

Company: ExxonMobil

Well: MLA A-2a

Field: Marlin

Rig: Crane / Prod 4

Country: Australia

2 1/8" Enerjet Gun MWPT Perforating Record

Crane / Prod 4
 Field: Marlin
 Location: Gippsland Basin
 Well: MLA A-2a
 Company: ExxonMobil

LOCATION		Elev.:	K.B.	27.4 m
Gippsland Basin			G.L.	-59 m
Bass Strait			D.F.	27.4 m
Permanent Datum: _____		Mean Sea Level	Elev.: 0.0 m _____	
Log Measured From: _____		Kelly Bushing	27.4 m above Perm. Datum	
Drilling Measured From: _____		Kelly Bushing		
State: Victoria	Max. Well Deviation 37 deg	Longitude 148 13' 09.81" E	Latitude 38 13' 55.49" S	

	Run 1	Run 2	Run 3
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation	37 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	Time		
Unit Number	Location		
Recorded By	Paul Tarrant & Owen Darby		
Witnessed By	Greg Rimmer		

Logging Date	9-Jan-2006	
Run Number	6-7	
Depth Driller	1708.1 m	
Schlumberger Depth	1569.5 m - Not Tagged	
Bottom Log Interval	1552.5 m	
Top Log Interval	1542.5 m	
Casing Fluid Type	Production Fluids	
Salinity		
Density		
Fluid Level		
BIT/CASING/TUBING STRING		
Bit Size	12.500 in	
From		
To		
Casing/Tubing Size	9.625 in	
Weight	47 lbm/ft	
Grade	J-55	
From	12.5 m	
To	1658.11 m	
Maximum Recorded Temperatures	80 degC	
Logger On Bottom	9-Jan-2006	Time
Unit Number	1	Location
Recorded By	Paul Tarrant & Owen Darby	
Witnessed By	Greg Rimmer	

DEPTH SUMMARY LISTING

Date Created: 5-JAN-2006 6:55:05

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-H Serial Number: 797 Calibration Date: 01-May-2005 Calibrator Serial Number: 1009 Calibration Cable Type: 2-32ZT Wheel Correction 1: -3 Wheel Correction 2: 2	Type: CMTD-C Serial Number: 1037 Calibration Date: 22 Sep 05 Calibrator Serial Number: 57144 Calibration Gain: 1.29 Calibration Offset: 777.00	Type: 2-32ZT Serial Number: 22372 Length: 5099.91 M <hr/> Conveyance Method: Wireline Rig Type: Offshore_Fixed

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	Solar Log
Reference Log Run Number:	Unknown
Reference Log Date:	Unknown

Depth Control Remarks

1.
2.
3.
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 Solar log, date unknown, provided by client.

Objective: To perforate the well at 1542.5m to 1552.5m MDKB using 2 1/8" Enerjet Gun loaded with PowerSpirol charges. Before perforating, obtain static FBHP and FBHT. After perforating monitor well FBHP and FBHT for 15 min. Static: FBHP = 1941psi, FBHT = 170degF

After Shooting: FBHP = 1981psi, FBHT = 175degF

API Data: PowerSpirol charges, UN 0441

Penetration: 27.3"

Entrance Hole: 0.25"

Specialists: Paul Tarrant & Owen Darby

Operators: Jakob Annear & John Light

Performed by Schlumberger

RUN 1			RUN 2		
PROGRAM VERSION:		AUSL05148534	PROGRAM VERSION:		
FLUID LEVEL:		13C0-300	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

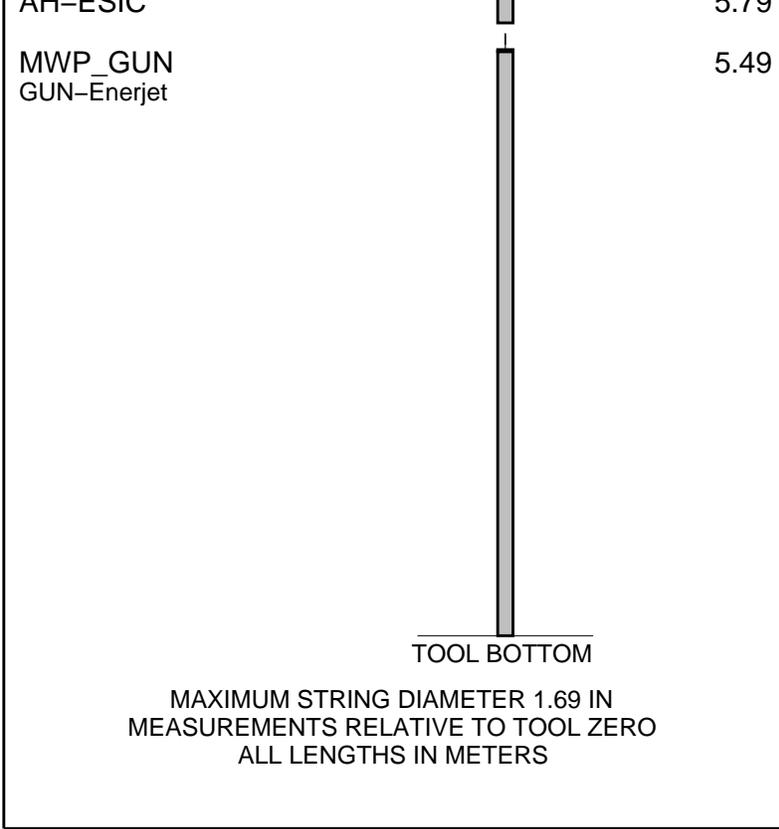
RUN 1	RUN 2
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SURFACE EQUIPMENT

MWPM-AA 37

DOWNHOLE EQUIPMENT

AH-SWBS AH-SWBS 731		13.77
AH-SWBS AH-SWBS 761		13.08
AH-SWBS AH-SWBS 762		12.40
AH-SWBS AH-SWBS 763		11.71
MH-SWHS		11.02
MWGT-AA MWPG-AA 24 MWGH-AA 19	 MWPG GR 2.41	10.69
MWPT-CA MWPH-AA 74 MWPS-AA 74		9.72
	CCL SMWP Pres SMWP Temp Tension TOOL ZERO	
AH-FLEX JOINT		6.90
AH-SAH-G		6.59
MPD-H MPD-H 2868		6.29
AH-ESIC		5.70



Client: ExxonMobil
Well: MLA A-2a
Field: Marlin
State: Victoria
Country: Australia

Rig Name: Marlin
Reference Datum: Kelly Bushing
Elevation: 27.4 m

Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
Tubing	4.500		11.7		12.5	9.625		Casing String Liner Hanger
Shutin Valve	4.500		124.3		12.5	13.375	9.625	
					642.6	13.375		Casing Shoe
					642.6	12.500		Borehole Segment

