6000 0940

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. RS-D380-99
AUTHOR	K. Allen; D. Mackerrow
DATE OF DOC(S)	1999-2000
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.; Dark Zone
COMMODITY If not obvious	gold; silver
NOTES	Drill log; geology; assay; [redacted]; total depth 106' receipt; handwritten notes; downhole camera images photographs; down hole survey 18 p 1 down hole camera images

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

	Initials	Date
SS:	DP	5/12/08
DB:	mah	
SCANNED:		

Revised: 1/22/08

RS-D380-99
"Dorch Zone"

60000940 4010

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

60000940

Barite ** stibnite

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	RS-0380-99	LOCATION	Dark Zone Section +2S
PAGE 1 OF 2		NORTHING	
DATE	12-14-99	EASTING	
LOGGED BY	D.G. Mackenzie	ELEVATION	
SCALE	1" = 10	AZIMUTH	N30W
TOTAL DEPTH	106	INCLINATION	+40

REMARKS

LITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
		0-55.6 Tcs Silty sandstone and claystone Silty fine grained sandstone with medium grained interbeds up to 5' thick. Sandstones are well sorted. Rock is generally soft to scratch from argillization of feldspars. Pine 7.5 wt cr/ 33-36 "Black" spotted tuffaceous mud flow? looks like ink spots. Upper contact at 36' seems to grade away, spots are irregular but you can see the overall general texture continues into spots 41-46 Breccia zone with clast expanded to mosaic breccia. Bladded marcasite form 1/8" blades in white clay. Vugs have druzy quartz coating. Pine 31 white clay 46.4-55.6 Epiclastic tuffaceous sediment with chloritic alteration. Claystones and lithic tuff dominate lithologies	10 20 30 40 50	80 30 70 Sb Sb 80 80 80 50	0-1.5 Silica heal crackle bxx 4-5 silica healed crackle bxx 8-11 Quartz veining at 60° to core trace of white clay and pyrite marcasite 24-24.5 silica healed crackle bxx 27.8-30.2 crackle to mosaic breccia healed by silica 38-41 Fracture zone related to breccia 41-46.1 silica heal rubble breccia 50.1-50.6 Healed rubble bxx	0-8 Pyrite after marcasite in silica fracture filling. White clay fills fracture void. 11-27.8 Veining is the pyrite dominated veins with minimal to no silica. Pyrite after marcasite in some veins. Veins average 1/8" thick 27.8-30.8 Silica with stibnite concentration on fracture at 30 31-36 Pyrite veins and pyrite after marcasite stockwork 41-46 Silica has bladded marcasite and barite on fractures

ANALYTICAL DATA					
FROM	TO	W	Au	Ag	Au2
0	5				
5	8				
8	11				
11	16				
16	21				
21	26				
26	27.8				
27.8	30.8				
30.8	36				
36	41				
41	46				
46	51				

