



VERTICALITY ANALYSIS

COMPANY UNIVERSITY OF JOHANNESBURG
WELL HOLE 3
FIELD BARBERTON
PROVINCE/COUNTY MPUMALANGA
COUNTRY/STATE SOUTH AFRICA
LOCATION BARBERTON

Latitude
Longitude
Other Services

Permanent Datum , Elevation metres
Log Measured From metres above Permanent Datum
Drilling Measured From

Elevations:
KB
DF
GL
metres
0.00

Date	27-JAN-2022	
Run Number	---	
Service Order	---	
Depth Driller	280.20	metres
Depth Logger	280.00	metres
First Reading	280.00	metres
Last Reading	0.00	metres
Casing Driller	280.20	metres
Casing Logger	280.00	metres
Bit Size	---	
Hole Fluid Type	NONE	
Density / Viscosity	---	---
PH / Fluid Loss	---	---
Sample Source	---	
Rm @ Measured Temp	---	
Rmf @ Measured Temp	---	
Rmc @ Measured Temp	---	
Source Rmf / Rmc	---	
Rm @ BHT	---	
Time Since Circulation	---	
Max Recorded Temp	---	
Equipment / Base	---	
Recorded By	A. VERMAAK	
Witnessed By	---	

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

Verticality Analysis Interpretation Notes

07-FEB-2022 08:04

All plotted output is automatically scaled to obtain the best visual effect within the physical space available. The maximum scales being 1:50000(metric) and 1:48000(imperial), and the minimum 1:1.

The analysis is derived by integrating 10cm sampled data down the borehole. The listing supplied will contain a maximum of 200 points in multiples of 1, 2, 5, 10, 20, 50 or 100 metres/feet depending on the total range of the analysis. However, the analysis is calculated for the entire range of the borehole and the final borehole position is included in the listing.

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 Computed verticality may only be fully derived in open sections of the borehole, away from the influence of any unusual magnetic effects, (as the azimuth calculations are derived from three solid state magnetometers). So the analysis will generally begin at the end of the casing and all borehole positional information will relate to this depth.

Up to ten cross sections may be requested for any borehole to be displayed at any scale, (the default scale is that of the cross-section for the entire hole).

Given below is a full description of the parameters displayed on the ensuing listing:

LOG DEPTH	The depth recorded on the field logs for the borehole.
TRUE DEPTH	The true vertical depth corresponding to the above depth. Corrected from the start of the analysis.
HOLE TILT AND AZIMUTH	The sampled borehole orientation. Tilt measured from Vertical.
AXIAL COORDINATES	The coordinates North and East from the target origin.
POLAR COORDINATES	The polar or radial coordinates of the borehole.

N.B. The reference point for all bearing angles on this listing is given at the top of each sheet.

Verticality Data Listing

D:\OneDrive - Wireline Africa (PTY) Ltd\Slimline WLA data\University of Johannesburg\BARBERTON\raw data\well.wll

All Co-ordinates With Respect To Magnetic North, all depths in metres

Date Processed: 07-FEB-2022

First Depth 1.04, 0.00 North, 0.00 East of Origin

Date Logged:

DEPTHS		BOREHOLE		AXIAL CO-ORDS		POLAR	
Log	True	Tilt	Azi	North	East	Brg	Radius
1.04	1.04	44.7	316.7	0.00	0.00	0	0.00
10.01	7.47	43.7	319.9	4.67	-4.16	318	6.25
20.01	14.69	44.0	317.6	9.87	-8.72	319	13.18
30.01	21.88	44.0	317.6	15.00	-13.41	318	20.12
40.01	29.06	44.2	316.0	20.07	-18.17	318	27.08
50.01	36.21	44.6	319.4	25.24	-22.88	318	34.07
60.01	43.33	44.6	318.8	30.55	-27.48	318	41.09
70.00	50.44	44.7	317.5	35.77	-32.16	318	48.11
80.00	57.54	45.0	319.6	41.05	-36.83	318	55.15
90.01	64.60	45.3	318.1	46.40	-41.50	318	62.25
100.01	71.63	45.3	319.3	51.74	-46.19	318	69.36
110.01	78.60	46.4	320.2	57.22	-50.82	318	76.53
120.01	85.54	45.8	318.5	62.68	-55.51	318	83.73
130.01	92.51	45.8	320.4	68.13	-60.17	319	90.89
140.01	99.48	45.8	319.3	73.61	-64.79	319	98.06
150.01	106.44	46.1	319.5	79.06	-69.47	319	105.24
160.01	113.35	46.4	320.7	84.60	-74.10	319	112.47
170.00	120.22	46.8	318.5	90.13	-78.80	319	119.72
180.01	127.06	46.9	320.0	95.66	-83.57	319	127.02
190.01	133.88	47.2	319.3	101.24	-88.31	319	134.34
200.01	140.65	47.5	317.3	106.73	-93.21	319	141.70
210.01	147.39	47.8	319.1	112.24	-98.13	319	149.09
220.01	154.09	48.0	318.0	117.80	-103.04	319	156.51
230.00	160.78	48.1	319.2	123.37	-107.95	319	163.93
240.01	167.47	47.9	317.4	128.92	-112.90	319	171.37
250.00	174.13	48.5	320.1	134.52	-117.81	319	178.82
260.00	180.72	49.1	317.7	140.19	-122.76	319	186.34
270.01	187.25	49.4	319.3	145.87	-127.78	319	193.92
280.01	193.73	49.9	316.9	151.54	-132.87	319	201.54

