

Company: Esso Australia Pty Ltd.

Well: W-14

Field: West Tuna

Rig: Crane / Prod 4 Country: Australia

2-1/8" Phased Powerjet &
2" HSD with Powerjet Omega
Perforation Record

Rig:Crane / Prod 4

Field:West Tuna

Location:Gippsland

Well:W-14

Company:Esso Australia Pty Ltd.

LOCATION

Gippsland

Basin

Bass Strait

Elev.:K.B.38.90 m

G.L.60.00 m

D.F.38.90 m

Permanent Datum:M.S.L.

Log Measured From:K.B.

Drilling Measured From:K.B.

Elev.:0.00 m

38.90 m

above Perm. Datum

State:Victoria

Max. Well Deviation51.2 deg

Longitude148° 25' 05.29"E

Latitude38° 10' 16.00"S

Logging Date	27-Aug-2009			
Run Number	1-2			
Depth Driller	1995 m			
Schlumberger Depth	1925 m			
Bottom Log Interval	1918 m			
Top Log Interval	1908 m			
Casing Fluid Type	Production Fluids			
Salinity				
Density				
Fluid Level	745 m			
BIT/CASING/TUBING STRING				
Bit Size	8.500 in			
From	680.3 m			
To	1988.4 m			
Casing/Tubing Size	3.500 in			
Weight	29.7 lbm/ft			
Grade	L-80			
From	17.18 m			
To	1894.29 m			
Maximum Recorded Temperatures	219 degF			
Logger On Bottom	26-Aug-2009		11:00	
Unit Number	889	Prod 4 / AUSL		
Recorded By	O.Darby			
Witnessed By	G. Rimmer			

PVT DATA				Run 1	Run 2	R
Oil Density						
Water Salinity						
Gas Gravity						
Bo						
Bw						
1/Bg						
Bubble Point Pressure						
Bubble Point Temperature						
Solution GOR						
Maximum Deviation				51.2 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						

Date Created: 23-AUG-2009 16:17:18

Logging Cable

Type:	2-32ZT
Serial Number:	207505
Length:	6462 M
<hr/>	
Conveyance Method:	Wireline
Rig Type:	Offshore Fixed

Log Sequence:	Subsequent Log In the Well
Reference Log Name:	West Tuna W14 petrophysical analysis
Reference Log Run Number:	1
Reference Log Date:	Not provided























1. IDW-EB 6373 used as primary depth control.
2. Z-Chart used as secondary depth control
3. All depths are drillers depths
- 4.
- 5.
- 6.

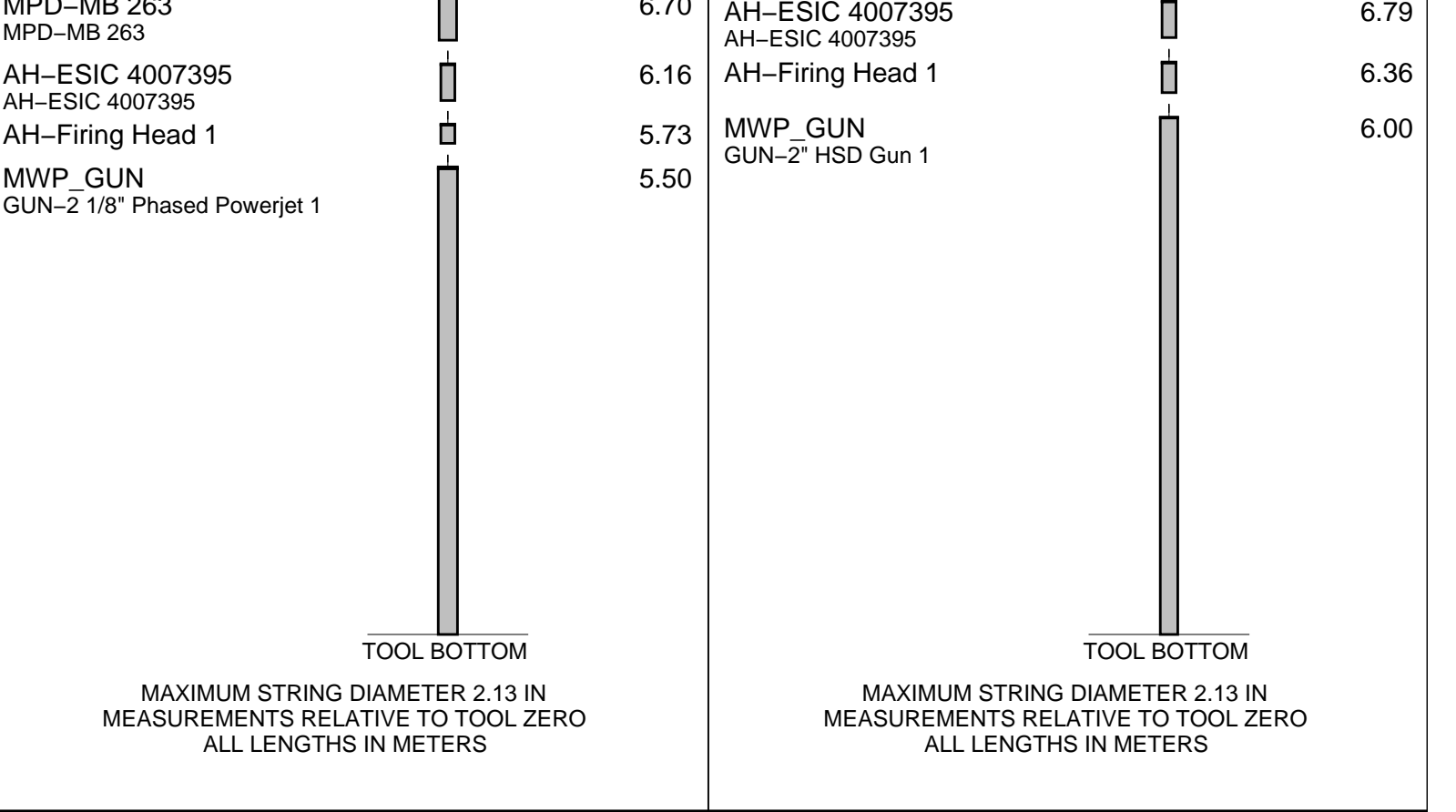
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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.

