60000643

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-161-98
AUTHOR	K Allen; S. King
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 Mining Co. LLC; Hecla Mining Co.; Rosebud Project
COMMODITY If not obvious	gold; silver
NOTES	drill logs; assay; geology; photographs; [redacted]; total depth 110'; receipt down hole camera images; handwritten notes 19p 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 4/28/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

D-161-98

60000643
4010

6000 0643

Hecla MINING COMPANY

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

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	D-161-98	LOCATION	
PAGE 1 OF 2		NORTHING	
DATE	01/21/98	EASTING	
LOGGED BY	HSM	ELEVATION	
SCALE	1"=10'	AZIMUTH	N54W
TOTAL DEPTH	110'	INCLINATION	~~N~~ +42°

REMARKS

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
0-71.3' DOZER		0-71.3': BUFF-GRAY, MASSIVE, APHANITIC DOZER. FAINTLY FIGURED AND MOTTLED WITH RUDDY-BROWN FeOx (?) STAINS THROUGHOUT THE GROUNDMASS. 3.9'-8.6': HYDROTHERMAL VEIN STOCKWORK TO CRACKLE BXA 8.0': PIMA	0		3.9'-8.6': VN & STOCKWORK ZONE PARTIALLY BXA'D.	0-~50': FAINT BACKGROUND HMOX STAIN. PYRITIC BLEBS MODERATE IN GROUNDMASS. 0-3.9': MOD. QZ+MARCASITE +/- CLAY VEINLETS. MARC ON FRAX 3.9-8.6': STR. QZ+MARCASITE +/- WHT CLAY.
			10			8.6-13.7': MODERATE BLADED MARCASITE + QUARTZ + WHT CLAY.
		13.7-14.6': SiO_2-CEMENTED CRACKLE BRECCIA. 20.0': PIMA	20		13.7-14.6': SILICA-CEMENTED, HYDROTHERMAL MOSAIC TO CRACKLE BRECCIA. MONOLITHIC ANGULAR DOZER FRAGMENTS WITH RK FLOUR MATRIX OF THE SAME.	13.7-14.6': STR. SiO_2, MOD. MARCASITE. 14.6-~34': MOD. MARCASITE + QZ +/- WHT CLAY VNLTS, ~6/FOOT, 1-3 mm WIDTH VNLTS & FRAX COATINGS.
			30			34'-50': INCREASE IN SIZE OF MARCASITE + QUARTZ + WHT CLAY VEINS. INCREASE IN WHT CLAY. WHT CLAY IS COMMONLY OVERPRINTED BY SILICA IN THESE. (?SILICIFIED CLAY). LOCAL SiO_2 +/- MARCASITE CEMENTED BXA.
		40.0-40.7 & 42.9-43.4': SILICA-CEMENTED DOZER MOSAIC VEIN BXA. 40.0': PIMA	40		37.7-40.3': STOCKWORK TO CRACKLE BXA. HYDROTHERMAL, MONOLITHIC DOZER MOSAIC BXA. SUB-ROUNDED CLASTS +/- RK FLOUR MATRIX. MORE HYDROTHERMAL MATRIX THAN ABOVE.	40.0-40.7 & 42.9-43.4': SiO_2 +/- MARCASITE CEMENTED VN BXA. ~43-50': QZ+MARC+WHT CLAY TACK-CEMENTED VN BXAS.
			50		44.6'-~50': CRACKLE BRECCIA VEINLETS.	44.6-50': QUARTZ + BLADED MARCASITE + WHT CLAY FORMS A MATRIX TO COARSE CRACKLE BXA. GENERALLY HI X'S TO C/A.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ag
0.0	3.9		.006	.11		
3.9	8.0		.020	.21		
8.0	9.5	LOSS	.039	.11		
10.0	13.7		.043	1.02	.033	
13.7	14.6		.013	.08		
14.6	20.0		.005	.47		
20.0	25.3		.020	.10		
25.3	30.0		.015	.07		
30.0	34.7		.032	.15		
34.7	40.0		.366	.18	.373	
40.0	40.7		.108	.08	.073	
40.7	45.4		.268	.11	.242	
45.4	50.0		.133	.09	.122	

