

Company: Esso Australia Pty Ltd.

Well: FORTESCUE A5A

Field: FORTESCUE

Rig: Prod 4 / Crane

Country: Australia

RST-E  
C/O Logging Survey  
3-MAY-2010

Prod 4 / Crane  
FORTESCUE  
Gippsland  
FORTESCUE A5A  
Esso Australia Pty Ltd.

LOCATION			
Gippsland		Elev.:	K.B. 34.50 m
Basin			G.L. -69.00 m
Bass Strait			D.F. 34.50 m
Permanent Datum:	MSL	Elev.:	0.00 m
Log Measured From:	DF	34.50 m	above Perm. Datum
Drilling Measured From:	DF		
State:	Max. Well Deviation	Longitude	Latitude
Victoria	67.05 deg	148°16'41.4319"E	038°24'25.452"S

Logging Date	3-May-2010				
Run Number	1				
Depth Driller	4510 m				
Schlumberger Depth	4280.5 m				
Bottom Log Interval	4276.5 m				
Top Log Interval	4225 m				
Casing Fluid Type	Production Fluids				
Salinity					
Density					
Fluid Level	18 m				
BIT/CASING/TUBING STRING					
Bit Size	8.000 in				
From	4165 m				
To	4510 m				
Casing/Tubing Size	7.000 in				
Weight	26 lbm/ft				
Grade	L-80				
From	18.4 m				
To	4498 m				
Maximum Recorded Temperatures	224 degF				
Logger On Bottom	3-May-2010		10:12		
Unit Number	889	AUSL			
Recorded By	S Gilbert , W Mackenzie				
Witnessed By	B White				

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	67.05 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: 3-MAY-2010 10:37:47

## Logging Cable

Type:	2-32ZT
Serial Number:	208558
Length:	5800 M
Conveyance Method:	Wireline
Rig Type:	Offshore Fixed

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	Solar Composite Log
Reference Log Run Number:	UNKNOWN
Reference Log Date:	UNKNOWN
Subsequent Trip Down Log Correction:	

1. Rigged up on main deck using platform crane
2. Log correlated to SOLAR composite log provided by client
3. IDW used as primary depth control, Z-chart as secondary
4. Depth offset -0.8m correlation pass
- 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

SBHP: 3113psia, SBHT: 224degF @ 4273.5m



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

4.26

4.11

Tension HV  
TOOL ZERO

0.03

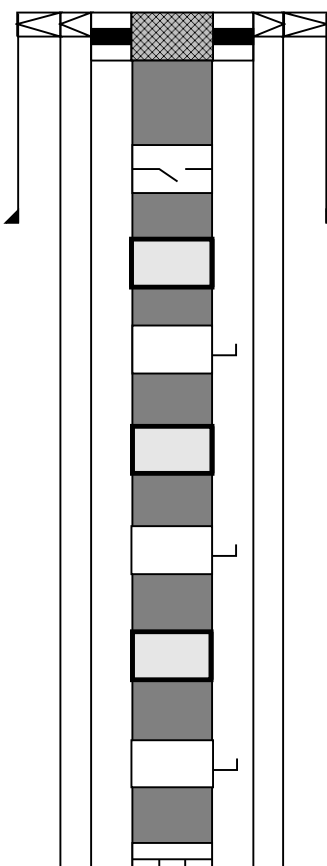
MAXIMUM STRING DIAMETER 1.72 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN METERS

AH-BNS

Client: Esso Australia Pty Ltd  
Well: FORTESCUE A5A  
Field: FORTESCUE  
State: VICTORIA  
Country: AUSTRALIA

Drawing Date: 5/2/2010

Rig Name: FORTESCUE  
Reference Datum: Mean Sea Level  
Elevation: 0.0 m

Production String	(in)		(m)	Well Schematic	(m)		(in)	Casing String
	OD	ID	MD		MD	OD	ID	
Tubing Hanger	7.000	3.500	19.0		19.0	7.000		Surface Casing
Tubing	3.500	2.992	19.0		21.0	13.375		Intermediate Casing
					21.0	9.625		Production Casing
SSSV	3.500	2.750	455.5					
Blast Joint	3.500	2.897	1238.2		1087.6	13.375		Casing Shoe
Side Pocket Mandrel	3.500	2.895	1240.8					
Blast Joint	3.500	2.897	2007.3					
Side Pocket Mandrel	3.500	2.895	2010.3					
Blast Joint	3.500	2.897	2555.0					
Side Pocket Mandrel	3.500	2.895	2558.0					
Landing Nipple	3.500	2.750	2572.5					

