60001443

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. 96-360
AUTHOR	M. Brady; S. King; C Muerhoft; C. Held.
DATE OF DOC(S)	1996
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.; Eklund Drilling
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 1200'; handwritten notes; directional survey; receipt 37p.

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 96-360

66001443 4010

10ft samples
0-400ft
rest 5ft

Hecla MINING COMPANY
ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-360
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DATE
LOGGED BY M.W. Brady
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION 5050
AZIMUTH
INCLINATION

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

6000-1443

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%	VEINING %	VEINING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SILF %	SILBNE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Gray Clay-rich unconsolidated ash fall / Lake sed.			–					←				–				100			–					–														
10																																									
20																																									
30																																									
40																																									
50																																									
60																																									
70																																									
80																																									
90			Ltgray uncons. tuff w/tr py.			–					– X. ?				–				60 OX			–					–														
100																																									

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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 QUARTZ	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VEINING %	VEINING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SLF %	SLFBNT %	BARITE %	METALLURGY: OXIDE	SULF	DIFFICULTY	MOISTURE	ANALYTICAL DATA: FROM	TO	W	AU	Ag
			Ltgray uncons. tuff w/ tr p.y.			–					–				–				60			–					–															
110			Gray clay rich uncons. tuff w/ tr diss py – T Badger,			–					–				–				70			–					<1%															
120																																									
130																																									
140																																									
150																																									
160			Ltgray-tan uncons. tuff w/ mod. clay. Tr diss py. T Chocolate			–					–				–																											
170																																									
180																																									
190																																									
200																																									

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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%	VEINING %	VEINING 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
			Lt gray to tan uncons tuff w/ min. clay + Tr diss. py. Chocolate			–					–				–				50			–					<1%														
210																																									
220			Lt gray uncons. tuff a.a. unox. Chocolate			–					–				–				Unox																						
230																																									
240																																									
250																																									
260																																									
270																																									
280																																									
290																																									
300																																									

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RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	15%	+25%	MATRIX %	CLASTS %	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALBITE	OXIDATION 5%	15%	+25%	VEINING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	K-SILI %	SILBITE %	BARITE %	METALLURGY: OXIDE	SULF	DIFFICULT	MIXTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
310			Lt gray poorly consol. tuff w/ min. clay. +Tr. diss. py. Chocolate			–					–	X			–				–								1%														
320																																									
330			Lt gray tuff a.a w/ qtz py veinlets + Tr. diss. py. wk clay Bleached Chocolate?	1P Fault		–					X				–				–			5	qtz + py					1-2 %														
340																						2-4																			
350																																									
360																																									
370																																									
380																						5					1-2 %														
390			qtz veinlets 380-400																																						
400																																									

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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%	VEINING %	VEINING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SUL %	SULFATE %	BARITE %	METALLURGY: OXIDE	SULF	SPECIM	MOLYBDENITE	ANALYTICAL DATA: FROM	TO	W	AU	AG
410			Ltgray tuff, poorly cons w/ qtz py veinlets + wk diss py. wk clay Chocolate ?			–					X				–				–			2-4	qtz py				1-3 %														
420																																									
430																																									
440																																									
450			a.a w/ increasing qtz + py veinlets			–									–				–			4-6 %					2-4 %														
460																																									
470			Ltgray tuff a.a w/ wk qtz py veinlets			–									–				–			1-2 %					1-2 %														
480			Dark purple + brown tuff w/ wk qtz veinlets – no sulf Chocolate			–					–				–				–			1%	qtz				–														
500																																									

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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	MOLYBDENITE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Dark purple + brown tuff w/+r vfine diss py local. Chocolate.			–					–				–				–			–					<1%														
510																																									
520																																									
	✓		Lt green tuff w/wk diss py Rhy. int.			–									✓				–			–					1%														
530																																									
	✓														✓																										
	✓														✓																										
540			wte – Lt gray tuff w/wk clay + wk diss py			–					X				✓				–			–																			
	✓														✓																										
550																																									
	✓														✓																										
	✓		Lt green tuff w/wk diss py			–					–				✓				–			–																			
560																																									
	✓														✓																										
	✓														✓																										
570																																									
	✓					–					–				✓																										
			Dark purple + brown tuff w/+r vfine diss py local Chocolate.																–			–					<1%														
580																																									
590																																									
	✓		Lt green tuff w/ wk diss py Rhy int.			–					–				✓				–			–					1%														
	✓														✓																										
600																																									