HOLE NUMBER RS-D380-99 PAGE 2 OF 2

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
TCS	R	0-55.6 TCS Silty Sand stone Tuffaceous siltstones and clay stone chloritic altered epiclastic from 46.5	50		55.6 contact is between 80-90° to. The tcs is brecciated from 55' to 55.6	55-55.6 Silica and fine sulfide heal breccia 55.6 Possible visible gold 1 crystal seen under X-acto blade then lost
Td	R	55.6-71 DOZER Fine grained rhyolite flow Overall brecciated texture Partially silicified	60			62-71 Increasing silicification numerous quartz veins in intense stockwork
SRF	R	71-77.2 SOUTHRIDGE FAULT Footwall contact lost during Drilling. Massive silica flooded interval. There was 50% core loss between 66-71 feet. Silica flooding 71-75.7. Breccia of epiclastic from 73.5-77.2	70			71-75.7 Massive silica flooding
		77.2-80.6 EPICLASTIC LBT CLORITIC course Sandstone / conglomerate ALS CLAST	80		80.6 Sharp contact 80° to with LBT Breccia continues to 81.3	78-80.6 Silicified Epiclastic
		80.6-106 SPLAT Fine grained laminated tuff Local Breccia textures Faint Brown tint from hematite with clorite green over print	90		84.7-85.7 Autobreccia 50° +	
		91-106 weak alteration increasing levels of hematite	100		90-91 Small crushed zone with whiteclay tracer	86-91 traces of whiteclay on fracture 92.5 Calcite veining begins.
		T.D. 106	110			
			120			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
51	55.6				
55.6	61				
61	66				
66	71				
71	72.5				
72.5	75.7				
75.7	77.2				
77.2	80.6				
80.6	83.4				
83.4	86				
86	91				
91	96				
96	101				
101	106				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D380-99 DATE: 12-14-99 LOGGED BY: D.G. Mucherra 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	5	56	92	54										
5	6	60	80	0										
6	11	94	100	80										
11	16	100	100	90										
16	21	100	102	68										
21	26	100	100	88										
26	31	98	100	81										
31	36	100	100	34										
36	41	80	80	30	Miss latch									
41	46	94	100	42										
46	51	100	90	57										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D380-91 DATE: 12-14-91 LOGGED BY: D.G. Mackerron 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)
51	56	100	112	54										
56	61	72	94	64										
61	66	96	100	46										
66	71	26	44	26										
71	72.5	0	100	0										
72.5	76	33	97	0										
76	81	84	94	46										
81	86	70	100	24										
86	91	76	92	20										
91	96	100	100	72										
96	101	100	102	76										

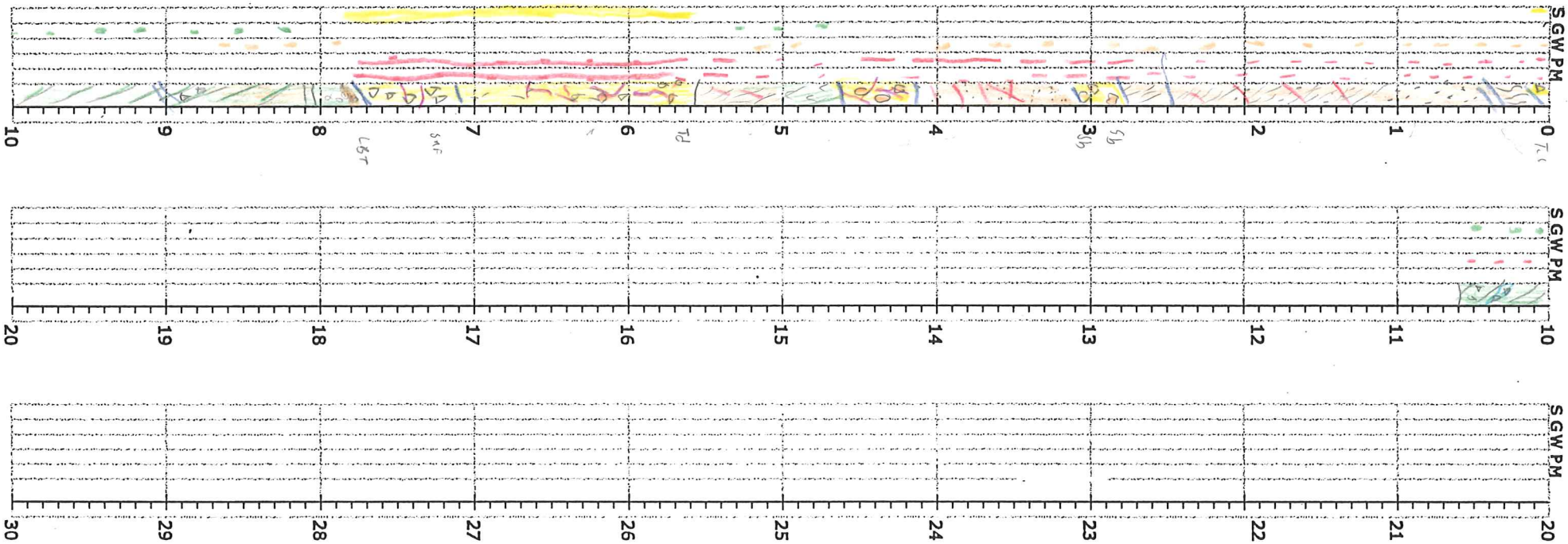
HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D380-99 DATE: 12-14-99 LOGGED BY: D.G. MacKerron 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 (p/cc)
101	106	100	100	94										

ROSEBUD MINING COMPANY, LLC.

