

**Company: Esso Australia Pty Ltd.**

**Well: A-27a**  
**Field: Bream A**  
**Rig: Prod4 / Crane**      **Country: Australia**

**RST-C Sigma Survey**  
**2 1/8" Powerjet MWPT Perforation Record**  
**4.5" Posiset Plug Setting Record**

Rig: Prod4 / Crane  
 Field: Bream A  
 Location: Gippsland  
 Well: A-27a  
 Company: Esso Australia Pty Ltd.

LOCATION	
Gippsland Basin Bass Strait	Elev.: K.B. 33.50 m G.L. -59.00 m D.F. 33.50 m
Permanent Datum:	M.S.L. _____
Log Measured From:	D.F. _____
Drilling Measured From:	D.F. _____
Elev.: 0.00 m	33.50 m above Perm. Datum
State: Victoria	Max. Well Deviation 67 deg
Longitude 147 46'15"E	Latitude 038 30'04"S

Logging Date	24-Feb-2009
Run Number	1 through 6
Depth Driller	3527 m
Schlumberger Depth	3527 m
Bottom Log Interval	3490 m
Top Log Interval	2100 m
Casing Fluid Type	Production Fluids
Salinity	
Density	
Fluid Level	1325 m
BIT/CASING/TUBING STRING	
Bit Size	8.000 in
From	1345 m
To	3557 m
Casing/Tubing Size	4.500 in
Weight	38.6 lbm/ft
Grade	13CR
From	2097 m
To	3557 m
Maximum Recorded Temperatures	208 degF
Logger On Bottom	24-Feb-2009
Unit Number	889
Recorded By	S Gilbert.
Witnessed By	B White

PVT DATA		Run 1
Oil Density		
Water Salinity		
Gas Gravity		
Bo		
Bw		
1/Bg		
Bubble Point Pressure		
Bubble Point Temperature		
Solution GOR		
Maximum Deviation	67 deg	
CEMENTING DATA		
Primary/Squeeze		Primary
Casing String No		
Lead Cement Type		
Volume		
Density		
Water Loss		
Additives		
Tail Cement Type		
Volume		
Density		
Water Loss		
Additives		
Expected Cement Top		
Logging Date		
Run Number		
Depth Driller		
Schlumberger Depth		
Bottom Log Interval		
Top Log Interval		
Casing Fluid Type		
Salinity		
Density		
Fluid Level		
BIT/CASING/TUBING STRING		
Bit Size		
From		
To		
Casing/Tubing Size		
Weight		
Grade		
From		
To		
Maximum Recorded Temperatures		
Logger On Bottom		
Unit Number		
Recorded By		
Witnessed By		

## DEPTH SUMMARY LISTING

Date Created: 23-FEB-2009 16:46:06

### Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-EB Serial Number: 6373 Calibration Date: 2-Dec-2008 Calibrator Serial Number: 30 Calibration Cable Type: 2-23ZT Wheel Correction 1: -1 Wheel Correction 2: -2	Type: PSDS/OSDS Serial Number: 325357 Calibration Date: 23-Feb-2009 Calibrator Serial Number: 1174 Number of Calibration Points: 9 Calibration RMS: 16 Calibration Peak Error: 27	Type: 2-32ZT Serial Number: 207308 Length: 6250 M Conveyance Method: Wireline Rig Type: LAND

### Depth Control Parameters

Log Sequence:	Subsequent Log In the Well
Reference Log Name:	Solar Composite Log
Reference Log Run Number:	
Reference Log Date:	.

### Depth Control Remarks

1. IDW used as primary depth control.
2. Z-chart used as secondary backup
3. Log Correlated on depth over Zone of interest
- 4.
- 5.
- 6.

#### DISCLAIMER

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OTHER SERVICES1	OS1: None OS2: OS3: OS4: OS5:
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REMARKS: RUN NUMBER 1	Log correlated to ExxonMobil composite supplied with logging program. Maximum well deviation = 67deg @ 1380m MDKB. Objectives: RST-C Sigma survey from 3490m m to 3430m MDKB. Making two passes at 900 ft/hr. Following this survey the well will be re-perforated and watered out zone plugged off with a 4.5" MPBT plug. The Sum of the two Casing weights 26lb/ft and 12.6lb/ft were used for the RST casing Weight in the Parameters RST SURVEY --- SBHP = 2639 psia. & SBHT = 206.6 degf. @ 3572m MDKB
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New Perforation Zone = 3471m to 3472.5m MDKB  
 Top Shot @ 3471 m MDKB  
 CCL to Top Shot = 3.45 m  
 CCL Stop Depth = 3467.55 m MDKB  
 4.5" Posiset Plug top of Seal Set @ 3478 m MDKB  
 CCL to Top of Seal = 6.8 m  
 CCL stop Depth = 3471.2 m MDKB  
 1m of Cement dumped in 1 Run.  
 CCL to Bottom of Dump Bailer = 6m

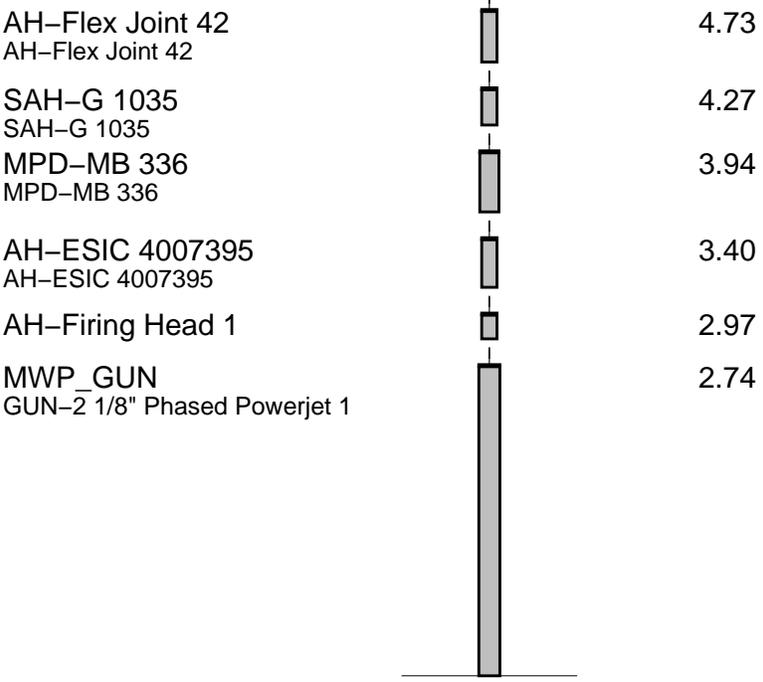
Crew : C Shiells , N Simmons

RUN 1			RUN 2		
SERVICE ORDER #:	AYCW-00001		LOGGED INTERVAL	START	STOP
PROGRAM VERSION:	16C0-147		LOGGED INTERVAL	START	STOP
FLUID LEVEL:	1325 m		LOGGED INTERVAL	START	STOP

## EQUIPMENT DESCRIPTION

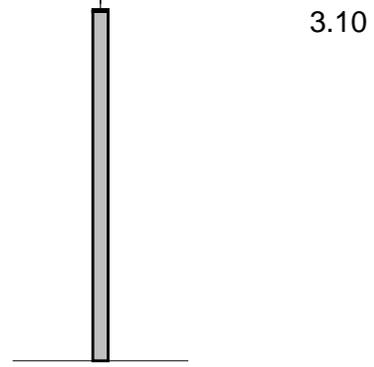
RUN 1		RUN 2	
SURFACE EQUIPMENT		SURFACE EQUIPMENT	
MWPM-AA		MPBM	

RUN 1		RUN 2		
DOWNHOLE EQUIPMENT		DOWNHOLE EQUIPMENT		
SWBS-B 789	12.39	SWBS-B 785	13.56	
SWBS-B 788	11.70	SWBS-B 786	12.87	
SWBS-B 787	11.01	SWBS-B 787	12.18	
SWBS-B 786	10.33	SWBS-B 788	11.50	
SWBS-B 785	9.64	SWBS-S 789	10.81	
SWHS-A 759	8.96	SWHS-A 759	10.13	
AH-124 7002	8.63	CCL-PCCL 07336	CCL Tachomete Cable Cur Head Volt Tension	
MWGT-AA 19	8.53			TOOL ZERO
MWPG-AA 19	2.41	MPSU-BA 20		9.34
MWGH-AA 19				
MWPT-CA 11	7.55			
MWPH-AA 94				
MWPS-AA 11				
	TOOL ZERO			



MAXIMUM STRING DIAMETER 2.13 IN  
 MEASUREMENTS RELATIVE TO TOOL ZERO  
 ALL LENGTHS IN METERS

MPEX-AA  
 MPEX-AA



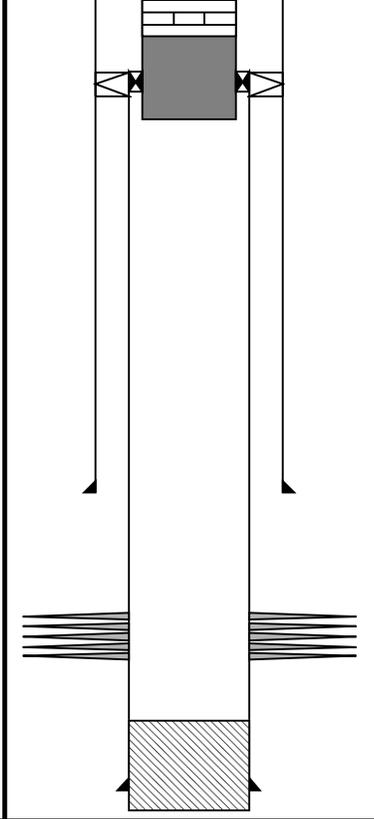
MAXIMUM STRING DIAMETER 1.71 IN  
 MEASUREMENTS RELATIVE TO TOOL ZERO  
 ALL LENGTHS IN METERS

Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String	
	OD	ID	MD		MD	OD	ID		
Tubing Hanger Tubing	7.000	3.500	11.7		12.9	7.000	7.000	Casing String Liner Hanger	
	3.500		11.7		12.9	10.750	7.000		
Shutin Valve			443.0						
Gas Lift Mandrel			577.0						
Gas Lift Mandrel			1179.0						
Gas Lift Mandrel			1639.0						
Nipple			1665.0						
						1345.0	10.750		Casing Shoe

Nipple, NOGO

Packer

3.500  
3.500  
2091.0



2097.0 4.500  
2097.0 7.000 4.500  
  
2914.0 7.000  
  
3480.0  
  
3530.0  
3557.0 4.500

Casing String  
Liner Hanger  
  
Casing Shoe  
  
Perforation Zone  
  
PBTD  
Casing Shoe



## Job Events Summary

MAXIS Field Log

### Schlumberger Job Event Summary

	Time	Elapsed Time	Depth (M)	File
Log Pass (up)	24-Feb-2009 11:28	000:10	3507.5 - 3414.7	RST_PSP_010LUP
Log Pass (up)	24-Feb-2009 11:53	000:18	3507.8 - 3420.0	RST_PSP_013LUP
Log Pass (up)	24-Feb-2009 12:15	000:20	3500.9 - 3414.4	RST_PSP_016LUP
Log Pass (up)	25-Feb-2009 12:06	000:04	3479.7 - 3447.0	PERFO_029LUP
Log Pass (up)	25-Feb-2009 12:12	000:34	3477.3 - 3445.0	PERFO_030LUP
Station Log	25-Feb-2009 12:16	000:25	3467.5	PERFO_031LTP
Log Pass (down)	25-Feb-2009 13:52	000:56	-8.7 - 3522.6	PERFO_035LDP
Log Pass (up)	26-Feb-2009 8:05	000:07	3500.2 - 3461.9	MPBT_056LUP
Simulated Log	26-Feb-2009 8:20	000:18		MPBT_057LUP
Log Pass (up)	26-Feb-2009 8:39	000:12	3471.1 - 3412.8	MPBT_058LUP
Log Pass (down)	26-Feb-2009 10:10	000:49	-4.7 - 3449.0	PERFO_063LDP
Log Pass (up)	26-Feb-2009 10:59	000:10	3474.1 - 3443.5	PERFO_064LUP
Log Pass (up)	26-Feb-2009 13:08	000:12	3474.6 - 3414.7	PERFO_067LUP