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	✓		lt green tuff w/ Tr diss py			—					—				✓				—			—		—			1%														
			unknown unit could be alty int.?																																						
610	✓														✓																										
	✓														✓																										
620	✓														✓																										
	✓														✓																										
630	✓														✓																										
	✓														✓																										
640	✓														✓																										
	✓														✓																										
650	✓														✓																										
	✓														✓																										
660	✓														✓																										
	✓														✓																										
670	✓														✓																										
	✓														✓																										
680	✓														✓																										
	✓		qtz py veinlet												✓																										
690	✓														✓																										
	✓														✓																										
700	✓														✓																										

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FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MAJOR %	SILICIFICATION QZ VSTS %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % CALCITE	POTASSIC % K-SPAR	POTASSIC % ALUNITE	OXIDATION 5%	OXIDATION 15%	OXIDATION +25%	VEINING %	VEINING TYPE	MINERALIZATION: SULFIDES 5%	SULFIDES 15%	SULFIDES +25%	PY %	CPY %	MAR %	K-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOCURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
	✓		Lt green tuff w/ Tr diss py			–					–				✓				–			–					1%														
			unknown unit could be rhy intr?												✓																										
710	✓																																								
	✓														✓																										
															✓																										
720	✓																																								
															✓																										
	✓		Lt green-Apple green tuff w/ wk diss py + wk qtz. py. veinlets			–					–				✓				–			1-3	qtz py				1-3 %														
730																																									
	✓														✓																										
	✓														✓																										
740																																									
	✓														✓																										
	✓														✓																										
750																																									
	✓														✓																										
	✓														✓																										
760																																									
	✓														✓																										
	✓														✓																										
770																																									
	✓		Lt green-Apple green tuff w/ wk diss py			–					–				✓							–	–																		
	✓														✓																										
780																																									
	✓														✓																										
	✓														✓																										
790																																									
	✓														✓																										
	✓														✓																										
800																																									

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	✓		Lt green - Apple green tuff w/ wk diss py.			–					–				✓				–			–					1-3	–													
	✓		unknown unit could be rhy intr												✓																										
810																																									
	✓														✓																										
	✓														✓																										
820																																									
	✓		Lt green-gray tuff w/ wk diss py + wk qtz py veinlets			–					–				✓				–			1-3	qtz + py																		
	✓														✓																										
830																																									
	✓														✓																										
	✓																																								
840															✓																										
	✓														✓																										
	✓		Lt green-green tuff w/ tr diss py. v. fine grained			–					–				✓				–			–	–				1%														
850																																									
	✓														✓																										
	✓		qtz veinlets 855-860												✓							1	qtz																		
860																																									
	✓														✓																										
	✓														✓												<1%														
870																																									
	✓														✓																										
	✓														✓																										
880																																									
	✓														✓																										
	✓														✓																										
890																																									
	✓		qtz veinlets 890-895												✓							1	qtz																		
	✓														✓																										
900																																									

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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 %	AS-SUL %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOLYBDE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
	✓		Lt green + gray equigranular tuff w/ tr diss py			—					—				✓				—			—					<1%														
			unknown unit could be rhyolite																																						
910	✓														✓																										
			wk qtz veinlets 910-925																			1-2	qtz																		
	✓														✓																										
920	✓														✓																										
	✓														✓																										
	✓														✓																										
930	✓														✓																										
	✓														✓																										
	✓														✓																										
940	✓		calcite veinlet 940-945												✓							1-2	cal																		
	✓														✓																										
950	✓														✓																										
	✓														✓																										
	✓														✓																										
960	✓														✓																										
	✓														✓																										
970	✓		calcite veinlet 970-975												✓							1-2	cal																		
	✓														✓																										
980	✓		calcite veinlet 980-985												✓							1-2	cal																		
	✓														✓																										
990	✓		calcite veinlet 990-995 + wk clay								X wk ?				✓							1-2	cal				1%														
1000	✓		py clots increasing slightly												✓																										

