60000542

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-435
AUTHOR	K. Allen; S. King; V. Reid; N. Jex; D. White
DATE OF DOC(S)	1998
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; Rosebud Mining Co. LLC
COMMODITY If not obvious	gold; silver
NOTES	drill logs; assay; geology; photographs; geochemistry; total depth 890'; invoices 58 p.

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 3/19/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

RS-435

6000 0542
4010

6000 0542

- quartz, chalcedony, silicification
- faults, fractures
- FeOx
- BARITE
- sulfide
- calcite, carbonate
- argillization, white clays
- propylitization
- potassic alteration
- chlorite, chloritic clays

Hecla MINING COMPANY

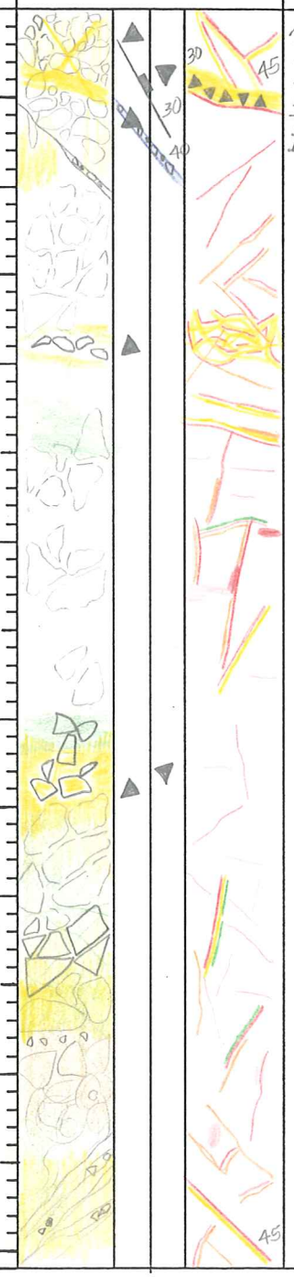
ROSEBUD PROJECT DIAMOND DRILL LOG

HOLE NUMBER	RS-435	LOCATION	EAST, SURFACE	REMARKS	PILOTED RC TO
PAGE	1 OF 3	NORTHING			700'
DATE	04/14/98	EASTING			
LOGGED BY	HBM	ELEVATION			
SCALE	1"=10'	AZIMUTH	—		
TOTAL DEPTH	880'	INCLINATION	-90°		

LITH.	OX/RED.	LITHOLOGY (CORE POINT: 700)	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
700.0-736.6 BMB PORPHYRY		700.0-736.6': TAN APHANITIC GROUNDMASS. CLAYSHDE PYRITIZED PLAG PHENOCRYSTS ~6-10/SQ INCH. WK LOCALIZED FLOW BANDING.	700, 710, 720, 730			700.0-719.4': WK/MOD. PY +/- WHT CLAY A/D SILICA WITH GRN CLAY SELVAGES. GRN CLAY + MARC/PY IN PHENOCRYST SITES = STRONG. MOD./WK DISS'D PY.
	BUD IN FAULT	736.6-739.0': GRN CLAY ALTERED BUD WITH A DISRUPTED FABRIC. BRECCIATED: SUB-ROUNDED FRAGMENTS OF WK/TR SILICIFIED BUD ARE CEMENTED WITH BLOCKY, VUGGY BARITE. COPIOUS BARITE CEMENT IS LOCALLY MASSIVE. MATRIX-SUPPORTED. MARC/PY IN FRAGMTS ONLY.			731.5-736.6': MOD'LY INCREASED VNING. SHEAR FABRIC ONLY W/IN 736.3-736.6. 736.6-739.0': STR. HYDROTHERMAL CEMENTED, MILLED, MATRIX-SUPPORTED FAULT BXA.	719.4-~722': MOD TO WK WALLROCK ARGILLIZATN. MOD TO STR. PY+GRN CLAY ON OPEN FRAX.
736.6-~745.5 SOUTH RIDGE FAULT		739.0-741.7': POSSIBLE TRUE VOID. VCG SUBHEDRAL BARITE RTLS.			739.0-741.7': PROBABLE VNED VOID.	723.9'-736.6': MODERATE TO STRONG IRREGULAR, VUGGY GRY-WHT SILICA VEINS, MOD. SILICA + MARC VNLTS, INCREASING DOWNHOLE. 736.6-739.0': MOD. GRN CLAY ALTERATION & SILICIFICATION OF FRAGMTS. INTENSE BARITE. MODERATE DISS'D MARCASITE.
		LOSS	740			
~745.5-862.8 DOZER		745.0-745.5': GRADATIONAL LOWER CONTACT WITH CATACLASTIZED MILLED SILICA VEINED & CEMENTED DOZER. 100% GRY REPLACEMENT SILICA AND BLKISH SILICA-SULFIDE GRADES DOWN INTO SILICIFIED DOZER. 741.7-743.5': MULTI-EPISODE FAULT BRECCIA. SILICIFIED LT. GRW LARGELY BUD-DERIVED RK FLOUR MATRIX. STRLY SILICIFIED TO 100% GRY SILICA-REPLACEMENT	750 → OVER		741.7-~744.5': MULTI-EPISODE FAULT BRECCIA: 1) MATRIX-SUPPORTED, RK FLOUR + SILICA FRAGMTS. 2) BARITE STRWK X-CUTTING & INFILLING.	741.7'-~744.5': BARITE & SOOTY SULFIDE = STR. INTENSE. INTENSE REPLACEMT SILICA IN FRAGMTS, STR. PERVASIVE SILICA OVERPRINTS WK GRN CLAY ALTERATION IN MATRIX.

ANALYTICAL DATA						
FROM	TO	W	Au	Ag	Au2	Ag
700.0	705.0					
705.0	710.0					
710.0	714.4					
714.4	719.4					
719.4	723.9					
723.9	728.0					
728.0	731.5					
731.5	736.6					
736.6	739.0					
741.7	743.5					
741.7	745.5					
745.5	748.0		0.589			

HOLE NUMBER RS-435 PAGE 2 OF 3

LITH.	OX/RED	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
745.5- DOZER		741.7-743.5': SUB-ANGULAR, PREVIOUSLY SILICA-FLOODED FRAGMTS. CUT & REBRECCIATED BY MASSIVE TO BLOCKY WHITE BARITE VNS / VN BXA. 743.5-744.8': SILICIFIED BXA CONTINUED AS DESCRIBED ABOVE, W/D LATER CROSS-CUTTING BARITE. SILICA-SULFIDE FRAGMTS INCREASINGLY ANGULAR & DKER GRY DOWNHOLE. 744.8-745.3': DARK GRY TOTAL REPLACEMT SILICA, GRADUALLY DECREASING DOWNHOLE. 745.3-748.0': CATACLASTIZED TO STR'LY CRACKLE BRECC'D LT. GRN-TAN DOZER. LOCALLY FLOODED W/ GRY SILICA. FAULT-RELATED SILICA-FLOODING WANES THRU THIS ZONE. 748.0'-758.6': CONT'D STR'LY BRECCIATED DOZER W/ FAINT LOCAL FeOx STAINING. MOD. GRY SILICA +/- MARC VNING. SPOTTY WALLROCK SILICIFICATION OVERPRINTING PERVASIVE WK/TR ARGILLIZATION. 758.6'-768.0': INCREASED RUDDY FeOx STAINING TO MOD., DECREASED SILICA IN VNS & WALLROCK TO WK & TR. CONT'D TECTONIC OVERPRINT ON WHAT WAS PROBABLY DOZER AUTOBXA. 773.1-774.6': LT. GRN, MOD/WK ARGILLIZATN, SEMI-HEALED SHEARED/BXA'D ZONE. STRONGER THAN ABOVE. ~775': DECREASE IN BRECCIATION IN DOZER. FINE-GRAINED, WKLY MILLED, HYDROTHERMALLY HEALED TO UNHEALED BXA DECREASED / DISAPPEARS. 774.6-776.6': FG BRECCIATION DIES OUT INTO MORE TYPICAL AUTOBRECCIA TEXTURE. 776.6-790.0': WKLY ARGILLIZED, WKLY MARC/PY VNED DOZER AUTOBXA. 790.0-792.2': INCREASED INTENSITY OF BXAT'N. 792.2'-794.7': WKLY TO MOD'LY SILICIFIED CRACKLE TO MOSAIC BXA. MOD. SILICA + MARC VNING TRACE WHT CLAY IN VUGS. 794.7-800.4': TAN-CRM WKLY VNED DOZER AUTOBXA. 800.4'-809.0': MORE DISRUPTED, HYDROTHERMALLY ALTERED DOZER AUTOBXA. WK PERVASIVE ARGILLIZATN LOCAL PERVASIVE SILICIFICATION. 808.5'-~~812.5~~ 811.9': BRECCIATED INTERNAL CONTACT? ANGULAR CRM-TAN DOZER FRAGMTS WITH AN EARLIER FG, MILLED BRECCIA TEXTURE. SOME PELITIC CRACKED TEXTURE IN VERY APHANITIC, CRM-TAN, MOD'LY ARGILLIZED RK, TO ~812.5'.	750 760 770 780 790 800 810 820		~744.5-745.5': SILICA-FLOODED SHEARING 745.5-~775': WANING TECTONIC OVERPRINT ON DOZER BELOW FAULT.	~744.5-745.5': >90% GRY REPLACEMT SILICA, +/- STRONG BLK SULFIDE. 745.5'-748.0': STR. SILICA +/- MARC VNING, WK/TR ARGILLIZATN & SiO_2. 748.0-758.6: MOD/STR. GRY SILICA +/- MARC VNS, VNLT MARC. 758.6-768.0': MOD. WHT CLAY + MARC +/- SILICA ON FRAX. IRREGULAR MOD. SILICA + MARC/PY VNLTS. 768.0'-768.7': WHT SILICA CEMENTED CRACKLE BXA. ~~TR~~ WK WHT CLAY & MARC 768.7-773.1': MOD. WHT CLAY + MARC +/- SILICA FRAX COATINGS. 773.1-774.6': MOD/WK LT. GRN ARG. MOD. SILICA + MARCASITE VNING. 776.6-790': WK ARG. WK MARC VNLTS. 790-792.2': SLIGHTLY INCREASED PERVASIVE ARGILLIZATION. 792.2-794.7': WK ~~MOD~~ SILICIFICATION & MOD. SILICA +/- MARC VNING, OVERPRINTS PERVASIVE ARGILLIZATION. 794.7-800.4': WK PERVASIVE ARGILLIZATION, WK MARC + WHT CLAY VNING. WK BLCHING. 800.4-805.5': MOD/WK ARG + BLCH. MOD. FINE MARC + WHT CLAY +/- SILICA VNLTS; GRN CLAY SELVAGES. 805.5-808.6': ~~MOD~~/WK SILICIFICATION OVERPRINT