Sliding Sleeve

4.500

1450.3

Nipple

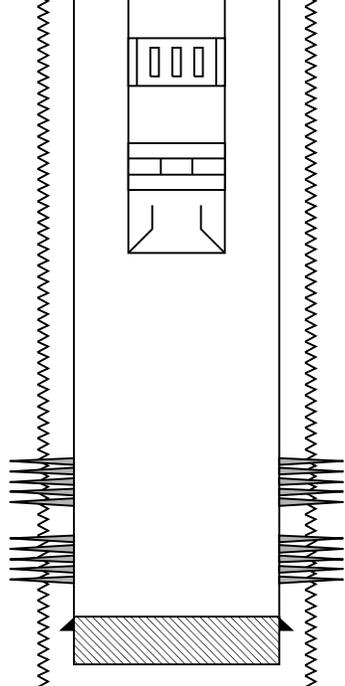
4.500

1473.0

Bell Nipple Guide

4.500

1473.3



1595.0

Perforation Zone

1609.0

Perforation Zone

1658.1

9.625

Casing Shoe

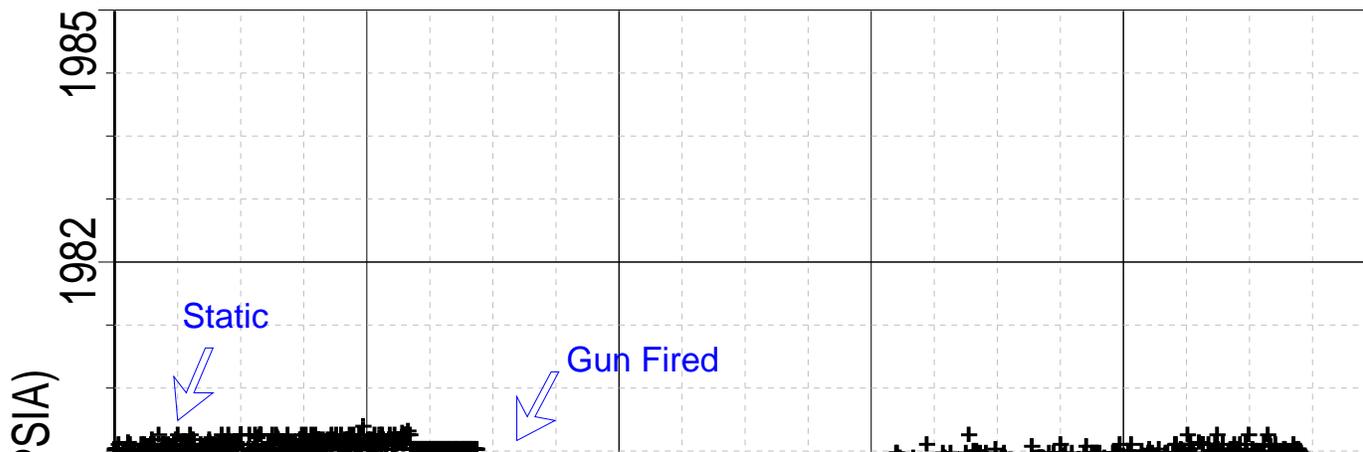
PBD

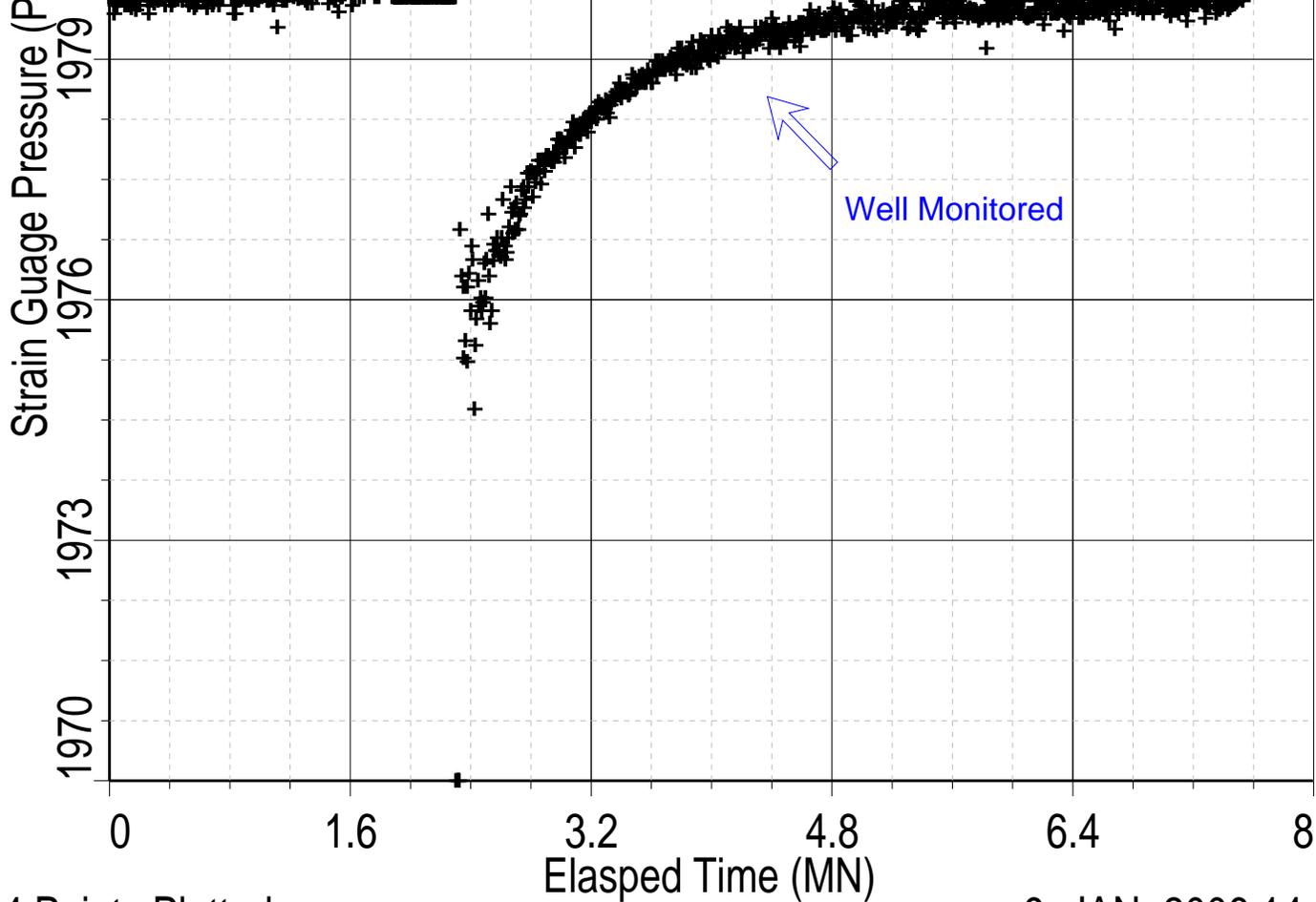
Schlumberger

2 1/8" MWPT Enerjet Gun
Gun 2 – Station Log

MAXIS Field Log

Index: 5577.8 – 7871.5 M





904 Points Plotted

9-JAN-2006 14:31

Output DLIS Files

DEFAULT PERFO_045LTP FN:43 PRODUCER 09-Jan-2006 11:53 1539.1 M 1.2 M

OP System Version: 13C0-300

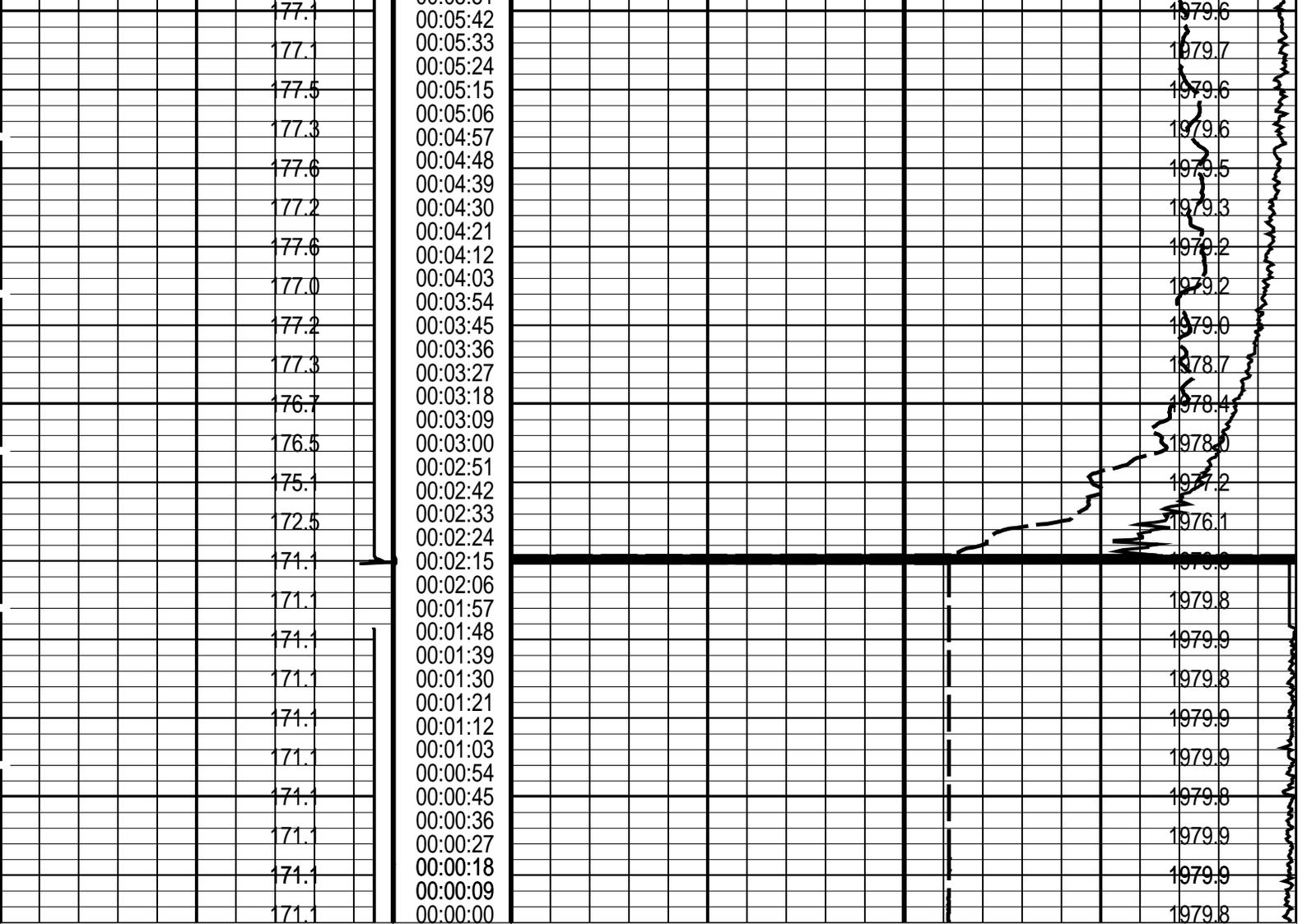
MCM

MWP_GUN SRC-2820-ASFS-WPP_t MWPT-CA SRC-2820-ASFS-WPP_t
 MWGT-AA SRC-2820-ASFS-WPP_t

PIP SUMMARY

Time Mark Every 60 S

Temperature (TEMP_MWPT_SL) (DEGF)		Pressure (SGPA_SL) (PSIA)	
CCL From CCL to T1		Firing Sequence State (FSS SL) (----)	Temperature (TEMP_MWPT_SL) (DEGF)
		0 1024	0 20
Casing Collar Locator (CCL_SL) (----)		Strain Gauge Pressure (SGP_SL) (PSIA)	
-19	1	Elapsed Time (ETIM) (S)	0 20
		177.1	1979.8
		177.2	1979.7
		177.4	1979.8
		177.3	1979.7
		177.0	1979.6
		177.2	1979.7
		177.0	1979.8



Casing Collar Locator (CCL_SL)		Elapsed Time (ETIM) (S)	Strain Gauge Pressure (SGP_SL)	
-19	(----) 1		0	(PSIA) 20
CCL From CCL to T1		Firing Sequence State (FSS SL) (----)	Temperature (TEMP_MWPT_SL)	
			0	(DEGF) 20

Temperature (TEMP_MWPT_SL) (DEGF)	Pressure (SGPA_SL) (PSIA)
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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_SL Vertical Scale: 1" per 60S Graphics File Created: 09-Jan-2006 11:53