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	✓		Lt green equigranular tuff w/ tr diss py			–					–				✓				–								1%														
	✓		qtz veinlet 1005-010												✓							1-2	qtz																		
1010			unknown unit could be rhyolite intr.																																						
	✓														✓																										
	✓														✓																										
1020																																									
	✓														✓																										
			qtz+py veinlets 1025-1050 w/ increasing py clots 1040-1050																			2-3	qtz py				1-2 %														
	✓														✓																										
1030																																									
	✓														✓																										
	✓														✓																										
1040																																									
	✓														✓																										
	✓														✓																										
1050																																									
	✓		Calcite veinlets 1050-1055																			1-2	calc																		
															✓																										
	✓																																								
1060																																									
			min qtz+py veinlets 1060-1075																			2-3					4-6														
	✓														✓																										
	✓														✓																										
1070																																									
	✓														✓																										
			clay (mod) + pyrite clots (mod) poss. fault			–							X																												
1080																																									
			Lt green v. fine equigranular tuff w/ tr diss py. py clots to 1095 (cave?) w/ lithics			–									✓							–																			
																											<1%														
1090															✓																										
															✓																										
															✓																										
1100																																									

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DATE
LOGGED BY
TOTAL DEPTH

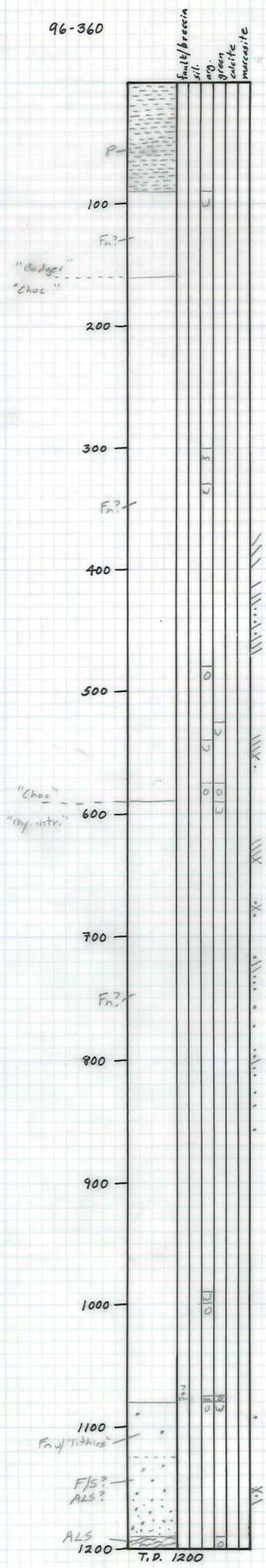
LOCATION
NORTHING
EASTING
ELEVATION 5050
AZIMUTH
INCLINATION

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 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 %	AG-SULF %	STIBNITE %	BARITE %	METALLURGY: OXIDE	SULF	CARBON	MOISTURE	ANALYTICAL DATA: FROM	TO	W	Au	Ag
1110			Lt green v fine grained tuff w/ wk qtz veinlets + tr diss py			–					–				✓				–			1-2	qtz	–			<1%														
			w/ Lithics												✓																										
1120			coarser grained Lt green tuff w/ tr diss py			–					–				✓				–					–																	
			calcite veinlet 1115-1120			–					–				✓				–			1	cal	–			1%														
1130			picking up some black fragments 1120-1125			–					–				✓				–					–																	
			calcite veinlet 1125-1130 w/more black fragments			–					–				✓				–			1	cal	–																	
															✓																										
1140			qtz+cal+py veinlets w/30% black frags			–					–								–			1-3	qtz cal + py	–			1-2 %														
															✓																										
1150																																									
															✓																										
1160			50% BLK frags 50% Lt green tuff			–					–				✓				–								1%														
1170			Calcite veinlet 1170-1175												✓							1	cal																		
1180															✓							1	qtz + py																		
1190			JFza black argillite			–					–								–			–	–				<1%														
1200																																									

TD 1200

96-360


fault/breccia
sil.
arg.
green
calcite
marcasite
P
100
Fn?
"Badger"
"Choc"
200
300
Fn?
400
500
"Choc"
"my. intr."
600
700
Fn?
800
900
1000
1100
Fn w/ "lithics"
F/S?
ALS?
ALS
1200
T.D. 1200

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037865

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: 96-360 RECEIVED : 10 APR 1996

No. SAMPLES : 200 REPORTED : 18 APR 1996

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)	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 SP037865