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
748.0	751.5		0.111		
751.5	755.2		0.174		
755.2	758.6				
758.6	763.7				
763.7	768.0				
768.0	773.1				
773.1	774.6				
774.6	776.6				
776.6	780.0				
780.0	785.2				
785.2	790.0				
790.0	792.2				
792.2	794.7				
794.7	800.0				
800.0	805.5				
805.5	808.6				
808.6	811.9				
811.9	816.3				
816.3	820.8				

HOLE NUMBER RS-435 PAGE 3 OF 3

LITH.	OX/RED.	LITHOLOGY	FT	GRAPHIC LOG	STRUCTURE	ALTERATION AND MINERALIZATION
745.5 - 862.2 DOZER		811.9-820.8': STRONGLY AUTOBXA'D DOZER. MOTTLED GRN TO TAN. SLIGHTLY MILLED LOCALLY SHEARED CLAST- TO MATRIX-SUPPORTED MONOLITHIC CRACKLE TO MOSAIC BRECCIA. 820.8'- 839.5': LT. TAN-GRN, SHEAR TEXTURED AUTO-BRECCIA GRADING DOWN INTO TIGHTLY-PACKED, CLAST-SUPPORTED AUTOBRECCIA. LESS MOTTLING ALTERATION, & SOMEWHAT LESS BRECCIATED THAN ABOVE. 839.5-854.4': UNBXAT'D FLOW-BANDED LT. TAN-GRN DOZER. 854.4'-856.4': BROKEN CLAY ALTERED LT. GRN DOZER. 856.4'-860.3': HARD MASSIVE LT. GRN DOZER. 860.3-860.6': ~~bd~~ THIN STRIP OF SANDSTONE W/IN DOZER? MEDIUM GREEN. ~~CLAY~~ STR. GRN CLAY ALT'N OVERPRINTED BY SILICA-FLOODING.	820 830 840 850 860 870 880		BRAIDED SHEAR TEXTURES AT HI ∠'S TO C/A IN AUTOBRECCIA BACKGROUND TEXTURE WK/TR JOINTING 854.4-856.4': BROKEN PUNKY ZONE.	811.9-820.8': WK GRN CLAY AND ARGILLIC ALT'N. TR. RUDDY FeOx? STAINING IN MATRIX RK FLOUR. WK MARC VNLTS +/- SILICA & WHT CLAY. 829.1-831.0': MOD. IRR. SILICA + MARCASITE VNLTS 820.8-844.5': WK GRN CLAY ARGILLIZATION. WK MARC + WHT CLAY VNING ~844.5': WHT CLAY VN WITH SILICA? SELVAGE +/- SULFIDE IN TR/WK GRN CLAY ALTERED WALLRK. 844.5-854.4': MOD. VUGGY SILICA + MARC + WHT CLAY VNING. SILICA SELVAGES OVERPRINT WK GRN CLAY ALT'N. 854.4-856.4': STRLY ARGILLIZED 856.4-860.3': WK GRN CLAY ALT'N WK VUGGY QZ + MARC VNLTS.
DOZER		860.3-860.6': THIN STRAND OF Tos? OR Tcs WITH SILICA-FLOODED ~~BR~~ MILLED MARGINS.			860.3': POSS. TRUE CONTACT Tcs UNIT MAY START HERE. WK BXATN IN DOZER	
862.2 - 869.6 Tos ? OR BASAL Tert SANDSTONE		860.6-862.2': POSSIBLE DOZER BOULDER. WELDED TUFF LIKE FOLIATION TEXTURE DISTINGUISHES THIS ROCK FROM THE OVERLYING V. APHANITIC MASSIVE DOZER UNIT. 862.2-869.6': MEDIUM GRN CG TO FG SANDSTONE. 862.2			862.0'-864.7': BXA'D & SHEARED FAULT / CONTACT ZONE. SEMI- TO UNHEALED	~860.1-860.8': STR. SILICA FLOODED SELVAGES(?) ON THIN STRIP OF GRN CLAY ALTERED, MOD'LY SILICIFIED SANDSTONE
869.6'- 880.0 DOZER		864.7': MOD. TO STRONG BRAIDED SHEAR FABRIC AT HIGH ANGLES TO C/A, WITH SOME PULVERIZING OF SAND TO ROCK FLOUR. TEXTURE SUGGESTS Tcs ALTHO FG Tos IS A POSSIBILITY. BY ~866' SOME RELICT CARBONACEOUS GRY MATERIAL IN FG SAND COMPONENT → INDICATIVE OF Tcs. 869.6-870': BRECCIATED CONTACT 869.6'- 880.0': PALE TAN-CREAM MONOLITHIC 'AUTO-BRECCIA'. APHANITIC FINELY FOLIATED FLOW-BANDED SUB-ANGULAR FRAGMTS WITH BRN-GRN ALTERED MICROLITES ALIGNED SUB// TO FOLIATION. MATRIX ROCK FLOUR OF THE SAME MATERIAL.			869.6-870': SCALLOPED KNIFE-EDGED CONTACT W/ OVERLYING UNIT (INTRUSIVE CONTACT?) IS FOLLOW BY 0.4' OF MILLED RK SAND W/IN UNDERLYING DOZER.	860.8'-862.2': WKLY ARG., MOD. PY VNLTS & BLEBS. 862.2'-869.6': STR. GRN CLAY ALTERATION. WK DISS'D PY. STR/MOD. PY VNS & BLEBS. 869.6-880': WK PERVASIVE ARGILLIZATION. MOD QZ + MARC/PY +/- WHT CLAY VNS.

ANALYTICAL DATA

FROM	TO	W	Au	Ag	Au2
816.9	820.8				
820.8	825.1				
825.1	829.1				
829.1	831.0				
831.0	835.6				
835.6	839.5				
839.5	844.5				
844.5	849.4				
849.4	854.4				
854.4	856.4				
856.4	860.3				
860.3	862.2				
862.2	865.5				
865.5	869.6				
869.6	874.8				
874.8	880.0				

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-435 DATE 04/13/98 LOGGED BY: HM PAGE 1 OF 2

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
700.0	710.0	99.0	99.0	91.0										
710.0	720.0	101.0	101.0	94.0										
720.0	730.0	102.0	102.0	58.0										
730.0	740.0	87.0	90.0	47.0										
740.0	750.0	78.0	80.0	64.0										
750.0	760.0	100.0	100.0	82.0										
760.0	770.0	100.0	100.0	81.0										
770.0	780.0	102.0	102.0	72.0										
780.0	790.0	100.0	100.0	60.0										
790.0	800.0	92.0	92.0	89.0										
800.0	810.0	105.0	105.0	82.0										

HECLA MINING COMPANY – ROSEBUD PROJECT
GEOTECHNICAL DRILL LOG

HOLE # RS-435 DATE 04/15/98 LOGGED BY: HBM PAGE 2 OF 2

DRILL RUN		SOLID CORE RECOVERY (%)	TOTAL CORE RECOVERY (%)	RQD	ROCK STRENGTH		FRACTURE DATA				DENSITY DATA			
FROM	TO				DOWNHOLE DEPTH	POINT LOAD INDEX (psi)	FRACTURE DENSITY/FT.	AVG. ANGLE TO C.A.	ROUGHNESS	INFILL	DOWNHOLE DEPTH	SAMPLE WEIGHT (g)	DISPLACEMENT (cc)	DENSITY (g/cc)
810.0	820.0	102.0	102.0	77.0										
820.0	830.0	102.0	102.0	62.0										
830.0	840.0	102.0	102.0	74.0										
840.0	850.0	100.0	100.0	69.0										
850.0	860.0	99.0	99.0	56.0										
860.0	870.0	102.0	102.0	46.0										
870.0	880.0	100.0	100.0	59.0										
	TD													

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: RS-435 RECEIVED : 20 APR 1998

No. SAMPLES : 47 REPORTED : 30 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
RS-435 700-705	0.011			0.04
RS-435 705-710	0.023			0.07
RS-435 710.0-714.4	0.008			0.03
RS-435 714.4-719.4	0.002			<0.02
RS-435 719.4-723.9	0.012			0.04
RS-435 723.9-728.0	0.080		0.117	0.07
RS-435 728.0-731.5	0.027			0.09
RS-435 731.5-736.6	0.052			13.40
RS-435 736.6-739.0	0.026			1.52
RS-435 741.7-743.5	0.013			2.28
RS-435 743.5-745.5	0.117		0.099	1.52
RS-435 745.5-748.0	0.589		0.579	10.80
RS-435 748.0-751.5	0.111		0.067	8.49
RS-435 751.5-755.2	0.174		0.227	0.30
RS-435 755.2-758.6	0.023	0.037		0.17
RS-435 758.6-763.7	0.029			0.13
RS-435 763.7-768.0	0.036			0.82
RS-435 768.0-773.1	0.020			0.12
RS-435 773.1-774.6	0.004			0.06
RS-435 774.6-776.6	0.003			0.08
RS-435 776.6-780.0	0.002			0.07
RS-435 780.0-785.2	0.004			0.04
RS-435 785.2-790.0	0.005			0.03
RS-435 790.0-792.2	0.014			0.06
RS-435 792.2-794.7	0.394		0.479	0.43

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
RS-435 794.7-800.0	0.169		0.202	0.13
RS-435 800.0-805.5	0.008			0.04
RS-435 805.5-808.6	0.015			0.04
RS-435 808.6-811.9	0.009			0.03
RS-435 811.9-816.3	0.003			0.33
RS-435 816.3-820.8	0.010			3.98
RS-435 820.8-825.1	0.003			0.06
RS-435 825.1-829.1	0.003			0.06
RS-435 829.1-831.0	0.003			0.27
RS-435 831.0-835.6	0.001			0.08
RS-435 835.6-839.5	0.002			0.85
RS-435 839.5-844.5	0.002			0.12
RS-435 844.5-849.4	0.003			0.38
RS-435 849.4-854.4	0.002			0.13
RS-435 854.4-856.4	0.007			0.09
RS-435 856.4-860.3	0.004			0.04
RS-435 860.3-862.2	0.018	0.018		0.05
RS-435 862.2-865.5	0.011			0.08
RS-435 865.5-869.6	0.001			0.06
RS-435 869.6-874.8	0.019			0.22
RS-435 874.8-880.0	<0.001	<0.001		<0.02
31019	0.138			2.73

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

Quick Log.

