STEP energy services

COMPOSITE LOG

Company TRANS PACIFIC OIL CORPORATIC
Well FLAX A #1-16
Field RANSOM NORTHWEST
County NESS
State KANSAS
Country USA
API No. 15-135-26082-00-00

File No : HAYS-70363
Company : TRANS PACIFIC OIL CORPORATION
Well : FLAX A #1-16
Field : RANSOM NORTHWEST
County : NESS
State : KANSAS
Country : USA
API No : 15-135-26082-00-00

Location :
2310' FNL & 2970' FEL
SE SE NW

LSD : **Sect :** 16 **Twp :** 16S **Rge :** 24W

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	2537.00 Ft	GRT	MLT
Log Measured From:	KB	**DF**	2535.00 Ft	CNT	PIT
Above Permanent Datum:	7.00 Ft	**GL**	2530.00 Ft	LDT	

Date	10-01-2019						
Run Number	1						
Depth--Driller	4610.0	Ft					
Depth--Logger	4604.0	Ft					
First Reading	4603.0	Ft					
Last Reading	3600.0	Ft					
Casing--Driller	264.0	Ft					
Casing--Logger	264.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type	WBM						
Density	9.4	lb/gal					
Fluid Loss	8.0	ml/30min					
PH/Viscosity	10.0	60.0 sec					
Sample Source	MEASURED						
RM@Measured Temp.	0.700 @ 75 F						
RMF@Measured Temp	0.600 @ 75 F						
RMC@Measured Temp.	0.810 @ 75 F						
Source RMF/RMC	CALCULATED	CALCULATED					
RM@BHT	0.450 @ 120 F						
Time Circulation Stopped							
Max Recorded Temp.	120 F						
Equipment/Base	TRK 137	HAYS					
Recorded By	R. FRANKLIN						
Witnessed By	N. HIXON						

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	4604.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	0.00	264.00	0.00

Run Number	1		
Date	10-01-2019		
Date/Time On Bottom	10-01-2019 13:15		
Depth to Fluid	0.0	Ft	
Salinity	3100.000	ppm	
RMF@BHT	0.380 @ 120 F		
RMC@BHT	0.520 @ 120 F		

Run Number 1

Comments

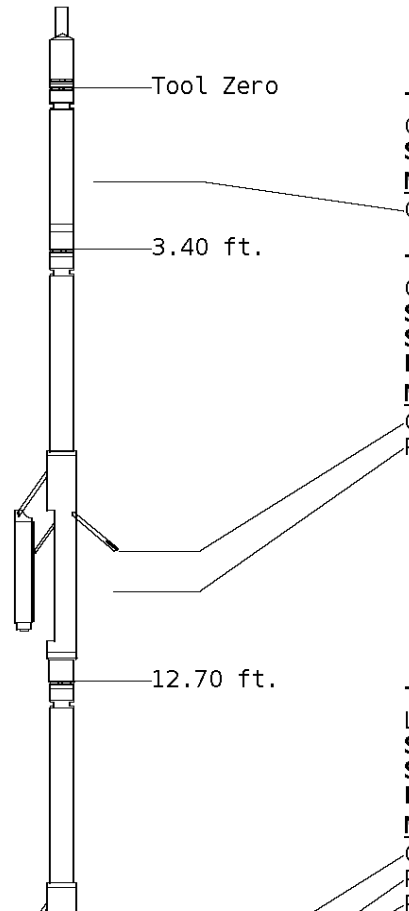
ALL PRESENTATION PER CUSTOMER REQUEST
GRT,CNT,LDT,MLT,PIT RUN IN COMBINATION
CALIPERS ORIENTED ON X-Y AXIS
2.71 G/CC USED TO CALCULATE POROSITY
ANNULAR & BOREHOLE VOLUME CALCULATED USING 5.5 PRODUCTION CASING
PHIN IS CALIPER CORRECTED
DETAIL IS PRESENTED FROM TD TO SCG
ANHYRITE DETAIL PRESENTED FROM 1950' TO 1850'

GRT; GRP,
CNT; PHIN, CLCNIN
LDT; PORL, LCORN, PECLN, LDENN, CLLDIN
MLT; NOR_RF, INV_RF, MSCLPIN.
PIT; ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS;
D. LEGLEITER
D. RAGSDALE
J. VAUGHN
R. NITZ

Tool String Schematic

Total Tool Length - 54.51 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 943.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BC-038

