6000 0932

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-D372-99
AUTHOR	D. Mackerrow; K Allen
DATE OF DOC(S)	1999
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 109' receipt; handwritten notes; downhole camera images photographs; down hole survey NOTE: Scan notes on back of 1st page 25 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)

SS: DD 5/12/08
Initials Date

DB: mah
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

RS-D372-99
"Dock Zone"

60000932 4010

6000 0932

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

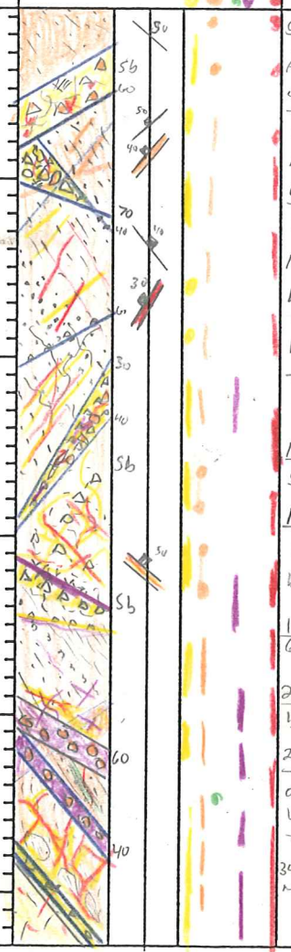
Barite — stibnite

Hecla MINING COMPANY

ROSEBUD PROJECT
DIAMOND DRILL LOG

HOLE NUMBER	RS-D372 -99	LOCATION	DZ Section Ø
PAGE 1 OF 2		NORTHING	
DATE	12-7-99	EASTING	
LOGGED BY	D.G. Mackerow	ELEVATION	
SCALE	1" = 10'	AZIMUTH	N30W
TOTAL DEPTH	109	INCLINATION	+35

REMARKS

ITH	OX/RE	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
TCS	R	0-51.1 TCS SANDSTONE Sandstones with varible grain sizes from silty sandstones medium sandstone. Generally well sorted. Grain shape is subangular to subrounded. Fractureing of the whole unit has been filled by silica sulfide or white clay. Fractures grade into crackle and mosaic breccias. Locally mild milling of breccia clast have taken place. 34-35 Dark gray clay stone 35-39.2 medium sandstone 34.7 80° tca 1" Sb 42.5-44 weakly chloritic stained clystuff. 44-45.3 Barite/silica healed breccia with contact 40° tca at 51.1 (Over)	10 20 30 40 50		0-4 micro offsets in beds along 0-10° tca fx 4.4-6.7 Crackle breccia silica flooded matrix 6.7-10.3 Fractures 50° tca 10.3-11.1 Silica healed mosaic breccia footwall surface 40° tca but truncated by 70° tca silica py/marc vein 16.7-18 medium grained sandstone dipping 40° tca 18-21 Increasing fractureing to crackle breccia intensity 19.1-19.3 mosaic bxx 60° tca xcuts bedding 24.7-26.5 mosaic breccia core 26.5-28.5 Fractures with narrow mosaic breccia with 40° tca cross cuts to bedding 34.7-34.8 silica healed milled breccia	4.4-6.7 Breccia contains pyrite after marcasite and stibnite. 10.3-11.1 Silica healed breccia with stibnite in open vugs 11.1-18 Pyrite/marcasite veinlets some with white clay and quartz 18-21 marcasite in white qtz veining 21-24.7 Marcasite in white qtz veins increase in frequency and traces of stibnite can be found 26 Open Vug with ¼" stibnite crystals 24.7-26.5 mosaic breccia with stibnite, marcasite and barite 32.7-34 silica, barite stibnite, marcasite filled crackle/mosaic breccia 33 60° tca stibnite flooded qtz barite vein 46-49 Heavy sulfide stockwork
Td	R	51.1-64.4 DOZER				

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2	Ac
0	4					
4	6.7					
6.7	10.3					
10.3	11.1					
11.1	14					
14	18					
18	21					
21	24.7					
24.7	26.5					
26.5	29.1					
29.1	32.7					
32.7	34					
34	35					
35	39.5					
39.5	42.5					
42.5	44					
44	45.3					
45.3	47.4					
47.4	49.6					
49.6	51.1					