HOLE NUMBER: RS-435
PAGE: 1 OF 4
DATE: 6/25/98
LOGGED BY: DA
TOTAL DEPTH: 700' RUC PRE-COLLAR, 860' CORE

LOCATION: EAST ZONE
NORTHING:
EASTING:
ELEVATION:
AZIMUTH: VERT
INCLINATION: -90

AREA: EAST ZONE
DRILLING CO.: EKLUND
RIG TYPE: RUC
HOLE SIZE: 5 1/2
DOWN HOLE SURVEY BY: WELNAV

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 %	AG-SULF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MIXCURE	ANALYTICAL DA: FROM	TO	W	Au
10		TCCC	FINE-GRAINED ANDESITIC TO LATITIC AUTOBRECCIA OR VOLCANIC BRECCIA W/ZONES FINE-GRAINED FLOW MATERIA.																																					
20																																								
30																																								
40																																								
50																																								
60																																								
70																																								
80																																								
90																																								
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160																																								
170																																								
180																																								
190																																								
200																																								

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

HOLE NUMBER RS-435
PAGE 2 OF 4
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 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 %	AC-SULF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOCLURE	ANALYTICAL DA: FROM	TO	W	Au
210		TCLLT																																						
220																																								
230																																								
240																																								
250																																								
260																																								
270																																								
280																																								
290																																								
300																																								
310																																								
320	UTTD	VIT	LT GREEN CLAY VITROPHYRE																																					
330		FGPP	FINE-GRAINED, PINK, SLIGHTLY MICROPHYRITIC RHYOLITIC? SILL																																					
340																																								
350																																								
360																																								
370																																								
380																																								
390	UTTD	VIT	LT GREEN CLAY VITROPHYRE																																					
400		LGLUD	FINE- to COARSE GRAINED ASH flow tuff OR Epiclastic Bx																																					

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

HOLE NUMBER RS-435
PAGE 3 OF 4
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																	MINERALIZATION									METALLURGY				ANALYTICAL DA			
						SILICIFICATION					ARGILLIC				PROPYLITIC %		POTASSIC %		OXIDATION			VIENING		SULFIDES			PY	CPY	MAR	AG-SULF	STIBNITE	BARITE	OXIDE	SULF	CARBON	MIXCURE	FROM	TO	W	Au
						5%	15%	+25%	MATRIX %	CLASTS %	5%	15%	+25%	TYPE	CHLORITE	CALCITE	K-SPAR	ALUNITE	5%	15%	+25%	%	TYPE	5%	15%	+25%	%	%	%	%	%	%								
410		UBUD																																						
420																																								
430																																								
440																																								
450																																								
460																																								
470																																								
480																																								
490																																								
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510																																								
520																																								
530																																								
540																																								
550																																								
560																																								
570																																								
580		PABX	Fine-Grained porphyritic Andesite BRECCIA																																					
590																																								
600																																								

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

HOLE NUMBER RS-435
PAGE 4 OF 4
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 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 %	AC-SULF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MIXTURE	ANALYTICAL DA: FROM	TO	W	Au
610		PABX	Porphyritic Auto Bx.																																					
620		MBUD	MIDDLE BUD BRECCIA Fine - Coarse. GRAINED. ASH Flow Tuff on Epiclastic																																					
630																																								
640																																								
650																																								
660																																								
670		BMB																																						
680																																								
690																																								
700																																								
			RUC PRE-COLLAR TD=700'																																					

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0048574-IN
INVOICE DATE: 04/30/98

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
RS-435	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
47	SAMPLES RECEIVED	.00	.00
46	DRYING	1.00	46.00
46	JAW CRUSHING CHARGE	1.30	59.80
46	COARSE MILLING CHARGE	4.50	207.00
46	SPLITTING CHARGE	2.40	110.40
46	RING MILLING CHARGE	2.00	92.00
47	Au (1 A.T. FIRE ASSAY)	8.00	376.00
7	Au ANALYSES/GRAVIMETRIC	8.75	61.25
47	HYDROCHLORIC/NITRIC DIGESTION	2.00	94.00
47	Ag ANALYSES	1.00	47.00
6	Ag (ore grade) ANALYSES	5.00	30.00

86-5210-477
DA

NET INVOICE:	1,123.45
LESS DISCOUNT:	224.69
FREIGHT:	.00
INVOICE TOTAL:	898.76

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: RS-435 RECEIVED : 20 APR 1998

No. SAMPLES : 47 REPORTED : 30 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
RS-435 700-705	0.011			0.04
RS-435 705-710	0.023			0.07
RS-435 710.0-714.4	0.008			0.03
RS-435 714.4-719.4	0.002			<0.02
RS-435 719.4-723.9	0.012			0.04
RS-435 723.9-728.0	0.080		0.117	0.07
RS-435 728.0-731.5	0.027			0.09
RS-435 731.5-736.6	0.052			13.40
RS-435 736.6-739.0	0.026			1.52
RS-435 741.7-743.5	0.013			2.28
RS-435 743.5-745.5	0.117		0.099	1.52
RS-435 745.5-748.0	0.589		0.579	10.80
RS-435 748.0-751.5	0.111		0.067	8.49
RS-435 751.5-755.2	0.174		0.227	0.30
RS-435 755.2-758.6	0.023	0.037		0.17
RS-435 758.6-763.7	0.029			0.13
RS-435 763.7-768.0	0.036			0.82
RS-435 768.0-773.1	0.020			0.12
RS-435 773.1-774.6	0.004			0.06
RS-435 774.6-776.6	0.003			0.08
RS-435 776.6-780.0	0.002			0.07
RS-435 780.0-785.2	0.004			0.04
RS-435 785.2-790.0	0.005			0.03
RS-435 790.0-792.2	0.014			0.06
RS-435 792.2-794.7	0.394		0.479	0.43

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048574

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	AuGRAV GRAV OPT	Ag(OZ) D210 OPT
RS-435 794.7-800.0	0.169		0.202	0.13
RS-435 800.0-805.5	0.008			0.04
RS-435 805.5-808.6	0.015			0.04
RS-435 808.6-811.9	0.009			0.03
RS-435 811.9-816.3	0.003			0.33
RS-435 816.3-820.8	0.010			3.98
RS-435 820.8-825.1	0.003			0.06
RS-435 825.1-829.1	0.003			0.06
RS-435 829.1-831.0	0.003			0.27
RS-435 831.0-835.6	0.001			0.08
RS-435 835.6-839.5	0.002			0.85
RS-435 839.5-844.5	0.002			0.12
RS-435 844.5-849.4	0.003			0.38
RS-435 849.4-854.4	0.002			0.13
RS-435 854.4-856.4	0.007			0.09
RS-435 856.4-860.3	0.004			0.04
RS-435 860.3-862.2	0.018	0.018		0.05
RS-435 862.2-865.5	0.011			0.08
RS-435 865.5-869.6	0.001			0.06
RS-435 869.6-874.8	0.019			0.22
RS-435 874.8-880.0	<0.001	<0.001		<0.02
31019	0.138			2.73

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048339

PO BOX 11530
RENO NV.USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

NSI

CLIENT REFERENCE No: RS-435 RECEIVED : 20 MAR 1998

NO. SAMPLES : 70 REPORTED : 30 MAR 1998

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048339

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)
RS-435 000-010	<0.001		<0.02
RS-435 010-020	<0.001		<0.02
RS-435 020-030	<0.001		<0.02
RS-435 030-040	<0.001		<0.02
RS-435 040-050	<0.001		<0.02
RS-435 050-060	<0.001		<0.02
RS-435 060-070	<0.001		<0.02
RS-435 070-080	<0.001	<0.001	<0.02
RS-435 080-090	<0.001		<0.02
RS-435 090-100	<0.001		<0.02
RS-435 100-110	<0.001		<0.02
RS-435 110-120	<0.001		<0.02
RS-435 120-130	<0.001		<0.02
RS-435 130-140	<0.001	<0.001	<0.02
RS-435 140-150	<0.001		<0.02
RS-435 150-160	<0.001		<0.02
RS-435 160-170	<0.001		<0.02
RS-435 170-180	<0.001		<0.02
RS-435 180-190	<0.001		<0.02
RS-435 190-200	<0.001		<0.02
RS-435 200-210	<0.001		<0.02
RS-435 210-220	<0.001		<0.02
RS-435 220-230	<0.001		<0.02
RS-435 230-240	<0.001	<0.001	<0.02
RS-435 240-250	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048339

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)
RS-435 250-260	<0.001		<0.02
RS-435 260-270	<0.001		<0.02
RS-435 270-280	<0.001		<0.02
RS-435 280-290	<0.001		<0.02
RS-435 290-300	<0.001		<0.02
RS-435 300-310	<0.001		<0.02
RS-435 310-320	<0.001		0.03
RS-435 320-330	0.001		0.07
RS-435 330-340	0.001		0.05
RS-435 340-350	0.004		0.27
RS-435 350-360	0.003		1.00
RS-435 360-370	0.001	0.001	0.11
RS-435 370-380	0.004		0.31
RS-435 380-390	<0.001		0.03
RS-435 390-400	<0.001		<0.02
RS-435 400-410	0.001		0.05
RS-435 410-420	0.005		0.05
RS-435 420-430	<0.001		0.02
RS-435 430-440	<0.001		0.02
RS-435 440-450	0.001		0.05
RS-435 450-460	<0.001		0.03
RS-435 460-470	0.001		0.04
RS-435 470-480	0.003		0.03
RS-435 480-490	<0.001	0.002	0.02
RS-435 490-500	0.002		0.08

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048339

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ)	Au(RZ)	Ag(OZ)
RS-435 500-510	<0.001		0.02
RS-435 510-520	0.001		0.04
RS-435 520-530	0.002		0.05
RS-435 530-540	0.006		0.05
RS-435 540-550	0.005		0.06
RS-435 550-560	0.013		0.04
RS-435 560-570	0.004		0.05
RS-435 570-580	0.006		0.06
RS-435 580-590	0.002		0.04
RS-435 590-600	<0.001		0.03
RS-435 600-610	0.009	0.009	0.02
RS-435 610-620	0.002		0.03
RS-435 620-630	<0.001		<0.02
RS-435 630-640	0.003		0.02
RS-435 640-650	0.005		0.04
RS-435 650-660	0.002		0.06
RS-435 660-670	0.015		0.07
RS-435 670-680	0.006		0.07
RS-435 680-690	0.008	0.012	2.38
RS-435 690-700	0.003		0.15

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431

(702) 356-0606

INVOICE NO: SP 0048339-IN
INVOICE DATE: 03/31/98

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
RS-435	DEVELOPMENT	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
70	SAMPLES RECEIVED	.00	.00
70	DRYING	1.00	70.00
70	EXCESSIVE WETNESS	1.00	70.00
70	JAW CRUSHING CHARGE	1.30	91.00
70	SPLITTING CHARGE	1.20	84.00
70	FINE MILLING CHARGE	2.00	140.00
70	Au (1 A.T. FIRE ASSAY)	8.00	560.00
70	HYDROCHLORIC/NITRIC DIGESTION	2.00	140.00
70	Ag ANALYSES	1.00	70.00

