



Company: Esso Australia Pty Ltd.

Well: W-6a

Field: West Kingfish

Rig : Crane

Country: Australia

3.5" Owen Tubing Patch  
2" HSD MWPT  
Perforation

Gippsland	Elev.: K.B. 33.43 m
Basin	G.L. -76.13 m
Bass Strait	D.F. 33.43 m

Permanent Datum:	M.S.L.	Elev.: 0 m
Log Measured From:	D.F.	33.4 m above Perm. Datum
Drilling Measured From:	D.F.	

State: Victoria	Max. Well Deviation 54 deg	Longitude 148 06'15.1"E	Latitude 038 35'40.7"S
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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

Run 1

Oil Density  
Water Salinity  
Gas Gravity  
Bo

PVT DATA

Bw  
1/Bq  
Bubble Point Pressure  
Bubble Point Temperature  
Solution GOR  
Maximum Deviation

CEMENTING DATA

Primary/Squeeze  
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: 3-APR-2008 8:36:45

### Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-EB Serial Number: 6373 Calibration Date: 04-Jan-07 Calibrator Serial Number: 9 Calibration Cable Type: 2-32ZT Wheel Correction 1: -2 Wheel Correction 2: -4	Type: PSDS/OSDS Serial Number: 325357 Calibration Date: 03-Apr-2008 Calibrator Serial Number: 1174 Calibration Gain: 0.91 Calibration Offset: 341.00	Type: 2-32ZT Serial Number: 27244 Length: 6409.94 M Conveyance Method: Wireline Rig Type: Rigless

### Depth Control Parameters

Log Sequence:	Subsequent Log In the Well

### Depth Control Remarks

1. IDW-EB 6373 used as the primary depth control. 2. Z-Chart used as back-up system.

#### DISCLAIMER

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OTHER SERVICES1 OS1: None

REMARKS: RUN NUMBER 1
Log correlated to Petrophysical Analysis composite supplied with program.
Maximum well deviation = 54 degree's at 3094m MDKB.
Run one was the 2.7" dummy pass with GR-CCL to 3330m MDKB.
Run two the Owen Patch was set from 3317.6m to 3327.3m MDKB.
Run three was the 2" HSD Powerjet perforation.
Interval perforated = 3364.5m to 3368m MDKB.
Well was shot with an underbalance of approximately 1000 psia.
SBHP prior to firing = 2117 psia following a one hour

doi:10.1371/journal.pone.0141141.g001

clean up period the sbhp had reached 3111 psia.

SBHT = 230 degf, after the gun was fired and the well flowed

231 degf.

Crew : J Annear,P Lawrence,A McLellan.

RUN 1 SERVICE ORDER #: AUSL07509098 PROGRAM VERSION: 15C0-309 FLUID LEVEL: 1155 m			RUN 2		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

[illegible]

RUN 1		RUN 2	
WITM (SHM)	SURFACE EQUIPMENT	MWPM-AA 3008	SURFACE EQUIPMENT

DOWNHOLE EQUIPMENT		DOWNHOLE EQUIPMENT	
SWHS 759	15.07	SWHS-A 759	11.36
PGGC 136 PGGH-A 136	14.74	MWPG-AA 24029 MWGH-AA 69	10.88
Gamma Ray Casing Co Tension	0.48 TOOL ZERO	MWPG GR	2.41
Wpsa 4003	12.79	MWPH-AA 74 MWPS-AA 74	9.91
Esic 4007395	12.13		
Setting Tool 1	11.70	CCL SMWP Pres SMWP Temp Tension	TOOL ZERO
3.5" Owen Patch 1	9.64	WPSA 4003	7.09
		Esic 15042002	6.43
		3.5 mtr 2" HSD Gun 1	5.99

SHM\_GUN

TOOL BOTTOM

0.00

MAXIMUM STRING DIAMETER 2.70 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN METERS

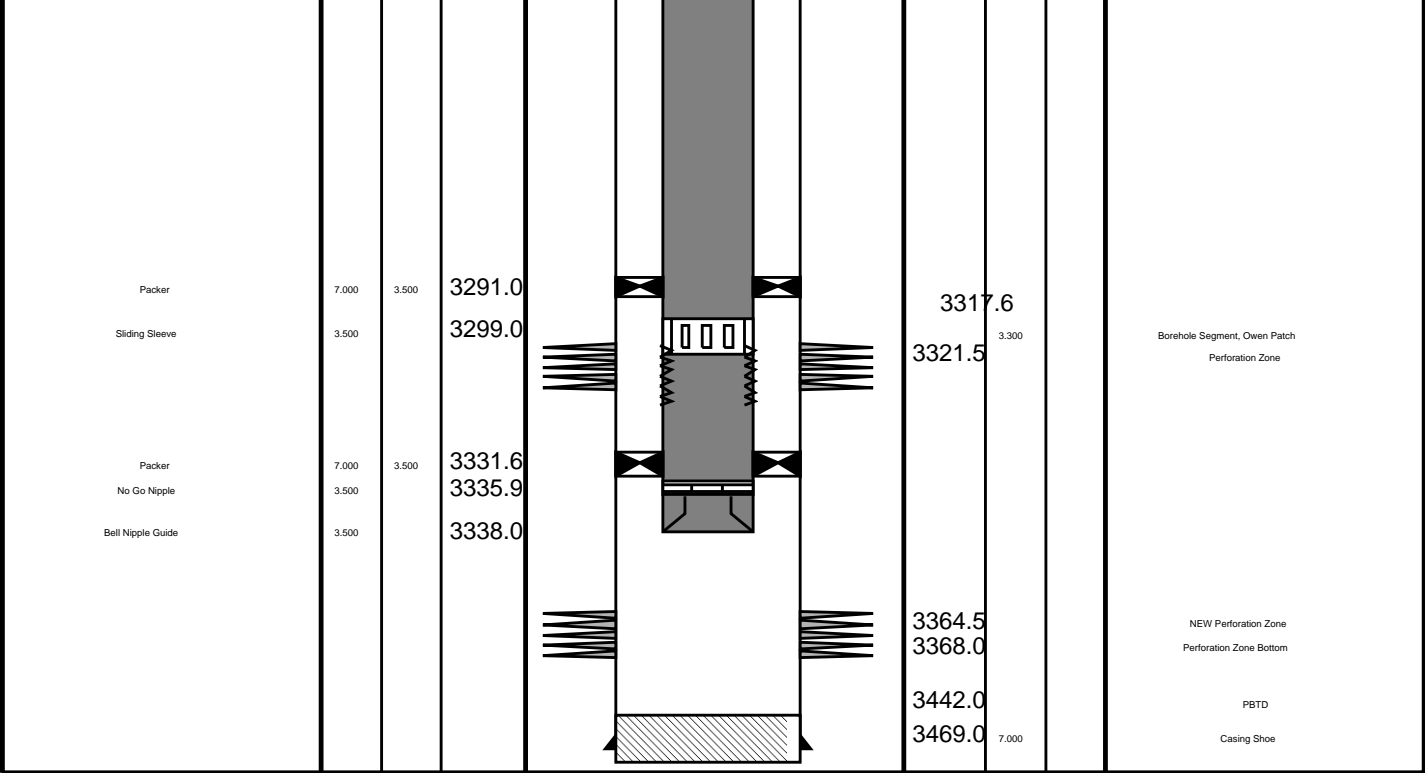
MWP\_GUN

TOOL BOTTOM

0.00

MAXIMUM STRING DIAMETER 1.69 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	7.000	3.500	11.7		12.4	7.000	7.000	Casing String
Tubing	3.500		11.7		12.4	10.750		Liner Hanger
					12.4	10.750		Casing String
Shut-in Valve	3.500		450.0					
Gas Lift Mandrel	3.500		860.0		694.8	10.750		Casing Shoe
Gas Lift Mandrel	3.500		1547.0					
Gas Lift Mandrel	3.500		1903.7					
Nipple	3.500		1919.0					



