



# HEF PETROPHYSICAL CONSULTING INC.

## BOREHOLE IMAGE INTERPRETATION

Using CMI Data

COMPANY	SUNCOR ENERGY INC		
WELL	SUNCOR FIREBAG 4-7-93-4		
FIELD	UNDEFINED		
PROVINCE	ALBERTA	COUNTRY	CANADA
LOCATION	UWID: 1AA040709304W400		
	LSD: 04-07-093-04W4	LIC # 0492309	
Elevations:		KB: 656.50 m	DF: GL: 652.30 m
RUN NUMBER	One		
LOGGING DATE	01-Mar-19		
DEPTH - DRILLER	378.00 m		
DEPTH - LOGGER	377.90 m		
BOTTOM LOGGED INTERVAL	377.08 m		
TOP LOGGED INTERVAL	0.00 m		
BIT SIZE	159.00 mm		
FLUID TYPE IN HOLE	Polymer		
LOGGING CONTRACTOR	Weatherford		
HEF REFERENCE NUMBER	sunc190301b		

In making interpretations of logs our employees will give the customer the benefit of their best judgement, but since all interpretations are based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or the correctness of an interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

### Below information extracted from main pass LAS file

STRT .M	0.0	:	ENG .	S. RADFORD	
Start			:	Recording engineer	
STOP .M	379.0	:	WIT .	Y. WARRAICH	
Stop			:	Witnessed by	
STEP .M	0.1	:	CSGT .	SURFACE	
Step increment			:	Casing type	
NULL .	-999.250	:	CSGS .MM	177.800	
Null value			:	Casing size	
COMP .	SUNCOR ENERGY		CSGW .KG/M	25.300	
INC. :	Company		:	Casing weight	
WELL .	SUNCOR FIREBAG 4-7-		CSGD .M	109.380	:
93-4 :	Well		:	Casing bottom (driller)	
FLD .	UNDEFINED		CSGL .M	109.700	:
: Field			:	Casing bottom (logger)	
PROV .	ALBERTA		CSUP .M	0.000	:
: Province			:	Casing Stick Up GL	
CTRY .	Canada	:	MUD .	POLYMER	
State / Country			:	Mud type	
LOC .		:	MUDS .	FLOWLINE	
Location			:	Mud sample source	
LOC2 .	04-07-093-04W4		MUDD .K/M3	1140.000	
: Location 2			:	Mud density	
SRVC .	Weatherford	:	MUDV .SEC/L	76.000	
Service company			:	Mud viscosity	
UWI .	1AA040709304W400		PH .	9.000	: Mud
: Unique Well ID			pH		
LIC .	0492309	:	FL .ML/30MIN	6.000	:
Licence Number			:	Mud fluid loss rate	
DATE .	2019-03-01	:	RM .OHMM	2.250	:
Logging Date (YYYY-MM-DD)			:	Mud resistivity	
RNID .	MP	:	RMT .DEGC	20.600	
Run ID			:	Mud sample temperature	
SON .	3886-238493448		RMF .OHMM	2.180	
: Job Number			:	Mud filtrate resistivity	
DREF .	KB	:	RMFT .DEGC	13.900	
Depth reference			:	Mud filtrate sample temperature	
EREF .M	656.500	:	RMC .OHMM	3.380	
Elevation of depth reference			:	Mud cake resistivity	
GL .M	652.300	:	RMCT .DEGC	20.600	
Ground elevation			:	Mud cake sample temperature	
DDRF .	KB	:	RMBT .OHMM	2.960	
Drilling Depth Reference			:	Mud Resistivity at BHT	
DERF .M	656.500	:	BHT .DEGC	11.000	
Elevation of Drilling Depth Reference			:	Bottom Hole Temperature	
RUN .	1	: Run	TMAX .DEGC	11.000	
number			:	Max recorded temperature	
TDD .M	378.000	:			
TD (driller)					
TDL .M	377.900	:			
TD (logger)					
BS .MM	159.000	:			
Bit size					
TIMC .	28-Mar-19 23:30:00.000				
: Time circulation ended					
TIML .	01-Mar-19 04:00:00.000				
: Time logger at bottom					
UNIT .	13112	:			
Equipment ID					
BASE .	EDM	:			