86-5210-477
CAA

NET INVOICE:	1,225.00
LESS DISCOUNT:	367.50
FREIGHT:	.00
INVOICE TOTAL:	857.50

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ANALYSIS REPORT SP048339

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

:

:

:

CLIENT REFERENCE No: RS-435 RECEIVED : 20 MAR 1998

No. SAMPLES : 70 REPORTED : 30 MAR 1998

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 000-010	<0.001		<0.02
RS-435 010-020	<0.001		<0.02
RS-435 020-030	<0.001		<0.02
RS-435 030-040	<0.001		<0.02
RS-435 040-050	<0.001		<0.02
RS-435 050-060	<0.001		<0.02
RS-435 060-070	<0.001		<0.02
RS-435 070-080	<0.001	<0.001	<0.02
RS-435 080-090	<0.001		<0.02
RS-435 090-100	<0.001		<0.02
RS-435 100-110	<0.001		<0.02
RS-435 110-120	<0.001		<0.02
RS-435 120-130	<0.001		<0.02
RS-435 130-140	<0.001	<0.001	<0.02
RS-435 140-150	<0.001		<0.02
RS-435 150-160	<0.001		<0.02
RS-435 160-170	<0.001		<0.02
RS-435 170-180	<0.001		<0.02
RS-435 180-190	<0.001		<0.02
RS-435 190-200	<0.001		<0.02
RS-435 200-210	<0.001		<0.02
RS-435 210-220	<0.001		<0.02
RS-435 220-230	<0.001		<0.02
RS-435 230-240	<0.001	<0.001	<0.02
RS-435 240-250	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 250-260	<0.001		<0.02
RS-435 260-270	<0.001		<0.02
RS-435 270-280	<0.001		<0.02
RS-435 280-290	<0.001		<0.02
RS-435 290-300	<0.001		<0.02
RS-435 300-310	<0.001		<0.02
RS-435 310-320	<0.001		0.03
RS-435 320-330	0.001		0.07
RS-435 330-340	0.001		0.05
RS-435 340-350	0.004		0.27
RS-435 350-360	0.003		1.00
RS-435 360-370	0.001	0.001	0.11
RS-435 370-380	0.004		0.31
RS-435 380-390	<0.001		0.03
RS-435 390-400	<0.001		<0.02
RS-435 400-410	0.001		0.05
RS-435 410-420	0.005		0.05
RS-435 420-430	<0.001		0.02
RS-435 430-440	<0.001		0.02
RS-435 440-450	0.001		0.05
RS-435 450-460	<0.001		0.03
RS-435 460-470	0.001		0.04
RS-435 470-480	0.003		0.03
RS-435 480-490	<0.001	0.002	0.02
RS-435 490-500	0.002		0.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 500-510	<0.001		0.02
RS-435 510-520	0.001		0.04
RS-435 520-530	0.002		0.05
RS-435 530-540	0.006		0.05
RS-435 540-550	0.005		0.06
RS-435 550-560	0.013		0.04
RS-435 560-570	0.004		0.05
RS-435 570-580	0.006		0.06
RS-435 580-590	0.002		0.04
RS-435 590-600	<0.001		0.03
RS-435 600-610	0.009	0.009	0.02
RS-435 610-620	0.002		0.03
RS-435 620-630	<0.001		<0.02
RS-435 630-640	0.003		0.02
RS-435 640-650	0.005		0.04
RS-435 650-660	0.002		0.06
RS-435 660-670	0.015		0.07
RS-435 670-680	0.006		0.07
RS-435 680-690	0.008	0.012	2.38
RS-435 690-700	0.003		0.16

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN

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:

CLIENT REFERENCE No: RS-435 RECEIVED : 20 MAR 1998

No. SAMPLES : 70 REPORTED : 30 MAR 1998

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 000-010	<0.001		<0.02
RS-435 010-020	<0.001		<0.02
RS-435 020-030	<0.001		<0.02
RS-435 030-040	<0.001		<0.02
RS-435 040-050	<0.001		<0.02
RS-435 050-060	<0.001		<0.02
RS-435 060-070	<0.001		<0.02
RS-435 070-080	<0.001	<0.001	<0.02
RS-435 080-090	<0.001		<0.02
RS-435 090-100	<0.001		<0.02
RS-435 100-110	<0.001		<0.02
RS-435 110-120	<0.001		<0.02
RS-435 120-130	<0.001		<0.02
RS-435 130-140	<0.001	<0.001	<0.02
RS-435 140-150	<0.001		<0.02
RS-435 150-160	<0.001		<0.02
RS-435 160-170	<0.001		<0.02
RS-435 170-180	<0.001		<0.02
RS-435 180-190	<0.001		<0.02
RS-435 190-200	<0.001		<0.02
RS-435 200-210	<0.001		<0.02
RS-435 210-220	<0.001		<0.02
RS-435 220-230	<0.001		<0.02
RS-435 230-240	<0.001	<0.001	<0.02
RS-435 240-250	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 250-260	<0.001		<0.02
RS-435 260-270	<0.001		<0.02
RS-435 270-280	<0.001		<0.02
RS-435 280-290	<0.001		<0.02
RS-435 290-300	<0.001		<0.02
RS-435 300-310	<0.001		<0.02
RS-435 310-320	<0.001		0.03
RS-435 320-330	0.001		0.07
RS-435 330-340	0.001		0.05
RS-435 340-350	0.004		0.27
RS-435 350-360	0.003		1.00
RS-435 360-370	0.001	0.001	0.11
RS-435 370-380	0.004		0.31
RS-435 380-390	<0.001		0.03
RS-435 390-400	<0.001		<0.02
RS-435 400-410	0.001		0.05
RS-435 410-420	0.005		0.05
RS-435 420-430	<0.001		0.02
RS-435 430-440	<0.001		0.02
RS-435 440-450	0.001		0.05
RS-435 450-460	<0.001		0.03
RS-435 460-470	0.001		0.04
RS-435 470-480	0.003		0.03
RS-435 480-490	<0.001	0.002	0.02
RS-435 490-500	0.002		0.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP048339

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 MAR 1998

SAMPLES	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag(OZ) D210 OPT
RS-435 500-510	<0.001		0.02
RS-435 510-520	0.001		0.04
RS-435 520-530	0.002		0.05
RS-435 530-540	0.006		0.05
RS-435 540-550	0.005		0.06
RS-435 550-560	0.013		0.04
RS-435 560-570	0.004		0.05
RS-435 570-580	0.006		0.06
RS-435 580-590	0.002		0.04
RS-435 590-600	<0.001		0.03
RS-435 600-610	0.009	0.009	0.02
RS-435 610-620	0.002		0.03
RS-435 620-630	<0.001		<0.02
RS-435 630-640	0.003		0.02
RS-435 640-650	0.005		0.04
RS-435 650-660	0.002		0.06
RS-435 660-670	0.015		0.07
RS-435 670-680	0.006		0.07
RS-435 680-690	0.008	0.012	2.38
RS-435 690-700	0.003		0.16

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* ROSEBUD MINING COMPANY, LLC *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/21/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

WELNAV

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ** BOART LONGYEAR **
***** NORM JEX *****

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
** **********
** COMPANY REPRESENTATIVE **
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-435

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R CLOS.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
50.0	50.00	-0.22	-0.082	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13
100.0	100.00	-0.68	-0.167	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58
150.0	149.99	-1.11	-0.422	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.67
200.0	199.99	-1.39	-0.851	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30
250.0	249.99	-1.44	-1.064	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.37
300.0	299.99	-1.36	-1.091	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53
350.0	349.99	-1.26	-1.154	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.42
400.0	399.98	-0.45	-0.959	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46
450.0	449.95	1.21	-0.747	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08
500.0	499.91	3.28	-0.906	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38
550.0	549.85	5.66	-1.110	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74
600.0	599.79	8.12	-1.180	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58
650.0	649.73	10.58	-1.115	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83
700.0	699.67	13.03	-1.062	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19
750.0	749.62	15.35	-0.988	-87.44	292.74	4.28 N	14.77 W	0.46	0.23	15.38	AT 286.17
800.0	799.57	17.55	-0.699	-87.46	301.97	5.30 N	16.74 W	0.82	0.41	17.56	AT 287.57
850.0	849.52	19.65	-0.247	-87.61	302.03	6.44 N	18.57 W	0.30	0.15	19.65	AT 289.13
880.0	879.50	20.91	-0.000	-87.50	299.92	7.10 N	19.66 W	0.47	0.14	20.91	AT 289.85

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*************************************************************
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   880.0 FEET EQUALS    20.91   FEET AT  289.85            *
*                          ********                         *
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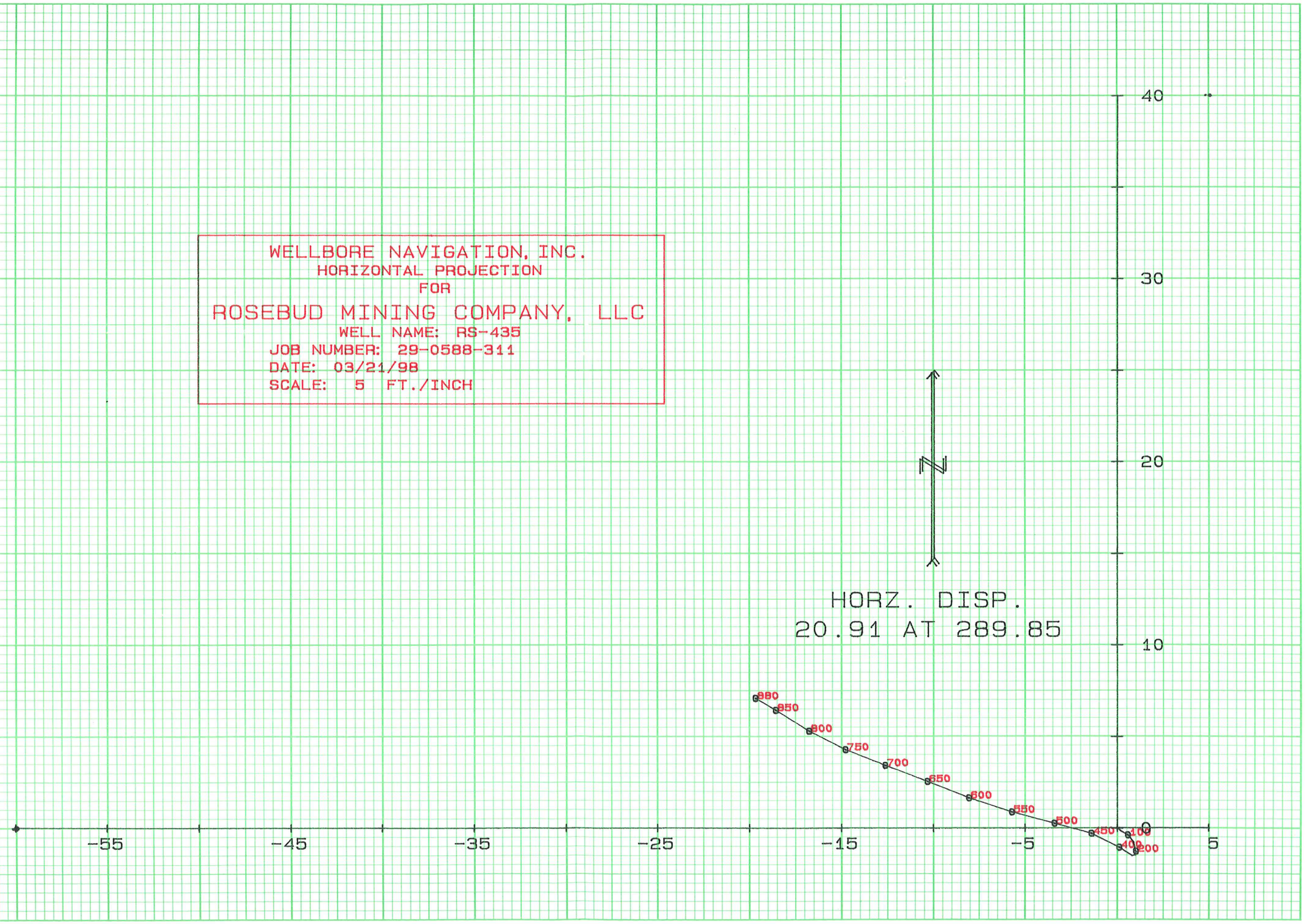
WELLBORE NAVIGATION, INC.
HORIZONTAL PROJECTION
FOR
ROSEBUD MINING COMPANY, LLC
WELL NAME: RS-435
JOB NUMBER: 29-0588-311
DATE: 03/21/98
SCALE: 5 FT./INCH