					4165.1	9.625	Casing Shoe
No Go Locator	3.500	3.050	4197.9				
Seal Unit	3.500	3.050	4198.3				
Packer	7.000	3.500	4198.1				
Landing Nipple	3.500	2.329	4216.4				
Wireline re-entry Guide	3.500	2.992	4216.8				
					4286.5		PBTD
					4498.0	7.000	Casing Shoe

All Depths are Drillers Depths  
Drawing not to Scale



## Job Event Summary

MAXIS Field Log

### Schlumberger Job Event Summary

	Time	Elapsed Time	Depth (M)	File
Rig Up Started	3-May-2010 7:20			
Station Log	3-May-2010 7:47	000:26	992.0	RST_PSP_015LTP
Pressure test				
Descent 1: RSTC/PSPT				
Begin Descent	3-May-2010 8:15			
Log Pass (down)	3-May-2010 8:19	001:03	-1.1 - 4282.9	RST_PSP_016LDP
RIH				
Log Pass (up)	3-May-2010 9:22	000:13	4287.0 - 4167.7	RST_PSP_017LUP
Correlation Pass				
Log Pass (up)	3-May-2010 10:04	001:32	4286.1 - 4214.6	RST_PSP_022LUP
I/C Pass 1				

Log Pass (up)	3-May-2010 11:39	001:31	4283.4 -	4214.0	RST_PSP_023LUP
I/C Pass 2					
Log Pass (up)	3-May-2010 13:11	001:32	4284.1 -	4214.6	RST_PSP_024LUP
I/C Pass 3					
Log Pass (up)	3-May-2010 14:50	001:34	4284.7 -	4214.6	RST_PSP_025LUP
I/C Pass 4					
Log Pass (up)	3-May-2010 16:29	001:26	4283.8 -	4214.5	RST_PSP_026LUP
I/C Pass 5					
Log Pass (up)	3-May-2010 17:56	001:02	4219.0 -	57.0	RST_PSP_027LUP
POOH					
Rig Down Completed	3-May-2010 19:45				

