60001449

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. 96-366
AUTHOR	M. Brady; S. King; C. Muerhoff; Hecla Mining Co. V. Reid; B. Steelman
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; Eklund Drilling
COMMODITY If not obvious	gold silver
NOTES	Drill log; geology; assay; total depth 620' handwritten notes; directional survey 17p.

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: mch
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

Drill log Rosebud 96-366

60001449 4010

10 ft samples
0-300
5 ft samples
300-620 TD
hole dry

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
PAGE 1 OF 4
DATE
LOGGED BY MW BRADY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

AREA 60001449
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	15%	+25%	MAG %	QUARTZ %	ARGILLIC 5%	15%	+25%	TYPE	PROPYLITIC % CHLORITE	CALCITE	POTASSIC % K-SPAR	ALUNITE	OXIDATION 5%	15%	+25%	VEINING %	TYPE	MINERALIZATION: SULFIDES 5%	15%	+25%	PY %	CPY %	MAR %	K-SUL %	SELENITE %	BARITE %	METALLURGY: OXIDE	SULF	OXBOX	MOLYB	ANALYTICAL DATA: FROM	TO	W	AU	AG
			Qal																																						
10			wk-tan coarse equigranular tuff w/ wk lithics? wk cly			—					X				—				100			—					—														
20																																									
30																																									
40																																									
50																																									
60			Dark red brown tuff no sulf — andesite?			—					—																														
70																																									
80																																									
90			wk to orange brown equigranular tuff w/ ? lithics? OX			—					—				—				100 ?			—					—														
100																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
PAGE 2 OF 7
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

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

FEET	GRAPHIC	BOX TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MAS %	SILICIFICATION QUARTZ %	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % EPIDOTE	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 %	SPHALERITE %	BARITE %	METALLURGY: OXIDE	SULF	OPEN	MOISTURE	ANALYTICAL DATA: FROM	TO	W	AU	AG
			wte + orange brown equigranular tuff w/ lithics + wk orange brn leox coats - ox			–					–				–				100			–					–														
110																																									
120																																									
130			wte - Lt green - Tan tuff a.a.			–					–				✓				59			–					–														
			Dark purple + tan - Lt green tuff aa. w/ wk clay			–					X				✓																										
140															✓																										
150															✓																										
															✓																										
160															✓																										
			Olive green tuff w/ Lithics unox ?			–					–				✓				+			–					<1														
170															✓																										
			wte - Lt green equigranular tuff w/ wk lithics + wk clay + wk qtz + py veinlets			–					X				✓				–			1-2	qtz + py				1-2														
	?														✓																										
180															✓																										
															✓																										
190															✓																										
															✓																										
200															✓																										

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
PAGE 3 OF 7
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
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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 MASS	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 %	SLBNITE %	BARITE %	METALLURGY: OXIDE	SULF	DPSOX	MIXED	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			wk-Lt green equigranular tuff w/tr diss py + py clots local wk-clay			–					X				✓				—			? py	Py (no qtz)				1-2													
															✓				c																						
210															✓																										
															✓																										
220															✓																										
															✓																										
230															✓																										
															✓																										
240															✓																										
															✓																										
250															✓																										
															✓																										
260															✓																										
															✓																										
270															✓																										
															✓																										
280															✓																										
															✓																										
290															✓																										
															✓																										
300															✓																										

Hecla MINING COMPANY

ROSEBUD PROJECT DRILL LOG

HOLE NUMBER: 96-366
PAGE 4 OF 7
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
EASTING
ELEVATION
AZIMUTH
INCLINATION

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

FEET	GRAPHIC	BOX TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MAGS	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-SILI %	SILICIFIED %	BARITE %	METALLURGY: OXIDE	SULF	DIFFICULT	MIXED	ANALYTICAL DATA: FROM	TO	W	Au	Ag
			Lt green-wte equigranular tuff w/ tr diss py ?			–					?				✓				–			–					1															
310															✓				✓																							
															✓																											
320															✓																											
			wte-Lt brown (amber) equigranular tuff w/ tr diss py + min-mod qtz veinlets			–					–				–				–				2-3	qtz																		
330																																										
340																																										
350																																										
360			qtz veinlets w/ py now			–					–				–								2-3	qtz + py			1-3															
370																																										
380																																										
390																																										
400																																										

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
PAGE 5 OF 7
DATE
LOGGED BY
TOTAL DEPTH