STARLIGHT PRINTING (801) 467-2841

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* **ROSEBUD MINING COMPANY, LLC** *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435 / VS 305.00

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/21/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

VERTICAL SECTION CALCULATED IN A
PROPOSAL DIRECTION OF: 035.00

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ** BOART LONGYEAR **
***** NORM JEX *****

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
** **********
** COMPANY REPRESENTATIVE **
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-435 / VS 305.00

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL HORI	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
50.0	50.00	-0.02	0.235	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13
100.0	100.00	0.02	0.702	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58
150.0	149.99	-0.12	1.181	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.67
200.0	199.99	-0.46	1.566	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30
250.0	249.99	-0.65	1.665	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.37
300.0	299.99	-0.70	1.601	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53
350.0	349.99	-0.79	1.515	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.42
400.0	399.98	-0.81	0.690	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46
450.0	449.95	-1.04	-0.968	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08
500.0	499.91	-1.73	-2.925	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38
550.0	549.85	-2.55	-5.170	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74
600.0	599.79	-3.26	-7.530	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58
650.0	649.73	-3.84	-9.917	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83
700.0	699.67	-4.43	-12.296	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19
750.0	749.62	-4.97	-14.558	-87.44	292.74	4.28 N	14.77 W	0.46	0.23	15.38	AT 286.17
800.0	799.57	-5.26	-16.755	-87.46	301.97	5.30 N	16.74 W	0.82	0.41	17.56	AT 287.57
850.0	849.52	-5.37	-18.903	-87.61	302.03	6.44 N	18.57 W	0.30	0.15	19.65	AT 289.13
880.0	879.50	-5.46	-20.179	-87.50	299.92	7.10 N	19.66 W	0.47	0.14	20.91	AT 289.85

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*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   880.0 FEET EQUALS     20.91    FEET AT   289.85         *
*                          ********                         *
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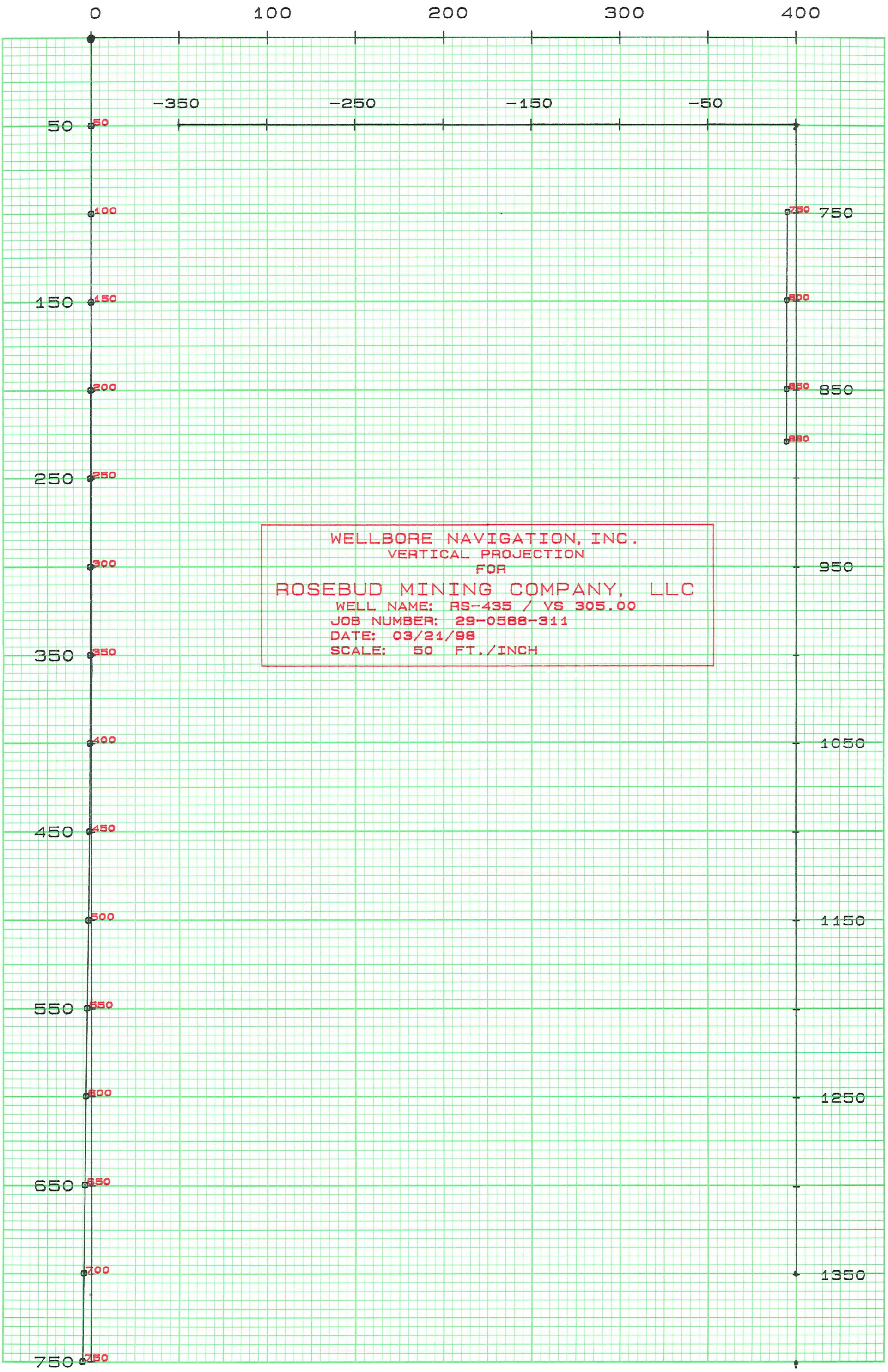

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* ROSEBUD MINING COMPANY, LLC *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435 / VS 035.00

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/21/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

VERTICAL SECTION CALCULATED IN A
PROPOSAL DIRECTION OF: 125.00

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ** BOART LONGYEAR **
***** NORM JEX *****

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
**
**
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-435 / VS 035.00

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
50.0	50.00	0.23	0.021	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13
100.0	100.00	0.70	-0.017	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58
150.0	149.99	1.18	0.117	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.67
200.0	199.99	1.57	0.458	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30
250.0	249.99	1.67	0.652	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.37
300.0	299.99	1.60	0.697	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53
350.0	349.99	1.51	0.786	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.42
400.0	399.98	0.69	0.806	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46
450.0	449.95	-0.97	1.036	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08
500.0	499.91	-2.92	1.731	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38
550.0	549.85	-5.17	2.550	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74
600.0	599.79	-7.53	3.262	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58
650.0	649.73	-9.92	3.840	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83
700.0	699.67	-12.30	4.429	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19
750.0	749.62	-14.56	4.965	-87.44	292.74	4.28 N	14.77 W	0.46	0.23	15.38	AT 286.17
800.0	799.57	-16.76	5.261	-87.46	301.97	5.30 N	16.74 W	0.82	0.41	17.56	AT 287.57
850.0	849.52	-18.90	5.374	-87.61	302.03	6.44 N	18.57 W	0.30	0.15	19.65	AT 289.13
880.0	879.50	-20.18	5.464	-87.50	299.92	7.10 N	19.66 W	0.47	0.14	20.91	AT 289.85