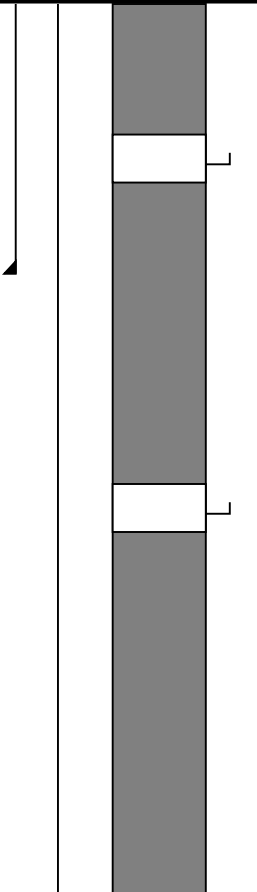
OTHER SERVICES2
OS1:
OS2:
OS3:
OS4:
OS5:

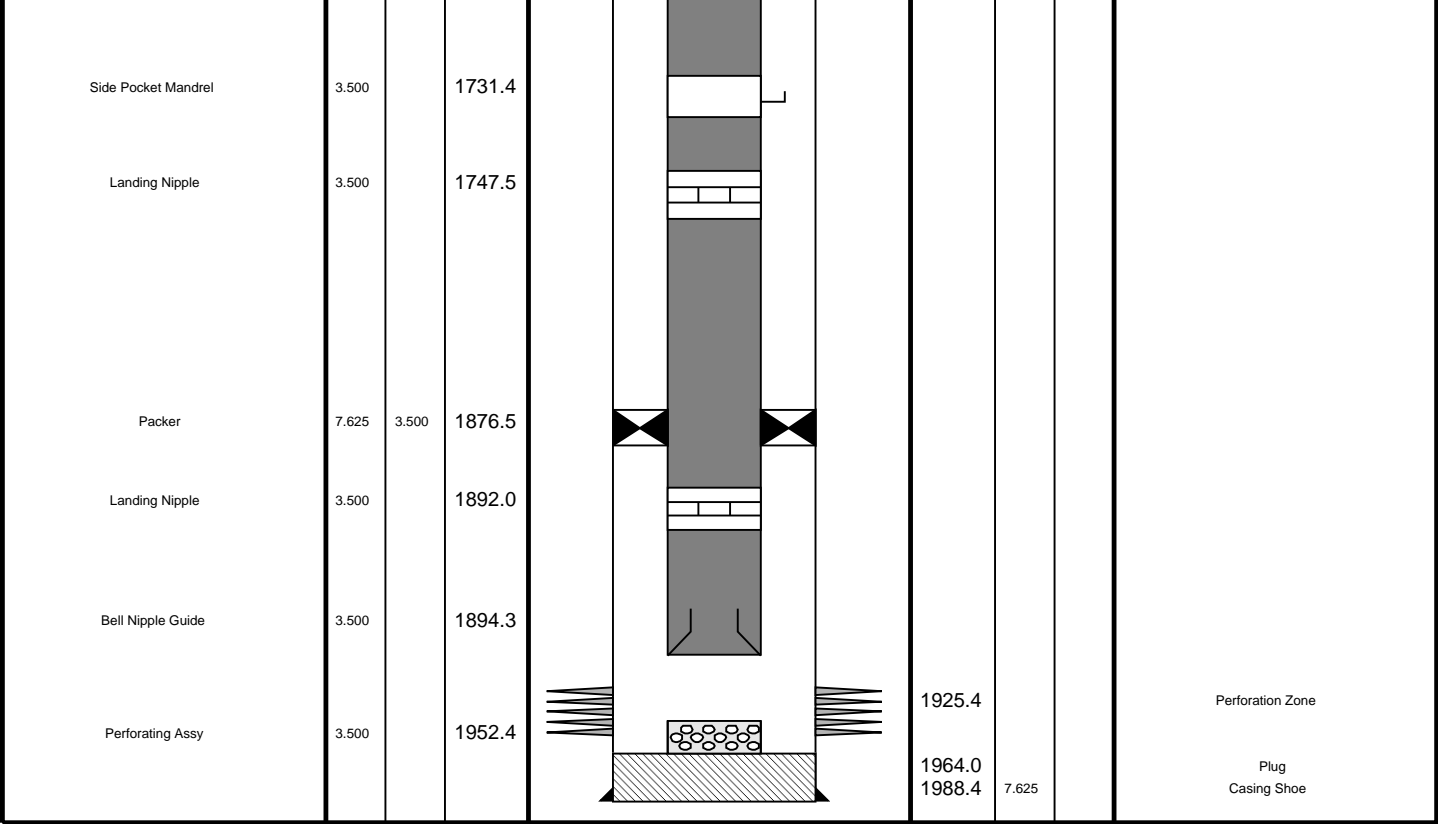
REMARKS: RUN NUMBER 2

CCL to Top Shot = 3.4 m CCL to Top Shot = 3.1 m

CCL Stop Depth @ 1909.6m MDKB			CCL Stop Depth @ 1909.9m MDKB		
Gun 3 Fired @ 1908 to 1913m MDKB					
CCL toTop Shot = 3.1m					
CCL Stop Depth @ 1904.9m MDKB					
Note: On the first gun run the Phased powerjet gun held up on something @ 1910m					
ripping the prima cord, when the gun was shot only 2m of the 5m shot – 2" HSD					
guns were then ran and perforated the complete 10m.					
Schlumberger crews: Nathan Simmons, Dan Halstead					
RUN 1			RUN 2		
SERVICE ORDER #: AUSL07336279			SERVICE ORDER #:		
PROGRAM VERSION: 17C0-154			PROGRAM VERSION:		
FLUID LEVEL: 745 m			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT			SURFACE EQUIPMENT		
MWPM-AA			MWPM-AA		
DOWNHOLE EQUIPMENT			DOWNHOLE EQUIPMENT		
AH-SWBS-B 789 AH-SWBS-B 789			AH-SWBS-B 789 AH-SWBS-B 789		
		15.14			15.14
AH-SWBS-B 788 AH-SWBS-B 788			AH-SWBS-B 788 AH-SWBS-B 788		
		14.46			14.45
AH-SWBS-B 787 AH-SWBS-B 787			AH-SWBS-B 787 AH-SWBS-B 787		
		13.77			13.76
AH-SWBS-B 786 AH-SWBS-B 786			AH-SWBS-B 786 AH-SWBS-B 786		
		13.09			13.08
AH-SWBS-B 785 AH-SWBS-B 785			AH-SWBS-B 785 AH-SWBS-B 785		
		12.40			12.39
MH-SWHS-A 759			MH-SWHS-A 759		
		11.71			11.71
AH-124 7002			AH-124 7002		
		11.38			11.38
MWGT-AA 19			MWGT-AA 19		
MWPG-AA 19		11.28	MWPG-AA 19		11.28
MWGH-AA 19			MWGH-AA 19		
MWPT-CA 11			MWPT-CA 11		
MWPH-AA 94		10.30	MWPH-AA 94		10.30
MWPS-AA 11			MWPS-AA 11		
CCL SMWP Pres SMWP Temp Tension			CCL SMWP Pres SMWP Temp Tension		
TOOL ZERO			TOOL ZERO		
AH-Flex Joint 41			AH-122 8		
		7.49			7.48
SAH-G 1047			AH-WPSA-BA 4001		
		7.03			7.35
MBD- MB 000			AH-WPSA-BA 4001		
		0.70			



Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
Tubing	3.500		17.2		17.2	10.625		Casing String
SSSV	3.500		455.8		680.3	10.750		Casing Shoe
Side Pocket Mandrel	3.500		925.5					



Job Event Summary

MAXIS Field Log

Schlumberger Job Event Summary

Time	Elapsed Time	Depth (M)	File
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Simulated Log	27-Aug-2009 11:00	001:06	PERFO_013LUP
OP checked toolstring			
Log Pass (up)	27-Aug-2009 14:51	000:05	1918.1 - 1883.1
Gun 1 correlation pass			PERFO_021LUP
Log Pass (up)	27-Aug-2009 15:05	000:06	1918.0 - 1884.0
Gun 1 shooting pass			PERFO_024LUP
Simulated Log	28-Aug-2009 13:58	000:00	PERFO_029LUP
OP checking toolstring			
Log Pass (up)	28-Aug-2009 16:17	000:05	1918.1 - 1867.4
Gun 2 - 2"HSD Correlation pass			PERFO_035LUP
Log Pass (up)	28-Aug-2009 16:23	000:10	1918.7 - 1870.1
Gun 2 - 2"HSD Shooting pass			PERFO_036LUP
Simulated Log	29-Aug-2009 8:21	000:03	PERFO_041LUP
Op checked toolstring			

Log Pass (up) 29-Aug-2009 10:14 000:05 1918.4 - 1869.5 PERFO_047LUP
Gun 3 - 2"HSD Correlaiton pass
Log Pass (up) 29-Aug-2009 10:20 000:10 1918.6 - 1864.2 PERFO_048LUP
Gun 3 - 2"HSD Shooting pass

Schlumberger

Gun 3 Shooting Pass 1908m – 1913m MDKB

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: W-14

Output DLIS Files

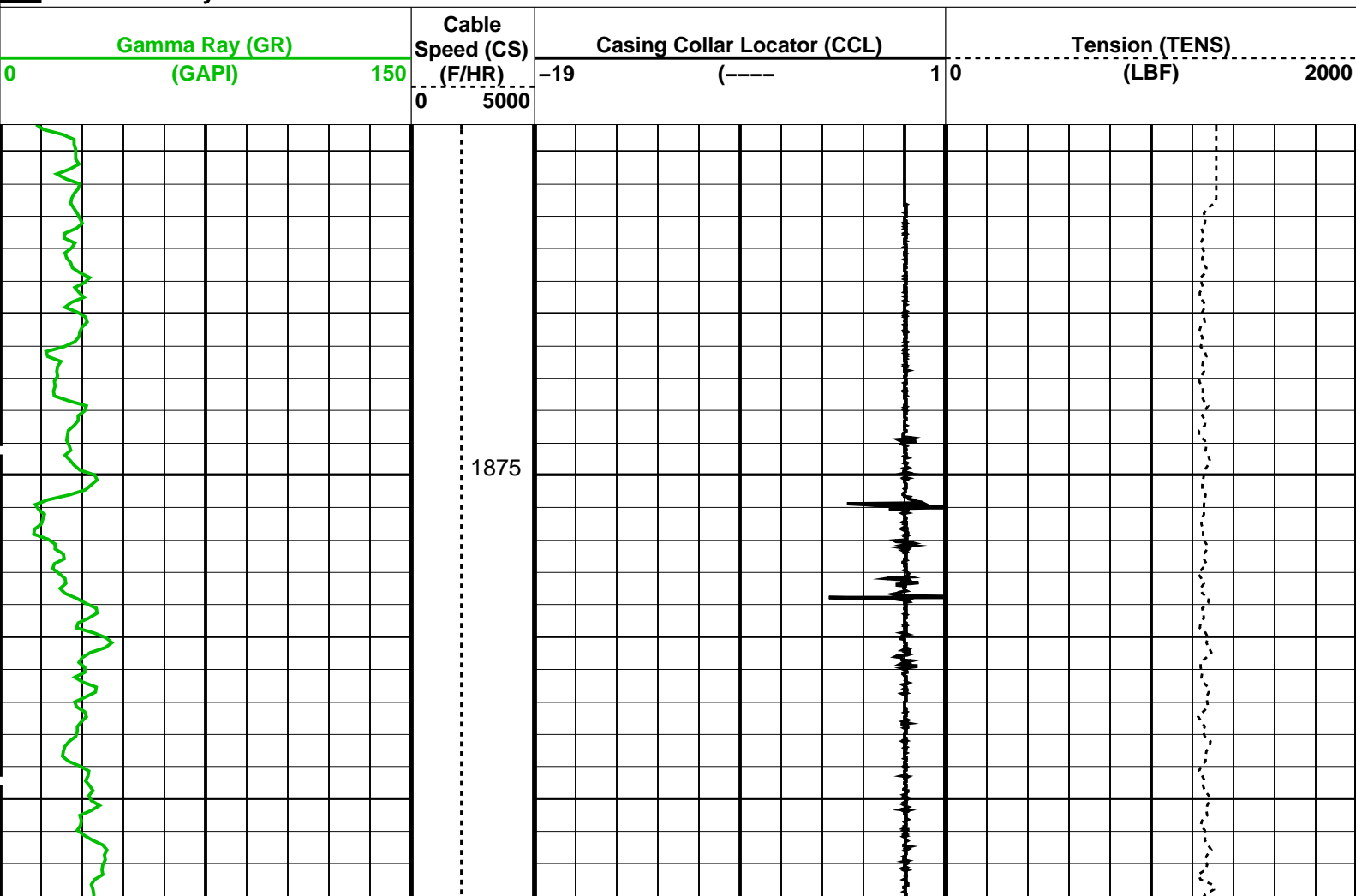
DEFAULT PERFO_048LUP FN:47 PRODUCER 29-Aug-2009 10:20