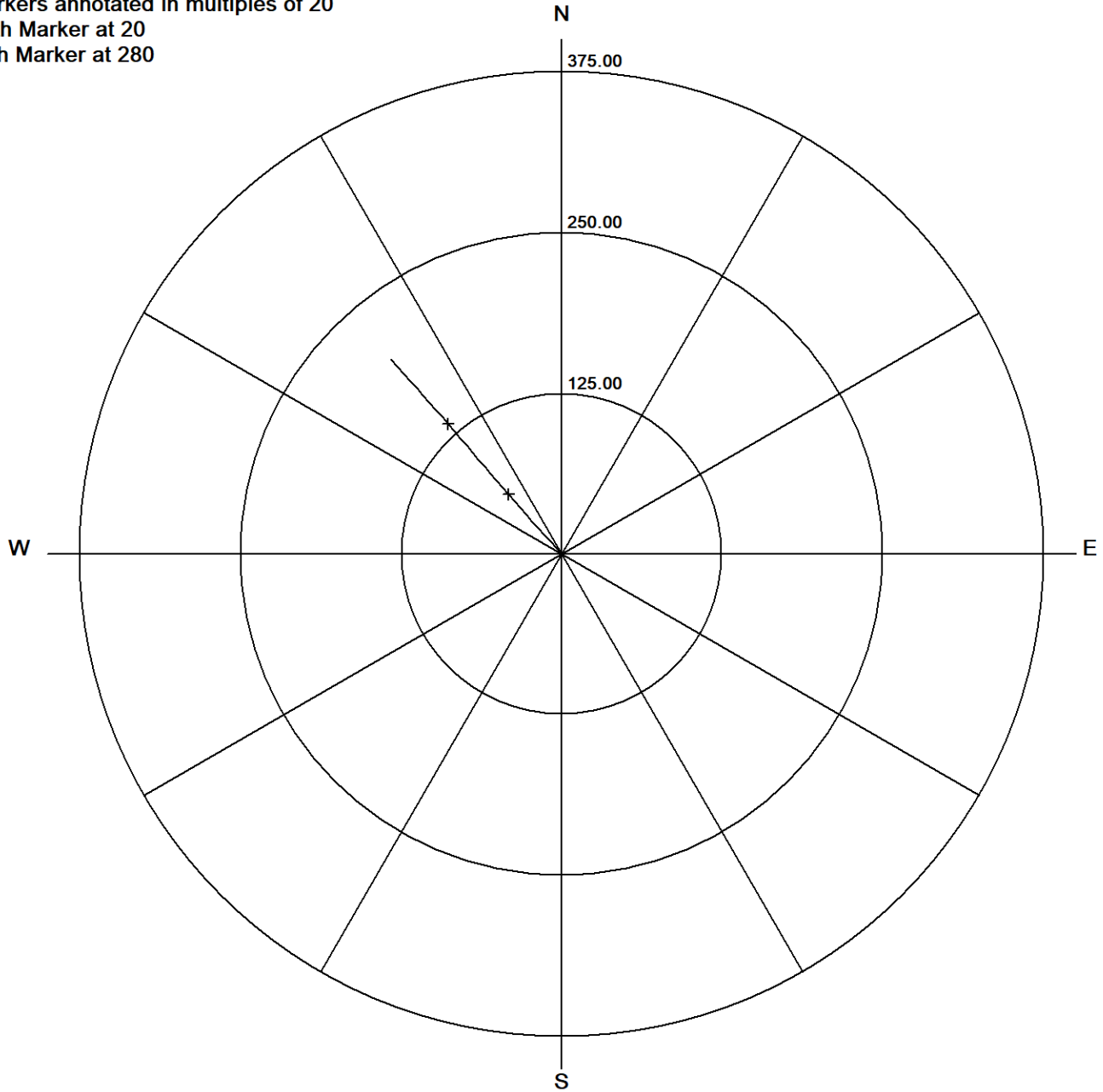
Cross Section

All Figures are Log Depths in metres

Plot With Respect to True North

Target Origin Depth 1.04
Last Plotted Depth 280.01
Depth Markers annotated in multiples of 20
First Depth Marker at 20
Last Depth Marker at 280

Scale 1:5000
Declination 0.0 deg



Final Borehole Position

The last plotted depth is at
151.54 metres North
132.87 metres West
ie 201.54 metres from the origin
319 deg from True North

