60000603

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-482
AUTHOR	D. Schoorl; J.P. Rogowski; 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 Mining Co. LLC; Wildrose; Hecla Mining Co.
COMMODITY If not obvious	gold; silver
NOTES	drill logs; geology; assay; total depth 805' 17p.

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 7/20/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

RS-482

99

60000603
4010

6600060 3

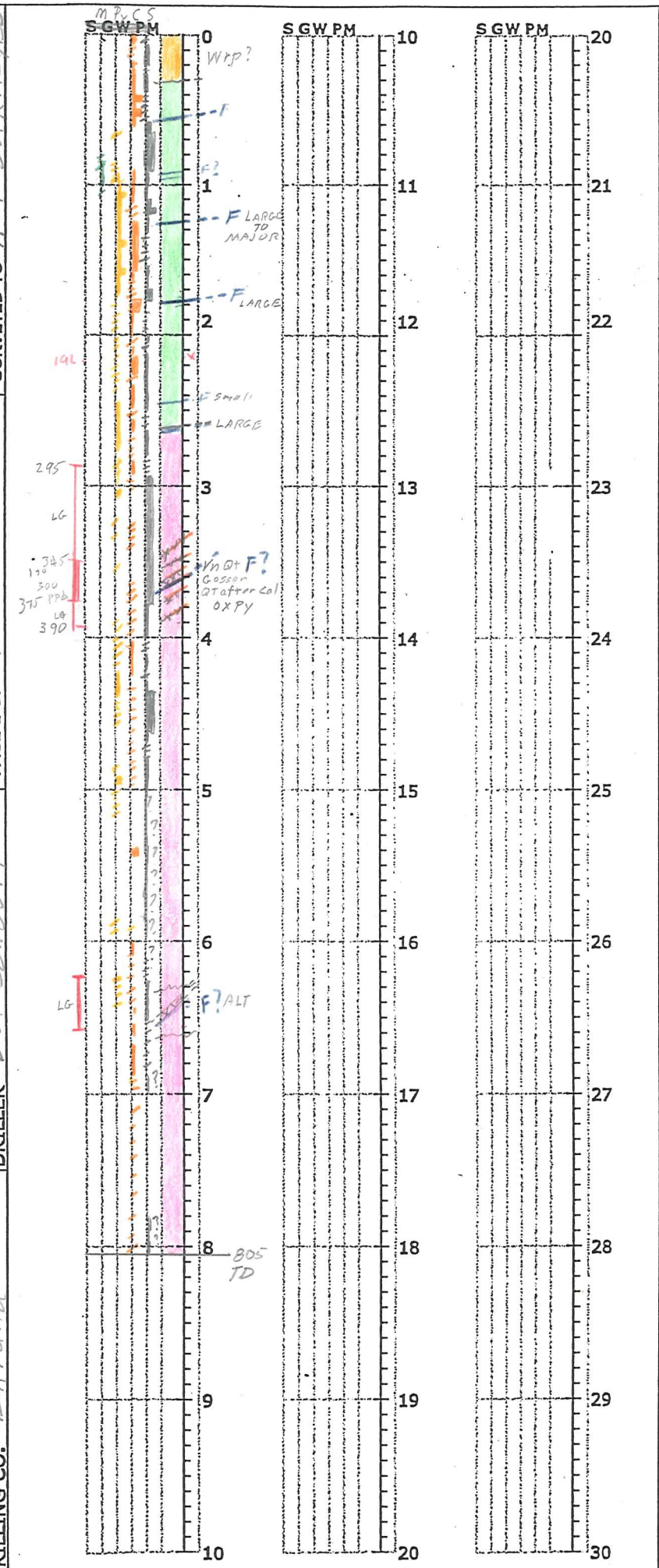
ROSEBUD MINING COMPANY, LLC.

