60001207

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-306-98
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 311' receipt; handwritten notes; downhole camera images 38p. 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-306-98

60001207 4010

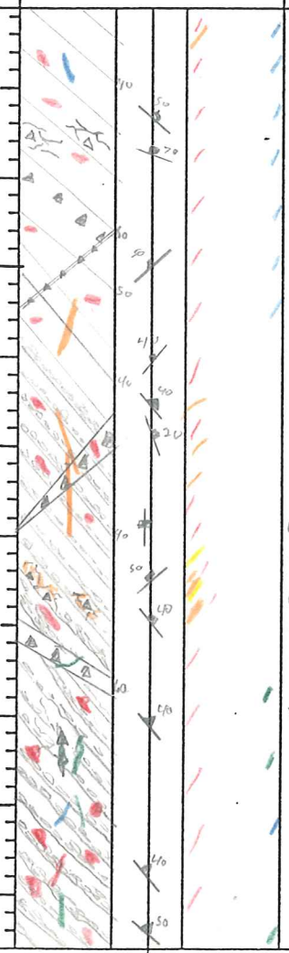
- quartz, chalcedony, silicification
- faults, fractures
- FeOx — Barite
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

66001207

Hecla MINING COMPANY

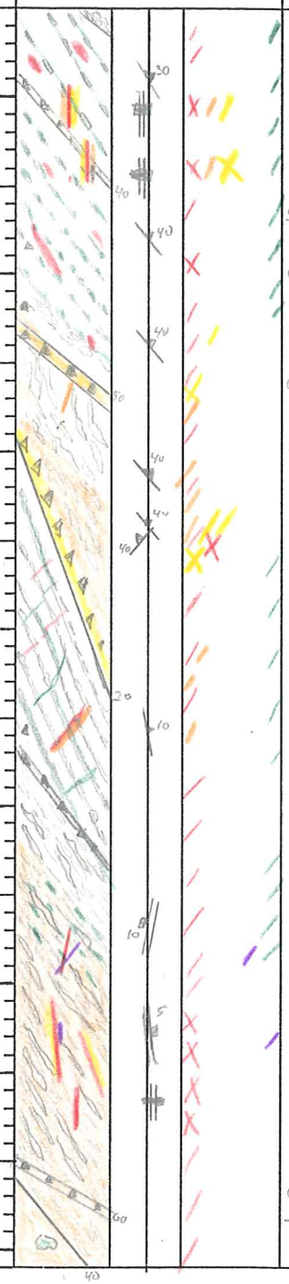
ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-306-98	LOCATION	Stope 50 Sec 1600	REMARKS	
PAGE 1 OF	5	NORTHING		completed 9/8/98	
DATE	10-23-98	EASTING			
LOGGED BY	DG. Mackerron	ELEVATION			
SCALE	1" = 10'	AZIMUTH	125		
TOTAL DEPTH	311	INCLINATION	25		

TH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
SPL	Red	0- PLANAR LAMINAR 0-13 Slightly Planar laminar Foliated fine to medium grained flow that Grades into increasingly laminitic rocks of the same flo Ground out lamina. Foliation is 50° TCA 13-51.7 INCREASING Laminitic textured Light gray rock with blueish gray fractures and lamina boundries Fine grained ground mass Sulfide dissemination < 1% but sporatic pyrite agglomerations are present. Vesiculs in trains become apparent from 20' Pina 23.5	0 10 20 30 40 50		weakly developed crackle BXa locally developed in ≤1' zones cross cutting 2" BXa at 15' dipping 50° TCA Crackle BXa 16-17' cross cutting 0° TCA fracture set from 28 to 29' clay and qtz filled narrow crackle BXa from 30.5 to 32.5 Very narrow high angle hydrothermal milled BXa ≤ ¼" between 40-42.5'	Pyrite veinlets cross cut foliation and also follow foliation boundries. Foliation boundries are Blue green indicating leaching? of earlier chloritic alteration Calcite present on some fracture from 0 to 18' clay filled fracture at 24' dipping 20° TCA First marcasite at 28' in vug Drozy qtz in vugs 27-31 Chlorite on BXa at 36.5' Calcite on fractures at Sulfide content 45.5' begins to increase at 36' Pyrite selvages/ agglomeration increase Pyrite mass up to 25% locally

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag2
0	4					
4	8					
8	13					
13	18					
18	23					
23	28					
28	32.5					
32.5	37					
37	42					
42	47					
47	51.7					
51.7	54.8					

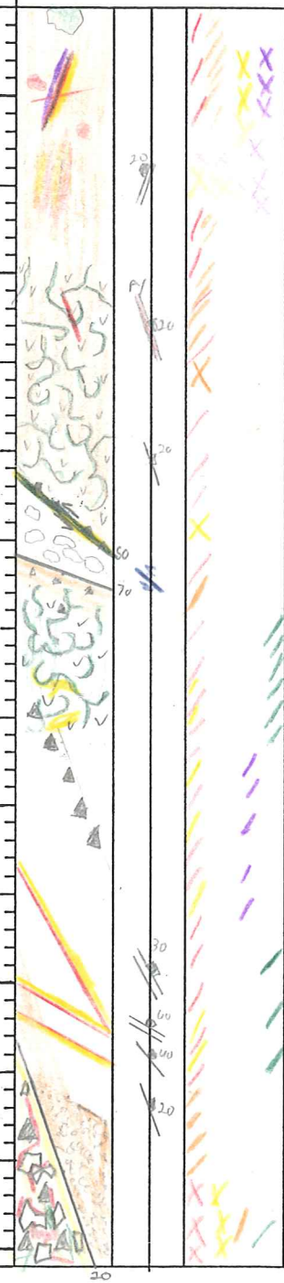
HOLE NUMBER D-306-98 PAGE 2 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
P.L. ↓	Red	0-119.4 PLANAR LAMINAR WORMY SPLAT*? 51.7-80.7 Foliation continues but the fine textured lamina with distinctive vesicular train ends. Core has now a mottled appearance. Rock is more massive in nature. Change could all be alteration related. Breccia at break to vesicular P.L. QTZ vein flooded contact. contact is 20° to core axis 80.7-98 vesicular planar lamina vesicals oriented 20° TCA chlorite is on fractures and following lamina boundary WORMY SPLAT?* 98-119.4 Altered planar laminar like that seen from 51.7-80.7. Pale greenish white core. This could be altered tuff. with the vesicals forming the irregular surface. Contact with FGM is gradational but a textural change can be noted but the alteration continues * Learned of WORMY SPLAT FROM SECTIONS May or May not be the same	50 60 70 80 90 100 110 120		Sharp edge lamina replace with oriented vesicul or remnant phenocrys at 30° TCA 57-57.5 Milled Autobx with subrounded to subangular clast. matrix volcanic clay 2" bxa same as above at 58' Clay and qtz matrix bxa 69.7 to 70.7 angular clas mosaic bxa in intensity Autobxa 104.6 to 105.6 Contact is 40° to TCA	Dark marcasite in fracture with 0° TCA orientation at 54.8 to 56' and 58.7 to 59.7' chlorite replacement of vesicular phenos from 50' to 67' 58.7 to 59.7 Marcasite and qtz fill vug or vein cut by edge of core sulfide is up to ½" thick Argillization above break 70'-79 80.7 1" qtz vein with bladed marcasite at the contact Argillization begins to increase from 100'. Bleaching also lighten core 108-110.5 marcasite veins at high angle to core 50° TCA veins contain QTZ, marcasite trace of Barite
FGM		119.4- FINE GRAIN MASSIVE				

