

**Schlumberger**  
**FOUR-ARM**  
**CONTINUOUS DIPIETER**

REMARKS: 15-17-80

COMPANY: CHEVRON U.S.A., INC.  
 WELL: BEOWAVE 85-1B  
 FIELD: BEOWAVE GEYSERS  
 COUNTY: LANDER STATE: NEVADA

LOGGING UNIT: S. SCHLUMBERGER  
 LOGGING NUMBER: 18  
 LOGGING DATE: 11/18/80

LOGGING TIME: 10:00 AM  
 LOGGING LOCATION: 81-281-130/F  
 LOGGING OPERATOR: J. H. HARRIS

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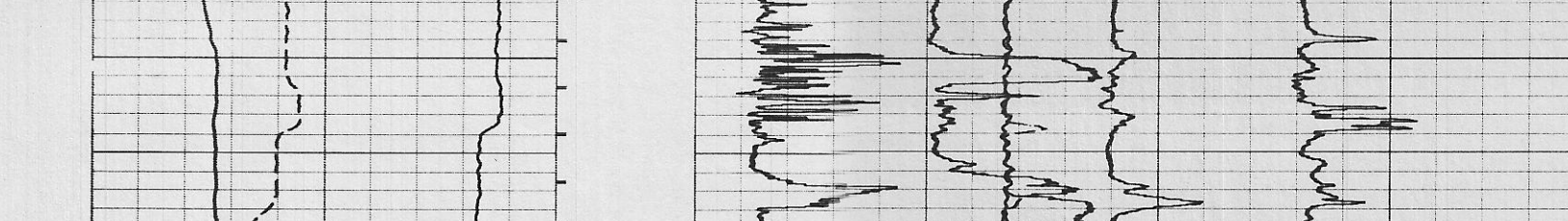
FIELD NO. \_\_\_\_\_ The well name, location and borehole reference data were furnished by the customer.

REMARKS: Service Order No. 123942 Magnetic Declination 17°W  
 TIME STARTING IN HOLE 330 T<sub>1</sub> = 130°F T<sub>2</sub> = 130°F T<sub>3</sub> = 130°F  
 TIME OUT OF HOLE - 04:48

Run No.	Tool Type	HDT-0	2	3	4	SOIL NO.	INTERVAL
	HDP	973					
	DOE	TTR					
	DPI						
	HDM	F = 1726					
	HSE	G = 1779					
	HDS	D = 1752					
	Adapter Head						
	UC	CG					
	5" Film	10" Film	60" Record				
	Analogue	Digital					
	Circulation Stopped	1600					
	Scale on Bottom	(0.1) F					

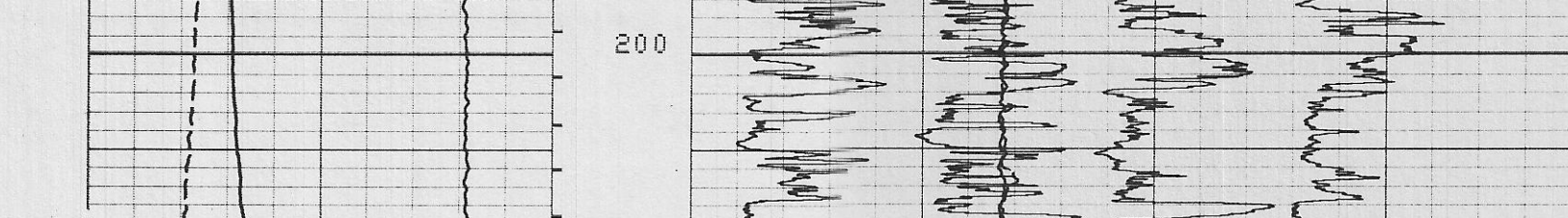
TOOL AZIMUTH AND HOLE DIRECTION CALCULATION DEFINITIONS

(DHD) HIGH SIDE OF TOOL = Direction from center of tool to upper side of tool. (AZ) AZIMUTH OF REFERENCE ELECTRODE = Clockwise angle from N to REF.  
 (N) NORTH = Direction from center of tool to Magnetic North. (RR) RELATIVE BEARING = Clockwise angle from DHD to REF.  
 (REF) REFERENCE ELECTRODE = Direction from center of tool to #1 electrode. (ARD) AZIMUTH OF HOLE DEV. (TOOL AXIS) = Clockwise angle from N to DHD.