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-360

REPORTED : 18 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 000-010	<0.001		<0.02
96-360 010-020	<0.001		<0.02
96-360 020-030	<0.001		<0.02
96-360 030-040	<0.001		<0.02
96-360 040-050	<0.001		<0.02
96-360 050-060	<0.001	<0.001	<0.02
96-360 060-070	<0.001		<0.02
96-360 070-080	<0.001		<0.02
96-360 080-090	<0.001		<0.02
96-360 090-100	<0.001		<0.02
96-360 100-110	<0.001		<0.02
96-360 110-120	<0.001		<0.02
96-360 120-130	<0.001		<0.02
96-360 130-140	<0.001	<0.001	<0.02
96-360 140-150	<0.001		<0.02
96-360 150-160	<0.001		<0.02
96-360 160-170	<0.001		<0.02
96-360 170-180	<0.001		<0.02
96-360 180-190	<0.001		<0.02
96-360 190-200	<0.001		<0.02
96-360 200-210	<0.001		<0.02
96-360 210-220	<0.001		<0.02
96-360 220-230	<0.001		<0.02
96-360 230-240	<0.001	<0.001	<0.02
96-360 240-250	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037865

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REFERENCE : 96-360

REPORTED : 18 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 250-260	<0.001		<0.02
96-360 260-270	<0.001		<0.02
96-360 270-280	<0.001		<0.02
96-360 280-290	<0.001		<0.02
96-360 290-300	<0.001		<0.02
96-360 300-310	<0.001		<0.02
96-360 310-320	0.001		<0.02
96-360 320-330	<0.001		<0.02
96-360 330-340	<0.001		<0.02
96-360 340-350	<0.001	<0.001	<0.02
96-360 350-360	0.001		<0.02
96-360 360-370	0.001		<0.02
96-360 370-380	0.008		<0.02
96-360 380-390	0.005		<0.02
96-360 390-400	0.003		<0.02
96-360 400-405	0.001		<0.02
96-360 405-410	0.001		<0.02
96-360 410-415	0.004		<0.02
96-360 415-420	<0.001		<0.02
96-360 420-425	0.004		<0.02
96-360 425-430	0.006		0.08
96-360 430-435	0.002		<0.02
96-360 435-440	0.002	0.002	0.03
96-360 440-445	0.002		0.06
96-360 445-450	0.003		0.04

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 450-455	0.002		0.03
96-360 455-460	0.004		0.11
96-360 460-465	0.006		0.12
96-360 465-470	0.003		0.02
96-360 470-475	<0.001		<0.02
96-360 475-480	<0.001		<0.02
96-360 480-485	<0.001		<0.02
96-360 485-490	<0.001		<0.02
96-360 490-495	<0.001		<0.02
96-360 495-500	<0.001		<0.02
96-360 500-505	<0.001		<0.02
96-360 505-510	<0.001		<0.02
96-360 510-515	<0.001	<0.001	<0.02
96-360 515-520	<0.001		<0.02
96-360 520-525	<0.001		<0.02
96-360 525-530	<0.001		<0.02
96-360 530-535	<0.001		<0.02
96-360 535-540	0.003		0.03
96-360 540-545	0.006		0.07
96-360 545-550	0.008	0.008	0.09
96-360 550-555	0.010		0.11
96-360 555-560	0.001		0.02
96-360 560-565	0.002		0.04
96-360 565-570	<0.001		0.05
96-360 570-575	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 575-580	<0.001		<0.02
96-360 580-585	<0.001		0.06
96-360 585-590	<0.001		<0.02
96-360 590-595	<0.001	<0.001	<0.02
96-360 595-600	<0.001		<0.02
96-360 600-605	<0.001		<0.02
96-360 605-610	<0.001		<0.02
96-360 610-615	<0.001		0.03
96-360 615-620	<0.001		<0.02
96-360 620-625	0.006		0.06
96-360 625-630	0.006		0.07
96-360 630-635	0.006		0.11
96-360 635-640	0.014		0.07
96-360 640-645	<0.001		0.02
96-360 645-650	<0.001		<0.02
96-360 650-655	<0.001	<0.001	<0.02
96-360 655-660	<0.001		0.15
96-360 660-665	0.001		0.04
96-360 665-670	<0.001		<0.02
96-360 670-675	0.002		<0.02
96-360 675-680	0.014		0.15
96-360 680-685	0.002		<0.02
96-360 685-690	0.001		<0.02
96-360 690-695	0.001		<0.02
96-360 695-700	0.001		<0.02

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 700-705	<0.001		<0.02
96-360 705-710	<0.001		0.05
96-360 710-715	<0.001		<0.02
96-360 715-720	0.002		<0.02
96-360 720-725	0.003		<0.02
96-360 725-730	0.003		<0.02
96-360 730-735	0.002		0.03
96-360 735-740	0.002		0.05
96-360 740-745	0.002		<0.02
96-360 745-750	0.001		0.05
96-360 750-755	0.001		0.05
96-360 755-760	0.002		<0.02
96-360 760-765	0.001		<0.02
96-360 765-770	0.001		<0.02
96-360 770-775	0.002		<0.02
96-360 775-780	0.001		<0.02
96-360 780-785	0.001		<0.02
96-360 785-790	<0.001		0.07
96-360 790-795	0.002		0.06
96-360 795-800	0.002		0.03
96-360 800-805	0.004		<0.02
96-360 805-810	0.002		<0.02
96-360 810-815	0.002		<0.02
96-360 815-820	<0.001		<0.02
96-360 820-825	0.001		<0.02