HOLE NUMBER RS-D372-99 PAGE 2 OF 2

ITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
Td	R	51.1-64.4 DOZER Fine grained volcanic flow Highly silicified above the contact to 54.7. Barite crystal veins Bladed marcasite is associated with the silica	50 60		51.5-64.4 Dozer has variable textures from fractures to milled breccia Numerous quartz veins with marcasite and barite 64.4-72 Milled silicified breccia	53 Barite crystal have yellow Acicular shaped crystals 51.5-64.4 Variable silicification cut by barite vein and barite healed rubble breccia. Disseminate marcasite blades. Argillize dozer clast when not silicified
		64.4-72 S.R.F. Highly silicified milled breccia consisting of dozer clast to 67.9. From 67.9 breccia consist of epiclastic fragments Epiclastic has a trace of chlorite	70			67.9-72 Silica becomes dark gray from silica content 70.2 50° to a 1" white quartz vein at base of dark silica
SPLAT		72-115 SLIGHTLY PLANAR LAMINATE ASH FALL TUFF Fine grained argillize tuff. Faint green tint with a gray blotchy surface tecture. Spotty flow banded fragments present, silica sulfide veinlets form faint stockwork 73-74	80 90 100		79-80 a ½" quartz veins. Quartz has sulfide as rind on edge of vein 96-109 Weak Autobreccia texture	72.7-74 Quartz veins with bladed marcasite in vugs 83 Calcite trace begin to react 97.3-97.7 Calcite healed mosaic breccia 92 Agglomerations of shiny pyrit
		Td 109	110			

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
51.1	54				
54	59				
59	64.4				
64.4	67.9				
67.9	72				
72	74				
74	79				
79	84				
84	89				
89	94				
94	99				
99	104				
104	109				

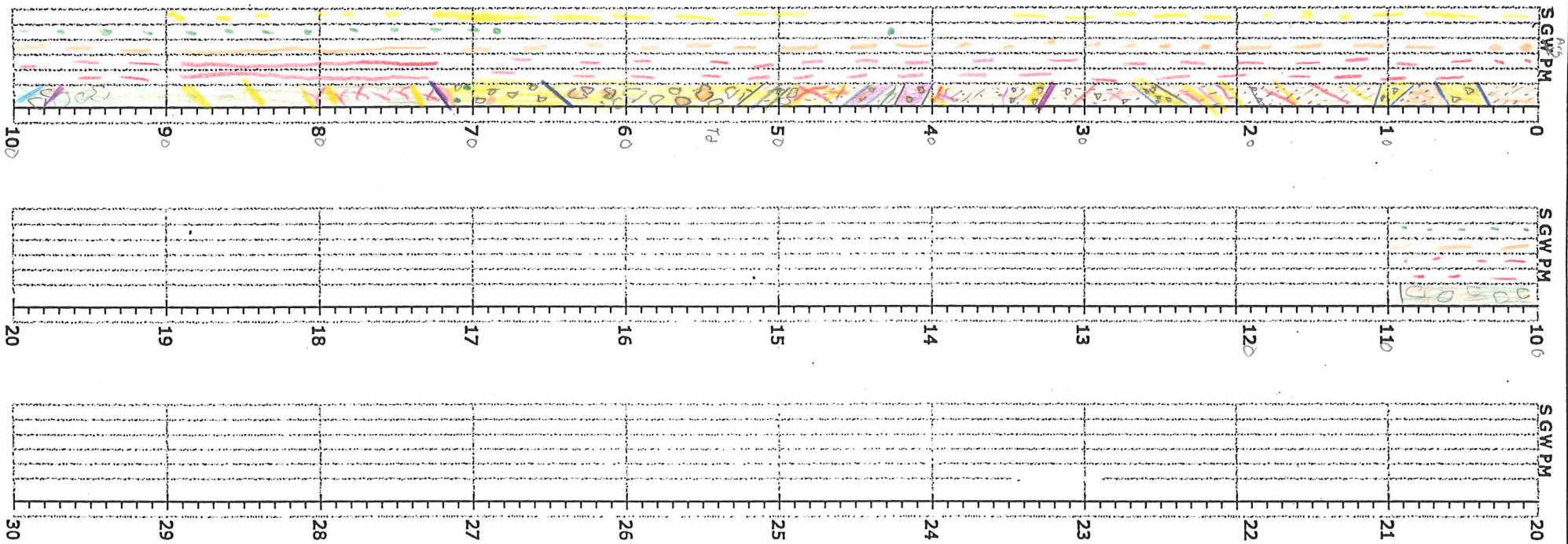
HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D372-99 DATE: 12-7-99 LOGGED BY: D.G. MacKerron PAGE 1 OF 2

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	47	77	20										
4	9	44	96	60										
9	14	100	108	86										
14	19	100	100	48										
19	24	100	100	82										
24	29	100	100	96										
29	34	100	134	92										
34	39	100	68	70										
39	44	94	100	58										
44	49	100	100	100										
49	54	100	102	84										

ROSEBUD MINING COMPANY, LLC.

