Southwest Exploration Services, LLC

borehole geophysics & video services

COMPANY	FLORENCE COPPER
WELL ID	R-08
FIELD	FLORENCE COPPER
COUNTY	PINAL STATE ARIZONA

TYPE OF LOGS: GAMMA - CALIPER
MORE: TEMP. / FLUID RES.

LOCATION

SEC TWP RGE

OTHER SERVICES
SONIC
4PI
DENSITY

PERMANENT DATUM		ELEVATION	K.B.
LOG MEAS. FROM	GROUND LEVEL	ABOVE PERM. DATUM	D.F.
DRILLING MEAS. FROM	GROUND LEVEL		G.L.

DATE	11-17-17	TYPE FLUID IN HOLE	FRESH MUD
RUN No	1	MUD WEIGHT	N/A
TYPE LOG	GAMMA - CALIPER - TFR	VISCOSITY	N/A
DEPTH-DRILLER	500 FT.	LEVEL	FULL
DEPTH-LOGGER	498 FT.	MAX. REC. TEMP.	27.96 DEG. C
BTM LOGGED INTERVAL	498 FT.	IMAGE ORIENTED TO:	N/A
TOP LOGGED INTERVAL	SURFACE	SAMPLE INTERVAL	0.2 FT
DRILLER / RIG#	HYDRO RESOURCES	LOGGING TRUCK	TRUCK #900
RECORDED BY / Logging Eng.	A. OLSON / M. QUINONES	TOOL STRING/SN	MSI COMBO TOOL SN 4183
WITNESSED BY	COLLIN - H&A	LOG TIME:ON SITE/OFF SITE	6:00 A.M.

RUN	BOREHOLE RECORD			CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	?	SURFACE	40 FT.	14 IN.	STEEL	SURFACE	TOTAL DEPTH
2	20 IN.	40 FT.	TOTAL DEPTH				
3							

COMMENTS:

Tool Summary:

Date	11-17-17	**Date**	11-17-17	**Date**	11-17-17	**Date**	11-17-17
Run No.	1	**Run No.**	2	**Run No.**	3		
Tool Model	MSI COMBO TOOL	**Tool Model**	MSI 60mm SONIC	**Tool Model**	COMPROBE 4 PI		
Tool SN	4183	**Tool SN**	5185	**Tool SN**	6009		
From	SURFACE	**From**	SURFACE	**From**	SURFACE		
To	498 FT.	**To**	498 FT.	**To**	498 FT.		
Recorded By	M. QUINONES	**Recorded By**	M. QUINONES	**Recorded By**	M. QUINONES		
Truck No	900	**Truck No**	900	**Truck No**	900		
Operation Check	11-16-17	**Operation Check**	11-16-17	**Operation Check**	11-16-17		
Calibration Check	11-16-17	**Calibration Check**	N/A	**Calibration Check**	N/A		
Time Logged	4:52 P.M.	**Time Logged**	5:10 P.M.				

Date	11-17-17	**Date**		**Date**		**Date**	
Run No.	4	**Run No.**	5	**Run No.**	6		
Tool Model	ALT QL DENSITY	**Tool Model**		**Tool Model**			
Tool SN	6187	**Tool SN**		**Tool SN**			
From	SURFACE	**From**		**From**			
To	498 FT.	**To**		**To**			
Recorded By	M. QUINONES	**Recorded By**		**Recorded By**			
Truck No	900	**Truck No**		**Truck No**			
Operation Check	11-17-17	**Operation Check**		**Operation Check**			
Calibration Check	N/A	**Calibration Check**		**Calibration Check**			
Time Logged		**Time Logged**		**Time Logged**			