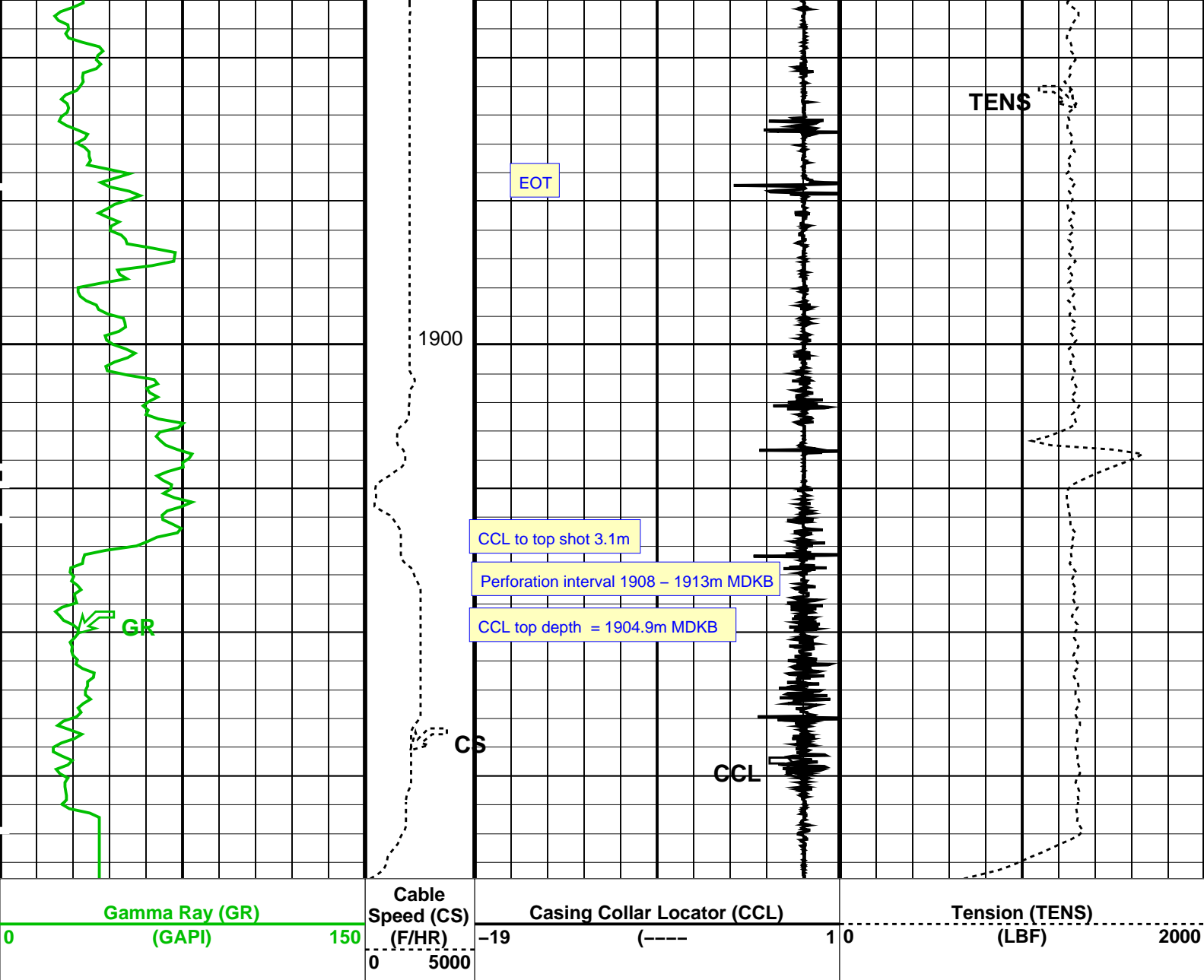
OP System Version: 17C0-154

MWP_GUN 17C0-154 MWPT-CA 17C0-154
MWGT-AA 17C0-154

PIP SUMMARY

☒ Time Mark Every 60 S





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_1 Vertical Scale: 1:200 Graphics File Created: 29-Aug-2009 10:20

OP System Version: 17C0-154			
MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files			
DEFAULT	PERFO_048LUP	FN:47	PRODUCER 29-Aug-2009 10:20

Company: Esso Australia Pty Ltd. Well: W-14

Output DLIS Files

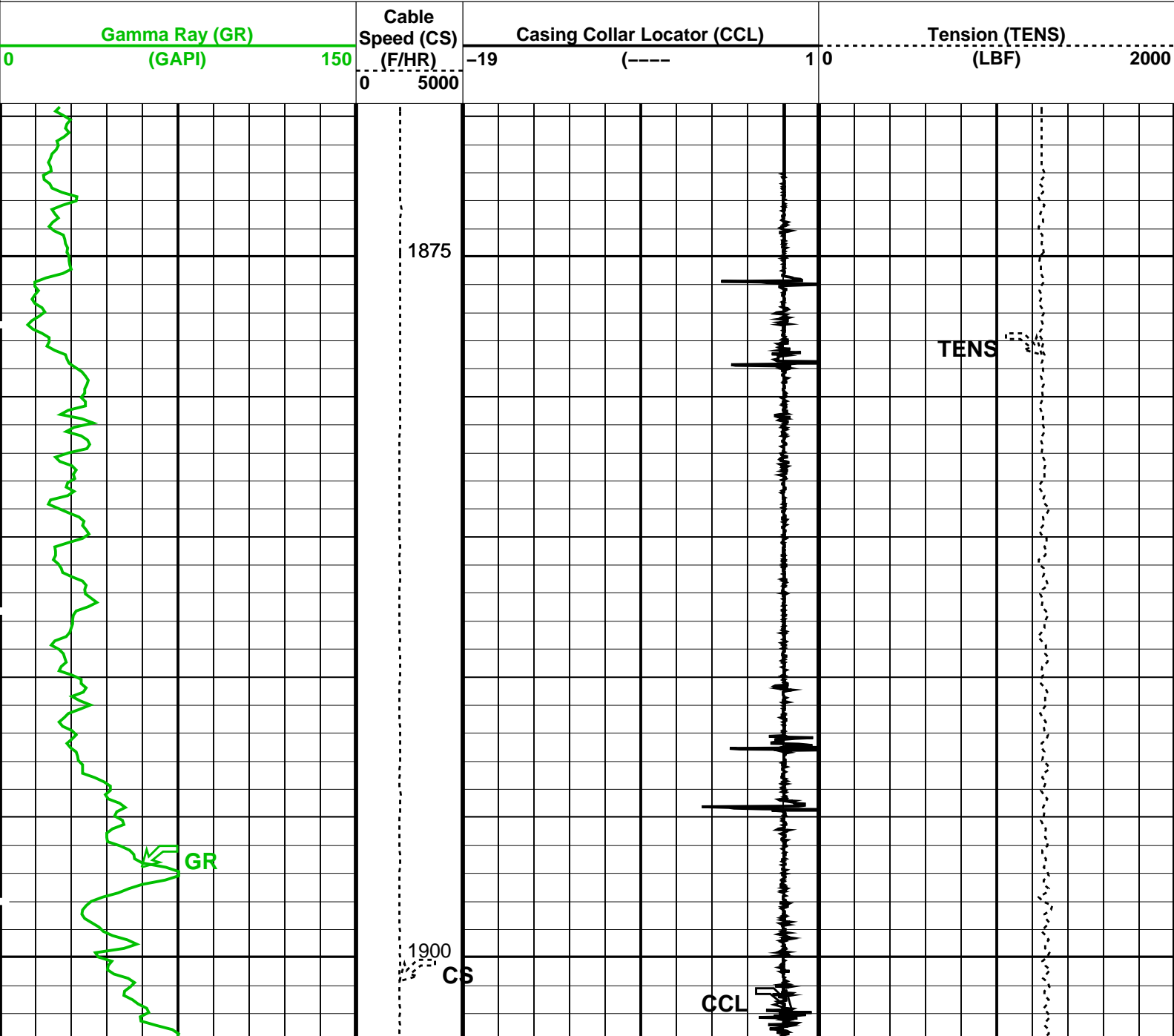
DEFAULT PERFO_047LUP FN:46 PRODUCER 29-Aug-2009 10:14