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
47	51.7				
51.7	54.8				
54.8	57				
57	59.7				
59.7	63.6				
63.6	67				
67	69.7				
69.7	71.9				
71.9	75				
75	77				
77	80.7				
80.7	83.4				
83.4	87				
87	91.9				
91.9	93.9				
93.9	95				
95	100				
100	103.5				
103.5	107				
107	110.5				
110.5	114.6				
114.6	117				
117	119.4				

HOLE NUMBER D-306-98 PAGE 3 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
F.G.M. ↓	Red ↓	119.4 - 143 FINE GRAINED MASSIVE Fine grained Bleach and argillized volcanic. Color is greenish white. Tuffaceous character to core similar to 100-119.4 but with more ground mass. A remnant of unaltered FGM is located from 119.6 to 120.	120		Large QTZ and marc. Vein partially cut the core 123-126.5	marcasite and py coated more with QTZ and Barite	119.4	123				
							123	127				
			130				127	131.3				
							131.3	134.5				
						Vitrophyre is argillized and bleach a pale greenish white. Traces of chlorite are on the fracture surface	134.5	138				
			140				138	143				
V.I.T. ↓		143-148.6 VITRO PHYRE Fine grained Highly welded center of flow. Concoidal fracture pattern is distinctive characteristic			148.6-149 Fault offsets vitrophyre repeating the FGM Silicified milled Bxx with subrounded clast		143	148.6				
			150				148.6	151.8				
F.G.M ↓		148.6 - 151.8 FINE GRAINED MASSIVE FAULT REPEATING SECTION										
V I T ↓		151.8 - 161.1 VITRO PHYRE Fine grain flow with fracturing locally reaching crackle Bxx in intensity. GRADATIONAL CONTACT WITH FGM			Contact at 151.8 is sharp with some crackle bxx on the vitrophyre side.	Chlorite has filled small fractures of vitrophyre	151.8	156.8				
			160				156.8	161.1				
F.G.M. ↓		161.1 - 185.7 FINE GRAINED MASSIVE Fine grained flow, pale green gray. Hydro thermal alteration has leached open space that is coated with qtz, clay and marcasite From 181 TO 185.7 Texture of flow coarsens, These could be a devitrification alteration. Contact with P.L. is Brecciated and contain a sulfide and qtz matrix			Local stockwork of QTZ in vitrophyre from 152.5 - 161.1 Crackle Bxx 161.5-163	Shiny py in vugs 165 marcasite on fractures up to ½" thick below 173	161.1	163				
							163	167.8				
			170				167.8	173				
							173	177.1				
			180				177.1	181.4				
P.L ↓		185.7 - 311 PLANAR LAMINAR Laminated fine grained flow			20° TCA contact with P.L. P.L. is brecciated from 185.7 to 193. ANGULAR MOSAIC BXX	QTZ, Pyrite, Marcasite and minor clay IN Breccia to 193	181.4	185.7				
							185.7	188				
			190				188	193				

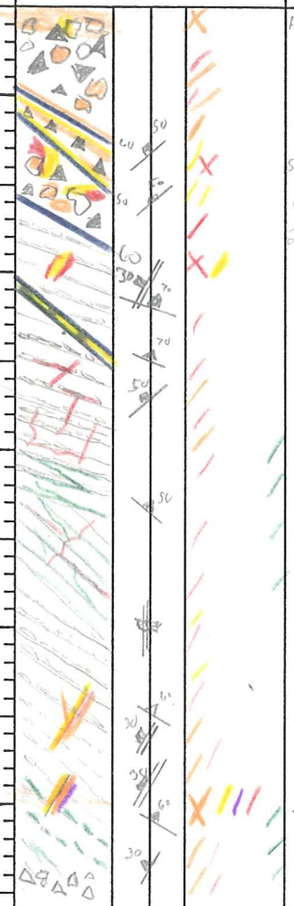


HOLE NUMBER D-306-98 PAGE 4 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
P.L. ↓		185.7-311 PLANAR LAMINAR Fine to medium textured flow foliated lamino Vesiculs are not well developed. There is clay development on fracture. Marcasite blades, pyrite and qtz are present in vugs and fractures. Barite is present on some fractures. From 185.7 to 123 is the Best looking zone for mineralization Pima 195 220-238.5 Vesicular texture increases and trains of vesicul follow lamino foliation 220.5-223 could possibly be spotted Tuff but I am not familiar enough with the subunit to tell. This look like a altered vesicular Tuff. 236.9 236.9 Tuffaceous bed 245.6 Lost of trace of chloritic alteration and rock become medium gray 248-288.6 Laminatic nature of Rock is disrupted a series of Brecciag and more massive type flow PIMA 259.5	190 200 210 220 230 240 250 260		Contact is mosaic Bxa to 193. Lamino foliation is 60° TCA Contact Bxa has qtz and sulfide in matrix. Clasts have not been silicified Hydrothermal bxa developed along 1" wide qtz veins. 208.4-209.4 qtz and sulfide matrix Breccia with subrounded clast of P.L 209.4-210.4 crackle Bxa with qtz and Marcasite in the matrix Hydrothermal Vugs are also developed 225 .4' hydrothermal Crackle Bxa Auto Bxa 238.5 to 239, Volcanic clay matrix Fault Zone 251 To 272, consisting Crackle to Rubble Bxa 259-261 Open vug with qtz with weak blebel more.	Chlorite on fracture surfaces of contact bxa 195 hydrothermally altered qtz with Marcasite blades and Pyrite coating more. clay is developed in the more hydrothermally altered veins. 210.4-221 Hydrothermally altered QTZ VEIN with QTZ more. Py and Barite increase in numbe 220.5-223 Increased Argillization 241 QTZ/more vein cross cut lamina at 30° TCA and follow lamina planes 248-288.6 Argillization becomes Variable.

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
188	193				
193	197.8				
197.8	203				
203	208.4				
208.4	210.4				
210.4	213				
213	216				
216	219.4				
219.4	223				
223	228				
228	233				
233	238.5				
238.5	243				
243	245.6				
245.6	248				
248	253				
253	257.2				
257.2	261				

HOLE NUMBER D-306-98 PAGE 5 OF 5

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION	ANALYTICAL DATA FROM	TO	W	Au	Ag	Au2
P.L. ↓		185.7-311 PLANAR LAMINAR Planar laminar continues. Large fault zone contains clast that have been highly argillized. QTZ flooding in areas of local intense milled breccia 294-311 vesicular texture increases and lamination boundarys become less distinct	260 270 280 290 300 310		Fault zone 251-272 Breccia zone with silicified hanging wall and footwall contact 266-268.1 High angle Bxa QTZ/clay vein @ 303.5-304	275 Large bladed marcasite crystals in QTZ coated vug chlorite on fractures and subparallel to lamina foliation 285-294 Below 279.5 silica is restricted to veins 303.5-304 QTZ, CLY, Barites and Pyrite in bxa zone	261 266 270 273.9 278.4 283 288 293 298 302 304 307.2	266 270 273.9 278.4 283 288 293 298 302 304 307.2 311				
		EOH	320									