AMERICAN ASSAY LABORATORIES

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REPORTED : 18 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 825-830	0.002		<0.02
96-360 830-835	<0.001	<0.001	<0.02
96-360 835-840	0.002		<0.02
96-360 840-845	0.001		0.15
96-360 845-850	<0.001		<0.02
96-360 850-855	<0.001		<0.02
96-360 855-860	0.002		<0.02
96-360 860-865	<0.001		<0.02
96-360 865-870	<0.001		0.02
96-360 870-875	0.001		<0.02
96-360 875-880	<0.001		<0.02
96-360 880-885	<0.001		0.04
96-360 885-890	<0.001		0.02
96-360 890-895	<0.001		<0.02
96-360 895-900	<0.001	<0.001	<0.02
96-360 900-905	<0.001		0.02
96-360 905-910	<0.001		0.02
96-360 910-915	<0.001		<0.02
96-360 915-920	<0.001		<0.02
96-360 920-925	<0.001		<0.02
96-360 925-930	<0.001		<0.02
96-360 930-935	<0.001	<0.001	<0.02
96-360 935-940	<0.001		<0.02
96-360 940-945	<0.001		<0.02
96-360 945-950	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 950-955	<0.001		<0.02
96-360 955-960	<0.001		<0.02
96-360 960-965	<0.001		<0.02
96-360 965-970	<0.001		<0.02
96-360 970-975	<0.001		<0.02
96-360 975-980	<0.001		<0.02
96-360 980-985	<0.001		<0.02
96-360 985-990	<0.001		<0.02
96-360 990-995	0.001		<0.02
96-360 995-1000	<0.001		<0.02
96-360 1000-1005	<0.001		<0.02
96-360 1005-1010	<0.001		<0.02
96-360 1010-1015	<0.001		<0.02
96-360 1015-1020	<0.001		<0.02
96-360 1020-1025	<0.001	<0.001	<0.02
96-360 1025-1030	<0.001		<0.02
96-360 1030-1035	<0.001		<0.02
96-360 1035-1040	<0.001		<0.02
96-360 1040-1045	<0.001		<0.02
96-360 1045-1050	<0.001		<0.02
96-360 1050-1055	<0.001		<0.02
96-360 1055-1060	<0.001	<0.001	<0.02
96-360 1060-1065	<0.001		<0.02
96-360 1065-1070	<0.001		<0.02
96-360 1070-1075	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

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REPORTED : 18 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-360 1075-1080	0.001		<0.02
96-360 1080-1085	<0.001		<0.02
96-360 1085-1090	<0.001		<0.02
96-360 1090-1095	0.002		<0.02
96-360 1095-1100	<0.001		<0.02
96-360 1100-1105	<0.001		<0.02
96-360 1105-1110	<0.001		<0.02
96-360 1110-1115	<0.001	<0.001	0.06
96-360 1115-1120	<0.001		<0.02
96-360 1120-1125	<0.001		<0.02
96-360 1125-1130	<0.001		<0.02
96-360 1130-1135	<0.001		<0.02
96-360 1135-1140	<0.001		<0.02
96-360 1140-1145	<0.001		<0.02
96-360 1145-1150	0.001		<0.02
96-360 1150-1155	0.010		0.03
96-360 1155-1160	0.002		0.08
96-360 1160-1165	0.004		0.06
96-360 1165-1170	0.001		<0.02
96-360 1170-1175	0.001		<0.02
96-360 1175-1180	0.001		0.03
96-360 1180-1185	<0.001		<0.02
96-360 1185-1190	<0.001	<0.001	<0.02
96-360 1190-1195	<0.001		<0.02
96-360 1195-1200	<0.001		<0.02

WELNAV

WELLBORE NAVIGATION INC.

DIRECTIONAL SURVEY/SERVICE JOB TICKET

CUSTOMER: HECLA Mining Co.