# Cement Dump Pass

MAXIS Field Log

## Output DLIS Files

DEFAULT PERFO\_067LUP FN:66 PRODUCER 26-Feb-2009 13:08 3474.6 M 3414.7 M

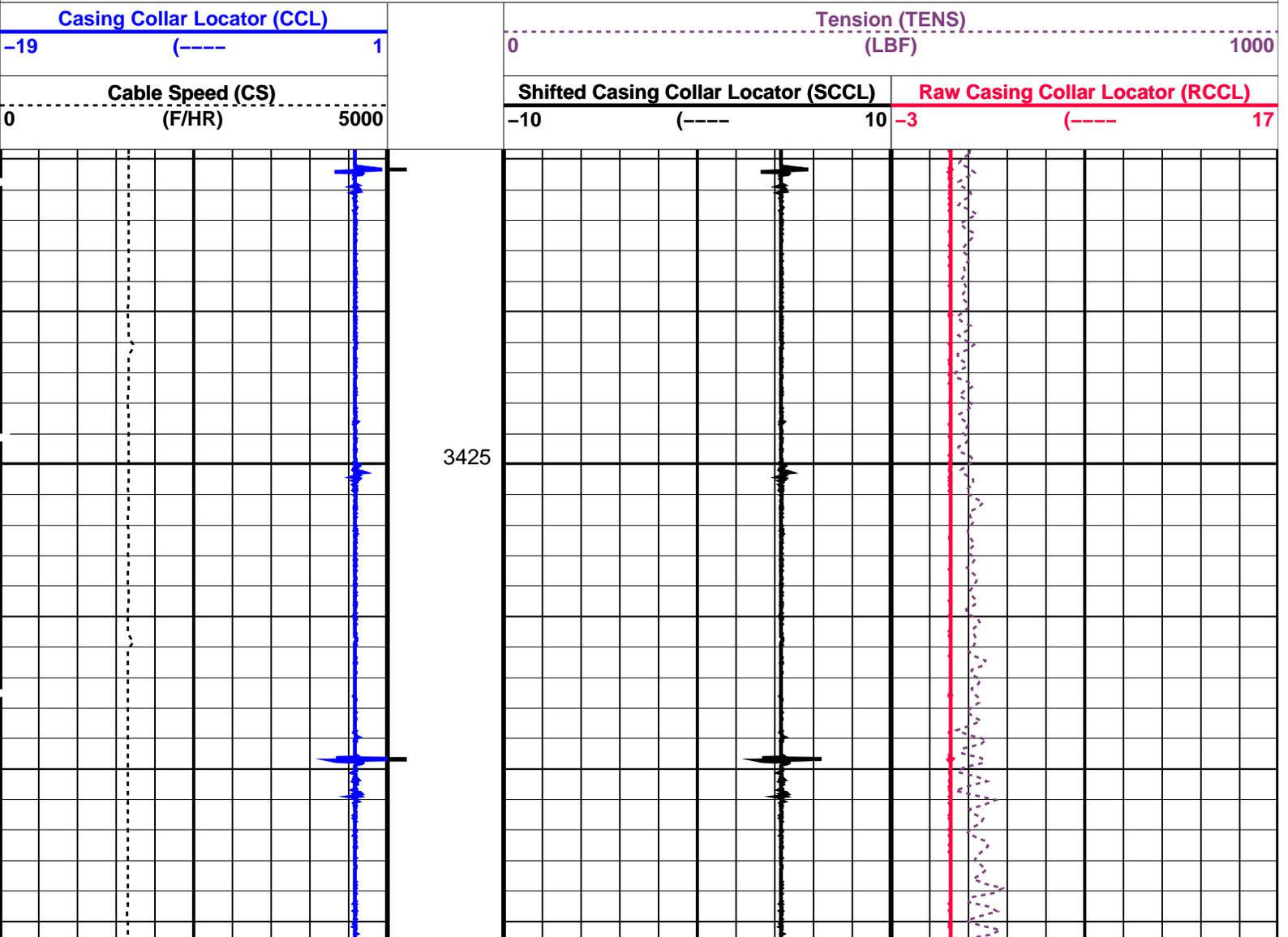
## OP System Version: 16C0-147 MCM

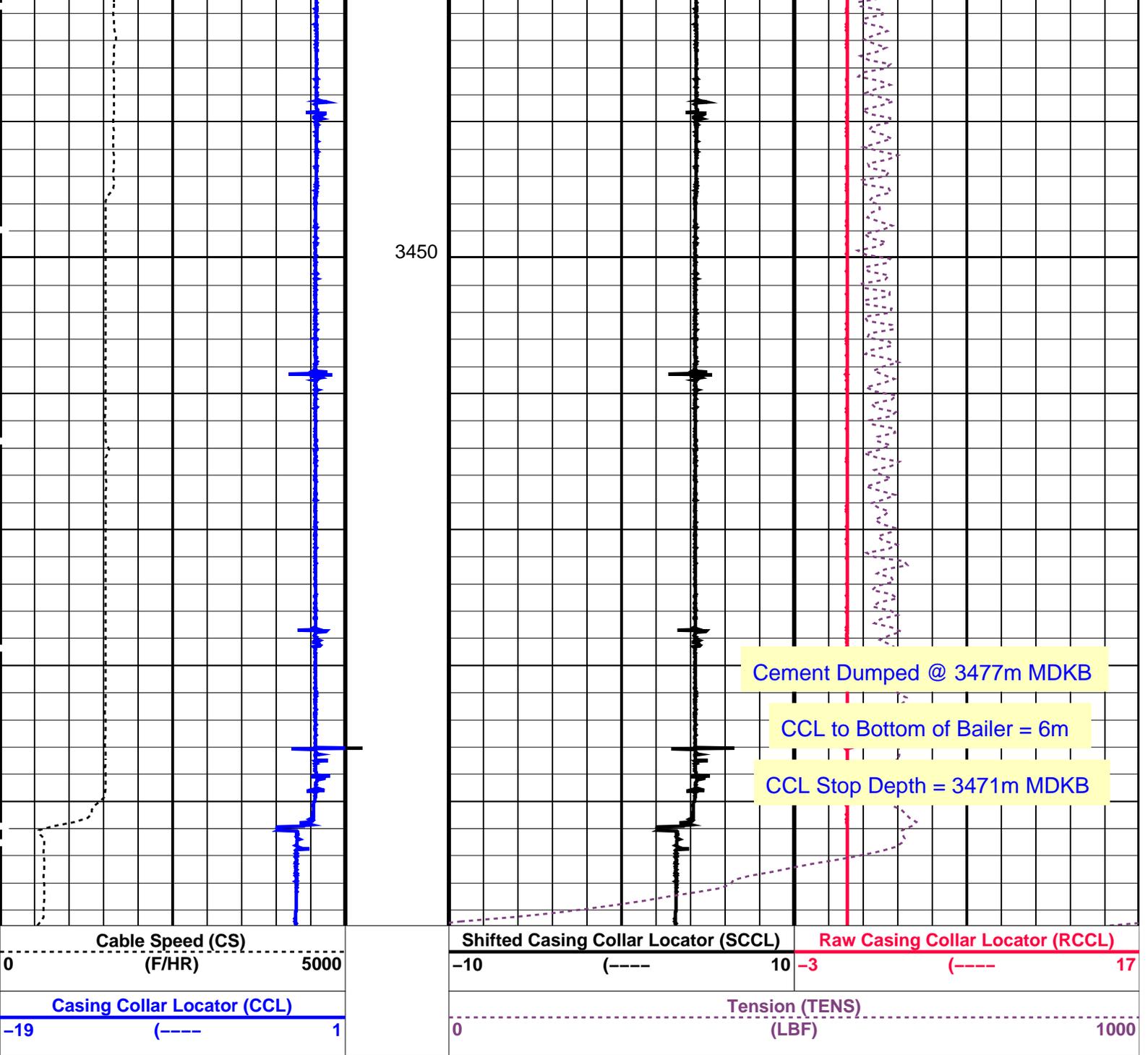
SHM\_GUN 16C0-147 CCL-L 16C0-147

### PIP SUMMARY

└ Casing Collars

Time Mark Every 60 S





PIP SUMMARY

← Casing Collars

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
CCL-L	Casing Collar Locator	
CCLD	CCL reset delay	12 IN
CCLT	CCL Detection Level	0.3 V

Format: PERFO\_1 Vertical Scale: 1:200

Graphics File Created: 26-Feb-2009 13:08

OP System Version: 16C0-147  
MCM

SHM\_GUN 16C0-147 CCL-L 16C0-147

Output DLIS Files

DEFAULT PERFO 067LUP FN:66 PRODUCER 26-Feb-2009 13:08

Water Dump Pass

MAXIS Field Log

Output DLIS Files

DEFAULT PERFO\_064LUP FN:63 PRODUCER 26-Feb-2009 10:59 3474.1 M 3443.5 M

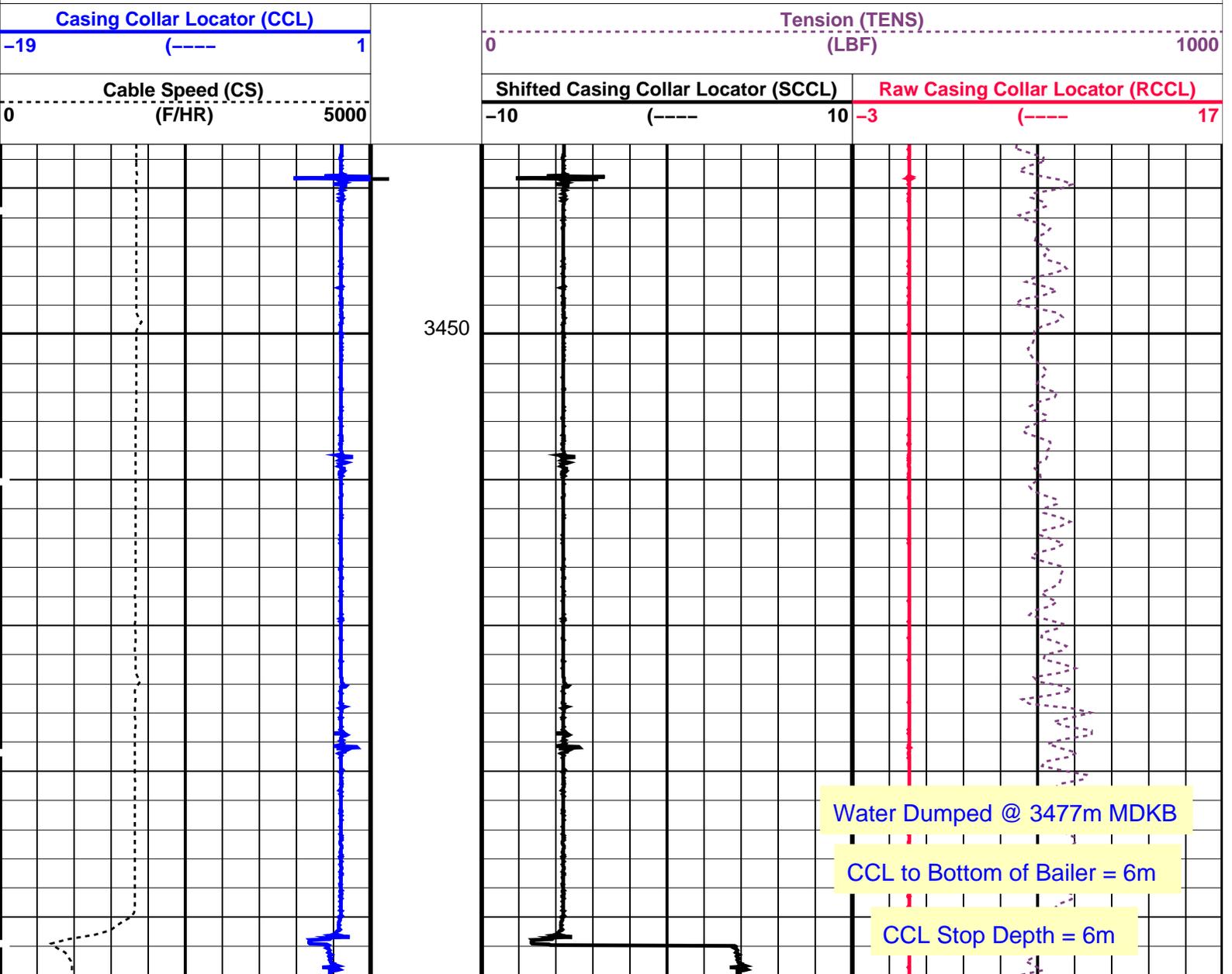
OP System Version: 16C0-147  
MCM

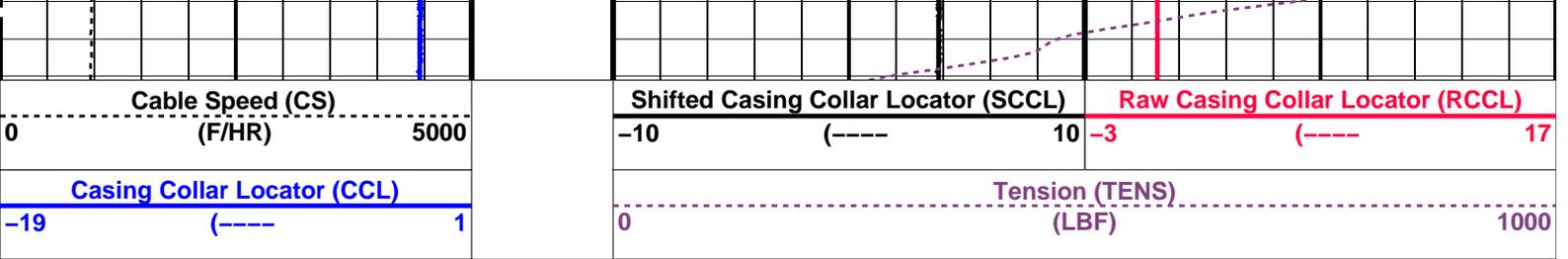
SHM\_GUN 16C0-147 CCL-L 16C0-147

PIP SUMMARY

└ Casing Collars

Time Mark Every 60 S





PIP SUMMARY

← Casing Collars

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
CCL-L: Casing Collar Locator		
CCLD	CCL reset delay	12 IN
CCLT	CCL Detection Level	0.3 V

Format: PERFO\_1 Vertical Scale: 1:200 Graphics File Created: 26-Feb-2009 10:59

OP System Version: 16C0-147  
MCM

SHM\_GUN 16C0-147 CCL-L 16C0-147

Output DLIS Files

DEFAULT PERFO\_064LUP FN:63 PRODUCER 26-Feb-2009 10:59



Log Away From Plug Set

MAXIS Field Log

Output DLIS Files

DEFAULT MPBT\_058LUP FN:57 PRODUCER 26-Feb-2009 08:39 3471.1 M 3412.8 M

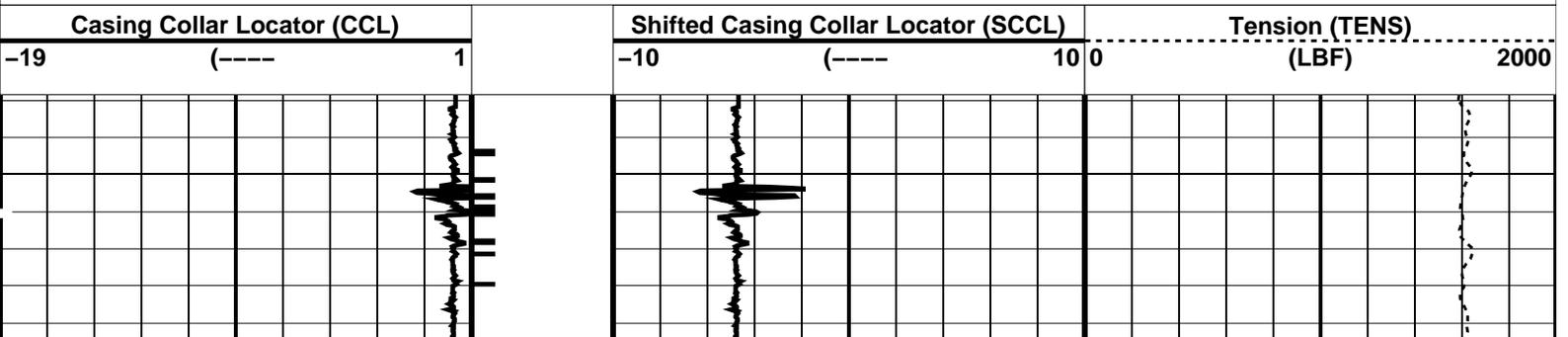
OP System Version: 16C0-147  
MCM

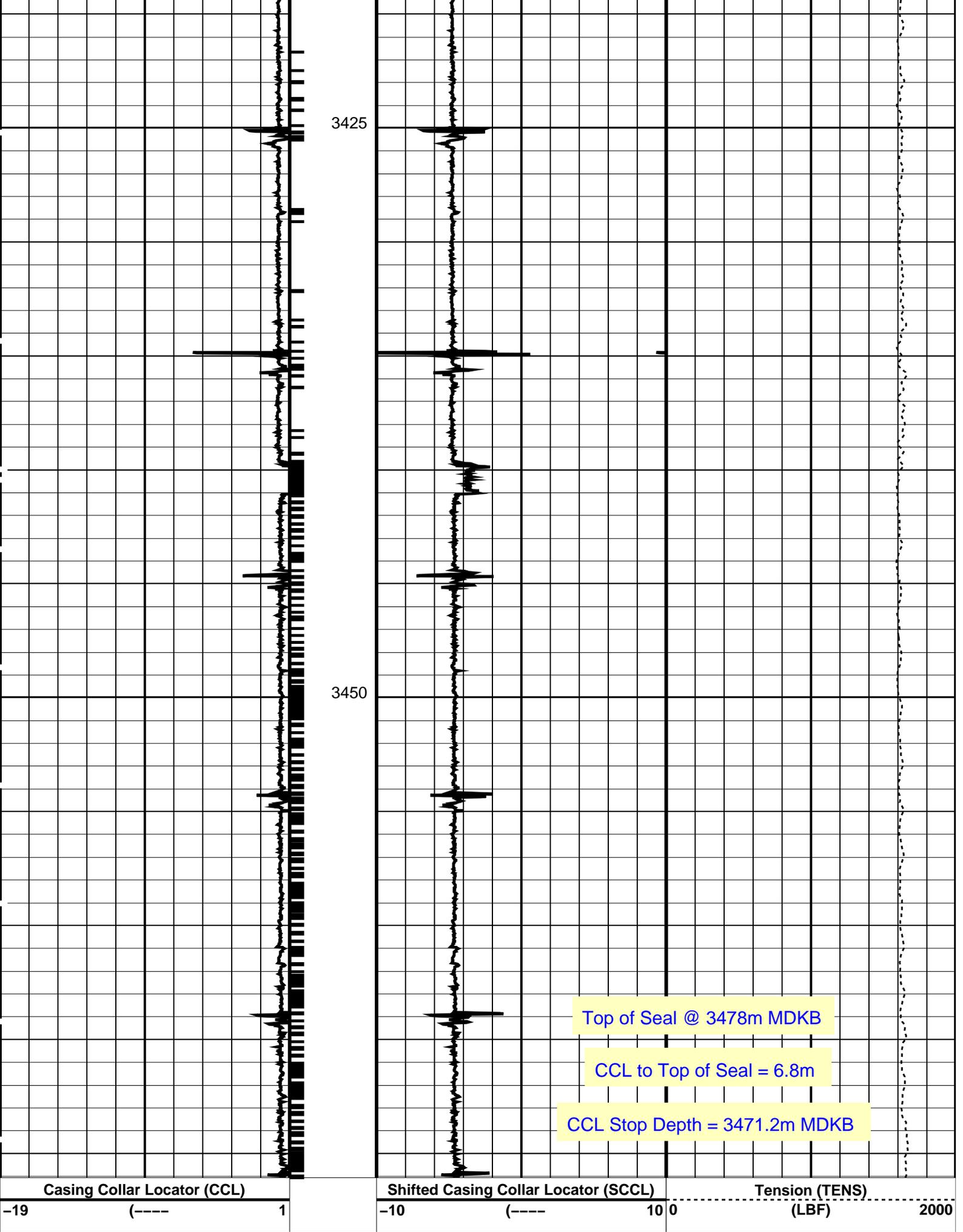
MPEX-AA 16C0-147 MPSU-BA 16C0-147  
CCL-PCCL 16C0-147

PIP SUMMARY

← Casing Collars

Time Mark Every 60 S





PIP SUMMARY

└ Casing Collars

### Parameters

DLIS Name	Description	Value
CCLD	CCL-PCCL: Casing Collar Locator	12 IN
CCLT	CCL reset delay	0.3 V
	CCL Detection Level	