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-306-98 DATE: 10-22-98 LOGGED BY: D. G. Mackerrow PAGE 1 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
0	4	72	100	60										
4	8	87	100	62										
8	13	100	100	80										
13	18	100	100	72										
18	28	98	100	48										
28	37	72	100	30										
37	47	97	100	67										
47	57	66	100	48										
57	67	100	100	75										
67	77	100	100	35										
77	87	100	100	67										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-306 DATE: 10-22-98 LOGGED BY: D. G. MacKenzie PAGE 2 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY /FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
87	97	99	100	31										
97	107	98	100	80										
107	117	100	100	84										
117	127	100	100	98										
127	137	81	100	71										
137	143	20	Mislatch 83	10										
143	153	85	95	60										
153	163	100	100	79										
163	173	100	100	61										
173	183	100	100	71										
183	193	100	100	74										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-306-98 DATE: 10-24-98 LOGGED BY: D.G. Muckerrow PAGE 3 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
193	203	85	100	74										
203	213	94	100	68										
213	223	100	100	75										
223	233	100	100	75										
233	243	100	100	80										
243	253	100	100	73										
253	263	80	100	82										
263	273	100	100	79										
273	283	85	100	75										
283	293	57	Mismatch 70	60										
293	294	100	100	100										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-306-98 DATE: 10-24-98 LOGGED BY: D.G. MacKerron PAGE 4 OF 4

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY /FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
294	304	71	100											
304	311	60	86											

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051438

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-306-98 RECEIVED : 5 NOV 1998

No. SAMPLES : 81 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 SP051438

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-306-98 0-4	0.089		0.076	0.26
D-306-98 4-8	0.042			0.06
D-306-98 8-13	0.002			0.02
D-306-98 13-18	<0.001			<0.02
D-306-98 18-23	0.004			0.04
D-306-98 23-28	0.077		0.115	0.10
D-306-98 28.0-32.5	0.008			0.05
D-306-98 32.5-37.0	<0.001			0.03
D-306-98 37-42	<0.001			<0.02
D-306-98 42-47	0.010			0.03
D-306-98 47.0-51.7	0.003			0.04
D-306-98 51.7-54.8	0.019			0.04
D-306-98 54.8-57.0	0.075		0.074	0.65
D-306-98 57.0-59.7	0.106		0.108	0.86
D-306-98 59.7-63.6	0.017			0.08
D-306-98 63.6-67.0	0.012			0.03
D-306-98 67.0-69.7	0.004			0.04
D-306-98 69.7-71.9	0.007			0.08
D-306-98 71.9-75.0	0.002			0.08
D-306-98 75-77	0.006			0.32
D-306-98 77.0-80.7	0.013			0.07
D-306-98 80.7-83.4	0.002			0.04
D-306-98 83.4-87.0	0.012			0.05
D-306-98 87.0-91.9	0.027			0.08
D-306-98 91.9-93.9	0.003			0.05

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051438

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-306-98 93.9-95.0	0.002			0.05	
D-306-98 95-100	0.021			0.03	
D-306-98 100.0-103.5	0.021			0.07	
D-306-98 103.5-107.0	0.059		0.067	0.17	
D-306-98 107.0-110.5	0.010			0.14	
D-306-98 110.5-114.6	0.007			0.07	
D-306-98 114.6-117.0	0.010			0.19	
D-306-98 117.0-119.4	0.002			0.08	
D-306-98 119.4-123.0	0.018		0.014	0.07	
D-306-98 123-127	0.170		0.203	0.23	
D-306-98 127.0-131.3	0.015			0.09	
D-306-98 131.3-134.5	0.013			0.08	
D-306-98 134.5-138.0	0.016			0.08	
D-306-98 138-143	0.007			0.19	
D-306-98 143.0-148.6	0.031			0.18	151.8-228'
D-306-98 148.6-151.8	0.103		0.227	0.14	76.2'@
D-306-98 151.8-156.8 5	0.254		0.316	0.20	
D-306-98 156.8-161.1 4.3	0.356		0.413	1.09	
D-306-98 161.1-163.0 1.9	0.459		0.490	0.75	0.562 Au
D-306-98 163.0-167.8 4.8	0.174		0.191	0.16	0.59 Ag
D-306-98 167.8-173.0 5.2	0.198		0.171	0.19	
D-306-98 173.0-177.1 4.1	0.391		0.395	0.85	
D-306-98 177.1-181.4 4.3	0.004			0.04	
D-306-98 181.4-185.7 4.3	0.335		0.521	0.27	
D-306-98 185.7-188.0 2.3	0.534		0.625	0.29	

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051438

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-306-98 188-193 5	2.282		2.467	2.28
D-306-98 193.0-197.8 4.8	0.783		0.987	0.97
D-306-98 197.8-203.0 5.2	0.112		0.279	0.40
D-306-98 203.0-208.4 5.4	0.205		0.189	0.19
D-306-98 208.4-210.4 2.0	0.385		0.499	0.97
D-306-98 210.4-213.0 2.6	0.552		0.312	0.29
D-306-98 213-216 3	2.915		3.202	1.27
D-306-98 216.0-219.4 3.4	0.486		0.485	0.31
D-306-98 219.4-223.0 3.6	0.167		0.190	0.16
D-306-98 223-228 5	0.585		0.612	1.14
D-306-98 228-233	0.083		0.100	0.22
D-306-98 233.0-238.5	0.036			0.19
D-306-98 238.5-243.0	0.176		0.147	0.25
D-306-98 243.0-245.6	0.047			0.28
D-306-98 245.6-248.0	0.111		0.103	0.18
D-306-98 248-253	0.076		0.087	0.16
D-306-98 253.0-257.2	0.175		0.160	0.26
D-306-98 257.2-261.0	0.022			0.93
D-306-98 261-266	0.061		0.067	0.16
D-306-98 266-270	0.074		0.121	1.04
D-306-98 270.0-273.9	0.062		0.067	0.12
D-306-98 273.9-278.4	0.047			0.43
D-306-98 278.4-283.0	0.029			0.14
D-306-98 283-288	0.018			0.09
D-306-98 288-293	0.027			0.11

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP051438

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-306-98 293-298	0.022			0.14
D-306-98 298-302	0.020			0.35
D-306-98 302-304	0.071		0.078	1.22
D-306-98 304.0-307.2	0.119		0.159	0.19
D-306-98 307.2-311.0	0.205		0.203	0.14
46563	0.121			2.90

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 0051438-IN
INVOICE DATE: 11/25/98

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-306-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
81	SAMPLES RECEIVED	.00	.00
80	DRYING	1.00	80.00
80	JAW CRUSHING CHARGE	1.30	104.00
80	COARSE MILLING CHARGE	4.50	360.00
80	SPLITTING CHARGE	2.40	192.00
80	RING MILLING CHARGE	2.00	160.00
81	Au (1 A.T. FIRE ASSAY)	8.00	648.00
37	Au ANALYSES/GRAVIMETRIC	8.75	323.75
81	HYDROCHLORIC/NITRIC DIGESTION	2.00	162.00
81	Ag ANALYSES	1.00	81.00
1	Ag (ore grade) ANALYSES	5.00	5.00

86-5110-477
KB

NET INVOICE:	2,115.75
LESS DISCOUNT:	423.15
FREIGHT:	.00
INVOICE TOTAL:	1,692.60

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

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-306-98 RECEIVED : 5 NOV 1998

