

GT-94-02

BOREHOLE NUMBER: GT-94-02		SURFACE ELEVATION: 5031.2	
BORING LOCATION: N 2203362.919 / E 478771.882 Mill Facility: Northeast corner		DATE/TIME STARTED: 13 SEP 94 @ 11:00	
DRILLING CO.: HAZ-TECH Drilling Inc. DRILLER: B. Nance		DATE/TIME FINISHED: 13 SEP 94 @ 15:00	
EQUIPMENT: CME - 75 Super		LOGGED BY: M. Fairhurst	
WATER DEPTH: N/A		DATE/TIME OF DEPTH: N/A	

ELEV. DEPTH	SOIL PROFILE DESCRIPTION	USCS CLASS	SAMPLES			DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT				WELL CONSTRUCTION
			NO.	TYPE	BLOW COUNT/6"		20	40	60	80	
5031.2 0.1	Stiff to hard, grayish red (10YR 4/2) and medium bluish gray (5B 5/1), blocky, CLAY, trace c-m Sand, trace fine Gravel, trace Organics, calcareous (WR), Gypsum noted, noted slickensides, damp (COLLUVIUM?) (CHOCOLATE FORMATION)	CL	1	SPT	6	5.0	▲				
6											
9											
5019.2 12.0	Driller notes: Harder drilling conditions. Medium bluish gray coloring increases in cuttings.	CL	2	SPT	14	10.0		▲			
					23						
					31						
5014.2 17.0	Note: Cuttings change to a yellowish gray (5Y 7/2), Clayey SAND, little Gravel	CL	3	SPT	22	15.0				▲	
					39						
					50/4"						
5012.2 19.0	Very dense, light gray (N7), non-stratified, blocky/platy	SC	4	SPT	20	20.0				▲	
	Continued Next Page				38						

WELL CONSTRUCTION DETAILS

CASED INTERVAL: 28.0' - 0	BENTONITE INTERVAL: 27.0' - 4.0'
CASING MATERIAL: Schedule 40 PVC	GROUT INTERVAL/TYPE: 4.0' - 0/Cement-bentonite
CASING DIAMETER: 2.0"	SCREENED INTERVAL: 38.0' - 28.0'
FILTER INTERVAL/TYPE: 39.3-27'/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: 8 February, 1995

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

Rosebud Project

HECLA MINING COMPANY

Figure 2

ACZE 12 APR 95

GT-94-02

BOREHOLE NUMBER: GT-94-02		SHEET 2 OF 2
BORING LOCATION: N 2203362.919/ E 478771.682 Mill Facility: Northeast corner		SURFACE ELEVATION: 5031.2
DRILLING CO.: HAZ-TECH Drilling Inc.	DRILLER: B. Nance	DATE/TIME STARTED: 13 SEP 94@11:00
EQUIPMENT: CME - 75 Super		DATE/TIME FINISHED: 13 SEP 94@11:30
WATER DEPTH: N/A	DATE/TIME OF DEPTH: N/A	LOGGED BY: M. Fairhurst

ELEV. DEPTH	SOIL PROFILE SOIL DESCRIPTION	SAMPLES				DEPTH (UNITS)	STANDARD PENETRATION TEST ▲ 'N' BLOWS PER FOOT 20 40 60 80					WELL CONSTRUCTION
		USCS CLASS	NO.	TYPE	BLOW COUNT/6"		Wp	Wn	WL	80		
Feet	<i>(Continued)</i>					Feet						
5007.2 24.0	appearance, m-f SAND, some Clayey Silt, Gypsum surrounded with iron staining (iron staining is only found in sample #4; 19.0-20.5'), approximately 5% of sample consists of biotite and pyrite crystals, damp-dry (TMB TUFF)				50/4"							
	Hard, light gray (N7), blocky, SILTY CLAY, some fine SAND, trace gypsum, approximately 5% of sample consists of biotite and pyrite crystals, damp	CL-CH	5	SPT		25.0		▲				
5004.7 28.5	Very dense, light gray (N7), non-stratified, blocky/platy appearance, m-f SAND, some Clayey Silt, Gypsum surrounded with iron staining (iron staining is only found in sample #4; 19.0-20.5'), approximately 5% of sample consists of biotite and pyrite crystals, damp-dry (TMB TUFF)											
		SC	6	SPT	42 50/6"	30.0						
		SC	7	SPT	32 50/5"	35.0						
4991.9 39.3	Bottom of Hole at 39.3'	SC	8	SPT	50/4"							

WELL CONSTRUCTION DETAILS

CASED INTERVAL: 28.0' - 0	BENTONITE INTERVAL: 27.0' - 4.0'
CASING MATERIAL: Schedule 40 PVC	GROUT INTERVAL/TYPE: 4.0' - 0/Cement-bentonite
CASING DIAMETER: 2.0"	SCREENED INTERVAL: 38.0' - 28.0'
FILTER INTERVAL/TYPE: 39.3-27' /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

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

Rosebud Project

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

Figure 2

HECLA MINING COMPANY