## Job Event Summary

MAXIS Field Log

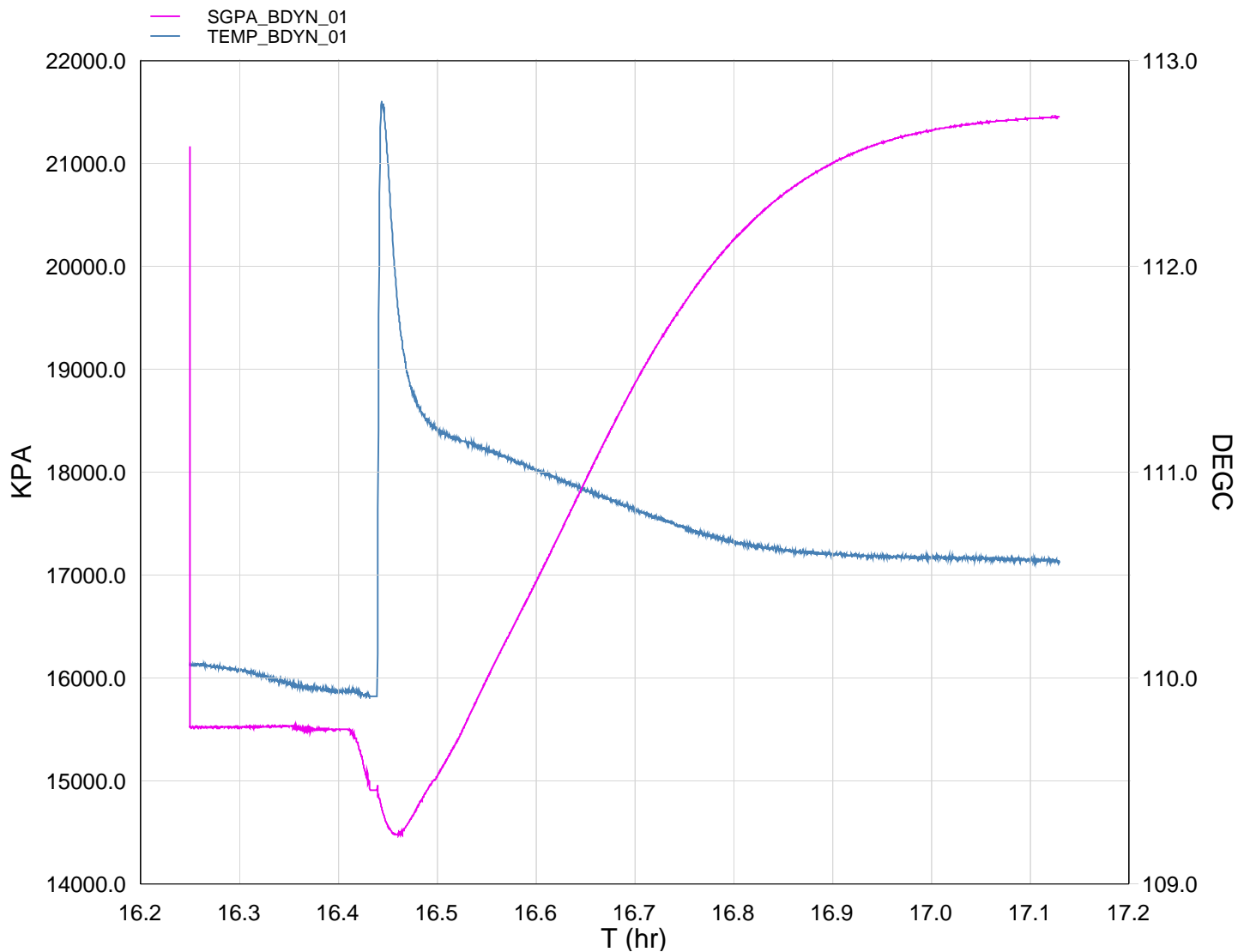
### Schlumberger Job Event Summary

Time	Elapsed Time	Depth (M)	File
Log Pass (down)	4-Apr-2008 12:52 001:54	-9.3 - 3324.0	PERFO_010LDP
Log Pass (up)	4-Apr-2008 14:46 000:10	3323.8 - 3150.4	PERFO_011LUP
Log Pass (up)	4-Apr-2008 14:56 001:19	3138.8 - -11.9	PERFO_012LUP
Log Pass (down)	5-Apr-2008 8:04 000:01	1.3 - 655.1	PERFO_014LDP
Log Pass (down)	5-Apr-2008 8:07 001:02	728.8 - 3318.2	PERFO_015LDP
Log Pass (up)	5-Apr-2008 9:08 000:03	3318.1 - 3289.4	PERFO_016LUP
Log Pass (up)	5-Apr-2008 9:11 000:04	3317.7 - 3267.6	PERFO_017LUP
Log Pass (up)	5-Apr-2008 9:18 000:02	3318.8 - 3315.9	PERFO_018LUP
Log Pass (up)	5-Apr-2008 9:21 000:10	3319.1 - 3274.8	PERFO_019LUP
Simulated Log	5-Apr-2008 12:21 000:08		PERFO_020LUP
Log Pass (down)	5-Apr-2008 15:28 000:27	537.2 - 2986.7	PERFO_024LDP
Log Pass (down)	5-Apr-2008 15:54 000:07	3006.2 - 3384.8	PERFO_025LDP
Log Pass (up)	5-Apr-2008 16:01 000:06	3384.7 - 3337.6	PERFO_026LUP
Log Pass (up)	5-Apr-2008 16:11 001:04	3382.5 - 3308.0	PERFO_027LUP

**Schlumberger**

GUN # 1 2" HSD  
3364.5m to 3368m MDKB

MAXIS Field Log



TIME	DEGF	PSIA
5970.0	231.04	3111.136
5940.0	231.03	3110.781
5910.0	231.02	3109.754
5880.0	231.04	3109.326

5880.0	231.04	3109.320
5850.0	231.02	3108.402
5820.0	231.05	3107.438
5790.0	231.03	3106.495
5760.0	231.05	3105.324
5730.0	231.03	3104.499
5700.0	231.05	3102.862
5670.0	231.05	3101.971
5640.0	231.04	3100.350
5610.0	231.05	3098.551
5580.0	231.06	3096.524
5550.0	231.05	3094.625
5520.0	231.06	3092.587
5490.0	231.06	3089.806
5460.0	231.06	3087.612
5430.0	231.06	3084.916
5400.0	231.06	3081.729
5370.0	231.07	3078.289
5340.0	231.07	3074.946
5310.0	231.07	3070.792
5280.0	231.07	3066.510
5250.0	231.07	3061.910
5220.0	231.07	3057.000
5190.0	231.09	3051.121
5160.0	231.09	3045.490
5130.0	231.10	3039.016
5100.0	231.09	3032.219
5070.0	231.10	3025.156
5040.0	231.11	3017.458
5010.0	231.12	3009.099
4980.0	231.13	3000.706
4950.0	231.13	2991.336
4920.0	231.14	2982.053
4890.0	231.14	2971.237
4860.0	231.16	2959.351
4830.0	231.18	2947.700
4800.0	231.19	2936.293
4770.0	231.22	2922.902
4740.0	231.23	2909.056
4710.0	231.25	2894.458
4680.0	231.26	2879.092
4650.0	231.29	2863.565
4620.0	231.32	2846.124
4590.0	231.34	2828.982
4560.0	231.36	2810.945
4530.0	231.39	2792.157
4500.0	231.43	2772.613
4470.0	231.45	2753.037
4440.0	231.49	2731.618
4410.0	231.51	2709.886
4380.0	231.52	2687.858
4350.0	231.57	2665.132
4320.0	231.60	2641.983
4290.0	231.63	2618.397
4260.0	231.65	2594.717
4230.0	231.69	2570.872
4200.0	231.71	2546.439
4170.0	231.75	2522.986
4140.0	231.77	2499.102
4110.0	231.79	2475.238
4080.0	231.83	2452.271
4050.0	231.87	2429.507