START HOLE 12/5/99	FINISH HOLE 12/5/99	HOLE # RS-D372-99	
COLLAR COORDINATES	HOLE TYPE Core	LOGGED BY D.C. Mackerron	
NORTH	BEARING 328.61	ANGLE +36	T.D 109
EAST			
ELEV			
DRILLING CO. Action	DRILLER Gaddy	PAGE 1 OF 1	SURVEYED TO 109



ALTERATION INTENSITY
1 WEAK
2 MODERATE
3 STRONG

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

GRAPHIC LOG

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

Alteration
Argillic
Silicification
Sulfide
Barite
Calcite
Chlorite

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: Friday, January 07, 2000

JOB NO: 99-48-37

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

INVOICE NO: 33100339

CLIENT ORDER NO: RS-D372-99

REPORT ON: 34 Core

SUBMITTED BY: Kurt Allen

DATE RECIEVED: Thursday, December 09, 1999

ANALYSES: Gold, Silver

ANALYTICAL METHODS: Fire Assay, Fire/AA

REMARKS:

CC: RMG File

E-MAILED TO:

In database

99-48-37	Sample Designation	Gold Fire/AA ppb	Gold Fire/AA oz/ton	Gold Fire Assay oz/ton	Silver Fire/AA ppm	Silver Fire/AA oz/ton	Silver Fire Assay oz/ton
1	RS-D372-99 0'-4'	522	0.015		6.0	0.17	
2	RS-D372-99 4'-6.7'	4260	0.124	0.044	64.7	1.89	1.76
3	RS-D372-99 6.7'-10.3'	446	0.013		7.4	0.22	
4	RS-D372-99 10.3'-11.1'	1074	0.031		136.0	3.97	
5	RS-D372-99 11.1'-14'	686	0.020		9.7	0.28	
6	RS-D372-99 14'-18'	2980	0.087	0.049	8.9	0.26	0.24
7	RS-D372-99 18'-21'	11760	0.343	0.284	37.3	1.09	1.06
8	RS-D372-99 21'-24.7'	40480	1.182	1.329	138.4	4.04	4.78
9	RS-D372-99 24.7'-26.5'	11620	0.339	0.279	188.4	5.50	7.61
10	RS-D372-99 26.5'-29.1'	5566	0.163	0.195	13.7	0.40	0.46
11	RS-D372-99 29.1'-32.7'	4240	0.124	0.112	15.5	0.45	0.56
12	RS-D372-99 32.7'-34'	5660	0.165	0.130	15.8	0.46	0.55
13	RS-D372-99 34'-35'	3584	0.105	0.111	178.1	5.20	31.71
14	RS-D372-99 35'-39.5'	3520	0.103	0.060	15.5	0.45	0.35
15	RS-D372-99 39.5'-42.5'	1310	0.038	0.023	7.9	0.23	0.26
16	RS-D372-99 42.5'-44'	3036	0.089	0.049	7.4	0.22	0.18
17	RS-D372-99 44'-45.3'	6952	0.203	0.238	11.1	0.32	0.35
18	RS-D372-99 45.3'-47.4'	12400	0.362	0.522	15.1	0.44	0.85
19	RS-D372-99 47.4'-49.6'	11220	0.328	0.389	13.9	0.41	0.74
20	RS-D372-99 49.6'-51.1'	16400	0.479	0.350	19.5	0.57	0.54
21	RS-D372-99 51.1'-54'	2768	0.081	0.073	5.2	0.15	0.25
22	RS-D372-99 54'-59'	6864	0.200	0.026	7.3	0.21	0.13
23	RS-D372-99 59'-64.4'	2226	0.065	0.072	6.2	0.18	0.31
24	RS-D372-99 64.4'-67.9'	4104	0.120	0.099	9.1	0.27	0.22
25	RS-D372-99 67.9'-72'	4352	0.127	0.171	6.2	0.18	0.37
26	RS-D372-99 72'-74'	2012	0.059	0.067	3.1	0.09	0.21
27	RS-D372-99 74'-79'	162	0.005	-0.005	1.6	0.05	-0.10
28	RS-D372-99 79'-84'	2738	0.080	0.063	4.7	0.14	0.19
29	RS-D372-99 84'-89'	416	0.012		2.0	0.06	
30	RS-D372-99 89'-94'	422	0.012		1.9	0.06	
31	RS-D372-99 94'-99'	86	0.003		0.3	0.01	
32	RS-D372-99 99'-104'	118	0.003		0.7	0.02	
33	RS-D372-99 104'-109'	110	0.003		0.2	0.01	