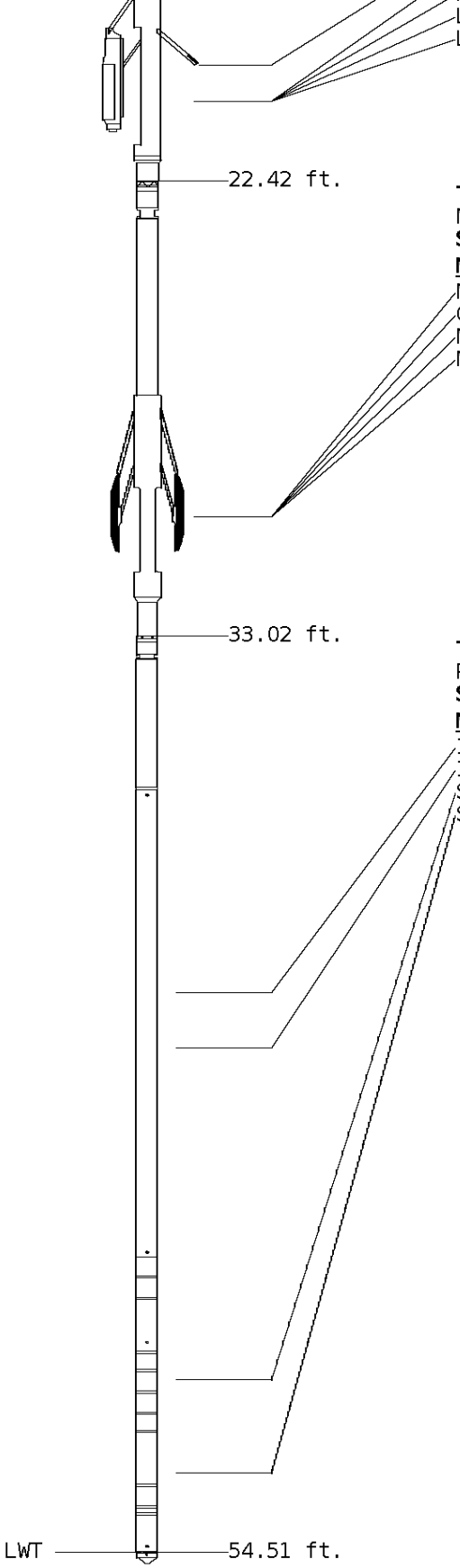
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	52.51

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AF-104
Source ID :N-1104
Pad ID :CNP-AE-41

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	45.11
PHIN	6.80	10.20	44.31

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :NDT-FA-404
Source ID :1637GW
Pad ID :LDP-DA-062

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	35.39
PEL	7.42	20.12	34.39
PES	7.82	20.52	33.99



LDEN	7.62	20.32	34.19
LCOR	7.62	20.32	34.19

Tool: MLT-AB **Length:** 10.60 **ft.** **O.D.** 6.00 **in.**
Micro Log Tool
Sonde ID :MLT-012

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	8.90	31.32	23.19
CLMR	7.60	30.02	24.49
MSFN	8.90	31.32	23.19
MSFI	8.90	31.32	23.19

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-043

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.94	12.56
ILM	10.10	43.12	11.39
SFLU	17.49	50.51	4.00
SP	20.60	53.62	0.88

Well File: TRANS-PACIFIC_FLAX_A_1-16_OCT_1_MSTK **Scale:** 1:240 **Format:** COMSAT
Segment: V1.D1.S6 MAIN **Acquired:** 2019-10/01 13:25 3.4.1-13972
Reference: 0 **Processed:** 2019-10/01 14:46 3.4.1-13972