OP System Version: 13C0-300
MCM

MWP_GUN	SRC-2820-ASFS-WPP_t	MWPT-CA	SRC-2820-ASFS-WPP_t
MWGT-AA	SRC-2820-ASFS-WPP_t		

Output DLIS Files

DEFAULT

PERFO_045LTP

FN:43

PRODUCER

09-Jan-2006 11:53



2 1/8" MWPT Enerjet Gun
Gun 2 – Shooting Pass

MAXIS Field Log

Output DLIS Files

DEFAULT

PERFO_044LUP

FN:42

PRODUCER

09-Jan-2006 11:50

1570.0 M

1507.5 M

OP System Version: 13C0-300
MCM

MWP_GUN

SRC-2820-ASFS-WPP_t

MWPT-CA

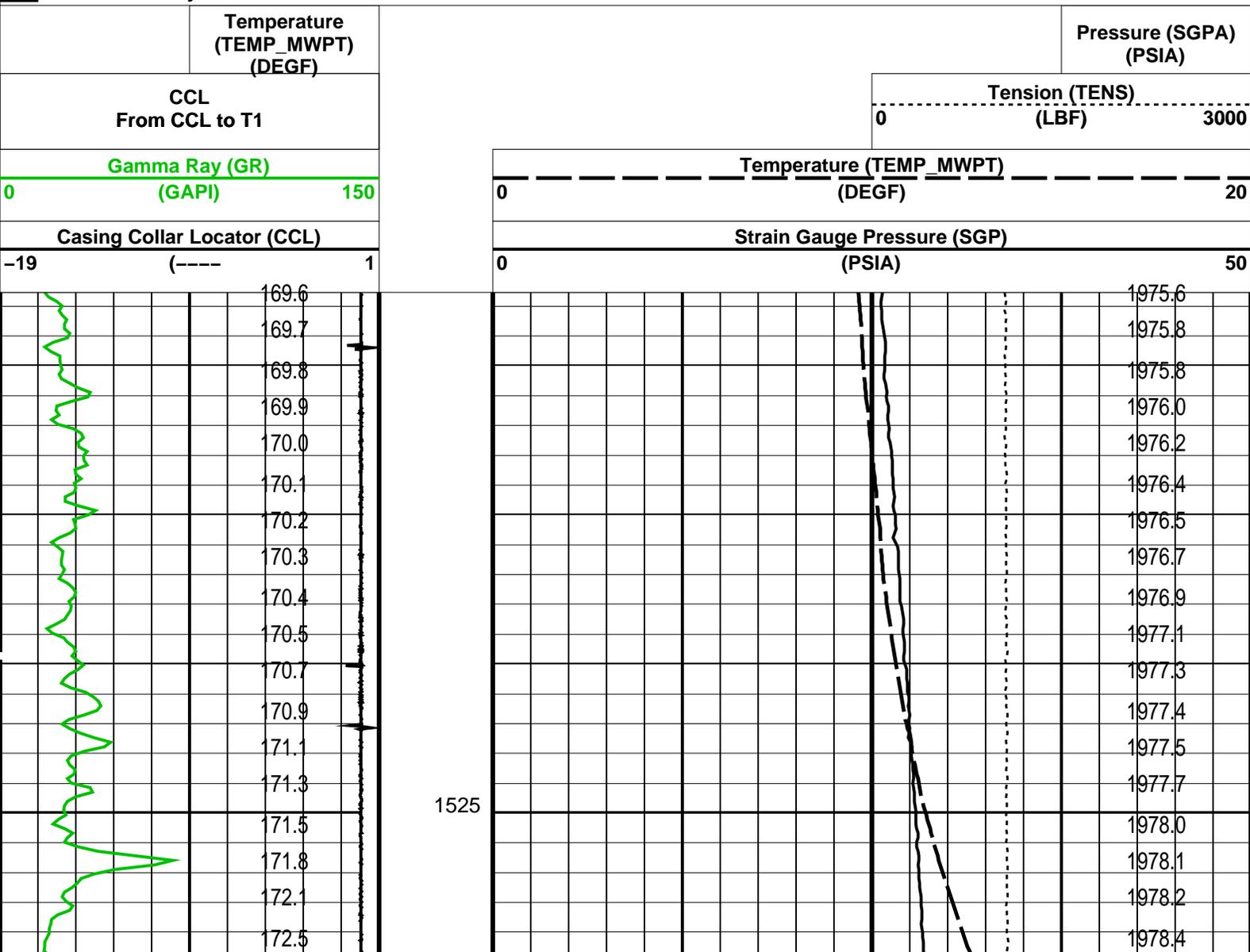
SRC-2820-ASFS-WPP_t

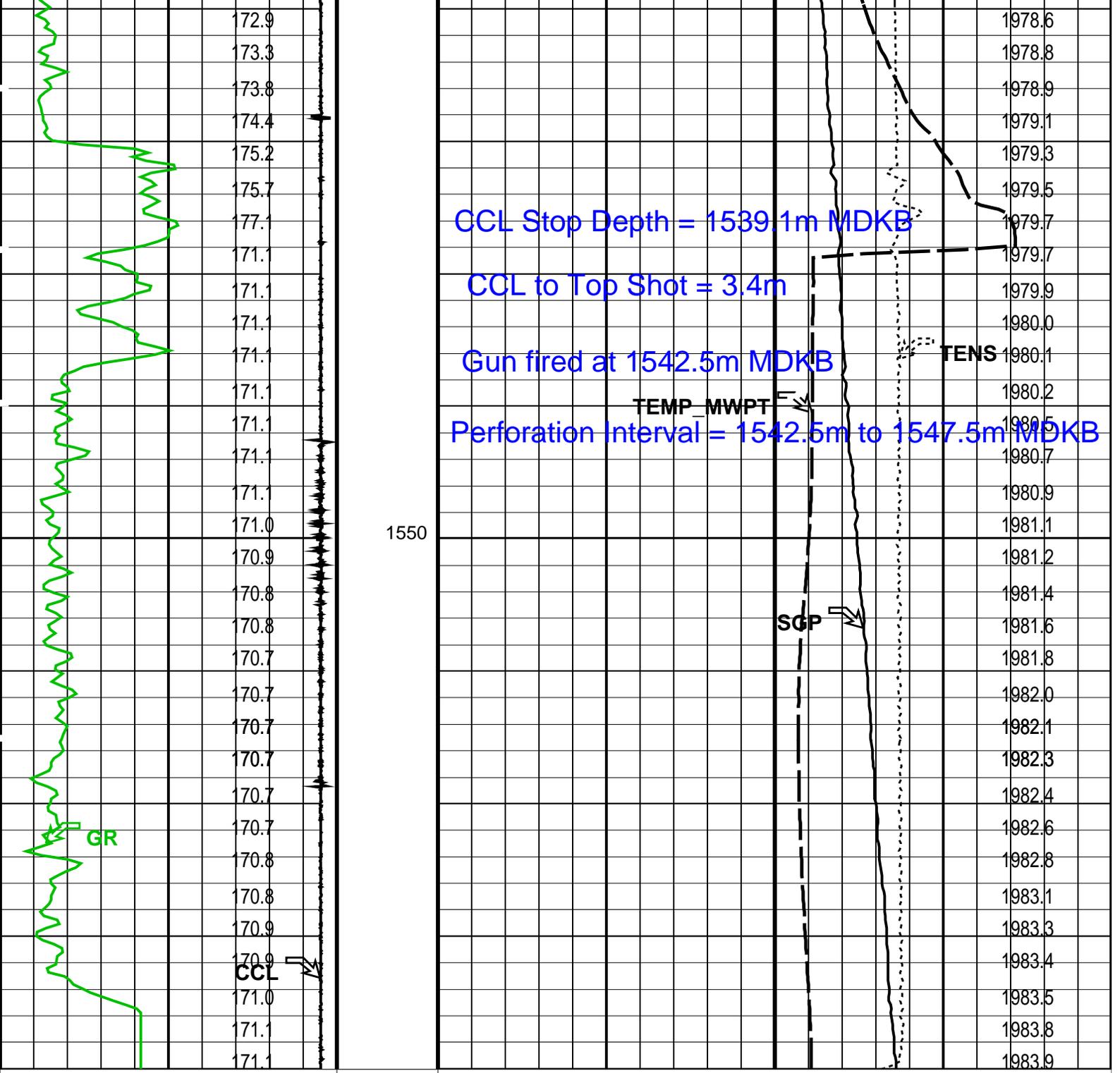
MWGT-AA

SRC-2820-ASFS-WPP_t

PIP SUMMARY

Time Mark Every 60 S





Casing Collar Locator (CCL)		Strain Gauge Pressure (SGP)	
-19	(----) 1	0	(PSIA) 50
Gamma Ray (GR)		Temperature (TEMP_MWPT)	
0	(GAPI) 150	0	(DEGF) 20
CCL From CCL to T1		Tension (TENS)	
Temperature (TEMP_MWPT) (DEGF)		0	(LBF) 3000
		Pressure (SGPA) (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
 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: 09-Jan-2006 11:50