4th hole @ Wildrose
N. of N. Saddle

HOLE #	RS-482
T.D	805
FINISH HOLE	31 Dec 1999
LOGGED BY	Rogowski
ANGLE	-90°
SURVEYED TO	NOT SURVEYED
START HOLE	30 Dec 1999
HOLE TYPE	RC
BEARING	—
PAGE 1 OF	10

COLLAR COORDINATES

NORTH	2,222,350
EAST	476,805
ELEV	5760
DRILLER	Don Schoor
DRILLING CO.	Eklund



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

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

	WrP - Wildrose Rhyolite Porphyry
	BUD-Like CLASTICS
	LBT/WR

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: Wednesday, January 19, 2000

JOB NO: 100-00-45

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

INVOICE NO: 33100409

CLIENT ORDER NO: RS-482

REPORT ON: 162 RC

SUBMITTED BY: Kurt Allen

DATE RECIEVED: Friday, December 31, 1999

ANALYSES: Rosebud Mine Development Protocol

ANALYTICAL METHODS: FA/AA, FA/GRAV

REMARKS:

CC: RMG File

E-MAILED TO:

ROCKY MOUNTAIN GEO 7753592944 01/25 '00 08:29 NO.404 07/11

100-00-45	Sample Designatio	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-482 0'-5'	59	0.002		1.7	0.051	
2	RS-482 5'-10'	31	0.001		1.0	0.029	
3	RS-482 10'-15'	7	-0.001		0.3	0.010	
4	RS-482 15'-20'	8	-0.001		0.2	0.006	
5	RS-482 20'-25'	4	-0.001		0.3	0.009	
6	RS-482 25'-30'	10	-0.001		0.4	0.013	
7	RS-482 30'-35'	4	-0.001		0.2	0.007	
8	RS-482 35'-40'	20	0.001		0.9	0.027	
9	RS-482 40'-45'	14	-0.001		0.4	0.013	
10	RS-482 45'-50'	30	0.001		0.8	0.022	
11	RS-482 50'-55'	6	-0.001		0.2	0.006	
12	RS-482 55'-60'	9	-0.001		0.2	0.007	
13	RS-482 60'-65'	13	-0.001		0.2	0.007	
14	RS-482 65'-70'	6	-0.001		0.3	0.008	
15	RS-482 70'-75'	7	-0.001		0.4	0.012	
16	RS-482 75'-80'	6	-0.001		0.2	0.006	
17	RS-482 80'-85'	7	-0.001		0.3	0.009	
18	RS-482 85'-90'	6	-0.001		0.5	0.014	
19	RS-482 90'-95'	2	-0.001		0.2	0.006	
20	RS-482 95'-100'	4	-0.001		0.2	0.005	
21	RS-482 100'-105'	5	-0.001		0.2	0.006	
22	RS-482 105'-110'	2	-0.001		0.2	0.007	
23	RS-482 110'-115'	23	0.001		0.1	0.003	
24	RS-482 115'-120'	2	-0.001		0.3	0.008	
25	RS-482 120'-125'	2	-0.001		0.2	0.006	
26	RS-482 125'-130'	2	-0.001		0.1	0.004	
27	RS-482 130'-135'	2	-0.001		0.2	0.006	
28	RS-482 135'-140'	-2	-0.001		0.2	0.005	
29	RS-482 140'-145'	-2	-0.001		0.1	0.003	
30	RS-482 145'-150'	2	-0.001		0.2	0.005	
31	RS-482 150'-155'	20	0.001		0.4	0.012	
32	RS-482 155'-160'	3	-0.001		0.8	0.024	
33	RS-482 160'-165'	-2	-0.001		0.1	0.003	

CLIENT: Hecla (Rosebud Mine)

