Mining District File Summary Sheet 60000733

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud – Hydrology Quick Logs (1995 - RBW-1 - RBW-20B)
AUTHOR	
DATE OF DOC(S)	1995
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Hecla Mining Co.; Rosebud Project
COMMODITY If not obvious	Au
NOTES	Hydrology drilling summaries - June through September 1995; geology; handwritten notes 8p.

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 4/30/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

Hydrology Quick Logs (1995 - RBW1 - RBW20B)

70000733
4010

HECLA MINING COMPANY - ROSEBUD PROJECT					
HYDROLOGY DRILLING SUMMARY - JUNE THROUGH NOVEMBER, 1995					
Hole ID	From	To	Formation &/or Lithology	H2O	
RBW-1	0	50	Colluvium		
	50	400	Auld Lang Syne - carbonaceous sediments	nil	
RBW-2	0	90	colluvium		
	90	300	clay-rich (60-70%) colluvium	(<5 gpm)	
	300	370	Auld Lang Syne - clay-rich siltstone		
RBW-3	0	60	colluvium (volcanics)		
	60	230	colluvium (Auld Lang Syne)		
	230	240	massive brown clay	(±10 gpm)	
	240	560	grey clay/claystone (50-95% clay)		
	560	770	Auld lang Syne		
RBW-4	0	50	colluvium		
	50	200	Auld Lang Syne	nil	
RBW-5	0	60	colluvium		
	60	440	Auld Lang Syne	nil	
RBW-6	0	40	colluvium		
	40	100	Auld Lang Syne	nil	
RBW-7	0	120	colluvium		
	120	220	quartzite conglomerate		
	220	360	rhyolitic ash flow & tuff breccia	nil	
	360	400	latitic, porphyritic ash flow tuff		
RBW-8	0	145	colluvium		
	145	230	quartzite conglomerate	270 ft. - initial inflow of	
	230	290	rhyolitic ash flow & tuff breccia	±100 gpm - diminished	
	290	310	ash flow tuff	to <40 gpm (airlift)	
RBW-9	0	125	colluvium		
	125	220	quartzite conglomerate	nil	
	220	400	ash flow tuff		
RBW-10	0	100	colluvium		
	100	895	Auld Lang Syne	nil	
RBW-11	0	120	colluvium		
	120	220	quartzite conglomerate (clay-rich from 210-220)	nil	
	220	600	ash flow tuff & tuff breccia		

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HYDROLOGY DRILLING SUMMARY - JUNE THROUGH NOVEMBER, 1995					
Hole ID	From	To	Formation &/or Lithology	H2O	
RBW-12	0	80	colluvium		
	80	990	Auld Lang Syne	nil	
RBW-13	0	20	colluvium	*	
	20	420	Badger Formation	*	
	420	1030	Chocolate Formation	*	
	1030	1160	Bud Tuff	*	
	1160		fault	*	
	1160	1400	Auld Lang Syne	*	
RBW-14	0	30	colluvium	*	
	30	315	Chocolate Formation	*	
	315	560	Bud Tuff	*	
	560		fault	*	
	560	1280	Dozer Formation	*	
	1280		fault	*	
	1280	1440	Auld Lang Syne	*	
RBW-15	0	20	colluvium	*	
	20	60	Chocolate Formation	*	
	60	250	Bud Tuff	*	
	250		fault	*	
	250	700	Chocolate Formation	*	
	700	870	Bud Tuff	*	
	870	1180	LBT	*	
	1180		South Ridge Fault	*	
	1180	1400	Auld Lang Syne	*	
RBW-16	0	300	Badger Formation	*	
	300	710	Chocolate Formation	*	
	710	980	Bud Tuff / LBT (?) + fault zone	*	
	980	1150	Dozer Formation	*	
	1150	1640	Auld Lang Syne	*	
	1640	1660	rhyolite dike/sill	*	
	1660	1680	Auld Lang Syne	*	
RBW-17	0	5	colluvium	*	
	5	1350	Chocolate Formation	*	
	1350	1630	Bud Tuff	*	
	1630	2180	LBT	*	
RBW-18	0	20	colluvium	*	
	20	780	Chocolate Formation	*	
	780	1030	Bud Tuff	*	