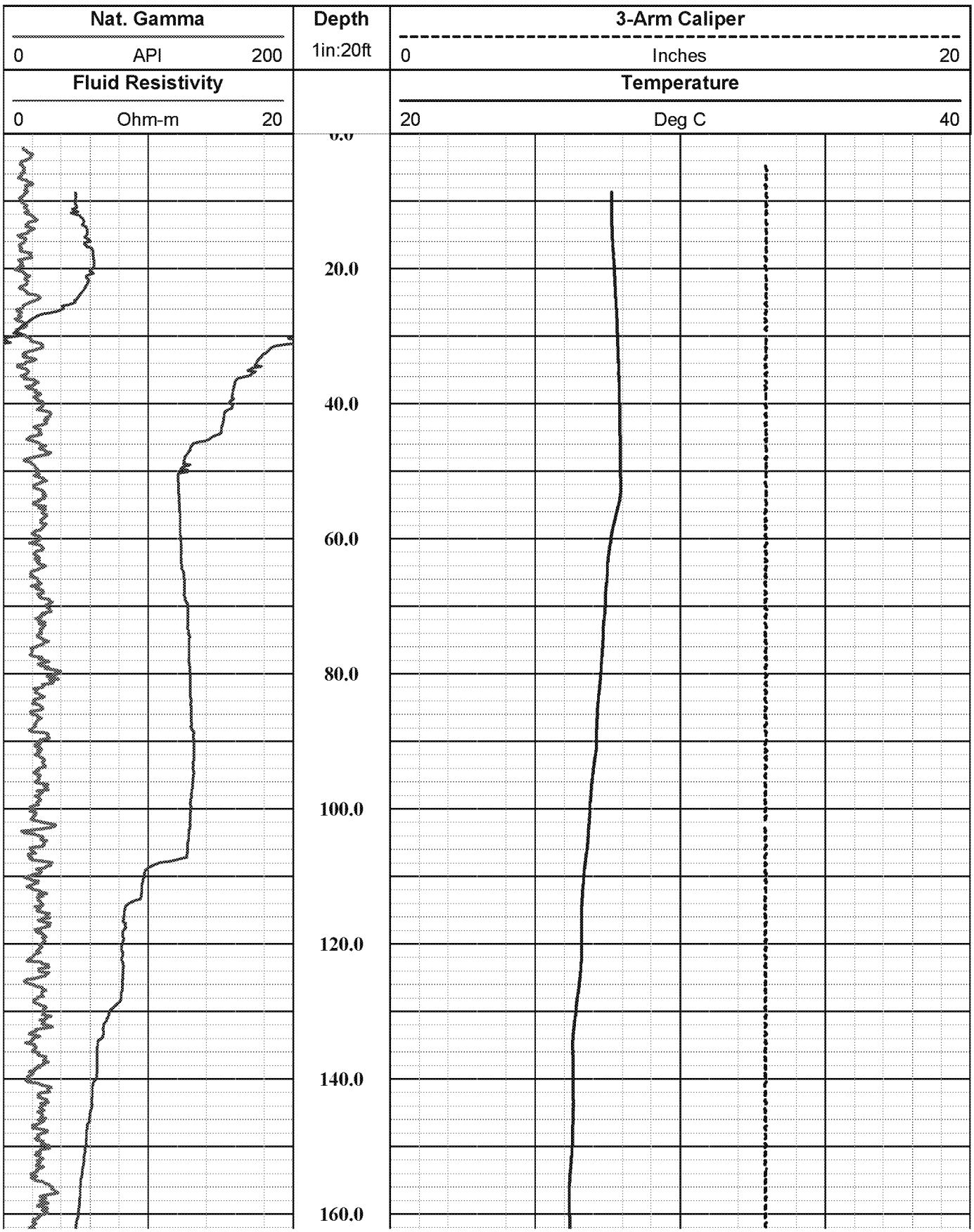
Additional Comments:

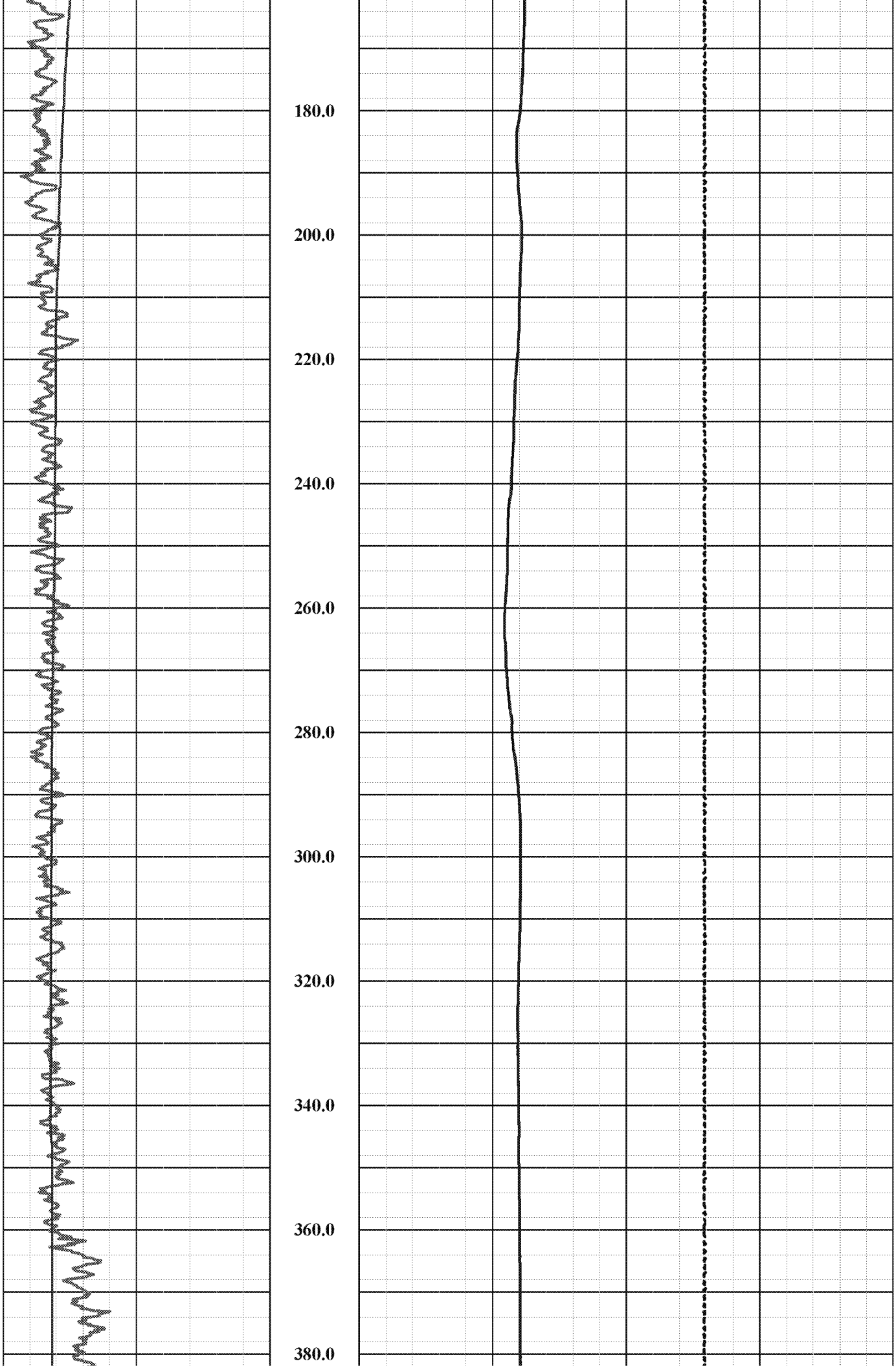
Caliper Arms Used: 15 IN. **Calibration Points:** 8 IN. & 23 IN.

E-Log Calibration Range: N/A **Calibration Points:** N/A

Disclaimer:

All interpretations of log data are opinions based on inferences from electrical or other measurements. We do not guarantee the accuracy or correctness of any interpretations or recommendations and shall not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our employees or agents. These interpretations are also subject to our general terms and conditions set out in our current Service Invoice.