100-00-45	Sample Designatio	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
34	RS-482 165'-170'	47	0.001		3.3	0.096	
35	RS-482 170'-175'	25	0.001		1.1	0.032	
36	RS-482 175'-180'	9	-0.001		0.9	0.027	
37	RS-482 180'-185'	6	-0.001		0.3	0.008	
38	RS-482 185'-190'	9	-0.001		0.6	0.017	
39	RS-482 190'-195'	3	-0.001		0.3	0.008	
40	RS-482 195'-200'	3	-0.001		0.1	0.004	
41	RS-482 200'-205'	3	-0.001		0.3	0.010	
42	RS-482 205'-210'	-2	-0.001		0.1	0.004	
43	RS-482 210'-215'	196	0.006	0.012	5.8	0.170	0.28
44	RS-482 215'-220'	6	-0.001		0.2	0.007	
45	RS-482 220'-225'	3	-0.001		0.2	0.007	
46	RS-482 225'-230'	2	-0.001		0.2	0.007	
47	RS-482 230'-235'	11	-0.001		0.1	0.003	
48	RS-482 235'-240'	-2	-0.001		0.2	0.007	
49	RS-482 240'-245'	3	-0.001		0.1	0.003	
50	RS-482 245'-250'	3	-0.001		0.2	0.006	
51	RS-482 250'-255'	2	-0.001		0.1	0.003	
52	RS-482 255'-260'	3	-0.001		0.2	0.006	
53	RS-482 260'-265'	4	-0.001		0.3	0.008	
54	RS-482 265'-270'	5	-0.001		0.2	0.005	
55	RS-482 270'-275'	6	-0.001		0.3	0.009	
56	RS-482 275'-280'	8	-0.001		0.1	0.004	
57	RS-482 280'-285'	3	-0.001		0.2	0.006	
58	RS-482 285'-290'	13	-0.001		0.1	0.004	
59	RS-482 290'-295'	7	-0.001		0.3	0.010	
60	RS-482 295'-300'	19	0.001		0.6	0.018	
61	RS-482 300'-305'	55	0.002		1.8	0.054	
62	RS-482 305'-310'	32	0.001		0.5	0.015	
63	RS-482 310'-315'	65	0.002		3.3	0.096	
64	RS-482 315'-320'	82	0.002		2.9	0.085	
65	RS-482 320'-325'	81	0.002		1.6	0.048	
66	RS-482 325'-330'	104	0.003		1.5	0.043	
67	RS-482 330'-335'	65	0.002		1.0	0.028	
68	RS-482 335'-340'	60	0.002		1.3	0.038	
69	RS-482 340'-345'	71	0.002		1.3	0.038	

ROCKY MOUNTAIN GEO 7753592944 01/25 '00 08:30 NO.404 09/11

100-00-45	Sample Designatio	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
70	RS-482 345'-350'	99	0.003		3.9	0.115	
71	RS-482 350'-355'	183	0.005		6.5	0.190	
72	RS-482 355'-360'	334	0.010	0.018	11.0	0.320	0.51
73	RS-482 360'-365'	202	0.006		6.2	0.180	0.199
74	RS-482 365'-370'	294	0.009	0.012	8.9	0.260	0.32
75	RS-482 370'-375'	105	0.003		4.5	0.130	
76	RS-482 375'-380'	42	0.001		1.1	0.031	
77	RS-482 380'-385'	88	0.003		2.5	0.072	
78	RS-482 385'-390'	171	0.005		4.5	0.130	
79	RS-482 390'-395'	5	-0.001		0.3	0.010	
80	RS-482 395'-400'	23	0.001		0.5	0.014	
81	RS-482 400'-405'	19	0.001		0.4	0.011	
82	RS-482 405'-410'	4	-0.001		0.4	0.011	
83	RS-482 410'-415'	8	-0.001		0.2	0.005	
84	RS-482 415'-420'	20	0.001		0.7	0.019	
85	RS-482 420'-425'	4	-0.001		0.1	0.004	
86	RS-482 425'-430'	5	-0.001		0.3	0.009	
87	RS-482 430'-435'	2	-0.001		0.1	0.004	
88	RS-482 435'-440'	-2	-0.001		0.2	0.006	
89	RS-482 440'-445'	7	-0.001		0.1	0.003	
90	RS-482 445'-450'	3	-0.001		0.2	0.006	
91	RS-482 450'-455'	-2	-0.001		0.2	0.006	
92	RS-482 455'-460'	-2	-0.001		0.1	0.002	
93	RS-482 460'-465'	-2	-0.001		0.2	0.006	
94	RS-482 465'-470'	-2	-0.001		0.1	0.004	
95	RS-482 470'-475'	-2	-0.001		0.2	0.007	
96	RS-482 475'-480'	-2	-0.001		0.2	0.005	
97	RS-482 480'-485'	-2	-0.001		0.2	0.007	
98	RS-482 485'-490'	6	-0.001		0.2	0.007	
99	RS-482 490'-495'	5	-0.001		0.2	0.007	
100	RS-482 495'-500'	-2	-0.001		0.3	0.010	
101	RS-482 500'-505'	-2	-0.001		0.1	0.004	
102	RS-482 505'-510'	-2	-0.001		0.2	0.006	
103	RS-482 510'-515'	-2	-0.001		0.1	0.004	
104	RS-482 515'-520'	-2	-0.001		0.3	0.008	
105	RS-482 520'-525'	-2	-0.001		0.2	0.005	