OP System Version: 13C0-300

MCM

MWP_GUN SRC-2820-ASFS-WPP_t MWPT-CA SRC-2820-ASFS-WPP_t
 MWGT-AA SRC-2820-ASFS-WPP_t

Output DLIS Files

DEFAULT PERFO_044LUP FN:42 PRODUCER 09-Jan-2006 11:50



2 1/8" MWPT Enerjet Gun
 Gun 2 - Correlation Pass

MAXIS Field Log

Output DLIS Files

DEFAULT PERFO_043LUP FN:41 PRODUCER 09-Jan-2006 11:43 1570.0 M 1521.1 M

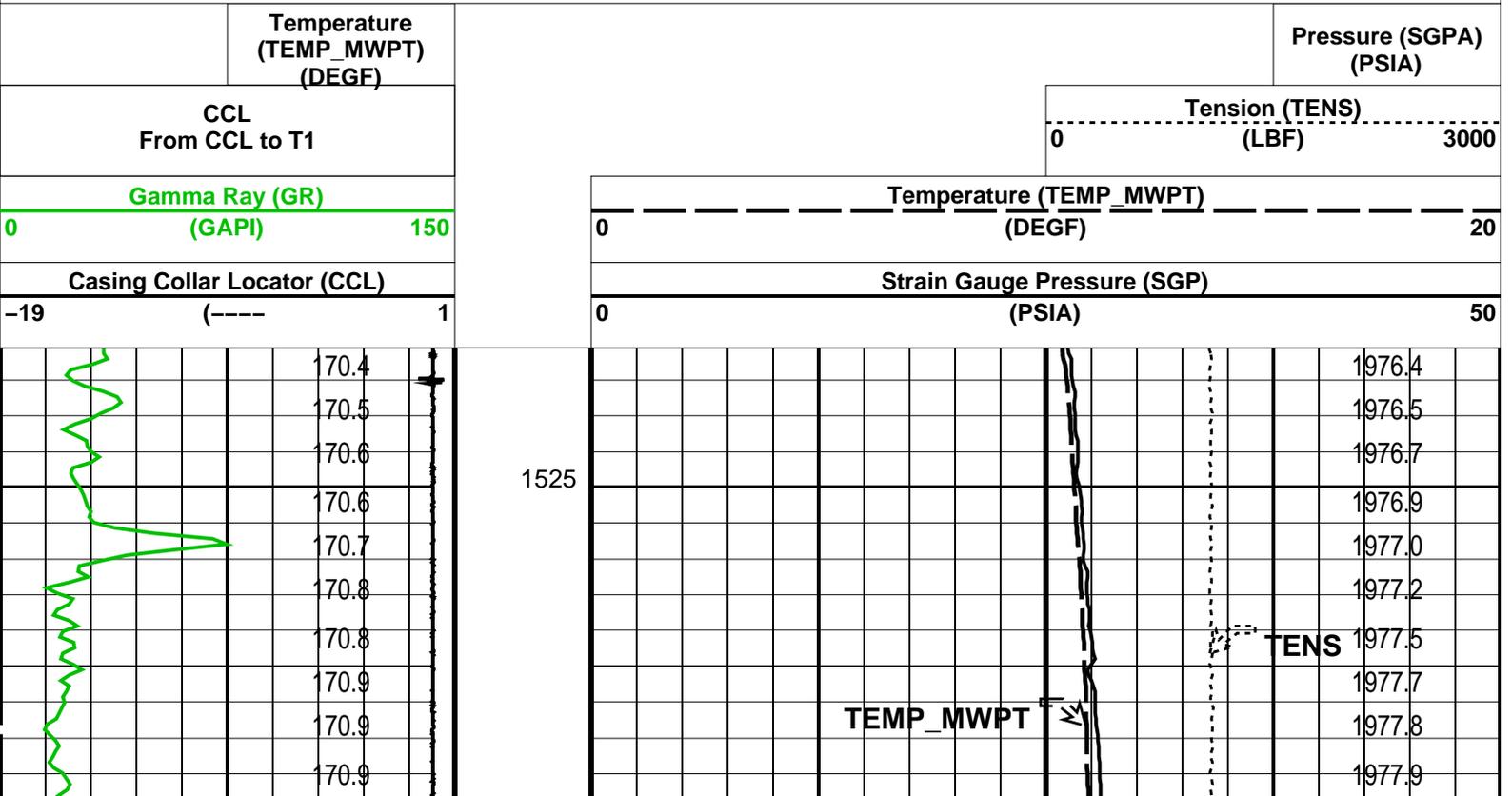
OP System Version: 13C0-300

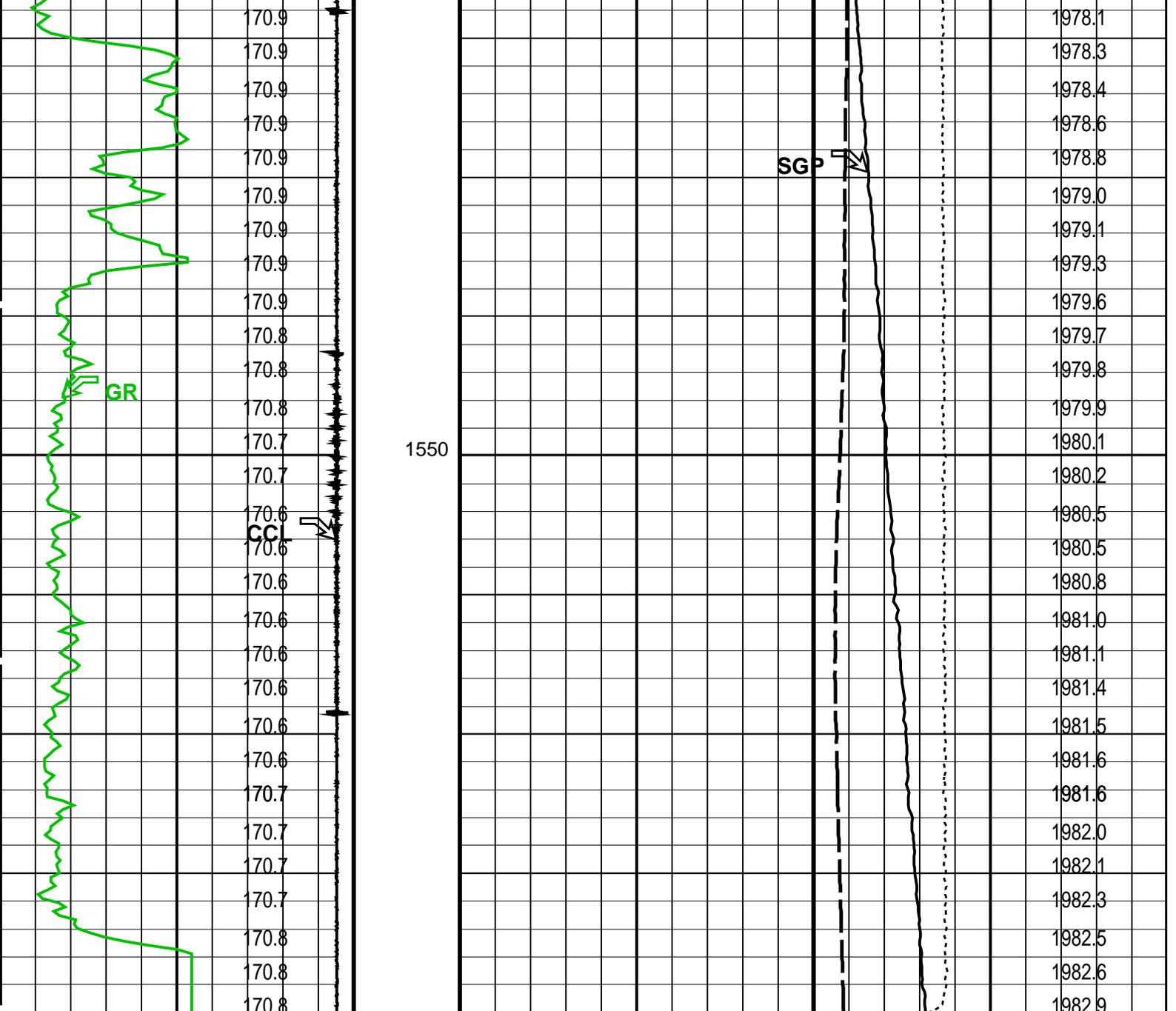
MCM

MWP_GUN SRC-2820-ASFS-WPP_t MWPT-CA SRC-2820-ASFS-WPP_t
 MWGT-AA SRC-2820-ASFS-WPP_t

PIP SUMMARY