	COLLAR COORDINATES	START HOLE 12/11/99	FINISH HOLE 12/11/99	HOLE # RS-17380-99
	NORTH	HOLE TYPE Core	LOGGED BY D.G. MacKerrow	
	EAST	BEARING 331	ANGLE +39	T.D 106
	ELEV			
DRILLING CO. Action	DRILLER Gaddy	PAGE 1 OF 1	SURVEYED TO Bid Azimuth using average	



ALTERATION INTENSITY

1 WEAK
2 MODERATE
3 STRONG

VERITHIN COLOR

737	SILICIFICATION
751	GREEN CLAY
747½	WHITE CLAY
755	PYRITE
757	MARCASITE

GRAPHIC LOG

VERITHIN COLOR

741	BRECCIA
	FAULT 741
	CONTACT
737	QUARTZ VEIN
741½	CALCITE VEIN
747½	CLAY VEIN
755	PYRITE VEIN

ALTERATION

	Silicification
	Argillization
	Chlorite
	Barite
	Sulfide
	Calcite

INSPECTORATE

ROCKY MOUNTAIN GEOCHEMICAL

A MEMBER OF THE INSPECTORATE GROUP OF COMPANIES

840 GREG STREET • SPARKS, NEVADA 89431 • PHONE (775) 359-6311 • FAX (775) 359-2944

Certificate of Analysis

DATE: Sunday, January 09, 2000

JOB NO: 99-50-44

CLIENT: Hecla (Rosebud Mine)
P.O. Box 2610
Winnecmucca, NV 89446 US

INVOICE NO: 33100351

CLIENT ORDER NO: RS-D380-99

REPORT ON: 27 Core

SUBMITTED BY: Kurt Allen

DATE RECIEVED: Saturday, December 18, 1999

ANALYSES: Rosebud Mine Development Protocol

ANALYTICAL METHODS: FA/AA, FA/GRAV

REMARKS:

CC: RMG File

E-MAILED TO:

in database

Monday, January 10, 2000

CLIENT: Hecla (Rosebud Mine)

99-50-44	Sample Designation	Gold FA/AA ppb	Gold FA/AA oz/ton	Gold FA/GRAV oz/ton	Silver FA/AA ppm	Silver FA/AA oz/ton	Silver FA/GRAV oz/ton
1	RS-D380-99 0'-5'	4850	0.142	0.151	17.5	0.51	0.42
2	RS-D380-99 5'-8'	2177	0.064	0.092	9.9	0.29	0.59
3	RS-D380-99 8'-11'	1594	0.047		24.3	0.71	
4	RS-D380-99 11'-16'	556	0.016		36.0	1.05	
5	RS-D380-99 16'-21'	503	0.015		5.6	0.16	
6	RS-D380-99 21'-26'	298	0.009		7.0	0.20	
7	RS-D380-99 26'-27.8'	658	0.019		56.5	1.65	
8	RS-D380-99 27.8'-30.8	1040	0.030		42.1	1.23	
9	RS-D380-99 30.8'-36'	1202	0.035		13.0	0.38	
10	RS-D380-99 36'-41'	4270	0.125	0.156	18.2	0.53	0.58
11	RS-D380-99 41'-46'	1236	0.036	0.028	11.6	0.34	0.37
12	RS-D380-99 46'-51'	378	0.011		39.7	1.16	
13	RS-D380-99 51'-55.6'	10110	0.295	0.272	56.2	1.64	1.72
14	RS-D380-99 55.6'-61'	4160	0.121	0.106	8.2	0.24	0.30
15	RS-D380-99 61'-66'	651	0.019	0.032	4.1	0.12	0.16
16	RS-D380-99 66'-71'	4010	0.117	0.071	7.8	0.23	-0.10
17	RS-D380-99 71'-72.5'	481	0.014	0.027	2.2	0.07	0.22
18	RS-D380-99 72.5'-75.7	1583	0.046	0.040	8.8	0.26	0.44
19	RS-D380-99 75.7'-77.2	1044	0.030		7.6	0.22	
20	RS-D380-99 77.2'-80.6	757	0.022		2.2	0.06	
21	RS-D380-99 80.6'-83.4	1489	0.043		3.7	0.11	
22	RS-D380-99 83.4'-86'	1231	0.036		3.7	0.11	
23	RS-D380-99 86'-91'	202	0.006		2.0	0.06	
24	RS-D380-99 91'-96'	89	0.003		1.4	0.04	
25	RS-D380-99 96'-101'	51	0.001		1.8	0.05	
26	RS-D380-99 101'-106'	7	-0.001		0.6	0.02	
27	STD 73521	5920	0.173	0.181	56.5	1.65	1.86