HOLE NUMBER D-161-98 PAGE 2 OF 2

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		50.0'- ~63.0': AUTOBRECCIATED? DOZER BELOW A SILICIFIED STRONG CRACKLE BRECCIA ~ 2" WIDE FROM 49.8'-50.0'. INCREASINGLY BROKEN ROCK BELOW ~61'. 71-71.3': WK TO MOD. CLAY GOUGE ZONE AT LOWER BOUNDARY OF SOUTH RIDGE FAULT ZONE. 71.3'-~75': MILLED, FINELY BRECCIATED DOZER EXCLUSIVELY TO ~75.' BY 'IS' GRNISH MATERIAL (ROCK FLOUR?) BEGINS TO SHOW UP FAINTLY. THE ORIGINAL LITH. UNITS ARE OBSCURED BY TEXTURE DESTRUCTIVE SILICIFICATION AND MILLING OR CATACLASIS. 73.6-76.3' INCREASINGLY BLUE-GREEN, INCREASINGLY SILICIFIED, MILLED TECTONIC BXA. POROUS (LEACHED?) SILICIFICATN ~77-80.7': STRONGLY SILICIFIED, MILLED, BLUE-GREEN BXA. CONT'D POROUS SILICIFICATION. 80.7-83.0': TECTONIC OVERPRINT APPEARS TO DECREASE, BUT THIS IS DUE TO INTENSE SILICIFICATION THAT OBLITERATED ALL PRIOR TEXTURES. 83.0'-~88.0': TOTAL SILICA REPLACEMENT. MED. GRY TO WHT SILICA WKLY LACED W/ STIBNITE BEARING FRACTURES. 88.0-89.5': AS OBSERVED FROM 80.7'-83.6' STRONGLY SILICIFIED TEXTURE-OBSCURED TECTONIC MILLED ZONE. DOMINANTLY BLUE-GRN WITH A UBLD MATRIX. ~89.5'-110': TEXTURALLY DISRUPTED UBLD +/- FRAGMENTED DOZER. SPECKLED BLUE-GRN TO SAGE GRN. NO PREFERED FABRIC. 110.0' T.D.	50 60 70 80 90 100 110	GRADATIONAL	FROM ~50' LITTLE CLEAN JOINTING. MARCASITE FLOWERS COAT IRREGULAR FRAX. 71.3-89.5': SOUTH RIDGE FAULT ZONE. 71.3'-~75': MILLED MONOLITHIC DOZER. PACKED IN ROCK FLOUR OF THE SAME. ~75'-78.3': MIXED DOZER & UBLD? LOOKS AS THO SOME TECTONICS IS POST OR SYN-SILICIFICATION. 82-87.5': CLEAN JNTS X-CUT SILICIFICATION // TO SILICIFIED VFG PYIMARC VNS. 77-80.7': MILLED W/ POSS. POST SILICIFICATION SiO_2 MOVEMENT. 80.7-83.0': MILLED W/ PROBABLE PLASTIC DEFORMATION OF MATRIX. 83.0'-88': SILICA MOSAIC BXA TR SILICA CEMENT. 88.0-89.5': AS FROM 80.7-83.6 89.5-110': WKLY TECTONICALLY DISRUPTED.	50.0-69.0': MODERATE QUARTZ+MARCASITE+/-WHT CLAY VNING. MORE QZ THAN ABOVE. CONT'D MODERATE PYRITE BLEBBING IN WALLROCK AS ABOVE BUT FAINT FeOx STAINING GONE. FROM ~68': MINOR WALLROCK SILICIFICATION NEAR VNS. 69-71.3': QZ-MARC +/- WHT CLAY VEIN STOCKWORK TO BXA. MOD. SILICIFICATION. 71.-71.3': WK GOUGE IN SOLID DOZER AT FAULT CONTACT. 71.3-80.7': SILICIFICATION GRADUALLY INCREASES FROM MOD. TO STR. WK MARCASITE IN L. FRAX + WHT CLAY + QZ. 77.5': DULL VFG BUT BRASSY SULFIDES FORM FRAGMENTS IN SILICA-CEMENTED HYDROTHERMAL BXA 80.7'-83.0': INTENSE, TEXTURE DESTRUCTIVE SILICIFICATION OVERPRINTS E. GRN CLAY ALT'N. 83.0-88.0': TOTAL SILICA REPLACEMENT. WKLY TO MOD. LACED WITH LATER STIBNITE LINED FRACTURES. 84.5'-85.5': MULTI-EPISODE REPLACEMT SILICA BXA. GRY SILICA CLASTS CEMENTED WITH MILKY WHT SILICA. 88-89.5': INTENSE TEXTURE-DESTRUCTIVE SILICA. 89.5'-110' = SPOTTY SILICA & MOD. TO STR. SILICA VNING OVERPRINTS GRN CLAY ALT'N. CONTINDED SPORADIC STIBNITE VNING. MOD. SPOTTY PY MARC WITH VUG & VEIN SiO_2 104.0-104.5': IRREGULAR STIBNITE VEINS ON OPEN FRAX & WITH SILICA. STR. ~103-110': SOOTY BLK SULFIDE RIMS MARCASITE CLUSTERS.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
50.0	54.4		.083	.07	.123 .117
54.4	59.0		.265	.19	.198
59.0	63.4		.556	.18	.514
63.4	68.1		.846	1.05	.720
68.1	71.3		1.375	.82	1.270
71.3	73.6		.865	.69	.927
73.6	76.3		.638	1.37	.648
		LOSS			
77.0	80.7		.407	1.16	.280
80.7	83.4		.093	9.42	.099
		LOSS			
84.0	85.5		.020	12.87	.021
85.5	87.0		.012	11.10	
87.5	89.5		.004	4.04	
89.5	92.0		.003	2.44	
92.0	95.0		.005	3.20	
95.0	100.0		.003	.66	
100.0	105.0		.003	2.92	
105.0	110.0		.003	.21	