Format: PERFO Vertical Scale: 1:200 Graphics File Created: 26-Feb-2009 08:39

### OP System Version: 16C0-147

MCM

MPEX-AA	16C0-147	MPSU-BA	16C0-147
CCL-PCCL	16C0-147		

### Output DLIS Files

DEFAULT MPBT\_058LUP FN:57 PRODUCER 26-Feb-2009 08:39



4.5" 12.6lb/ft Posiset Plug  
Top of Seal @ 3478m MDKB

MAXIS Field Log

### Output DLIS Files

DEFAULT MPBT\_057LUP FN:56 PRODUCER 26-Feb-2009 08:20

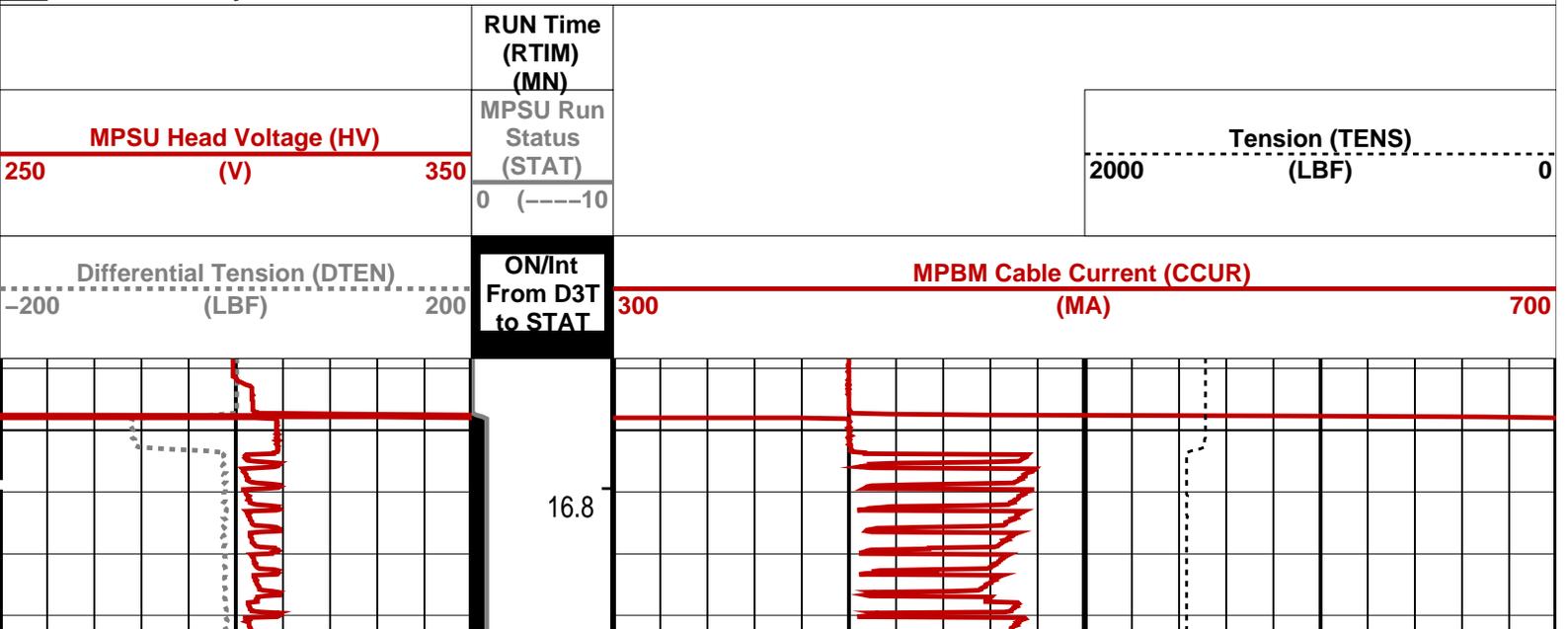
### OP System Version: 16C0-147

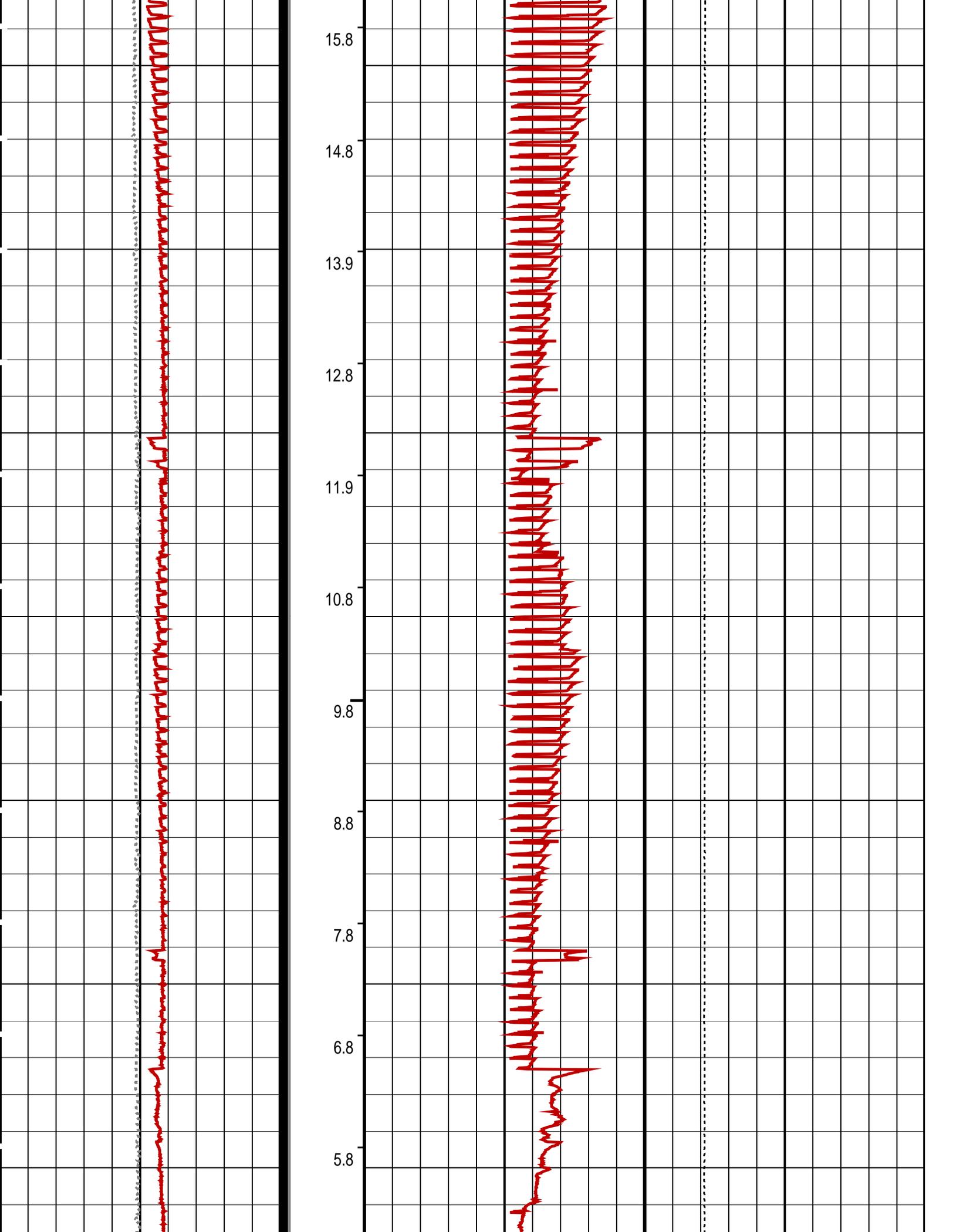
MCM

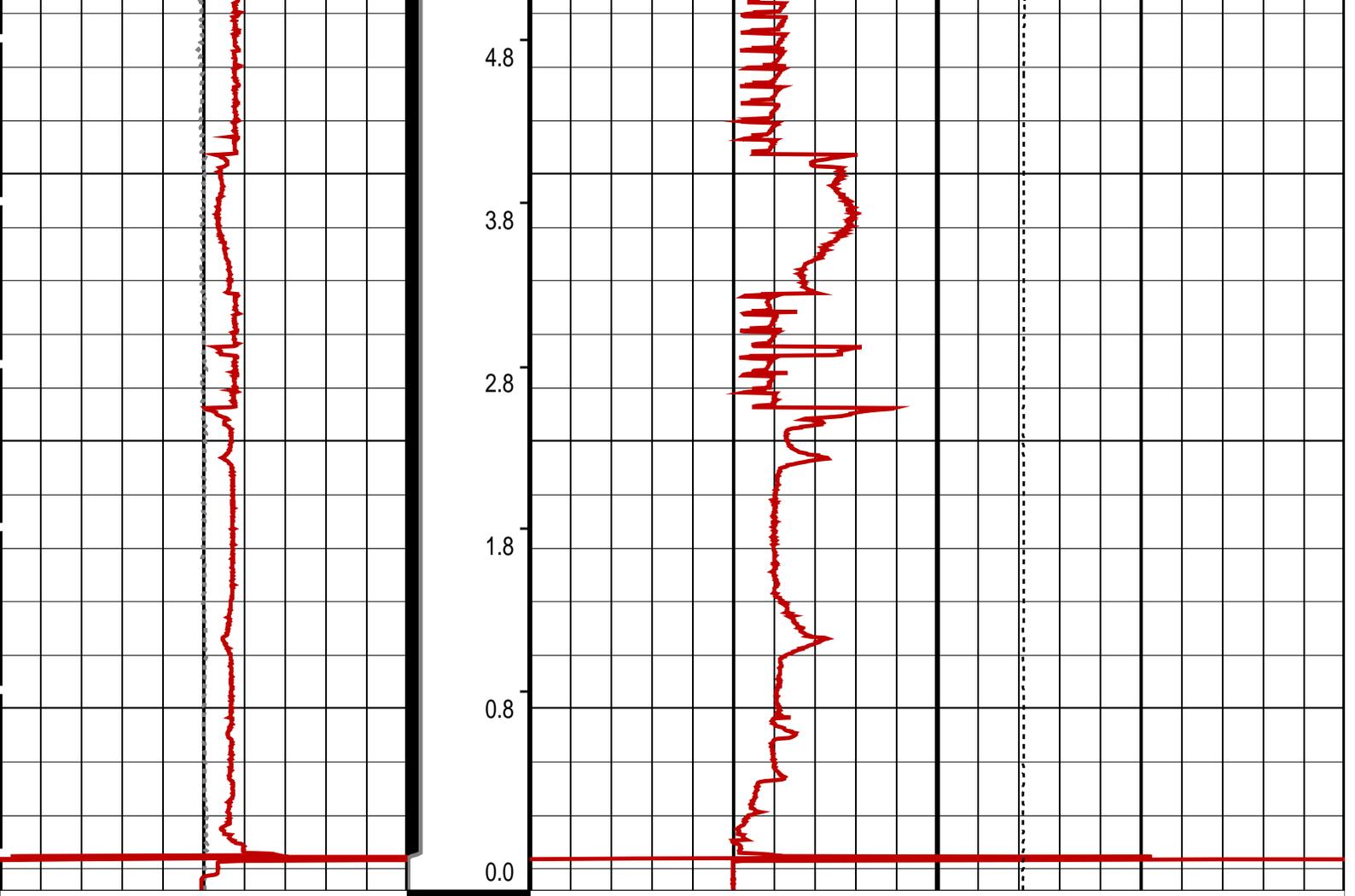
MPEX-AA	16C0-147	MPSU-BA	16C0-147
CCL-PCCL	16C0-147		

#### PIP SUMMARY

- MPSU Run Time Every 1 MN
- MPSU Run Time Every 10 MN







Differential Tension (DTEN) (LBF)	ON/Int From D3T to STAT	MPBM Cable Current (CCUR) (MA)
-200                      200	300                      700	
MPSU Head Voltage (HV) (V)	MPSU Run Status (STAT)	Tension (TENS) (LBF)
250                      350	0 (----10)	2000                      0
	RUN Time (RTIM) (MN)	

**PIP SUMMARY**

- ┆ MPSU Run Time Every 1 MN
- ┆ MPSU Run Time Every 10 MN

Time Mark Every 60 S

**Parameters**

DLIS Name	Description	Value
IPUMP	MPSU-BA: MECHANICAL PLUGBACK SETTING UNIT Intensifier Pump	TRUE

Format: MPBT    Vertical Scale: 1:600    Graphics File Created: 26-Feb-2009 08:20

**OP System Version: 16C0-147**  
MCM

MPEX-AA	16C0-147	MPSU-BA	16C0-147
CCL-PCCL	16C0-147		

**Output DLIS Files**

DEFAULT	MPBT_057LUP	FN:56	PRODUCER	26-Feb-2009 08:20
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Output DLIS Files

DEFAULT MPBT\_056LUP FN:55 PRODUCER 26-Feb-2009 08:05 3500.2 M 3461.9 M

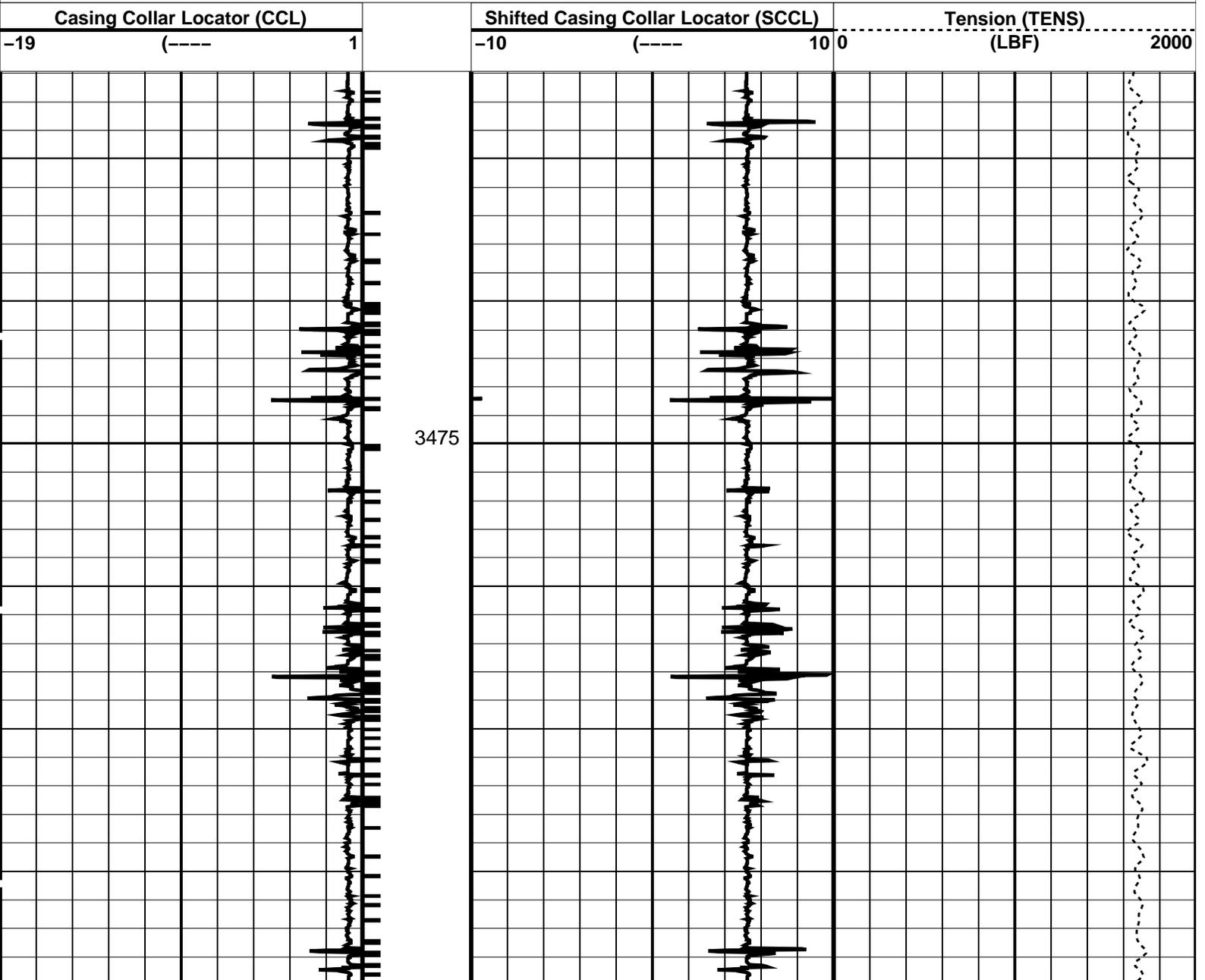
OP System Version: 16C0-147  
MCM

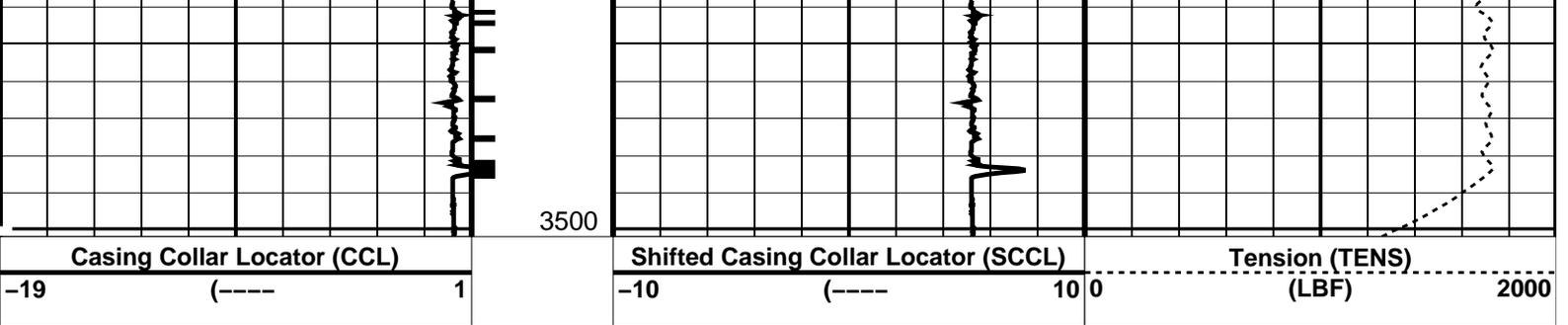
MPEX-AA 16C0-147 MPSU-BA 16C0-147  
CCL-PCCL 16C0-147