LOCATION
NORTHING
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ELEVATION
AZIMUTH
INCLINATION

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

FEET	GRAPHIC	BOX TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION: SILICIFICATION 5%	SILICIFICATION 15%	SILICIFICATION +25%	SILICIFICATION MAS	SILICIFICATION QUARTZ	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % CHLORITE	PROPYLITIC % EPIDOTE	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 %	SUL %	BARITE %	METALLURGY: OXIDE	SULF	DPEOX	MOLYB	ANALYTICAL DATA: FROM	TO	W	AU	AG
			wte-amber brown equigranular tuff w/tr diss py + min qtz-py veinlets			–					–				✓				–			2-3	qtz + py				1-3													
															✓				✓																					
410															✓																									
			wte-Ltgreen tuff a.a			–					–				✓																									
420																											1-2													
			wte silica flooded tuff?			X					–																													
			wte-Ltgreen equigranular tuff w/tr diss py + min qtz-py veinlets			–					–				✓							2-3	qtz + py				1-3													
430															✓																									
															✓																									
440																																								
			wte-Ltgreen tuff a.a no qtz-py but finer grained veinlets			–					–				✓							–	–				<1													
450															✓																									
															✓																									
460															✓																									
															✓																									
470															✓																									
			Dark red brown + gray fine grained tuff no sulf			–					–												–																	
480																																								
			wte-Ltgreen-tan v fine equigranular tuff w/tr diss Py ~> Dozer?			–					–				✓								–																	
490															✓																									
															✓																									
500																																								

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
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LOCATION
NORTHING
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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 MASSIVE	SILICIFICATION QUARTZ	ARGILLIC 5%	ARGILLIC 15%	ARGILLIC +25%	ARGILLIC TYPE	PROPYLITIC % COURSE	PROPYLITIC % DILUTE	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 %	SUL-BNE %	BARITE %	METALLURGY: OXIDE	SULF	DIFFICULT	MIXED	ANALYTICAL DATA: FROM	TO	W	AU	AG
			Lt green-tan v fine equigranular tuff w/Tr diss py ~> Dozer?			–					–				✓				–			–					<1														
510															✓				✓																						
															✓																										
520															✓																										
			a.a w/wk qtz py veinlets 520-525																			1-2	qtz py				1-2														
															✓																										
530															✓												<1														
															✓																										
540															✓																										
															✓																										
			a.a w/wk qtz py veinlets 545-550																			1-2	qtz py				1-2														
550															✓																										
															✓												<1														
560															✓																										
															✓																										
			Dark red brown fine equigranular tuff - no sulf			–					–																–														
570																																									
580																																									
590																																									
600																																									

Hecla MINING COMPANY

ROSEBUD PROJECT
DRILL LOG

HOLE NUMBER 96-366
PAGE 7 OF 7
DATE
LOGGED BY
TOTAL DEPTH

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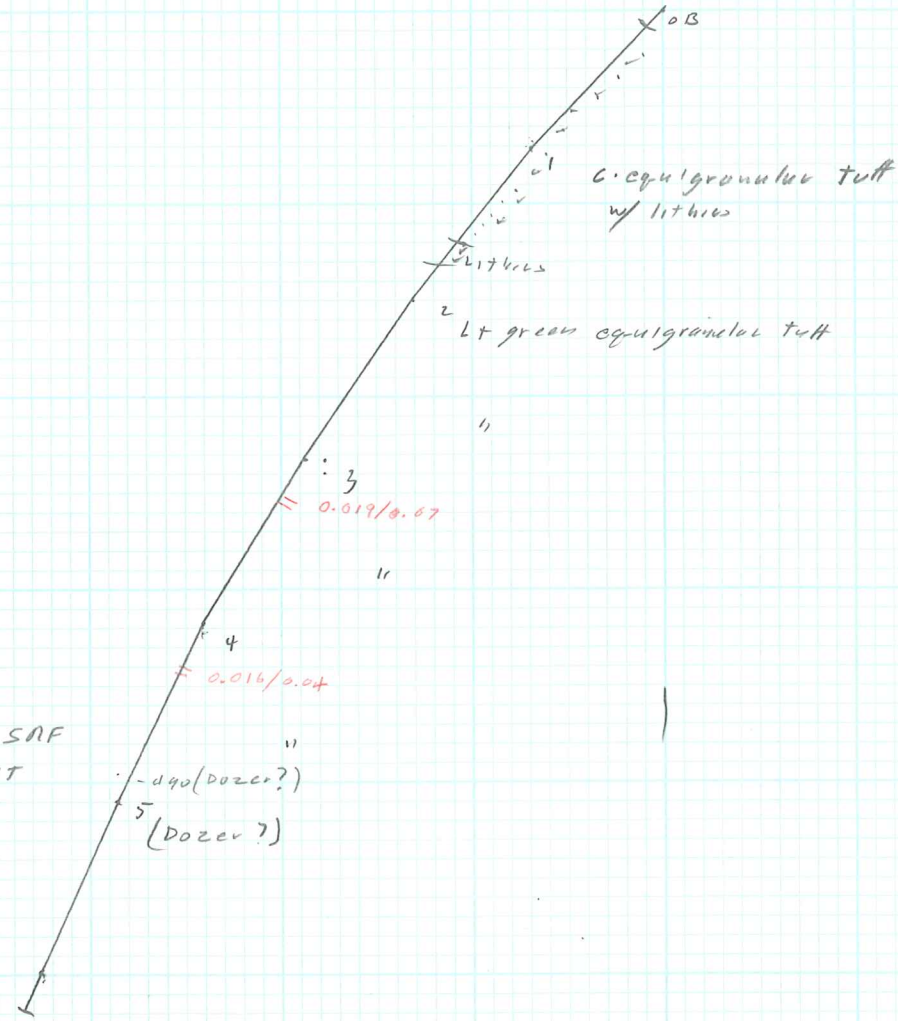
AREA
DRILLING CO.
RIG TYPE
HOLE SIZE
DOWN HOLE SURVEY BY