CLIENT: Hecla (Rosebud Mine)

100-00-45	Sample Designatio	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
106	RS-482 525'-530'	4	-0.001		0.3	0.009	
107	RS-482 530'-535'	6	-0.001		0.3	0.010	
108	RS-482 535'-540'	3	-0.001		0.2	0.007	
109	RS-482 540'-545'	-2	-0.001		0.2	0.006	
110	RS-482 545'-550'	2	-0.001		0.2	0.005	
111	RS-482 550'-555'	4	-0.001		0.2	0.006	
112	RS-482 555'-560'	4	-0.001		0.2	0.006	
113	RS-482 560'-565'	-2	-0.001		0.2	0.007	
114	RS-482 565'-570'	5	-0.001		0.4	0.012	
115	RS-482 570'-575'	-2	-0.001		0.2	0.005	
116	RS-482 575'-580'	-2	-0.001		0.3	0.009	
117	RS-482 580'-585'	3	-0.001		0.2	0.005	
118	RS-482 585'-590'	-2	-0.001		0.2	0.005	
119	RS-482 590'-595'	-2	-0.001		0.1	0.003	
120	RS-482 595'-600'	3	-0.001		0.2	0.005	
121	RS-482 600'-605'	-2	-0.001		0.1	0.003	
122	RS-482 605'-610'	2	-0.001		0.2	0.005	
123	RS-482 610'-615'	-2	-0.001		0.1	0.003	
124	RS-482 615'-620'	2	-0.001		0.2	0.006	
125	RS-482 620'-625'	18	0.001		0.5	0.015	
126	RS-482 625'-630'	22	0.001		0.7	0.021	
127	RS-482 630'-635'	2	-0.001		2.2	0.065	
128	RS-482 635'-640'	30	0.001		0.4	0.013	
129	RS-482 640'-645'	45	0.001		0.5	0.016	
130	RS-482 645'-650'	27	0.001		0.3	0.009	
131	RS-482 650'-655'	13	-0.001		0.3	0.008	
132	RS-482 655'-660'	-2	-0.001		0.1	0.004	
133	RS-482 660'-665'	7	-0.001		0.3	0.009	
134	RS-482 665'-670'	3	-0.001		0.1	0.004	
135	RS-482 670'-675'	9	-0.001		0.5	0.014	
136	RS-482 675'-680'	-2	-0.001		0.2	0.005	
137	RS-482 680'-685'	4	-0.001		0.1	0.004	
138	RS-482 685'-690'	3	-0.001		0.2	0.007	
139	RS-482 690'-695'	2	-0.001		0.1	0.003	
140	RS-482 695'-700'	-2	-0.001		0.2	0.005	
141	RS-482 700'-705'	-2	-0.001		0.1	0.003	

CLIENT: Hecla (Rosebud Mine)

100-00-45	Sample Designatio	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
142	RS-482 705'-710'	-2	-0.001		0.2	0.007	
143	RS-482 710'-715'	-2	-0.001		0.1	0.003	
144	RS-482 715'-720'	-2	-0.001		0.2	0.007	
145	RS-482 720'-725'	-2	-0.001		0.1	0.004	
146	RS-482 725'-730'	-2	-0.001		0.1	0.003	
147	RS-482 730'-735'	-2	-0.001		0.1	0.004	
148	RS-482 735'-740'	-2	-0.001		0.2	0.005	
149	RS-482 740'-745'	-2	-0.001		0.2	0.005	
150	RS-482 745'-750'	-2	-0.001		0.1	0.004	
151	RS-482 750'-755'	-2	-0.001		0.2	0.005	
152	RS-482 755'-760'	-2	-0.001		0.1	0.003	
153	RS-482 760'-765'	-2	-0.001		0.2	0.006	
154	RS-482 765'-770'	-2	-0.001		0.2	0.005	
155	RS-482 770'-775'	-2	-0.001		0.1	0.003	
156	RS-482 775'-780'	-2	-0.001		0.2	0.006	
157	RS-482 780'-785'	-2	-0.001		0.1	0.004	
158	RS-482 785'-790'	4	-0.001		0.4	0.012	
159	RS-482 790'-795'	-2	-0.001		0.2	0.005	
160	RS-482 795'-800'	-2	-0.001		0.2	0.006	
161	RS-482 800'-805'	-2	-0.001		0.1	0.003	
162	STD 73527	13520	0.395		95.9	2.800	