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*************************************************************
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   880.0 FEET EQUALS     20.91    FEET AT   289.85         *
*                          ********                         *
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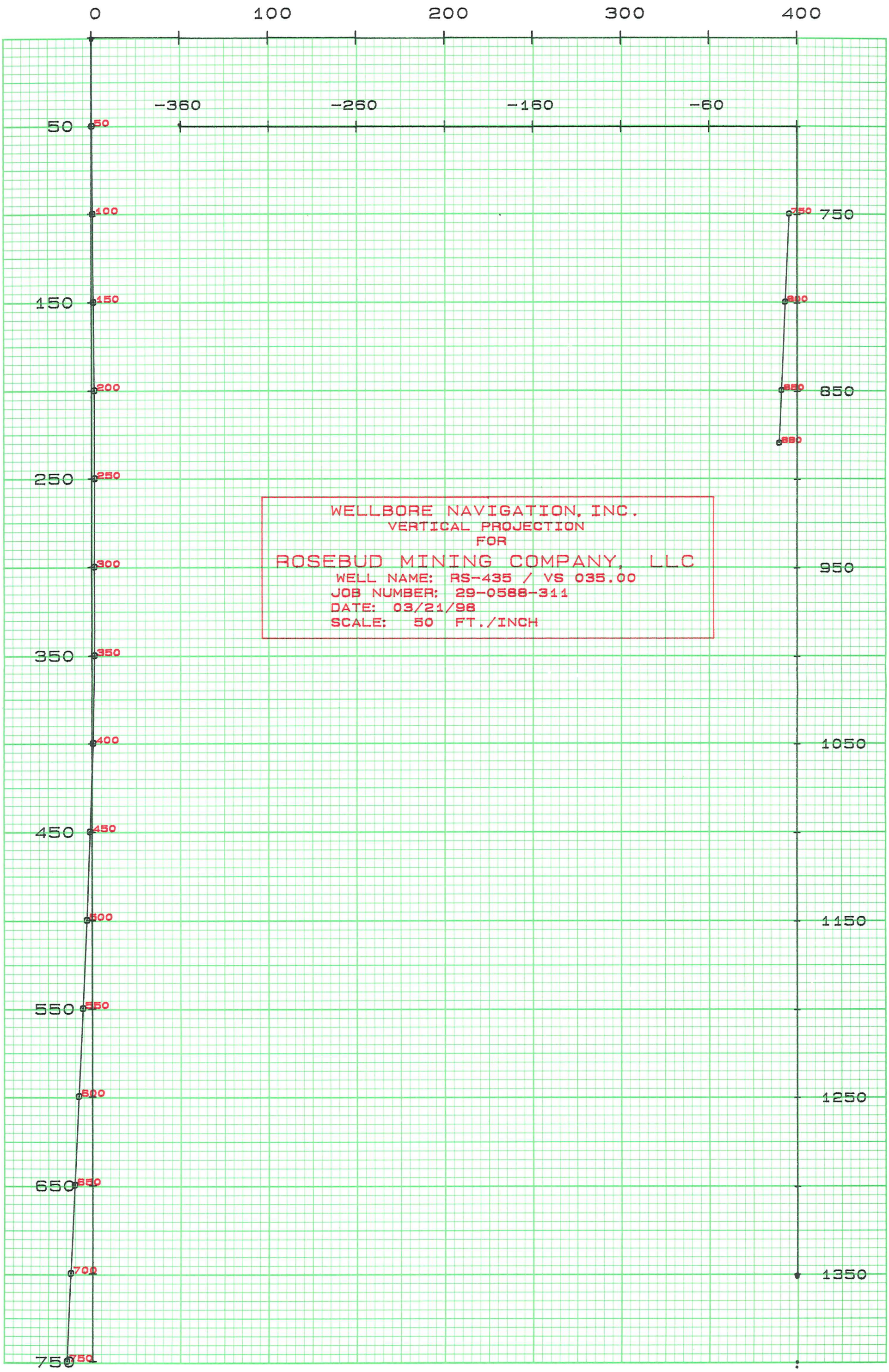

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* ROSEBUD MINING COMPANY, LLC *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/19/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

WATER CONTACT= 647'

WELNAV

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ***** EKLUND *****
** DENNIS WHITE **

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
** ********** **
** COMPANY REPRESENTATIVE **
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-435

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R CLOS.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION	TEMP. DEG F
50.0	50.00	-0.21	-0.099	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13	076.24
100.0	100.00	-0.67	-0.222	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58	075.75
150.0	149.99	-1.07	-0.511	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.68	075.01
200.0	199.99	-1.32	-0.961	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30	073.90
250.0	249.99	-1.35	-1.177	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.38	072.86
300.0	299.99	-1.27	-1.199	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53	071.64
350.0	349.99	-1.16	-1.253	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.43	070.78
400.0	399.98	-0.38	-0.992	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46	070.00
450.0	449.95	1.26	-0.646	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08	069.42
500.0	499.91	3.34	-0.637	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38	068.96
550.0	549.85	5.73	-0.647	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74	068.75
600.0	599.79	8.19	-0.517	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58	068.73
650.0	649.73	10.63	-0.252	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83	066.89
700.0	699.67	13.07	0.001	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19	068.44

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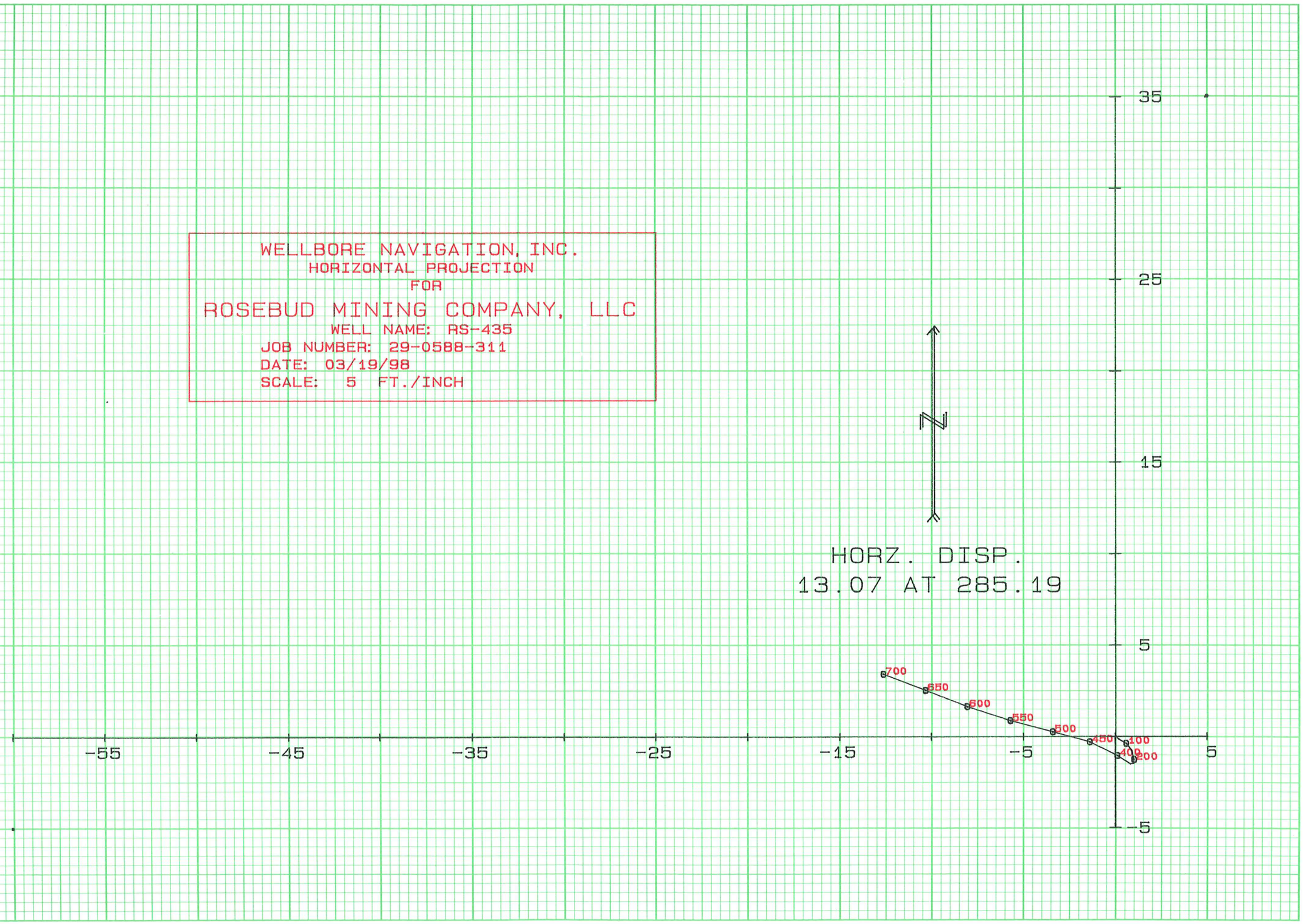
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   700.0 FEET EQUALS    13.07    FEET AT  285.19           *
*                          ********                         *
*************************************************************
```

WELLBORE NAVIGATION, INC.
HORIZONTAL PROJECTION
FOR
ROSEBUD MINING COMPANY, LLC
WELL NAME: RS-435
JOB NUMBER: 29-0588-311
DATE: 03/19/98
SCALE: 5 FT./INCH



STARLIGHT PRINTING (801) 467-2841

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* ROSEBUD MINING COMPANY, LLC *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435 / VS 305.00

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/19/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

VERTICAL SECTION CALCULATED IN A
PROPOSAL DIRECTION OF: 035.00
WATER CONTACT= 647'

****
***** DEPTH MEASURED IN FEET *******
****

COMMENTS: ***** EKLUND *****
** DENNIS WHITE **

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
**
****
**
COMPANY REPRESENTATIVE
**
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-435 / VS 305.00

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION	TEMP. DEG F
50.0	50.00	-0.02	0.235	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13	076.24
100.0	100.00	0.02	0.702	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58	075.75
150.0	149.99	-0.12	1.181	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.68	075.01
200.0	199.99	-0.46	1.566	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30	073.90
250.0	249.99	-0.65	1.665	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.38	072.86
300.0	299.99	-0.70	1.601	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53	071.64
350.0	349.99	-0.79	1.515	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.43	070.78
400.0	399.98	-0.81	0.690	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46	070.00
450.0	449.95	-1.04	-0.968	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08	069.42
500.0	499.91	-1.73	-2.925	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38	068.96
550.0	549.85	-2.55	-5.170	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74	068.75
600.0	599.79	-3.26	-7.530	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58	068.73
650.0	649.73	-3.84	-9.917	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83	066.89
700.0	699.67	-4.43	-12.296	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19	068.44