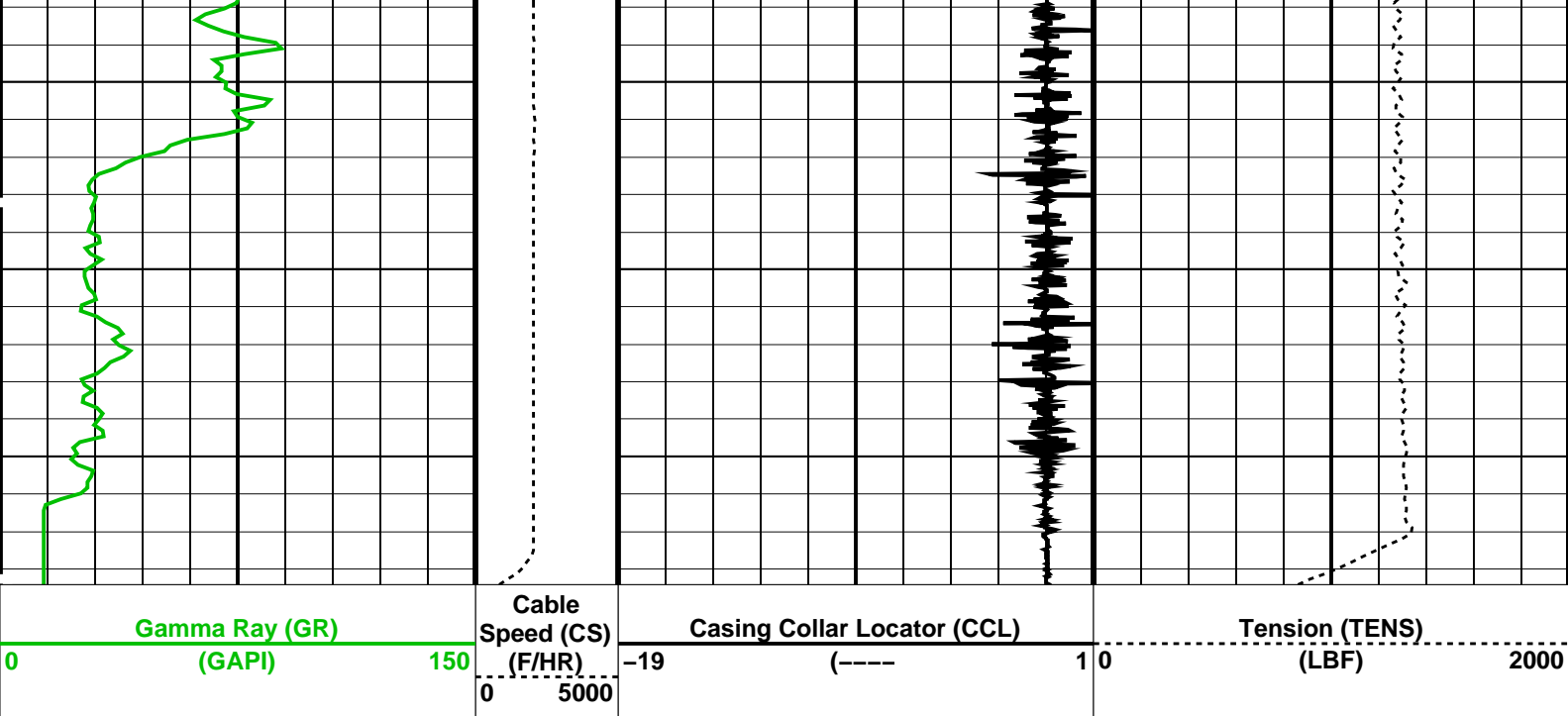
OP System Version: 17C0-154

MWP_GUN 17C0-154 MWPT-CA 17C0-154
MWGT-AA 17C0-154

PIP SUMMARY

Time Mark Every 60 S





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_1 Vertical Scale: 1:200

Graphics File Created: 29-Aug-2009 10:14

OP System Version: 17C0-154

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files

DEFAULT	PERFO_047LUP	FN:46	PRODUCER	29-Aug-2009 10:14
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Schlumberger

