

Company: Esso Australia Pty Ltd.

Well: A-24a
Field: Bream A
Rig : Prod4 / Crane
Country: Australia

Prod4 / Crane
Bream A
Gippsland
A-24a
Esso Australia Pty Ltd.

RST-C Sigma Survey		LOCATION	
		Gippsland	Elev.: K.B. 33.5 m
		Basin	G.L. -59 m
		Bass Strait	D.F. 33.5 m
		Permanent Datum:	M.S.L.
Log Measured From:	D.F.	33.5 m	above Perm. Datum
Drilling Measured From:	D.F.		
State : Victoria	Max. Well Deviation 51 deg	Longitude 147 46'15"E	Latitude 038 30'04"S
Logging Date	16-Jun-2007		
Run Number	One		
Depth Driller	2146.5 m		
Schlumberger Depth	2146.5 m		
Bottom Log Interval	2146.5 m		
Top Log Interval	2075 m		
Casing Fluid Type	Production Fluids		
Salinity			
Density			
Fluid Level	1435 m		
BIT/CASING/TUBING STRING			
Bit Size	12.500 in		
From			
To			
Casing/Tubing Size	9.675 in		
Weight	43.5 lbm/ft		
Grade	N-80		
From	13.2 m		
To	2213 m		
Maximum Recorded Temperatures	205 degF		
Logger On Bottom	16-Jun-2007		15:30
Unit Number	889	Prod4 / Ausl	
Recorded By	G Wright & S Gilbert.		
Witnessed By	B White & B Robinson.		

				Run 1
PVT DATA				
Oil Density				
Water Salinity				
Gas Gravity				
Bo				
Bw				
1/Bg				
Bubble Point Pressure				
Bubble Point Temperature				
Solution GOR				
Maximum Deviation				51 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				

[illegible]

DEPTH SUMMARY LISTING	
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Date Created: 13-JUN-2007 13:28:25

Depth System Equipment

Depth Control Parameters	
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Log Sequence:	Subsequent Log In the Well
Reference Log Name:	Solar Composite Log
Reference Log Run Number:	
Reference Log Date:	

Depth Control Remarks

- | |
|---|
| <ol style="list-style-type: none">1. IDW used as primary depth control.2. Z-chart used as secondary backup3.4.5.6. |
|---|

<p style="text-align: center;">DISCLAIMER</p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p>

OTHER SERVICES1	
OS1:	2 1/8" Phased
OS2:	Perforation .
OS3:	9 5/8" MPBT .

REMARKS: RUN NUMBER 1

Log correlated to ExxonMobil composite supplied with logging program.
Maximum well deviation = 51 degrees at 907m MDKB.
Objective: conduct RST Sigma survey from HUD to 2083m MDKB
making 2 passes @ 900ft/hr with well shut in .
SBHP: 2642 psia
SBHT: 205 degf
HUD: 2146.5 m MDKB

REMARKS: RUN NUMBER 1

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--

making 2 passes @ 900ft/hr with well shut in .

SBHP: 2642 psia

SBHT: 205 degf

HUD: 2146.5 m MDKB

Following this survey the well we be re-perforated and re-plugged with a 9 5/8" Mpbp plug.

Crew : J Annear,A Hall,P Lawrence,C Shiells.

RUN 1		
SERVICE ORDER #:	AusI07328229	
PROGRAM VERSION:	14C0-302	
FLUID LEVEL:	1435 m	
LOGGED INTERVAL	START	STOP

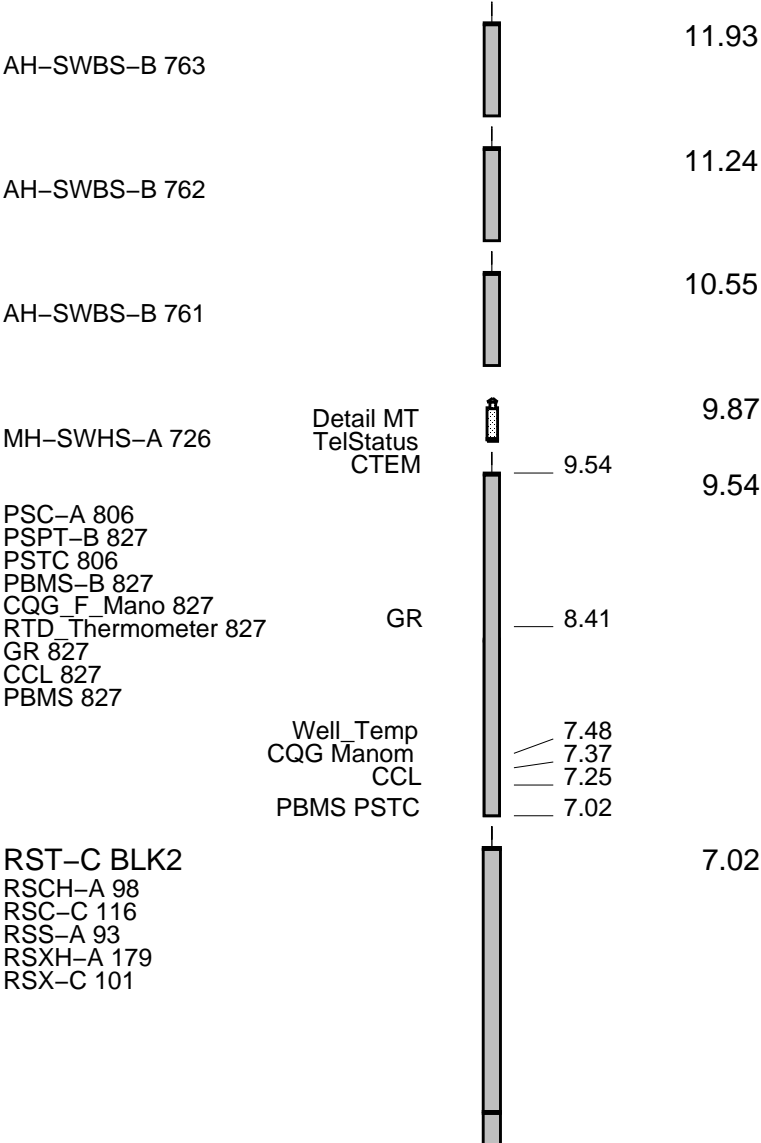
EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