Monday, January 10, 2000

By

INSPECTORATE

ROCKY MOUNTAIN GEOCHEMICAL

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Kurt Allen
Hecla (Rosebud Mine)
P.O. Box 2610
Winnecmucca, NV 89446 US

Invoice No: 33100351
Invoice Date: 1/12/00
JobNo: 99-50-44
Account No: 00007292

Client PO:

INVOICE

Terms: Net 30 days

Item Description	Qty	Unit Price	Amount
Core 16-20 Lbs	26	$4.50	$117.00
Au, Ag FA/AA	27	$6.50	$175.50
Au, Ag FA	11	$7.00	$77.00

PLEASE REMIT TO:

Inspectorate America Corp.
P.O. Box 201901
Houston, TX 77216-1901

Sub Total:	$369.50
Discount: (0.00%)	$0.00
Discounted Total:	$369.50
Add'l Discount: (0.00%)	$0.00
Final Total:	$369.50

PAID

CLIENT: Hecla (Rosebud Mine)

ROCKY MOUNTAIN GEO 7753592944 01/12 '00 15:36 NO.095 04/04

99-50-44	Sample Designation	Gold FA/AA ppb	Gold FA/AA oz/ton	Gold FA/GRAV oz/ton	Silver FA/AA ppm	Silver FA/AA oz/ton	Silver FA/GRAV oz/ton
1	RS-D380-99 0'-5'	4850	0.142	0.151	17.5	0.51	0.42
2	RS-D380-99 5'-8'	2177	0.064	0.092	9.9	0.29	0.59
3	RS-D380-99 8'-11'	1594	0.047		24.3	0.71	
4	RS-D380-99 11'-16'	556	0.016		36.0	1.05	
5	RS-D380-99 16'-21'	503	0.015		5.6	0.16	
6	RS-D380-99 21'-26'	298	0.009		7.0	0.20	
7	RS-D380-99 26'-27.8'	658	0.019		56.5	1.65	
8	RS-D380-99 27.8'-30.8	1040	0.030		42.1	1.23	
9	RS-D380-99 30.8'-36'	1202	0.035		13.0	0.38	
10	RS-D380-99 36'-41'	4270	0.125	0.156	18.2	0.53	0.58
11	RS-D380-99 41'-46'	1236	0.036	0.028	11.6	0.34	0.37
12	RS-D380-99 46'-51'	378	0.011		39.7	1.16	
13	RS-D380-99 51'-55.6'	10110	0.295	0.272	56.2	1.64	1.72
14	RS-D380-99 55.6'-61'	4160	0.121	0.106	8.2	0.24	0.30
15	RS-D380-99 61'-66'	651	0.019	0.032	4.1	0.12	0.16
16	RS-D380-99 66'-71'	4010	0.117	0.071	7.8	0.23	-0.10
17	RS-D380-99 71'-72.5'	481	0.014	0.027	2.2	0.07	0.22
18	RS-D380-99 72.5'-75.7	1583	0.046	0.040	8.8	0.26	0.44
19	RS-D380-99 75.7'-77.2	1044	0.030		7.6	0.22	
20	RS-D380-99 77.2'-80.6	757	0.022		2.2	0.06	
21	RS-D380-99 80.6'-83.4	1489	0.043		3.7	0.11	
22	RS-D380-99 83.4'-86'	1231	0.036		3.7	0.11	
23	RS-D380-99 86'-91'	202	0.006		2.0	0.06	
24	RS-D380-99 91'-96'	89	0.003		1.4	0.04	
25	RS-D380-99 96'-101'	51	0.001		1.8	0.05	
26	RS-D380-99 101'-106'	7	-0.001		0.6	0.02	
27	STD 73521	5920	0.173	0.181	56.5	1.65	1.86