Schlumberger

RST I/C Survey  
Pass 5

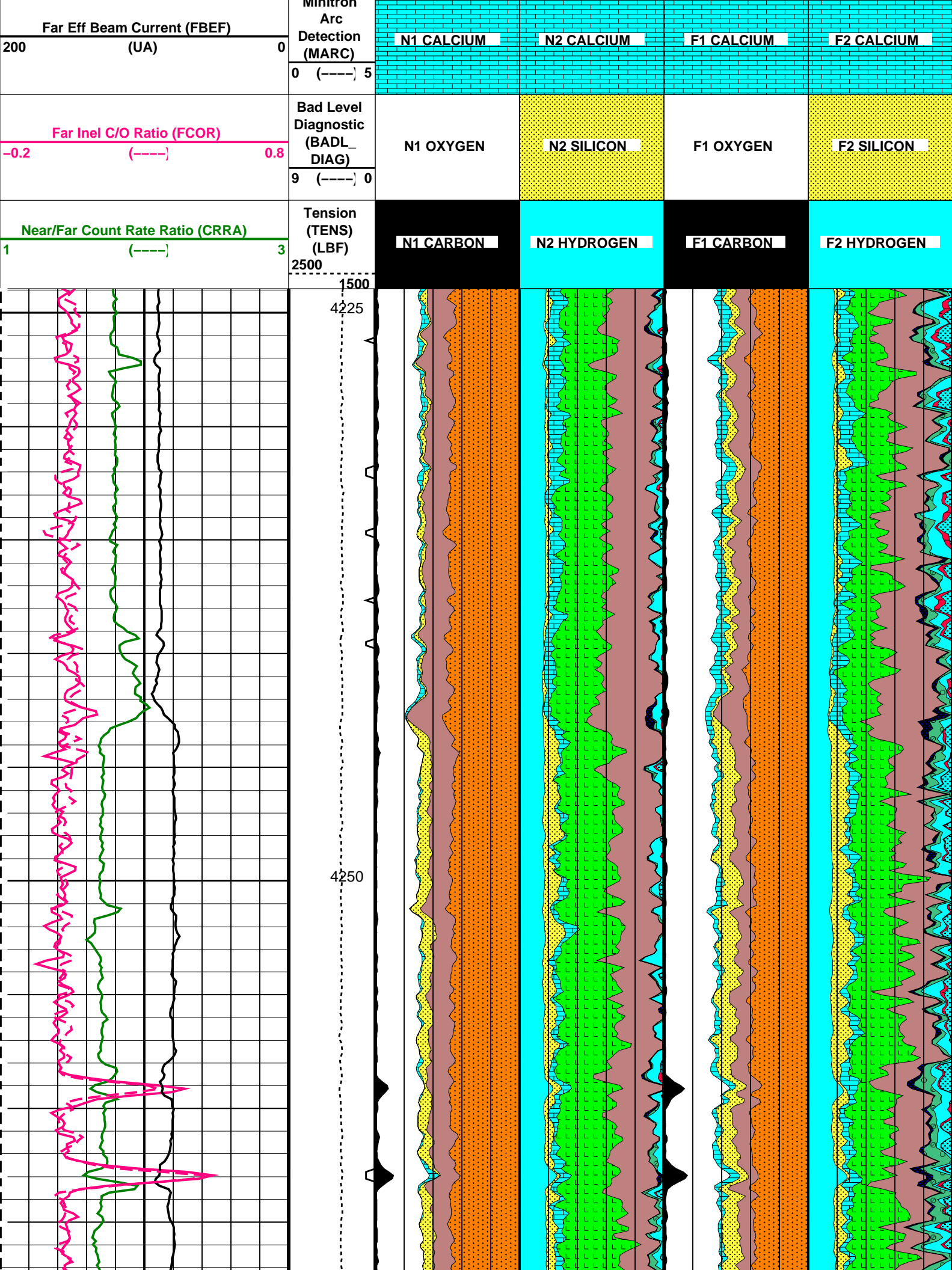
MAXIS Field Log

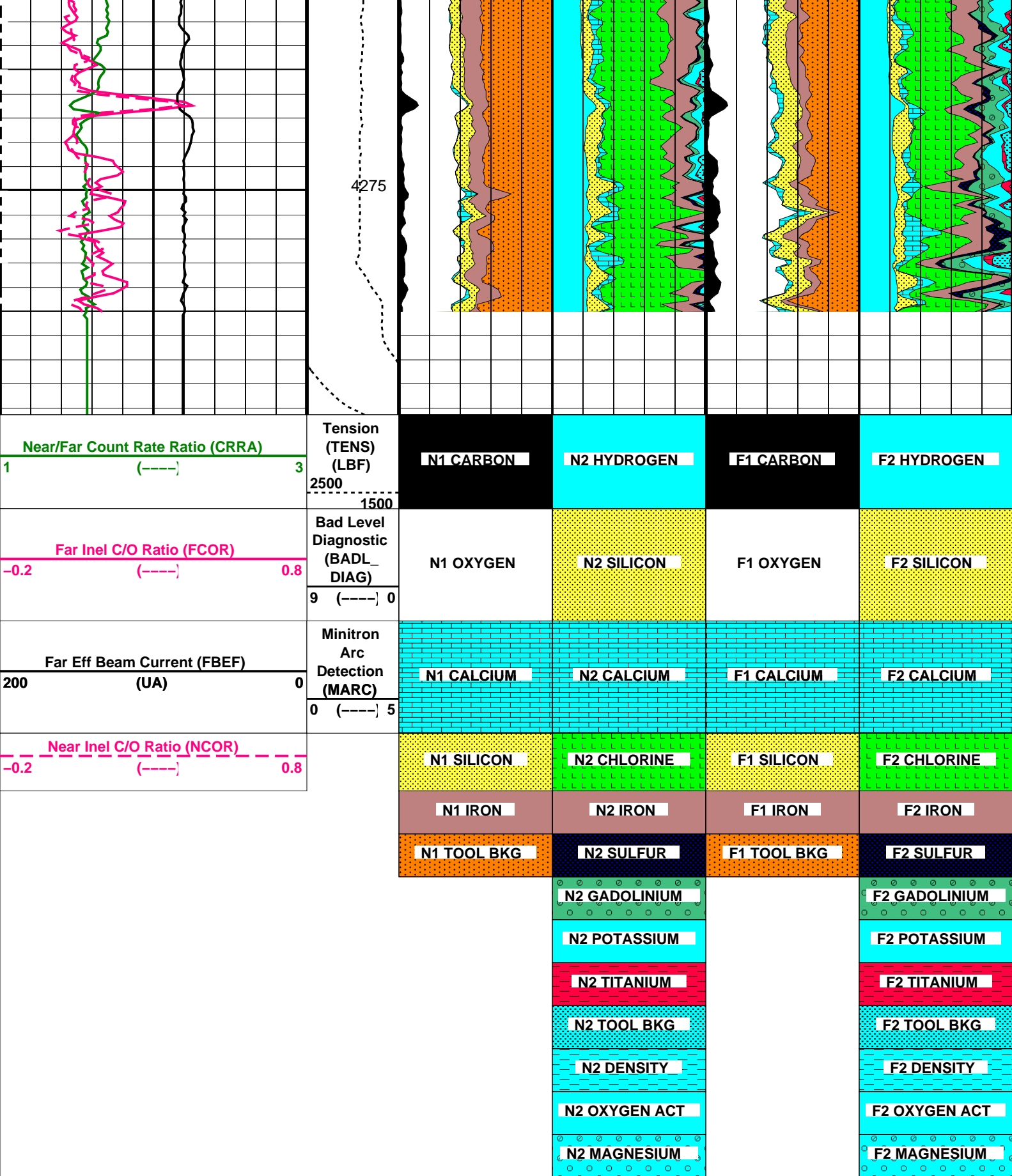
Company: Esso Australia Pty Ltd.				Well: FORTESCUE A5A		
Input DLIS Files						
DEFAULT	RST_PSP_026LUP	FN:36	PRODUCER	03-May-2010 16:29	4283.8 M	4214.5 M
Output DLIS Files						
DEFAULT	RST_PSP_035PUP	FN:51	PRODUCER	04-May-2010 09:07	4284.3 M	4223.9 M
CUSTOMER	RST_PSP_035PUC	FN:52	CUSTOMER	04-May-2010 09:07	4284.3 M	4223.9 M
OP System Version: 17C0-154						
RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17			
PIP SUMMARY						
<div>Time Mark Every 60 S</div>						

