

GT-94-01

BOREHOLE NUMBER: SHEET 1 OF 4
 BORING LOCATION: N 2203129.775/ E 479269.182 Crusher SURFACE ELEVATION: 5036.9
 DRILLING CO.: HAZ-TECH Drilling Inc. DRILLER: B. Nance DATE/TIME STARTED: 17 SEP 94@8:00
 EQUIPMENT: CME - 75 Super DATE/TIME FINISHED: 17 SEP 94@15:00
 WATER DEPTH: 54.1 DATE/TIME OF DEPTH: 12-08-94/ 12:00 LOGGED BY: M. Fairhurst

ELEV. DEPTH	SOIL PROFILE DESCRIPTION	SAMPLES				DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT				WELL CONSTRUCTION
		USCS CLASS	NO.	TYPE	BLOW COUNT/6"		20	40	60	80	
5036.9 0.1	Compact to dense, moderate yellowish brown (10YR 5/4) grading into a moderate brown (5YR 4/4), c-f SAND, some Silt, some angular to sub-angular Gravel (variety of clast types), little Clayey Silt (from @30' to 50'), damp-moist (COLLUVIUM/ALLUVIUM?) (BADGER FORMATION)									<p>Top PVC elev: 5039.90'</p>	
		SM	1	SPT	9 15 15						
5029.9 7.0		Drilling through Cobbles									
		SM	2	SPT	15 21 21						
		SM	3	SPT	11 22 22						

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WELL CONSTRUCTION DETAILS

CASING INTERVAL: 49.0' - 0	BENTONITE INTERVAL: 48.0' - 5.0'
CASING MATERIAL: Schedule 40 PVC	GROUT INTERVAL/TYPE: 5.0'-0'/Cement-bentonite
CASING DIAMETER: 2.0"	SCREENED INTERVAL: 59.0' - 49.0'
FILTER INTERVAL/TYPE: 60.3-48'/8-20 Sand	SURFACE CASING WITH LOCK: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

DISCLAIMER: This log is not to be used separately from the engineering report.

NOTE 1: See Cover Page For Legend And Soil Description Methodology **NOTE 2:** N/A

Project No.: 864	Design By: M. Fairhurst	Scale: 44:1
File: RSBUD	Drawn By: M. Fairhurst	Date: 6 February, 1995

Rosebud Project

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 Engineering & Environmental Services
 1476 Pine Grove Road, P.O. Box 774018
 Steamboat Springs, Colorado 80477

Figure 1

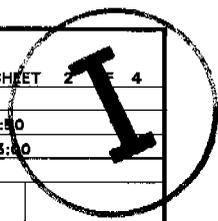
HECLA MINING COMPANY

ACZE 12 APR 95

LOG 49385

GT-94-01

BOREHOLE NUMBER:		GT-94-01		SHEET 2 OF 4	
BORING LOCATION: N 2203129.775/ E 479269.182 Crusher			SURFACE ELEVATION: 5036.9		
DRILLING CO.: HAZ-TECH Drilling Inc.		DRILLER: B. Nance		DATE/TIME STARTED: 17 SEP 94@8:30	
EQUIPMENT: CME - 75 Super			DATE/TIME FINISHED: 17 SEP 94@15:00		
WATER DEPTH: 54.1		DATE/TIME OF DEPTH: 12-08-94/ 12:00		LOGGED BY: M. Fairhurst	



ELEV. DEPTH	SOIL PROFILE SOIL DESCRIPTION	USCS CLASS	SAMPLES			DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT				WELL CONSTRUCTION
			NO.	TYPE	BLOW COUNT/6"		20	40	60	80	
Feet	<i>(Continued)</i>										
		SM	4	SPT	13 13 15						
		SM	5	SPT	8 15 19	25.0					
5008.9 28.0	<i>Driller Notes: Drilling is more dense.</i>										
5006.9 30.0	<i>Increase in moisture content. Some Clayey Silt found in cuttings and samples after this point. Color changes here from a moderate yellowish brown (10 YR 5/4) to a moderate brown (5YR 4/4).</i>	SM	6	SPT	12 15 16	30.0					
		SM	7	SPT	12 12 20	35.0					
						40.0					