JOB NUMBER: 29-0588-31

STREET NO. OR P.O. BOX:

DATE: 4-3-96

CITY: STATE: ZIP CODE:

DISTRICT: El Ko

PHONE:

CUSTOMER P.O.:

COUNTY OR PARRISH: STATE OR COUNTRY:

CUSTOMER NO.:

WELL NAME: 96-360 WELL NO.: LEASE OR BLOCK: Rosebud

INVOICE NO.: 5475

We hereby request you to supply the following services and/or equipment for which we agree to pay you in accordance with your current price list and general terms and conditions.

SIGNATURE OF CUSTOMER OR AUTHORIZED REPRESENTATIVE:

SIGNATURE OF WELNAV REPRESENTATIVE: B. Mernas

	UNIT	RATE	TOTAL
TYPE OF SURVEY/SERVICE: SRG			
FOOTAGE SURVEYED FROM: 96-360 0 TO 500	500'		
500 to 930	430'		
FOOTAGE TRAVERSED FROM: TO			
ARRIVE DOCK: ARRIVE RIG:			
START JOB: COMPLETE JOB:			
DEPART RIG: ARRIVE DOCK:			
TOTAL OPERATING HOURS:			
TOTAL STANDBY HOURS:			
REASON FOR STANDBY:			
CONSULTATION:			
COMPUTER:			
DRAFTING:			
COPIES OR BLUEPRINT:			
PER DIEM:			
TRAVEL:			
MILEAGE: CAR			
PICKUP			
OTHER			
FREIGHT:			
OTHER:			

SUB-TOTAL	
STATE TAX	
COUNTY TAX PARRISH TAX	
TOTAL AMOUNT	

APPROVAL OF OPERATIONS AND CHARGES

BY: [signature]

CUSTOMER OR AUTHORIZED REPRESENTATIVE

WN-7

White - Customer Invoice Blue - Accounting Green - District Office Canary - Division Office Pink - Copy Goldenrod - Customer Field Copy

WELNAV
ELKO, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* HECLA MINING CO. *
****

JOB NUMBER: 29-0588-311

WELL NAME: 96-360

LOCATION: ROSEBUD

SURVEY DATE: 4-3-96

SURVEY ENGINEER: CHAD HELD

GYRO REFERENCE BEARING: 154.50

TIE-ON COORDINATES AT: 0 M.D.
TAKEN FROM: COLLAR

WELNAV

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

COMMENTS: *** EKLUND ***

PROJECT F/930' T/1000'