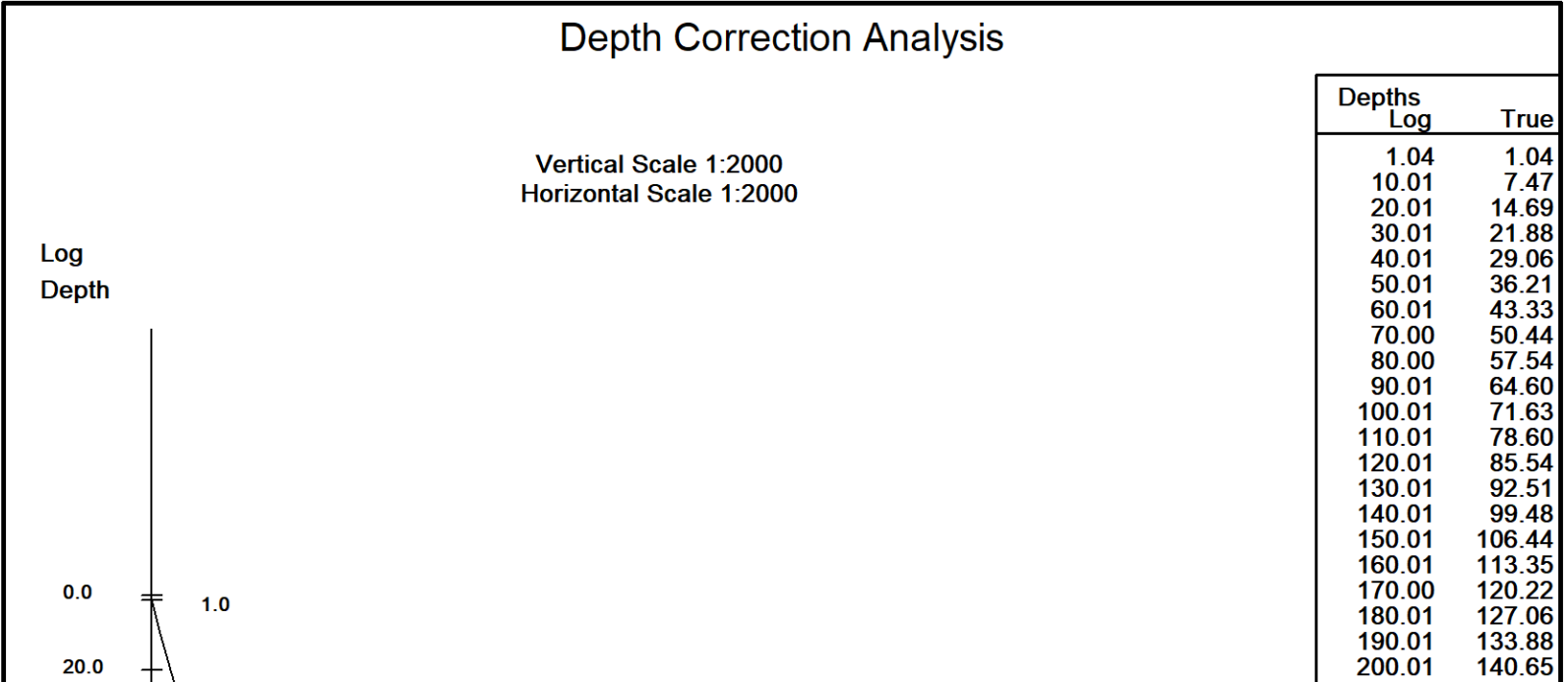