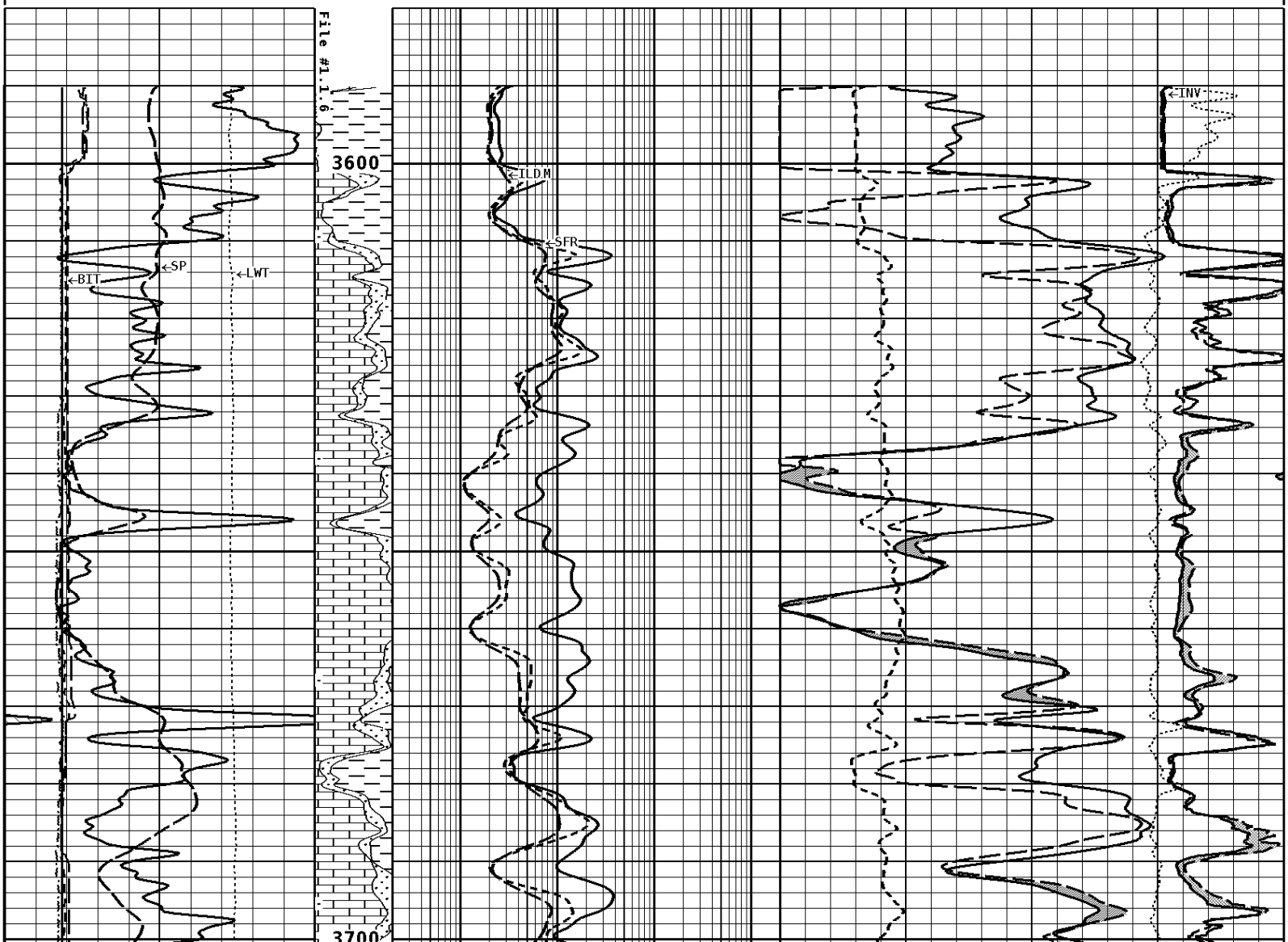
CALIPER MICRO
INCHES (IN)
16 26
6 16

BIT SIZE
INCHES (IN)