CLIENT: Hecla (Rosebud Mine)

99-48-37	Sample Designation		Gold Fire/AA ppb		Gold Fire/AA oz/ton		Gold Fire Assay oz/ton		Silver Fire/AA ppm		Silver Fire/AA oz/ton		Silver Fire Assay oz/ton
34	STD 68561	RF		RF			0.030	RF		RF			0.70

Wednesday, January 12, 2000

By

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

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

Invoice No: 33100339
Invoice Date: 1/12/00
JobNo: 99-48-37
Account No: 00007292

Client PO: RS-D372-99

INVOICE

Terms: Net 30 days

Item Description	Qty	Unit Price	Amount
Core 16-20 Lbs	33	$4.50	$148.50
Au, Ag FA/AA	34	$6.50	$221.00
Au, Ag FA	24	$7.00	$168.00

PLEASE REMIT TO:

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

Sub Total:	$537.50
Discount: (0.00%)	$0.00
Discounted Total:	$537.50
Add'l Discount: (0.00%)	$0.00
Final Total:	$537.50

PAID

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: Friday, January 07, 2000

JOB NO: 99-48-37

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

INVOICE NO: 33100339

CLIENT ORDER NO: RS-D372-99

REPORT ON: 34 Core

SUBMITTED BY: Kurt Allen

DATE RECIEVED: Thursday, December 09, 1999

ANALYSES: Gold, Silver

ANALYTICAL METHODS: Fire Assay, Fire/AA

REMARKS:

CC: RMG File

E-MAILED TO:

ROCKY MOUNTAIN GEO 7753592944 01/10 '00 09:04 NO.012 09/10

99-48-37	Sample Designation	Gold Fire/AA ppb	Gold Fire/AA oz/ton	Gold Fire Assay oz/ton	Silver Fire/AA ppm	Silver Fire/AA oz/ton	Silver Fire Assay oz/ton
1	RS-D372-99 0'-4'	522	0.015		6.0	0.17	
2	RS-D372-99 4'-6.7'	4260	0.124	0.044	64.7	1.89	1.76
3	RS-D372-99 6.7'-10.3	446	0.013		7.4	0.22	
4	RS-D372-99 10.3'-11.	1074	0.031		136.0	3.97	
5	RS-D372-99 11.1'-14'	686	0.020		9.7	0.28	
6	RS-D372-99 14'-18'	2980	0.087	0.049	8.9	0.26	0.24
7	RS-D372-99 18'-21'	11760	0.343	0.284	37.3	1.09	1.06
8	RS-D372-99 21'-24.7'	40480	1.182	1.329	138.4	4.04	4.78
9	RS-D372-99 24.7'-26.	11620	0.339	0.279	188.4	5.50	7.61
10	RS-D372-99 26.5'-29.	5566	0.163	0.195	13.7	0.40	0.458
11	RS-D372-99 29.1'-32.	4240	0.124	0.112	15.5	0.45	0.56
12	RS-D372-99 32.7'-34'	5660	0.165	0.130	15.8	0.46	0.55
13	RS-D372-99 34'-35'	3584	0.105	0.111	178.1	5.20	31.71
14	RS-D372-99 35'-39.5'	3520	0.103	0.060	15.5	0.45	0.35
15	RS-D372-99 39.5'-42.	1310	0.038	0.023	7.9	0.23	0.26
16	RS-D372-99 42.5'-44'	3036	0.089	0.049	7.4	0.22	0.18
17	RS-D372-99 44'-45.3'	6952	0.203	0.238	11.1	0.32	0.35
18	RS-D372-99 45.3'-47.	12400	0.362	0.522	15.1	0.44	0.85
19	RS-D372-99 47.4'-49.	11220	0.328	0.389	13.9	0.41	0.74
20	RS-D372-99 49.6'-51.	16400	0.479	0.350	19.5	0.57	0.54
21	RS-D372-99 51.1'-54'	2768	0.081	0.073	5.2	0.15	0.25
22	RS-D372-99 54'-59'	6864	0.200	0.026	7.3	0.21	0.13
23	RS-D372-99 59'-64.4'	2226	0.065	0.072	6.2	0.18	0.31
24	RS-D372-99 64.4'-67.	4104	0.120	0.099	9.1	0.27	0.22
25	RS-D372-99 67.9'-72'	4352	0.127	0.171	6.2	0.18	0.37
26	RS-D372-99 72'-74'	2012	0.059	0.067	3.1	0.09	0.21
27	RS-D372-99 74'-79'	162	0.005	-0.005	1.6	0.05	-0.10
28	RS-D372-99 79'-84'	2738	0.080	0.063	4.7	0.14	0.19
29	RS-D372-99 84'-89'	416	0.012		2.0	0.06	
30	RS-D372-99 89'-94'	422	0.012		1.9	0.06	
31	RS-D372-99 94'-99'	86	0.003		0.3	0.01	
32	RS-D372-99 99'-104'	118	0.003		0.7	0.02	
33	RS-D372-99 104'-109'	110	0.003		0.2	0.01	