PIP SUMMARY

└─ Casing Collars

Time Mark Every 60 S





PIP SUMMARY

← Casing Collars

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
CCLD	CCL-PCCL: Casing Collar Locator	12 IN
CCLT	CCL reset delay	0.3 V
	CCL Detection Level	

Format: PERFO Vertical Scale: 1:200 Graphics File Created: 26-Feb-2009 08:05

OP System Version: 16C0-147

MCM

MPEX-AA 16C0-147 MPSU-BA 16C0-147  
 CCL-PCCL 16C0-147

Output DLIS Files

DEFAULT MPBT\_056LUP FN:55 PRODUCER 26-Feb-2009 08:05



Dummy Plug Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-27a

Input DLIS Files

DEFAULT PERFO\_036LUP FN:35 PRODUCER 25-Feb-2009 14:48 3537.2 M 2326.5 M

Output DLIS Files

DEFAULT PERFO\_038PUP FN:37 PRODUCER 25-Feb-2009 15:29 3538.1 M 3297.5 M

OP System Version: 16C0-147

MCM

MWPT-CA 16C0-147 MWGT-AA 16C0-147

PIP SUMMARY

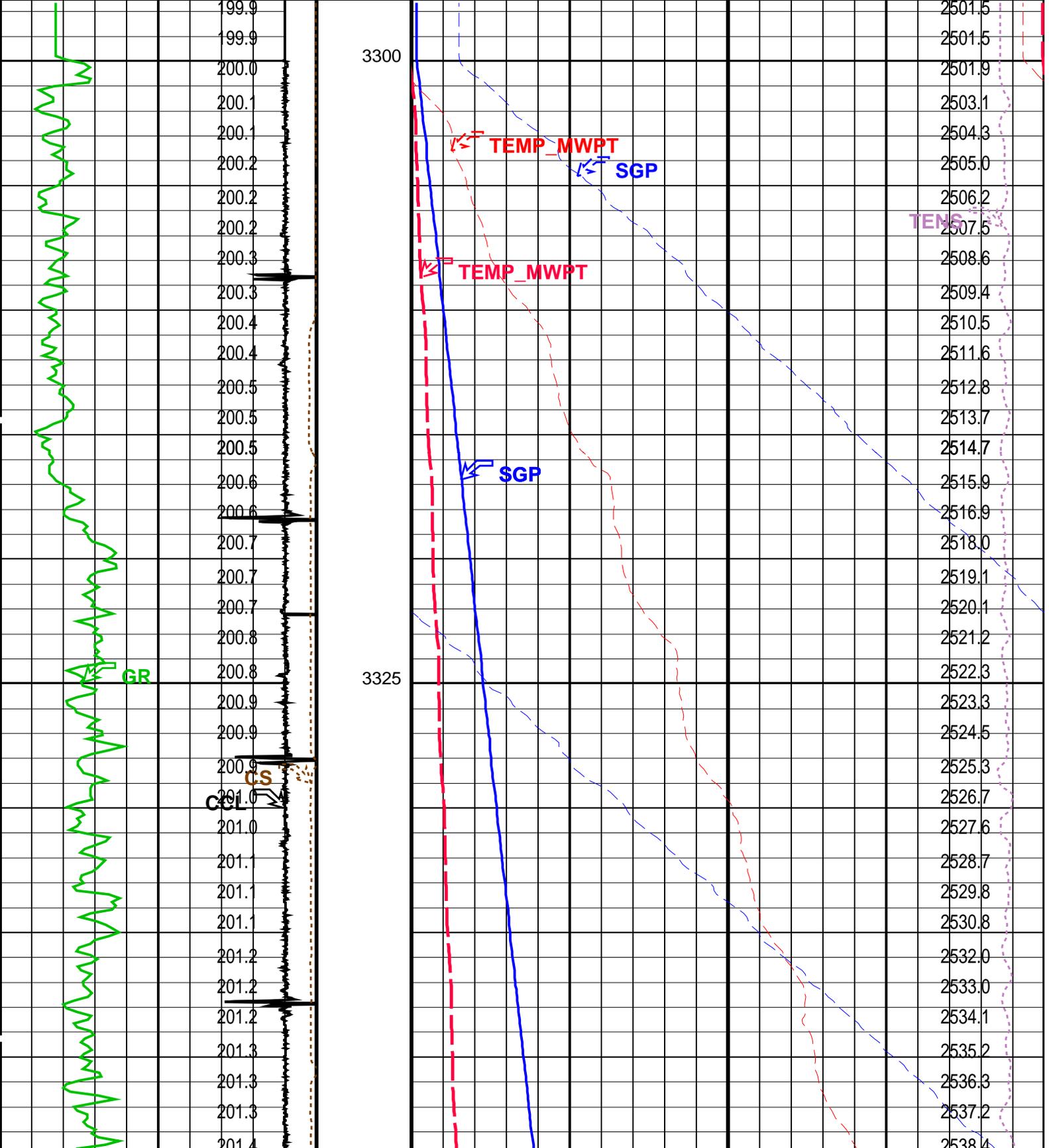
Time Mark Every 60 S

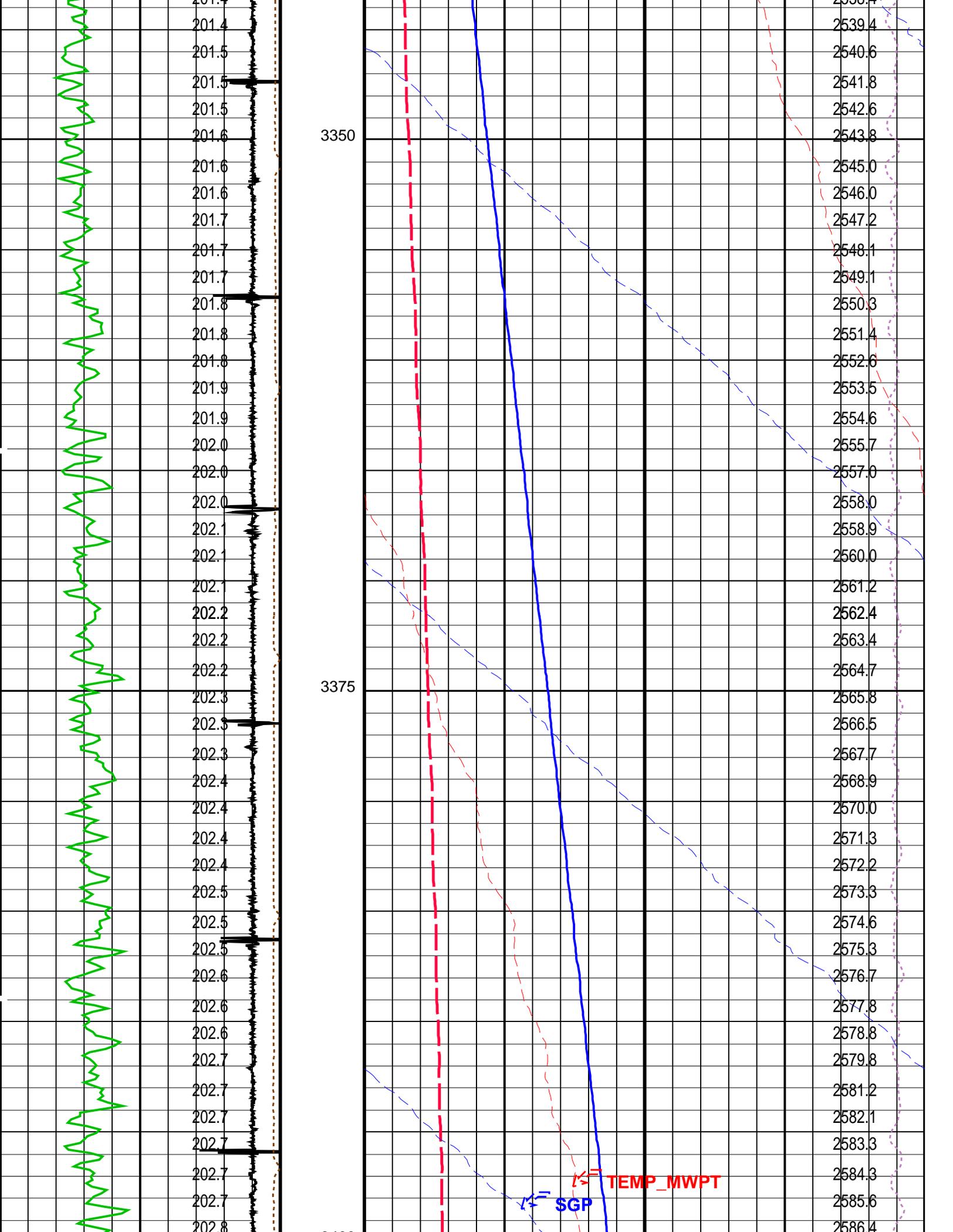
Temperature  
(TEMP\_MWPT)  
(DEGF)

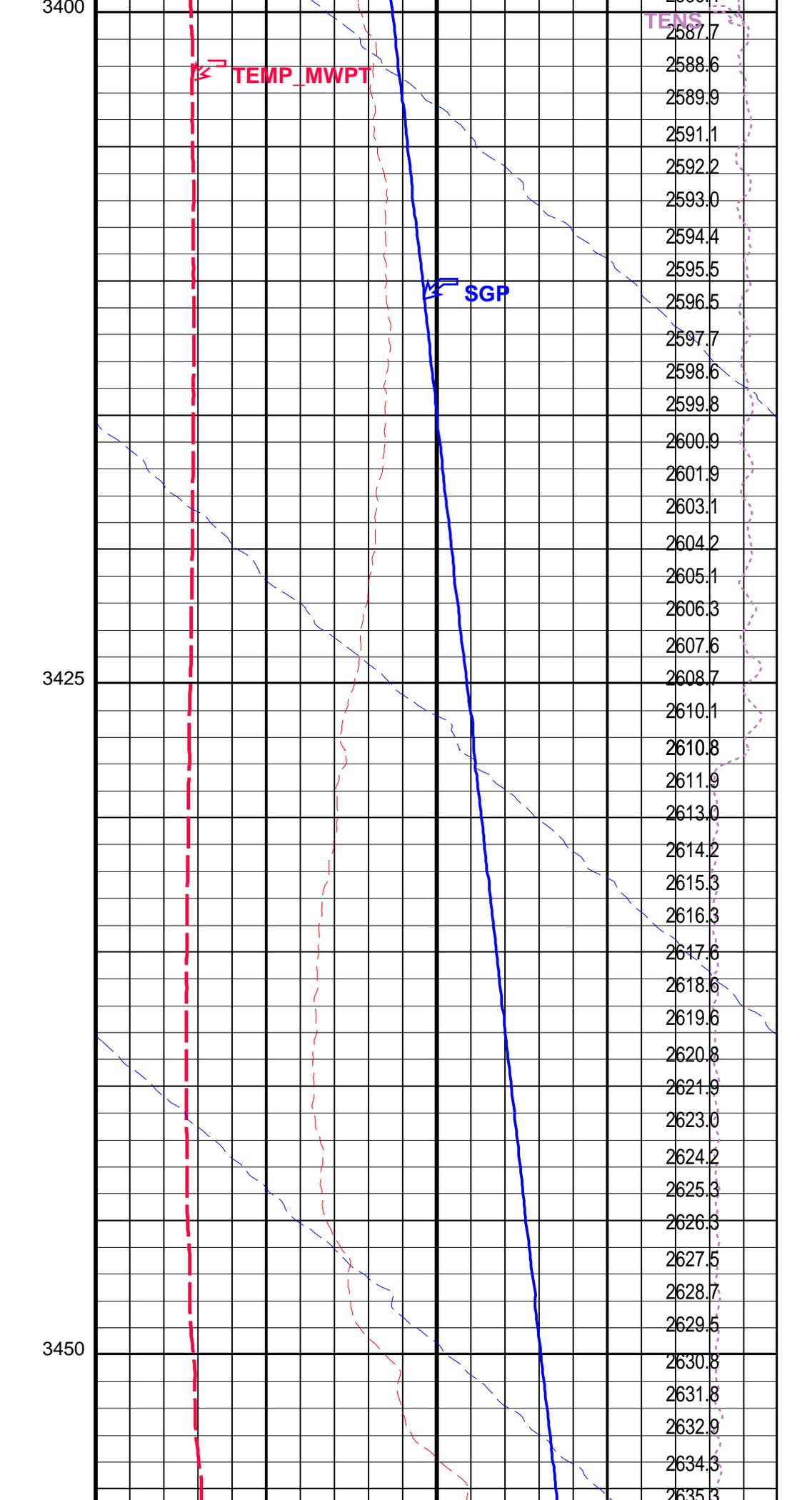
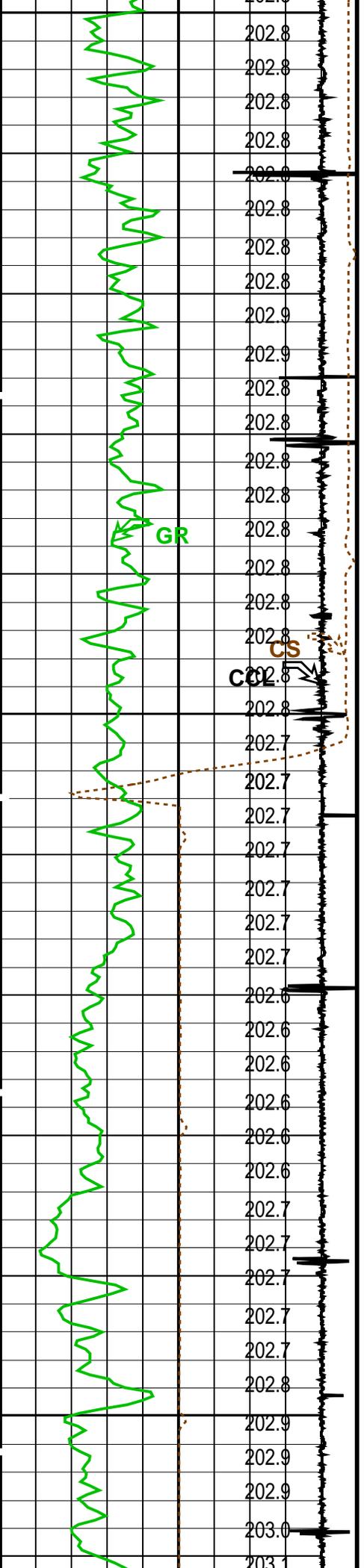
Pressure (SGP)  
(PSIA)  
Tension (TENS)  
(LBF) 0 2000

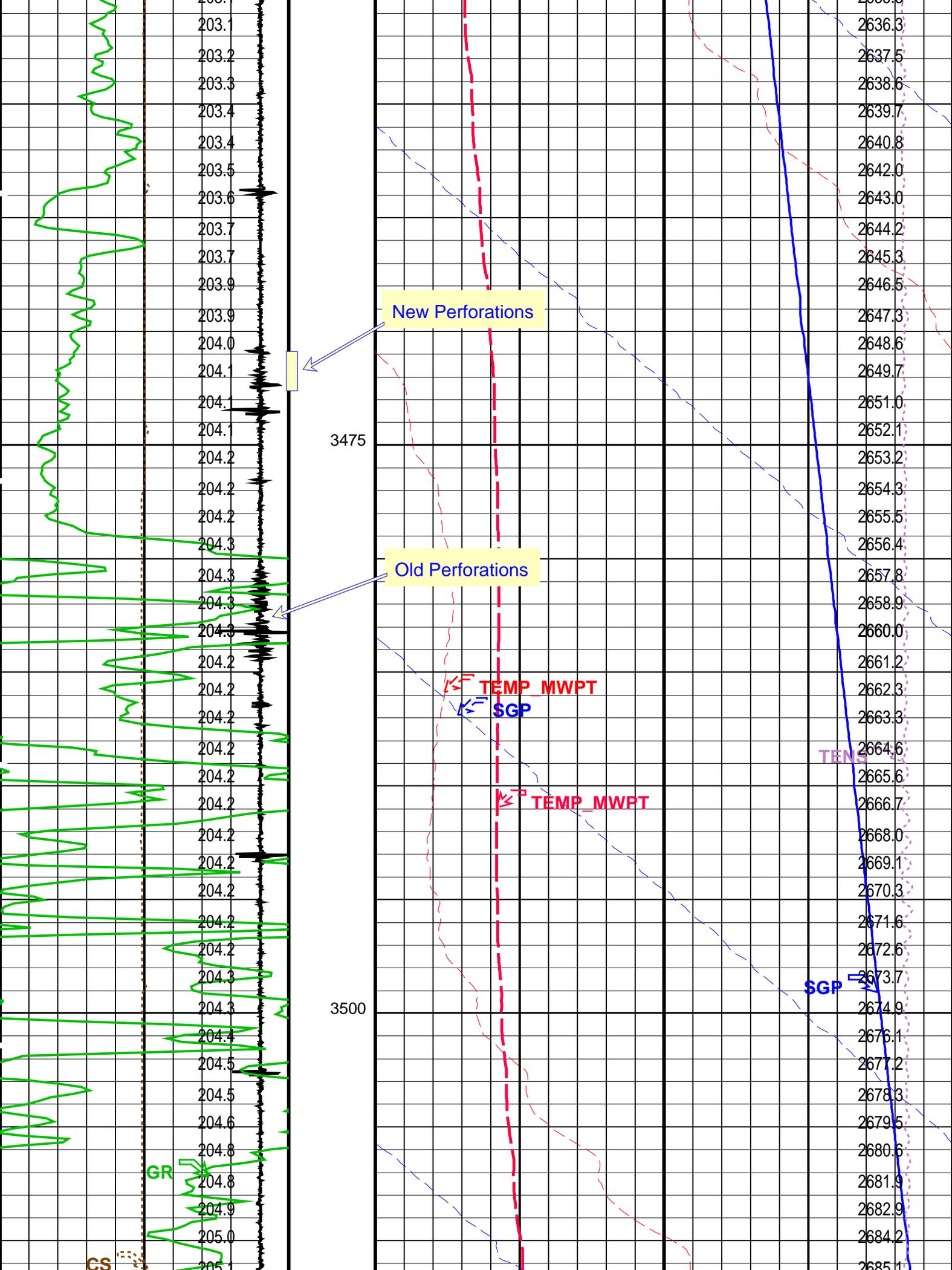
CCL From CCL to T1		
Gamma Ray (GR) (GAPI) 0 150		
Casing Collar Locator (CCL) -19 (----) 1		
Cable Speed (CS) (F/HR) 0 5000		