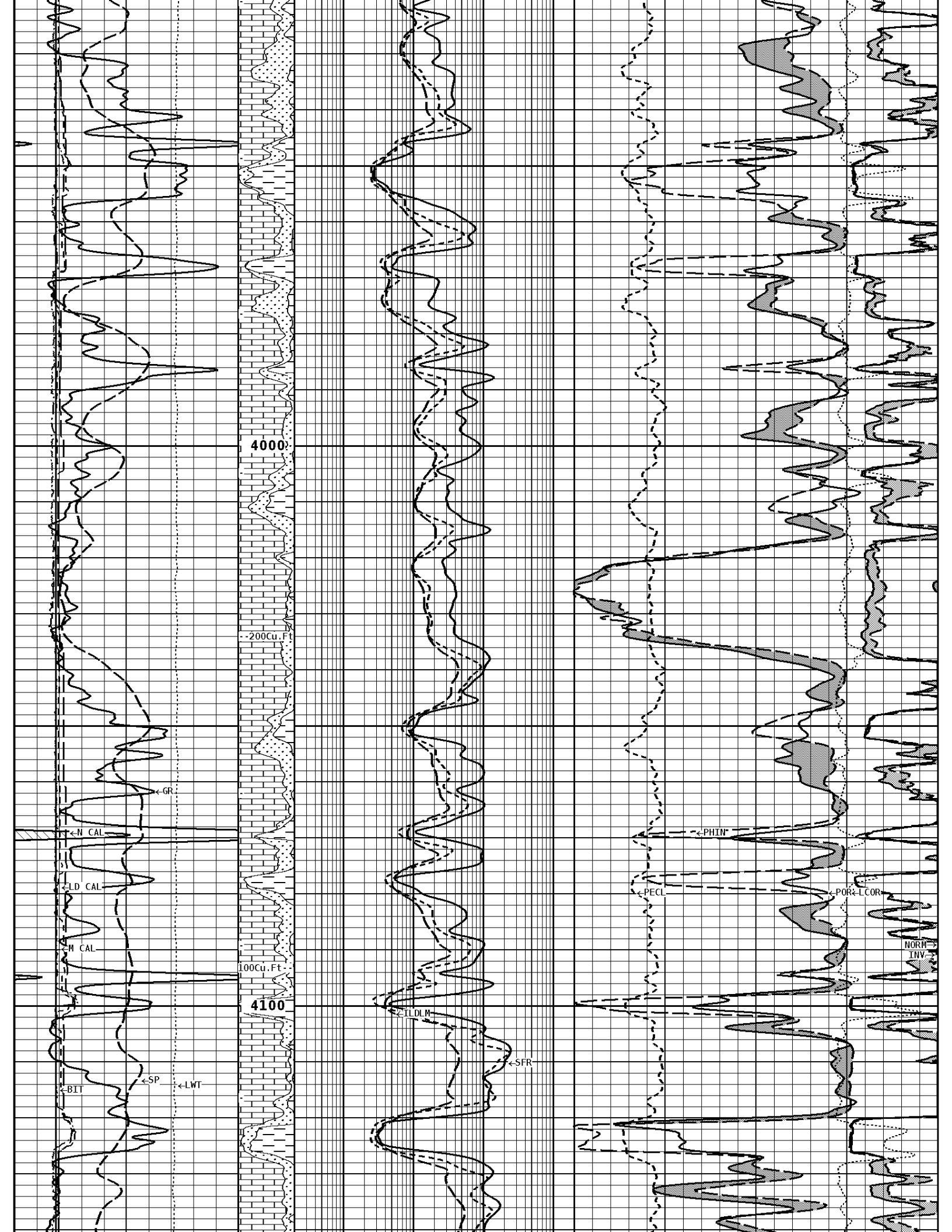
NORMAL
OHMM

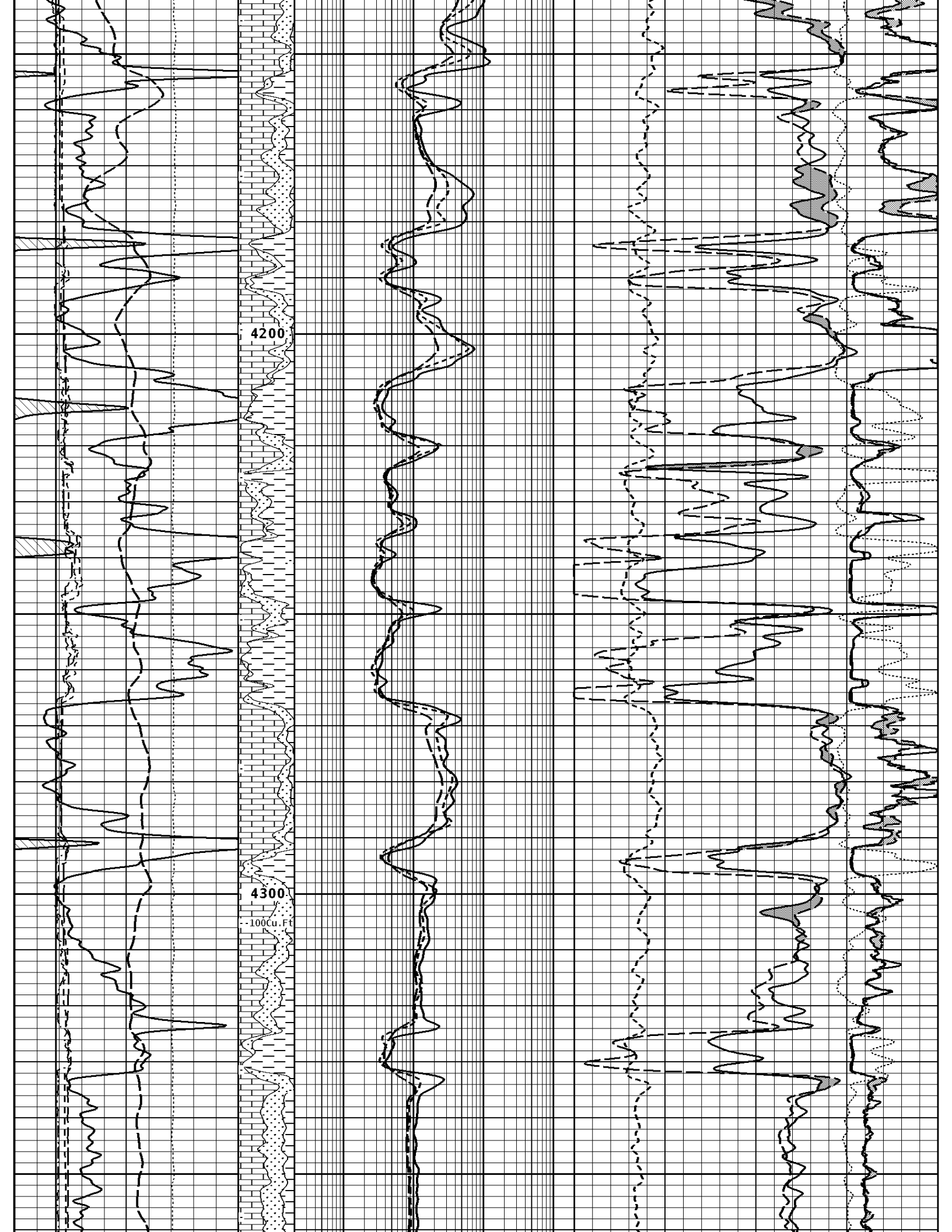
6 16			0 40
NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16			INVERSE OHMM 0 40
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16	Volume Quartz		DENSITY CORRECTION G/CC -0.75 0.25
TENSION LBS 10000 0	Volume Calcite	SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0	PE CROSS-SECTION BARNS/ELECTRON 0 20
SPONTANEOUS POTENTIAL mV →| |←20	Volume Dolo/Shale	DEEP INDUCTION OHMM 0.2 2000.0	DENSITY POROSITY (2.71g/cc) PERCENT 70 30 30 -10 -10 -50
GAMMA RAY API UNITS 150 300 0 150	-BHV AHV- CU.FT	MEDIUM INDUCTION OHMM 0.2 2000.0	NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10