No. SAMPLES : 81 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 SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 0-4	0.089		0.076	0.26
D-306-98 4-8	0.042			0.06
D-306-98 8-13	0.002			0.02
D-306-98 13-18	<0.001			<0.02
D-306-98 18-23	0.004			0.04
D-306-98 23-28	0.077		0.115	0.10
D-306-98 28.0-32.5	0.008			0.05
D-306-98 32.5-37.0	<0.001			0.03
D-306-98 37-42	<0.001			<0.02
D-306-98 42-47	0.010			0.03
D-306-98 47.0-51.7	0.003			0.04
D-306-98 51.7-54.8	0.019			0.04
D-306-98 54.8-57.0	0.075		0.074	0.65
D-306-98 57.0-59.7	0.106		0.108	0.86
D-306-98 59.7-63.6	0.017			0.08
D-306-98 63.6-67.0	0.012			0.03
D-306-98 67.0-69.7	0.004			0.04
D-306-98 69.7-71.9	0.007			0.08
D-306-98 71.9-75.0	0.002			0.08
D-306-98 75-77	0.006			0.32
D-306-98 77.0-80.7	0.013			0.07
D-306-98 80.7-83.4	0.002			0.04
D-306-98 83.4-87.0	0.012			0.05
D-306-98 87.0-91.9	0.027			0.08
D-306-98 91.9-93.9	0.003			0.05

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 93.9-95.0	0.002			0.05
D-306-98 95-100	0.021			0.03
D-306-98 100.0-103.5	0.021			0.07
D-306-98 103.5-107.0	0.059		0.067	0.17
D-306-98 107.0-110.5	0.010			0.14
D-306-98 110.5-114.6	0.007			0.07
D-306-98 114.6-117.0	0.010			0.19
D-306-98 117.0-119.4	0.002			0.08
D-306-98 119.4-123.0	0.018		0.014	0.07
D-306-98 123-127	0.170		0.203	0.23
D-306-98 127.0-131.3	0.015			0.09
D-306-98 131.3-134.5	0.013			0.08
D-306-98 134.5-138.0	0.016			0.08
D-306-98 138-143	0.007			0.19
D-306-98 143.0-148.6	0.031			0.18
D-306-98 148.6-151.8	0.103		0.227	0.14
D-306-98 151.8-156.8	0.254		0.316	0.20
D-306-98 156.8-161.1	0.356		0.413	1.09
D-306-98 161.1-163.0	0.459		0.490	0.75
D-306-98 163.0-167.8	0.174		0.191	0.16
D-306-98 167.8-173.0	0.198		0.171	0.19
D-306-98 173.0-177.1	0.391		0.395	0.85
D-306-98 177.1-181.4	0.004			0.04
D-306-98 181.4-185.7	0.335		0.521	0.27
D-306-98 185.7-188.0	0.534		0.625	0.29

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 188-193	2.282		2.467	2.28
D-306-98 193.0-197.8	0.783		0.987	0.97
D-306-98 197.8-203.0	0.112		0.279	0.40
D-306-98 203.0-208.4	0.205		0.189	0.19
D-306-98 208.4-210.4	0.385		0.499	0.97
D-306-98 210.4-213.0	0.552		0.312	0.29
D-306-98 213-216	2.915		3.202	1.27
D-306-98 216.0-219.4	0.486		0.485	0.31
D-306-98 219.4-223.0	0.167		0.190	0.16
D-306-98 223-228	0.585		0.612	1.14
D-306-98 228-233	0.083		0.100	0.22
D-306-98 233.0-238.5	0.036			0.19
D-306-98 238.5-243.0	0.176		0.147	0.25
D-306-98 243.0-245.6	0.047			0.28
D-306-98 245.6-248.0	0.111		0.103	0.18
D-306-98 248-253	0.076		0.087	0.16
D-306-98 253.0-257.2	0.175		0.160	0.26
D-306-98 257.2-261.0	0.022			0.93
D-306-98 261-266	0.061		0.067	0.16
D-306-98 266-270	0.074		0.121	1.04
D-306-98 270.0-273.9	0.062		0.067	0.12
D-306-98 273.9-278.4	0.047			0.43
D-306-98 278.4-283.0	0.029			0.14
D-306-98 283-288	0.018			0.09
D-306-98 288-293	0.027			0.11

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 293-298	0.022			0.14
D-306-98 298-302	0.020			0.35
D-306-98 302-304	0.071		0.078	1.22
D-306-98 304.0-307.2	0.119		0.159	0.19
D-306-98 307.2-311.0	0.205		0.203	0.14
46563	0.121			2.90

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

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-306-98 RECEIVED : 5 NOV 1998

No. SAMPLES : 81 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 SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 0-4	0.089		0.076	0.26
D-306-98 4-8	0.042			0.06
D-306-98 8-13	0.002			0.02
D-306-98 13-18	<0.001			<0.02
D-306-98 18-23	0.004			0.04
D-306-98 23-28	0.077		0.115	0.10
D-306-98 28.0-32.5	0.008			0.05
D-306-98 32.5-37.0	<0.001			0.03
D-306-98 37-42	<0.001			<0.02
D-306-98 42-47	0.010			0.03
D-306-98 47.0-51.7	0.003			0.04
D-306-98 51.7-54.8	0.019			0.04
D-306-98 54.8-57.0	0.075		0.074	0.65
D-306-98 57.0-59.7	0.106		0.108	0.86
D-306-98 59.7-63.6	0.017			0.08
D-306-98 63.6-67.0	0.012			0.03
D-306-98 67.0-69.7	0.004			0.04
D-306-98 69.7-71.9	0.007			0.08
D-306-98 71.9-75.0	0.002			0.08
D-306-98 75-77	0.006			0.32
D-306-98 77.0-80.7	0.013			0.07
D-306-98 80.7-83.4	0.002			0.04
D-306-98 83.4-87.0	0.012			0.05
D-306-98 87.0-91.9	0.027			0.08
D-306-98 91.9-93.9	0.003			0.05

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 93.9-95.0	0.002			0.05
D-306-98 95-100	0.021			0.03
D-306-98 100.0-103.5	0.021			0.07
D-306-98 103.5-107.0	0.059		0.067	0.17
D-306-98 107.0-110.5	0.010			0.14
D-306-98 110.5-114.6	0.007			0.07
D-306-98 114.6-117.0	0.010			0.19
D-306-98 117.0-119.4	0.002			0.08
D-306-98 119.4-123.0	0.018		0.014	0.07
D-306-98 123-127	0.170		0.203	0.23
D-306-98 127.0-131.3	0.015			0.09
D-306-98 131.3-134.5	0.013			0.08
D-306-98 134.5-138.0	0.016			0.08
D-306-98 138-143	0.007			0.19
D-306-98 143.0-148.6	0.031			0.18
D-306-98 148.6-151.8	0.103		0.227	0.14
D-306-98 151.8-156.8	0.254		0.316	0.20
D-306-98 156.8-161.1	0.356		0.413	1.09
D-306-98 161.1-163.0	0.459		0.490	0.75
D-306-98 163.0-167.8	0.174		0.191	0.16
D-306-98 167.8-173.0	0.198		0.171	0.19
D-306-98 173.0-177.1	0.391		0.395	0.85
D-306-98 177.1-181.4	0.004			0.04
D-306-98 181.4-185.7	0.335		0.521	0.27
D-306-98 185.7-188.0	0.534		0.625	0.29