CLIENT: Hecla (Rosebud Mine)

JOB NO.: 99-48-37

99-48-37	Sample Designation	Gold Fire/AA ppb	Gold Fire/AA oz/ton	Gold Fire Assay oz/ton	Silver Fire/AA ppm	Silver Fire/AA oz/ton	Silver Fire Assay oz/ton
34	STD 68561	RF	RF	0.030	RF	RF	0.70

Friday, January 07, 2000

By

CLIENT: Hecla (Rosebud Mine)

JOB NO.: 99-48-37

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D372-99 0'-4'	522	0.015		6.0	0.17
RS-D372-99 4'-6.7'	4260	0.124	.044	64.7	1.89 1.76
RS-D372-99 6.7'-10.3'	446	0.013		7.4	0.22
RS-D372-99 10.3'-11.1'	1074	0.031		136.0	3.97
RS-D372-99 11.1'-14'	686	0.020		9.7	0.28
RS-D372-99 14'-18'	2980	0.087	.049	8.9	0.26 .24
RS-D372-99 18'-21'	11760	0.343	.284	37.3	1.09 1.06
RS-D372-99 21'-24.7'	40480	1.182	1.33	138.4	4.04 4.72
RS-D372-99 24.7'-26.5'	11620	0.339	.279	188.4	5.50 7.61
RS-D372-99 26.5'-29.1'	5566	0.163	.195	13.7	0.40 .45
RS-D372-99 29.1'-32.7'	4240	0.124	.112	15.5	0.45 .56
RS-D372-99 32.7'-34'	5660	0.165	.130	15.8	0.46 .57
RS-D372-99 34'-35'	3584	0.105	.11	178.1	5.20 31.7
RS-D372-99 35'-39.5'	3520	0.103	.060	15.5	0.45 .35
RS-D372-99 39.5'-42.5'	1310	0.038	.023	7.9	0.23 .26
RS-D372-99 42.5'-44'	3036	0.089	.049	7.4	0.22 .18
RS-D372-99 44'-45.3'	6952	0.203	.238	11.1	0.32 .35
RS-D372-99 45.3'-47.4'	12400	0.362	.522	15.1	0.44 .85
RS-D372-99 47.4'-49.6'	11220	0.328	.389	13.9	0.41 .74
RS-D372-99 49.6'-51.1'	16400	0.479	.350	19.5	0.57 .54
RS-D372-99 51.1'-54'	2768	0.081	.073	5.2	0.15 .25
RS-D372-99 54'-59'	6864	0.200	.026 (DTF)	7.3	0.21 .132
RS-D372-99 59'-64.4'	2226	0.065	.072	6.2	0.18 .31
RS-D372-99 64.4'-67.9'	4104	0.120	.079	9.1	0.27 .22

CLIENT: Hecla (Rosebud Mine)

JOB NO.: 99-48-37

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver	
RS-D372-99 67.9'-72'	4352	0.127	.171	6.2	0.18	.37
RS-D372-99 72'-74'	2012	0.059	.067	3.1	0.09	.21
RS-D372-99 74'-79'	162	0.005	<.005	1.6	0.05	<0.
RS-D372-99 79'-84'	2738	0.080	.063	4.7	0.14	.19
RS-D372-99 84'-89'	416	0.012		2.0	0.06	
RS-D372-99 89'-94'	422	0.012		1.9	0.06	
RS-D372-99 94'-99'	86	0.003		0.3	0.01	
RS-D372-99 99'-104'	118	0.003		0.7	0.02	
RS-D372-99 104'-109'	110	0.003		0.2	0.01	
STD 68561	RF	RF	.030	RF	RF	.70