Continued Next Page

WELL CONSTRUCTION DETAILS

CASED INTERVAL: 49.0' - 0'	BENTONITE INTERVAL: 48.0' - 5.0'
CASING MATERIAL: Schedule 40 PVC	GROUT INTERVAL/TYPE: 5.0'-0'/Cement-bentonite
CASING DIAMETER: 2.0"	SCREENED INTERVAL: 59.0' - 49.0'
FILTER INTERVAL/TYPE: 60.3-48'/8-20 Sand	SURFACE CASING WITH LOCK: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

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File: RSBUD	Drawn By: M. Fairhurst	Date: 6 February, 1995

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Figure 1

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GT-94-01

BOREHOLE NUMBER: SHEET 3 OF 4
 BORING LOCATION: N 2203129.775/ E 478269.182 Crusher SURFACE ELEVATION: 5036.9
 DRILLING CO.: HAZ-TECH Drilling Inc. DRILLER: B. Manoa DATE/TIME STARTED: 17 SEP 94@8:50
 EQUIPMENT: CME - 75 Super DATE/TIME FINISHED: 17 SEP 94@15:00
 WATER DEPTH: 54.1 DATE/TIME OF DEPTH: 12-08-94/ 12:00 LOGGED BY: M. Fairhurst

ELEV. DEPTH	SOIL PROFILE SOIL DESCRIPTION	SAMPLES				DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT					WATER CONTENT, PERCENT & RANGE Wp Wn WL	WELL CONSTRUCTION	
		USCS CLASS	NO.	TYPE	BLOW COUNT/6"		20	40	60	80	20			40
Feet	<i>(Continued)</i>					Feet								
		SM	8	SPT	14 17 15				▲					
						45.0								
		SM	9	SPT	11 16 17				▲					
						50.0								
4986.9 50.0	<i>Very dense, grayish red (10R 4/2), massive, fine SAND and CLAYEY SILT, damp to moist. (Chocolate Formation)</i>	SM	10	SPT	15 50/3"									
						55.0								
		SM	11	SPT	50/6"									
						60.0								

Continued Next Page

WELL CONSTRUCTION DETAILS

CASED INTERVAL: 49.0' - 0	BENTONITE INTERVAL: 48.0' - 5.0'
CASING MATERIAL: Schedule 40 PVC	GROUT INTERVAL/TYPE: 5.0'-0'/Cement-bentonite
CASING DIAMETER: 2.0"	SCREENED INTERVAL: 59.0' - 49.0'
FILTER INTERVAL/TYPE: 60.3-48'/8-20 Sand	SURFACE CASING WITH LOCK: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

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File: RSBUD	Drawn By: M. Fairhurst	Date: 6 February, 1995

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Figure 1

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BOREHOLE NUMBER:	SURFACE ELEVATION: 5036.9
BORING LOCATION: N 2203128.775/ E 479268.182 Crusher	DATE/TIME STARTED: 17 SEP 94@8:50
DRILLING CO.: HAZ-TECH Drilling Inc. DRILLER: B. Nance	DATE/TIME FINISHED: 17 SEP 94@15:00
EQUIPMENT: CME - 75 Super	LOGGED BY: M. Fairhurst
WATER DEPTH: 54.1 DATE/TIME OF DEPTH: 12-06-94/ 12:00	

ELEV. DEPTH	SOIL PROFILE	SAMPLES				DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT					WELL CONSTRUCTION
		USCS CLASS	NO.	TYPE	BLOW COUNT/6"		WATER CONTENT, PERCENT & RANGE					
							20	Wp 40	Wn 60	WL 80	80	
Feet	(Continued)					Feet						
4976.6 60.3	Bottom of hole at 60.3'	SM	12	SPT	50/4"							

WELL CONSTRUCTION DETAILS

CASED INTERVAL: 49.0' - 0' CASING MATERIAL: Schedule 40 PVC CASING DIAMETER: 2.0" FILTER INTERVAL/TYPE: 60.3-48'/8-20 Sand	BENTONITE INTERVAL: 48.0' - 5.0' GROUT INTERVAL/TYPE: 5.0'-0'/Cement-bentonite SCREENED INTERVAL: 59.0' - 49.0' SURFACE CASING WITH LOCK: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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