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 188-193	2.282		2.467	2.28
D-306-98 193.0-197.8	0.783		0.987	0.97
D-306-98 197.8-203.0	0.112		0.279	0.40
D-306-98 203.0-208.4	0.205		0.189	0.19
D-306-98 208.4-210.4	0.385		0.499	0.97
D-306-98 210.4-213.0	0.552		0.312	0.29
D-306-98 213-216	2.915		3.202	1.27
D-306-98 216.0-219.4	0.486		0.485	0.31
D-306-98 219.4-223.0	0.167		0.190	0.16
D-306-98 223-228	0.585		0.612	1.14
D-306-98 228-233	0.083		0.100	0.22
D-306-98 233.0-238.5	0.036			0.19
D-306-98 238.5-243.0	0.176		0.147	0.25
D-306-98 243.0-245.6	0.047			0.28
D-306-98 245.6-248.0	0.111		0.103	0.18
D-306-98 248-253	0.076		0.087	0.16
D-306-98 253.0-257.2	0.175		0.160	0.26
D-306-98 257.2-261.0	0.022			0.93
D-306-98 261-266	0.061		0.067	0.16
D-306-98 266-270	0.074		0.121	1.04
D-306-98 270.0-273.9	0.062		0.067	0.12
D-306-98 273.9-278.4	0.047			0.43
D-306-98 278.4-283.0	0.029			0.14
D-306-98 283-288	0.018			0.09
D-306-98 288-293	0.027			0.11

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP051438

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-306-98

REPORTED : 24 NOV 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-306-98 293-298	0.022			0.14
D-306-98 298-302	0.020			0.35
D-306-98 302-304	0.071		0.078	1.22
D-306-98 304.0-307.2	0.119		0.159	0.19
D-306-98 307.2-311.0	0.205		0.203	0.14
46563	0.121			2.90

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: 11/01/98 Number of Samples: 80

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

D-306-98 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED		
0-4	63.6-67	110.5-114.6		167.8-173	228-233	243-298
4-8	67-69.7	114.6-117		173-177.1	233-238.5	298-302
8-13	69.7-71.9	117-119.4		177.1-181.4	238.5-243	302-304
13-18	71.9-75	119.4-123		181.4-185.7	243-245.6	304-307.2
18-23	75-77	123-127		185.7-188	245.6-248	307.2-311 TD
23-28	77-80.7	127-131.3		188-193	248-253	
28-32.5	80.7-83.4	131.3-134.5		193-197.8	253-257.2	
32.5-37	83.4-87	134.5-138		197.8-203	257.2-261	
37-42	87-91.9	138-143		203-208.4	261-266	
42-47	91.9-93.9	143-148.6		208.4-210.4	266-270	
47-51.7	93.9-95	148.6-151.8		210.4-213	270-273.9	
51.7-54.8	95-100	151.8-156.8		213-216	273.9-278.4	
54.8-57	100-103.5	156.8-161.1		216-219.4	278.4-283	
57-59.7	103.5-107	161.1-163		219.4-223	283-288	
59.7-63.6	107-110.5	163-167.8		223-228	288-293	

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-306-98	30	25	127.7
	150	25	127.7
	275	25	127.7