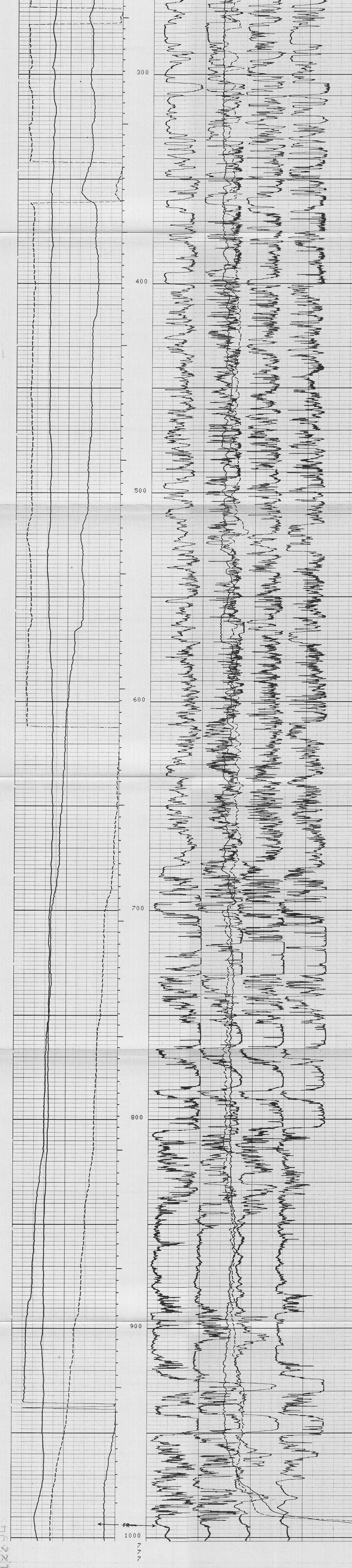
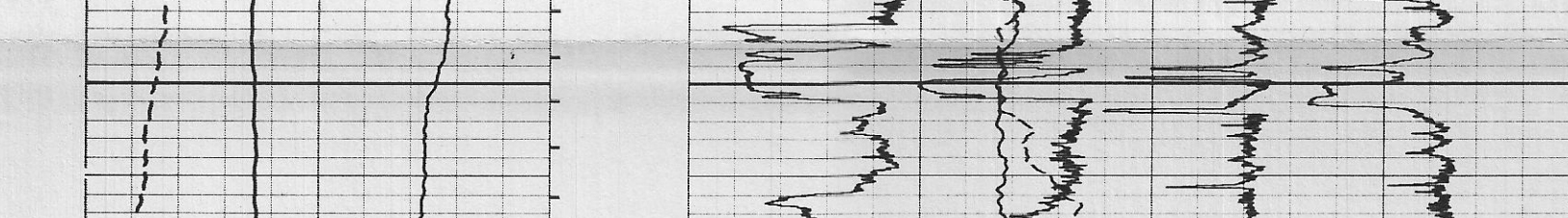


All interpretations are opinions based on information from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