WITM-A
PSC_16MHZ 806

DOWNHOLE EQUIPMENT



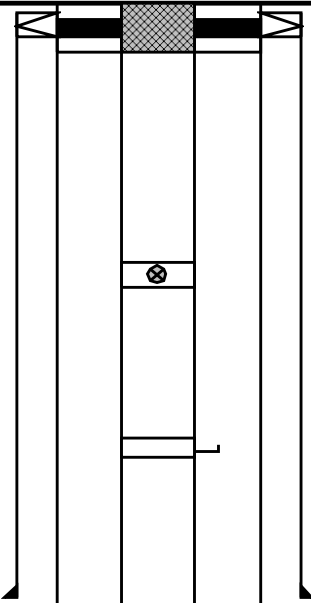
RSC-A Far
RSC-A PNG
RSC-A Nea
RSX-A PNG

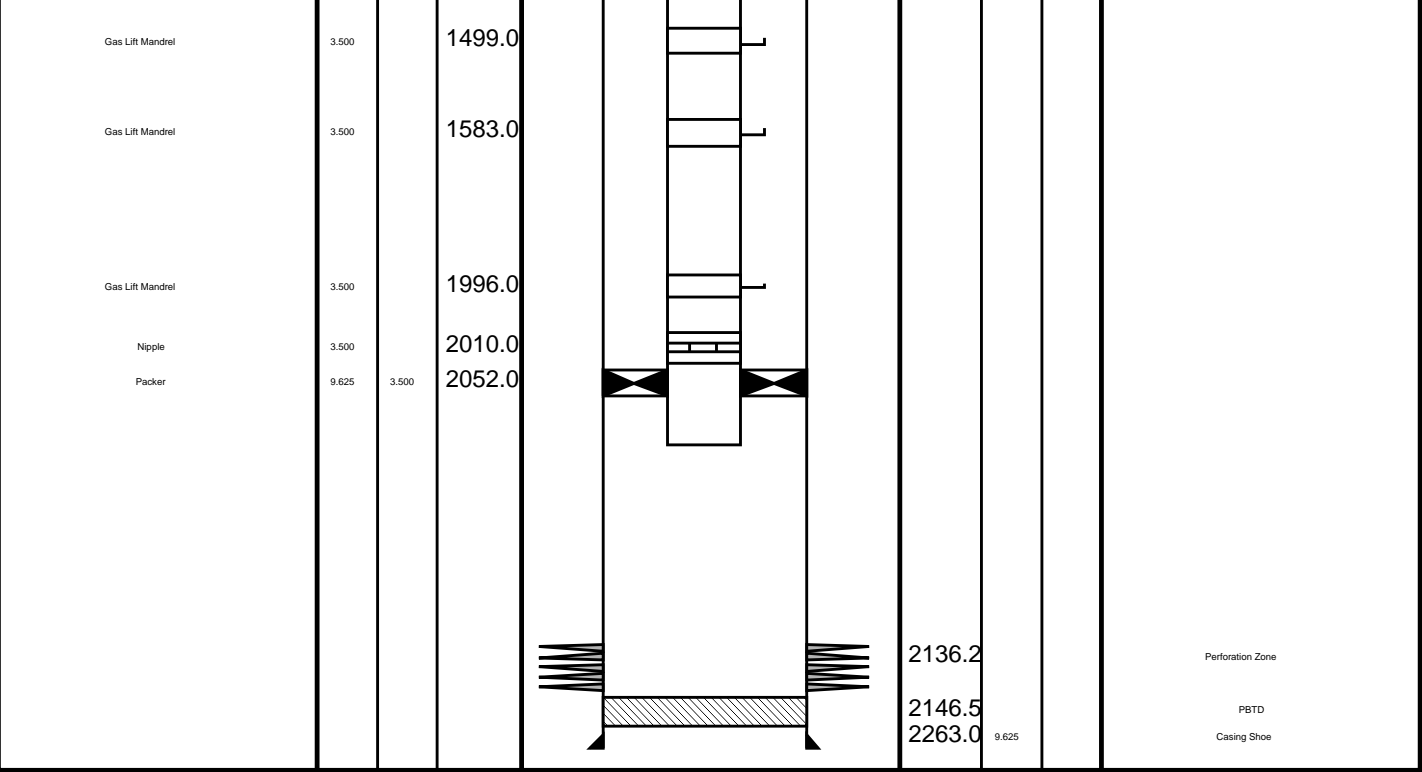
4.24

4.09

Tension HV 0.00
TOOL ZERO

MAXIMUM STRING DIAMETER 1.72 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	3.500	3.500	11.0		13.0 13.0	13.375	9.625	Casing String Liner Hanger
Shutin Valve	3.500		448.0					
Gas Lift Mandrel	3.500		724.0					
					878.0	13.375		Casing Shoe



