

REPORT
of base calibration for БМК,МК-1Т-К (MLLV) tool

Company: VIETSOVPETRO

Calibration date: 19-08-16

Tool number: 1039

Used equipment:

- ground cable equivalent;
- log recorder <KASKAD>;
- calibration toolkit.

PRIMARY DATA OF TOOL CALIBRATION

SONDE	Equiv.resistance, ohmm	Current, adcu	Voltage, adcu	Transform factor
RMLR (MLL- ROUGH)	50.0	3807.8	218.4	a1: 941.1
	100.0	3807.8	413.1	a2: 4.6
	500.0	3844.4	2047.1	a3: 0.0
RMLF (MLL- FINE)	0.5	3807.9	45.7	a1: 51.6
	50.0	3807.8	3698.6	a2: 8.8
	100.0	3807.8	4095.0	a3: 0.0
RMI	0.2	3524.8	20.2	a1: 68.7
	10.0	3531.2	723.6	a2: 5.9
	50.0	3557.2	3613.5	a3: -1399.7
RMN	0.2	3524.8	12.5	a1: 108.6
	10.0	3531.2	481.5	a2: 3.0
	50.0	3557.2	2407.4	a3: -1666.3

SONDE	Diameter, mm	Measured value, adcu	Transform factor
RCAL	150.0	0.3	437.4
	300.0	0.7	10.8

**MEASUREMENT RANGE,
MAIN RELATIVE MEASUREMENT ERROR**

Sonde MLL Coeff.sonde = 0.021m					
Requi., ohmm	R3, ohm	R4, ohm	Rmeas., ohmm	Meas.error, %	Perm.error, %
1.0	0.5	66.7	1.0	2.65	± 44.0
10.0	0.5	667.0	10.1	1.28	± 8.6
50.0	0.5	3333.0	50.7	1.44	± 5.4
200.0	1.5	13333.0	202.2	1.11	± 6.0
800.0	1.5	53333.0	797.8	-0.278	± 12.0

Gradient sonde (MINV) Coeff.sonde = 0.333m				
Requi., Ом*М	R1, ohm	Rmeas. ohmm	Meas.error, %	Perm.error, %
0.1	0.3	0.1	9.78	± 80.0
1.0	3.0	1.0	-0.017	± 12.0
10.0	30.0	10.0	-0.024	± 5.6
25.0	75.0	25.0	-0.001	± 5.1
40.0	120.0	40.0	0.005	± 5.0
50.0	150.0	50.0	-0.002	± 5.0

Potential sonde (MNOR) Coeff.sonde = 0.5m
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Requi., OM*M	R2, ohm	Rmeas. ohmm	Meas.error, %	Perm.error, %
0.1	0.2	0.1	0.953	± 80.0
1.0	2.0	1.0	-0.627	± 12.0
10.0	20.0	10.0	-0.080	± 5.6
25.0	50.0	25.0	0.003	± 5.1
40.0	80.0	40.0	-0.014	± 5.0
50.0	100.0	50.0	0.005	± 5.0

Caliper (MCAL)			
Dequi.,mm	Dmeas.,mm	Meas.error, %	Perm.error, %
150.0	150.2	0.118	± 5.0
200.0	206.0	2.98	± 5.0
250.0	243.9	-2.453	± 5.0
300.0	291.5	-2.825	± 5.0
350.0	337.8	-3.493	± 5.0

CONCLUSION

Conclusion of a tool suitability: TOOL IS SUITABLE FOR USE

Next calibration should be performed not later than: 19-11-16

Performed by:	Duc Cuong
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