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # 01/21/98 DATE 7-16-98 LOGGED BY: HDM PAGE 1 OF 2

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)
0	5.0	90.0	92.0	10.0										
5.0	10.0	84.0	84.0	58.0										
10.0	13.0	50.0	73.3	0										
13.0	18.0	98.0	98.0	50.0										
18.0	23.0	100.0	100.0	40.0										
23.0	28.0	106.0	106.0	74.0										
28.0	30.0	95.0	95.0	30.0										
30.0	40.0	99.0	99.0	60.0										
40.0	50.0	99.0	99.0	76.0										
50.0	60.0	97.0	97.0	64.0										
60.0	70.0	96.0	96.0	11.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # D-161-98 DATE 01/21/98 LOGGED BY: HDM PAGE 2 OF 2

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)
70.0	77.0	87.1	87.1	41.4										
77.0	84.0	91.4	91.4	45.7										
84.0	85.5	100.0	100.0	46.7										
85.5	87.5	85.0	85.0	45.0										
87.5	88.0	100.0	100.0	0										
88.0	92.0	100.0	100.0	48.0										
92.0	95.0	100.0	100.0	33.3										
95.0	100.0	104.0	104.0	86.0										
100.0	105.0	88.0	88.0	58.0										
105.0	110.0	114.0	114.0	78.0										

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

Address: P.O. BOX 2610

City: Winnemucca State: NV Zip: 89446

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

Project Name: DEVELOPMENT Purchase Order Number:

Date Submitted: 1/26/98 Number of Samples: 30

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

0-161-98	SAMPLE IDENTIFICATION	TYPE	ELEMENTS REQUIRED
0-3.9	59-63.4	CORE	Au/1Tg by Rosebud
3.9-8.0	63.4-68.1		Development method.
8.0-9.5	68.1-71.3		
10-13.7	71.3-73.6		
13.7-14.6	73.6-76.3		
14.6-20	77-80.7		
20-25.3	80.7-83.4		
25.3-30	84-85.5		
30-34.7	85.5-87		
34.7-40	87.5-89.5		
40-40.7	89.5-92		
40.7-45.4	92-95		
45.4-50	95-100		
50-54.4	100-105		
54.4-59	105-110.		

