



GEOPHYSICAL LOGGING PROBES

Magnetic Deviation

MDEV

MEASUREMENT PRINCIPLE

The probe employs a combination of 3 axes magnetometers and accelerometers (APS544 unit) and to measure the probe's orientation with respect to the earth's magnetic field (azimuth) and gravitational field (inclination).

The magnetic deviation probe continuously transmits data to the surface logging unit during the survey which is monitored by the operator for integrity, magnetic effects and probe rotation. The probe also measures the magnetic field strength which can be used as a quality indicator for the calculated magnetic azimuth

This is not a memory system.

The probe records the individual axial strengths of the 3 axes magnetometer and accelerometer thus allowing magnetic vectors to be calculated.

Ideally suited for:

- Borehole directional surveys within non-magnetic ground.
- Magnetic field strength surveys for iron ore exploration and mining.
- Offhole magnetic surveys.

Operations & Calibration:

- Minimum borehole diameter of 50mm.
- Air and/or fluid filled borehole.
- Open borehole and/or PVC cased borehole.

Typically recorded in an uphole logging direction at logging speeds of 5 - 7 m/min. (Downhole logging can be recorded for QA purposes).

Final curve units can be degrees magnetic north for the direction and degrees from vertical for inclination.

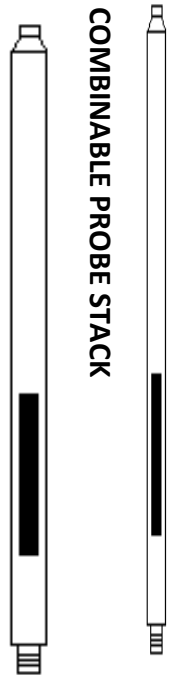
Calibration is set by the manufacturer.

Probes can be stacked to the top and the bottom of the probe. Typical combinations are:

- Gamma, dual laterolog, dual induction, fullwave sonic, formation density.

SINGLE PROBE RUN

COMBINABLE PROBE STACK



PHYSICAL SPECIFICATIONS

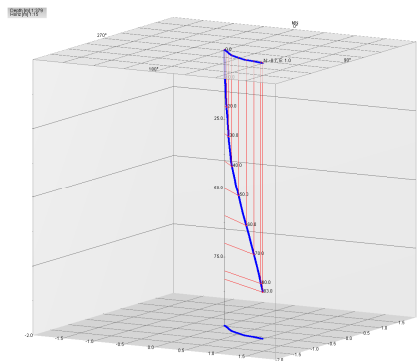
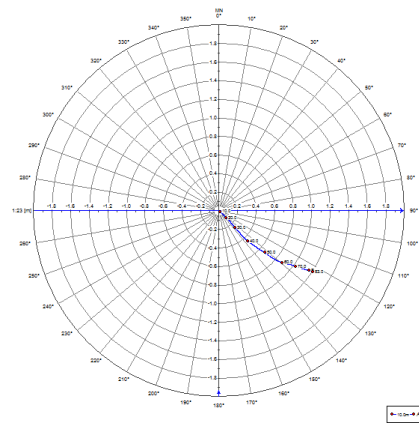
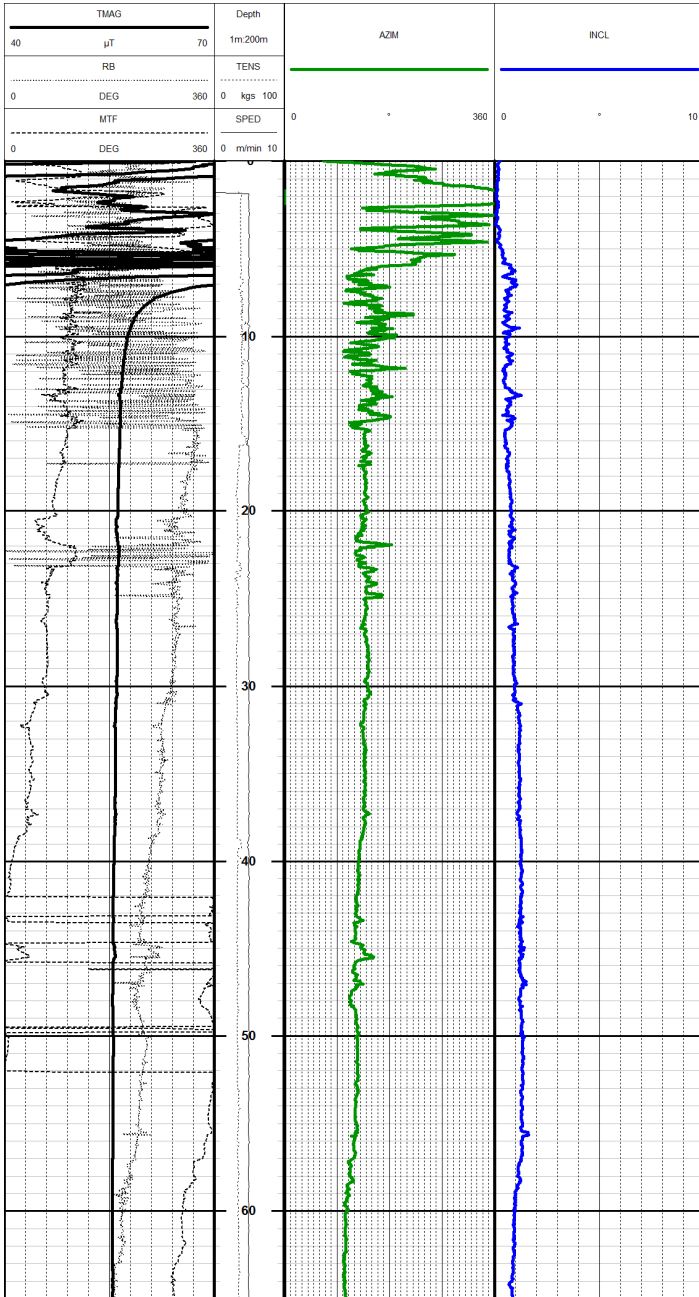
Weight	5.0kg
Length	0.70m
Diameter	38mm
Sensor Package	Applied Physics 544
Direction Accuracy	+/- 2.0°
Inclination Accuracy	+/- 0.4°
Maximum Pressure	20 MPa
Maximum Temperature	80°C



