



VERTICALITY ANALYSIS

BASE 1A

COMPANY UNIVERSITY OF JOHANNESBURG

WELL BASE 1A

FIELD BARBERTON

PROVINCE/COUNTY MPUMALANGA

COUNTRY/STATE SOUTH AFRICA

LOCATION BARBERTON

Other Services

Latitude
Longitude

Permanent Datum , Elevation metres

Log Measured From metres above Permanent Datum

Drilling Measured From

Date 10-AUG-2022

Run Number

Service Order

Depth Driller

Depth Logger

First Reading

Last Reading

Casing Driller

Casing Logger

Bit Size

Hole Fluid Type

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

Witnessed By

Elevations:
KB
DF
GL metres
0.00

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

16-AUG-2022 10:28

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

C:\PROCESSED DATA\uj\raw data\well.wll

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

Date Processed: 16-AUG-2022

First Depth 0.73, 0.00 North, 0.00 East of Origin

Date Logged:

DEPTHS		BOREHOLE		AXIAL CO-ORDS		POLAR	
Log	True	Tilt	Azi	North	East	Brg	Radius
0.73	0.73	44.7	288.3	0.00	0.00	0	0.00
11.00	7.97	45.7	288.8	2.32	-6.91	289	7.29
21.00	14.88	47.0	284.6	4.39	-13.83	288	14.51
31.00	21.57	49.2	294.3	6.88	-20.82	288	21.93
41.00	28.13	48.8	288.3	9.62	-27.85	289	29.46
51.00	34.75	48.3	292.7	12.25	-34.87	289	36.96
61.00	41.40	48.3	292.2	15.10	-41.77	290	44.42
71.00	48.03	48.6	290.1	17.80	-48.75	290	51.90
81.00	54.65	48.4	291.8	20.47	-55.75	290	59.39
91.00	61.27	48.7	290.8	23.20	-62.74	290	66.89
101.00	67.84	49.0	292.2	25.96	-69.75	290	74.42
111.00	74.39	49.3	287.2	28.51	-76.86	290	81.98
121.00	80.96	48.6	291.3	31.00	-83.98	290	89.51
131.00	87.54	49.1	292.3	33.79	-90.97	290	97.04
141.00	94.05	49.7	292.5	36.69	-97.99	291	104.63
151.00	100.53	49.6	293.3	39.65	-105.01	291	112.24
161.00	106.95	50.5	295.0	42.79	-112.00	291	119.89
171.00	113.24	51.5	293.3	45.97	-119.09	291	127.65
181.00	119.49	51.2	292.2	48.99	-126.29	291	135.46
191.00	125.83	50.0	290.4	51.80	-133.49	291	143.19
201.00	132.17	51.4	295.5	54.82	-140.61	291	150.91
211.00	138.40	51.6	294.3	58.11	-147.71	291	158.72
221.00	144.58	52.0	294.5	61.35	-154.86	292	166.57
231.00	150.76	51.7	297.7	64.81	-161.93	292	174.42
241.00	156.95	51.8	295.5	68.33	-168.95	292	182.24
251.00	163.15	51.5	294.3	71.62	-176.07	292	190.08
261.00	169.34	52.0	298.0	75.08	-183.12	292	197.91
271.00	175.47	52.3	298.1	78.80	-190.09	293	205.77
281.00	181.62	51.8	298.4	82.53	-197.04	293	213.62
291.00	187.79	52.0	295.9	86.12	-204.04	293	221.47
301.00	193.92	52.4	296.6	89.62	-211.12	293	229.36
311.00	200.04	52.2	298.0	93.24	-218.16	293	237.25
321.00	206.15	52.5	298.1	96.96	-225.14	293	245.13
331.00	212.25	52.4	298.3	100.71	-232.12	293	253.03