Gun 2 Shooting Pass
1913m – 1918m MDKB

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: W-14

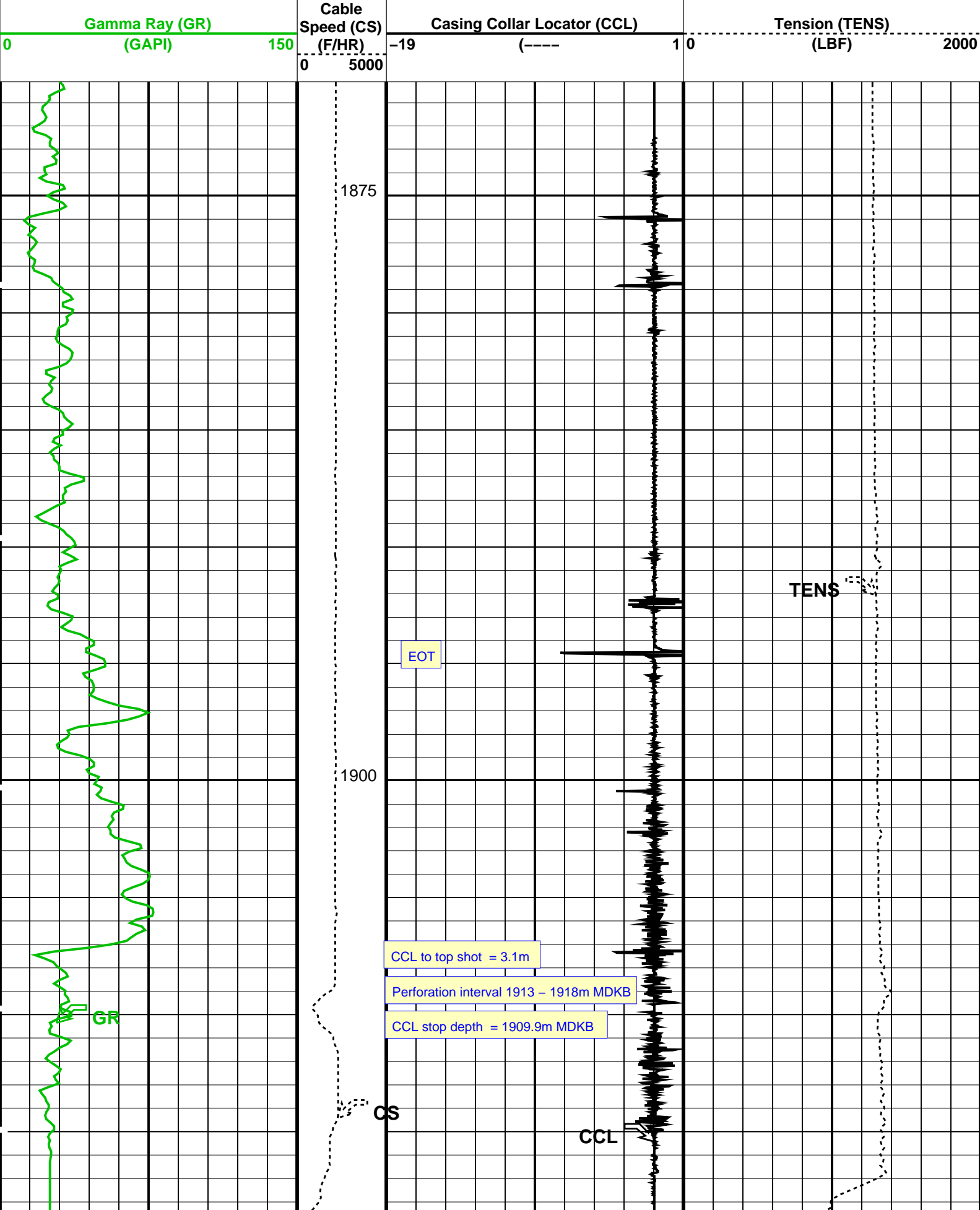
Output DLIS Files

DEFAULT	PERFO_036LUP	FN:35	PRODUCER	28-Aug-2009 16:23
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OP System Version: 17C0-154

PIP SUMMARY

Time Mark Every 60 S



Gamma Ray (GR) (GAPI)		Cable Speed (CS) (F/HR)	Casing Collar Locator (CCL)		Tension (TENS) (LBF)	
0	150	-19	(----	1 0		2000
		0 5000				

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_1 Vertical Scale: 1:200

Graphics File Created: 28-Aug-2009 16:24

OP System Version: 17C0-154

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files

DEFAULT	PERFO_036LUP	FN:35	PRODUCER	28-Aug-2009 16:23
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Schlumberger

Gun 2 Correlation

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: W-14

Output DLIS Files

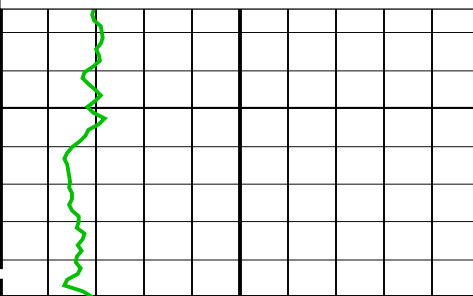
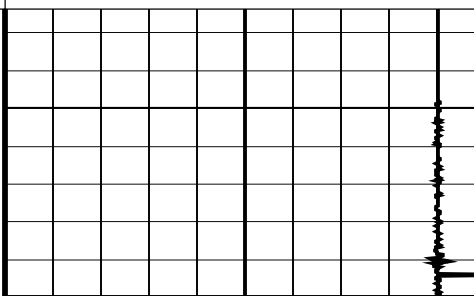
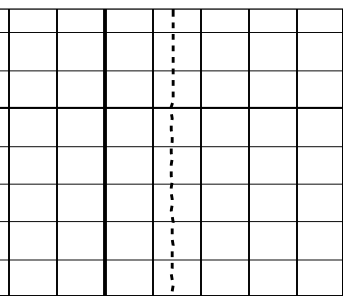
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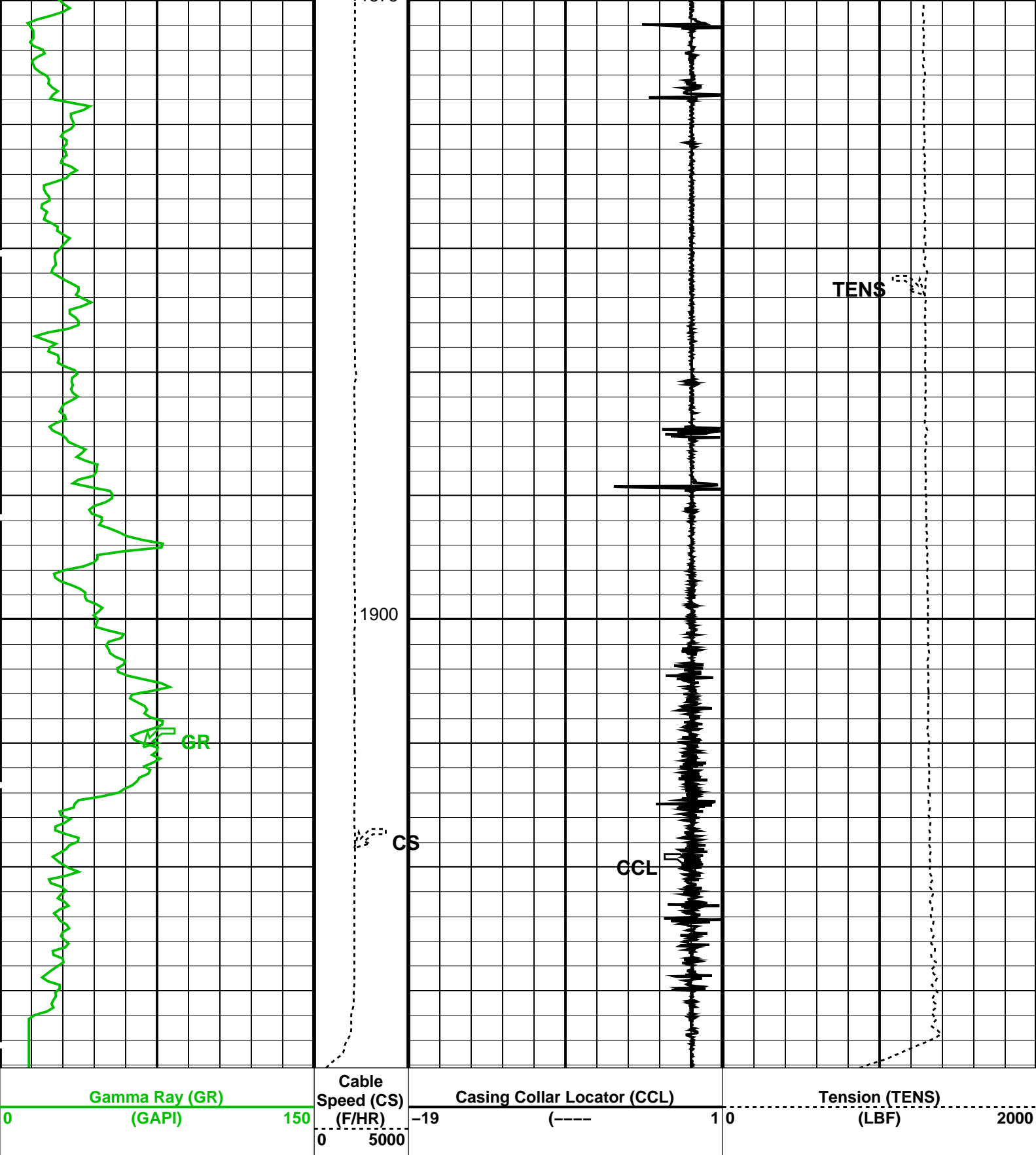
OP System Version: 17C0-154