FEET	GRAPHIC	ROCK TYPE	LITHOLOGY	HARDNESS	TEXTURE	ALTERATION																	MINERALIZATION								METALLURGY				ANALYTICAL DATA				
						SILICIFICATION					ARGILLIC				PROPYLITIC %	POTASSIC %			OXIDATION			VEINING	SULFIDES			PY	CPY	MAR	K-SUL	SULFATE	BARITE	OXIDE	SULF	CARBON	MOLYB	FROM	TO	W	Au	Ag
						5%	15%	25%	MASSIVE	QUARTZ	5%	15%	25%	TYPE	CHLORITE	CALCITE	K-SPAR	ALUNITE	5%	15%	25%	% TYPE	5%	15%	25%	%	%	%	%	%	%									
			Dark red brown fine equigranular tuff - no sulf			–					–				–				–			–					–														
610																																								
620																																								
			TD 620																																					



Does not mention SAF
in log or describe Fault

Rose bud
96-366
1" = 100'
In plane of hole

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037952

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: 96-366 RECEIVED : 17 APR 1996

No. SAMPLES : 95 REPORTED : 26 APR 1996

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)	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 SP037952

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-366

REPORTED : 26 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-366 00-05	<0.001		<0.02
96-366 05-10	<0.001		<0.02
96-366 10-20	<0.001		<0.02
96-366 20-30	0.006	0.006	0.11
96-366 30-40	0.001		<0.02
96-366 40-50	0.005		0.10
96-366 50-60	<0.001		<0.02
96-366 60-70	<0.001		<0.02
96-366 70-80	<0.001		<0.02
96-366 80-90	<0.001		<0.02
96-366 90-100	<0.001		<0.02
96-366 100-110	0.003	0.004	0.04
96-366 110-120	0.005		0.11
96-366 120-130	<0.001		<0.02
96-366 130-140	<0.001		<0.02
96-366 140-150	<0.001		<0.02
96-366 150-160	<0.001		<0.02
96-366 160-170	<0.001		0.06
96-366 170-180	0.003		<0.02
96-366 180-190	0.001		<0.02
96-366 190-200	<0.001		<0.02
96-366 200-210	<0.001		0.08
96-366 210-220	0.002		0.18
96-366 220-230	0.009	0.010	0.12
96-366 230-240	0.002		0.07

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037952

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-366

REPORTED : 26 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-366 240-250	0.002		0.03
96-366 250-260	<0.001		0.02
96-366 260-270	<0.001		0.02
96-366 270-280	0.003		0.05
96-366 280-290	0.004		0.05
96-366 290-300	0.002		0.05
96-366 300-305	0.001		0.06
96-366 305-310	0.004		0.04
96-366 310-315	0.001		0.04
96-366 315-320	<0.001		0.04
96-366 320-325	0.019	0.017	0.07
96-366 325-330	0.006		0.14
96-366 330-335	0.004		0.08
96-366 335-340	0.002		0.06
96-366 340-345	0.003		0.09
96-366 345-350	0.002		0.10
96-366 350-355	0.002		0.04
96-366 355-360	0.003		0.07
96-366 360-365	0.002		0.07
96-366 365-370	0.002		0.10
96-366 370-375	0.003		0.05
96-366 375-380	0.002		0.06
96-366 380-385	0.001		0.11
96-366 385-390	0.003		0.09
96-366 390-395	0.003		0.08