331.00	212.25	52.4	298.5	100.71	-232.12	295	235.05
341.00	218.30	53.0	297.8	104.45	-239.15	294	260.96
351.00	224.30	53.3	298.0	108.19	-246.22	294	268.94
361.00	230.25	53.6	296.3	111.86	-253.37	294	276.96
371.00	236.12	54.5	299.1	115.63	-260.53	294	285.04
381.00	241.92	54.5	301.4	119.73	-267.57	294	293.14
391.00	247.70	54.9	297.9	123.77	-274.66	294	301.26
401.00	253.45	54.9	300.7	127.77	-281.79	294	309.41
411.00	259.15	55.6	301.6	132.02	-288.83	295	317.57
421.00	264.79	55.8	297.9	136.12	-296.00	295	325.80
431.00	270.40	56.0	298.6	140.03	-303.29	295	334.06
441.00	275.96	56.5	301.3	144.18	-310.49	295	342.34
451.00	281.46	56.8	301.2	148.52	-317.63	295	350.64
461.00	286.94	56.7	299.1	152.71	-324.87	295	358.97
471.00	292.42	56.9	300.1	156.84	-332.14	295	367.31
481.00	297.86	57.1	298.4	160.94	-339.46	295	375.68
491.00	303.29	57.1	299.9	165.03	-346.79	295	384.06

