-98 BOX 17
DEPTH 148 - 157_5

D-313-98 BOX 16
DEPTH 138_5 - 148


D-313-98 BOX 18
DEPTH 157_5 - 167_5

D-313-98 BOX 20
DEPTH 177 - 186

D-313-98 BOX 19
DEPTH 167.5 - 177

D-313-98 BOX 21
DEPTH 186 - 195

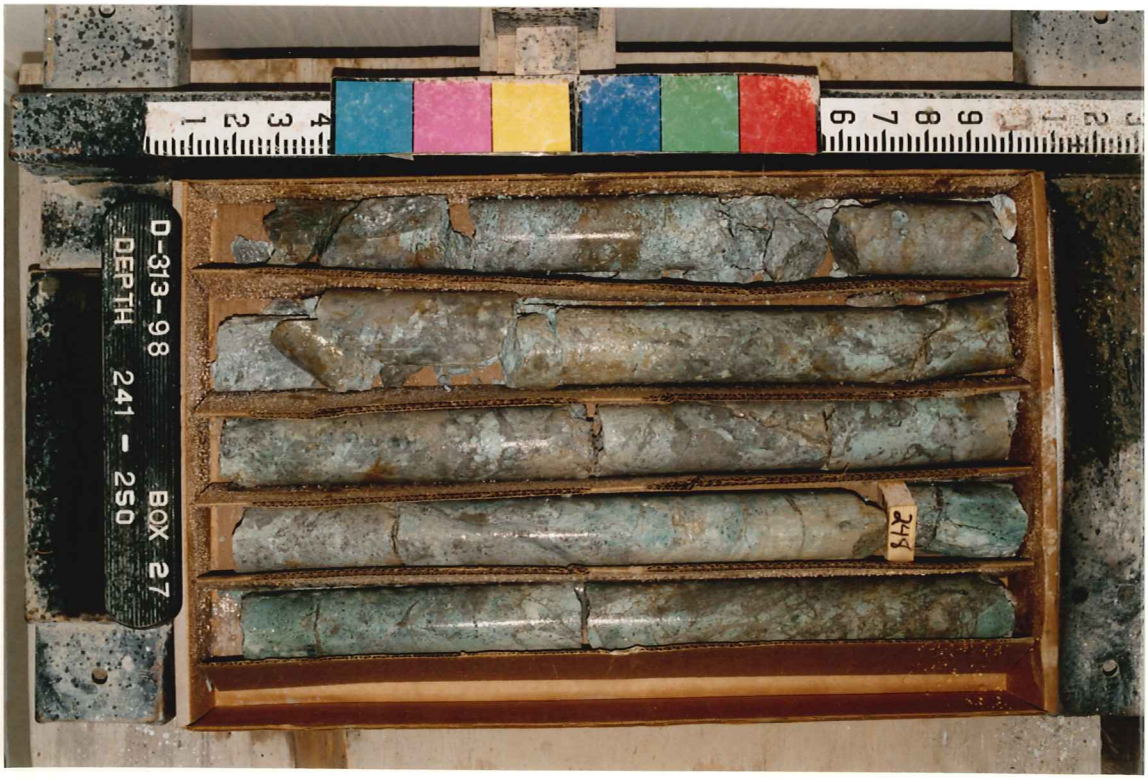
208
D-313-98
BOX 23
DEPTH 204 - 213_5

203
D-313-98
BOX 22
DEPTH 195 - 204

217
D-313-98
BOX 24
DEPTH 213_5 - 224

238
D-313-98
BOX 26
DEPTH 233 - 241

227
232
D-313-98
BOX 25
DEPTH 224 - 233


D-313-98
BOX 27
DEPTH 241 - 250
248

D-313-98 BOX 28
DEPTH 250 - 259
258

D-313-98 BOX 29
DEPTH 259 - 269
268

D-313-98 BOX 30
DEPTH 269 - 278 TD
TD

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-313-98
LEASE
TAKEN BY Magoon/Jerome
DEPTH 278'
DATE 9-12-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-313-98
LEASE
TAKEN BY Magoon / Jerome
DEPTH 140'
DATE 9-17-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D-313-98
LEASE
TAKEN BY Magpow/Jerome
DEPTH 35'
DATE 9-18-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408