HECLA MINING COMPANY - ROSEBUD PROJECT					
HYDROLOGY DRILLING SUMMARY - JUNE THROUGH NOVEMBER, 1995					
Hole ID	From	To	Formation &/or Lithology	H2O	
	1030	1050	LBT	*	
	1050		fault	*	
	1050	1885	Auld Lang Syne	*	
RBW-19	0	30	colluvium	*	
	30	720	Chocolate Formation	*	
	720		fault	*	
	720	1510	Auld Lang Syne	*	
RBW-20	0	5	colluvium		
	5	155	Badger Formation	nil	
	155	160	Rosebud Shear (hole lost in fault zone)		
RBW-20B	0	60	colluvium		
	60	280	Badger Formation		
	280	850	Chocolate Formation	nil	
	850		Kamma Mountain Fault ? or unconformity ?		
	850	900	Auld Lang Syne		
WW-6	0	400	not logged yet	nil	
WW-7	0	640	not logged yet	nil	
WW-8	0	545	not logged yet	nil	
note: hydrologic notes for holes marked with * were taken by HydroGeo representatives					

RBW-14

0-30' — Colluvium

30-70' — Coarse-Grained Ash-Tuff very LT tan

70-140' — Fine-Grained, minor planar laminated, bleached, Ash-Tuff cream color.

140-260' — Fine-Grained, massive, Ash-Tuff red-brown.

260-300' — Fine-Grained, minor laminated, Ash-Tuff. LT. green to LT grey.

300-315' — Fine-Grained, massive Ash-Tuff. Buff to LT red in color

315-560' — Reverse-Graded, LT green lapilli Tuff breccia (Bud?)

560-1280' — Fine-Grained, Aphanitic, LT green ash tuff - (Dozer)

1280-1440' TD — "ALS" phyllites w/ minor white bull quartz.

RBW-16

0-300' — DK reddish brown, fine to coarse ash grained volcanic breccia? (Badger?)

300-710' — DK reddish brown, lapilli, volcanic breccia. (Chocholate?)

710-930' — LT to Dark Green to LT Brown, Fine-Grained Ash Tuff

930-980' — DK Green, fine to coarse ash grained ash-tuff

980-1070' — Fine-Grained, massive ash-tuff. (Dozer?)

1070-1090' — Coarse ash-grained ash-tuff, dark greyish red.

1090-1150' — Fine-Grained, LT green, fine-grained, aphanitic ash-tuff. (Dozer?)
1110-1120 (DK Grey to Black carbonaceous sed - ALS?

1150-1220' — "ALS" black to DK grey phyllites

1220-1230' — "ALS" LT grey sandy? unit

1230-1640' — "ALS" Black Phyllites w/minor bull quartz

1640-1660' — Rhyolite porphyritic dike

1660-1680 — "ALS" Black phyllites.

RBW-10

0-100' — ALLUVIUM, "ALS" CLASTS OF BLACK PHYLLITES.

100-400' — "ALS" BLACK PHYLLITES W/ MINOR BULL QUARTZ VEINLETS.

400-420' — "ALS" LT GRAY "SANDY" BED

420-430' — "ALS" 50% BULL QUARTZ (WHITE) 50% BLACK PHYLLITE

430-895' TD — "ALS" BLACK PHYLLITES W/ MINOR WHITE BULL QUARTZ VEINLETS.

RBW-11

0-120' - ALLUVIUM, VOLCANIC CLASTS

120-210' - "ALS" QUARTZITE CONGLOMERATE, GREY

210-220' - "ALS" QUARTZITE CONGLOMERATE W/ 50% GREY CLAY

220-280' - PROPYLITIZED, LT GREEN, FINE TO COARSE GRAINED ASH-TUFF.

280-340' - REDISH BROWN, RHYOLITIC?, ASH FLOW TUFF

340-480' - PROPYLITIZED, LT GREEN, COARSE GRAINED TO LAPILLI ASH-TUFF. BRECCIA?

480-560' - REDISH BROWN, COARSE ASH TO LAPILLI ASH TUFF BRECCIA.

560-590' - FINE-GRAINED, MARROON ASH TUFF

590-600' TD - REDISH BROW & LT GREEN ASH TUFF BRECCIA.