Reported

Monday, January 10, 2000

By

99-50-44

					Au	Au	Au		Ag	Ag
					FA/AA	FA/AA	FA/Grav		FA/AA	FA/Grav
	Type	Hole #	From	To	ppb	opt	opt		opt	opt
1	RS-D	380	0	5	4850	0.142	0.151		0.51	0.42
2	RS-D	380	5	8	2177	0.064	0.092		0.29	0.59
3	RS-D	380	8	11	1594	0.047			0.71	
4	RS-D	380	11	16	556	0.016			1.05	
5	RS-D	380	16	21	503	0.015			0.164	
6	RS-D	380	21	26	298	0.009			0.204	
7	RS-D	380	26	27.8	658	0.019			1.65	
8	RS-D	380	27.8	30.8	1040	0.030			1.23	
9	RS-D	380	30.8	36	1202	0.035			0.38	
10	RS-D	380	36	41	4270	0.125	0.156		0.53	0.58
11	RS-D	380	41	46	1236	0.036	0.028		0.34	0.37
12	RS-D	380	46	51	378	0.011			1.16	
13	RS-D	380	51	55.6	10110	0.295	0.272		1.64	1.72
14	RS-D	380	55.6	61	4160	0.121	0.106		0.24	0.30
15	RS-D	380	61	66	651	0.019	0.032		0.119	0.16
16	RS-D	380	66	71	4010	0.117	0.071		0.229	-1.00
17	RS-D	380	71	72.5	481	0.014	0.027		0.065	0.22
18	RS-D	380	72.5	75.7	1583	0.046	0.040		0.256	0.44
19	RS-D	380	75.7	77.2	1044	0.030			0.223	
20	RS-D	380	77.2	80.6	757	0.022			0.064	
21	RS-D	380	80.6	83.4	1489	0.043			0.109	
22	RS-D	380	83.4	86	1231	0.036			0.109	
23	RS-D	380	86	91	202	0.006			0.057	
24	RS-D	380	91	96	89	0.003			0.041	
25	RS-D	380	96	101	51	0.001			0.054	
26	RS-D	380	101	106	7	0.000			0.017	
			STD-	73521	5920	0.173	0.181		1.65	1.86

DARK ZONE DEVELOPMENT DRILLING
DOWN-HOLE SURVEYS

DRILL HOLE #	DIP	AZIMUTH	CORRECTED AZIMUTH
RS-D370-99	5.5	313	328.66
RS-D371-99	22	313	328.66
RS-D372-99	36	313	328.66
RS-D373-99		Not	Surveyed
RS-D374-99		Not	Surveyed
RS-D375-99	14.5	142	157.66
RS-D376-99	31	135	150.66
RS-D377-99	51	177.5	161.84
RS-D378-99	-4	317	332.66
RS-D379-99	22	314	329.66
RS-D380-99	39		331
RS-D381-99	26	314.5	330.16
RS-D382-99	39.5	311.5	327.16
RS-D383-99	58	305	320.66
RS-D384-99	31	314.5	330.16
RS-D385-99	50.5	309	324.66
RS-D386-99	69	305	320.66
RS-D387-99	86	304.68	320.34
RS-D388-99	10.5	137.5	153.16
RS-D389-99	30.5	140	155.66

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Work Order # _____
Date Received _____
Purchase Order # _____
Project # _____
Date Shipped 12/18/99
Shipped Via _____
# of Cartons _____
# of Samples 26

Geochemical Laboratory Instruction Sheet

Copy of Results:	Results And Invoice To:
Kurt Allen	Kurt Allen
Rosebud Mining L.L.C.	Rosebud Mining L.L.C.
P.O. Box 2610	P.O. Box 2610
Winnemucca NV 89446	Winnemucca NV 89446
(775) 623-6912 Fax (775) 623 6967	AUTHORITY:

No. of Samples	Sample Type	List of Sample Numbers	Elements Requested
26	Core	RS-D380-99	Au Ag: USE Rosebud
			Mine development
		See attached sheet for	Protocol
		sample intervals	
1	Pulp	Rosebud Production standard	
		at end of run	