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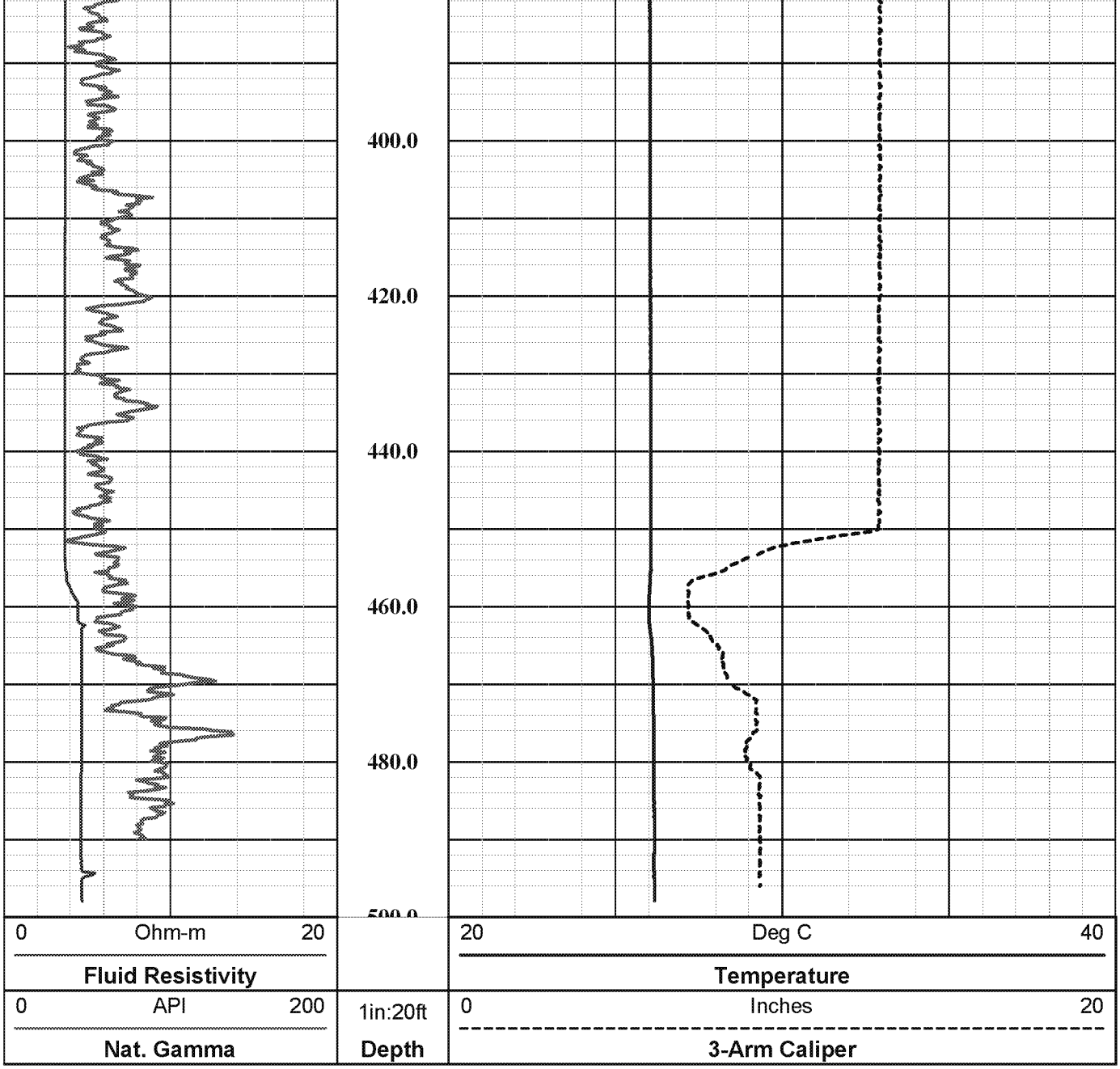
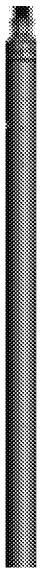


MSI Gamma-Caliper-Temperature-Fluid Resistivity

Probe Top = Depth Ref.



Single Conductor MSI Probe Top

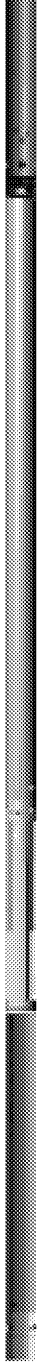
Probe Length = 2.59 m or 8.5 ft
Probe Weight = 6.80 kg or 15.0 lbs

Natural Gamma and Caliper can only be collected logging up hole.

Fluid Temperature/Resistivity can only be collected logging down hole.

Temperature Rating: 70 Deg C (158 Deg F)
Presure Rating: 200 bar (2900 psi)

Natural Gamma Ray = 0.76 m (29.75 in)



NOTE: Lengths on a particular tool may vary from those listed on this document due to probe sizes and styles utilized

3-Arm Caliper = 1.44 m (56.75 in)

Distance from tool top: 2.20 m (86.5 in)

Available Arm Sizes: 3", 9", and 15"

TFR (Temperature/Fluid Resistivity) = 0.39 m (15.5 in)

1.375" or 34.9 mm Diameter

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Company	FLORENCE COPPER
Well	R-08
Field	FLORENCE COPPER
County	PINAL
State	ARIZONA

Preliminary GCT Summary