DARKZONE DRILLHOLES
12-20-99
DARKZONE.CR5 12/21/99 06:06:54

Point	Northing	Easting	Elevation	Description
1	2,204,482.2684	481,967.9582	4,345.06	N21BS
146	2,204,446.8501	482,396.7055	4,354.82	384
147	2,204,441.6573	482,399.6361	4,357.37	385
148	2,204,439.4456	482,400.6166	4,357.43	386
149	2,204,436.5937	482,401.4911	4,358.59	387
150	2,204,429.0662	482,407.0972	4,350.49	388
151	2,204,429.4145	482,406.5015	4,353.59	389
152	2,204,430.5218	482,435.1747	4,358.73	381
153	2,204,429.3186	482,435.5506	4,363.49	382
154	2,204,425.1618	482,437.6035	4,364.08	383
155	2,204,412.8824	482,472.0992	4,358.36	370
156	2,204,412.7553	482,471.8012	4,361.96	371
157	2,204,412.2666	482,472.2979	4,364.63	372
158	2,204,407.7960	482,474.9600	4,367.92	373
159	2,204,404.8226	482,476.6447	4,368.40	374
160	2,204,392.1322	482,483.4680	4,361.01	375
161	2,204,392.4909	482,483.4562	4,363.90	376
162	2,204,392.6683	482,482.9364	4,369.46	377
163	2,204,397.3947	482,510.3608	4,360.68	378
164	2,204,397.4057	482,510.0441	4,366.13	379
165	2,204,396.9083	482,510.0179	4,371.04	380

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

CLIENT: Hecla (Rosebud Mine)

JOB NO.: 99-48-37

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D372-99 0'-4'	522	0.015		6.0	0.17
RS-D372-99 4'-6.7'	4260	0.124		64.7	1.89
RS-D372-99 6.7'-10.3'	446	0.013		7.4	0.22
RS-D372-99 10.3'-11.1'	1074	0.031		136.0	3.97
RS-D372-99 11.1'-14' 18-26.5' = 8.5'	686	0.020		9.7	0.28
RS-D372-99 14'-18'	2980	0.087		8.9	0.26
RS-D372-99 18'-21' 3 0.707 Au	11760	0.343		37.3	1.09
RS-D372-99 21'-24.7' 3.7 3.31	40480	1.182		138.4	4.04
RS-D372-99 24.7'-26.5' 1.8	11620	0.339		188.4	5.50
RS-D372-99 26.5'-29.1'	5566	0.163		13.7	0.40
RS-D372-99 29.1'-32.7'	4240	0.124		15.5	0.45
RS-D372-99 32.7'-34'	5660	0.165		15.8	0.46
RS-D372-99 34'-35'	3584	0.105		178.1	5.20
RS-D372-99 35'-39.5'	3520	0.103		15.5	0.45
RS-D372-99 39.5'-42.5'	1310	0.038		7.9	0.23
RS-D372-99 42.5'-44' 44-59' = 15'	3036	0.089		7.4	0.22
RS-D372-99 44'-45.3' 1.3	6952	0.203		11.1	0.32
RS-D372-99 45.3'-47.4' 2.1 0.214 Au	12400	0.362		15.1	0.44
RS-D372-99 47.4'-49.6' 2.2	11220	0.328		13.9	0.41
RS-D372-99 49.6'-51.1' 1.5	16400	0.479		19.5	0.57
RS-D372-99 51.1'-54' 2.9	2768	0.081		5.2	0.15
RS-D372-99 54'-59' 5	6864	0.200		7.3	0.21
RS-D372-99 59'-64.4'	2226	0.065		6.2	0.18
RS-D372-99 64.4'-67.9'	4104	0.120		9.1	0.27

CLIENT: Hecla (Rosebud Mine)

JOB NO.: 99-48-37

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D372-99 67.9'-72'	4352	0.127		6.2	0.18
RS-D372-99 72'-74'	2012	0.059		3.1	0.09
RS-D372-99 74'-79'	162	0.005		1.6	0.05
RS-D372-99 79'-84'	2738	0.080		4.7	0.14
RS-D372-99 84'-89'	416	0.012		2.0	0.06
RS-D372-99 89'-94'	422	0.012		1.9	0.06
RS-D372-99 94'-99'	86	0.003		0.3	0.01
RS-D372-99 99'-104'	118	0.003		0.7	0.02
RS-D372-99 104'-109'	110	0.003		0.2	0.01
STD 68561	RF	RF		RF	RF