```
*************************************************************
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   700.0 FEET EQUALS     13.07    FEET AT  285.19          *
*                          ********                         *
*************************************************************
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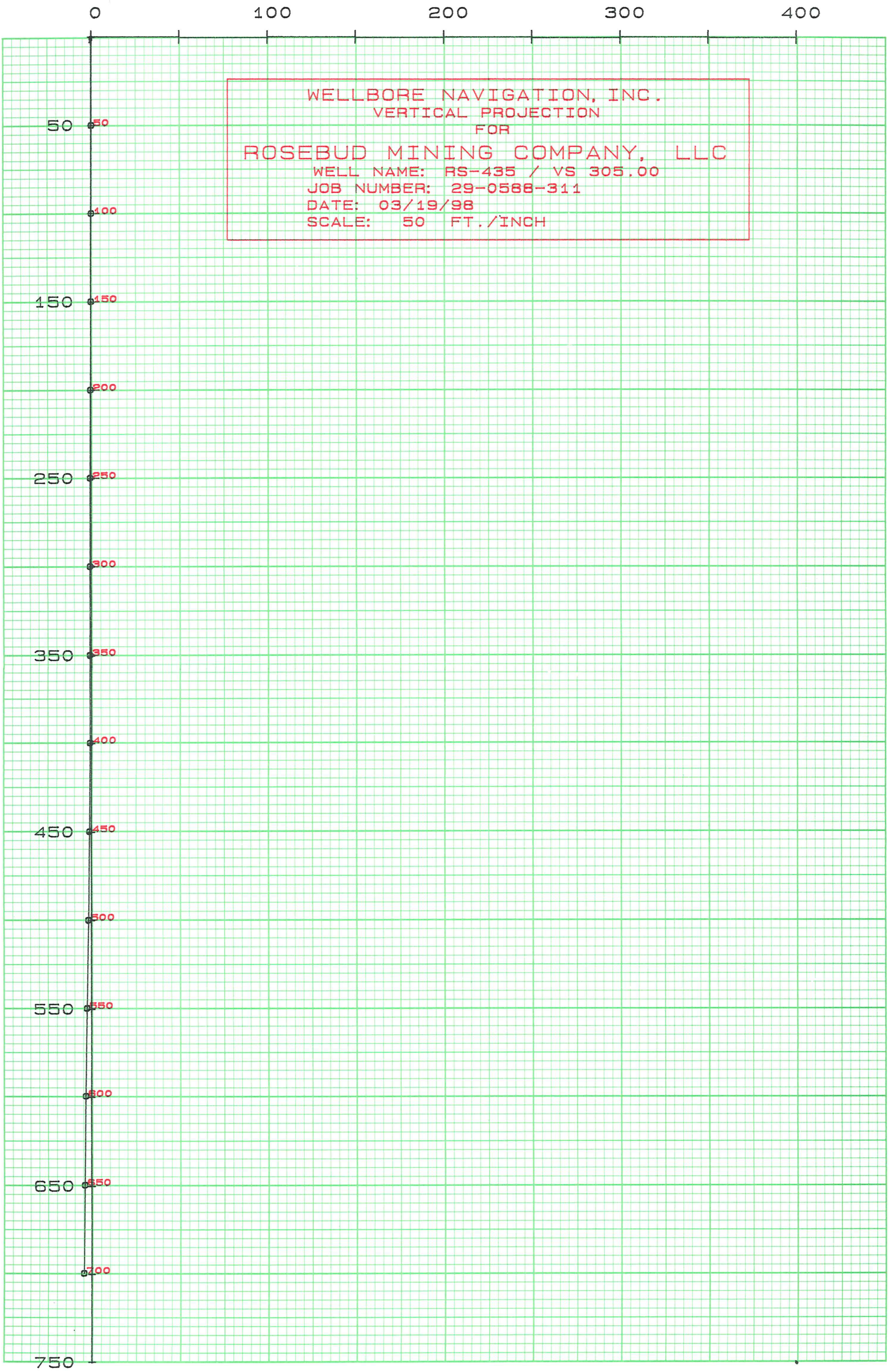

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* ROSEBUD MINING COMPANY, LLC *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-435 / VS 035.00

LOCATION: ROSEBUD MINE

SURVEY DATE: 03/19/98

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

VERTICAL SECTION CALCULATED IN A
PROPOSAL DIRECTION OF: 125.00
WATER CONTACT= 647'

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ***** EKLUND *****
** DENNIS WHITE **