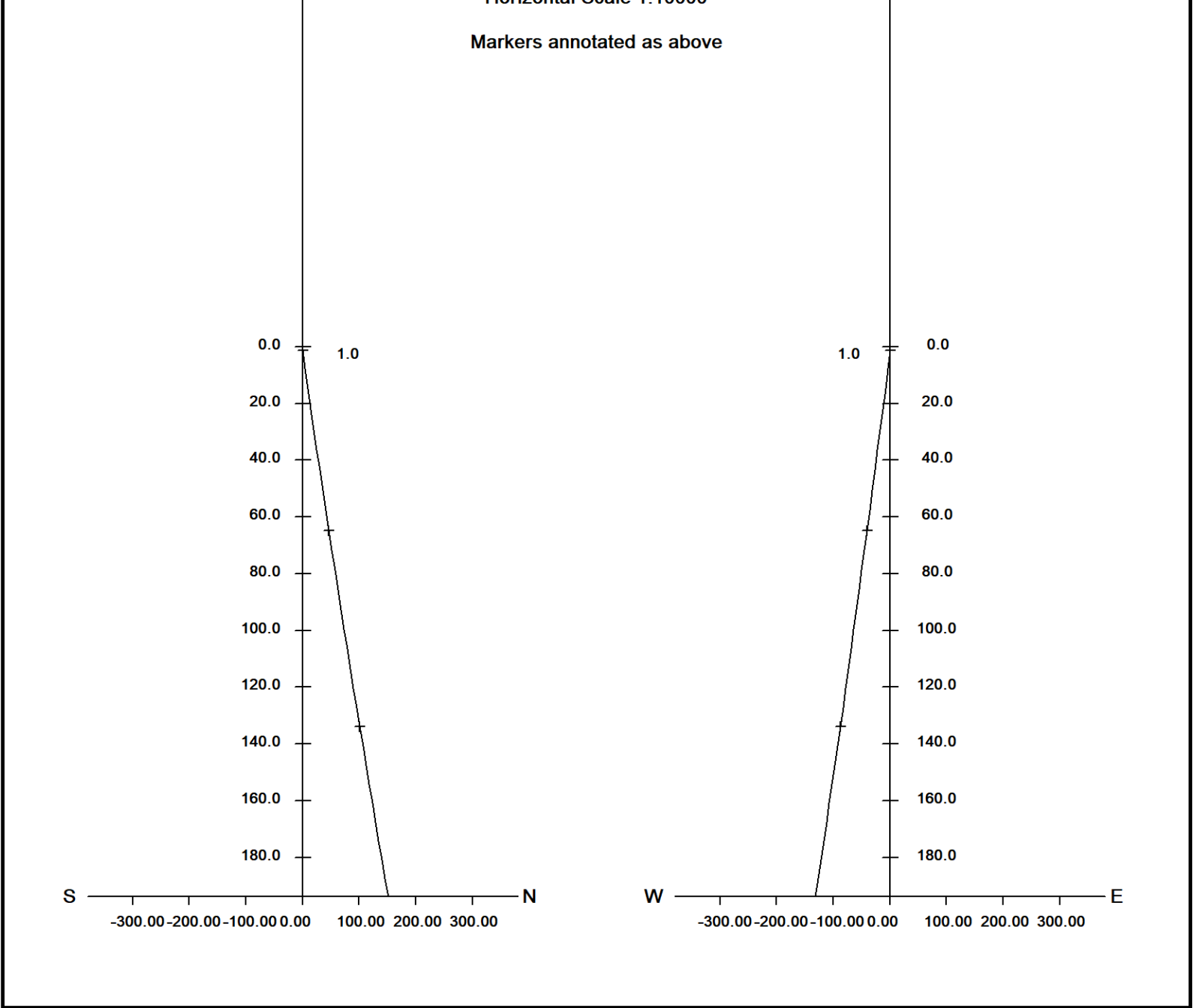
Vertical Sections