4020.0	231.89	2406.341
3990.0	231.92	2383.973
3960.0	231.95	2361.131
3930.0	231.98	2337.842
3900.0	232.01	2314.214
3870.0	232.02	2290.596
3840.0	232.04	2265.331
3810.0	232.09	2241.143
3780.0	232.10	2219.508
3750.0	232.14	2198.590
3720.0	232.19	2177.814
3690.0	232.27	2163.376
3660.0	232.36	2143.599
3630.0	232.56	2122.507
3600.0	232.88	2105.983
3570.0	233.60	2100.789
3540.0	234.72	2117.118
3510.0	231.47	2155.034
3480.0	229.85	2165.215
3450.0	229.85	2210.779
3420.0	229.89	2241.145
3390.0	229.88	2248.792
3360.0	229.90	2248.577
3330.0	229.90	2248.543
3300.0	229.90	2249.491
3270.0	229.92	2247.102
3240.0	229.92	2250.460
3210.0	229.94	2248.516
3180.0	229.95	2252.767
3150.0	229.96	2252.672
3120.0	230.01	2252.551
3090.0	230.03	2251.728
3060.0	230.04	2252.744
3030.0	230.06	2250.661
3000.0	230.06	2252.061
2970.0	230.07	2251.312
2940.0	230.09	2251.775
2910.0	230.10	2251.857
2880.0	230.12	2251.279
2850.0	230.12	2251.728
2820.0	230.12	2250.323

**Schlumberger**

GUN # 1 2" HSD  
Shooting Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: W-6a

### Output DLIS Files

DEFAULT	PERFO_027LUP	FN:26	PRODUCER	05-Apr-2008 16:11	3382.5 M	3298.9 M
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# OP System Version: 15C0-309

MCM

MWP\_GUN  
MWGT-AA

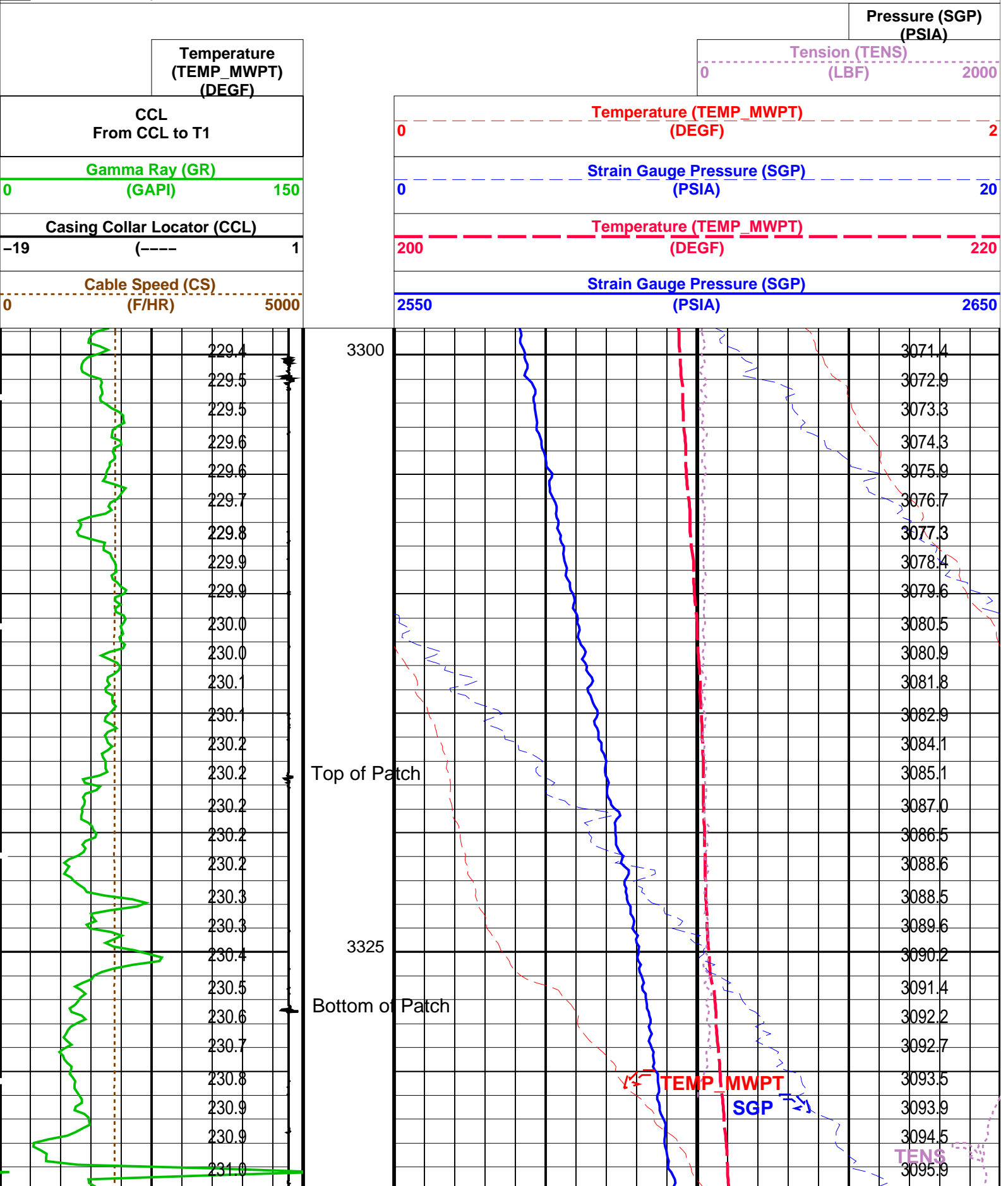
SRPC-3546-Q1\_2008\_OP15  
SRPC-3546-Q1\_2008\_OP15