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
**
**
****
****

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311

WELL NAME: RS-435 / VS 035.00

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION	TEMP. DEG F
50.0	50.00	0.23	0.021	-89.46	130.13	0.15 S	0.18 E	1.08	0.54	0.24	AT 130.13	076.24
100.0	100.00	0.70	-0.017	-89.45	110.63	0.39 S	0.58 E	0.37	0.18	0.70	AT 123.58	075.75
150.0	149.99	1.18	0.117	-89.28	163.21	0.77 S	0.90 E	1.17	0.58	1.19	AT 130.68	075.01
200.0	199.99	1.57	0.458	-89.54	171.72	1.27 S	1.02 E	0.55	0.27	1.63	AT 141.30	073.90
250.0	249.99	1.67	0.652	-89.86	253.55	1.49 S	0.99 E	0.92	0.46	1.79	AT 146.38	072.86
300.0	299.99	1.60	0.697	-89.94	309.90	1.49 S	0.91 E	0.24	0.12	1.75	AT 148.53	071.64
350.0	349.99	1.51	0.786	-89.75	248.56	1.51 S	0.79 E	0.45	0.23	1.71	AT 152.43	070.78
400.0	399.98	0.69	0.806	-88.24	310.26	1.06 S	0.10 E	3.31	1.66	1.06	AT 174.46	070.00
450.0	449.95	-0.97	1.036	-87.84	286.46	0.29 S	1.39 W	1.80	0.90	1.42	AT 258.08	069.42
500.0	499.91	-2.92	1.731	-87.40	284.58	0.26 N	3.39 W	0.89	0.45	3.40	AT 274.38	068.96
550.0	549.85	-5.17	2.550	-87.12	285.29	0.88 N	5.70 W	0.56	0.28	5.76	AT 278.74	068.75
600.0	599.79	-7.53	3.262	-87.22	291.26	1.65 N	8.04 W	0.62	0.31	8.21	AT 281.58	068.73
650.0	649.73	-9.92	3.840	-87.15	291.50	2.54 N	10.33 W	0.14	0.07	10.63	AT 283.83	066.89
700.0	699.67	-12.30	4.429	-87.23	290.67	3.42 N	12.61 W	0.18	0.09	13.07	AT 285.19	068.44

```
*************************************************************
*                          ********                         *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                          ********                         *
*   700.0 FEET EQUALS     13.07    FEET AT  285.19          *
*                          ********                         *
*************************************************************
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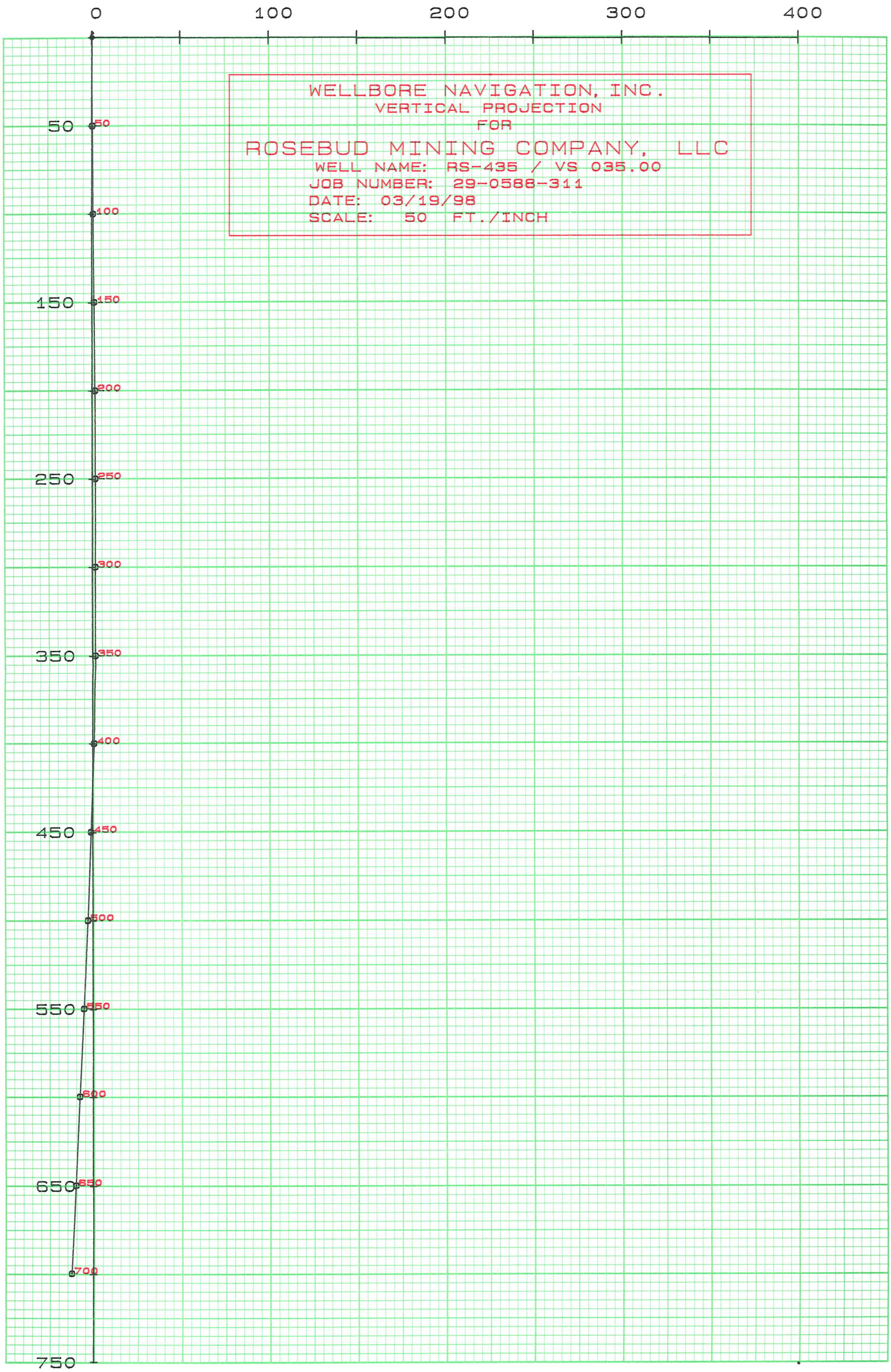

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048574

PO BOX 11530
RENO NV,USA
Ph.(702) 356-0606, Fax.(702) 356-1413

HECLA MINING COMPANY

COPIES TO : KURT ALLEN
:
:
:

Core

CLIENT REFERENCE No: RS-435 RECEIVED : 20 APR 1998

No. SAMPLES : 47 REPORTED : 30 APR 1998

MAIN SAMPLE TYPE : DRILL CORE

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)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
AuGRAV	GRAV	15%	OPT	0.001
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Susan King M.S.

04/30/1998 08:59 7023561413 AMERICAN ASSAY LABS PAGE 08

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048574

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)	
RS-435 700-705	0.011			0.04	
RS-435 705-710	0.023			0.07	
RS-435 710.0-714.4	0.008			0.03	
RS-435 714.4-719.4	0.002			<0.02	
RS-435 719.4-723.9	0.012			0.04	
RS-435 723.9-728.0	0.080		0.117	0.07	
RS-435 728.0-731.5	0.027			0.09	
RS-435 731.5-736.6	0.052			13.40	
RS-435 736.6-739.0	0.026			1.52	
RS-435 741.7-743.5	0.013			2.28	745.5-755.2
RS-435 743.5-745.5	0.117		0.099	1.52	= 9.7'
RS-435 745.5-748.0 2.5	0.589		0.579	10.80	0.258 Au
RS-435 748.0-751.5 3.5	0.111		0.067	8.49	5.96 Ag
RS-435 751.5-755.2 3.7	0.174		0.227	0.30	
RS-435 755.2-758.6	0.023	0.037		0.17	
RS-435 758.6-763.7	0.029			0.13	
RS-435 763.7-768.0	0.036			0.82	
RS-435 768.0-773.1	0.020			0.12	
RS-435 773.1-774.6	0.004			0.06	
RS-435 774.6-776.6	0.003			0.08	
RS-435 776.6-780.0	0.002			0.07	
RS-435 780.0 785.2	0.004			0.04	
RS-435 785.2-790.0	0.005			0.03	792.2-800'
RS-435 790.0-792.2	0.014			0.06	= 7.8' @
RS-435 792.2-794.7 2.5'	0.394		0.479	0.43	0.241 Au 0.23 Ag

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP048574

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD DEVELOPMENT
REFERENCE : RS-435

REPORTED : 30 APR 1998

SAMPLES	Au(OZ)	Au(RZ)	AuGRAV	Ag(OZ)
RS-435 794.7-800.0 5.3'	0.169		0.202	0.13
RS-435 800.0-805.5	0.008			0.04
RS-435 805.5-808.6	0.015			0.04
RS-435 808.6-811.9	0.009			0.03
RS-435 811.9-816.3	0.003			0.33
RS-435 816.3-820.8	0.010			3.98
RS-435 820.8-825.1	0.003			0.06
RS-435 825.1-829.1	0.003			0.06
RS-435 829.1-831.0	0.003			0.27
RS-435 831.0-835.6	0.001			0.08
RS-435 835.6-839.5	0.002			0.85
RS-435 839.5-844.5	0.002			0.12
RS-435 844.5-849.4	0.003			0.38
RS-435 849.4-854.4	0.002			0.13
RS-435 854.4-856.4	0.007			0.09
RS-435 856.4-860.3	0.004			0.04
RS-435 860.3-862.2	0.018	0.018		0.05
RS-435 862.2-865.5	0.011			0.08
RS-435 865.5-869.6	0.001			0.06
RS-435 869.6-874.8	0.019			0.22
RS-435 874.8-880.0	<0.001	<0.001		<0.02
31019	0.138			2.73

SP

SUBMITTAL FORM

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
Telephone
(702) 356-0606
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(702) 356-1413

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2775 E. Ganley
Tucson, AZ 85706
Telephone
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Fax
(520) 294-6352

Elko Office
2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Mazatlan Office
Telephone/Fax
011-52-69-170035

Other Offices
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Santiago, Chile
Mendoza, Argentina

Company: ROSEBUD MINING Co. LLC

Address: P.O. BOX 2610

City WINNEMUCCA State NV Zip 89446

Telephone Number: (702) 623-6912 Fax Number: (702) 623-6967

Project Name: DEVELOPMENT Purchase Order Number:

Date Submitted: 04/ /98 Number of Samples: 46

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [X]

RS-435 SAMPLE IDENTIFICATION			TYPE	ELEMENTS REQUIRED	
700.0-705.0	758.6-763.7		CORE	AU-AG	ACCORDING TO ROSEBUD
705.0-710.0	763.7-768.0				MINE PROTOCOLS
710.0-714.4	768.0-773.1	* 741.7-	743.5		
714.4-719.4	773.1-774.6	743.5-	745.5	854.4-856.4	
719.4-723.9	774.6-776.6	745.5-	748.0	856.4-860.3	
723.9-728.0	776.6-780.0			860.3-862.2	
728.0-731.5	780.0-785.2	816.3-	820.8	862.2-865.5	
731.5-736.6	785.2-790.0	820.8-	825.1	865.5-869.6	
736.6-739.0	790.0-792.2	825.1-	829.1	869.6-874.8	
~~[illegible]~~ - *	792.2-794.7	829.1-	831.0	874.8-880.0	
~~741.7-743.5~~	794.7-800.0	831.0-	835.6		
~~743.5-748.0~~	800.0-805.5	835.6-	839.5		
748.0-751.5	805.5-808.6	839.5-	844.5		
751.5-755.2	808.6-811.9	844.5-	849.4		
755.2-758.6	811.9-816.3	849.4-	854.4		

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to:

KURT ALLEN

Results to:

KURT ALLEN

Comments:

CLIENT FILE COPY

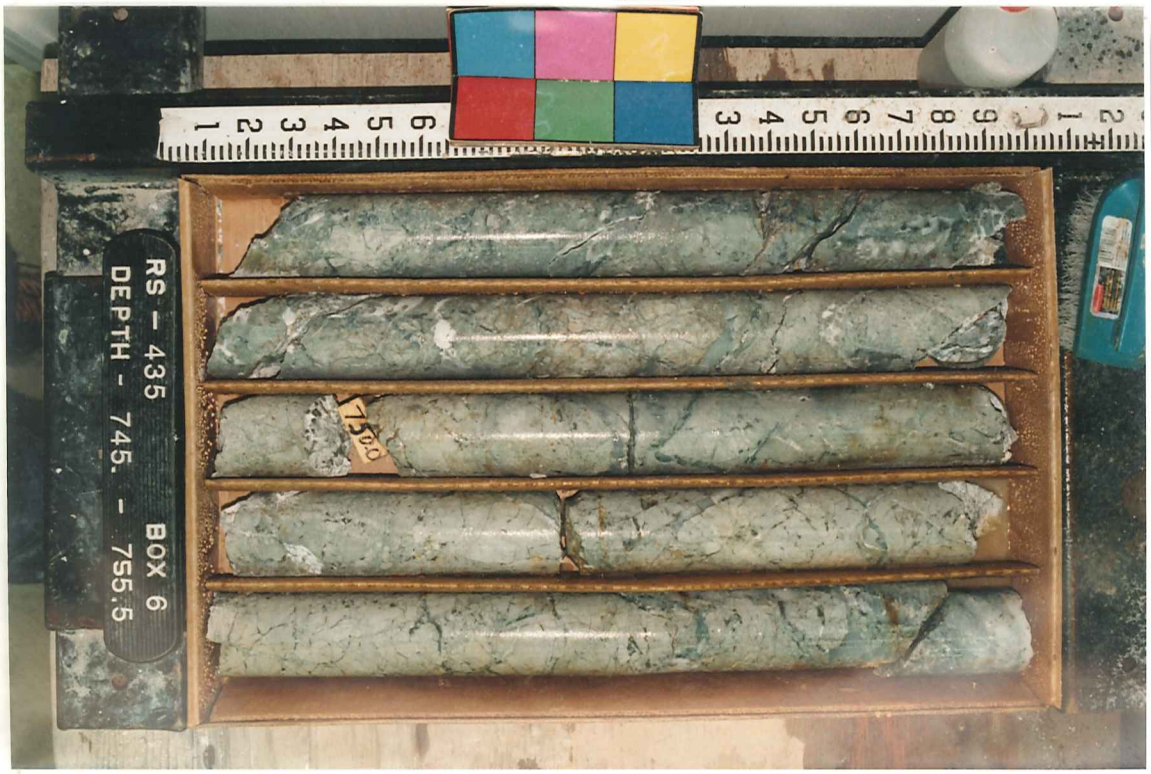
RS - 435
BOX 1
DEPTH - 700. - 709.5

RS - 435
BOX 2
DEPTH - 709.5 - 717.5

RS - 435
BOX 3
DEPTH - 717.5 - 726.5

RS - 435 BOX 4
DEPTH - 726.5 - 735.5
730.0

RS - 435 BOX 5
DEPTH - 735.5 - 745.
740.0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DEPTH - 745. - 755.5
750.0

760.0
RS - 435 BOX 7
DEPTH - 755.5 - 764.

770.0
RS - 435 BOX 8
DEPTH - 764. - 773.

780.0
RS - 435 BOX 9
DEPTH - 773. - 782.

RS - 435 BOX 10
DEPTH - 782. - 791.

RS - 435 BOX 11
DEPTH - 791. - 801.

RS - 435 BOX 12
DEPTH - 801. - 809.3

RS - 435 BOX 13
DEPTH - 809.3 - 818.

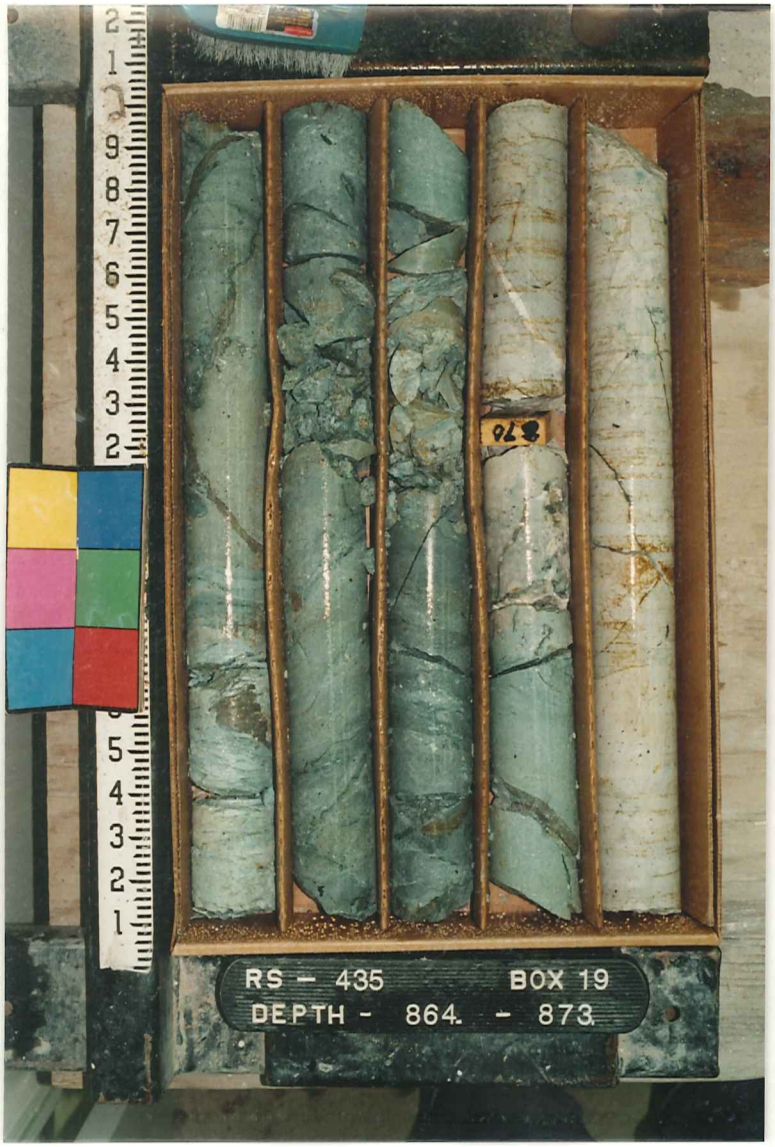
RS - 435 BOX 14
DEPTH - 818. - 827.

RS - 435 BOX 15
DEPTH - 827. - 836.

RS - 435 BOX 16
DEPTH - 836. - 845.

RS - 435 BOX 17
DEPTH - 845. - 854.

RS - 435 BOX 18
DEPTH - 854. - 864.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DEPTH - 864. - 873.

RS - 435 BOX 20
DEPTH - 873. - 880.TD