1:240 MAIN SECTION

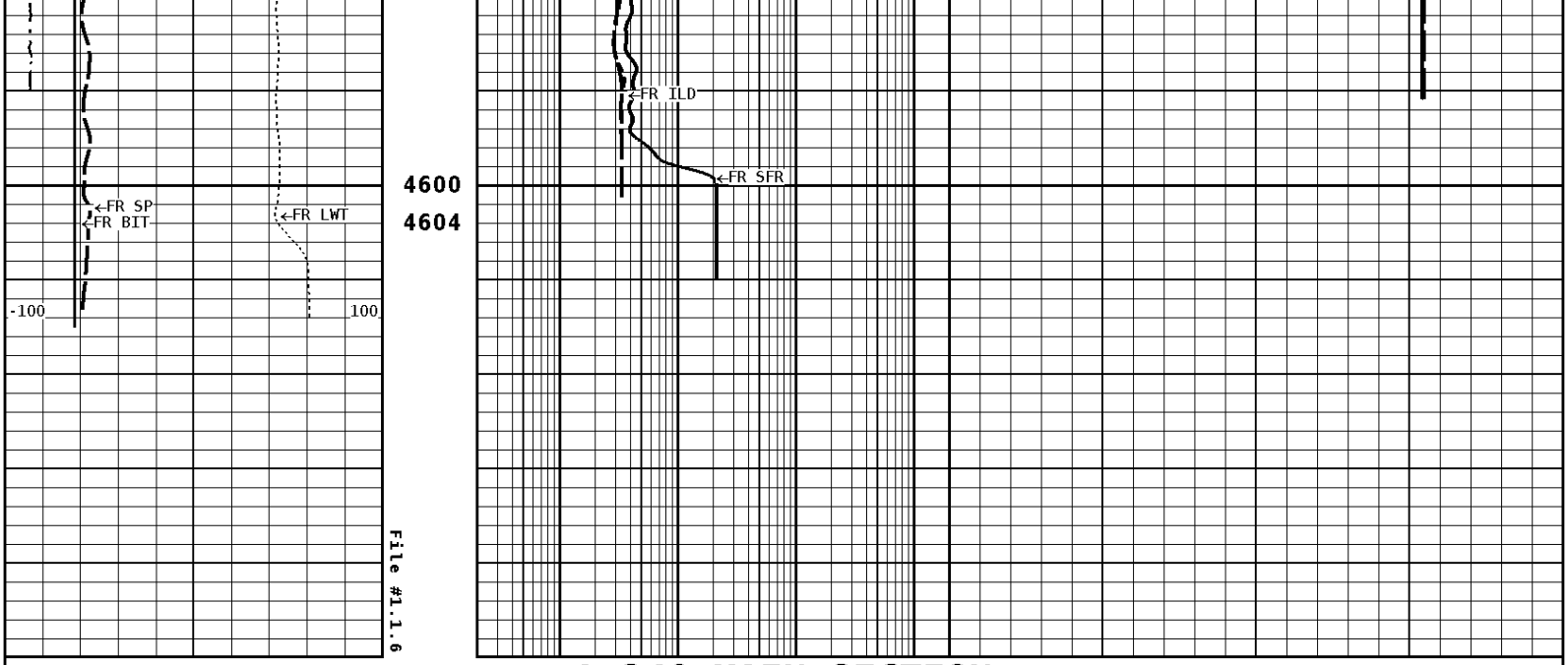



300Cu.Ft
3800
3900


4000
200Cu.Ft
GR
N CAL
LD CAL
M CAL
100Cu.Ft
4100
BIT
SP
LWT
ILDLM
SFR
PHIN
PECL
POR-LCOR
NORM
INV.


4200
4300
-100Cu.Ft


4400
4500
FR GR
FR N CAL
FR LD CAL
FR M CAL
FR PHIN
FR PECL
FR PORL
FR LCOR
FR NORM



1:240 MAIN SECTION

GAMMA RAY API UNITS	-BHV AHV- CU.FT	MEDIUM INDUCTION OHMM	NEUTRON POROSITY (LIMESTONE) PERCENT
150 300 0 150		0.2 2000.0	30 -10
SPONTANEOUS POTENTIAL **mV**	Volume Dolo/Shale	**DEEP INDUCTION** **OHMM**	**DENSITY POROSITY (2.71g/cc)** **PERCENT**
→| |←20		0.2 2000.0	70 30 30 -10 -10 -50
TENSION **LBS**	Volume Calcite	**SHALLOW FOCUSED RESISTIVITY** **OHMM**	**PE CROSS-SECTION** **BARNS/ELECTRON**
10000 0		0.2 2000.0	0 20
DENSITY (X) CALIPER **INCHES (IN)**	Volume Quartz		**DENSITY CORRECTION** **G/CC**
16 26 6 16			-0.75 0.25
NEUTRON (Y) CALIPER **INCHES (IN)**			**INVERSE** **OHMM**
16 26 6 16			0 40
BIT SIZE **INCHES (IN)**			**NORMAL** **OHMM**
6 16			0 40
CALIPER MICRO **INCHES (IN)**			
16 26 6 16			