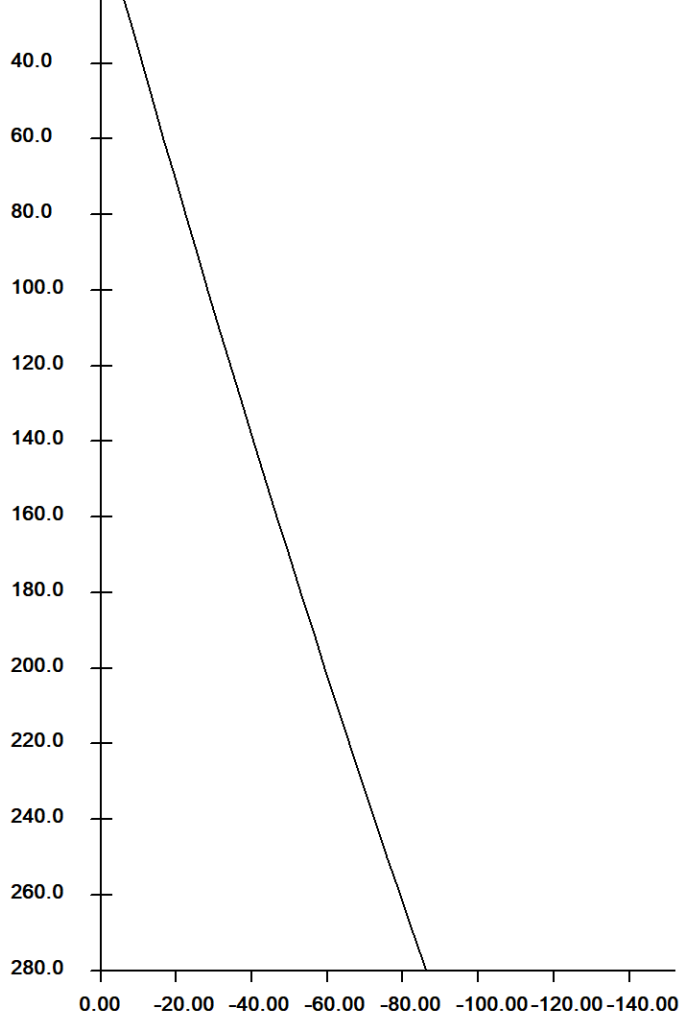
North-South Section

East-West Section

(True Depth vs Displacement)