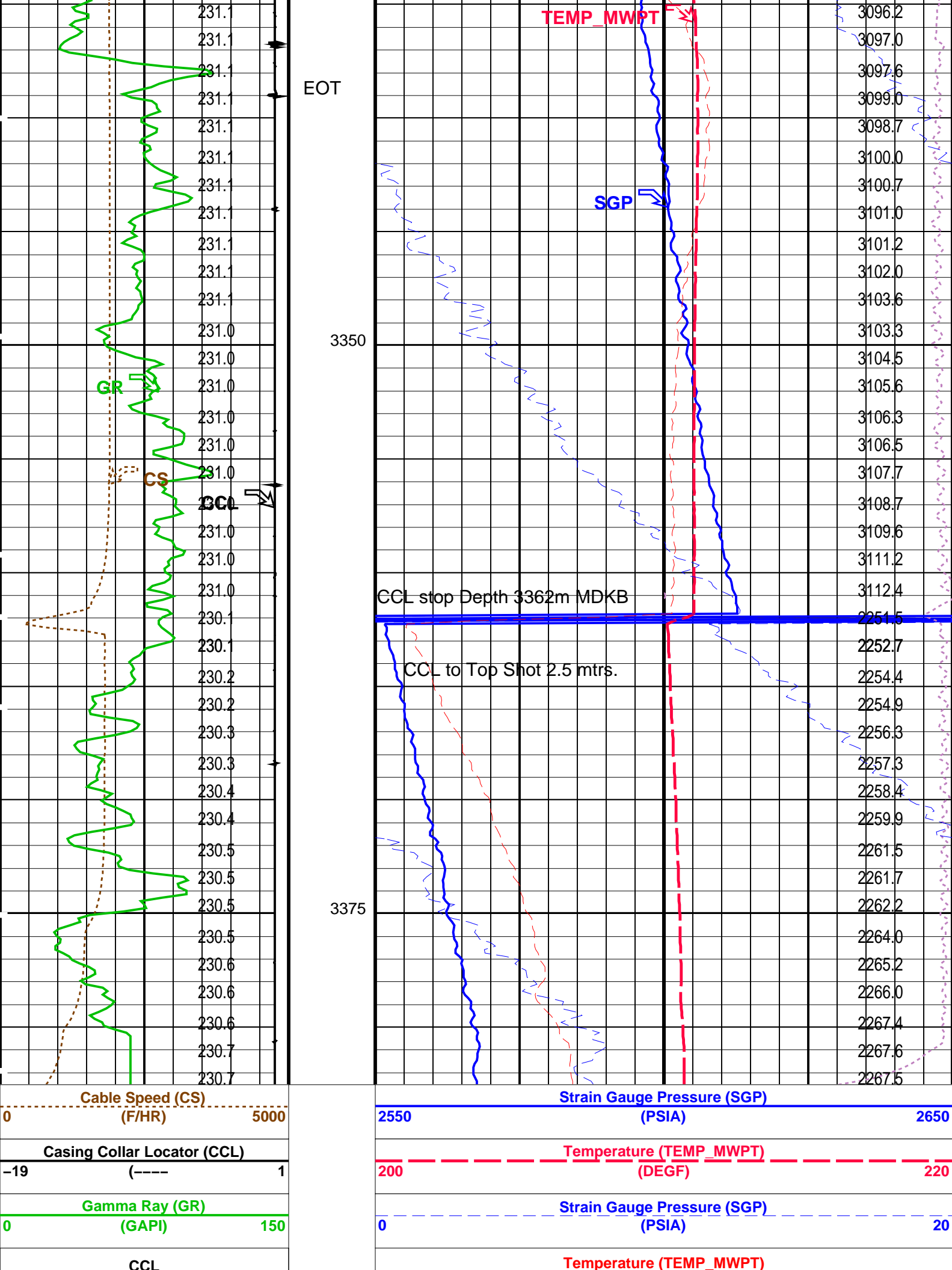
MWPT-CA

SRPC-3546-Q1\_2008\_OP15

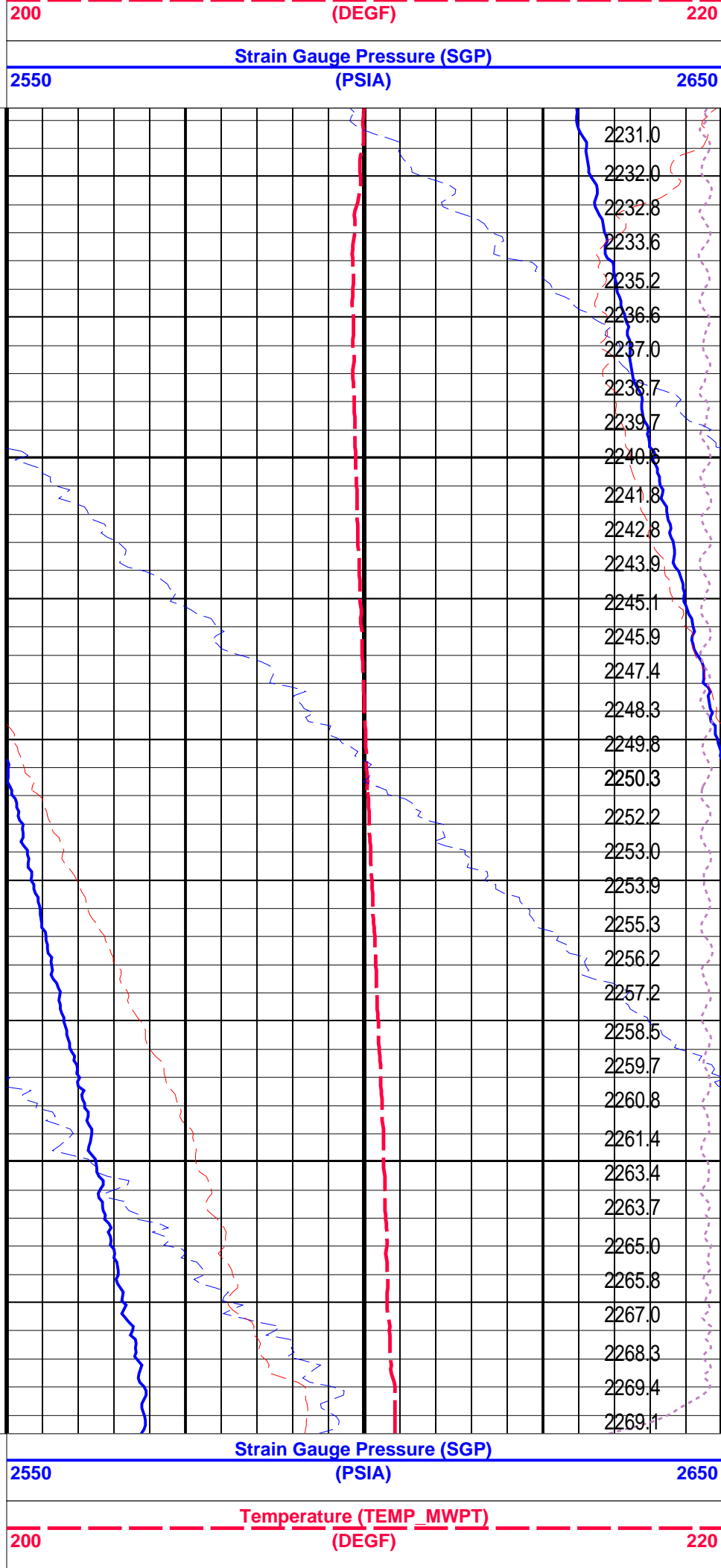
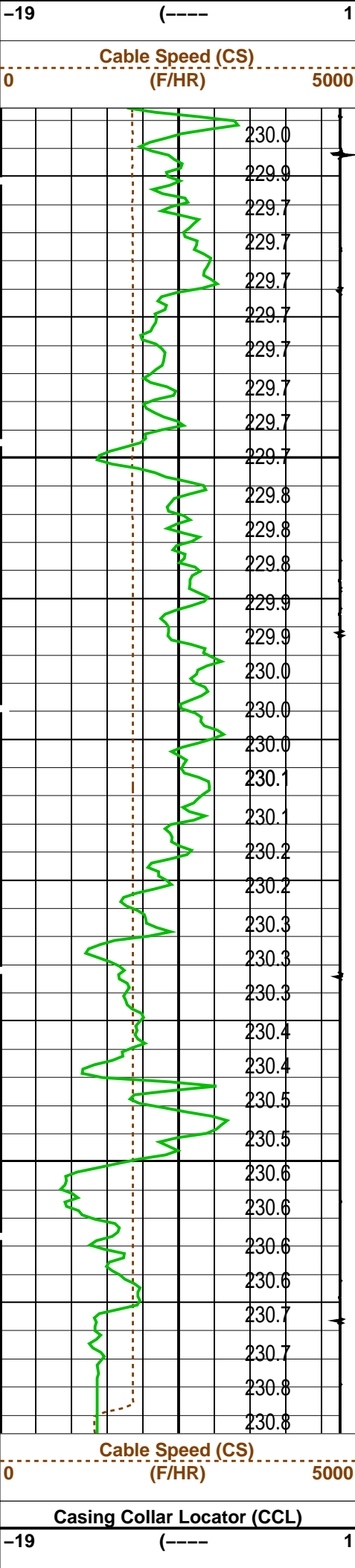
## PIP SUMMARY

Time Mark Every 60 S





From CCL to T1		0 (DEGF) 2	
	Temperature (TEMP_MWPT) (DEGF)	0	Tension (TENS) (LBF) 2000
			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: 05-Apr-2008 16:11	
OP System Version: 15C0-309			
MCM			
MWP_GUN	SRPC-3546-Q1_2008_OP15	MWPT-CA	SRPC-3546-Q1_2008_OP15
MWGT-AA	SRPC-3546-Q1_2008_OP15		
Output DLIS Files			
DEFAULT	PERFO_027LUP	FN:26	PRODUCER 05-Apr-2008 16:11
<div><div>Schlumberger</div><div>GUN # 1 2" HSD Correlation Pass</div><div>MAXIS Field Log</div></div>			
Company: Esso Australia Pty Ltd. Well: W-6a			
Output DLIS Files			
DEFAULT	PERFO_026LUP	FN:25	PRODUCER 05-Apr-2008 16:01 3384.7 M 3337.6 M
OP System Version: 15C0-309			
MCM			
MWP_GUN	SRPC-3546-Q1_2008_OP15	MWPT-CA	SRPC-3546-Q1_2008_OP15
MWGT-AA	SRPC-3546-Q1_2008_OP15		
PIP SUMMARY			
Time Mark Every 60 S			
	Temperature (TEMP_MWPT) (DEGF)	0	Tension (TENS) (LBF) 2000
CCL From CCL to T1		Temperature (TEMP_MWPT) (DEGF) 2	
Gamma Ray (GR) (GAPI) 150		Strain Gauge Pressure (SGP) (PSIA) 20	
Casing Collar Locator (CCL)		Temperature (TEMP_MWPT)	



Gamma Ray (GR)		Strain Gauge Pressure (SGP)	
0	(GAPI)	150	20
CCL		Temperature (TEMP_MWPT)	
From CCL to T1		(DEGF)	
		Tension (TENS)	
		0	2000
		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: 05-Apr-2008 16:01
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OP System Version: 15C0-309			
MCM			
MWP_GUN	SRPC-3546-Q1_2008_OP15	MWPT-CA	SRPC-3546-Q1_2008_OP15
MWGT-AA	SRPC-3546-Q1_2008_OP15		