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

****
COMPANY REPRESENTATIVE

WELNAV
ELKO, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: 96-360

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R CLOS.	INCL	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
0.0	0.00	0.00	0.000	-46.56	069.20	0.00 N	0.00 E	0.00		0.00	AT 000.00
50.0	37.13	33.35	-2.859	-49.37	068.54	12.06 N	31.23 E	5.69	2.84	33.48	AT 068.88
100.0	75.79	64.93	-5.780	-51.90	068.44	23.69 N	60.73 E	5.06	2.53	65.19	AT 068.69
150.0	115.86	94.71	-8.386	-54.66	069.14	34.51 N	88.59 E	5.58	2.79	95.08	AT 068.72
200.0	157.29	122.60	-10.624	-57.27	069.25	44.45 N	114.75 E	5.22	2.61	123.06	AT 068.83
250.0	199.89	148.70	-12.646	-59.59	069.46	53.68 N	139.25 E	4.65	2.32	149.23	AT 068.92
300.0	243.47	173.13	-14.437	-61.73	069.73	62.22 N	162.21 E	4.29	2.14	173.73	AT 069.01
350.0	287.93	195.95	-15.975	-63.82	070.14	70.07 N	183.69 E	4.20	2.10	196.60	AT 069.12
400.0	333.11	217.34	-17.273	-65.43	070.49	77.29 N	203.86 E	3.23	1.62	218.02	AT 069.24
450.0	378.87	237.43	-18.395	-67.09	070.69	83.98 N	222.85 E	3.32	1.66	238.15	AT 069.35
500.0	425.24	256.13	-19.311	-68.95	071.29	90.08 N	240.54 E	3.75	1.87	256.85	AT 069.47
550.0	472.08	273.60	-20.032	-70.11	071.55	95.66 N	257.11 E	2.33	1.16	274.33	AT 069.59
600.0	519.41	289.69	-20.572	-72.30	072.21	100.67 N	272.42 E	4.40	2.20	290.42	AT 069.72