Job Events Summary

MAXIS Field Log

Schlumberger Job Event Summary

	Time	Elapsed Time	Depth (M)	File	
Log Pass (down)	16-Jun-2007 14:38	000:51	-8.2 - 2143.0	RST_PSP_006LDP	
Log Pass (up)	16-Jun-2007 15:29	000:11	2148.4 - 2067.8	RST_PSP_007LUP	
Log Pass (up)	16-Jun-2007 15:48	000:00	2148.5 - 2143.0	RST_PSP_009LUP	
Log Pass (up)	16-Jun-2007 15:49	000:18	2148.4 - 2067.3	RST_PSP_010LUP	
Log Pass (up)	16-Jun-2007 16:08	000:19	2147.6 - 2067.3	RST_PSP_011LUP	

Company: Esso Australia Pty Ltd.

Well: A-24a

Output DLIS Files

DEFAULT

RST_PSP_011LUP

FN:10

PRODUCER

16-Jun-2007 16:08

2147.6 M

2067.3 M

OP System Version: 14C0-302

MCM

RST-C

14C0-302

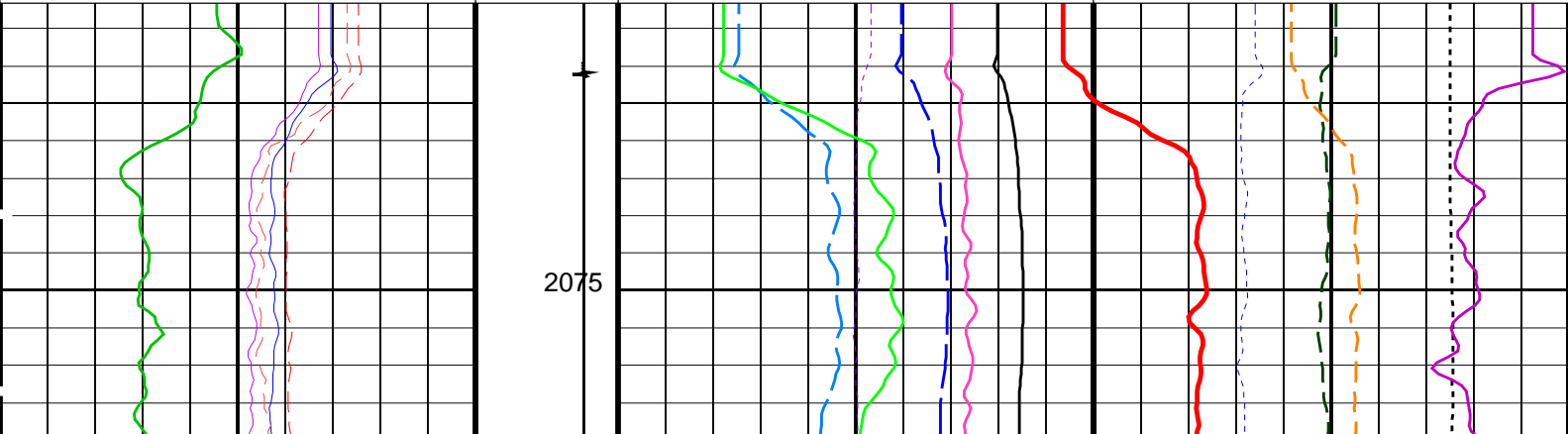
PSPT-A/B

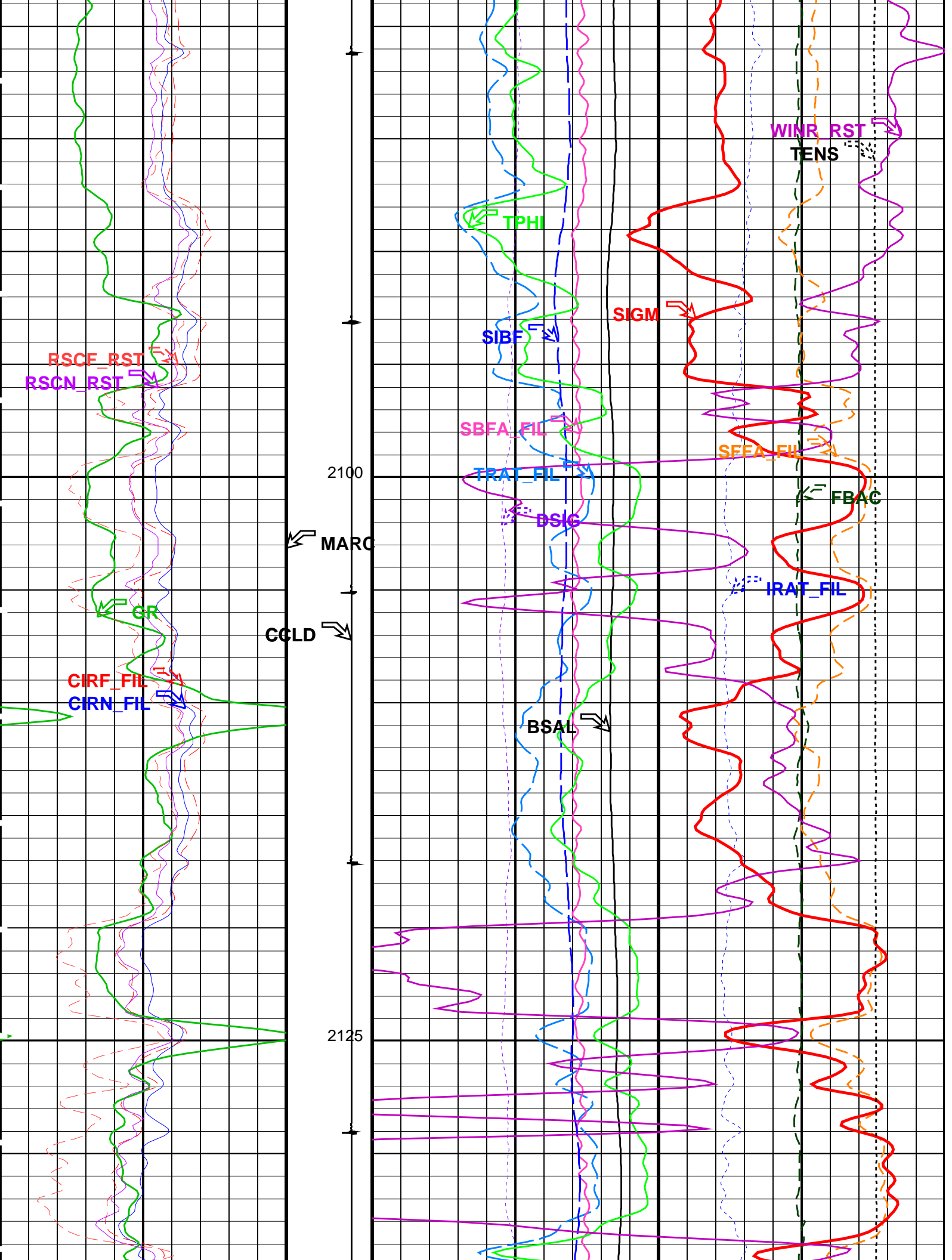
14C0-302

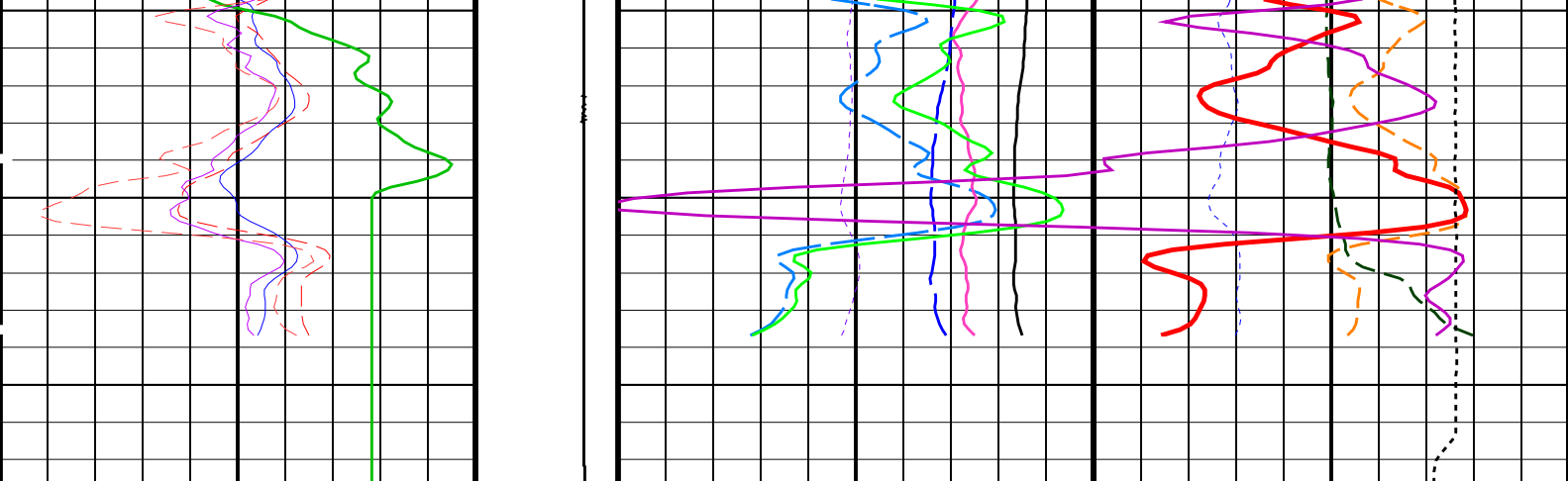
PIP SUMMARY

Time Mark Every 60 S