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in

Casing Correction (PHI N)	Disable	
Hole Substance	Fluid	
BHT Depth	4604.000	ft
Borehole Temperature	120.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	0.700	ohmm

Well File: TRANS-PACIFIC_FLAX_A_1-16_OCT_1_MSTK **Scale:** 1:240 **Format:** COMSAT
Segment: V1.D1.S7 REPEAT **Acquired:** 2019-10/01 13:08 3.4.1-13972
Reference: 0 **Processed:** 2019-10/01 14:45 3.4.1-13972

CALIPER MICRO INCHES (IN) 16 6 26 16

BIT SIZE INCHES (IN) 6 16

NEUTRON (Y) CALIPER INCHES (IN) 16 6 26 16

NORMAL OHMM 0 40

INVERSE OHMM 0 40

DENSITY (X) CALIPER INCHES (IN) 16 6 26 16

Volume Quartz

DENSITY CORRECTION G/CC -0.75 0.25

TENSION LBS 10000 0

Volume Calcite

SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0

PE CROSS-SECTION BARNS/ELECTRON 0 20

SPONTANEOUS POTENTIAL mV →| |←20

Volume Dolo/Shale

DEEP INDUCTION OHMM 0.2 2000.0

DENSITY POROSITY (2.71g/cc) PERCENT 70 30 30 -10 -10 -50

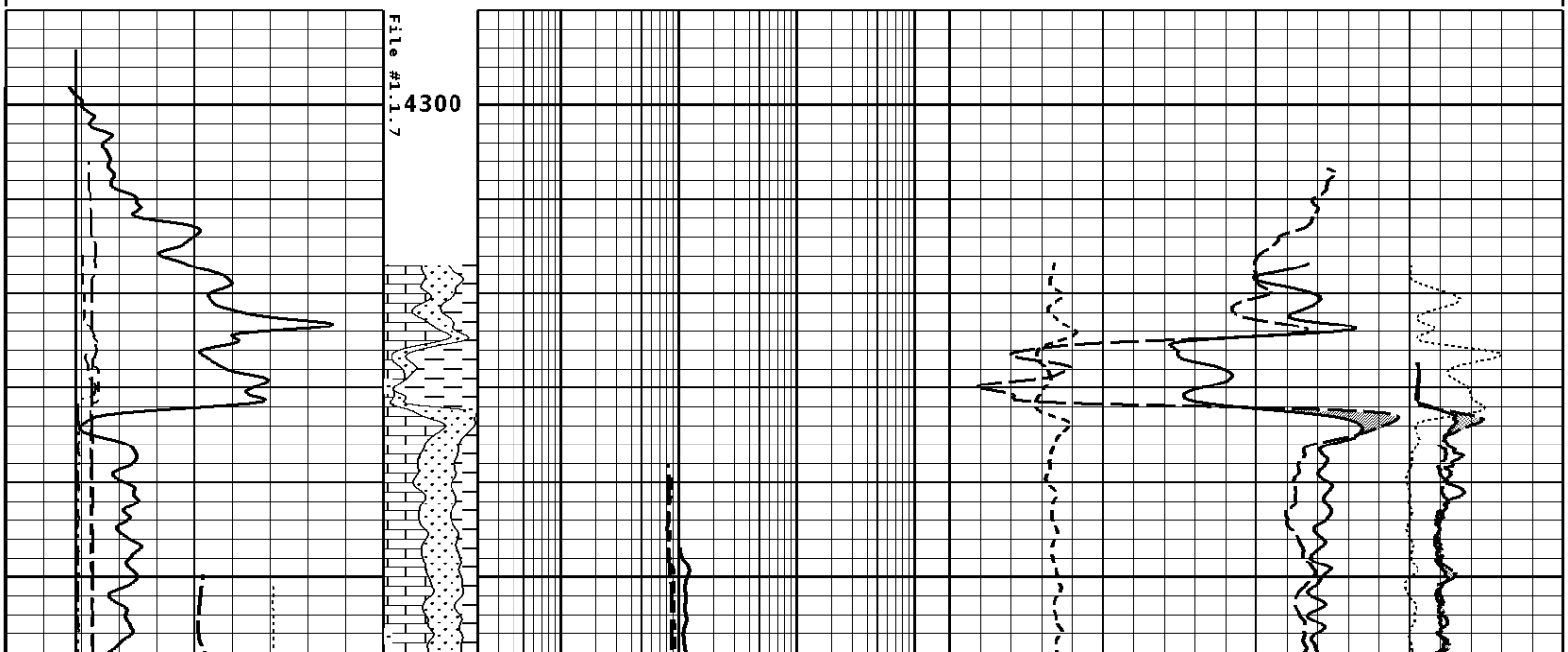
GAMMA RAY API UNITS 150 0 300 150

-BHV AHV- CU.FT

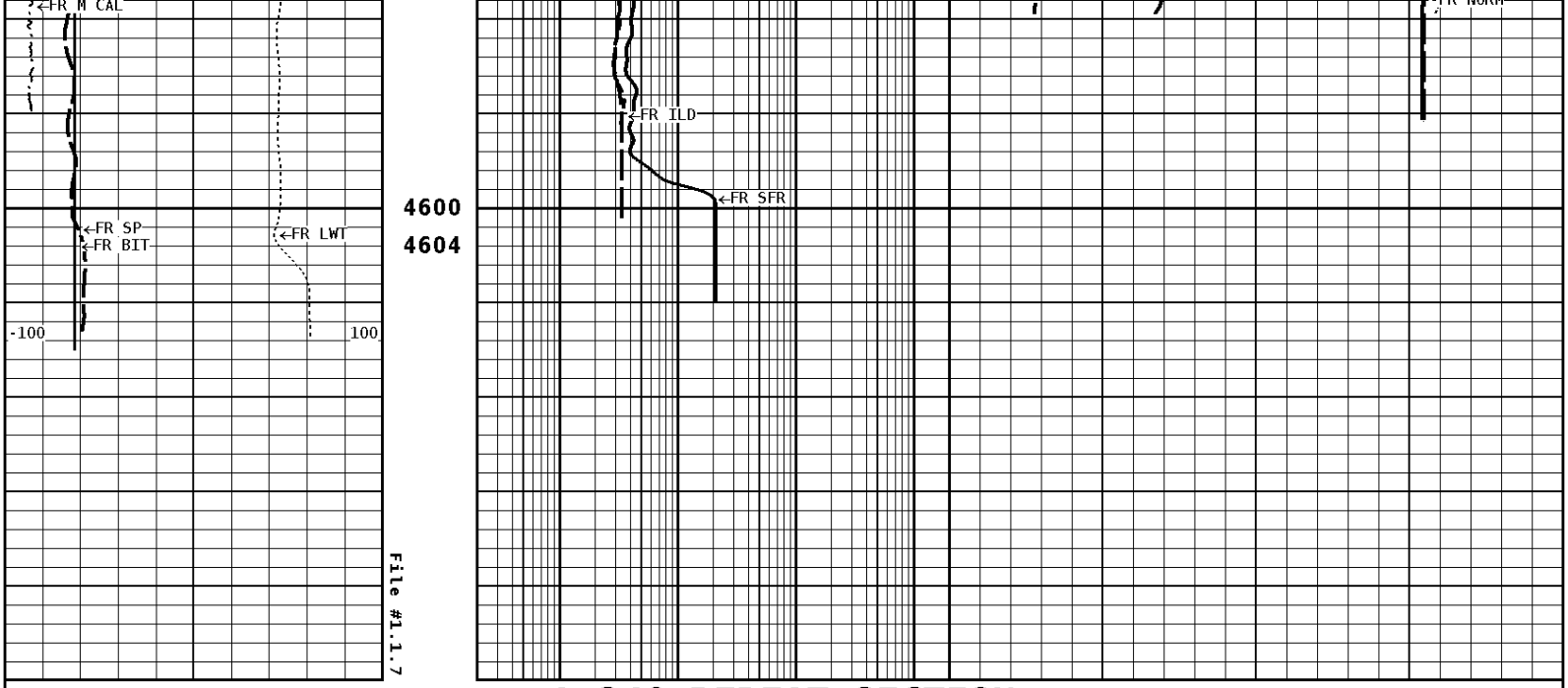
MEDIUM INDUCTION OHMM 0.2 2000.0

NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10

1:240 REPEAT SECTION




4400
4500
FR GR
FR N CAL
FR LD CAL
FR PHIN
FR LCOR
FR PECL
FR PORL
FR NORM



1:240 REPEAT SECTION