650.0	567.29	304.09	-20.982	-74.22	072.08	105.09 N	286.12 E	3.84	1.92	304.81	AT 069.83
700.0	615.61	316.92	-21.436	-76.01	071.39	109.11 N	298.32 E	3.60	1.80	317.65	AT 069.91
750.0	664.24	328.53	-21.620	-77.13	074.48	112.53 N	309.42 E	2.66	1.33	329.24	AT 070.01
800.0	712.98	339.66	-20.851	-77.04	080.97	114.90 N	320.32 E	2.90	1.45	340.30	AT 070.27
850.0	761.74	350.54	-18.820	-77.34	087.82	115.99 N	331.33 E	3.09	1.55	351.05	AT 070.71
900.0	810.58	360.23	-14.457	-77.73	108.58	114.50 N	341.85 E	8.95	4.48	360.52	AT 071.48
930.0	839.88	365.28	-10.408	-77.28	116.23	112.03 N	347.83 E	5.71	1.71	365.43	AT 072.15
1000.0	908.16	376.66	-0.004	-77.27	116.21	105.21 N	361.67 E	0.02	0.01	376.66	AT 073.78

```
*************************************************************
*                         ********                          *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                         ********                          *
*  1000.0 FEET EQUALS    376.66    FEET AT   073.78         *
*                         ********                          *
*************************************************************
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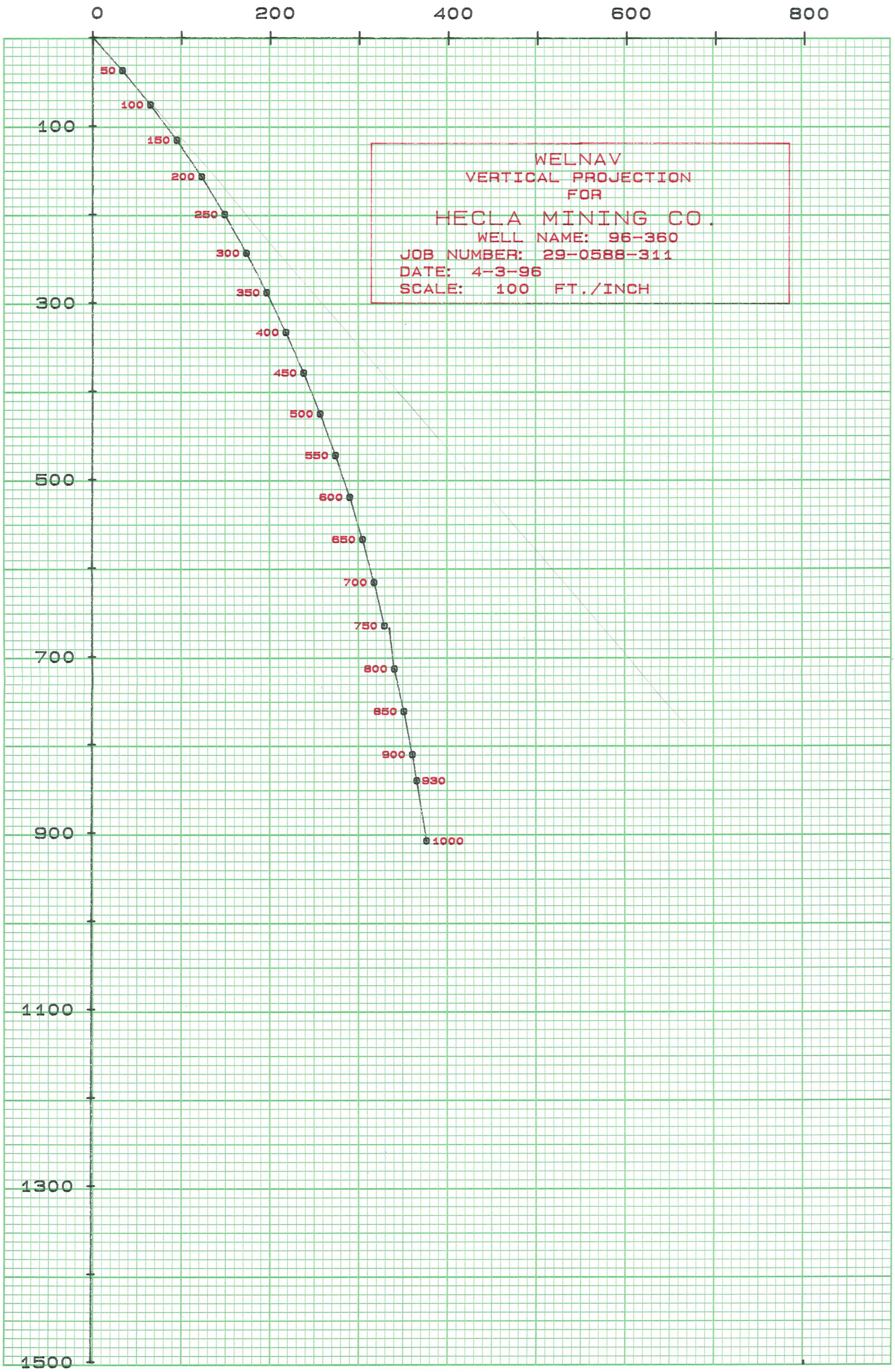
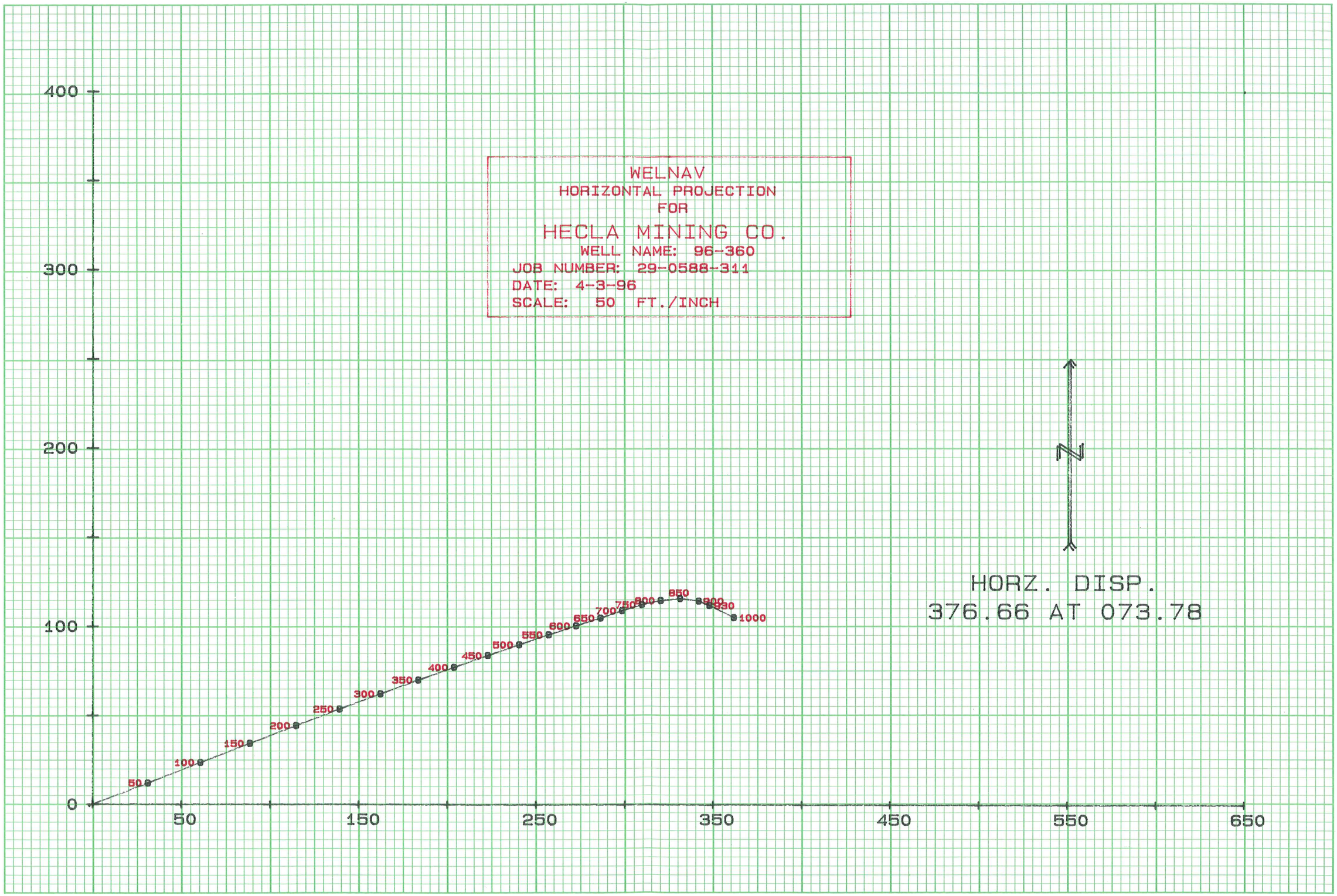
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