RBW-3

0-230' — ALLUVIUM - VOLCANIC ALLUVIUM 0-60
"ALS" ALLUVIUM 60-230'

230-240' - BROWN CLAY

240-560 - GREY CLAY / CLAYEY SILTSTON W/ MINOR ALS CLASTS. [50-95% CLAY].

560-770 TD - "ALS" INTERBEDDED QUARTZITES & PHYLLITES DK GREY TO BROWN.

RBW-2

0-90' — ALLUVIUM, AULD LANG SYNE QUARTZITE & PHYLLITE CLASTS w/ 0-2% CLAY

90-110' — ALLUVIUM, "ALS" PHYLLITES & QUARTZITE CLASTS w/ 30% CLAY

110-220' — ALLUVIUM, "ALS" PHYLLITES & QUARTZITE CLASTS w/ 0-2% CLAY

220-260' — ALLUVIUM, "ALS" PHYLLITE & QUARTZITE CLASTS w/ 50-60% DK BROWN CLAY

260-300' — ALLUVIUM, "ALS" PHYLLITE CLASTS w/ 70% DK REDDISH BROWN CLAY

300-370' TD — GREY CLAY w/ MINOR CLAYEY SILTSTONE.

RBW-6

0-40' — ALLUVIUM, FRAGMENTS OF "ALS" PHYLLITES, MINOR BULL QUARTZ, AND FINE-GRAINED ASH-TUFFS.

40-100' TD — "ALS" PHYLLITES, BLACK, w/ 2% WHITE BULL QUARTZ @ 40-60'.

RBW-7

0-120' — ALLUVIUM, VOLCANIC CLASTS

120-220' — "ALS" QUARTZITE CONGLOMERATE. DK. GREY

220-360' — RHYOLITIC ASH-FLOW TUFF BRECCIA (REDISH BROWN)

360-400' TD — GREEN PORPHYRITIC ASH-FLOW TUFF, LATITIC?

RBW-8

0-145' — ALLUVIUM, VOLCANIC CLASTS

145-230' — "ALS" QUARTZITE CONGLOMERATE. DK GREY

230-290' — RHYOLITIC ASH-FLOW TUFF BRECCIA, REDISH BROWN

— FRACTURE ZONE @ 270', H_2O BEARING.

290-310' TD — HEMATITE REDISH-BROWN ASH-FLOW TUFF.

RBW-9

0-125' — ALLUVIUM, VOLCANIC CLASTS

125-220' — "ALS" QUARTZITE CONGLOMERATE. DK GREY.

220-230' — ASH-FLOW TUFF? REDISH-BROWN

230-290' — PROPYLITIZED ASH-FLOW TUFF LT GREEN

290-330' — ASH-FLOW TUFF BRECCIA. REDISH BROWN

330-400' — PROPYLITIZED ASH-FLOW TUFF LT. GREEN.

RBW-12 TD @ 990'

0' - 80' Colluvium

80' - 990' Auld Lang Syne

RBW-15 TD @ 1400

0' - 20' Colluvium

20' - 60' Chocolate tuff

60' - ~~@ 240~~ 250' Bud tuff

250' fault

250' - 700' Chocolate tuff

700' - 870 Bud tuff

870' - 1180 LBT

1180' South Ridge Fault?

1180' - 1400 Auld Lang Syne

RBW-17 TD @ 2180'

0' - 5' Colluvium

5' - 1350' Chocolate tuff

1350' - 1630' Bud

1630' - 2180' LBT

RBW 13 TD @ 1400'

0 - 20 Colluvium

20 - ~~480~~ 420' ~~Chocolate~~ Badger

~~480~~ - 420' - 1030 Chocolate

1030' - 1160 Bud

1160' fault

1160 - 1400 Auld Lang Syne

Mine Site 427-8058

RBW-20

TD @ 160'
0'-5'± colluvium
5'-155 Badger
155-160' → Rosebud Shear

RBW-20B

TD @ 900'
0-60 Colluvium
60'-280 Badger
280'-850 Chocolate
850'-900' Auld Lang Syne

RBW-19

TD @ 1510'
0'-30' colluvium
30'-720 Chocolate
720' fault?
720'-1510 ALS

RBW-18

TD @ 1885
0-20 colluvium
20-780 Chocolate
780-1030 Bud
1030-1050 LBT
1050-1885 Auld Lang Syne