COARSE REJECT (Free storage for 30 days)
- [x] Return/collect after analysis
- [ ] Return/collect after 30 days
- [ ] Discard after 30 days

IF NOT MARKED, REJECT DISCARDED AFTER 30 DAYS

PULP (Free storage for 6 months)
- [x] Return/collect after analysis
- [ ] Return/collect at 6 months
- [ ] Discard at 6 months

IF NOT MARKED, PULP IS DISCARDED AFTER 6 MONTHS

COARSE REJECTS/PULPS WILL BE DISCARDED UNLESS OTHERWISE REQUESTED

Au - GOLD METHOD
- [x] Fire Assay/A.A.
- [ ] Fire Assay/Gravimetric
- [ ] NaCN/A.A.

RESULTS REPORTED IN:
- [ ] ppb
- [ ] PPM
- [x] oz/T
- [ ] grams/T

TRACE ELEMENT METHOD
- [ ] Wet Chem./A.A.
- [ ] Wet Chem./ICP

RESULTS REPORTED IN:
- [ ] ppm
- [ ] Percent %
- [x] oz/T
- [ ] grams/T

ADDITIONAL INSTRUCTIONS: _____

NOV96:PM5:RENO3:GEOCHEM

RS-D380-99

Depth From	To	Interval	Au	Ag	Sample Number
0	5	5	x	x	1
5	8	3	x	x	2
8	11	3	x	x	3
11	16	5	x	x	4
16	21	5	x	x	5
21	26	5	x	x	6
26	27.8	1.8	x	x	7
27.8	30.8	3	x	x	8
30.8	36	5.2	x	x	9
36	41	5	x	x	10
41	46	5	x	x	11
46	51	5	x	x	12
51	55.6	4.6	x	x	13
55.6	61	5.4	x	x	14
61	66	5	x	x	15
66	71	5	x	x	16
71	72.5	1.5	x	x	17
72.5	75.7	3.2	x	x	18
75.7	77.2	1.5	x	x	19
77.2	80.6	3.4	x	x	20
80.6	83.4	2.8	x	x	21
83.4	86	2.6	x	x	22
86	91	5	x	x	23
91	96	5	x	x	24
96	101	5	x	x	25
101	106	5	x	x	26