Time Mark Every 60 S





Casing Collar Locator (CCL)		Strain Gauge Pressure (SGP)	
-19	(----) 1	0	(PSIA) 50
Gamma Ray (GR)		Temperature (TEMP_MWPT)	
0	(GAPI) 150	0	(DEGF) 20
CCL From CCL to T1		Tension (TENS)	
Temperature (TEMP_MWPT) (DEGF)		0	(LBF) 3000
		Pressure (SGPA) (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

OP System Version: 13C0-300
MCM

MWP_GUN SRC-2820-ASFS-WPP_1 MWPT-CA SRC-2820-ASFS-WPP_1
MWGT-AA SRC-2820-ASFS-WPP_1

Output DLIS Files

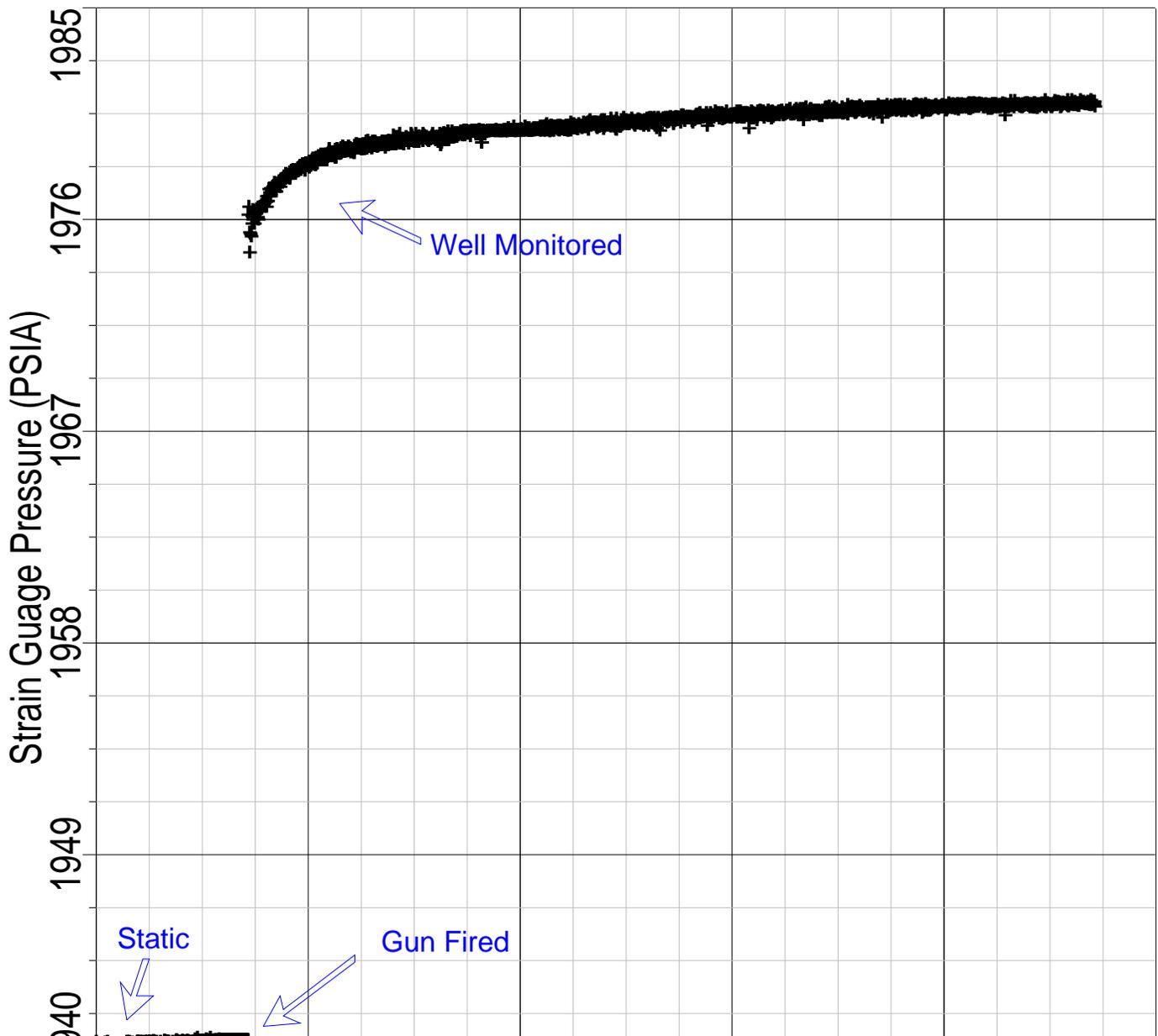
DEFAULT PERFO_043LUP FN:41 PRODUCER 09-Jan-2006 11:43