		RST Sigma (SIGM)	
60		(CU)	0
		RST Weighted Inelastic Ratio (WINR_RST)	
0.4		(----	0
		RST Porosity (TPHI)	
0.6		(V/V)	0
		RST Sigma Borehole Fluid (SIBF)	
100		(CU)	0
		Sigma Borehole Far Apparent (SBFA_FIL)	
150		(CU)	0
		Tension (TENS)	
0		(LBF)	3000
		RST Far Effective Capture CR (RSCF_RST)	
45		(----	0
		RST Near Effective Capture CR (RSCN_RST)	
45		(----	0
		RST Capture to Inelastic Ratio Far (CIRF_FIL)	
5		(----	0
		RST Capture Ratio (TRAT_FIL)	
1.5		(----	0.5
		Sigma Formation Far Apparent (SFFA_FIL)	
60		(CU)	0
		RST Capture to Inelastic Ratio Near (CIRN_FIL)	
2.5		(----	0
		RST Sigma Difference (DSIG)	
-30		(CU)	30
		MCS Far Background (filtered) (FBAC)	
0		(CPS)	5000
		Gamma Ray (GR)	
0		(GAPI)	150
		RST Borehole Salinity (BSAL)	
450		(PPK)	-50
		RST Inelastic Ratio (IRAT_FIL)	
0.75		(----	0