D-306-98 BOX 2
DEPTH 9_5 - 19

D-306-98 BOX 1
DEPTH 0 - 9_5

D-306-98 BOX 3
DEPTH 19 - 28_5

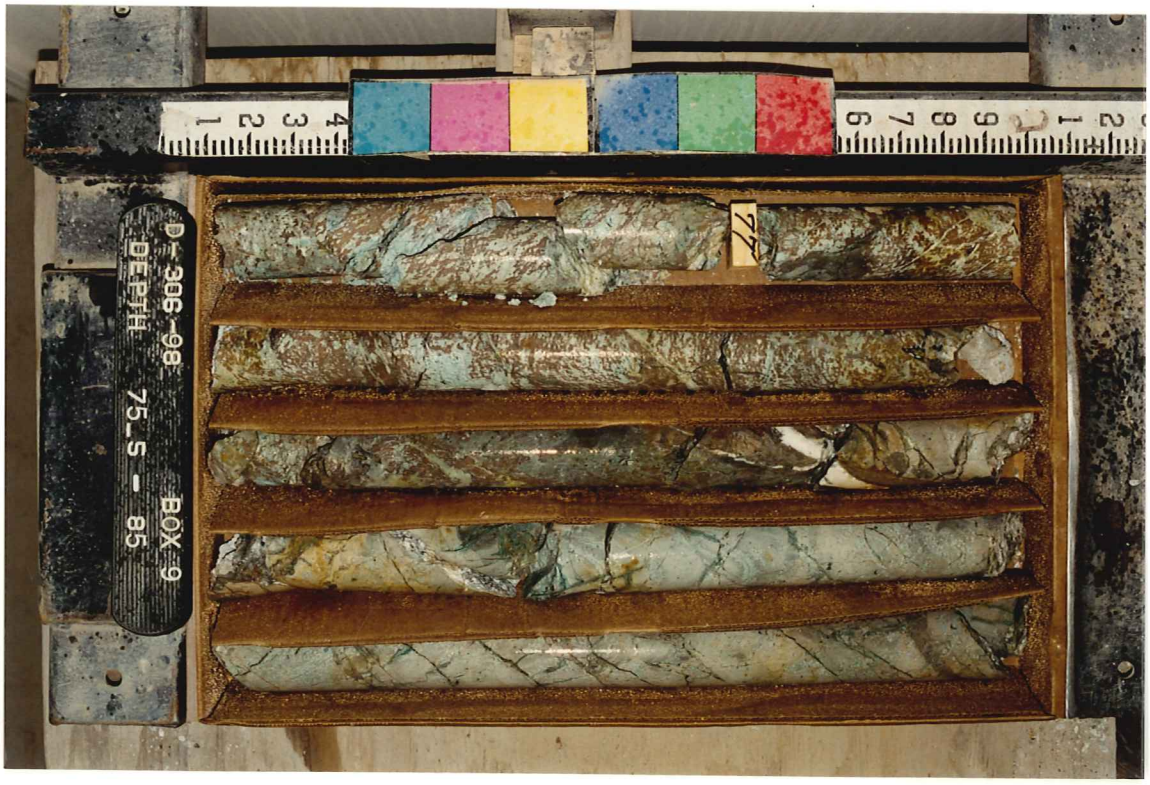
D-306-98
BOX 5
DEPTH 37_5 - 47_5

D-306-98
BOX 4
DEPTH 28_5 - 37_5

D-306-98
BOX 6
DEPTH 47_5 - 56_5

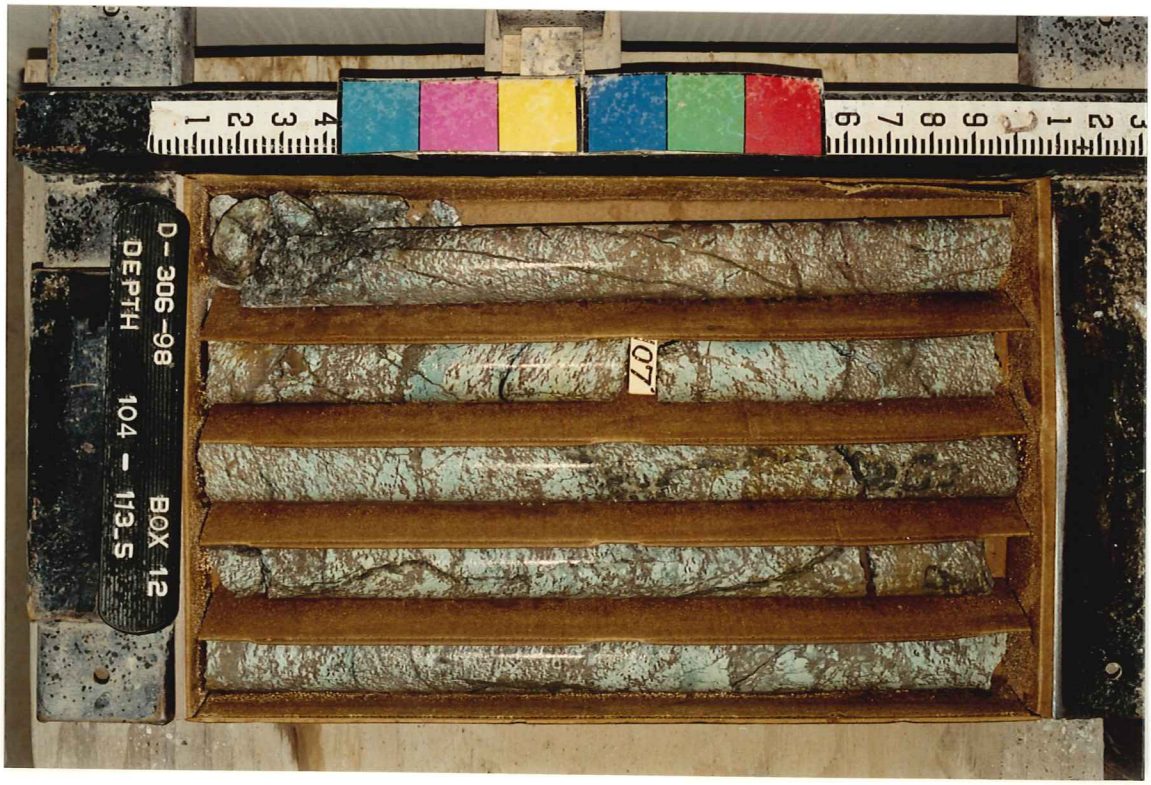
67'
D-306-98 BOX 8
DEPTH 66_5 - 75_5

57'
D-306-98 BOX 7
DEPTH 56_5 - 66_5


77'
D-306-98 BOX 9
DEPTH 75_5 - 85

97'
D-306-98 BOX 11
DEPTH 94_5 - 104

87'
D-306-98 BOX 10
DEPTH 85 - 94_5


07'
D-306-98 BOX 12
DEPTH 104 - 113_5

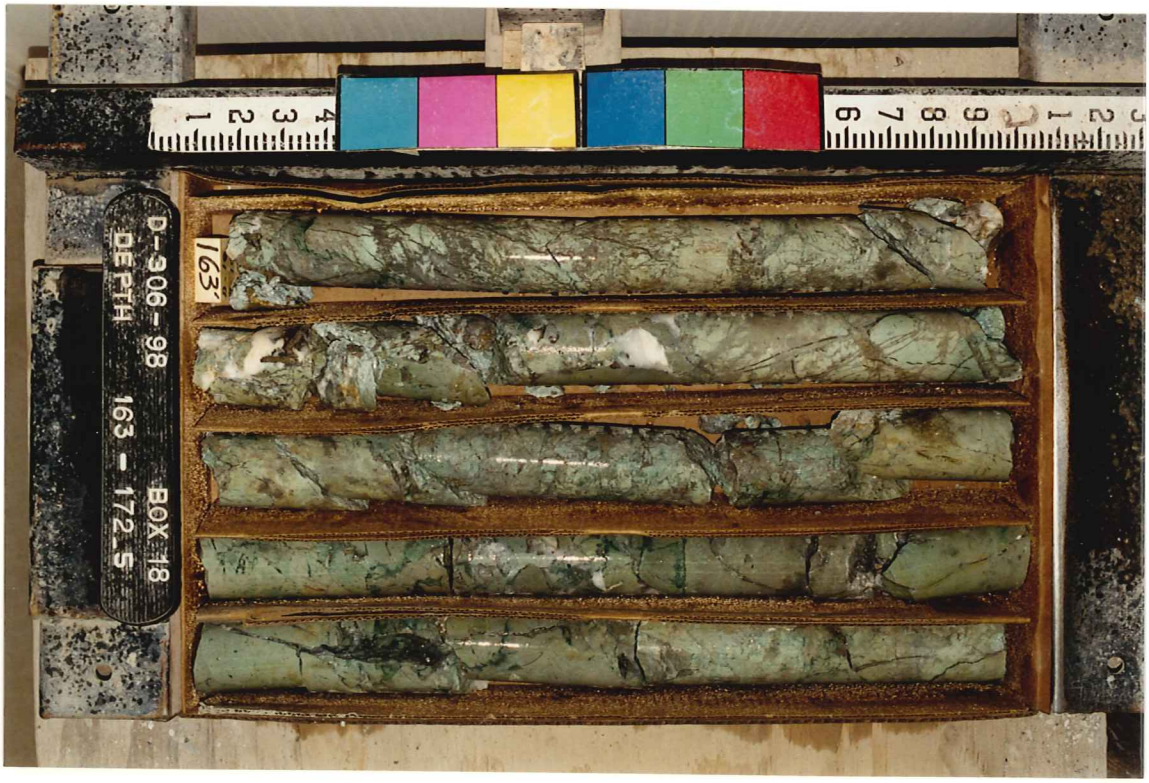
127
D-306-98
BOX 14
DEPTH 123 - 132

117
D-306-98
BOX 13
DEPTH 113.5 - 123

137
143
D-306-98
BOX 15
DEPTH 132 - 143