2 1/8" MWPT Enerjet Gun
Gun 1 - Station Log

MAXIS Field Log

Index: 8310.9 - 12910.8 M



0

3.2

6.4 Elapsed Time (MN)

9.6

12.8

16

1812 Points Plotted

9-JAN-2006 14:27

Output DLIS Files

DEFAULT PERFO_040LTP FN:38 PRODUCER 09-Jan-2006 09:58 1544.1 M 2.3 M

OP System Version: 13C0-300 MCM

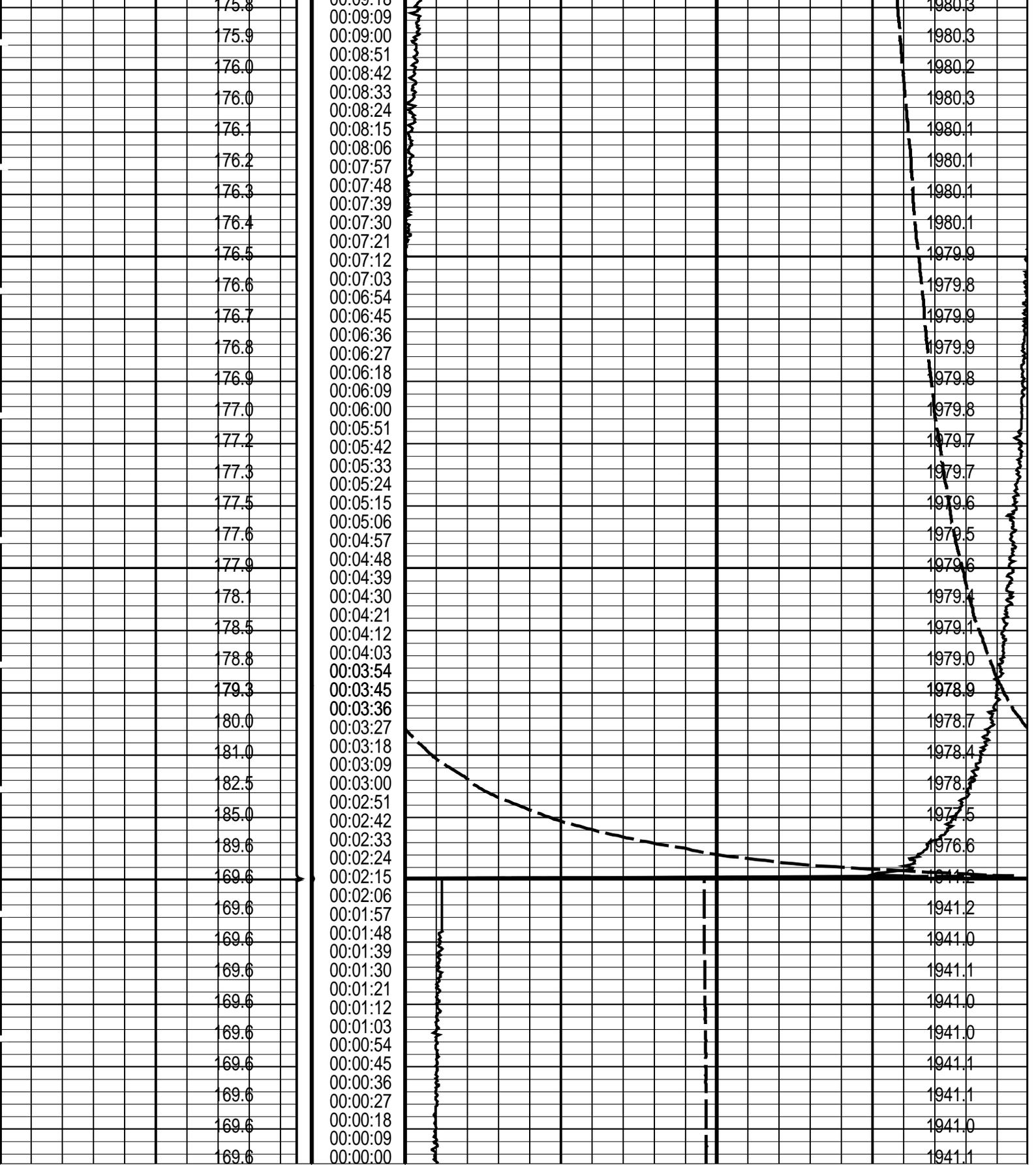
MWP_GUN SRC-2820-ASFS-WPP_t MWPT-CA SRC-2820-ASFS-WPP_t
MWGT-AA SRC-2820-ASFS-WPP_t

PIP SUMMARY

Time Mark Every 60 S

Temperature (TEMP_MWPT_SL) (DEGF)		Pressure (SGPA_SL) (PSIA)	
CCL From CCL to T1	Firing Sequence State (FSS SL) (----)	Temperature (TEMP_MWPT_SL) (DEGF)	
	0 1024	0	20
Casing Collar Locator (CCL_SL) (----)	Elapsed Time (ETIM) (S)	Strain Gauge Pressure (SGP_SL) (PSIA)	
-19 1		0	20

174.7	00:15:00		1980.9
174.7	00:14:51		1980.9
174.8	00:14:42		1980.9
174.8	00:14:33		1980.9
174.8	00:14:24		1980.8
174.9	00:14:15		1980.8
174.9	00:14:06		1980.8
174.9	00:13:57		1980.8
174.9	00:13:48		1980.9
174.9	00:13:39		1980.9
174.9	00:13:30		1980.9
175.0	00:13:21		1981.0
175.0	00:13:12		1980.9
175.0	00:13:03		1980.9
175.1	00:12:54		1980.9
175.1	00:12:45		1980.8
175.1	00:12:36		1980.7
175.1	00:12:27		1980.7
175.2	00:12:18		1980.8
175.2	00:12:09		1980.8
175.2	00:12:00		1980.8
175.3	00:11:51		1980.8
175.3	00:11:42		1980.7
175.3	00:11:33		1980.8
175.3	00:11:24		1980.8
175.4	00:11:15		1980.6
175.4	00:11:06		1980.6
175.4	00:10:57		1980.6
175.5	00:10:48		1980.6
175.5	00:10:39		1980.6
175.5	00:10:30		1980.5
175.6	00:10:21		1980.5
175.6	00:10:12		1980.5
175.6	00:10:03		1980.6
175.6	00:09:54		1980.6
175.7	00:09:45		1980.4
175.7	00:09:36		1980.4
175.8	00:09:27		1980.4
175.8	00:09:18		1980.6