<div>Gamma Ray (GR) (GAPI)</div> <div>0150</div>	Discriminat ed CCL (CCLD) 3 (V) -1	RST Borehole Salinity (BSAL) (PPK)		RST Inelastic Ratio (IRAT_FIL) (----	
		450	-50	0.75	0
<div>RST Capture to Inelastic Ratio Near (CIRN_FIL)</div> <div>2.50</div>	Minitron Arc Detection (MARC) 0 (---- 5	RST Sigma Difference (DSIG) (CU)		MCS Far Background (filtered) (FBAC) (CPS)	
		-30	30	0	5000
<div>RST Capture to Inelastic Ratio Far (CIRF_FIL)</div> <div>50</div>		RST Capture Ratio (TRAT_FIL) (----		Sigma Formation Far Apparent (SFFA_ FIL) (CU)	
		1.5	0.5	60	0
<div>RST Near Effective Capture CR (RSCN_ RST)</div> <div>450</div>		Sigma Borehole Far Apparent (SBFA_ FIL) (CU)		<div>Tension (TENS) (LBF)</div> <div>03000</div>	
		150	0		
<div>RST Far Effective Capture CR (RSCF_ RST)</div> <div>450</div>		RST Sigma Borehole Fluid (SIBF) (CU)			
		100	0		
		RST Porosity (TPHI) (V/V)			
		0.6	0		
		RST Weighted Inelastic Ratio (WINR_RST) (----			
		0.4	0		
		RST Sigma (SIGM) (CU)			
		60	0		

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	
SMBMO	RST Sigma Mode Background Minitron Off	No	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-A/B: Production Services Logging Platform			
BHS	Borehole Status	CASED	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
System and Miscellaneous			
BS	Bit Size	12.500	IN
BSAL	Borehole Salinity	50000.00	PPM

BSAL
CSIZ
CWEI

Borehole Salinity
Current Casing Size
Casing Weight

-50000.00
9.675
43.50

PPM
IN
LB/F

Format: RST_SIG_ANSW Vertical Scale: 1:200 Graphics File Created: 16-Jun-2007 16:08

OP System Version: 14C0-302
MCM

RST-C 14C0-302 PSPT-A/B 14C0-302

Output DLIS Files

DEFAULT RST_PSP_011LUP FN:10 PRODUCER 16-Jun-2007 16:08

Schlumberger

SIGMA PASS # 1

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-24a

Output DLIS Files

DEFAULT RST_PSP_010LUP FN:9 PRODUCER 16-Jun-2007 15:49 2148.4 M 2067.3 M

OP System Version: 14C0-302
MCM

RST-C 14C0-302 PSPT-A/B 14C0-302

PIP SUMMARY

Time Mark Every 60 S

RST Far Effective Capture CR (RSCF_ RST)

45 (----) 0

RST Near Effective Capture CR (RSCN_ RST)

45 (----) 0

RST Capture to Inelastic Ratio Far (CIRF_FIL)

5 (----) 0

RST Capture to Inelastic Ratio Near (CIRN_FIL)

2.5 (----) 0

Gamma Ray (GR)

0 (GAPI) 150

Minitron Arc Detection (MARC)

0 (----) 5

Discriminat ed CCL (CCLD)

450 (PPK) -50

RST Sigma (SIGM)

60 (CU) 0

RST Weighted Inelastic Ratio (WINR_RST)

0.4 (----) 0

RST Porosity (TPHI)

0.6 (V/V) 0

RST Sigma Borehole Fluid (SIBF)

100 (CU) 0

Sigma Borehole Far Apparent (SBFA_ FIL)

150 (CU) 0

Tension (TENS)

0 (LBF) 3000

RST Capture Ratio (TRAT_FIL)

1.5 (----) 0.5

Sigma Formation Far Apparent (SFFA_ FIL)

60 (CU) 0

RST Sigma Difference (DSIG)

-30 (CU) 30

MCS Far Background (filtered) (FBAC)