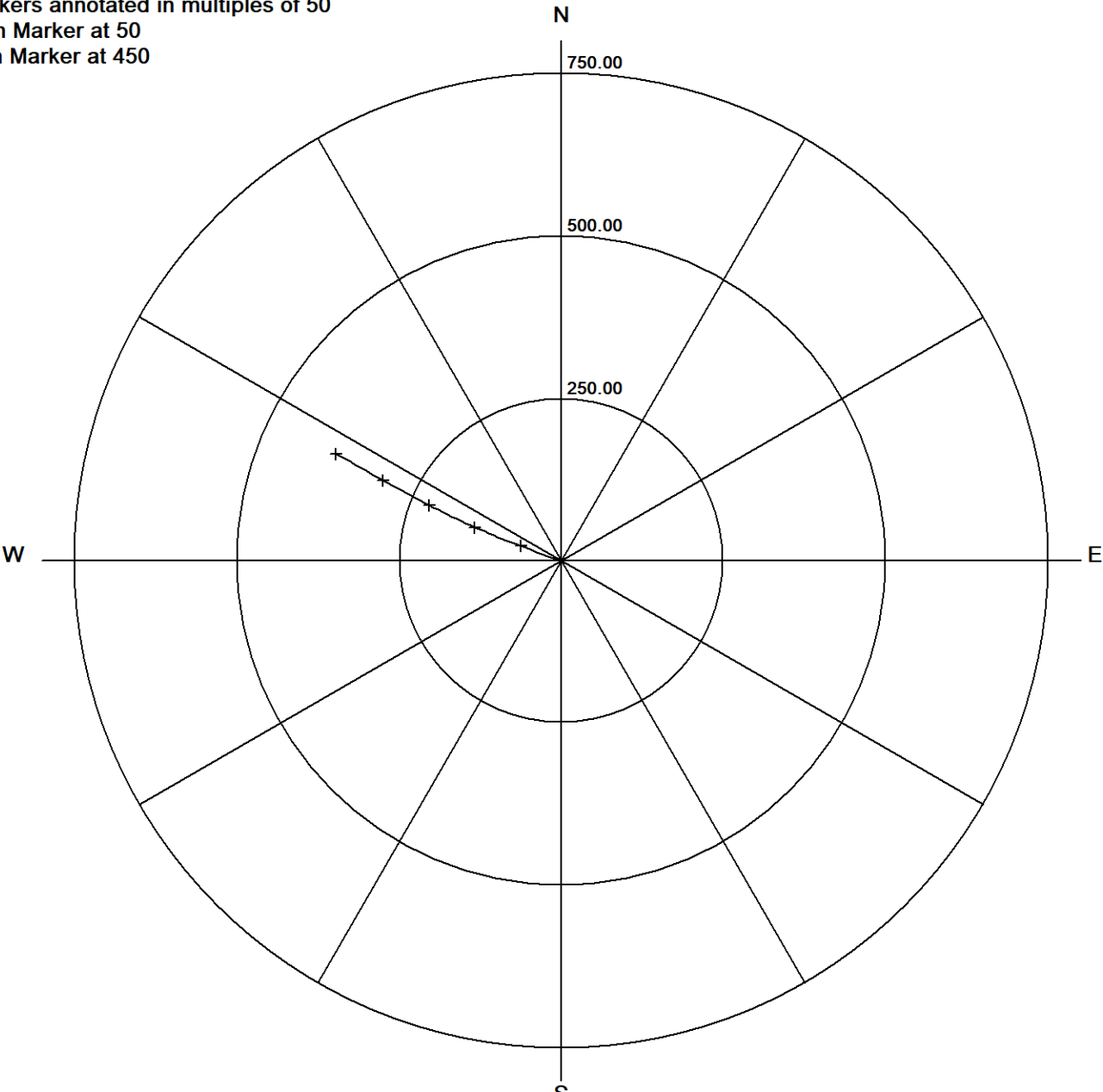
Cross Section

All Figures are Log Depths in metres

Plot With Respect to True North

Target Origin Depth 0.73
Last Plotted Depth 491.00
Depth Markers annotated in multiples of 50
First Depth Marker at 50
Last Depth Marker at 450

Scale 1:10000
Declination 0.0 deg



The last plotted depth is at
165.03 metres North
346.79 metres West
ie 384.06 metres from the origin
295 deg from True North

