60001447

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. 96-364
AUTHOR	M. Brady; Rogowski; S. King; C. Muerhott
DATE OF DOC(S)	1996 - 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; Hecla Mining Co.; Newmont Gold Co.
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 450'; handwritten notes 13p.

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 5/22/08
Initials Date
DB: mah
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

Drill log Rosebud. 96-364

60001447 4010

-45

0-300 ft
10 ft samples
rest 5 ft
samples

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

HOLE NUMBER: 96-364
PAGE 1 OF 5
DATE:
LOGGED BY: M.W. Brady
TOTAL DEPTH:

LOCATION:
NORTHING:
EASTING:
ELEVATION:
AZIMUTH:
INCLINATION:

AREA: 60001447
DRILLING CO.:
RIG TYPE:
HOLE SIZE:
DOWN HOLE SURVEY BY:

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 %	K-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Dark red brn tuff w/ white lithics - no sulf - Badger? wk clay			–					x				–				?			–					–														
10																																									
20																																									
30																																									
40																																									
50																																									
60																																									
70																																									
80			med red brn clay no sulf base of Badger ?			–						x			–			–	?			–					–														
90			tan fine grained tuff no sulf			–					–				–				~~160~~ 160			–					–														
100																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-364
PAGE 2 OF 5
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

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

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 %	K-SUL %	SUBLIMATE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Tan + wte fine grained tuff w/ wk silic? no sulf			X					—				—				—			—					—														
110																																									
120																																									
130			Dark brn tuff w/ mod clay driller said 1.5 ft void (fault?)			—						X			—				—			—					—														
140			Dark red brn + gray + Lt Purple tuff w/ Lt green lithics no sulf → Chocolate			—						—			—				—			—					—														
150																																									
160																																									
170																																									
180																																									
190																																									
200																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-364
PAGE 3 OF 5
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
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RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

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 %	K-SUL %	SULFATE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Dark red brn + Lt purple fine grained tuff, no sulf Chocolate			–					–				–				–			–					–														
210																																									
220																																									
230																																									
240																																									
250																																									
260																																									
270			Lt green + Dark red brn tuff, no sulf wk clay			–					x				✓				–			–					–														
280			Red Brown Lt tuff w/ mod Clay			–						x			–				–			–					–														
290			Dark red brn tuff w/ wk Clay, no sulf Chocolate.			–					x				–				–			–					–														
300																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-364
PAGE 4 OF 5
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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 %	K-SUL %	SULFATE %	BARITE %	METALLURGY: OXIDE	SULF	OXIDSULF	MIXCURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Dark red brn + Lt purple tuff, no sulf w/wk clay			–					X				–				–			–					–														
			Chocolate																																						
			Ltyellowt pink tuff nosulf			–																																			
310			Purple+Red brn tuff w/mod qtzveinlets - nosulf (SRF?)			–					–				–				–			qtz	4-6				–														
320																																									
			Dark red brn + gray tuff w/wk silica veinlets?			–					–				–				–			1-2	qtz				–														
330																																									
340																																									
350																																									
360																																									
370			Red brn tuff w/ Lt gray fragmts nosulf			–					–				–				–			–	–				–														
			Chocolate																																						
380																																									
390			a.a w/wk clay			–					X				–				–			–	–				–														
			wk tuff w/abclay			–							X		–				–			–	–				–														
400																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-364
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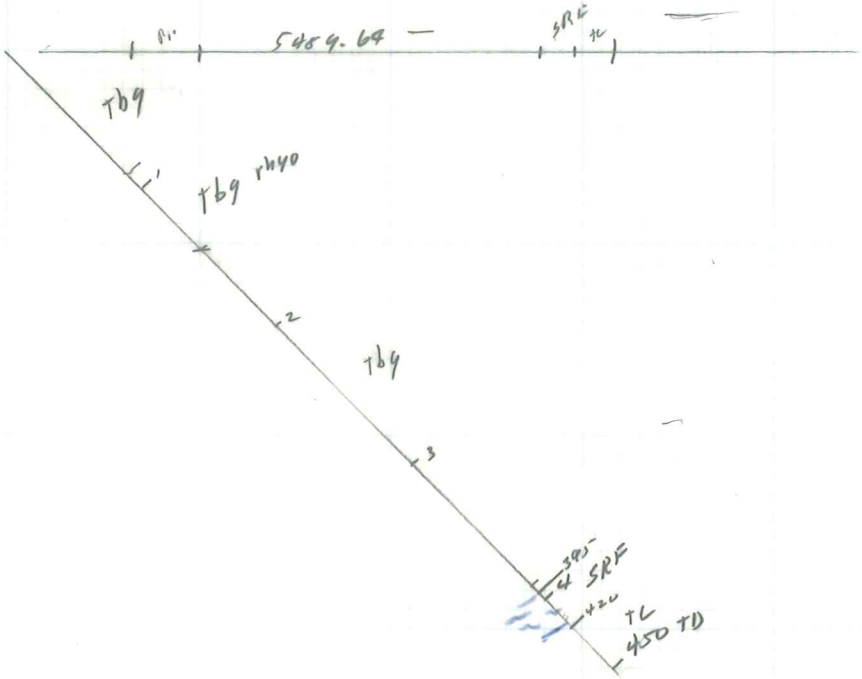
FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MATRIX %	SILICIFICATION CLASTS %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VIENING %	VIENING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SUL %	SUBMIT %	BARITE %	METALLURGY: OXIDE	SULF	DIRSON	MOCURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			wtc-Lt green equigranular tuff w/ tr diss py Rhy intrusive (?)			–					–				✓				–			–					?														
110															✓																										
															✓																										
			a.a w/ab wtc clay			–							X																												
120			Red brn tuff w/ Lt green Lithics no sulf, chocolate?																																						
130			Lt green + Lt gray equigranular tuff, no sulf ?			–					–				✓				–			–					?														
															✓																										
140															✓																										
															✓																										
150			TD 450																																						