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month

[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

Comments:

CLIENT FILE COPY

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047985

PO BOX 11538
RENO NV.USA
Ph.(702) 356-0606, Fax.(702) 356-1415

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: C-161-98 RECEIVED : 28 JAN 1998

No. SAMPLES : 39 REPORTED : 9 FEB 1998

MAIN SAMPLE TYPE : DRILL CORE

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

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	DZ10	10%	OPT	0.02

02/09/1998 12:52 7023561413 AMERICAN ASSAY LABS PAGE 04

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047985

CLIENT : BECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-161-98

REPORTED : 9 FEB 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
D-161-98 0.0-3.9	0.006			0.11	
D-161-98 3.9-8.0	0.020			0.21	
D-161-98 8.0-9.5	0.039			0.11	
D-161-98 10.0-13.7	0.043	0.033		1.02	
D-161-98 13.7-14.6	0.013			0.08	
D-161-98 14.6-20.0	0.005			0.47	
D-161-98 20.0-25.3	0.020			0.11	
D-161-98 25.3-30.0	0.015			0.07	
D-161-98 30.0-34.7	0.032			0.15	34.7-80.7' = 46' @
D-161-98 34.7-40.0 5.3	0.366		0.373	0.18	
D-161-98 40.0-40.7 0.7	0.108		0.073	0.08	
D-161-98 40.7-45.4 4.7	0.268		0.242	0.11	0.461 Au
D-161-98 45.4-50.0 4.6	0.133		0.122	0.09	
D-161-98 50.0-54.4 4.4	0.083	0.123	0.117	0.07	
D-161-98 54.4-59.0 4.6	0.265		0.198	0.19	0.40 Ag
D-161-98 59.0-63.4 4.4	0.536		0.514	0.18	
D-161-98 63.4-68.1 4.7	0.846		0.720	1.05	
D-161-98 68.1-71.3 3.2	1.375		1.270	0.82	
D-161-98 71.3-73.6 2.3	0.855		0.827	0.59	
D-161-98 73.6-76.3 2.7	0.638		0.648	1.37	
D-161-98 77.0-80.7 3.7	0.407		0.280	1.15	
D-161-98 80.7-83.4 2.7	0.093		0.099	9.42	80.7'-89.5' = 8.8' @
D-161-98 84-85.5 2.1	0.020	0.021		12.87	
D-161-98 85.5-87.0 1.5	0.012			11.10	0.036 Au
D-161-98 87.5-89.5 2.0	0.004			4.04	8.77 Ag

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP047985

CLIENT : RECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-161-98

REPORTED : 9 FEB 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
D-161-98 89.5-92.0	0.003			2.44
D-161-98 92-95	0.005			3.20
D-161-98 95-100	0.003			0.66
D-161-98 100-105	0.003			2.92
D-161-98 105-110	0.003			0.21

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0047985-IN
INVOICE DATE: 02/10/98

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-161-98	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
30	SAMPLES RECEIVED	.00	.00
30	DRYING	1.00	30.00
30	JAW CRUSHING CHARGE	1.30	39.00
30	COARSE MILLING CHARGE	4.50	135.00
30	SPLITTING CHARGE	2.40	72.00
30	RING MILLING CHARGE	2.00	60.00
30	Au (1 A.T. FIRE ASSAY)	8.00	240.00
13	Au ANALYSES/GRAVIMETRIC	8.75	113.75
30	HYDROCHLORIC/NITRIC DIGESTION	2.00	60.00
30	Ag ANALYSES	1.00	30.00
7	Ag (ore grade) ANALYSES	5.00	35.00

86-5110-477
RDA

NET INVOICE:	814.75
LESS DISCOUNT:	162.95
FREIGHT:	.00
INVOICE TOTAL:	651.80

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047985

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-161-98 RECEIVED : 28 JAN 1998

No. SAMPLES : 30 REPORTED : 9 FEB 1998

MAIN SAMPLE TYPE : DRILL CORE

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

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
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 SP047985