Output DLIS Files			
DEFAULT	PERFO_026LUP	FN:25	PRODUCER 05-Apr-2008 16:01



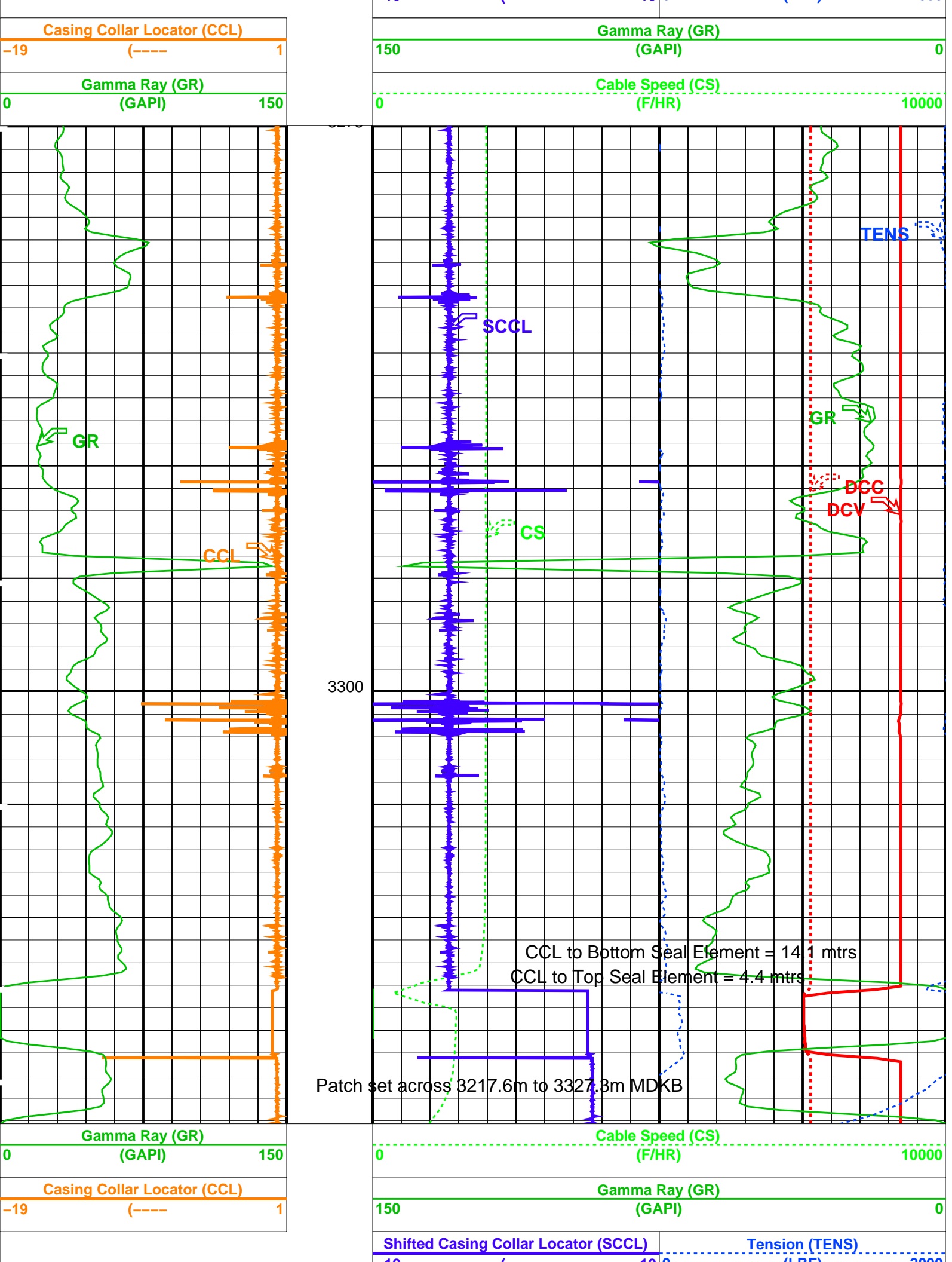
Owen Patch Setting Pass  
Patch over 3317.6 to 3327.3m MDKB

MAXIS Field Log

Output DLIS Files			
DEFAULT	PERFO_019LUP	FN:18	PRODUCER 05-Apr-2008 09:21 3319.1 M 3274.8 M
OP System Version: 15C0-309			
MCM			
SHM_GUN	SRPC-3546-Q1_2008_OP15	PGGT-CC	SRPC-3546-Q1_2008_OP15

PIP SUMMARY			
Time Mark Every 60 S			

		DCMAIN Current (DCC)	
		0	2000
		DCMAIN Voltage (DCV)	
		0	100
Shifted Casing Collar Locator (SCCL)		Tension (TENS)	
-10	(----	10	2000



-10 (---- 10 0		(LBF)	2000
			DCMAIN Voltage (DCV)
0 (V)			100
			DCMAIN Current (DCC)
0 (MA)			2000