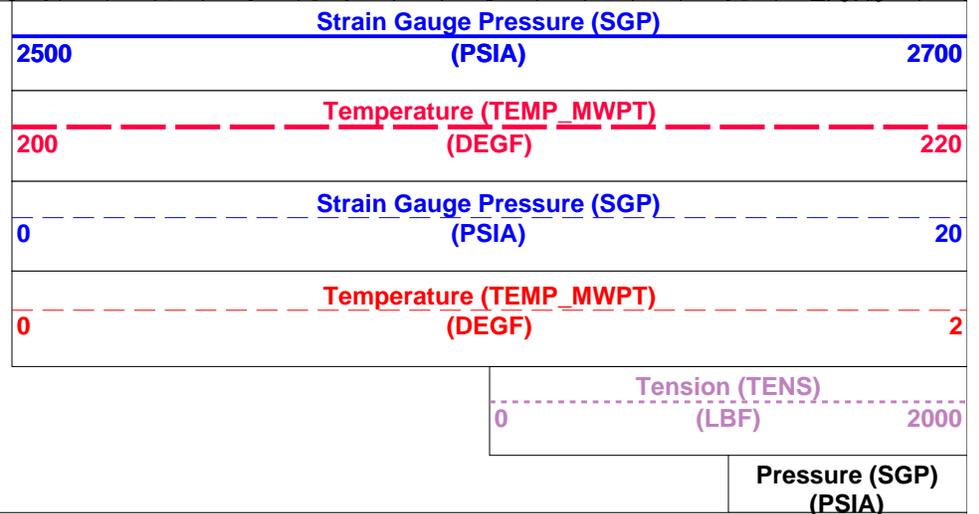
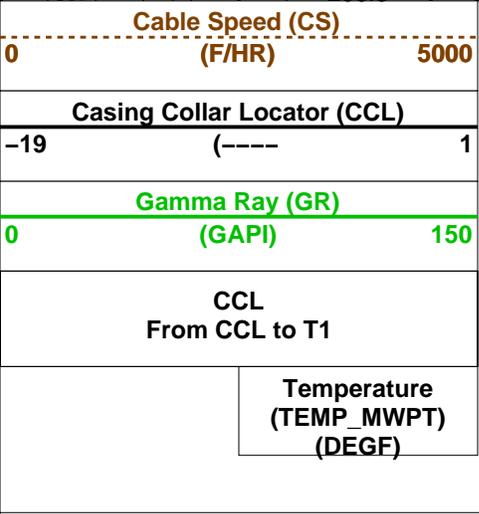
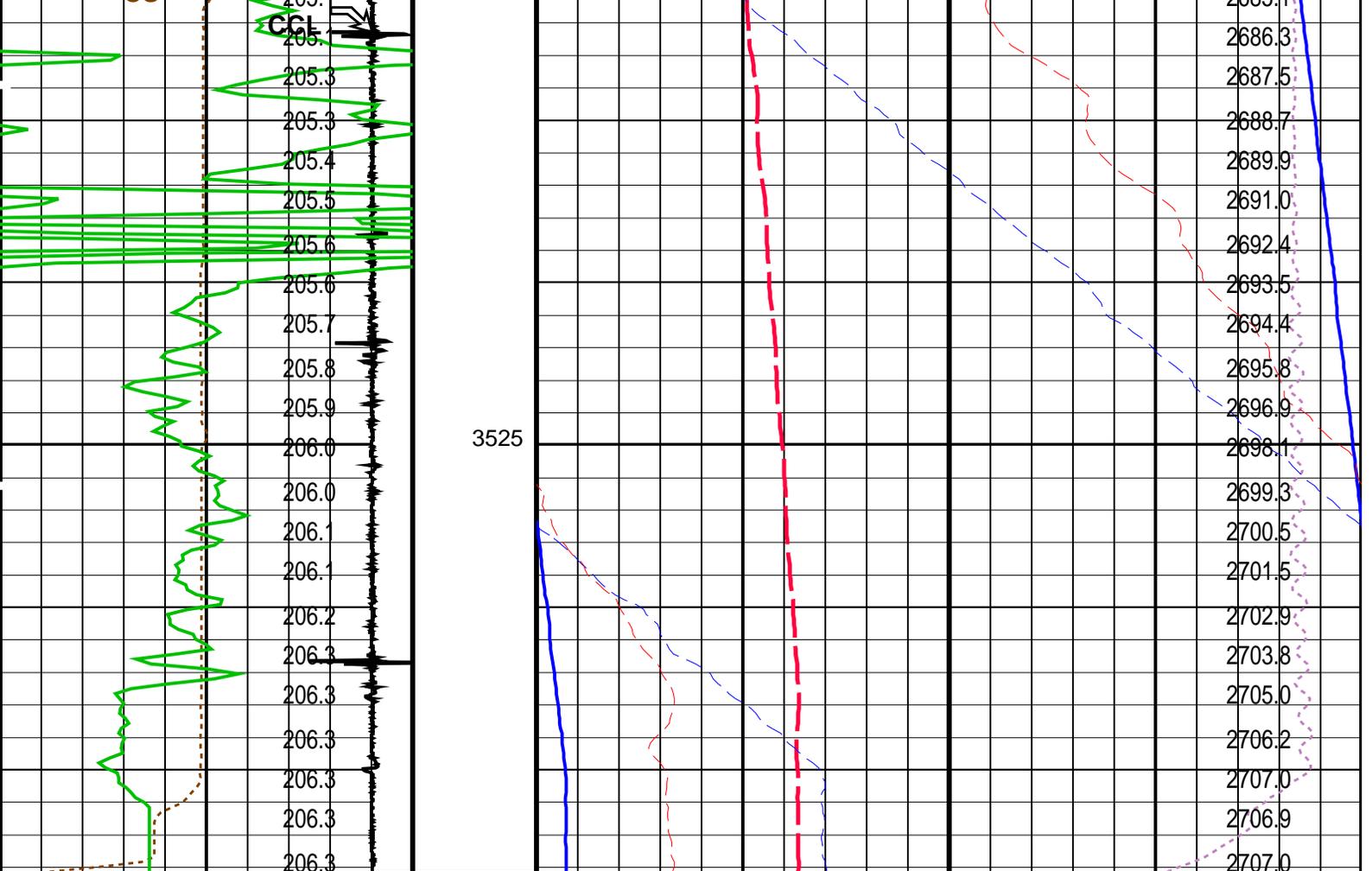
Temperature (TEMP_MWPT) (DEGF) 0 2		
Strain Gauge Pressure (SGP) (PSIA) 0 20		
Temperature (TEMP_MWPT) (DEGF) 200 220		
Strain Gauge Pressure (SGP) (PSIA) 2500 2700		











PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
MWPT-CA	MEASUREMENT WHILE PERFORATING TOOL	
DEVI_FL_CORR	Deviation Angle for Flow Line Correction	0 DEG
FLD	Flow Line Density	1 G/C3
MWPT_NULL_SOURCE	MWPT NULL Temperature Source	TEMS
MWPT_NULL_TEMP	MWPT NULL Temperature	0.0 DEGC
System and Miscellaneous		
DO	Depth Offset for Playback	0.9 M
PP	Playback Processing	NORMAL

Format: MWP Vertical Scale: 1:200 Graphics File Created: 25-Feb-2009 15:29

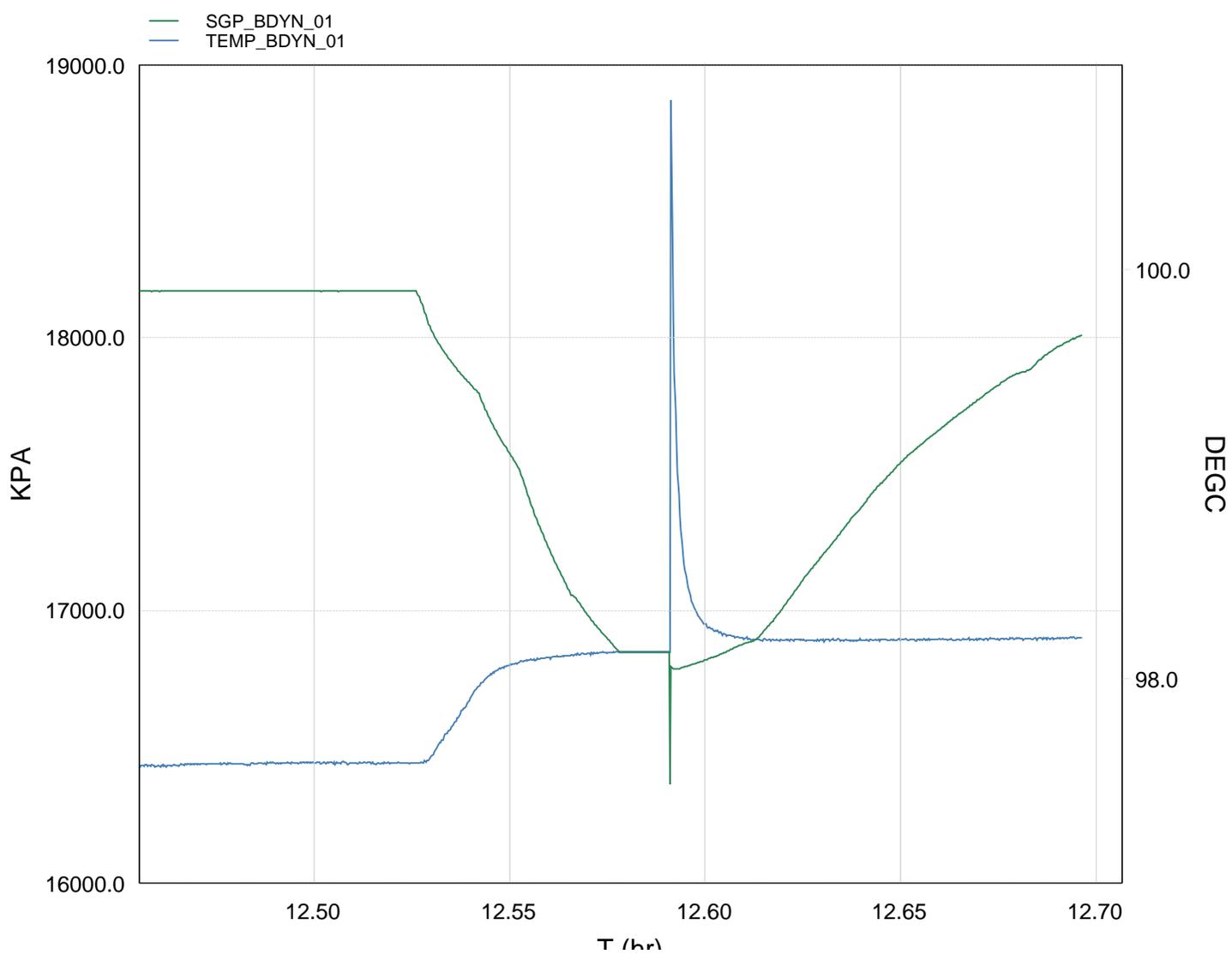
OP System Version: 16C0-147  
MCM

MWPT-CA	16CU-147	MWGT-AA	16CU-147
<b>Input DLIS Files</b>			
DEFAULT	PERFO_036LUP	FN:35	PRODUCER 25-Feb-2009 14:48 3537.2 M 2326.5 M
<b>Output DLIS Files</b>			
DEFAULT	PERFO_038PUP	FN:37	PRODUCER 25-Feb-2009 15:29



**GUN # 1 Fired @  
 3471m to 3472.5m MDKB**

MAXIS Field Log



TIME      KPA      PSIA      DEGF

4350.0	18171.6892	2635.5850	207.6610	
4380.0	18171.2938	2635.5276	207.6621	
4410.0	18171.3938	2635.5421	207.6589	DRAW DOWN
4440.0	18053.4761	2618.4396	207.6776	
4470.0	17865.3116	2591.1486	208.1061	
4500.0	17674.1633	2563.4249	208.4514	
4530.0	17439.4395	2529.3811	208.5605	
4560.0	17148.4148	2487.1715	208.5944	
4590.0	16963.8176	2460.3980	208.6241	
4620.0	16849.3267	2443.7925	208.6267	
4650.0	16849.3267	2443.7925	208.6267	
4680.0	16797.9153	2436.3359	209.1608	FIRED
4710.0	16841.1714	2442.6097	208.7861	
4740.0	16889.8498	2449.6699	208.7445	
4770.0	17030.2089	2470.0272	208.7336	
4800.0	17190.5524	2493.2831	208.7426	
4830.0	17341.6248	2515.1943	208.7341	
4860.0	17481.0169	2535.4114	208.7469	
4890.0	17597.4426	2552.2975	208.7461	
4920.0	17694.3807	2566.3572	208.7452	
4950.0	17785.5557	2579.5810	208.7472	
4980.0	17865.3116	2591.1486	208.7517	
5010.0	17941.3047	2602.1705	208.7550	
5040.0	18007.5901	2611.7844	208.7552	

**Schlumberger**

**Gun Shooting Pass**

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-27a

**Output DLIS Files**

DEFAULT      PERFO\_030LUP      FN:29      PRODUCER      25-Feb-2009 12:12      3477.3 M      3445.0 M

**OP System Version: 16C0-147**

MCM

MWP\_GUN      16C0-147      MWPT-CA      16C0-147  
 MWGT-AA      16C0-147

**PIP SUMMARY**

Time Mark Every 60 S

		Pressure (SGP) (PSIA)
	Temperature (TEMP_MWPT) (DEGF)	Tension (TENS) (LBF)      2000
CCL From CCL to T1	0	Temperature (TEMP_MWPT) (DEGF)      2
Gamma Ray (GR) (GAPI)      150	0	Strain Gauge Pressure (SGP) (PSIA)      20
Casing Collar Locator (CCL)		Temperature (TEMP_MWPT)



MWPT-CA: MEASUREMENT WHILE PERFORATING TOOL  
 DEVI\_FL\_CORR Deviation Angle for Flow Line Correction  
 FLD Flow Line Density  
 MWPT\_NULL\_SOURCE MWPT NULL Temperature Source  
 MWPT\_NULL\_TEMP MWPT NULL Temperature