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-161-98

REPORTED : 9 FEB 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-161-98 0.0-3.9	0.006			0.11
D-161-98 3.9-8.0	0.020			0.21
D-161-98 8.0-9.5	0.039			0.11
D-161-98 10.0-13.7	0.043	0.033		1.02
D-161-98 13.7-14.6	0.013			0.08
D-161-98 14.6-20.0	0.005			0.47
D-161-98 20.0-25.3	0.020			0.10
D-161-98 25.3-30.0	0.015			0.07
D-161-98 30.0-34.7	0.032			0.15
D-161-98 34.7-40.0	0.366		0.373	0.18
D-161-98 40.0-40.7	0.108		0.073	0.08
D-161-98 40.7-45.4	0.268		0.242	0.11
D-161-98 45.4-50.0	0.133		0.122	0.09
D-161-98 50.0-54.4	0.083	0.123	0.117	0.07
D-161-98 54.4-59.0	0.265		0.198	0.19
D-161-98 59.0-63.4	0.556		0.514	0.18
D-161-98 63.4-68.1	0.846		0.720	1.05
D-161-98 68.1-71.3	1.375		1.270	0.82
D-161-98 71.3-73.6	0.865		0.927	0.69
D-161-98 73.6-76.3	0.638		0.648	1.37
D-161-98 77.0-80.7	0.407		0.280	1.16
D-161-98 80.7-83.4	0.093		0.099	9.42
D-161-98 84-85.5	0.020	0.021		12.87
D-161-98 85.5-87.0	0.012			11.10
D-161-98 87.5-89.5	0.004			4.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP047985

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-161-98

REPORTED : 9 FEB 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-161-98 89.5-92.0	0.003			2.44
D-161-98 92-95	0.005			3.20
D-161-98 95-100	0.003			0.66
D-161-98 100-105	0.003			2.92
D-161-98 105-110	0.003			0.21

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ANALYSIS REPORT SP047985

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-161-98 RECEIVED : 28 JAN 1998

No. SAMPLES : 30 REPORTED : 9 FEB 1998

MAIN SAMPLE TYPE : DRILL CORE

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

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
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 SP047985

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : D-161-98

REPORTED : 9 FEB 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-161-98 0.0-3.9	0.006			0.11
D-161-98 3.9-8.0	0.020			0.21
D-161-98 8.0-9.5	0.039			0.11
D-161-98 10.0-13.7	0.043	0.033		1.02
D-161-98 13.7-14.6	0.013			0.08
D-161-98 14.6-20.0	0.005			0.47
D-161-98 20.0-25.3	0.020			0.10
D-161-98 25.3-30.0	0.015			0.07
D-161-98 30.0-34.7	0.032			0.15
D-161-98 34.7-40.0	0.366		0.373	0.18
D-161-98 40.0-40.7	0.108		0.073	0.08
D-161-98 40.7-45.4	0.268		0.242	0.11
D-161-98 45.4-50.0	0.133		0.122	0.09
D-161-98 50.0-54.4	0.083	0.123	0.117	0.07
D-161-98 54.4-59.0	0.265		0.198	0.19
D-161-98 59.0-63.4	0.556		0.514	0.18
D-161-98 63.4-68.1	0.846		0.720	1.05
D-161-98 68.1-71.3	1.375		1.270	0.82
D-161-98 71.3-73.6	0.865		0.927	0.69
D-161-98 73.6-76.3	0.638		0.648	1.37
D-161-98 77.0-80.7	0.407		0.280	1.16
D-161-98 80.7-83.4	0.093		0.099	9.42
D-161-98 84-85.5	0.020	0.021		12.87
D-161-98 85.5-87.0	0.012			11.10
D-161-98 87.5-89.5	0.004			4.04

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SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
D-161-98 89.5-92.0	0.003			2.44
D-161-98 92-95	0.005			3.20
D-161-98 95-100	0.003			0.66
D-161-98 100-105	0.003			2.92
D-161-98 105-110	0.003			0.21