PIP SUMMARY

Time Mark Every 60 S

Format: PERFO Vertical Scale: 1:200

Graphics File Created: 05-Apr-2008 09:21

OP System Version: 15C0-309

MCM

SHM\_GUN SRPC-3546-Q1\_2008\_OP15 PGGT-CC SRPC-3546-Q1\_2008\_OP15

Output DLIS Files

DEFAULT PERFO\_019LUP FN:18 PRODUCER 05-Apr-2008 09:21

Schlumberger

Owen Patch Correlation Pass

MAXIS Field Log

Output DLIS Files

DEFAULT PERFO\_017LUP FN:16 PRODUCER 05-Apr-2008 09:11 3317.7 M 3267.6 M

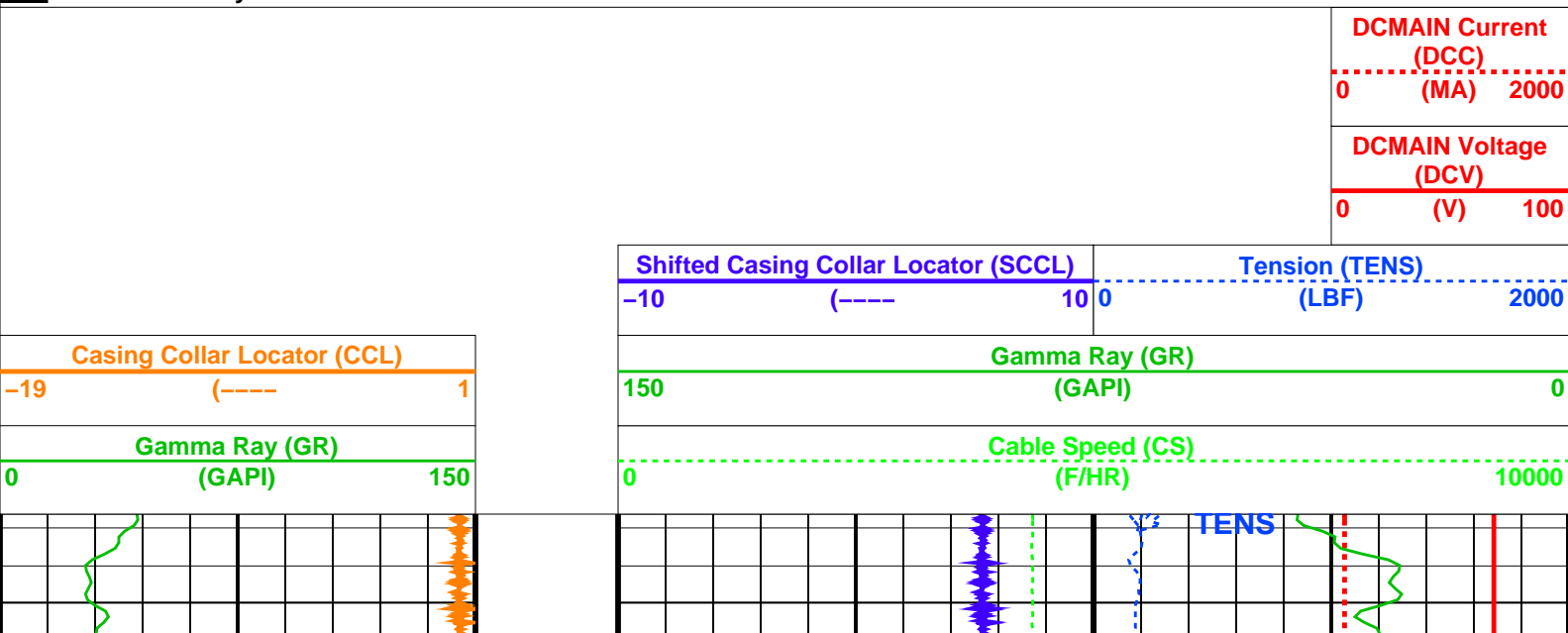
OP System Version: 15C0-309

MCM

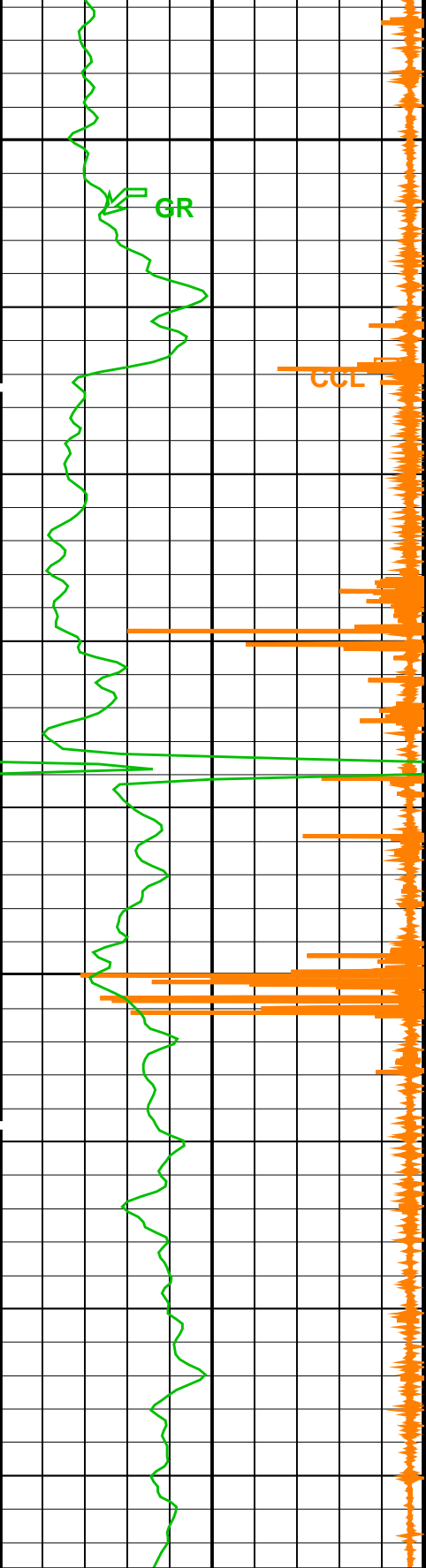
SHM\_GUN SRPC-3546-Q1\_2008\_OP15 PGGT-CC SRPC-3546-Q1\_2008\_OP15

PIP SUMMARY

Time Mark Every 60 S

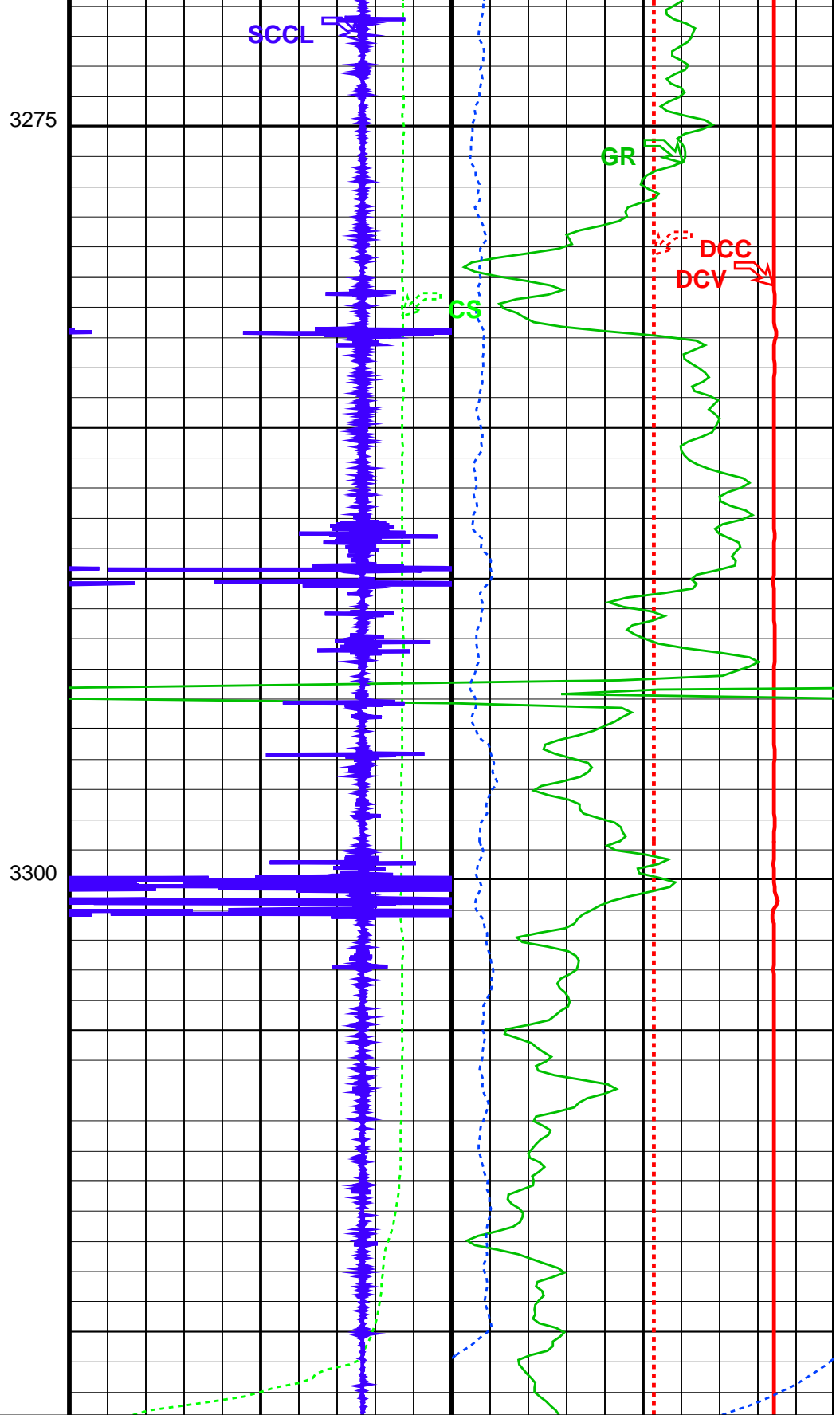






Gamma Ray (GR)  
(GAPI) 0 150

Casing Collar Locator (CCL)  
(----) -19 1



Cable Speed (CS)  
(F/HR) 0 10000

Gamma Ray (GR)  
(GAPI) 150 0

Shifted Casing Collar Locator (SCCL)  
(----) -10 10

Tension (TENS)  
(LBF) 0 2000

DCMAIN Voltage  
(DCV)