Vertical Sections

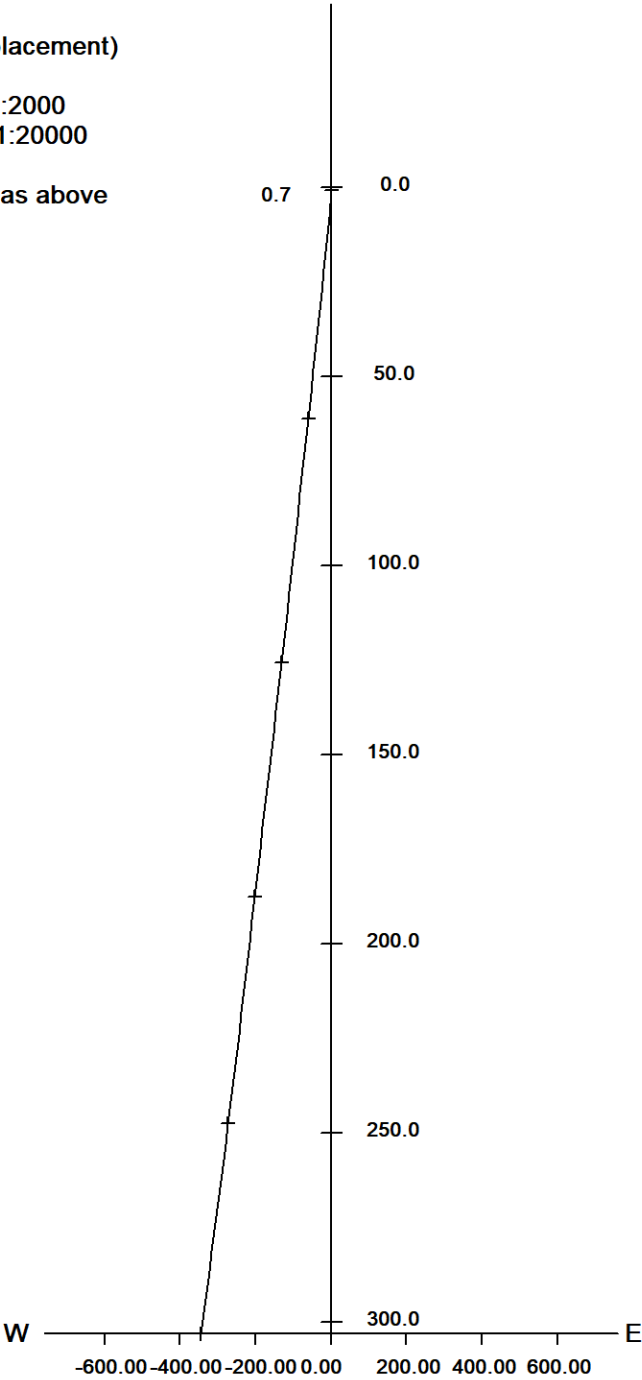
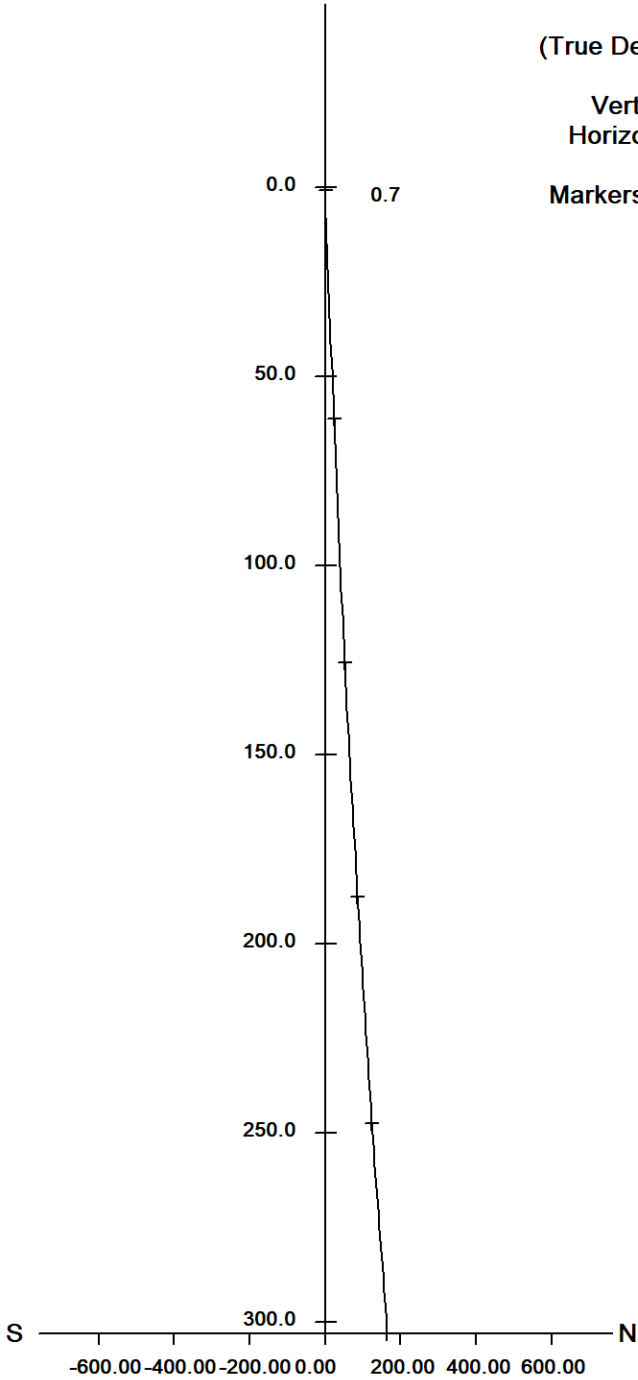
North-South Section

East-West Section

(True Depth vs Displacement)