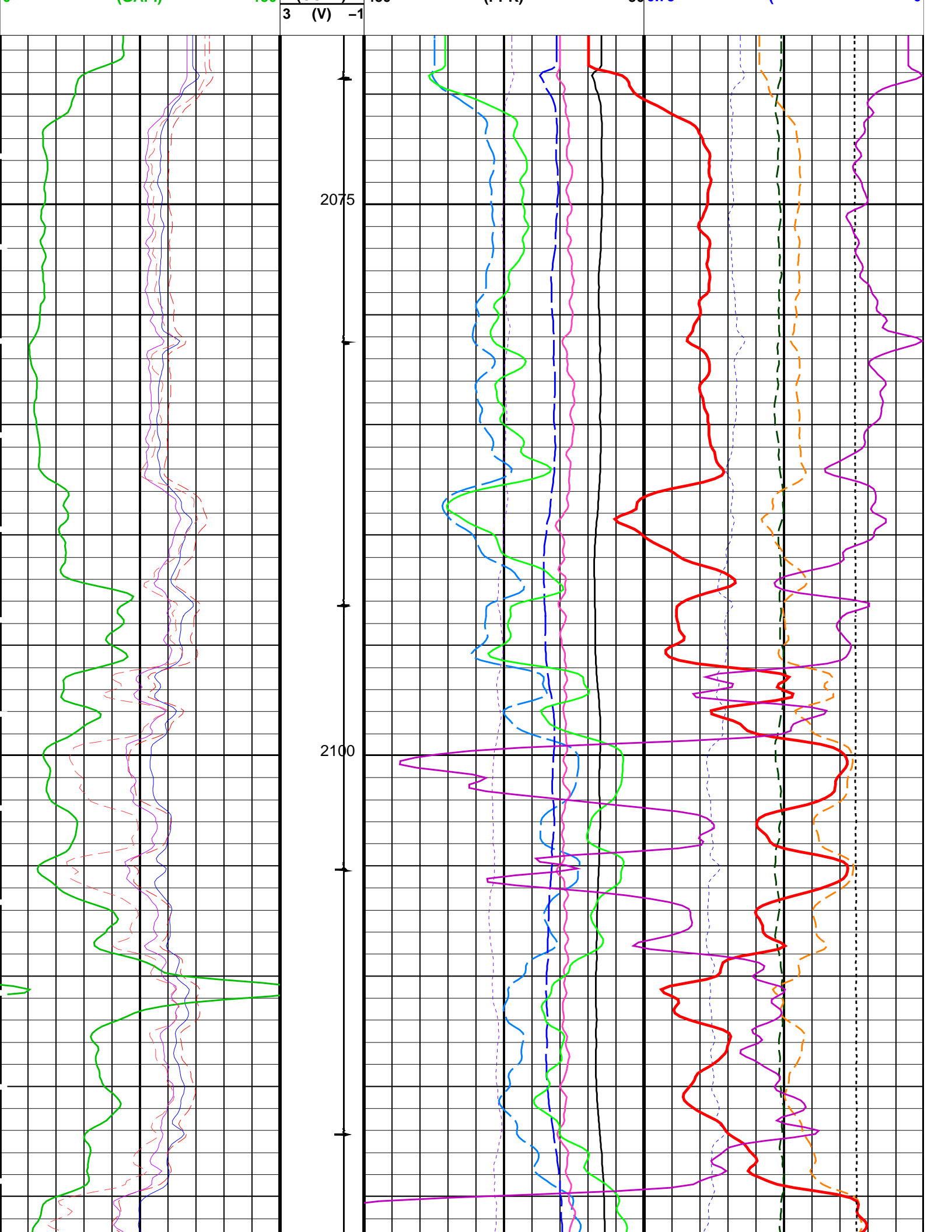
0 (CPS) 5000

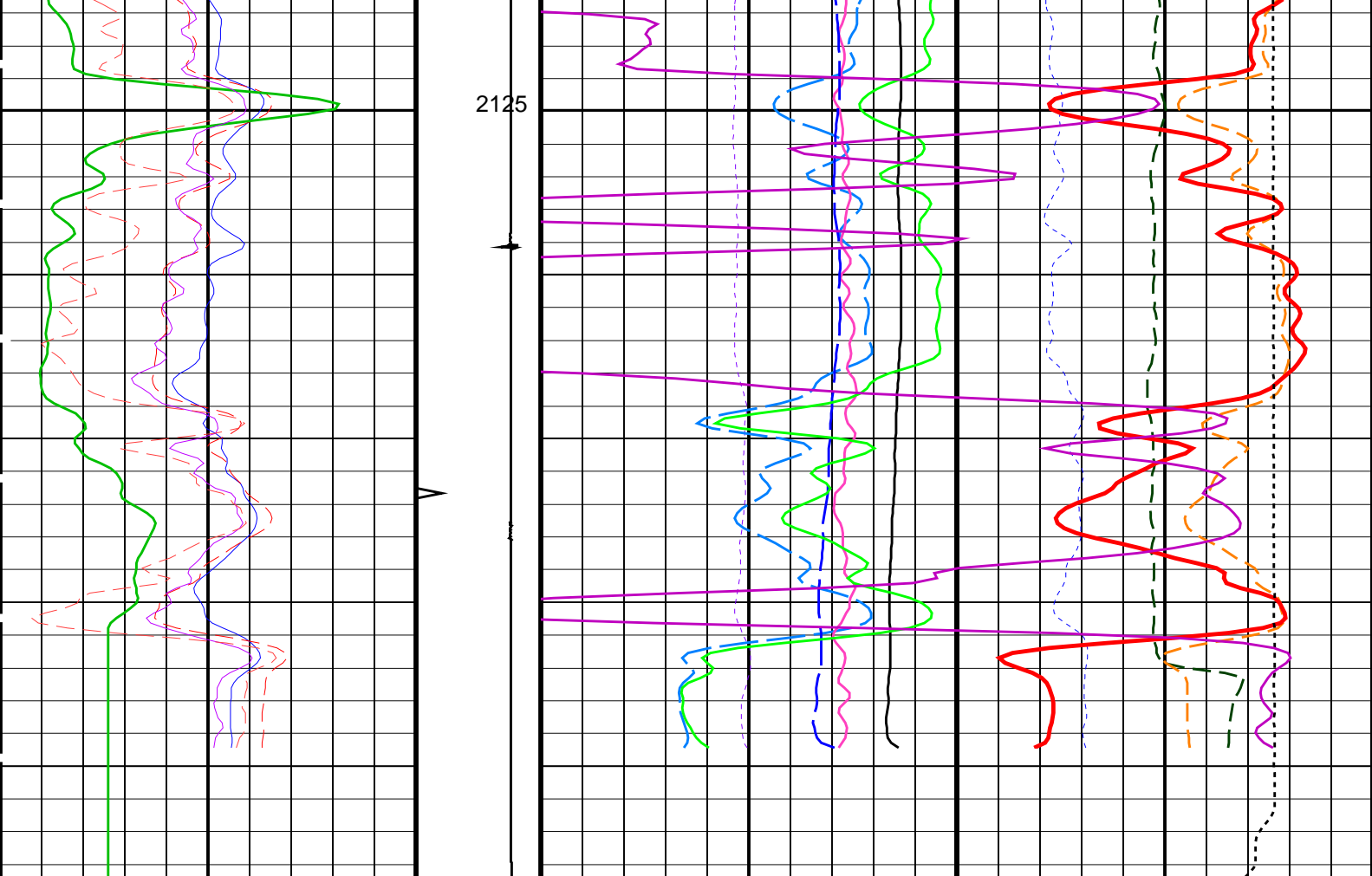
RST Borehole Salinity (BSAL)