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Well:
Magnetic Deviation Survey Report

Company: [] Log Date: [] Max. Dev: []
 Project: [] Location: [] Date Ref: [] (US ± 1.5%)
 Location: []

Well Top (MD): [] m Azimuth: [] Direction: STEEL
 Well Bottom (MD): [] m Distance: [] m Top (MD): []
 Well Bottom (TYP): [] m BLS: [] m Base (MD): []

Plan View North Northing Easting

MB Date: [] Max. Rate 20°
 Invert Date: [] Max. Incl. 3.5°

MB	Top	MB	Top	MB	Top	MB	Top	MB	Top
1	0.00	1	0.00	1	0.00	1	0.00	1	0.00
2	0.00	2	0.00	2	0.00	2	0.00	2	0.00
3	0.00	3	0.00	3	0.00	3	0.00	3	0.00
4	0.00	4	0.00	4	0.00	4	0.00	4	0.00
5	0.00	5	0.00	5	0.00	5	0.00	5	0.00
6	0.00	6	0.00	6	0.00	6	0.00	6	0.00
7	0.00	7	0.00	7	0.00	7	0.00	7	0.00
8	0.00	8	0.00	8	0.00	8	0.00	8	0.00
9	0.00	9	0.00	9	0.00	9	0.00	9	0.00
10	0.00	10	0.00	10	0.00	10	0.00	10	0.00
11	0.00	11	0.00	11	0.00	11	0.00	11	0.00
12	0.00	12	0.00	12	0.00	12	0.00	12	0.00
13	0.00	13	0.00	13	0.00	13	0.00	13	0.00
14	0.00	14	0.00	14	0.00	14	0.00	14	0.00
15	0.00	15	0.00	15	0.00	15	0.00	15	0.00
16	0.00	16	0.00	16	0.00	16	0.00	16	0.00
17	0.00	17	0.00	17	0.00	17	0.00	17	0.00
18	0.00	18	0.00	18	0.00	18	0.00	18	0.00
19	0.00	19	0.00	19	0.00	19	0.00	19	0.00
20	0.00	20	0.00	20	0.00	20	0.00	20	0.00
21	0.00	21	0.00	21	0.00	21	0.00	21	0.00
22	0.00	22	0.00	22	0.00	22	0.00	22	0.00
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24	0.00	24	0.00	24	0.00	24	0.00	24	0.00
25	0.00	25	0.00	25	0.00	25	0.00	25	0.00
26	0.00	26	0.00	26	0.00	26	0.00	26	0.00
27	0.00	27	0.00	27	0.00	27	0.00	27	0.00
28	0.00	28	0.00	28	0.00	28	0.00	28	0.00
29	0.00	29	0.00	29	0.00	29	0.00	29	0.00
30	0.00	30	0.00	30	0.00	30	0.00	30	0.00
31	0.00	31	0.00	31	0.00	31	0.00	31	0.00
32	0.00	32	0.00	32	0.00	32	0.00	32	0.00
33	0.00	33	0.00	33	0.00	33	0.00	33	0.00
34	0.00	34	0.00	34	0.00	34	0.00	34	0.00
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36	0.00	36	0.00	36	0.00	36	0.00	36	0.00
37	0.00	37	0.00	37	0.00	37	0.00	37	0.00
38	0.00	38	0.00	38	0.00	38	0.00	38	0.00
39	0.00	39	0.00	39	0.00	39	0.00	39	0.00
40	0.00	40	0.00	40	0.00	40	0.00	40	0.00
41	0.00	41	0.00	41	0.00	41	0.00	41	0.00
42	0.00	42	0.00	42	0.00	42	0.00	42	0.00
43	0.00	43	0.00	43	0.00	43	0.00	43	0.00
44	0.00	44	0.00	44	0.00	44	0.00	44	0.00
45	0.00	45	0.00	45	0.00	45	0.00	45	0.00
46	0.00	46	0.00	46	0.00	46	0.00	46	0.00
47	0.00	47	0.00	47	0.00	47	0.00	47	0.00
48	0.00	48	0.00	48	0.00	48	0.00	48	0.00
49	0.00	49	0.00	49	0.00	49	0.00	49	0.00
50	0.00	50	0.00	50	0.00	50	0.00	50	0.00
51	0.00	51	0.00	51	0.00	51	0.00	51	0.00
52	0.00	52	0.00	52	0.00	52	0.00	52	0.00
53	0.00	53	0.00	53	0.00	53	0.00	53	0.00
54	0.00	54	0.00	54	0.00	54	0.00	54	0.00
55	0.00	55	0.00	55	0.00	55	0.00	55	0.00
56	0.00	56	0.00	56	0.00	56	0.00	56	0.00
57	0.00	57	0.00	57	0.00	57	0.00	57	0.00
58	0.00	58	0.00	58	0.00	58	0.00	58	0.00
59	0.00	59	0.00	59	0.00	59	0.00	59	0.00
60	0.00	60	0.00	60	0.00	60	0.00	60	0.00

SINGLE PROBE RUN

COMBINABLE PROBE STACK