Vertical Scale 1:2000
Horizontal Scale 1:20000

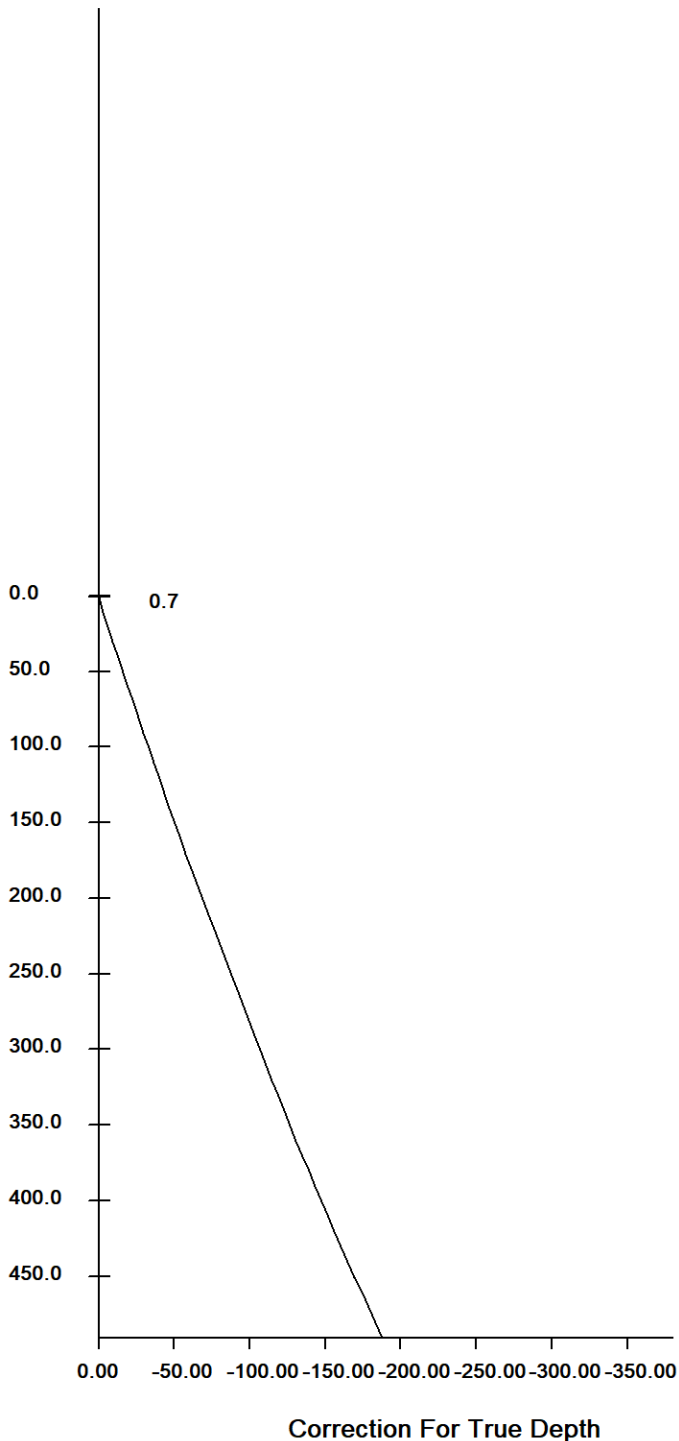
Markers annotated as above



Depth Correction Analysis

Vertical Scale 1:5000
Horizontal Scale 1:5000

Log
Depth

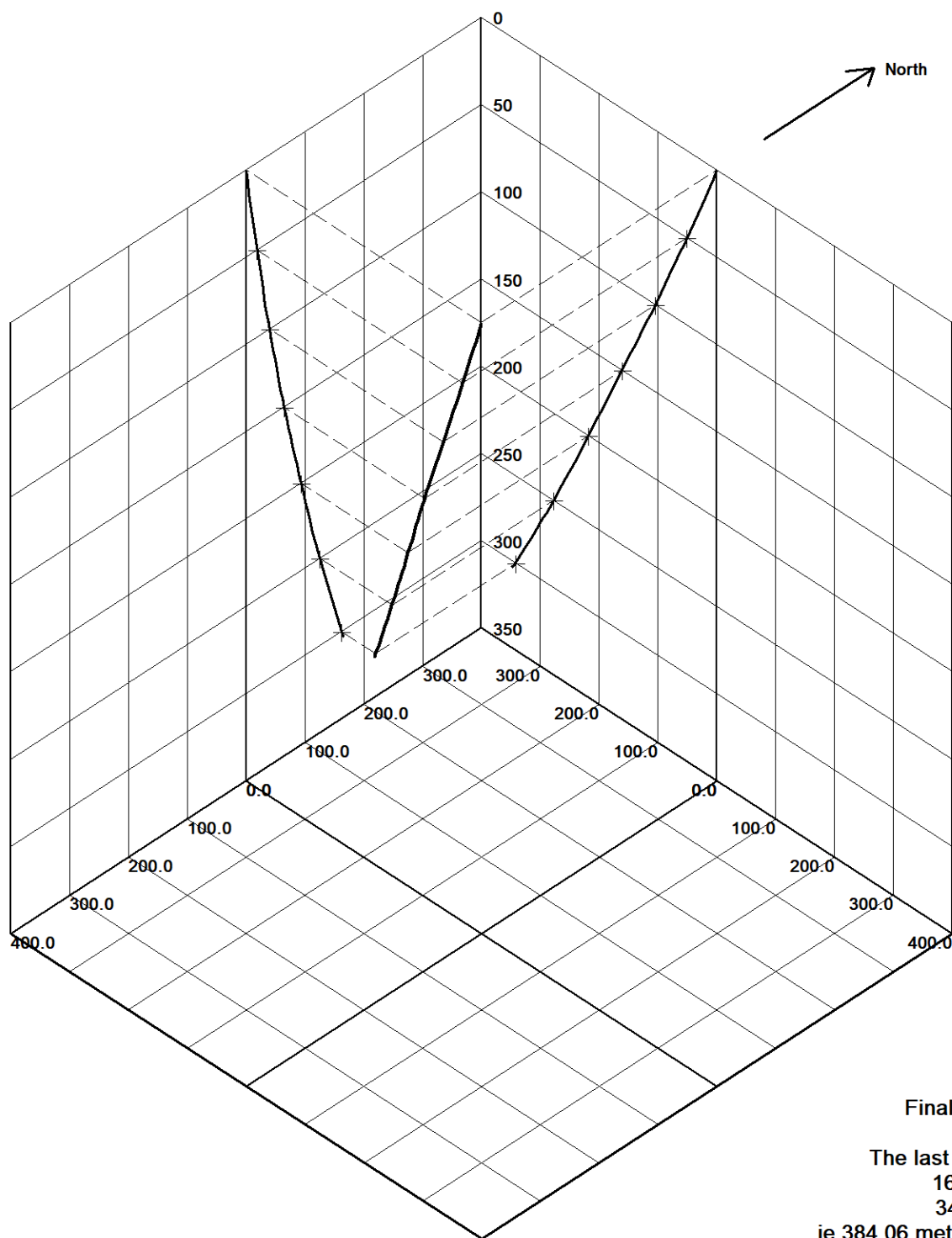


Depths	Log	True
0.73	0.73	
11.00	7.97	
21.00	14.88	
31.00	21.57	
41.00	28.13	
51.00	34.75	
61.00	41.40	
71.00	48.03	
81.00	54.65	
91.00	61.27	
101.00	67.84	
111.00	74.39	
121.00	80.96	
131.00	87.54	
141.00	94.05	
151.00	100.53	
161.00	106.95	
171.00	113.24	
181.00	119.49	
191.00	125.83	
201.00	132.17	
211.00	138.40	
221.00	144.58	
231.00	150.76	
241.00	156.95	
251.00	163.15	
261.00	169.34	
271.00	175.47	
281.00	181.62	
291.00	187.79	
301.00	193.92	
311.00	200.04	
321.00	206.15	
331.00	212.25	
341.00	218.30	
351.00	224.30	
361.00	230.25	
371.00	236.12	
381.00	241.92	
391.00	247.70	
401.00	253.45	
411.00	259.15	
421.00	264.79	
431.00	270.40	
441.00	275.96	
451.00	281.46	
461.00	286.94	
471.00	292.42	
481.00	297.86	
491.00	303.29	

3D Borehole Deviation

All figures are True Depths / displacements in metres
Origin Depth 0.73
Last Plotted Depth 491.00

Plot With Respect to True North
Declination 0.0 deg



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Elevation Kelly Bushing	metres	First Reading	496.85	metres
Elevation Drill Floor	metres	Depth Driller	496.85	metres
Elevation Ground Level	0 metres	Depth Logger	496.85	metres



VERTICALITY ANALYSIS