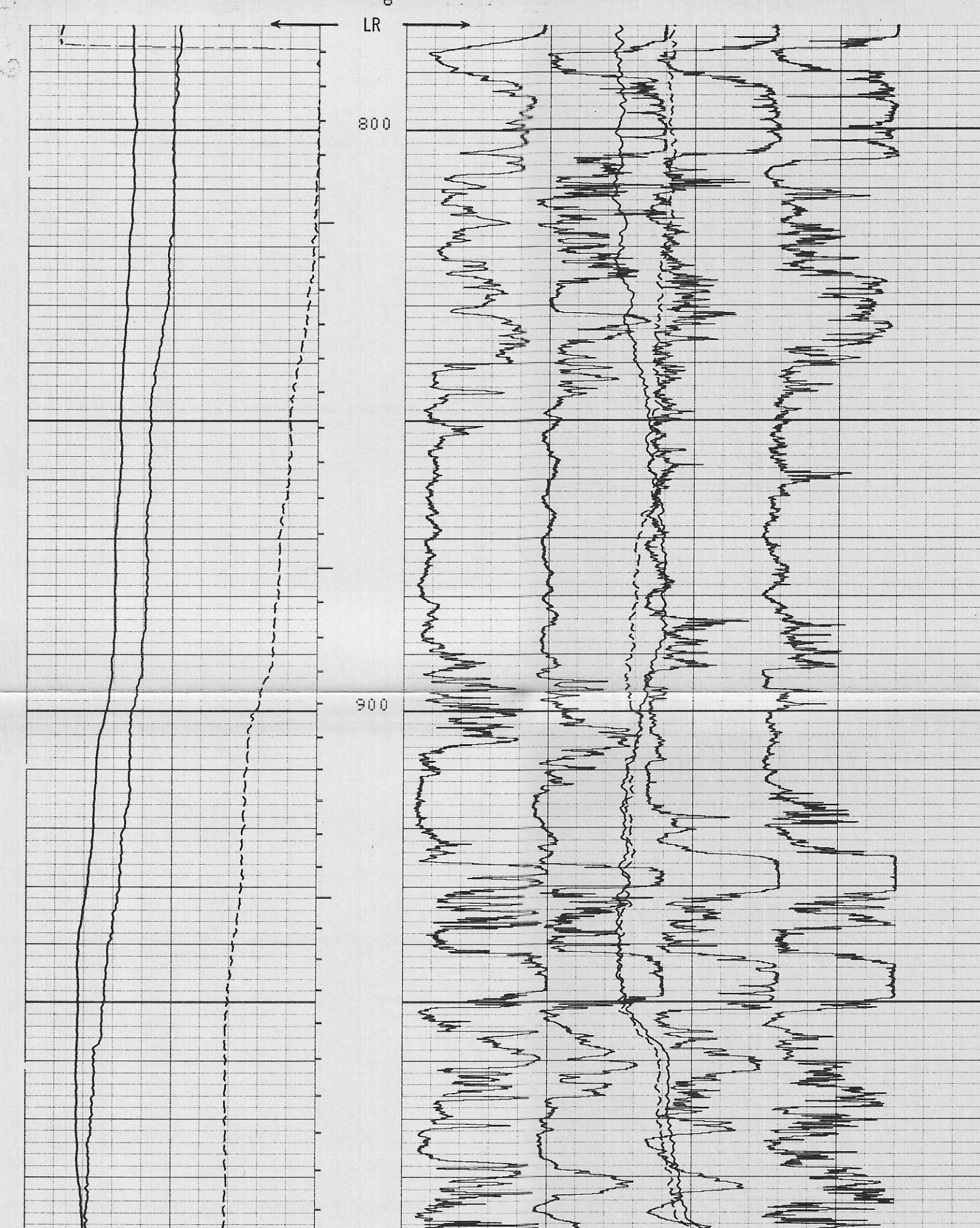
**ORIENTATION**



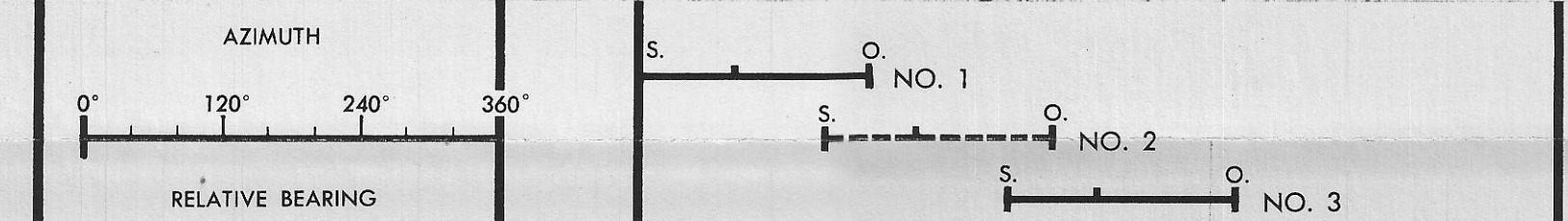
**CORRELATION CURVES**



**REPEAT SECTION**



**CALIBRATION RECORD**



NAME	UNIT	VALUE	NAME	UNIT	VALUE	NAME	UNIT	VALUE				
DD	STYP	0.0	BHS	NCT	DEG	DPEN	36	FWHI	BS	INCH	PHIX	17.50

**BEFORE SURVEY CALIBRATION SUMMARY**

PERFORMED: 80/03/07  
 PROGRAM FILE: HDT (VERSION 16.4 00/00/00)

**HDT CALIBRATION SUMMARY**

C1	C2	MEASURED		CALIBRATED		UNITS
		SMALL	LARGE	SMALL	LARGE	
8.0	9.0	8.9	13.4	8.0	12.0	IN
9.0	9.0	9.0	13.4	8.0	12.0	IN

**AFTER SURVEY TOOL CHECK SUMMARY**

PERFORMED: 80/03/07  
 PROGRAM FILE: HDT (VERSION 16.4 00/00/00)

**HDT TOOL CHECK**

C1	C2	SMALL		LARGE		UNITS
		BEFORE	AFTER	BEFORE	AFTER	
8.0	9.0	8.0	8.0	12.0	12.0	IN
9.0	9.0	9.0	9.0	12.0	12.0	IN

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- HIGH RESOLUTION DIPIETER CALIBRATION CODING**
- MECHANICAL ZERO
  - ELECTRICAL ZERO
  - FULL SCALE ADJUST
  - CALIPER ADJUST AT 6" AND 16" CALIPER 1-3 IS CODED
  - CALIPER ADJUST AT 6" AND 16" CALIPER 2-4 IS SOLD
  - PAD #1 RESPONSE CHECK
  - PAD #2 RESPONSE CHECK
  - PAD #3 RESPONSE CHECK
  - PAD #4 RESPONSE CHECK
  - SONDE HANGING VERTICALLY
  - TOOL AND PAD #1 POINTED NORTH
  - TOOL ROTATING