SAMPLE NO	ppb Gold	oz/ton Gold	oz/ton Gold	ppm Silver	oz/ton Silver
RS-D372-99 0'-4'	522	0.015		6.0	0.17
RS-D372-99 4'-6.7'	4260	0.124		64.7	1.89
RS-D372-99 6.7'-10.3'	446	0.013		7.4	0.22
RS-D372-99 10.3'-11.1'	1074	0.031		136.0	3.97
RS-D372-99 11.1'-14' 18-26.5' = 8.5'	686	0.020		9.7	0.28
RS-D372-99 14'-18'	2980	0.087		8.9	0.26
RS-D372-99 18'-21' 3 0.707 Au	11760	0.343		37.3	1.09
RS-D372-99 21'-24.7' 3.7	40480	1.182		138.4	4.04
RS-D372-99 24.7'-26.5' 1.8	11620	0.339		188.4	5.50
RS-D372-99 26.5'-29.1'	5566	0.163		13.7	0.40
RS-D372-99 29.1'-32.7'	4240	0.124		15.5	0.45
RS-D372-99 32.7'-34'	5660	0.165		15.8	0.46
RS-D372-99 34'-35'	3584	0.105		178.1	5.20
RS-D372-99 35'-39.5'	3520	0.103		15.5	0.45
RS-D372-99 39.5'-42.5'	1310	0.038		7.9	0.23
RS-D372-99 42.5'-44' 44-59' = 15'	3036	0.089		7.4	0.22
RS-D372-99 44'-45.3' 1.3	6952	0.203		11.1	0.32
RS-D372-99 45.3'-47.4' 2.1	12400	0.362		15.1	0.44
RS-D372-99 47.4'-49.6' 2.2 0.214 Au	11220	0.328		13.9	0.41
RS-D372-99 49.6'-51.1' 1.5	16400	0.479		19.5	0.57
RS-D372-99 51.1'-54' 2.9	2768	0.081		5.2	0.15
RS-D372-99 54'-59' 5	6864	0.200		7.3	0.21
RS-D372-99 59'-64.4'	2226	0.065		6.2	0.18
RS-D372-99 64.4'-67.9'	4104	0.120		9.1	0.27

RS-D372-99

Depth From	To	Interval	Au	Ag	Sample Number
0	4	4	x	x	1
4	6.7	2.7	x	x	2
6.7	10.3	3.6	x	x	3
10.3	11.1	0.8	x	x	4
11.1	14	2.9	x	x	5
14	18	4	x	x	6
18	21	3	x	x	7
21	24.7	3.7	x	x	8
24.7	26.5	1.8	x	x	9
26.5	29.1	2.6	x	x	10
29.1	32.7	3.6	x	x	11
32.7	34	1.3	x	x	12
34	35	1	x	x	13
35	39.5	4.5	x	x	14
39.5	42.5	3	x	x	15
42.5	44	1.5	x	x	16
44	45.3	1.3	x	x	17
45.3	47.4	2.1	x	x	18
47.4	49.6	2.2	x	x	19
49.6	51.1	1.5	x	x	20
51.1	54	2.9	x	x	21
54	59	5	x	x	22
59	64.4	5.4	x	x	23
64.4	67.9	3.5	x	x	24
67.9	72	4.1	x	x	25
72	74	2	x	x	26
74	79	5	x	x	27
79	84	5	x	x	28
84	89	5	x	x	29
89	94	5	x	x	30
94	99	5	x	x	31
99	104	5	x	x	32
104	109	5	x	x	33

RMGN Job Number:_____

Date Received:_____

Rocky Mountain Geochemical of Nevada

840 GREG STREET

SPARKS, NEVADA 89431

Phone: (702) 359-6311, Fax: (702) 359-2944

SAMPLE SUBMITTAL SHEET

Address Report To: Kurt Allen
Rosebud Mine P.O. Box 2610
Winnemucca NV 89446

Phone/Fax: (775) 623/6912 / 623-6467

Send Invoice To: Kurt Allen Rosebud Mining LLC
P.O. box 2610
Winnemucca NV 89446

Client's Project No._____

Shipment No._____

Date Shipped: 12/9/99

No. of Cartons:_____

No. of Samples: 33

Copy of Report To: Kurt Allen Only

List Sample Numbers	Material Description	List Elements To Be Determined	Indicate Method Fire/Grav.	Fire/AA	Geochem
RS-D372-99 See attached Sheet	Core	Au Ag : Use Rosebud Mine development protocol			
1	Pulp	Rosebud Production standard at end of hole			

NOT RESPONSIBLE FOR LOSS OF SAMPLES DUE TO FIRE OR THEFT.

Pulp & Reject Disposition: Pulps and Rejects will be discarded unless otherwise noted.