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

PIP SUMMARY

Time Mark Every 60 S

Gamma Ray (GR) (GAPI)		Cable Speed (CS) (F/HR)	Casing Collar Locator (CCL)		Tension (TENS) (LBF)	
0	150	-19	(----	1 0		2000
		0 5000				
						
		1875				



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

OP System Version: 17C0-154

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files

DEFAULT	PERFO_035LUP	FN:34	PRODUCER	28-Aug-2009 16:17
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Gun 1 Shooting Pass
1913m – 1918m MDKB

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: W-14

Output DLIS Files

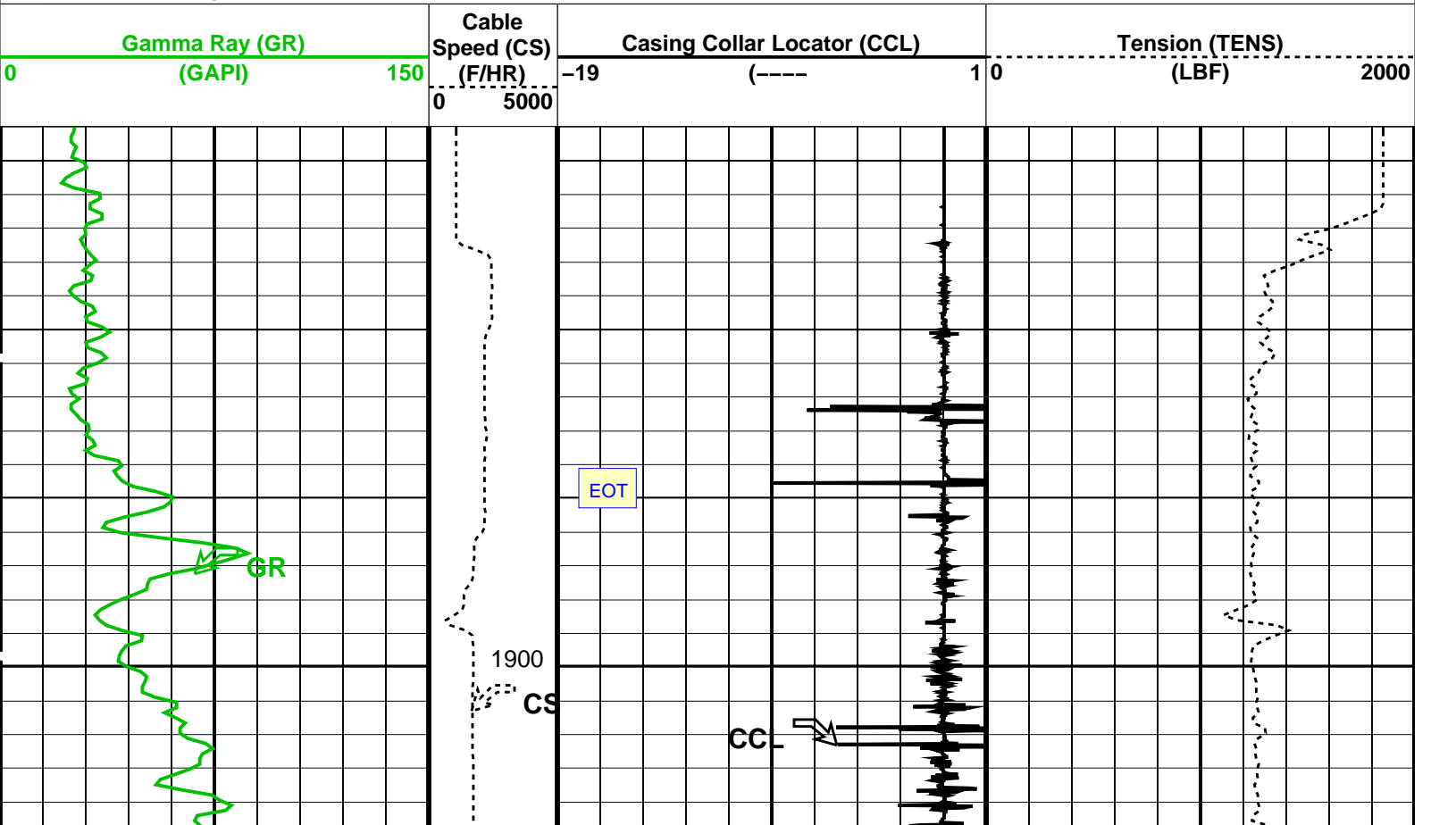
DEFAULT	PERFO_024LUP	FN:23	PRODUCER	27-Aug-2009 15:05
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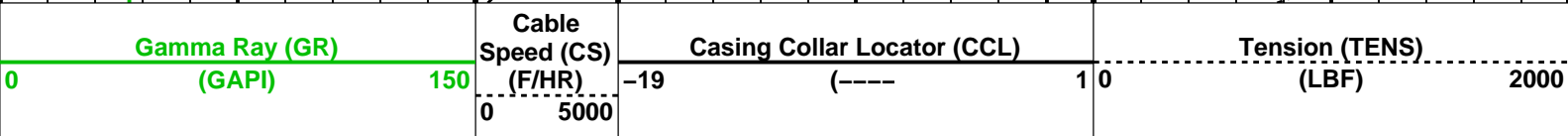
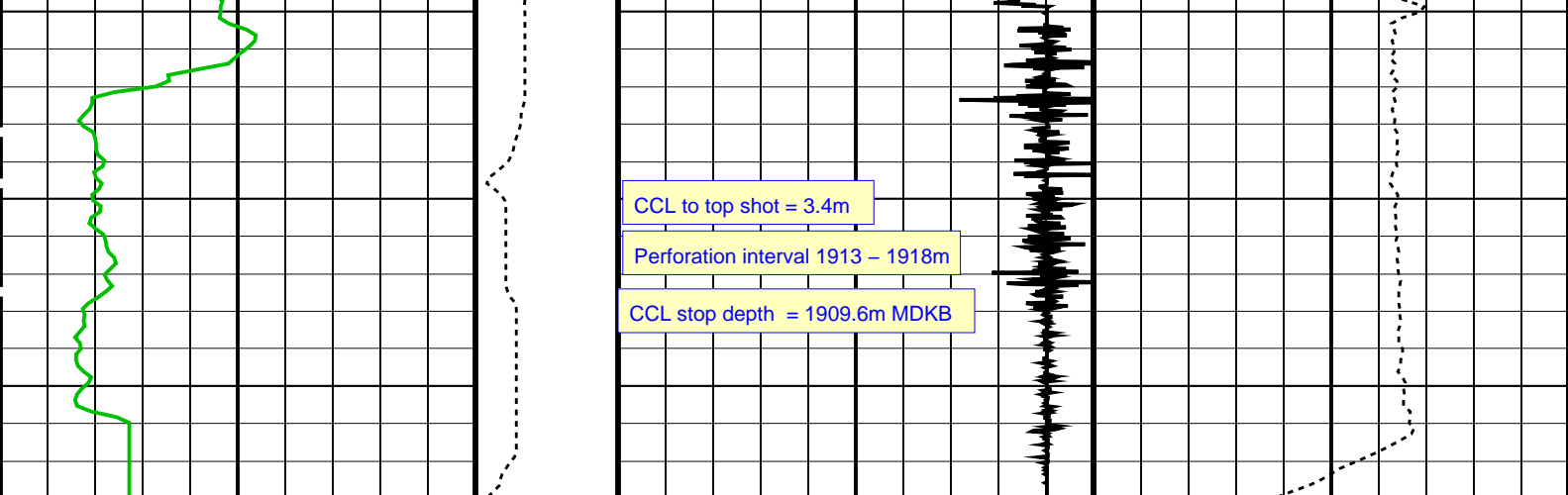
OP System Version: 17C0-154