ROCKY MOUNTAIN GEO 7753592944 01/25 '00 08:30 NO.404 11/11

Wednesday, January 19, 2000

By

orig

Robert

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

Work Order # _____
Date Received _____
Purchase Order # _____
Project # _____
Date Shipped _____
Shipped Via _____
# of Cartons _____
# of Samples _____

Sent out Jan 2000

Geochemical Laboratory Instruction Sheet

Copy of Results:	Results And Invoice To:
Kurt Allen	← SAME
Rosebud Mining, LLC	
P.O. Box 2610	
Winnemucca, NV 89446	
(775)623-6912 FAX: (775)623-6967	AUTHORITY:

No. of Samples	Sample Type	List of Sample Numbers	Elements Requested
161	RC	Drill Hole RS - 482	Au, Ag: Use
		0 TO 805	Rosebud Mine
			Development
			Protocol.
	NOTE:	Please make up 20 foot	
		composits for the trace	
		Element method.	
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:
- [x] ppb
- [ ] PPM
- [x] oz/T
- [ ] grams/T

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

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

ADDITIONAL INSTRUCTIONS:
FAX copy of results to
J. P. Rogowski - (775) 623-6967

NOV96:PM5:RENO3:GEOCHEM

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

INTENSITY
1 = WEAK
2 = MODERATE
3 = STRONG
or % by Vol

HOLE NUMBER RS-482
PAGE 2 OF 10
DATE 30 Dec to 31 Dec 1999
LOGGED BY Rogowski
TOTAL DEPTH 805'

LOCATION ROSEBUD, NV
NORTHING 2,222,350
EASTING 476,805
ELEVATION 5760
AZIMUTH —
INCLINATION — 90°

AREA Wildrose
DRILLING CO. Eklund
RIG TYPE RC — 75E
HOLE SIZE 6"
DOWN HOLE SURVEY BY NOT SURVEYED

0-100

2/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX %	CLASTS %	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALUNITE	OXIDATION 5%	15%	+25%	VIENING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	K-SLF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
0		clay filled fract CBx	0 TO 30 Wrp	H		1					2					1											0													
10			well alt. Has num micro Qt fill fract.			2					1					1																									
			Occa. Qt phenos.								1					0																									
20		gray silica	Partial gray Qt. + some pink Hem stain.			2					2																														
			some CBx (cracked Bx in upper part			1					2																														
30						2					2																														
			30 TO 90																																						
			Not Sure			2					2																														
40			Is Bx, very well alt			1					2b 3																														
			Bx is not monolith as in BUD but also see num Wrp frags			Tr					2 3																														
50						1					2																														
		? F?	gouge clay			1					2b 3																														
			Lower portion																																						
60			has num frags			2 3				clasts	2																														
			of Flow band LBT/WR			2				matrix	1																tr		en cup												
70			in		Porphyritic Breccia wt. pink + yellow brown	3					tr																								← Note LBT				Silicified clasts @ 70'		
						3					1																														
80						3					tr																								← more LBT				clasts		
						2					1																		1											
90			ox clay gouge			3					tr																1		1												
		F?	90 TO 125			2					2																2		2												
			BUD-Like clasts		Porphyry Bx wt. green																																				
100			or Bx Ox above 90	H		2					2					0											2		1												

Hecla MINING COMPANY
ROSEBUD PROJECT DRILL LOG

INTENSITY
1 = WEAK
2 = MODERATE
3 = STRONG
or % by Vol

HOLE NUMBER: RS-482
PAGE 3 OF 10
DATE
LOGGED BY
TOTAL DEPTH

LOCATION: ROSEBUD, NV
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

1-200

3/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX	CLASTS	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALUNITE	OXIDATION 5%	15%	+25%	VIENNING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	AC-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
100			90-125 ? BUD-LIKE?	H		2					2					0											4	Py	C											
110			still Bx or poss a clastic. could be strongly silicified Bud. occa see FB LBT. Not monolithic. Very alt.			1+2					2																5													
						2+3					1																4													
120						3					Tr																3													
		clay	F (Large) (Poss major)			1+2					2+3																3													
		gouge																																							
130			125 - 175 -			1+2					2+3																3													
			Prob. a BUD-LIKE		Very Alt. CLASTIC Lt to med gray	1					2																2													
140			CLASTIC but very			1					2+3																5													
			alt. & diff to tell			1					2+3																4	Py	C & A											
150			appears Bxed in part			Tr					2+3																3													
						1+2					2+3																3													
160						1+2					2																5													
						2					1																3													
170						2+3					1																2													
						3					1																2													
			F CLAY GOUGE (Large)			1					3					0											2													
180			180-260 BUD-LIKE CLASTIC			Tr					2+3				?	Tr											0													
190			Palegreen, multi lithic		Pale Green	Tr					2				?	1											Tr													
						Tr					2				?	2											1													
200				H		Tr					2				?	Tr											1													