D 161 - 98 BOX NO 2
DEPTH 10 — 19.5

D 161 - 98 BOX NO 1
DEPTH 0 — 10

D 161 - 98 BOX NO 3
DEPTH 19.5 — 27.5

D 161 - 98 BOX NO 4
DEPTH 27.5 — 37,5

D 161 - 98 BOX NO 5
DEPTH 37.5 — 46,5

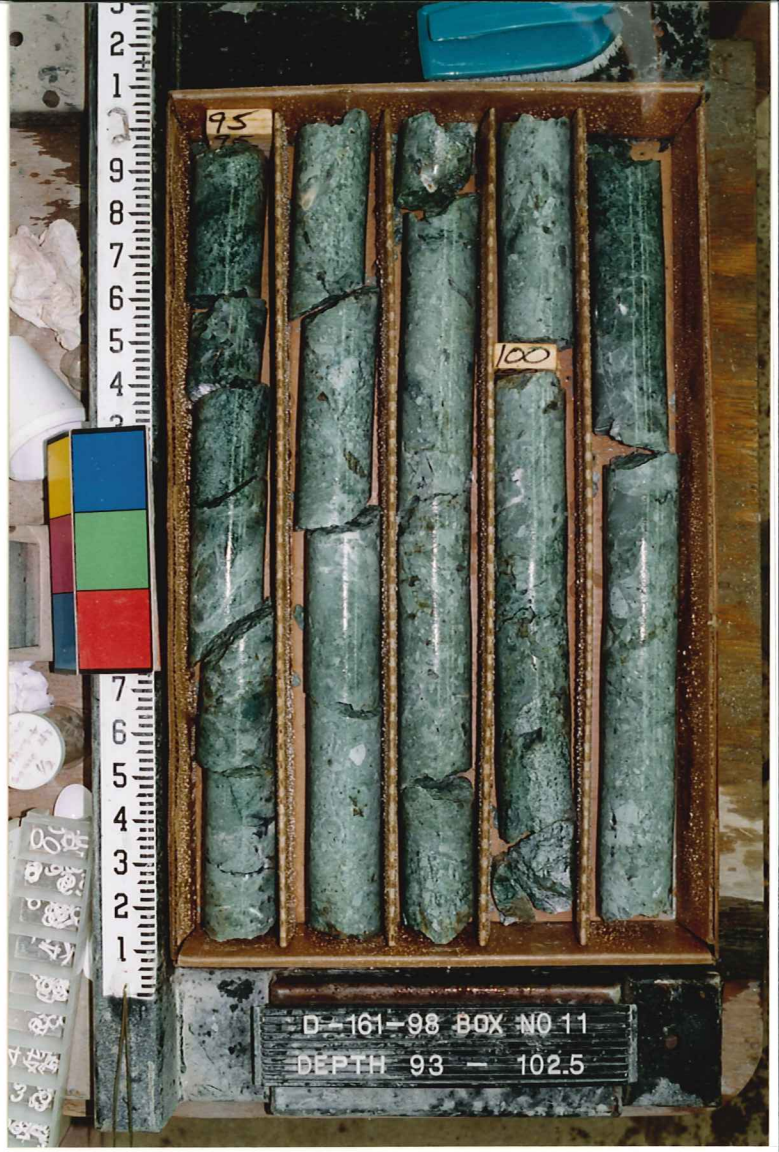
D 161 - 98 BOX NO 6
DEPTH 46.5 — 56

70
D 161 - 98 BOX NO 8
DEPTH 65.5 - 75.5

60
D 161 - 98 BOX NO 7
DEPTH 56 - 65.5

84
LOSS
763
D 161 - 98 BOX NO 9
DEPTH 75.5 - 85

88
85.5
87.5
92
D-161-98 BOX NO 10
DEPTH 85 - 93


95
100
D-161-98 BOX NO 11
DEPTH 93 - 102.5

105
D-161-98 BOX NO 12
DEPTH 102.5 - 110 TD

DOWNHOLE SURVEY MAGNETIC DECLINATION: 15.7°

DRILLHOLE #	FILM FOOTAGE	BEARING	DIP	TRUE BEARING	TRUE DIP
D-161-98	COLLAR	S72.0°E	48°	N56.3°W	+42.0°
	55'	S70.0°E	48°	N54.3°W	+42.0°
	110'	S70.0°E	48.0°	N54.3°W	+42.0°

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PE

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