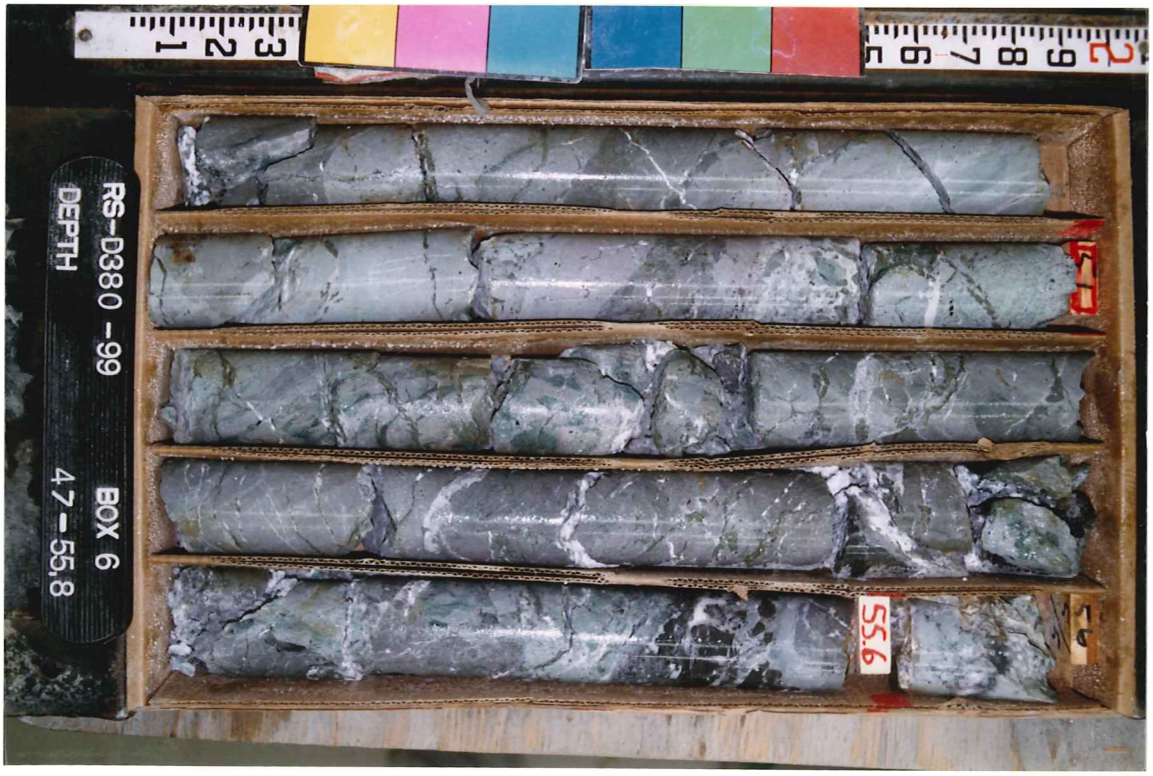
RS-D380 -99
BOX 2
DEPTH
10 -19

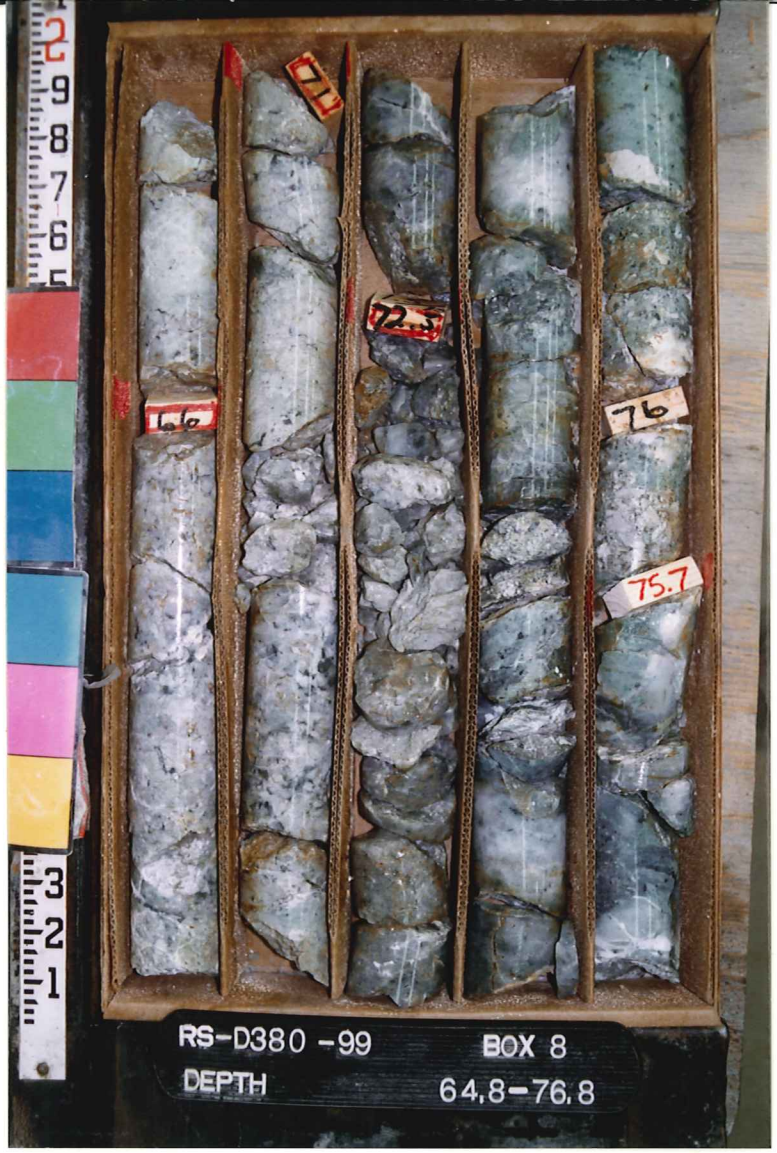
RS-D380 -99
BOX 1
DEPTH
0 -10

RS-D380 -99
BOX 3
DEPTH
19 -28.2

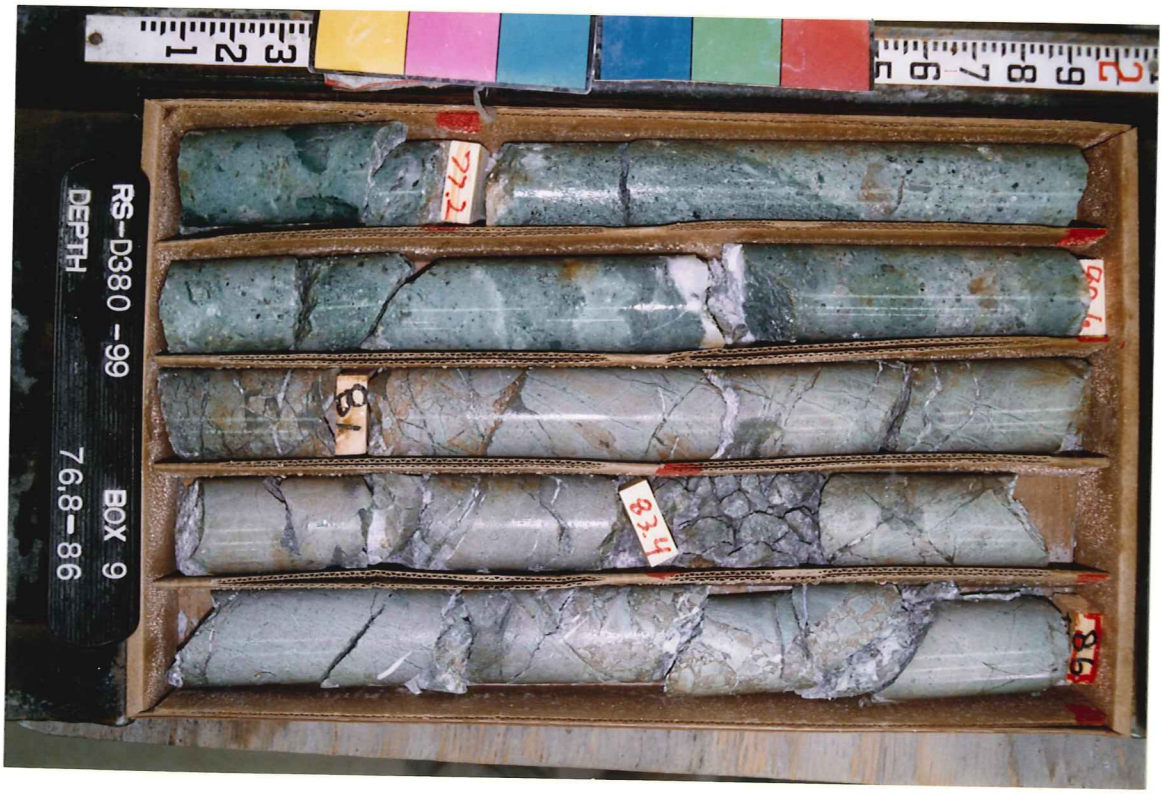
RS-D380 -99
BOX 5
DEPTH
37.2-47

30.8
31
36
RS-D380 -99
BOX 4
DEPTH
28.2-37.2


RS-D380 -99
BOX 6
DEPTH
47-55.8
55.6


71
72.3
66
76
75.7
RS-D380 -99
BOX 8
DEPTH
64.8-76.8

61
RS-D380 -99
BOX 7
DEPTH
55.8-64.8


77.2
80.1
81
83.4
86
RS-D380 -99
BOX 9
DEPTH
76.8-86

RS-D380 -99
BOX 11
DEPTH
94.5-104

RS-D380 -99
BOX 10
DEPTH
86 -94.5

RS-D380 -99
BOX 12
DEPTH
104-106

Bad AZI

WELL RS-D380

DEPTH 106'

PICTURE NO.

INCLINATION +40

OBS. DIR.

COR. DIR.

TOOL FACE

RUN BY G. GANDIE

DATE 12-11-95

CHECKED BY

sperry-sun

DRILLING SERVICES