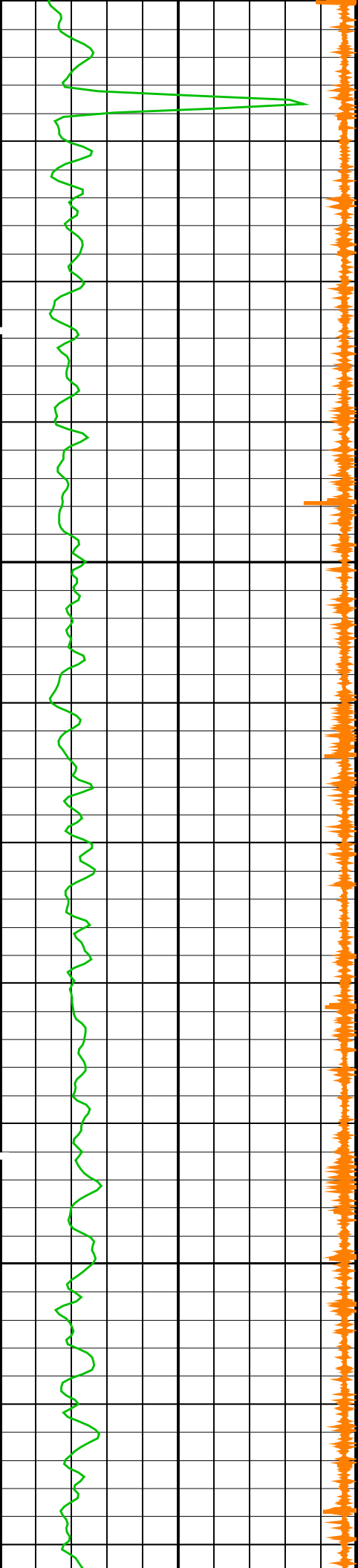
DCMAIN Current  
(DCC)  
0 (MA) 2000

Graphics File Created: 05-Apr-2008 09:11

DCMAIN Current  
(DCC)  
(MA) 2000

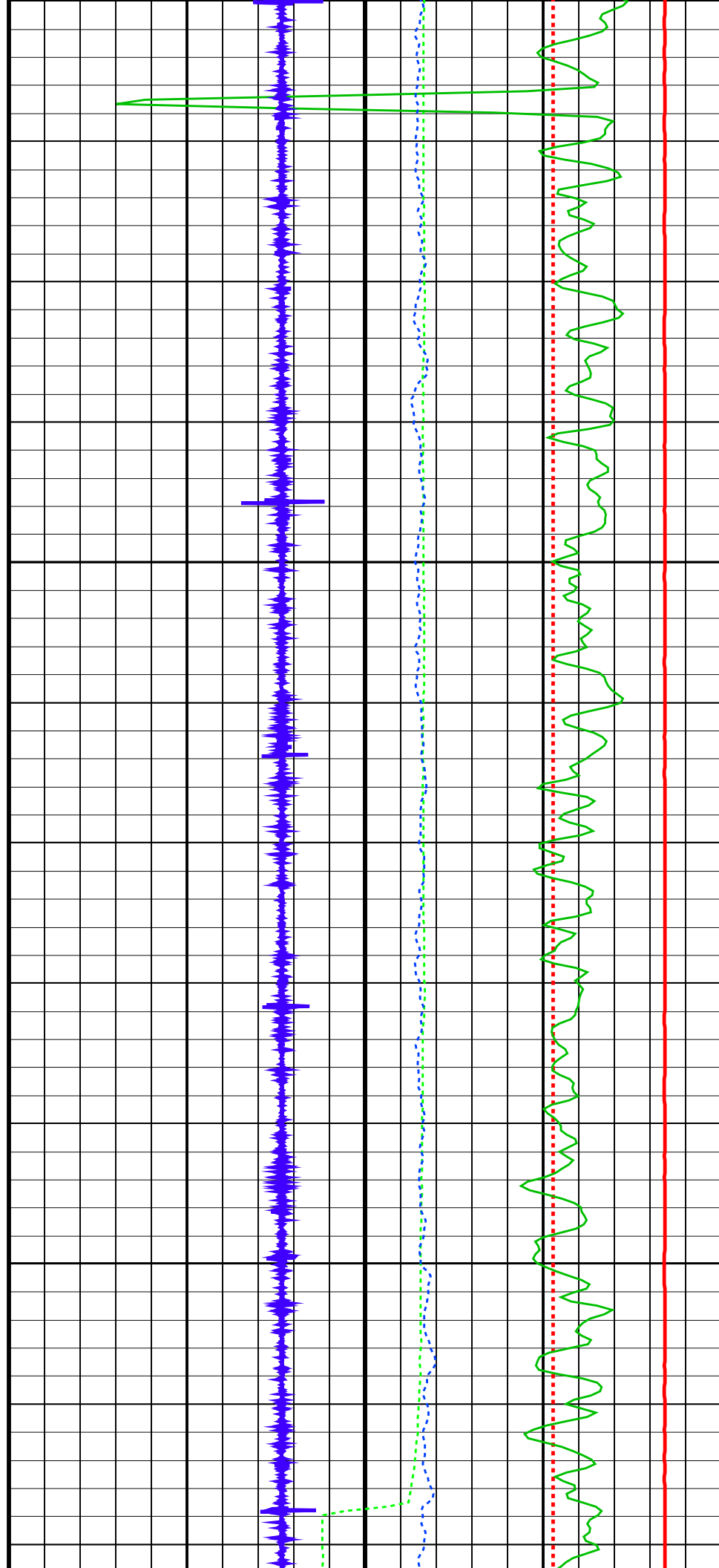
DCMAIN Voltage (DCV)		
0	(V)	100

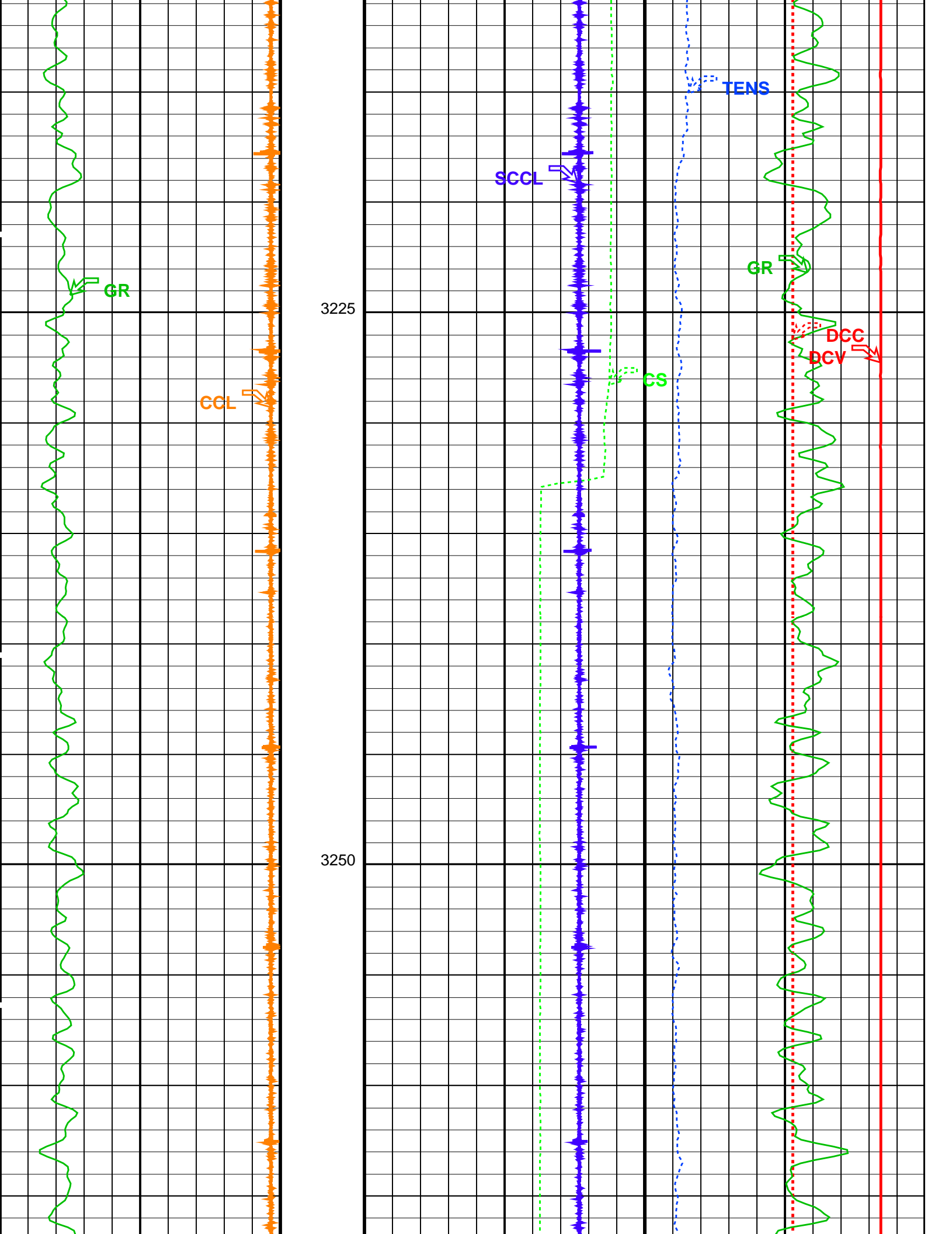
0 (GAPI) 150

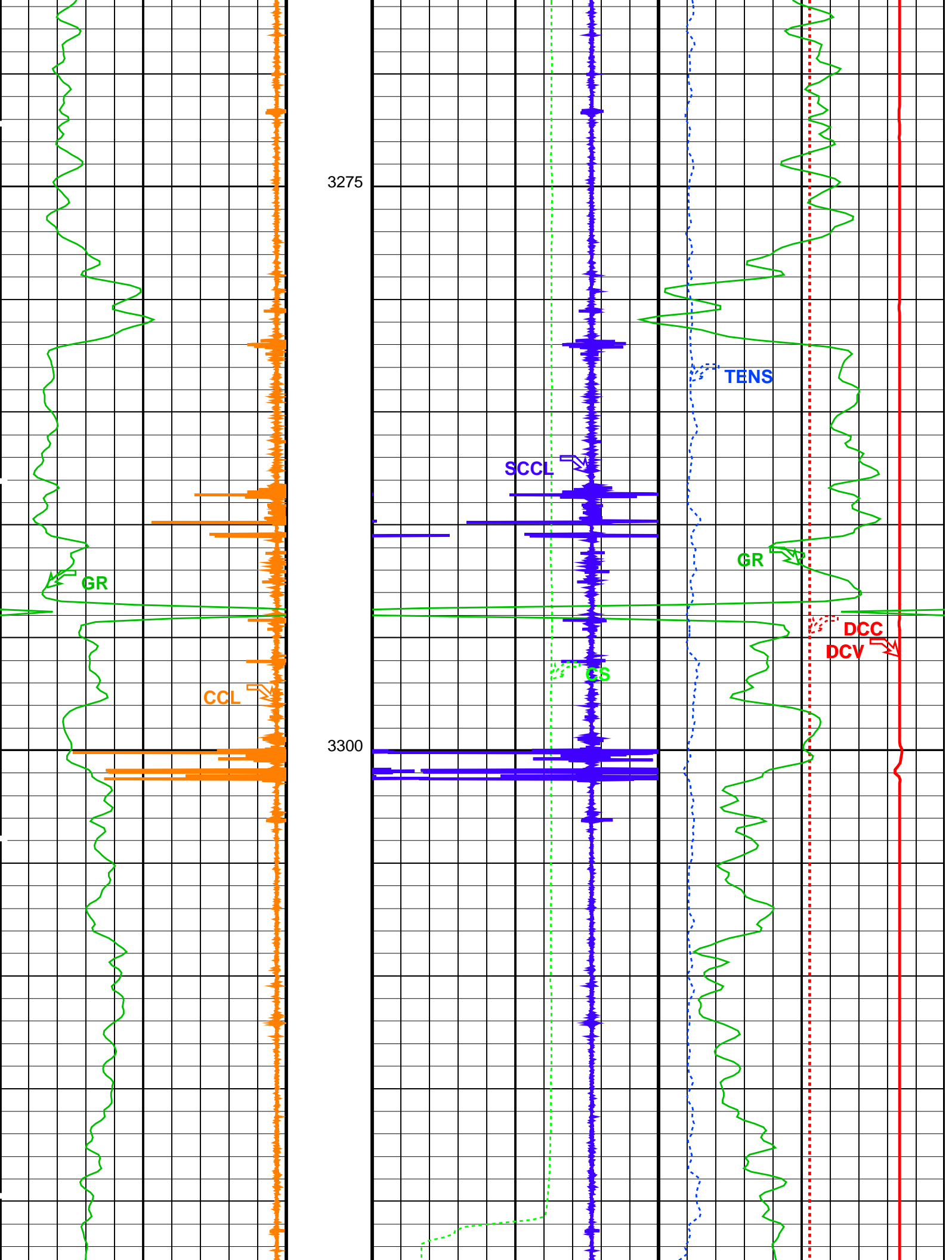


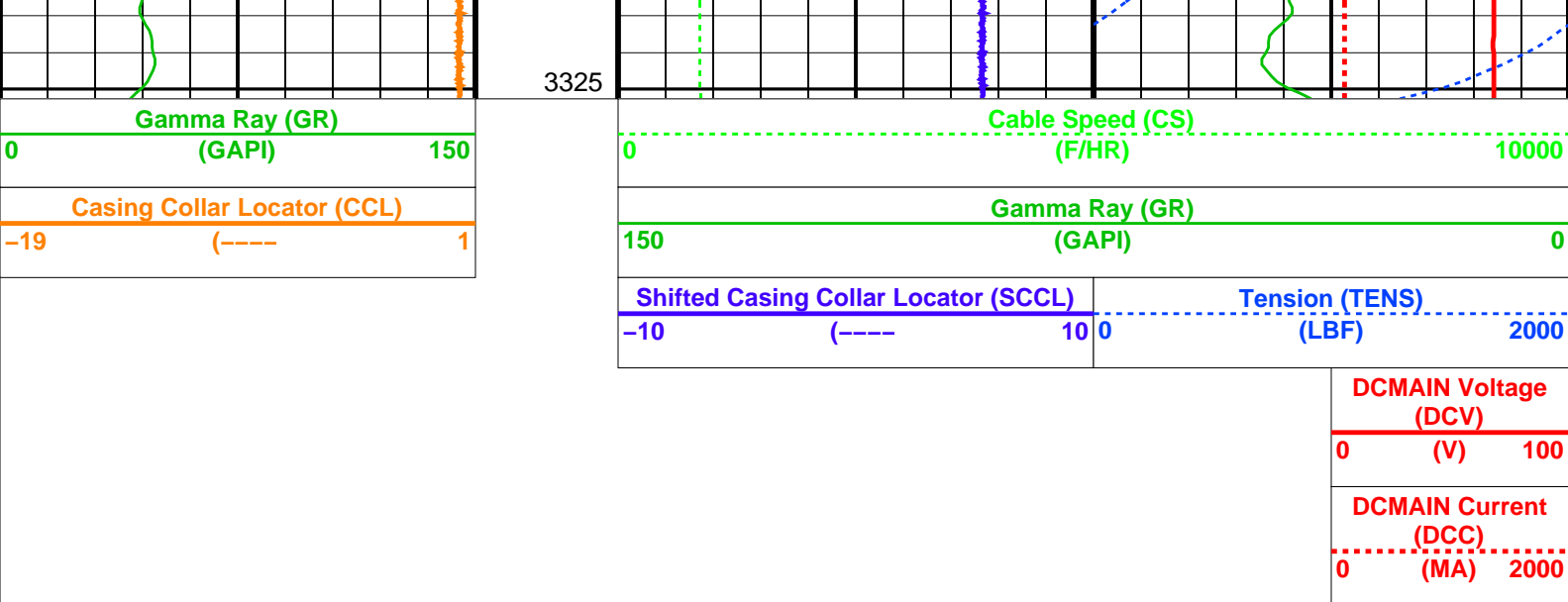
3175

3200









PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DO	System and Miscellaneous	1.4 M
PP	Depth Offset for Playback	NORMAL
	Playback Processing	

Format: PERFO Vertical Scale: 1:200 Graphics File Created: 05-Apr-2008 13:47

OP System Version: 15C0-309  
MCM

SHM\_GUN SRPC-3546-Q1\_2008\_OP15 PGGT-CC SRPC-3546-Q1\_2008\_OP15

Input DLIS Files

DEFAULT PERFO\_011LUP FN:10 PRODUCER 04-Apr-2008 14:46 3323.8 M 3150.4 M

Output DLIS Files

DEFAULT PERFO\_023PUP FN:22 PRODUCER 05-Apr-2008 13:47

Company: Esso Australia Pty Ltd.

Schlumberger

Well: W-6a  
Field: West Kingfish  
Rig : Crane  
Country: Australia

3.5" Owen Tubing Patch  
2" HSD MWPT  
Perforation