450 (PPK) -50

RST Inelastic Ratio (IRAT_FIL)

0.75 (----) 0





Gamma Ray (GR) (GAPI)	Discriminat ed CCL (CCLD) (V)	RST Borehole Salinity (BSAL) (PPK)	RST Inelastic Ratio (IRAT_FIL) (----
0 150	3 -1	450 -50	0.75 0
RST Capture to Inelastic Ratio Near (CIRN_FIL) (----	Minitron Arc Detection (MARC) (----	RST Sigma Difference (DSIG) (CU)	MCS Far Background (filtered) (FBAC) (CPS)
2.5 0	0 5	-30 30	0 5000
RST Capture to Inelastic Ratio Far (CIRF_FIL) (----		RST Capture Ratio (TRAT_FIL) (----	Sigma Formation Far Apparent (SFFA_ FIL) (CU)
5 0		1.5 0.5	60 0
RST Near Effective Capture CR (RSCN_ RST) (----		Sigma Borehole Far Apparent (SBFA_ FIL) (CU)	Tension (TENS) (LBF)
45 0		150 0	0 3000
RST Far Effective Capture CR (RSCF_ RST) (----		RST Sigma Borehole Fluid (SIBF) (CU)	
45 0		100 0	
		RST Porosity (TPHI) (V/V)	
		0.6 0	
		RST Weighted Inelastic Ratio (WINR_RST) (----	
		0.4 0	
		RST Sigma (SIGM) (CU)	
		60 0	

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	
SMBMO	RST Sigma Mode Background Minitron Off	No	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-A/B: Production Services Logging Platform			
BHS	Borehole Status	CASED	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
System and Miscellaneous			
BS	Bit Size	12.500	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	9.675	IN
CWEI	Casing Weight	43.50	LB/F

Format: RST_SIG_ANSW

Vertical Scale: 1:200

Graphics File Created: 16-Jun-2007 15:49

OP System Version: 14C0-302

MCM


RST-C

14C0-302

PSPT-A/B

14C0-302

Output DLIS Files					
DEFAULT	RST_PSP_010LUP	FN:9	PRODUCER	16-Jun-2007 15:49	



Gamma-Ray Pass

MAXIS Field Log

Input DLIS Files						
DEFAULT	RST_PSP_007LUP	FN:6	PRODUCER	16-Jun-2007 15:29	2148.4 M	2067.8 M
Output DLIS Files						
DEFAULT	RST_PSP_008PUP	FN:7	PRODUCER	16-Jun-2007 15:42	2148.8 M	2063.2 M

OP System Version: 14C0-302

MCM

RST-C

14C0-302

PSPT-A/B

14C0-302

PIP SUMMARY

Time Mark Every 60 S

Cable Speed (CS)
(F/HR)