96-364
1" = 100'

QUICK LOG

Newmont Gold Rotary Form

Hole# 96-364
Logged by Rogowski
Date logged 12/30/98
Area SE of Rosebud mine
Coords N-2,203,393.7 E-484,247.6 El-5489.6
Az/Incl -45°
Total Depth
Contractor
Page 1 of 2

Footage	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Alteration:	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite %	Mineralogy: Marcasite	Mineralogy: Calc/Dolo	Mineralogy: Clay
											0-85														
											Tbg, badger Fm., clasts of various porphys, has Tc w/ Femag microlites & some Td dozer in a sand silt & mud matrix												2			
											Soft cong														
50	Tb	Cong	Red Hem																2-3 Hem stained						
90							? X				85-90- Possible fault gouge?? has rounded pebbles could be a clay/gravel layer in Tbg														
100	Tb Rhyo	Rhyolite flow	Yellow-Brown								90-143 Tbg rhyo flow very similar to Td but finer grained														
143											143														
150											143-305 Tbg cong soft cong to 305														
											Similar to 0-85 but more solid, more celadonite, & +80% frag of Tc														
200																									
250																									

RSCROTFOLD.DOC Revised 8/17/98

Hole# 96-364 **Newmont Gold Rotary Form** **Az/Incl** _____ **Page** 2 of 2

Logged by _____ **Area** _____ **Total Depth** _____

Date _____ **Coords** N- E- El- **Contractor** _____

Footage	Litho: Formation	Litho: Rock type	Litho: Color	Au oz/st	Ag oz/st	Graphic	Structure: fault	Structure: breccia	Structure: vein	Structure: gouge	Comments	Alteration: Silic	Alteration: argillic	Alteration: clay	Alteration: prop	Alteration: Sericite	Alteration: Chlorite	Alteration:	Met.: FEOX	Met.: CO3	Met.: Sulfide	Mineralogy: Pyrite %	Mineralogy: Marcasite %	Mineralogy: Calc/Dolo	Mineralogy: Clay
250											143-305 (cont)														
300											305-														
											305-395 Tbg, slightly more firm but prob same as 143 to 305														
350																									
				14	Ag																				
400				<0.001	0.03		X																		
					0.16		X				395-420 Prob SRI= Could be fault gouge has Py/mar clusters in a wt clay alt material this could be sandy Tbg & Tc all very alt.	0	3									1			
					0.14		X					0	3									3			
					0.13		X					0	3									4			
420					0.12		X					0	+3							Tr		3			
					0.03								2												
													1												
					0.02								2												
											420-450 Tc? (?420-430?)		2												
													2												
450 TD											TD.		2												
											420-430 have Tbg Frags mixed in w/ Tc 430-450 appear to be clay alt Tc w/ Fe may minerals														

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP038107

American Assay Laboratories

P.O. BOX 11530
RENO, NV,,USA
Ph.1-702-356-0606, Fax.1-702-356-1413

HECLA MINING CO.