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

INTENSITY
1 = WEAK
2 = MODERATE
3 = STRONG
or % by Vol

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LOCATION ROSEBUD, NV
NORTHING
EASTING
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AZIMUTH
INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

2-300

4/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MATRIX %	SILICIFICATION QUARTZ %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VIENING %	VIENING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	AC-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
200			180 to 260	VH		2					1					0											1	Py C												
			BUD-Like Clastic	to																																					
210			very well alt.	H		1					2																1														
						1					2 to 3																1	Py C & Px. H												
			multi lithic.																									"													
220		Vol or Epi Clastic Breccia				1 to 2					2 to 3					0											1	encap Silica												
						1 to 2					2 to 3					1											2	Py C + A												
			After 225 are more LBT Flo Band frags		but to 2 gram																																				
230						2					1					0											tr													
						1 to 2					2																1													
					P. average																																				
240						2					2																tr													
		?	clay small fault gouge			1 to 2					1 to 2																tr													
																											2													
250						2					1																1													
						1					2																4													
260						1-2					2																4													
	F	Up	Large Fault prob LBT/WR	H		2	white				1																2													
270		Down	but look like Wrp			2					1																2													
			w/no planes			2					1																2								B/K Limo on Fr act.					
280		F?	After 280 see more			1 to 2					1																1													
			flow bands			1					2																3													
290			Alt. to white			1					2																1	Px C&H												
			mix of silica & clay			2 to 3					1																tr													
300				H		2 to 3										0											tr													

Hecla MINING COMPANY
ROSEBUD PROJECT DRILL LOG

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NORTHING
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AREA 3-400
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

5/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX	QUARTS	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALUNITE	OXIDATION 5%	15%	+25%	VIENING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	K-SLF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
300			260-400																																						
			Prob. LBT/wR?	VH		3					Tr					0										4	Py H		micro				✓ speck							
310			A fine xln, white,			3					Tr															3							✓							
			highly alt. "Rhyo			3					Tr															2	Py H						✓	✓						
320			flow". 90%			3					Tr															0							✓	← Blk Hem on fract also Pink						
			oxidized. has			3					1															0							0		Pink	Hem				
330			strong Hem &			2+ 3					1															0							Jaro ✓							
			Jaro on fract.			2+ 3					1															1	+ ox						✓							
340		Blk Hem + some Jaro				3					1															0							✓							
						3					Tr															1							✓	✓						
350						3					0															2							✓							
			From 335 to 390 is		+	3+					0															0							✓							
360		F?	the same LBT/wR but		+	3+					0															0							✓	← ox						
		F?	has num Qtz veinlets		+	3+					0															0							✓							
370			showing calc-rep by			3					Tr															1							✓							
			silica & strong			2+ 3					1															0							✓							
380			blk Hem + Jaro.			2+ 3					1															Tr							✓							
			(Poss more than veinlets)			2					1															1							✓							
390			Also is a broken zone			2					1															Tr							✓							
						2					1															1							Tr ✓							
400				VH		2					1					0										5							Tr							

Hecla MINING COMPANY
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AREA 4-500
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

6/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MATRIX %	SILICIFICATION QUARTZ %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALBITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VIENING %	VIENING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	X-SLF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
400		LBT/WR Flow	400-500	H	Rhyolite with to & gray	1					2				0	0											3	Py	C&H												
			LBT/WR			1					2																1	Py	H												
410			becoming much			2					2																3														
			less alt. w/occa			3					1																2	Py	H												
420			pale green alt.			1					2																4														
			(prob. clay but			2					1																4														
430			could be chlor.)			2					1																4														
						2+3					1																2							Bottom ox on Py & in a fract.								
440						2					1																3														
						2+3					1																2														
450						2+3					1																1														
			A few large frags			3+2					1																0														
460			of vein mat @			2					1				0												0														
			400 to 410 are			~~2~~ ?1					1				tr												0														
470			prob. up hole		Pale green	1					1				tr												0														
			contamination			1					1				tr												0														
480						2					1				0												tr														
						2					1																1	Py	C												
490					Light gray	2					1																5														
500				H		2					1				0	0											2														