03000

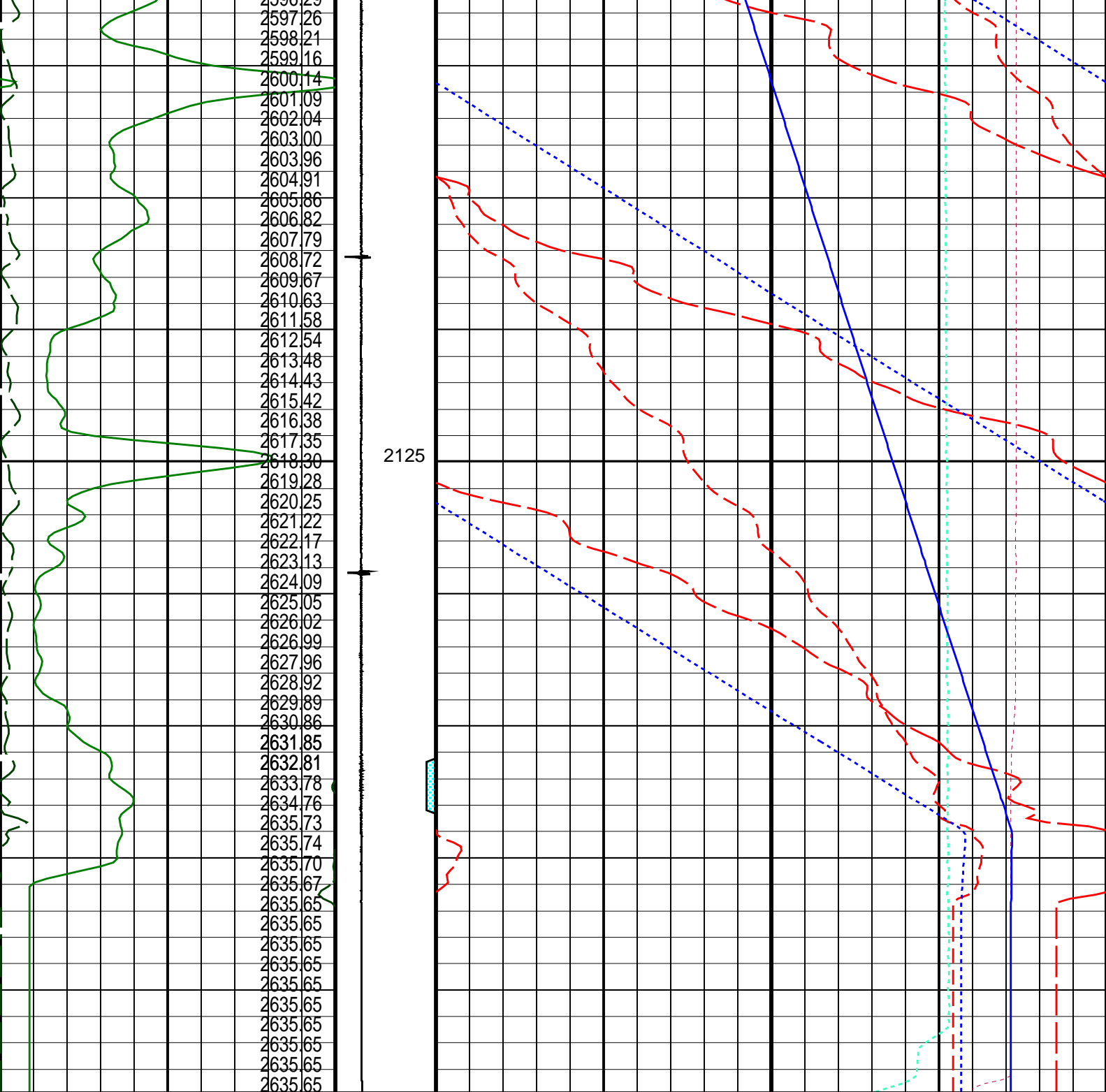
Tension (TENS)
(LBF)

03000

Amplified Well Pressure (WPRES)
(PSIA)

020

[illegible]



Gamma Ray (GR) (GAPI)		0	150
Well Temperature Gradient (WTGR) (DGFM)		0	10
Well Pressure (WPRE) (PSIA)		2650	2750
Amplified Well Pressure (WPRE) (PSIA)		0	20

Computed CCL (CCLC)	200	205
1 (V) -3		
Perfo Zone From PERFO CURVE to D3T	0	2
Well Temperature (WTEP) (DEGF)	200	205
Well Temperature (WTEP) (DEGF)	0	2
Well Pressure (WPRE) (PSIA)	2650	2750
Amplified Well Pressure (WPRE) (PSIA)	0	20


		Tension (TENS) 0 (LBF) 3000
		Cable Speed (CS) 0 (F/HR) 3000

PIP SUMMARY		
Time Mark Every 60 S		
Format: PSP_1_1	Vertical Scale: 1:200	Graphics File Created: 16-Jun-2007 15:42

OP System Version: 14C0-302			
MCM			
RST-C	14C0-302	PSPT-A/B	14C0-302

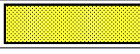

Parameters		
DLIS Name	Description	Value
DO	System and Miscellaneous	0.5 M
PP	Depth Offset for Playback Playback Processing	NORMAL

Input DLIS Files						
DEFAULT	RST_PSP_007LUP	FN:6	PRODUCER	16-Jun-2007 15:29	2148.4 M	2067.8 M
Output DLIS Files						
DEFAULT	RST_PSP_008PUP	FN:7	PRODUCER	16-Jun-2007 15:42		

		Calibration Listing
MAXIS Field Log		

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
Production Services Logging Platform Wellsite Calibration – Detector Calibration							
Before: 16-Jun-2007 2:14							
Gamma-Ray Jig-Bkg	125.0	N/A	126.9	N/A	N/A	N/A	GAPI

Production Services Logging Platform / Equipment Identification			
Primary Equipment:			
Production Logging Platform (CQG-F)	PSPT – B	827	827
PSP Basic Measurement Sonde (CQG_F)	PBMS – B	827	827
PSP Basic measurement module	PBMS –	827	827
PSP CCL	CCL –	827	827
PSP GR	GR –	827	827
PSP RTD Well Temperature	RTD_ –	827	827
PSP Crystal Quartz Gauge Type F	CQG_ –	827	827
PSP Telemetry and bus master cartridge	PSTC –	806	806
Auxiliary Equipment:			

Production Services Logging Platform Wellsite Calibration								
Detector Calibration								
Phase	Gamma-Ray Background GAPI		Value	Phase	Gamma-Ray Jig-Bkg GAPI		Value	
Before			3.576	Before			126.9	
0 (Minimum)			30.00 (Nominal)	120.0 (Maximum)				
				110.0 (Minimum)			125.0 (Nominal)	140.0 (Maximum)
Before: 16-Jun-2007 2:14								

Company:

Esso Australia Pty Ltd.

Well:

A-24a

Field:

Bream A

Rig :

Prod4 / Crane

Country:

Australia

RST-C

Sigma

Survey

Schlumberger