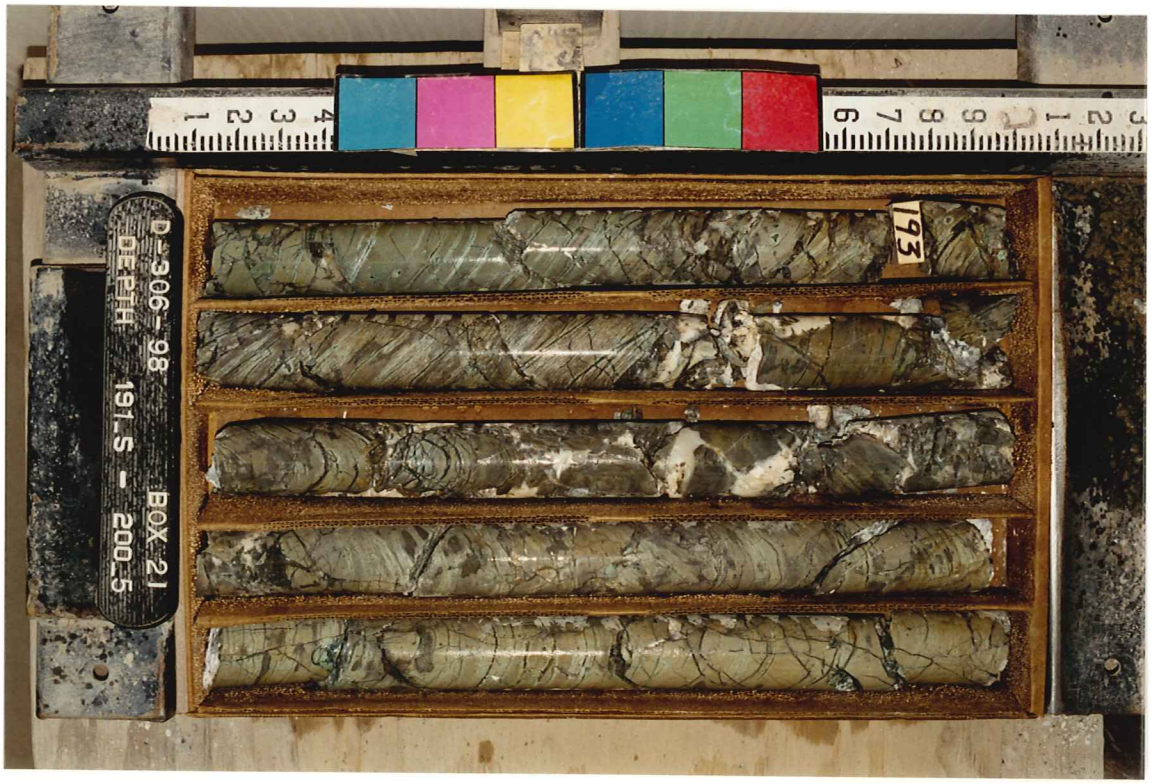
D-306-98 BOX 17
DEPTH 153_5 - 163

153'
D-306-98 BOX 16
DEPTH 143 - 153_5


163'
D-306-98 BOX 18
DEPTH 163 - 172_5

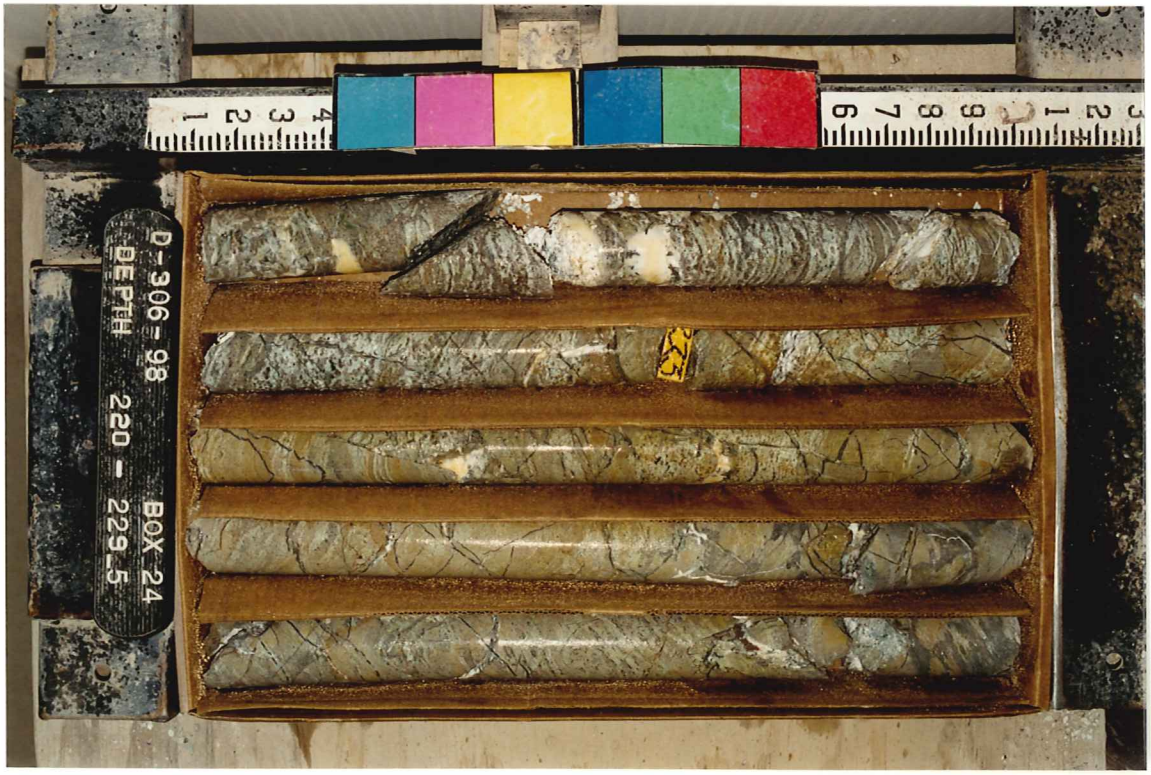
183
D-306-98 BOX 20
DEPTH 182 - 191.5

173
D-306-98 BOX 19
DEPTH 172.5 - 182


193
D-306-98 BOX 21
DEPTH 191.5 - 200.5

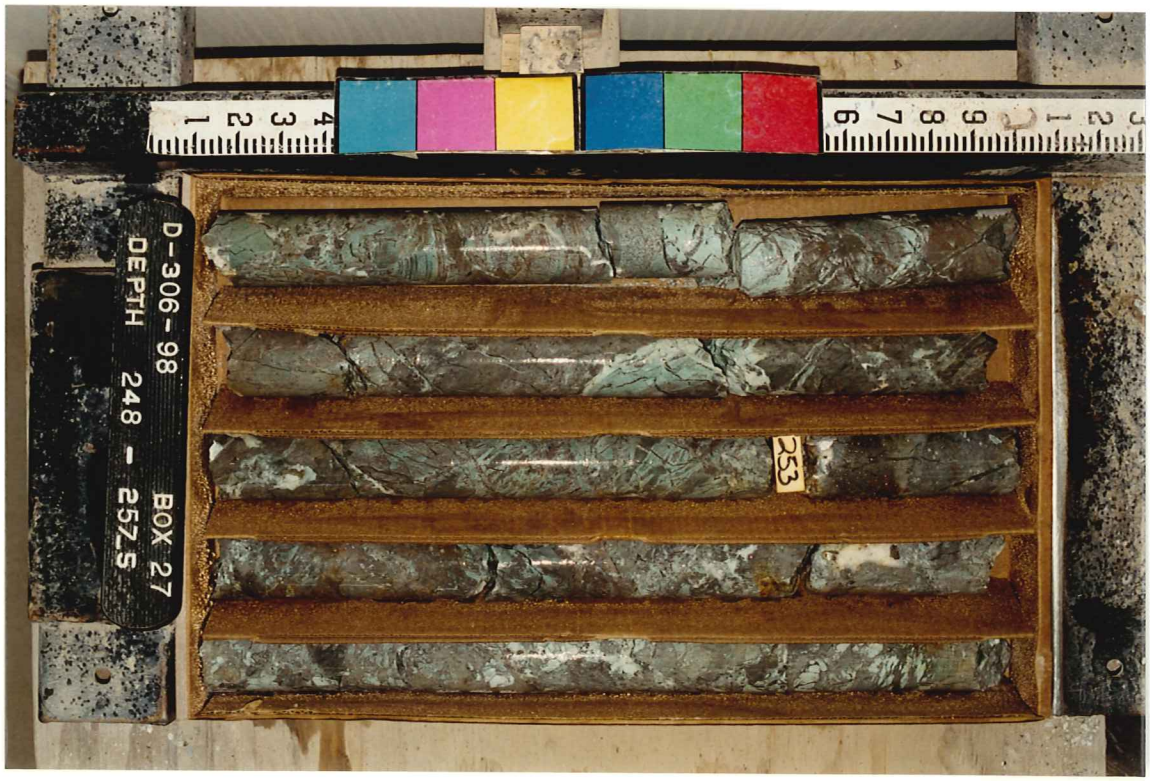
D-306-98 BOX 23
DEPTH 210 - 220
R13

D-306-98 BOX 22
DEPTH 200_5 - 210
R03


D-306-98 BOX 24
DEPTH 220 - 229_5

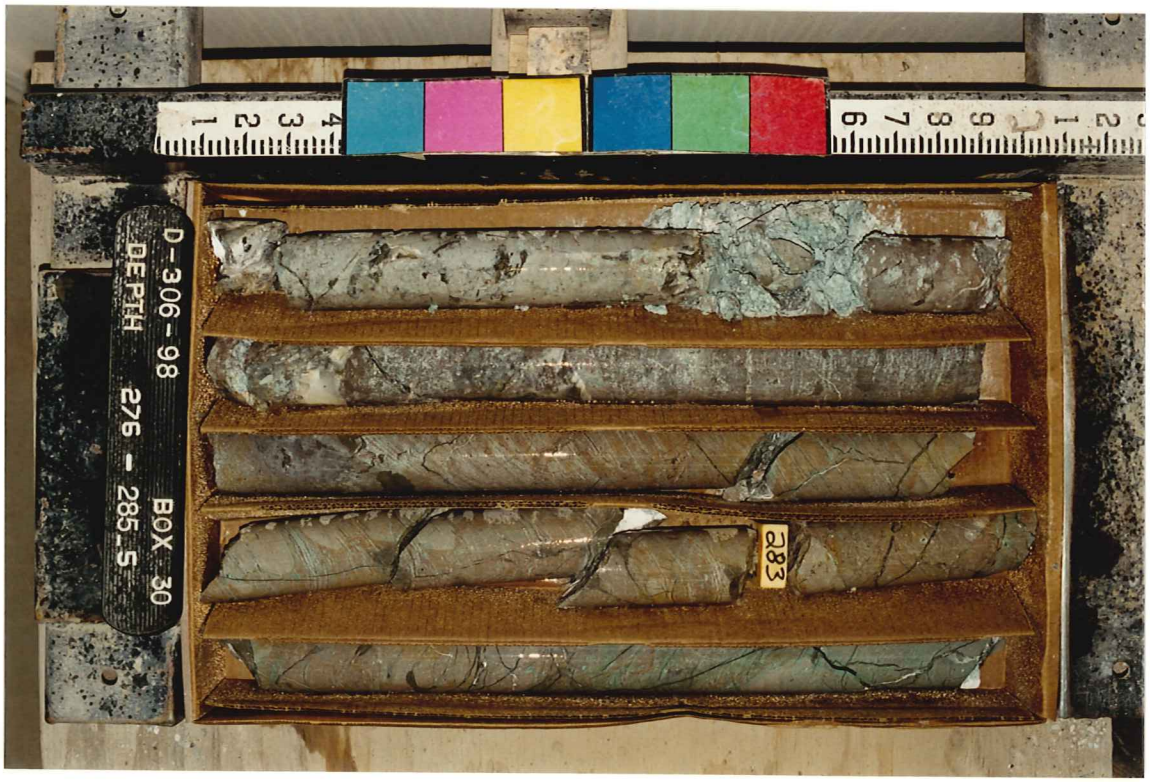
243
D-306-98 BOX 26
DEPTH 239 - 248

233
D-306-98 BOX 25
DEPTH 229_5 - 239


D-306-98 BOX 27
DEPTH 248 - 257_5
253

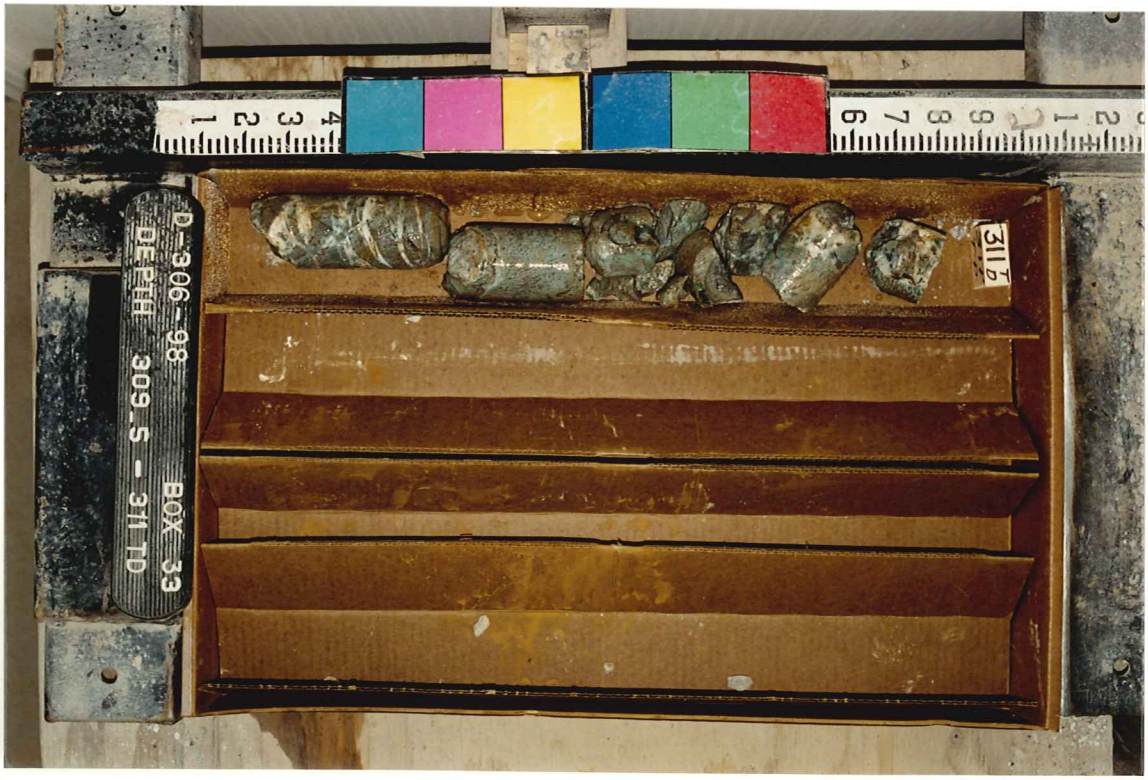
D-306-98 BOX 29
DEPTH 267 - 276
273

D-306-98 BOX 28
DEPTH 257.5 - 267
265


D-306-98 BOX 30
DEPTH 276 - 285.5
283

304
D-306-98 BOX 32
DEPTH 298 - 309_5

294
293
misplaced
D-306-98 BOX 31
DEPTH 285_5 - 298


311 TD
D-306-98 BOX 33
DEPTH 309_5 - 311_TD

SINGLE SHOT
PHOTO DISC RECORD

COMPANY Hecla
WELL NAME D30698
LEASE
TAKEN BY Bamford
DEPTH 30
DATE 9-8-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY HECLA
WELL NAME D30698
LEASE
TAKEN BY BAMFORD
DEPTH 150
DATE 9-8-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408

SINGLE SHOT
PHOTO DISC RECORD

COMPANY HECLA
WELL NAME D30698
LEASE
TAKEN BY BAMFORD
DEPTH 275
DATE 9-8-98
DRIFT ANGLE
DIRECTION
TYPE
JOB NO.
HI-1408