Hecla MINING COMPANY

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AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

5-600

7/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MATRIX %	SILICIFICATION QUARTS %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VIENING %	VIENING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	AC-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
500			400 to 500																																						
		OY	LBT/WR	VH		2					0					0											Tr														
510		OY	99.9% Aphyric													1											Tr							1	Ox							
		N.O.	Lt greenish gray													0											Tr														
520		OX	green marbe													1											0														
			clay or poss chlor.													1																									
530			shows orca coarse													1																									
			flow banding &			2					0																													
540			has what appear			1?					2																													
			to be micro bio.			2					0																													
550											0																													
		RYOLITE				2					Tr																													
560											0																													
						2																																		
570																																								
580																1																								
																0											0														
590																1											Tr	—	Py	vulet											
			495 — Alunite x/s on edg of silici veinlet, Lt yel-Brn													0											0														
600				VH		2					0					1											0														

Very Fine x'ln Aphyric Rhyolite

Hard but has ret Thin

Mat quiet 1/3 silicification

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AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

6-700 8/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE
600		Prob LBT/WR Rhyo	600-700	H	Rhyolite Pale green / White trust / Pale green / Pale green / Pale green
610			LBT/WR - not		
			much flow banding		
620			has a silicified		
			strat w/ ox @		
630			640'. Some of	H	
			the pale green	S	
640			is fairly hard	VH	
			but I don't thinks	VH	
650			it is silicified	H	
660					
670					
680					
690					
700				H	

Alt zone

FEET	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX	QUARTS	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALBITE	OXIDATION 5%	15%	+25%	VIENING %	TYPE
600	1					2					2							
	2					2					1							
	2					1					1							
620	2					1					1							
	2&3					1					tr							
630	2&3					1&2					0							
	tr					2												
640	2&3					1												
	2					2					0							
650	2&3					1					tr							
	1					2					2							
660	1&2					2					2							
	2					1					2							
670	1					2					1							
	1					2					2							
680	1					2					2							
	2					1					2							
690	2&3					tr					2							
	2&3					1					2							
700	2&3					tr					1							

Hard but not silicified

FEET	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	K-SUL %	SILBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
600				0														
				tr														
				0														
620				0														
				2	Py	C&H												
630				1	Py	H												
				3	Py	C&H												
640				1	encap Py					OX								
				1														
650				1						V								
				tr														
660				tr														
				1	Py	C												
670				tr	"													
				tr														
680				0														
				tr														
690				0														
				0														
700				0														

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

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LOCATION ROSEBUD, NV
NORTHING
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AZIMUTH
INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

7-800

9/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE
700–800		LBT/WR Rhyolite	700–800 LBT/WR very little flow banding has bio. phenos & a fine to very fine texture Bio. not alt. Not sure if any of this is silicified but there is clay alt. Bio alt	VH VH	Rhyolite gray/green gray/green Dru

FEET	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX %	QUARTZ %	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALBITE	OXIDATION 5%	15%	+25%	VIENING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	AC-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDENITE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
700	Tr					Tr+	1				Tr											0														
710											1																									
											2																									
720											2																									
											2																									
730											1																									
											2																									
740											2																									
											2																									
750											1																									
											2																									
760											2																									
											2																									
770											1																									
											1																									
780	Tr					Tr+	1				1																									
	2	?				Tr					1																									
790	2					Tr					1																									
	2					Tr					1																									
800	2					Tr					Tr											0														

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

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LOCATION ROSEBUD, NV
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INCLINATION

AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

800-805TD

10/10

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MATRIX %	SILICIFICATION CLASTS %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VIENING %	VIENING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	OPESON	MOCURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
800		phyo	LBT/WR	VH	Fxl	2	?				tr					tr											0							L							
			805TD																																						
10																																									
20																																									
30																																									
40																																									
50																																									
60																																									
70																																									
80																																									
90																																									
00																																									