0 DEG  
 1 G/C3  
 TEMS  
 0.0 DEGC

Format: MWP Vertical Scale: 1:200 Graphics File Created: 25-Feb-2009 12:12

### OP System Version: 16C0-147

MCM

MWP\_GUN 16C0-147 MWPT-CA 16C0-147  
 MWGT-AA 16C0-147

### Output DLIS Files

DEFAULT PERFO\_030LUP FN:29 PRODUCER 25-Feb-2009 12:12



Gun Correlation Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: A-27a

### Output DLIS Files

DEFAULT PERFO\_029LUP FN:28 PRODUCER 25-Feb-2009 12:06 3479.7 M 3447.0 M

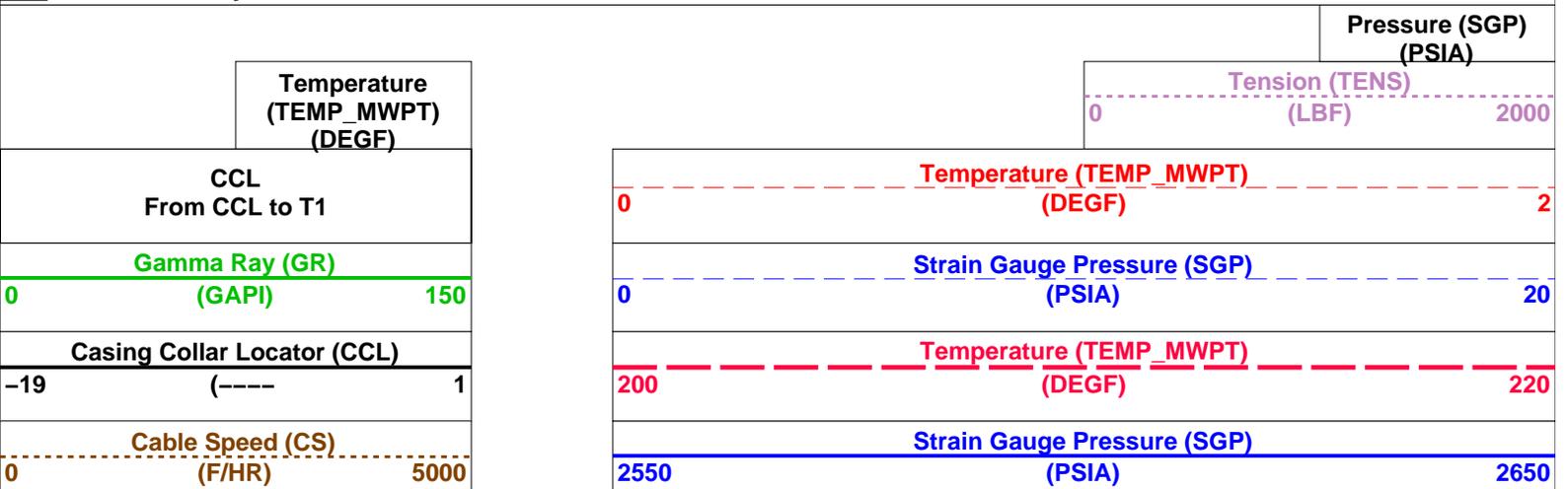
### OP System Version: 16C0-147

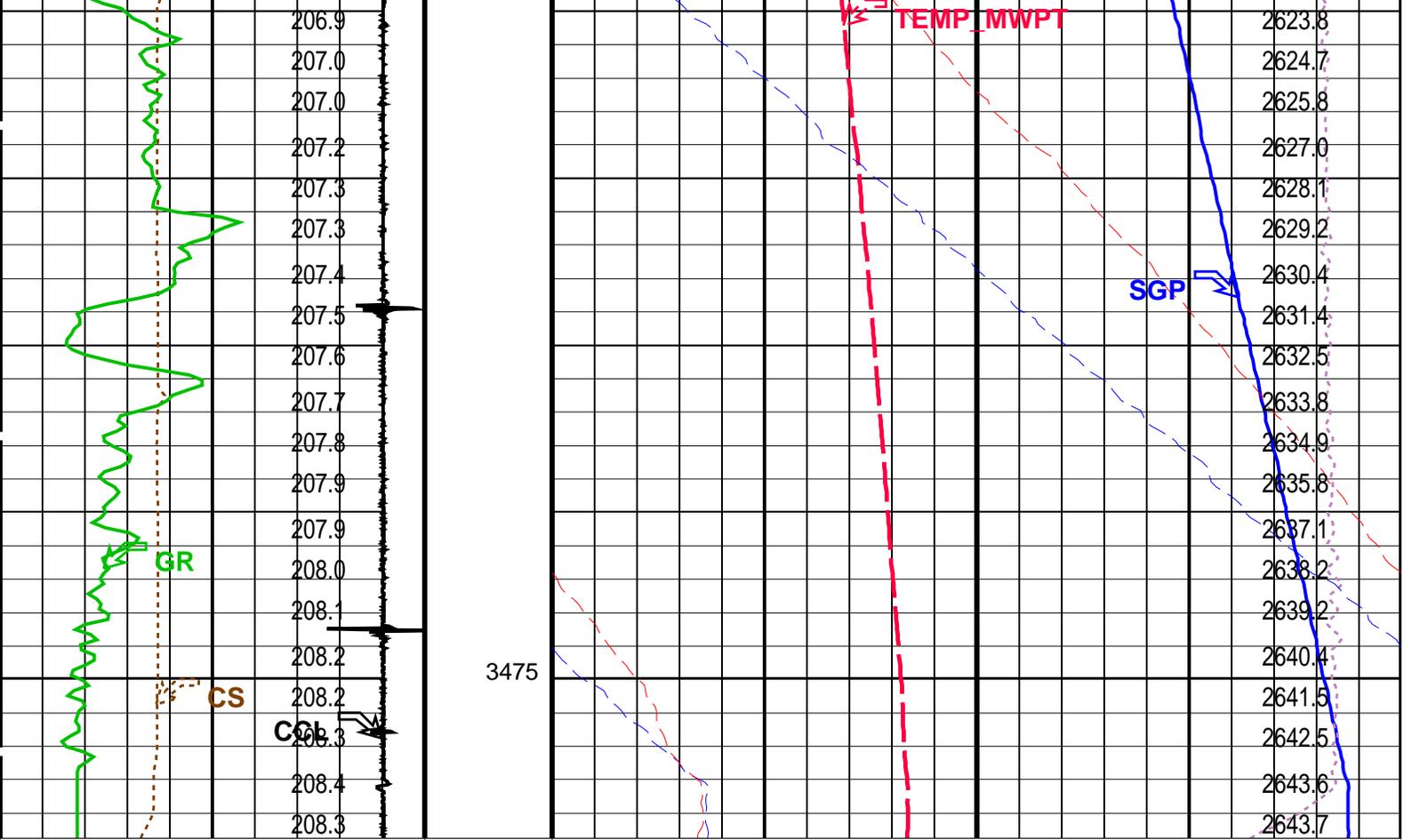
MCM

MWP\_GUN 16C0-147 MWPT-CA 16C0-147  
 MWGT-AA 16C0-147

### PIP SUMMARY

Time Mark Every 60 S





Cable Speed (CS)	
0	5000
(F/HR)	
Casing Collar Locator (CCL)	
-19	1
(----)	
Gamma Ray (GR)	
0	150
(GAPI)	
CCL	
From CCL to T1	
Temperature (TEMP_MWPT)	
(DEGF)	

Strain Gauge Pressure (SGP)	
2550	2650
(PSIA)	
Temperature (TEMP_MWPT)	
200	220
(DEGF)	
Strain Gauge Pressure (SGP)	
0	20
(PSIA)	
Temperature (TEMP_MWPT)	
0	2
(DEGF)	
Tension (TENS)	
0	2000
(LBF)	
Pressure (SGP)	
(PSIA)	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
MWPT-CA: MEASUREMENT WHILE PERFORATING TOOL		
DEVI_FL_CORR	Deviation Angle for Flow Line Correction	0 DEG
FLD	Flow Line Density	1 G/C3
MWPT_NULL_SOURCE	MWPT NULL Temperature Source	TEMS
MWPT_NULL_TEMP	MWPT NULL Temperature	0.0 DEGC

Format: MWP Vertical Scale: 1:200

Graphics File Created: 25-Feb-2009 12:06

OP System Version: 16C0-147  
MCM

MWP_GUN	16C0-147	MWPT-CA	16C0-147
MWGT-AA	16C0-147		

Output DLIS Files



SIGMA Pass # 2

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-27a

Output DLIS Files

DEFAULT RST\_PSP\_016LUP FN:15 PRODUCER 24-Feb-2009 12:15

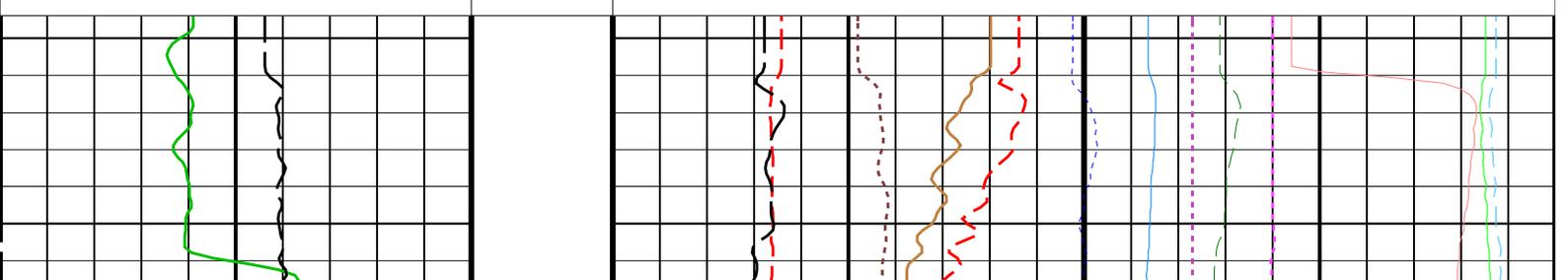
OP System Version: 16C0-147  
MCM

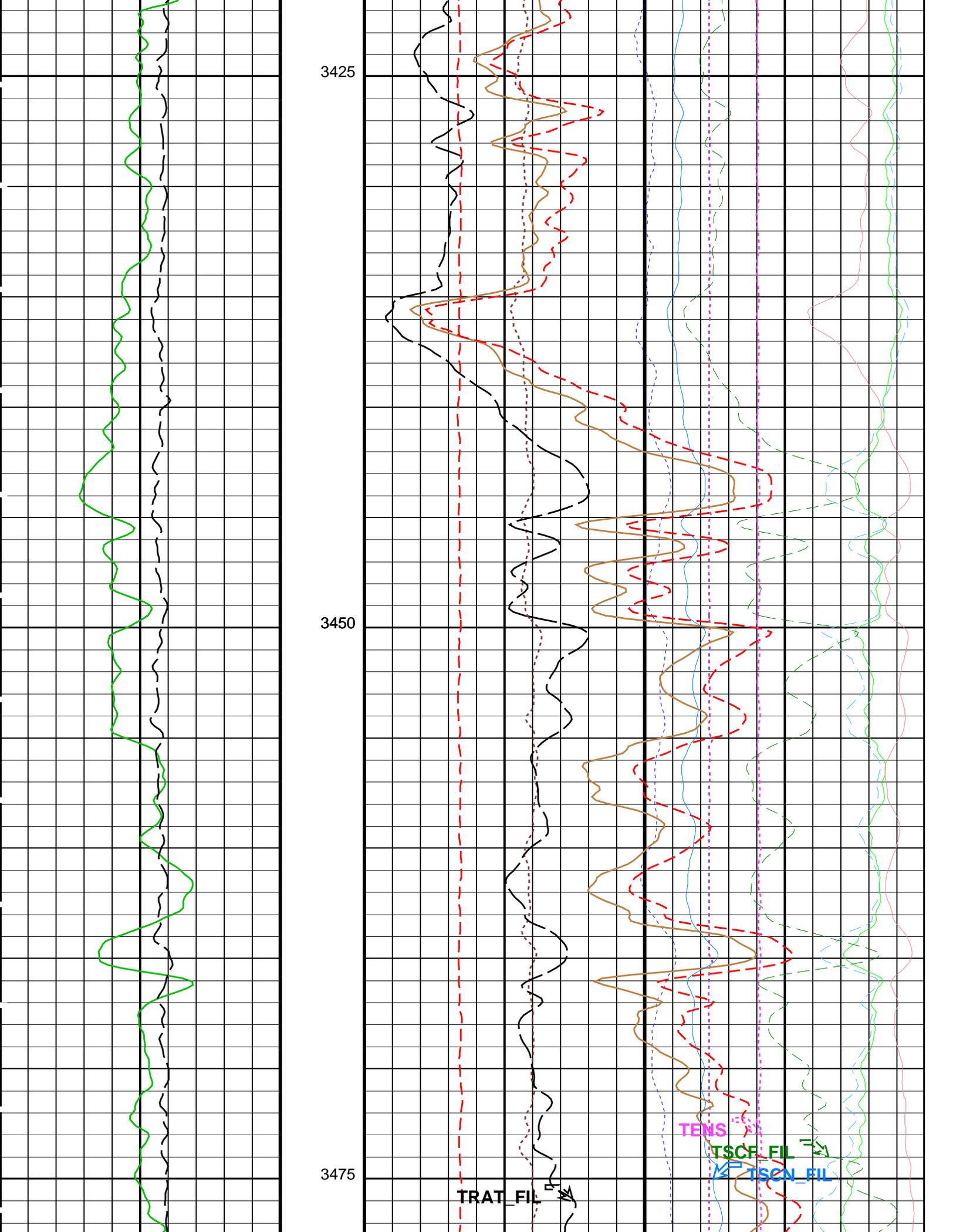
RST-C SRPC-3624-Q2\_2008\_OP16\_b PSPT-B SRPC-3624-Q2\_2008\_OP16\_b

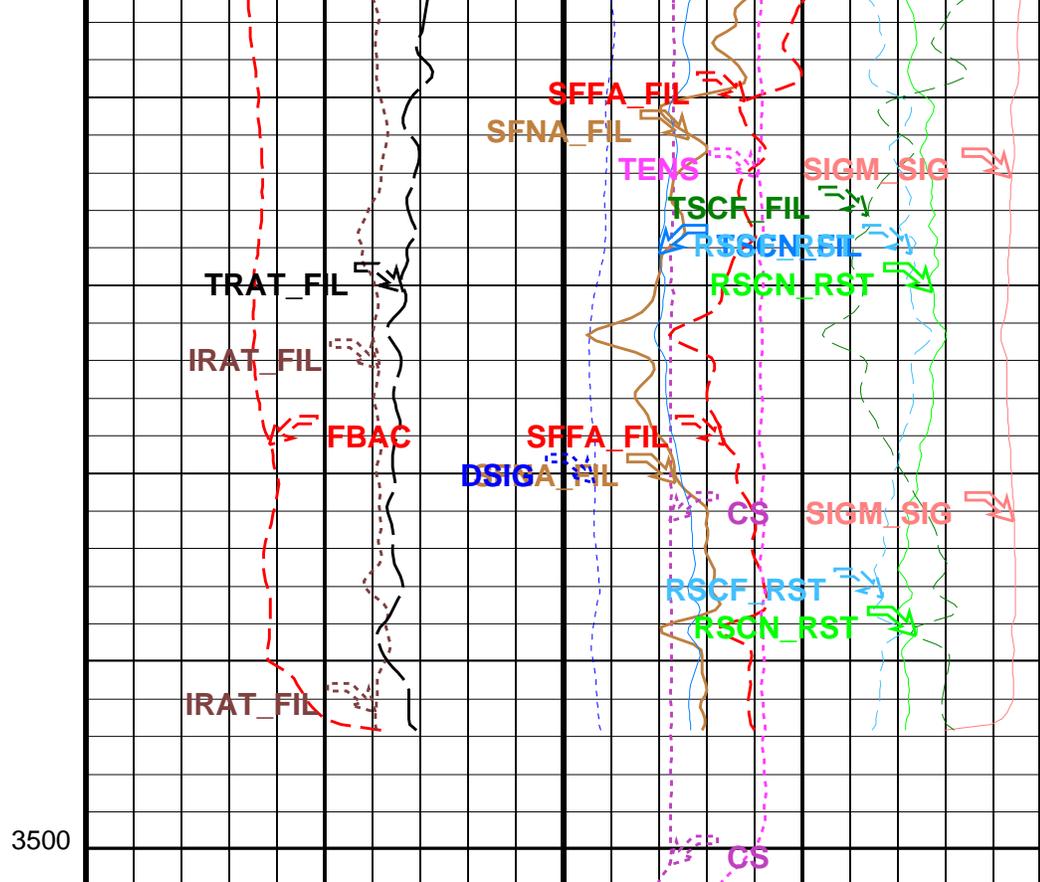
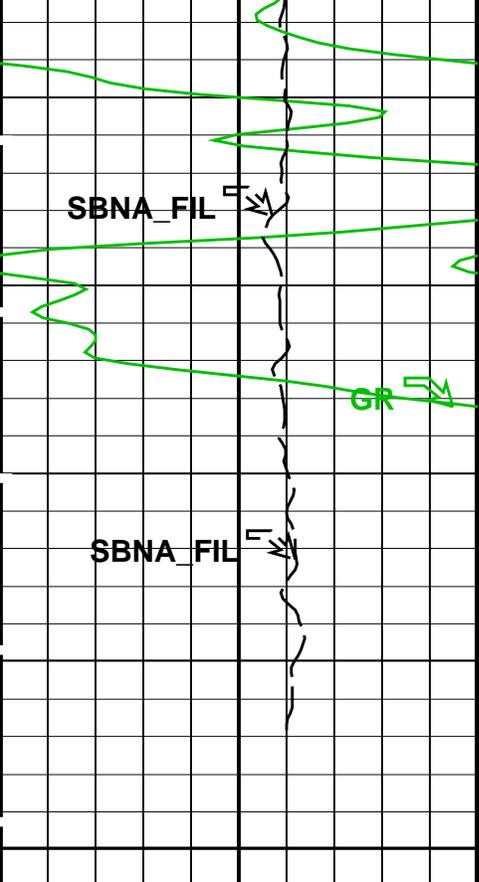
PIP SUMMARY