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

PIP SUMMARY

Time Mark Every 60 S





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_1 Vertical Scale: 1:200 Graphics File Created: 27-Aug-2009 15:05

OP System Version: 17C0-154			
MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files			
DEFAULT	PERFO_024LUP	FN:23	PRODUCER 27-Aug-2009 15:05



Gun 1 Correlation

MAXIS Field Log

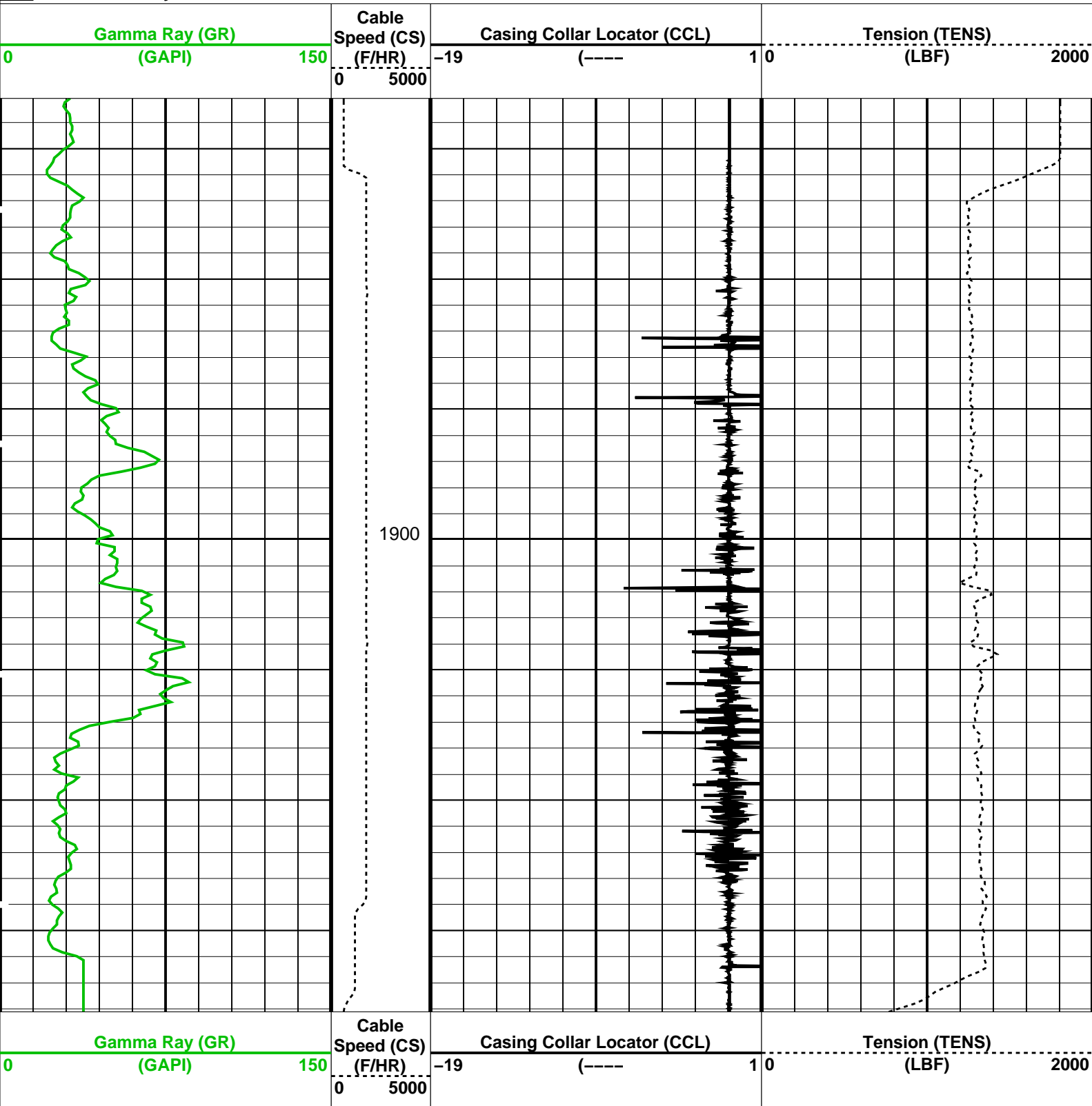
Company: Esso Australia Pty Ltd. Well: W-14

Output DLIS Files			
DEFAULT	PERFO_021LUP	FN:20	PRODUCER 27-Aug-2009 14:51

OP System Version: 17C0-154			
MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

PIP SUMMARY

Time Mark Every 60 S



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_1 Vertical Scale: 1:200

Graphics File Created: 27-Aug-2009 14:51

MWP_GUN	17C0-154	MWPT-CA	17C0-154
MWGT-AA	17C0-154		

Output DLIS Files

DEFAULT	PERFO_021LUP	FN:20	PRODUCER	27-Aug-2009 14:51
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Company:

Esso Australia Pty Ltd.

Well:

W-14

Field:

West Tuna

Rig:

Crane / Prod 4

Country:

Australia

Schlumberger

2-1/8" Phased Powerjet &
2" HSD with PowerJet Omega
Perforation Record