	Bulk Rejects	Pulp
Return at Customer's Expense	X	X
via:		
Store at $1.00 per 100 lbs/month		
Discard immediately		

White Copy: Send to RMGN
Yellow Copy: Customer's Copy
Pink Copy: Enclose with Samples

THE ABOVE WORK IS AUTHORIZED BY: D.S. MacKenzie DATE: 12/9/99

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-D 372-99 DATE: 12-7-99 LOGGED BY: D.G. MacKerrow PAGE 2 OF 2

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)
54	59	60	100	28										
59	64	100	100	80										
64	69	90	100	60										
69	74	100	100	81										
74	79	100	100	86										
79	84	50	78	40										
84	89	100	94	80										
89	94	90	100	70										
94	99	100	101	82										
99	104	100	98	94										
104	109	100	104	74										

RS-D372 -99
BOX 2
DEPTH
10 - 18.5
11.1
10.3
18

RS-D372 -99
BOX 1
DEPTH
0 - 10
6.7
9

RS-D372 -99
BOX 3
DEPTH
18.5 - 27
21
24.7
26.5

CORE LOSS
39.5
34
35
45.3
41.5
RS-D372 -99
BOX 5
DEPTH
35 - 46

47.4
49
51.1
49.4
54
RS-D372 -99
BOX 6
DEPTH
46 - 55

29.1
32
34
RS-D372 -99
BOX 4
DEPTH
27 - 35

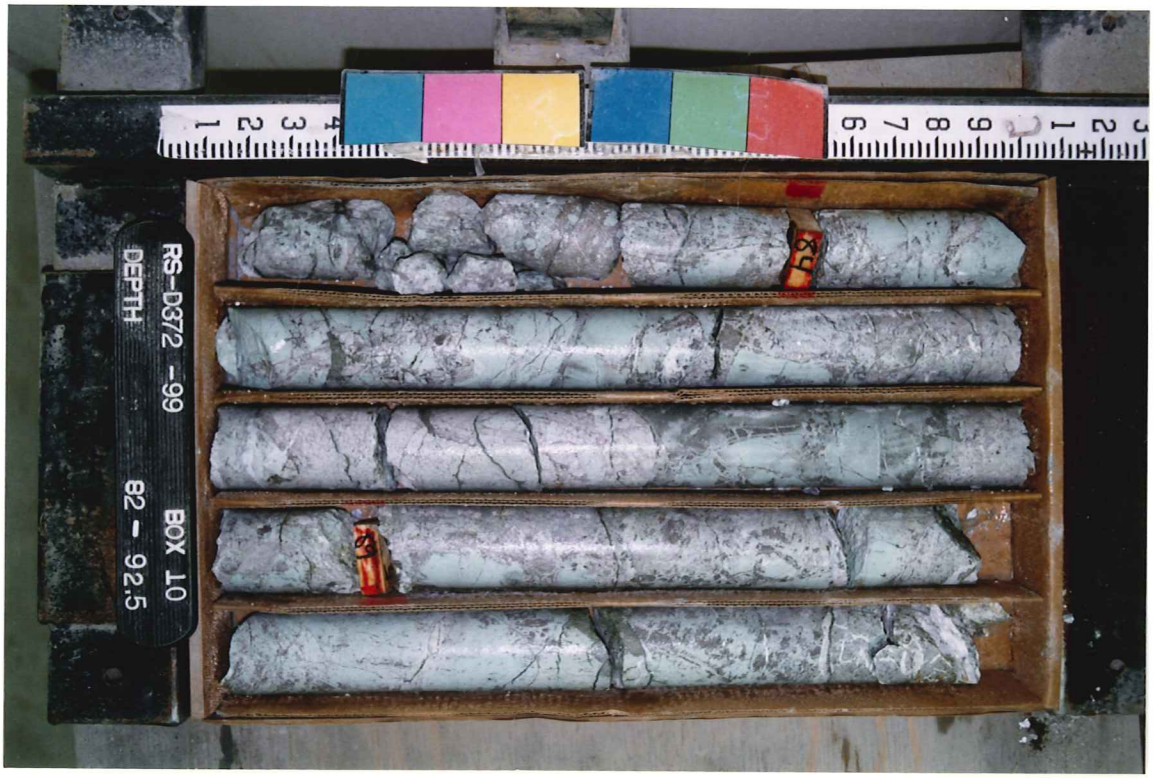
69
72
64.4
64
67.9
RS-D372 -99
BOX 7
DEPTH
63.5 - 72.5

74
79
RS-D372 -99
BOX 9
DEPTH
73 - 82

RS-D372 -99
BOX 7
DEPTH
55 - 63.5

RS-D372 -99
BOX 11
DEPTH
92.5 - 101

RS-D372 -99
BOX 12
DEPTH
101 - 109


RS-D372 -99
BOX 10
DEPTH
82 - 92.5

WELL RS-D 372

DEPTH 109'

PICTURE NO.

INCLINATION -35

OBS. DIR.

COR. DIR.

TOOL FACE

RUN BY G GAMIB

DATE 12-5-99

CHECKED BY

sperry-sun

DRILLING SERVICES