Time Mark Every 60 S

		Tension (TENS) 0 (LBF) 2000	
		Tot Sel CR Far (TSCF_FIL) 0 (CPS) 12000	
		Tot Sel CR Near (TSCN_FIL) 0 (CPS) 30000	
		RST Sigma Unc (SIGM_SIG) 3 (CU) 0	
RST Capture Ratio (TRAT_FIL) 1.5 (----) 0.5	RST Far Effective Capture CR (RSCF_RST) 45 (----) 0		
Sigma Formation Far Apparent (SFFA_FIL) 60 (CU) 0			
Sigma Formation Near Apparent (SFNA_FIL) 60 (CU) 0			
RST Inelastic Ratio (IRAT_FIL) 0 (----) 0.75	RST Near Effective Capture CR (RSCN_RST) 45 (----) 0		
Sigma Borehole Near Apparent (SBNA_FIL) 150 (CU) 0	MCS Far Background (filtered) (FBAC) 0 (CPS) 10000		Cable Speed (CS) 0 (F/HR) 2000
Gamma Ray (GR) 0 (GAPI) 150	RST Sigma Difference (DSIG) -30 (CU) 30		







Gamma Ray (GR)		
0	(GAPI)	150
Sigma Borehole Near Apparent (SBNA_FIL)		
150	(CU)	0

RST Sigma Difference (DSIG)		-30		30	
MCS Far Background (filtered) (FBAC)		Cable Speed (CS)			
0	(CPS)	10000	0	(F/HR)	2000
RST Inelastic Ratio (IRAT_FIL)		RST Near Effective Capture CR (RSCN_RST)			
0	(----	0.75	45	(----	0
Sigma Formation Near Apparent (SFNA_FIL)					
60	(CU)	0			
Sigma Formation Far Apparent (SFFA_FIL)					
60	(CU)	0			
RST Capture Ratio (TRAT_FIL)		RST Far Effective Capture CR (RSCF_RST)			
1.5	(----	0.5	45	(----	0
RST Sigma Unc (SIGM_SIG)					
3	(CU)	0			
Tot Sel CR Near (TSCN_FIL)					
0	(CPS)	30000			
Tot Sel CR Far (TSCF_FIL)					
0	(CPS)	12000			
Tension (TENS)		0			
0	(LBF)	2000			

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
RST-C: Reservoir Saturation Pro Tool C		

AIRB	RST Air Borehole	NO	
BHS	Borehole Status	CASED	
BSALOPT	RST Borehole Salinity Option	Unknown	
BSFL	RST Borehole Salinity Filter Length	51	
DFPC	RST Depth Filter Processing Constant	One	
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NORM_IRAT_RST	RST Normalized Inelastic Ratio	0.48	
NORM_SIGM_RST	RST Normalized Sigma	30	CU
RGAI	Near/Far Gain Calibration Ratio	1	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-B: Production Services Logging Platform			
BHS	Borehole Status	CASED	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
System and Miscellaneous			
BS	Bit Size	8.000	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	38.60	LB/F

Format: RST\_SIG\_QUALITY    Vertical Scale: 1:200    Graphics File Created: 24-Feb-2009 12:15

**OP System Version: 16C0-147**  
MCM

RST-C                      SRPC-3624-Q2\_2008\_OP16\_b                      PSPT-B                      SRPC-3624-Q2\_2008\_OP16\_b

**Output DLIS Files**

DEFAULT                      RST\_PSP\_016LUP                      FN:15    PRODUCER    24-Feb-2009 12:15



SIGMA Pass # 1

MAXIS Field Log

Company: Esso Australia Pty Ltd.                      Well: A-27a

**Input DLIS Files**

DEFAULT                      RST\_PSP\_013LUP                      FN:12    PRODUCER    24-Feb-2009 11:53    3507.8 M    3420.0 M

**Output DLIS Files**

DEFAULT                      RST\_PSP\_015PUP                      FN:14    PRODUCER    24-Feb-2009 12:13    3507.8 M    3414.5 M

**OP System Version: 16C0-147**  
MCM

RST-C                      SRPC-3624-Q2\_2008\_OP16\_b                      PSPT-B                      SRPC-3624-Q2\_2008\_OP16\_b

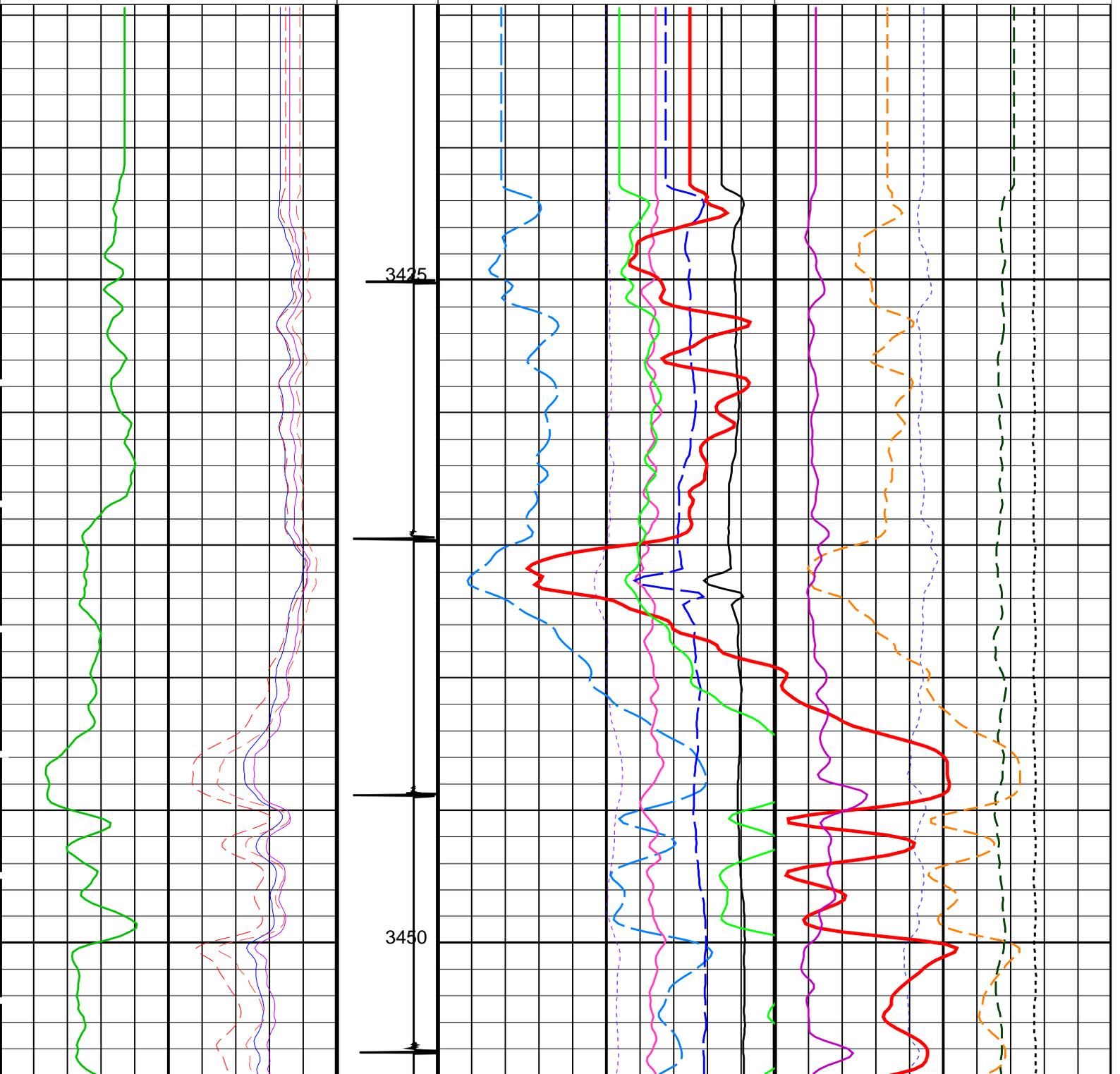
PIP SUMMARY

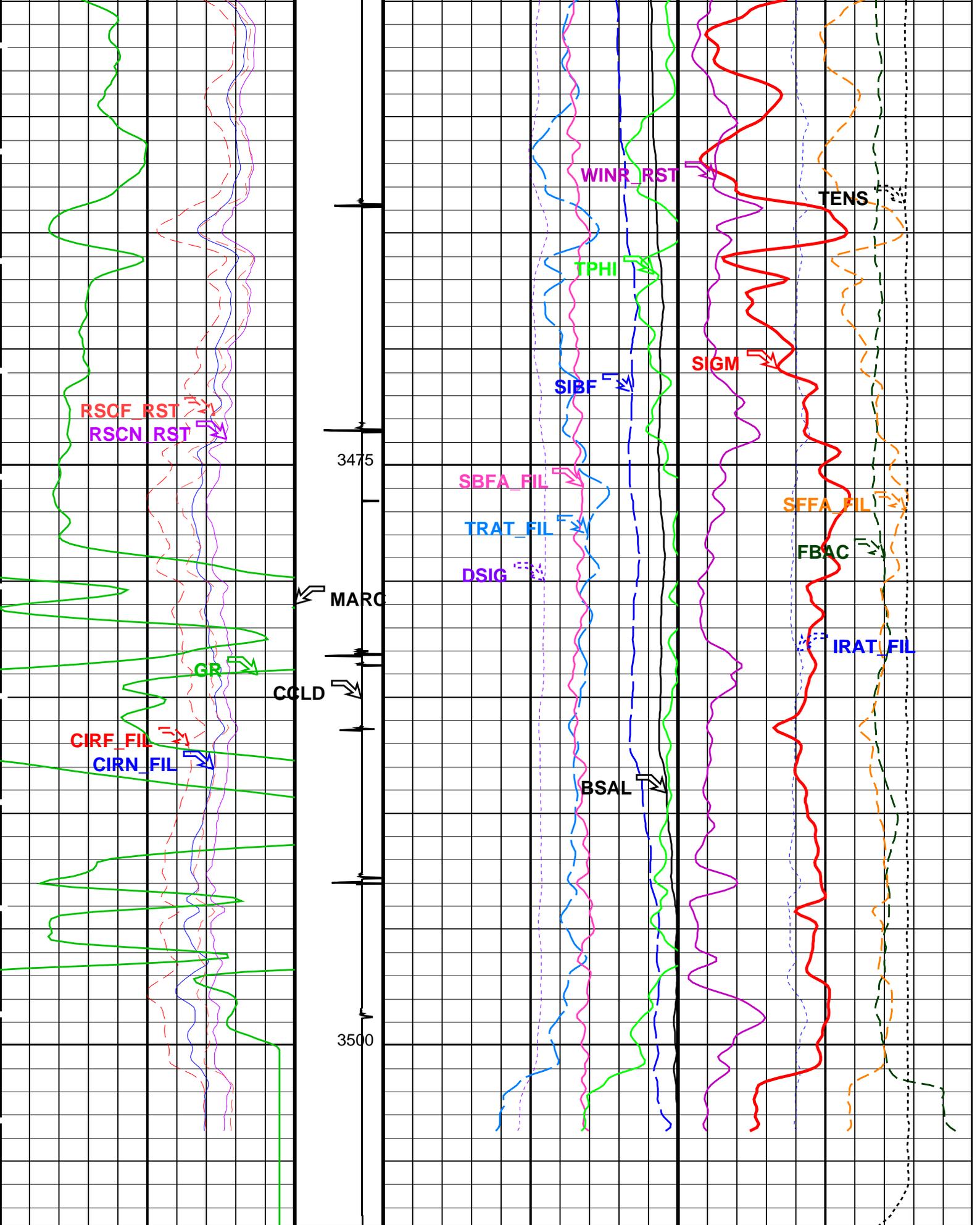
Time Mark Every 60 S

<b>RST Sigma (SIGM)</b>	
60	0
(CU)	
<b>RST Weighted Inelastic Ratio (WINR_RST)</b>	
0.4	-0.4
(----	
<b>RST Porosity (TPHI)</b>	
0.6	0
(V/V)	
<b>RST Sigma Borehole Fluid (SIBF)</b>	
100	0
(CU)	

**RST Far Effective Capture CR (RSCF\_RST)**  
45                      (----)                      0

<b>RST Near Effective Capture CR (RSCN_RST)</b> 45 (----) 0	<b>Sigma Borehole Far Apparent (SBFA_FIL)</b> 150 (CU) 0	<b>Tension (TENS)</b> 0 (LBF) 3000
<b>RST Capture to Inelastic Ratio Far (CIRF_FIL)</b> 5 (----) 0	<b>RST Capture Ratio (TRAT_FIL)</b> 1.5 (----) 0.5	<b>Sigma Formation Far Apparent (SFFA_FIL)</b> 60 (CU) 0
<b>RST Capture to Inelastic Ratio Near (CIRN_FIL)</b> 2.5 (----) 0	<b>Minitron Arc Detection (MARC)</b> 0 (----) 5	<b>RST Sigma Difference (DSIG)</b> -30 (CU) 30
<b>Gamma Ray (GR)</b> 0 (GAPI) 150	<b>Discriminat ed CCL (CCLD)</b> 3 (V) -1	<b>MCS Far Background (filtered) (FBAC)</b> 0 (CPS) 5000
	<b>RST Borehole Salinity (BSAL)</b> 450 (PPK) -50	<b>RST Inelastic Ratio (IRAT_FIL)</b> 0.75 (----) 0





Gamma Ray (GR) (GAPI)	Discriminat ed CCL (CCLD)	RST Borehole Salinity (BSAL)	RST Inelastic Ratio (IRAT_FIL)
0	3	450	0.75
150	(V) -1	(PPK)	(----) 0
		-50	

<b>RST Capture to Inelastic Ratio Near (CIRN_FIL)</b> 2.5 (----) 0	<b>Minitron Arc Detection (MARC)</b> 0 (----) 5	<b>RST Sigma Difference (DSIG)</b> -30 (CU) 30	<b>MCS Far Background (filtered) (FBAC)</b> 0 (CPS) 5000
<b>RST Capture to Inelastic Ratio Far (CIRF_FIL)</b> 5 (----) 0		<b>RST Capture Ratio (TRAT_FIL)</b> 1.5 (----) 0.5	<b>Sigma Formation Far Apparent (SFFA_FIL)</b> 60 (CU) 0
<b>RST Near Effective Capture CR (RSCN_RST)</b> 45 (----) 0		<b>Sigma Borehole Far Apparent (SBFA_FIL)</b> 150 (CU) 0	<b>Tension (TENS)</b> 0 (LBF) 3000
<b>RST Far Effective Capture CR (RSCF_RST)</b> 45 (----) 0		<b>RST Sigma Borehole Fluid (SIBF)</b> 100 (CU) 0	
		<b>RST Porosity (TPHI)</b> 0.6 (V/V) 0	
		<b>RST Weighted Inelastic Ratio (WINR_RST)</b> 0.4 (----) -0.4	
		<b>RST Sigma (SIGM)</b> 60 (CU) 0	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
<b>RST-C: Reservoir Saturation Pro Tool C</b>		
AIRB	RST Air Borehole	No
BHS	Borehole Status	CASED
BSALOPT	RST Borehole Salinity Option	Unknown
BSFL	RST Borehole Salinity Filter Length	51
DFPC	RST Depth Filter Processing Constant	One
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
NORM_IRAT_RST	RST Normalized Inelastic Ratio	0.48
NORM_SIGM_RST	RST Normalized Sigma	30 CU
RGAI	Near/Far Gain Calibration Ratio	1
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma
<b>PSPT-B: Production Services Logging Platform</b>		
BHS	Borehole Status	CASED
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
<b>System and Miscellaneous</b>		
BS	Bit Size	8.000 IN
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	4.500 IN
CWEI	Casing Weight	38.60 LB/F
DO	Depth Offset for Playback	0.0 M
PP	Playback Processing	NORMAL