COPIES TO : CHARLIE MUERHOFF

:

:

:

CLIENT REFERENCE No: 96-364 RECEIVED : 30 APR 1996

No. SAMPLES : 60 REPORTED : 14 MAY 1996

MAIN SAMPLE TYPE : DRILL CUTTINGS

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)	FA60	15%	OPT	0.001
Au(RZ)	FA60	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Sue King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP038107

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-364

REPORTED : 14 MAY 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-364 000-010	<0.001		<0.02
96-364 010-020	<0.001		<0.02
96-364 020-030	<0.001		<0.02
96-364 030-040	<0.001		<0.02
96-364 040-050	<0.001	<0.001	<0.02
96-364 050-060	<0.001		<0.02
96-364 060-070	<0.001		<0.02
96-364 070-080	<0.001		<0.02
96-364 080-090	<0.001		<0.02
96-364 090-100	<0.001		<0.02
96-364 100-110	<0.001		<0.02
96-364 110-120	<0.001		<0.02
96-364 120-130	<0.001		<0.02
96-364 130-140	<0.001		<0.02
96-364 140-150	<0.001		<0.02
96-364 150-160	<0.001		<0.02
96-364 160-170	<0.001	<0.001	<0.02
96-364 170-180	<0.001		<0.02
96-364 180-190	<0.001		<0.02
96-364 190-200	<0.001		<0.02
96-364 200-210	<0.001		<0.02
96-364 210-220	<0.001		<0.02
96-364 220-230	<0.001		<0.02
96-364 230-240	<0.001		<0.02
96-364 240-250	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP038107

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-364

REPORTED : 14 MAY 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-364 250-260	<0.001	<0.001	<0.02
96-364 260-270	<0.001		<0.02
96-364 270-280	<0.001		<0.02
96-364 280-290	<0.001		<0.02
96-364 290-300	<0.001		<0.02
96-364 300-305	<0.001		<0.02
96-364 305-310	<0.001		<0.02
96-364 310-315	<0.001		<0.02
96-364 315-320	<0.001		<0.02
96-364 320-325	<0.001		<0.02
96-364 325-330	<0.001		<0.02
96-364 330-335	<0.001		<0.02
96-364 335-340	<0.001		<0.02
96-364 340-345	<0.001		<0.02
96-364 345-350	<0.001		<0.02
96-364 350-355	<0.001		<0.02
96-364 355-360	<0.001		<0.02
96-364 360-365	<0.001	<0.001	<0.02
96-364 365-370	<0.001		<0.02
96-364 370-375	<0.001	<0.001	<0.02
96-364 375-380	<0.001		<0.02
96-364 380-385	<0.001		<0.02
96-364 385-390	<0.001		<0.02
96-364 390-395	<0.001		<0.02
96-364 395-400	<0.001		0.03

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP038107

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-364

REPORTED : 14 MAY 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-364 400-405	<0.001		0.16
96-364 405-410	<0.001		0.14
96-364 410-415	<0.001		0.13
96-364 415-420	<0.001		0.12
96-364 420-425	<0.001		0.03
96-364 425-430	<0.001		<0.02
96-364 430-435	<0.001	<0.001	0.02
96-364 435-440	<0.001		<0.02
96-364 440-445	<0.001		<0.02
96-364 445-450	<0.001		<0.02

6-16-00

96-364

0 - 90	Badger
90 - 130	Badger Rhyolite Flow (Dozer Type)
130 - 395	Badger Breccia
395 - 420	Badger Tuffs
420 - 430	Bager Brown mud sed
430 - 450	Biotite Tuff Bud Lake

SRF 415 - 425