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037952

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-366

REPORTED : 26 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-366 395-400	0.002		0.11
96-366 400-405	0.003		0.07
96-366 405-410	0.003		0.08
96-366 410-415	0.003		0.08
96-366 415-420	0.002		0.08
96-366 420-425	0.016	0.017	0.04
96-366 425-430	0.001		<0.02
96-366 430-435	0.016		0.07
96-366 435-440	0.009		0.07
96-366 440-445	0.003		<0.02
96-366 445-450	0.011		0.03
96-366 450-455	<0.001		<0.02
96-366 455-460	<0.001		<0.02
96-366 460-465	<0.001		<0.02
96-366 465-470	<0.001		<0.02
96-366 470-475	<0.001		<0.02
96-366 475-480	<0.001		<0.02
96-366 480-485	<0.001		<0.02
96-366 485-490	<0.001		<0.02
96-366 490-495	<0.001		<0.02
96-366 495-500	<0.001		0.05
96-366 500-505	<0.001		<0.02
96-366 505-510	<0.001		<0.02
96-366 510-515	<0.001		<0.02
96-366 515-520	<0.001		<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP037952

American Assay Laboratories

CLIENT : HECLA MINING CO.
PROJECT : ROSEBUD
REFERENCE : 96-366

REPORTED : 26 APR 1996

SAMPLES	Au(OZ) FA60 OPT	Au(RZ) FA60 OPT	Ag(OZ) D210 OPT
96-366 520-525	0.003		0.02
96-366 525-530	<0.001		<0.02
96-366 530-535	<0.001		<0.02
96-366 535-540	<0.001		<0.02
96-366 540-545	<0.001		<0.02
96-366 545-550	<0.001		<0.02
96-366 550-555	<0.001		<0.02
96-366 555-560	<0.001		<0.02
96-366 560-565	<0.001		<0.02
96-366 565-570	<0.001		<0.02
96-366 570-575	<0.001		<0.02
96-366 575-580	<0.001		<0.02
96-366 580-585	<0.001		<0.02
96-366 585-590	<0.001		<0.02
96-366 590-595	<0.001		<0.02
96-366 595-600	<0.001		<0.02
96-366 600-605	<0.001		<0.02
96-366 605-610	<0.001		<0.02
96-366 610-615	<0.001		<0.02
96-366 615-620	<0.001	<0.001	<0.02

WELNAV
ELKO, NEVADA

MAGNETIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* HECLA MINING COMPANY *
****

JOB NUMBER: 290-0588-311

WELL NAME: 96-366

LOCATION: ROSEBUD PROJECT

SURVEY DATE: 04/14/96

SURVEY ENGINEER: VERN REID

MAGNETIC DECLINATION: 15.00E

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

WELNAV

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

COMMENTS: ****** EKLUND ******
** BRIAN STEELMAN **

****
****
*** 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: 290-0588-311

WELL NAME: 96-366

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	-45.53	130.79	0.00 N	0.00 E	0.00		0.00	AT 000.00
50.0	35.91	34.64	-3.327	-46.27	131.38	22.87 S	26.23 E	1.69	0.85	34.80	AT 131.08
100.0	72.66	68.42	-6.073	-48.36	132.49	45.51 S	51.45 E	4.44	2.22	68.69	AT 131.50
150.0	110.84	100.67	-7.392	-51.19	136.07	68.02 S	74.57 E	7.31	3.65	100.94	AT 132.37
200.0	150.55	131.03	-7.923	-54.00	135.03	89.71 S	95.83 E	5.76	2.88	131.27	AT 133.11
250.0	191.22	160.12	-8.296	-54.84	136.66	110.58 S	116.10 E	2.53	1.27	160.33	AT 133.60
300.0	232.58	188.20	-7.824	-56.81	138.45	131.29 S	135.06 E	4.42	2.21	188.36	AT 134.19
350.0	275.01	214.62	-6.854	-59.32	138.91	151.15 S	152.52 E	5.04	2.52	214.73	AT 134.74
400.0	318.51	239.23	-5.492	-61.62	140.63	169.95 S	168.45 E	4.90	2.45	239.29	AT 135.25
450.0	362.83	262.34	-4.405	-63.22	137.82	187.49 S	183.55 E	4.12	2.06	262.38	AT 135.61
500.0	407.72	284.34	-3.463	-64.51	140.28	204.11 S	197.99 E	3.37	1.68	284.36	AT 135.87
550.0	453.23	305.01	-2.144	-66.56	140.16	220.03 S	211.24 E	4.10	2.05	305.01	AT 136.17
600.0	499.41	324.12	-0.722	-68.36	141.54	234.88 S	223.35 E	3.75	1.88	324.12	AT 136.44
620.0	518.03	331.38	0.011	-68.81	143.14	240.66 S	227.81 E	3.69	0.74	331.38	AT 136.57