GAMMA RAY API UNITS	BHV AHV CU.FT	MEDIUM INDUCTION OHMM	NEUTRON POROSITY (LIMESTONE) PERCENT
150 300 0 150		0.2 2000.0	30 -10
SPONTANEOUS POTENTIAL mV	Volume Dolo/Shale	**DEEP INDUCTION OHMM**	**DENSITY POROSITY (2.71g/cc) PERCENT**
→| |←20		0.2 2000.0	70 30 30 -10 -10 -50
TENSION LBS	Volume Calcite	**SHALLOW FOCUSED RESISTIVITY OHMM**	**PE CROSS-SECTION BARNS/ELECTRON**
10000 0		0.2 2000.0	0 20
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz		**DENSITY CORRECTION G/CC**
16 26 6 16			-0.75 0.25
NEUTRON (Y) CALIPER INCHES (IN)			**INVERSE OHMM**
16 26 6 16			0 40
BIT SIZE INCHES (IN)			**NORMAL OHMM**
6 16			0 40
CALIPER MICRO INCHES (IN)			
16 26 6 16			

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	7.875	in
Casing Diameter	5.500	in

Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	
Hole Substance	Fluid	
BHT Depth	4604.000	ft
Borehole Temperature	120.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	0.700	ohmm

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 24-JUN-2019 Time : 12:20
Sensor Suite : GR-GR5 ID : GRT-BC-038

	Measured		Units	Calibrated	Units
	Background	Jig		Jig	
GR	36	266	CPS	160	GRAPI

Shop Calibration
CNT-AA

Performed : 03-Jun-2019 Time : 11:06
Sensor Suite : CALI-BCN ID : NDT-AF-104

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.3	13.2	6.0	12.0	IN.