Format: RST\_SIG\_ANSW

Vertical Scale: 1:200

Graphics File Created: 24-Feb-2009 12:13

OP System Version: 16C0-147  
MCM

RST-C SRPC-3624-Q2\_2008\_OP16\_b PSPT-B SRPC-3624-Q2\_2008\_OP16\_b

Input DLIS Files

DEFAULT RST\_PSP\_013LUP FN:12 PRODUCER 24-Feb-2009 11:53 3507.8 M 3420.0 M

Output DLIS Files

DEFAULT RST\_PSP\_015PUP FN:14 PRODUCER 24-Feb-2009 12:13

Gamma-Ray Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-27a

Input DLIS Files

DEFAULT RST\_PSP\_010LUP FN:9 PRODUCER 24-Feb-2009 11:28 3507.5 M 3414.7 M

Output DLIS Files

DEFAULT RST\_PSP\_012PUP FN:11 PRODUCER 24-Feb-2009 11:40 3511.3 M 3413.0 M

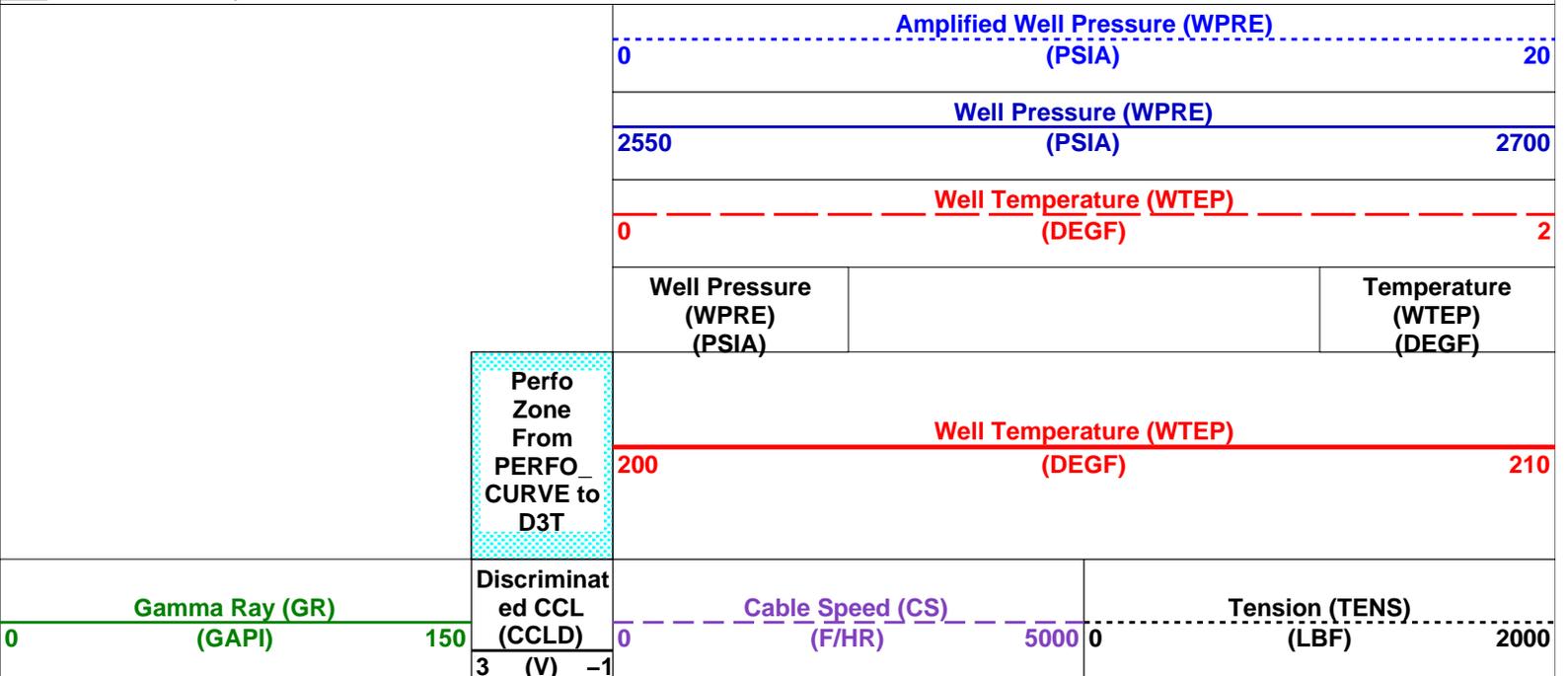
OP System Version: 16C0-147

MCM

RST-C SRPC-3624-Q2\_2008\_OP16\_b PSPT-B SRPC-3624-Q2\_2008\_OP16\_b

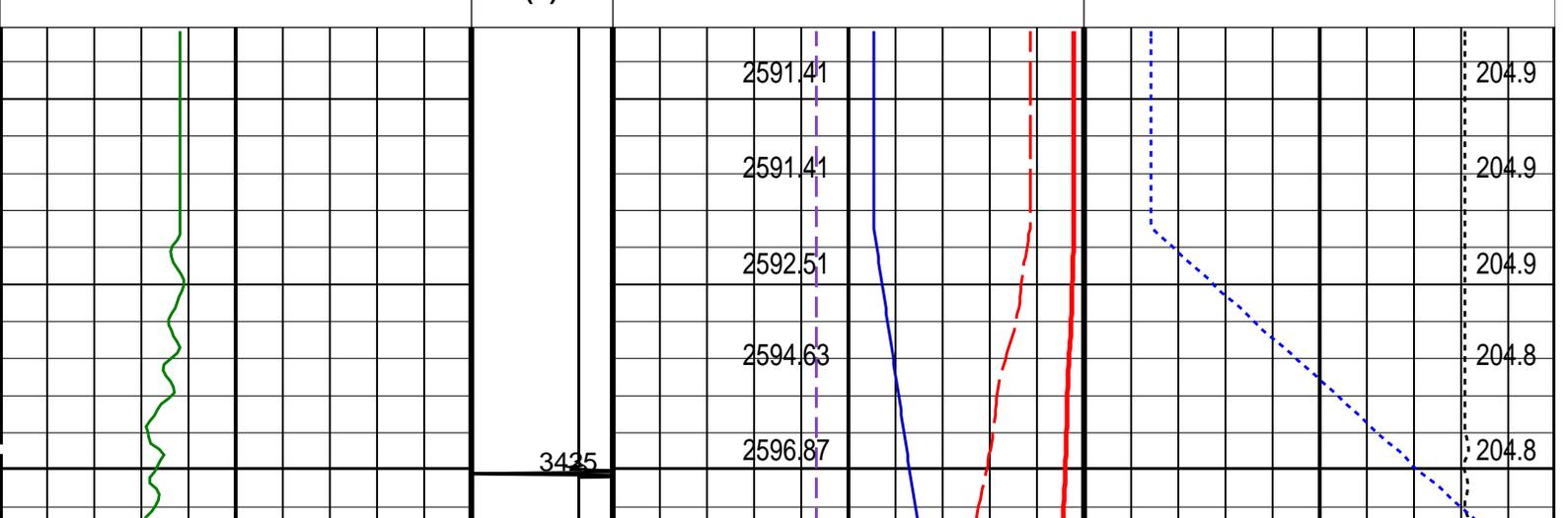
PIP SUMMARY

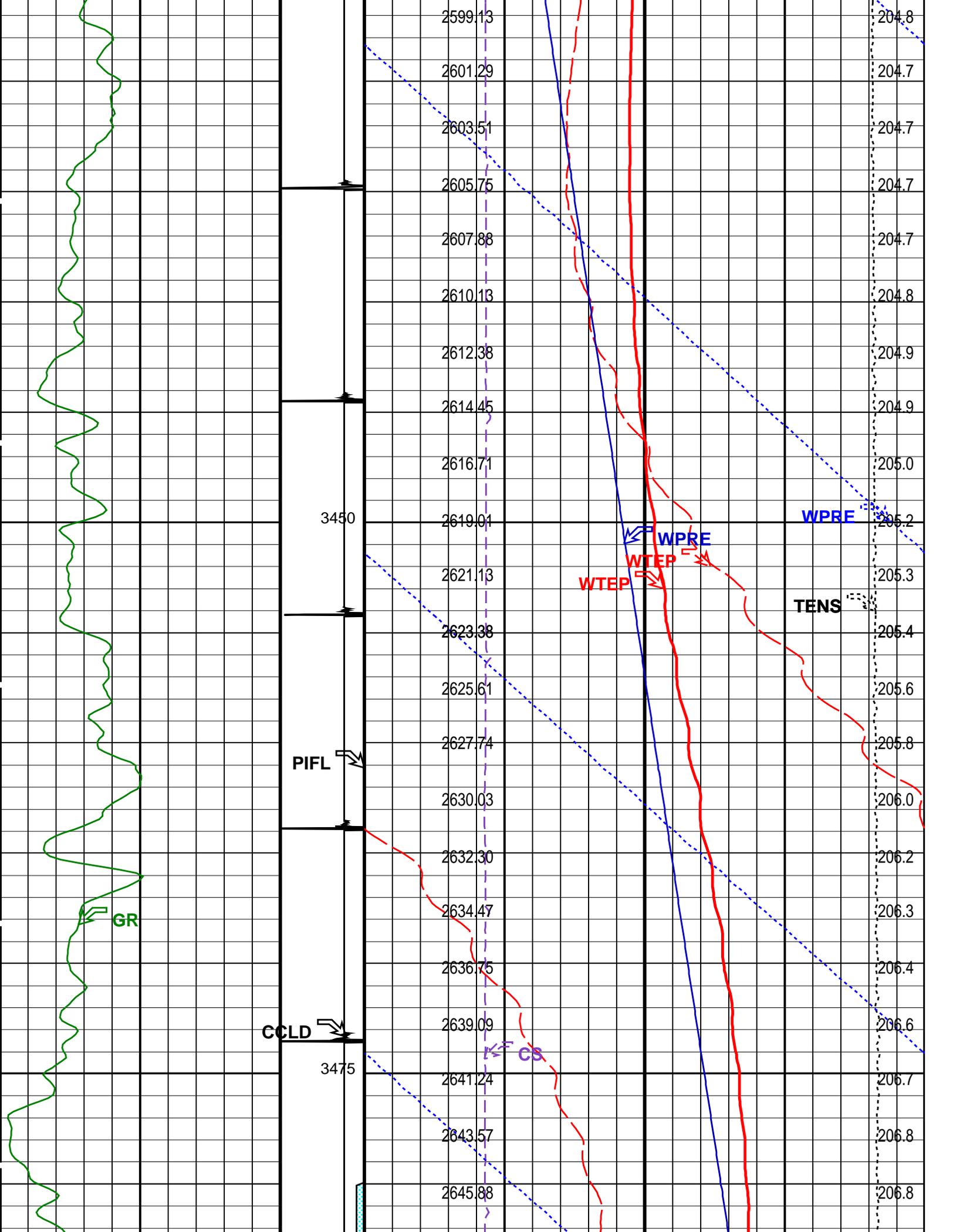
Time Mark Every 60 S

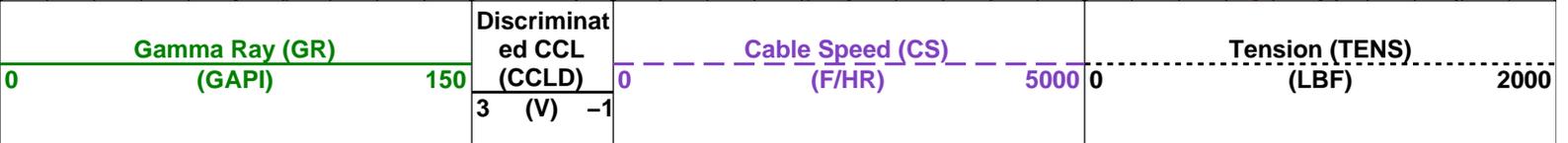
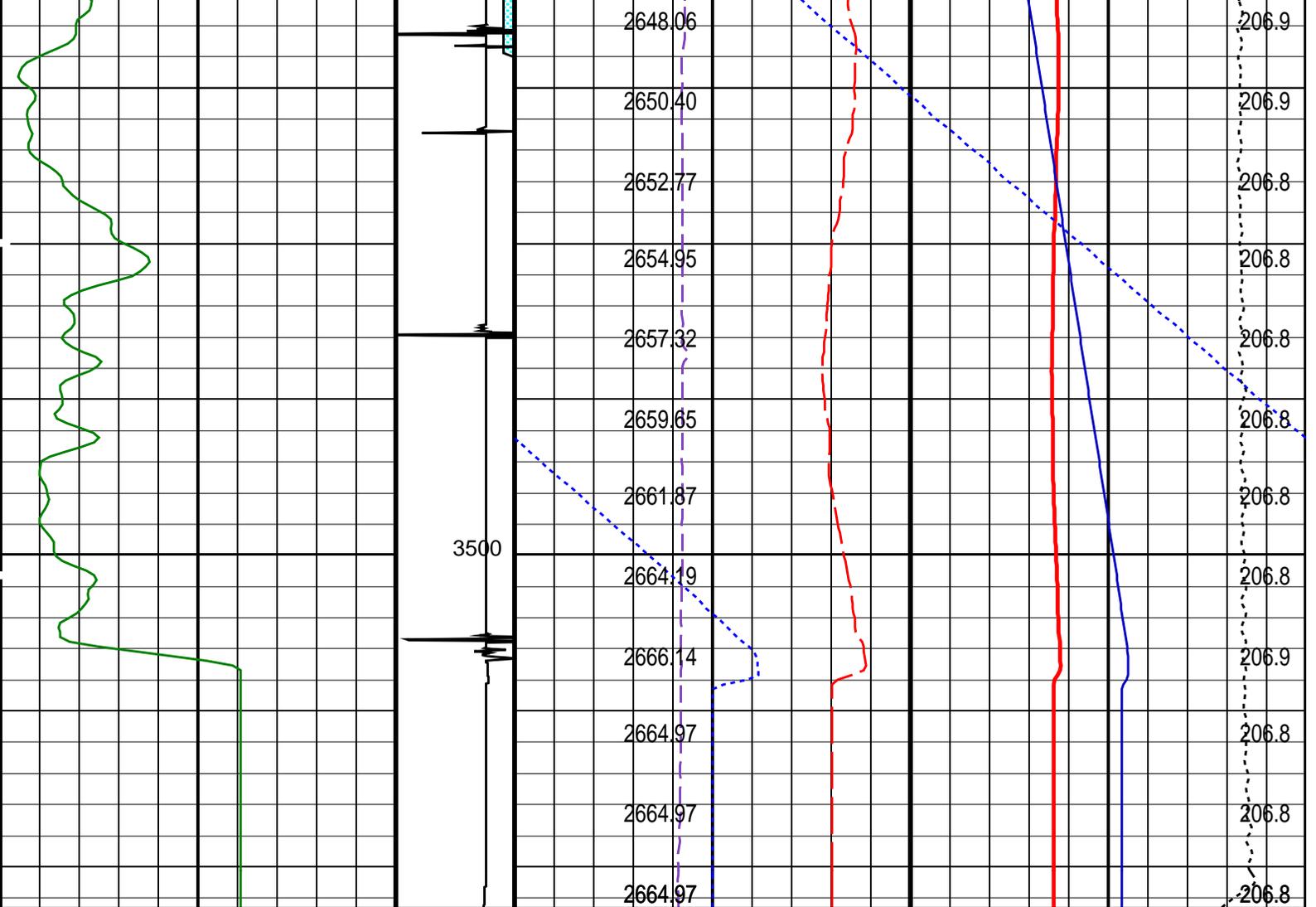


Perfo Zone From PERFO\_CURVE to D3T

Discriminated CCL (CCLD) (V) -1

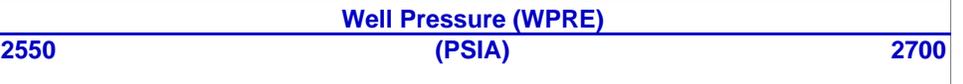
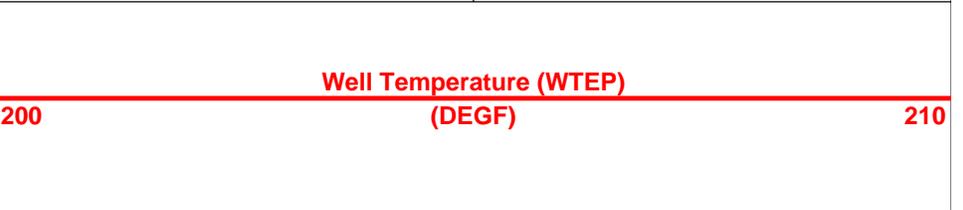






Discriminat  
ed CCL  
(CCLD)  
3 (V) -1

Perfo  
Zone  
From  
PERFO\_  
CURVE to  
D3T



PIP SUMMARY

Time Mark Every 60 S  
 Format: PSP\_1\_1 Vertical Scale: 1:200 Graphics File Created: 24-Feb-2009 11:40

OP System Version: 16C0-147  
MCM

# Parameters

DLIS Name	Description	Value
DO	System and Miscellaneous	
PP	Depth Offset for Playback Playback Processing	3.8 M NORMAL
<b>Input DLIS Files</b>		
DEFAULT	RST_PSP_010LUP	FN:9 PRODUCER 24-Feb-2009 11:28 3507.5 M 3414.7 M
<b>Output DLIS Files</b>		
DEFAULT	RST_PSP_012PUP	FN:11 PRODUCER 24-Feb-2009 11:40

Company: **Esso Australia Pty Ltd.**

**Schlumberger**

Well: **A-27a**

Field: **Bream A**

Rig: **Prod4 / Crane**

Country: **Australia**

RST-C Sigma Survey  
2 1/8" Powerjet MWPT Perforation Record  
4.5" Posiset Plug Setting Record