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*                         ********                          *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                         ********                          *
*   620.0 FEET EQUALS    331.38    FEET AT  136.57          *
*                         ********                          *
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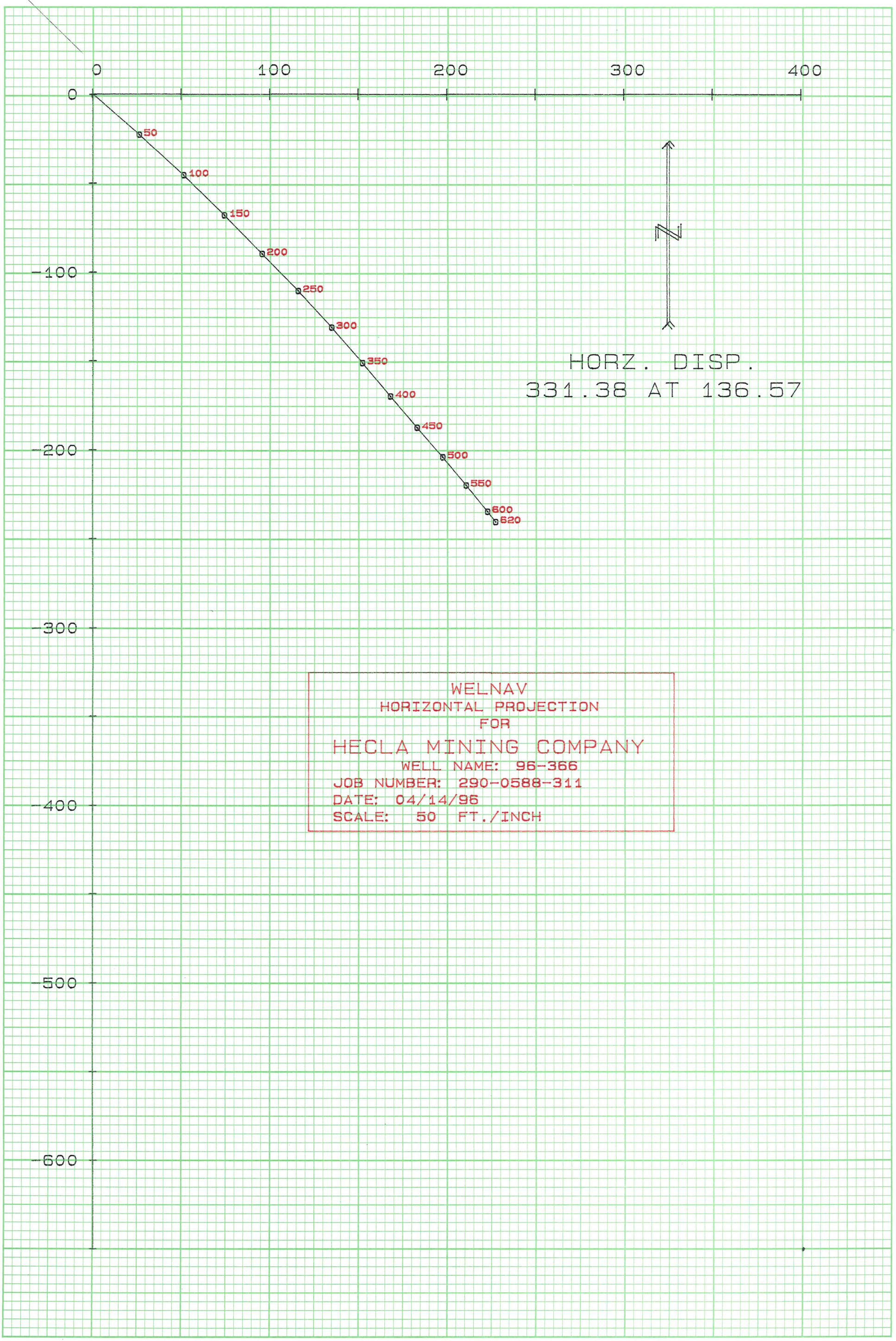
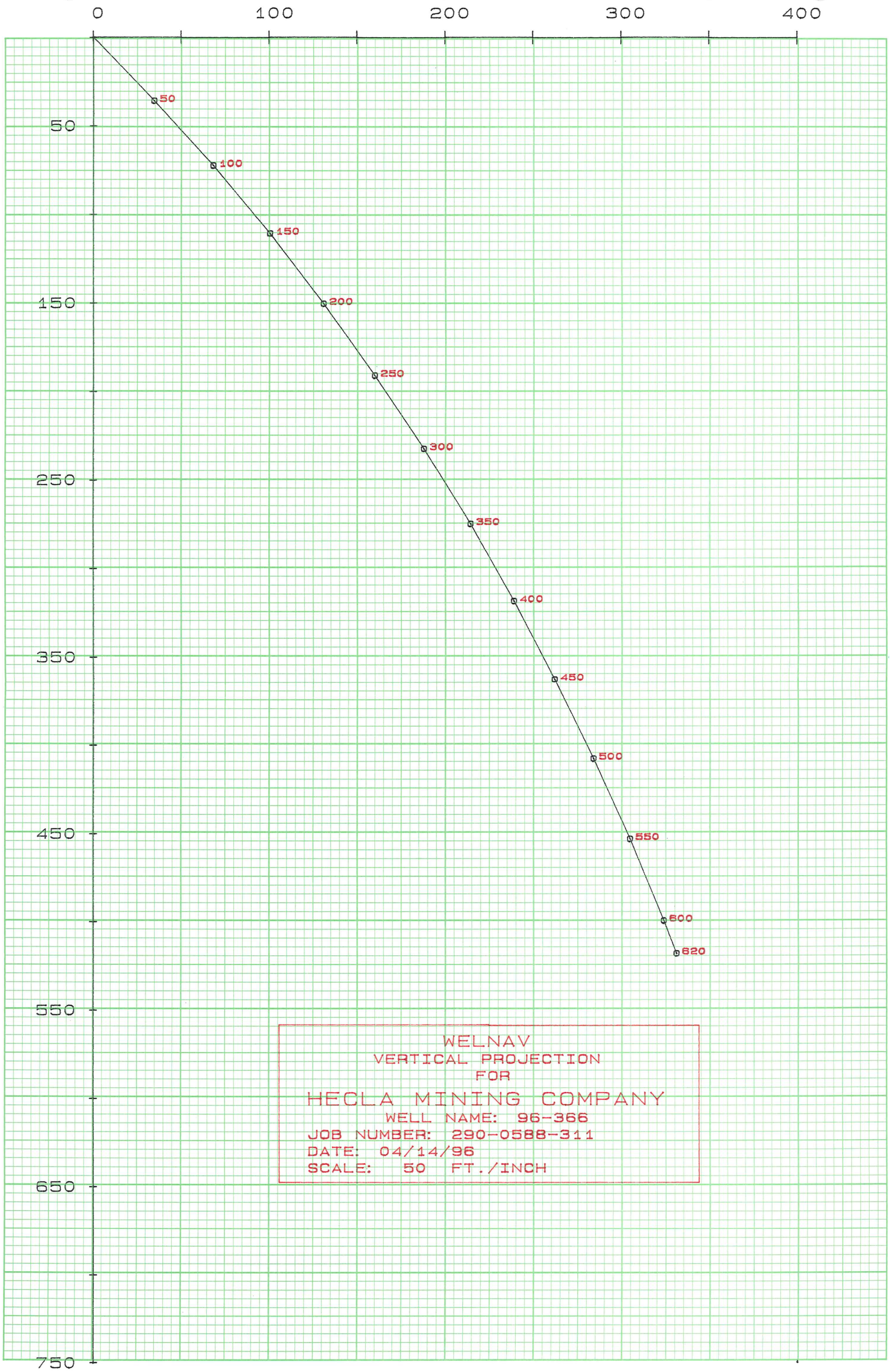
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