Casing Collar Locator (CCL_SL) -19 (----) 1	Elapsed Time (ETIM) (S) 0	Strain Gauge Pressure (SGP_SL) (PSIA) 0 20
CCL From CCL to T1 0 1024	Firing Sequence State (FSS_SL) (----) 0 1024	Temperature (TEMP_MWPT_SL) (DEGF) 0 20

Temperature
(TEMP_MWPT_SL)
(DEGF)

Pressure (SGPA_
SL)
(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_SL Vertical Scale: 1" per 60S

Graphics File Created: 09-Jan-2006 09:58

OP System Version: 13C0-300
MCM

MWP_GUN	SRC-2820-ASFS-WPP_t	MWPT-CA	SRC-2820-ASFS-WPP_t
MWGT-AA	SRC-2820-ASFS-WPP_t		

Output DLIS Files

DEFAULT	PERFO_040LTP	FN:38	PRODUCER	09-Jan-2006 09:58
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2 1/8" MWPT Enerjet Gun
Gun 1 - Shooting Pass

MAXIS Field Log

Output DLIS Files

DEFAULT	PERFO_039LUP	FN:37	PRODUCER	09-Jan-2006 09:55	1570.0 M	1505.9 M
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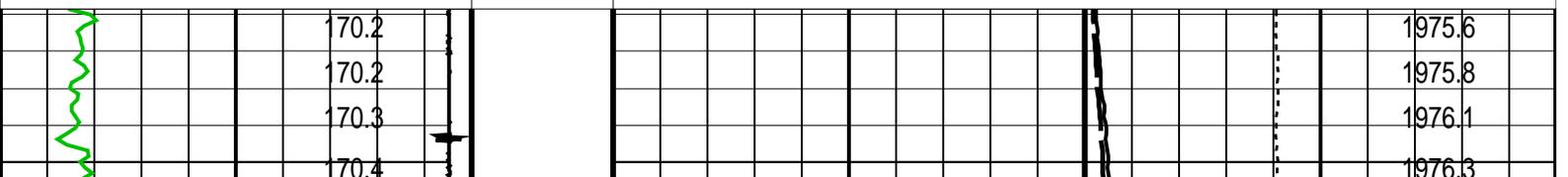
OP System Version: 13C0-300
MCM

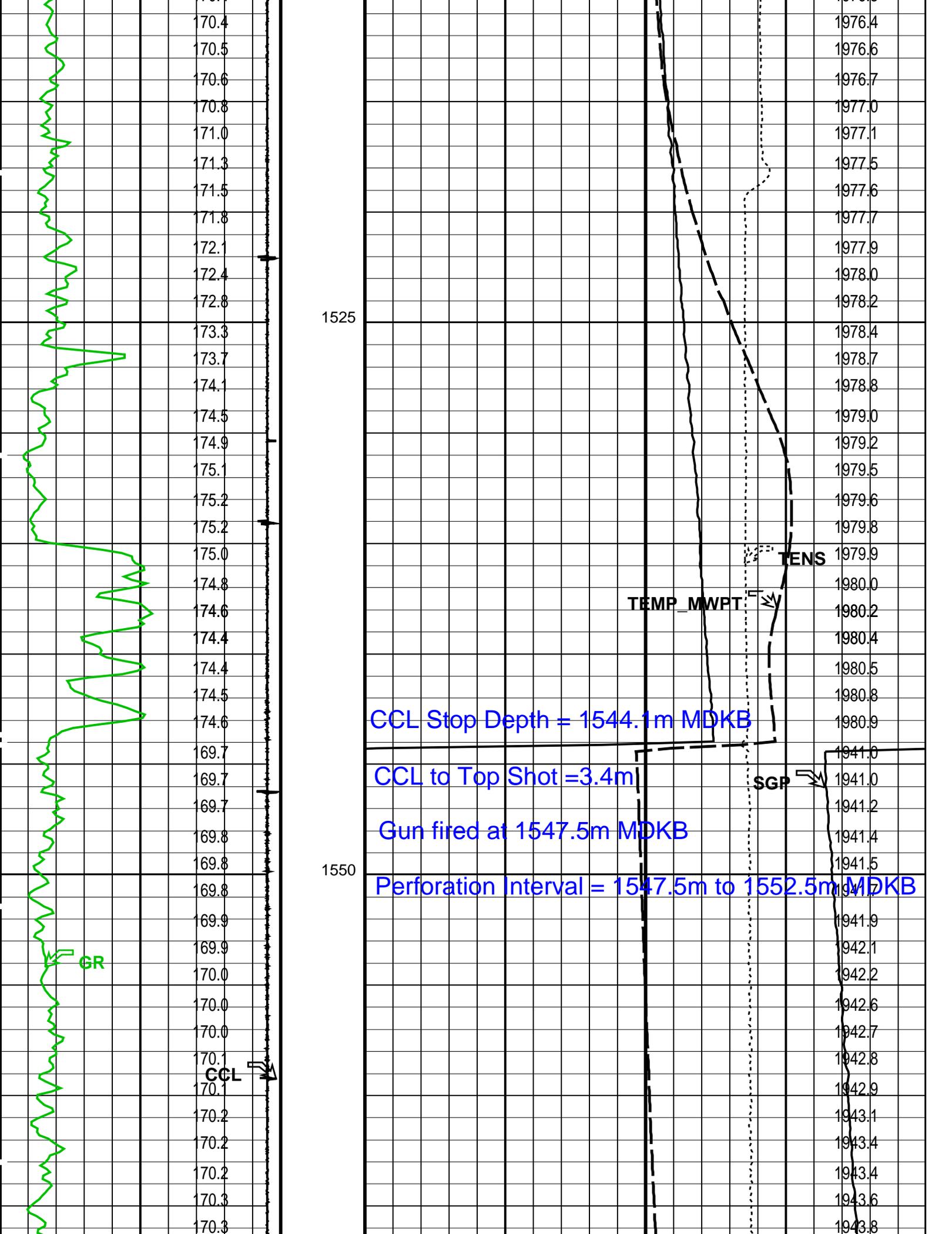
MWP_GUN	SRC-2820-ASFS-WPP_t	MWPT-CA	SRC-2820-ASFS-WPP_t
MWGT-AA	SRC-2820-ASFS-WPP_t		

PIP SUMMARY

Time Mark Every 60 S

Temperature (TEMP_MWPT) (DEGF)	Pressure (SGPA) (PSIA)
CCL From CCL to T1	Tension (TENS) (LBF) 0 ----- 3000
Gamma Ray (GR) (GAPI) 0 ----- 150	Temperature (TEMP_MWPT) (DEGF) 0 ----- 20
Casing Collar Locator (CCL) -19 ----- 1	Strain Gauge Pressure (SGP) (PSIA) 0 ----- 50





	170.4 170.4 170.4		1943.9 1944.1 1944.1
Casing Collar Locator (CCL)		Strain Gauge Pressure (SGP)	
-19 (----) 1		0 (PSIA) 50	
Gamma Ray (GR)		Temperature (TEMP_MWPT)	
0 (GAPI) 150		0 (DEGF) 20	
CCL From CCL to T1		Tension (TENS)	
		0 (LBF) 3000	
Temperature (TEMP_MWPT) (DEGF)		Pressure (SGPA) (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: 09-Jan-2006 09:55

OP System Version: 13C0-300

MCM

MWP_GUN	SRC-2820-ASFS-WPP_t	MWPT-CA	SRC-2820-ASFS-WPP_t
MWGT-AA	SRC-2820-ASFS-WPP_t		

Output DLIS Files

DEFAULT	PERFO_039LUP	FN:37	PRODUCER	09-Jan-2006 09:55
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2 1/8" MWPT Enerjet Gun
Gun 1 - Correlation Pass