Performed : 18-SEP-2019 Time : 16:10
Sensor Suite : BHC NEUT ID : CNP-AE-41
Source ID : N-1104

	Tank		Verification	Units
	Measured	Calibrated	Jig	
N/F	3.7537	3.6893	3.6964	
Porosity	21.5	20.5	20.6	%

Shop Calibration
LDT-DF

Performed : 03-Jun-2019 Time : 14:53
Sensor Suite : CALI-LTH ID : NDT-FA-404

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.3	13.2	6.0	12.0	IN.

Performed : 18-SEP-2019 Time : 12:05
Sensor Suite : BHCPELNG ID : LDP-DA-062
Source ID : 1637GW

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	65	1048	1693	671	CPS
LSW2	68	1209	1923	869	CPS
LSW3	248	2723	4386	2317	CPS
LSW4	304	2339	3355	2060	CPS
LSW5	27	46	51	43	CPS
LSW6	87	88	86	86	CPS
LSW7	51	56	57	57	CPS
LSW8	1	3	4	3	CPS
QS	0.261	0.222	0.203	0.205	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	96	1171	4837	704	CPS
LLW2	106	2047	8062	1488	CPS
LLW3	404	3698	14047	3196	CPS
LLW4	517	1760	5509	1595	CPS
LLW5	59	67	114	66	CPS
LLW6	161	160	148	159	CPS
LLW7	108	104	99	106	CPS
LLW8	4	7	17	6	CPS
QL	0.195	0.215	0.198	0.198	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Shop Calibration
MLT-AB

Performed : 03-JUN-2019 Time : 15:59
Sensor Suite : CAL-MSFL ID : MLT-012

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	12.6	15.6	6.0	12.0	IN.

Performed : 03-Jun-2019 Time : 16:08
Sensor Suite : MS-NI ID : MLT-012

	Jig#1	Jig#2	Verifier	Units
VN-0	522.41	3592.20	3592.82	
VN-90	322.29	4426.00	4426.45	
MPNR Measured	3.07	28.50	28.51	
MPNR Calibrated	2.00	20.00	20.00	OHMM
VI-0	379.00	5381.38	5381.98	
VI-90	608.31	4363.26	4364.08	
MPIR Measured	3.58	34.64	34.64	
MPIR Calibrated	2.00	20.00	20.00	OHMM

Shop Calibration
PIT-CA

Performed : 10-MAY-2019 Time : 11:27
Sensor Suite : P-IND-T ID : PIT-AC-043

Medium

	Measured		Calibrated		Units
	R	X	R	X	
Air	131492	129685	0.0	0.0	MMHOS
Zero	131066	131062	-18.1	59.6	MMHOS
Reference	244915	244454	4981.9	5059.6	MMHOS
Loop	130404	210498	3515.7	3611.2	MMHOS
Sonde Error			-0.5	-1.7	MMHOS
Cond			4981.9	5059.6	MMHOS

Deep

	Measured		Calibrated		Units
	R	X	R	X	
Air	131939	129230	0.0	-0.0	MMHOS
Zero	131079	131067	-15.6	35.3	MMHOS
Reference	220620	224092	1984.4	2035.3	MMHOS
Loop	129308	206166	1595.4	1712.8	MMHOS
Sonde Error			-0.6	-7.8	MMHOS
Cond			1984.4	2035.3	MMHOS

Temperature

Measured		Calibrated		Units
Low	High	Low	High	
16980.0	56920.0	70.0	350.0	DEGF

Performed : 10-May-2019 Time : 14:03
Sensor Suite : SFL ID : PIT-AC-043

Internal

	Measured		Calibrated		Units
	Zero	Reference	Zero	Reference	
Im	32732.6	48929.1	0.0	7028.0	uA
Ib	32768.6	49680.1	0.0	1750.0	mA
MOM1	32722.0	56290.6	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

Performed : 10-MAY-2019 Time : 11:16
Sensor Suite : P-SP ID : PIT-AC-043

Internal

Measured		Calibrated		Units
Zero	Reference	Zero	Reference	
32774.5	58935.9	0.0	1000.0	mV

STEP energy services

Company: TRANS PACIFIC OIL CORPORATION

Well: FLAX A #1-16

Location: 2310' FNL & 2970' FEL

Logged: 10-01-2019

K.B. Elev: 2537.0 Ft