Vertical Scale 1:2000
Horizontal Scale 1:10000





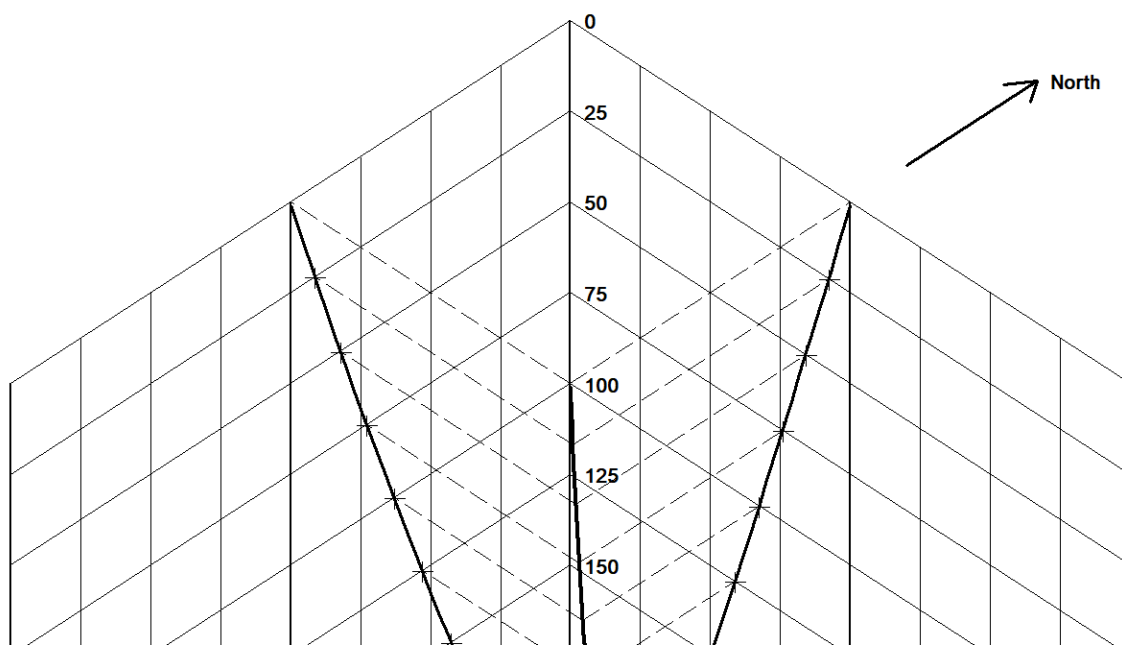
Correction For True Depth

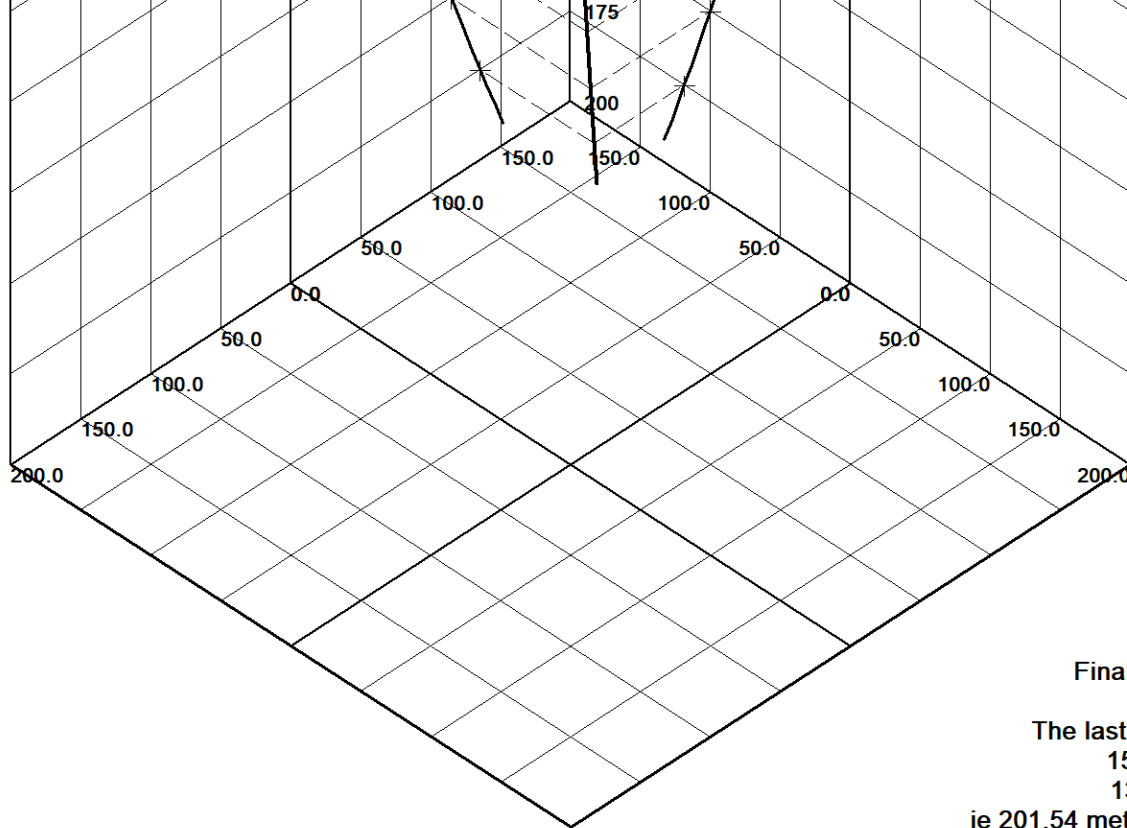
210.01	147.39
220.01	154.09
230.00	160.78
240.01	167.47
250.00	174.13
260.00	180.72
270.01	187.25
280.01	193.73

3D Borehole Deviation

All figures are True Depths / displacements in metres
Origin Depth 1.04
Last Plotted Depth 280.01

Plot With Respect to True North
Declination 0.0 deg





Final Borehole Position

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 132.87 metres West
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 319 deg from True North

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WELL	HOLE 3
FIELD	BARBERTON
PROVINCE/COUNTY	MPUMALANGA
COUNTRY/STATE	SOUTH AFRICA

Elevation Kelly Bushing	metres	First Reading	280.00	metres
Elevation Drill Floor	metres	Depth Driller	280.20	metres
Elevation Ground Level	0 metres	Depth Logger	280.00	metres



VERTICALITY ANALYSIS