MAXIS Field Log

Output DLIS Files

DEFAULT	PERFO_038LUP	FN:36	PRODUCER	09-Jan-2006 09:47	1569.9 M	1523.5 M
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OP System Version: 13C0-300

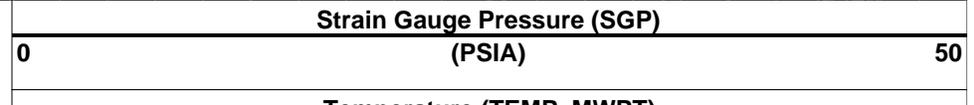
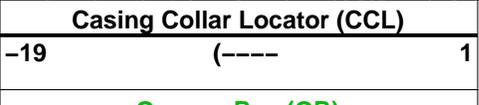
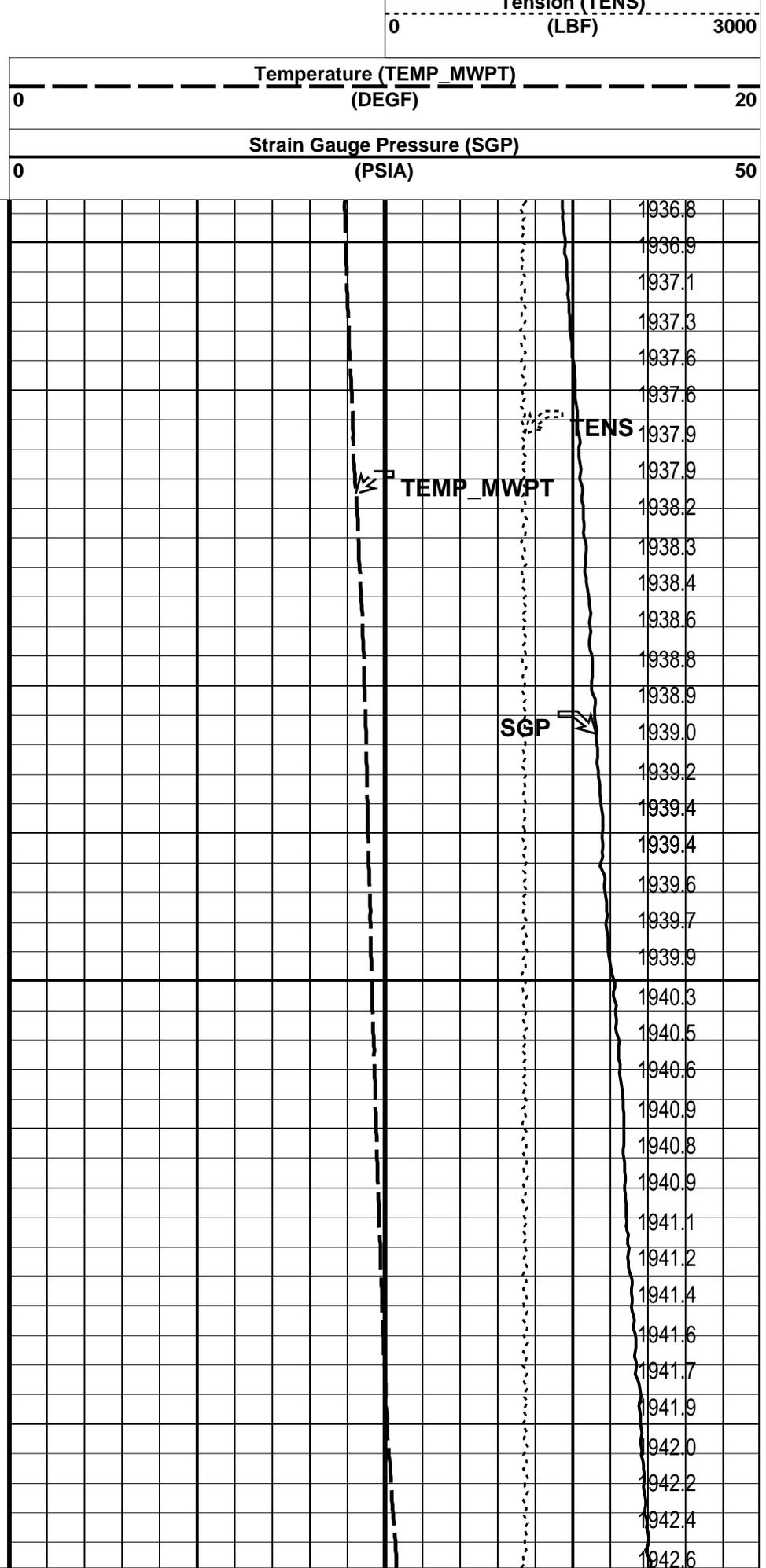
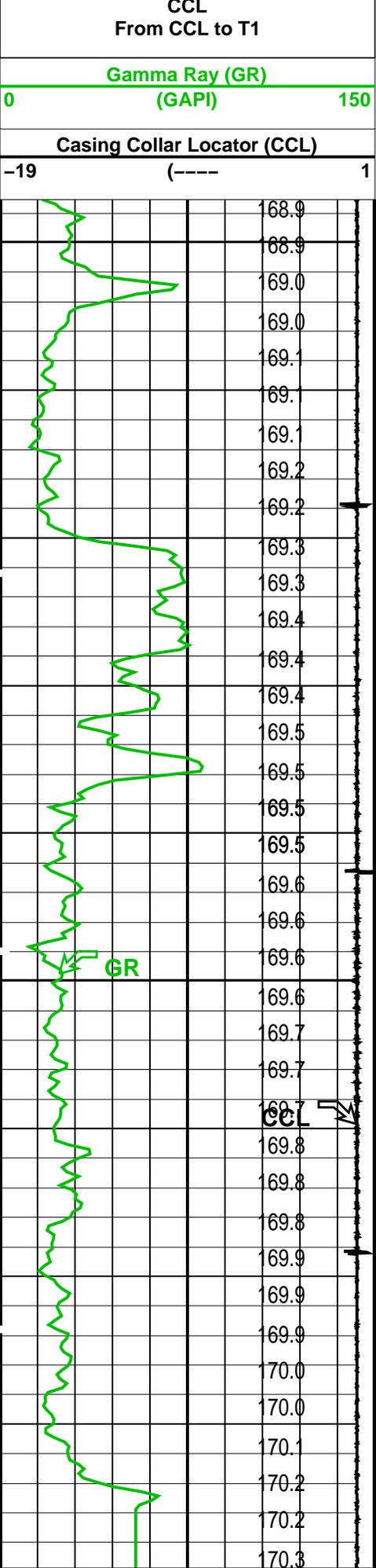
MCM

MWP_GUN	SRC-2820-ASFS-WPP_t	MWPT-CA	SRC-2820-ASFS-WPP_t
MWGT-AA	SRC-2820-ASFS-WPP_t		

PIP SUMMARY

Time Mark Every 60 S

Temperature (TEMP_MWPT) (DEGF)	Pressure (SGPA) (PSIA)
	Tension (TENS)



Gamma Ray (GR)		150
(GAPI)		
CCL From CCL to T1		
	Temperature (TEMP_MWPT) (DEGF)	

Temperature (TEMP_MWPT) (DEGF)		20
Tension (TENS) (LBF)		
0		3000
	Pressure (SGPA) (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: 09-Jan-2006 09:47

OP System Version: 13C0-300

MCM

MWP_GUN	SRC-2820-ASFS-WPP_1	MWPT-CA	SRC-2820-ASFS-WPP_1
MWGT-AA	SRC-2820-ASFS-WPP_1		

Output DLIS Files

DEFAULT	PERFO_038LUP	FN:36	PRODUCER	09-Jan-2006 09:47
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Company: ExxonMobil

Schlumberger

Well: MLA A-2a

Field: Marlin

Rig: Crane / Prod 4

Country: Australia

2 1/8" Enerjet Gun
MWPT
Perforating Record