		N2 MAGNESIUM		F2 MAGNESIUM	
		N2 OXYGEN ACT		F2 OXYGEN ACT	
		N2 DENSITY		F2 DENSITY	
		N2 TOOL BKG		F2 TOOL BKG	
		N2 TITANIUM		F2 TITANIUM	
		N2 POTASSIUM		F2 POTASSIUM	
		N2 GADOLINIUM		F2 GADOLINIUM	
		N1 TOOL BKG	N2 SUI EUR	F1 TOOL BKG	F2 SUI EUR
		N1 IRON	N2 IRON	F1 IRON	F2 IRON
		N1 SILICON	N2 CHLORINE	F1 SILICON	F2 CHLORINE

Near Inel C/O Ratio (NCOR)  
-0.2
(----)
0.8

Minitron





PIP SUMMARY		
Time Mark Every 60 S		
Parameters		
DLIS Name	Description	Value
RST-C: Reservoir Saturation Pro Tool C		
TIER_IC	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith



DO  
PP

System and Miscellaneous

Depth Offset for Playback  
Playback Processing

0.4 M

NORMAL

Format: RST\_YIELDS

Vertical Scale: 1:200

Graphics File Created: 04-May-2010 09:07

OP System Version: 17C0-154

RST-C

SRPC-3971-Q1\_2010\_OP17

PSPT

SRPC-3971-Q1\_2010\_OP17

Input DLIS Files

DEFAULT

RST\_PSP\_026LUP

FN:36

PRODUCER

03-May-2010 16:29

4283.8 M

4214.5 M

Output DLIS Files

DEFAULT

RST\_PSP\_035PUP

FN:51

PRODUCER

04-May-2010 09:07

CUSTOMER

RST\_PSP\_035PUC

FN:52

CUSTOMER

04-May-2010 09:07

Schlumberger

RST I/C Survey  
Pass 4

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: FORTESCUE A5A

Input DLIS Files

DEFAULT

RST\_PSP\_025LUP

FN:34

PRODUCER

03-May-2010 14:50

4284.7 M

4214.6 M

Output DLIS Files

DEFAULT

RST\_PSP\_039PUP

FN:58

PRODUCER

04-May-2010 10:45

4285.2 M

4223.9 M

CUSTOMER

RST\_PSP\_039PUC

FN:59

CUSTOMER

04-May-2010 10:45

4285.2 M

4223.9 M

OP System Version: 17C0-154

RST-C

SRPC-3971-Q1\_2010\_OP17

PSPT

SRPC-3971-Q1\_2010\_OP17

PIP SUMMARY

Time Mark Every 60 S

N2 MAGNESIUM

N2 OXYGEN ACT

N2 DENSITY

N2 TOOL BKG

N2 TITANIUM

N2 POTASSIUM

N2 GADOLINIUM

N1 TOOL BKG

N2 SULFUR

F2 MAGNESIUM

F2 OXYGEN ACT

F2 DENSITY

F2 TOOL BKG

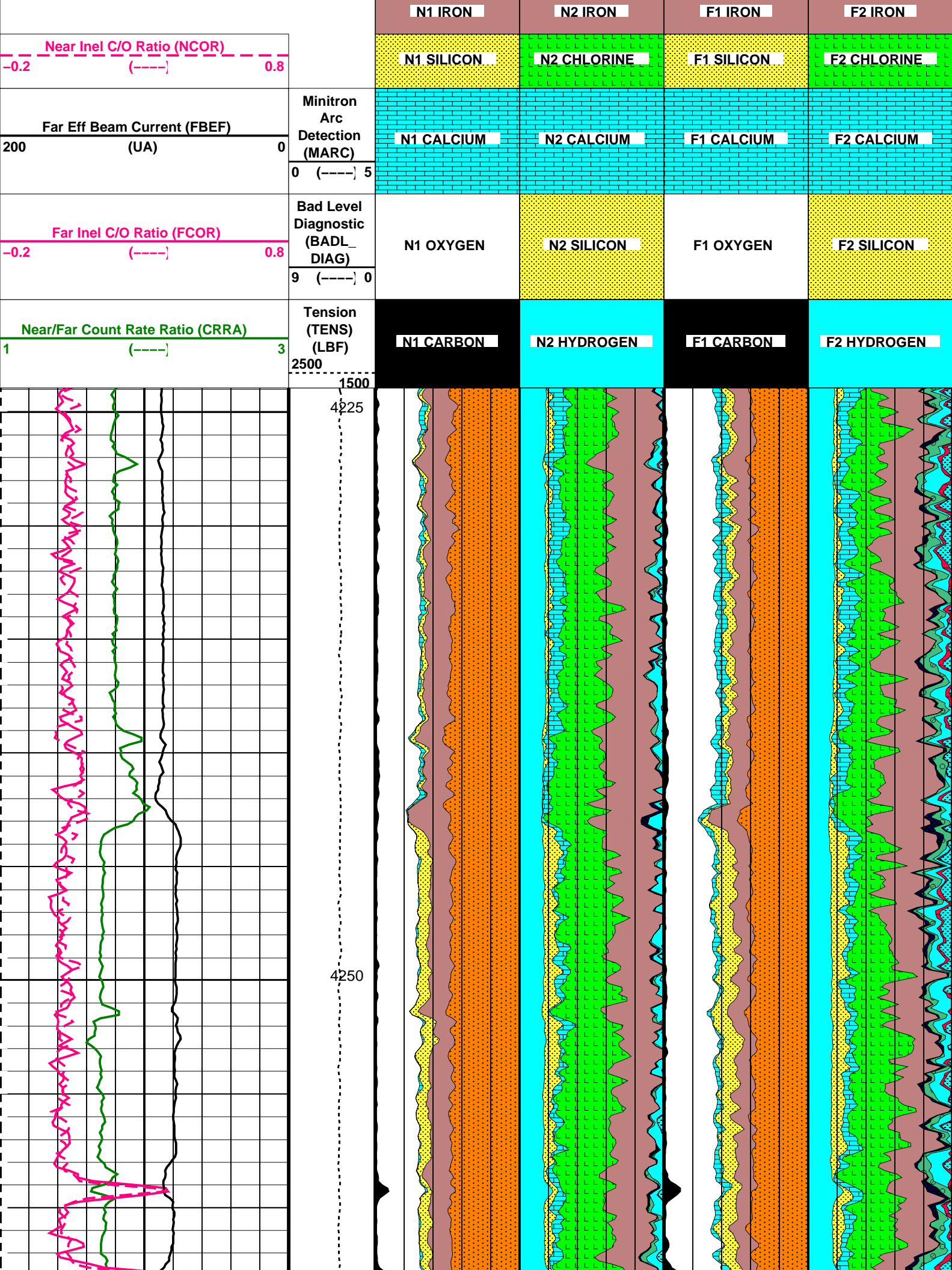
F2 TITANIUM

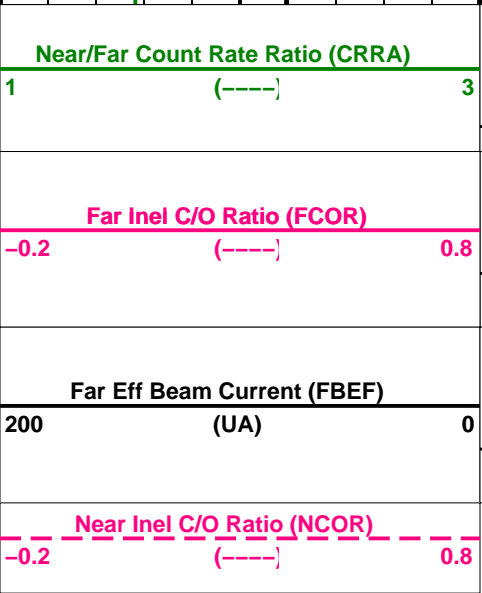
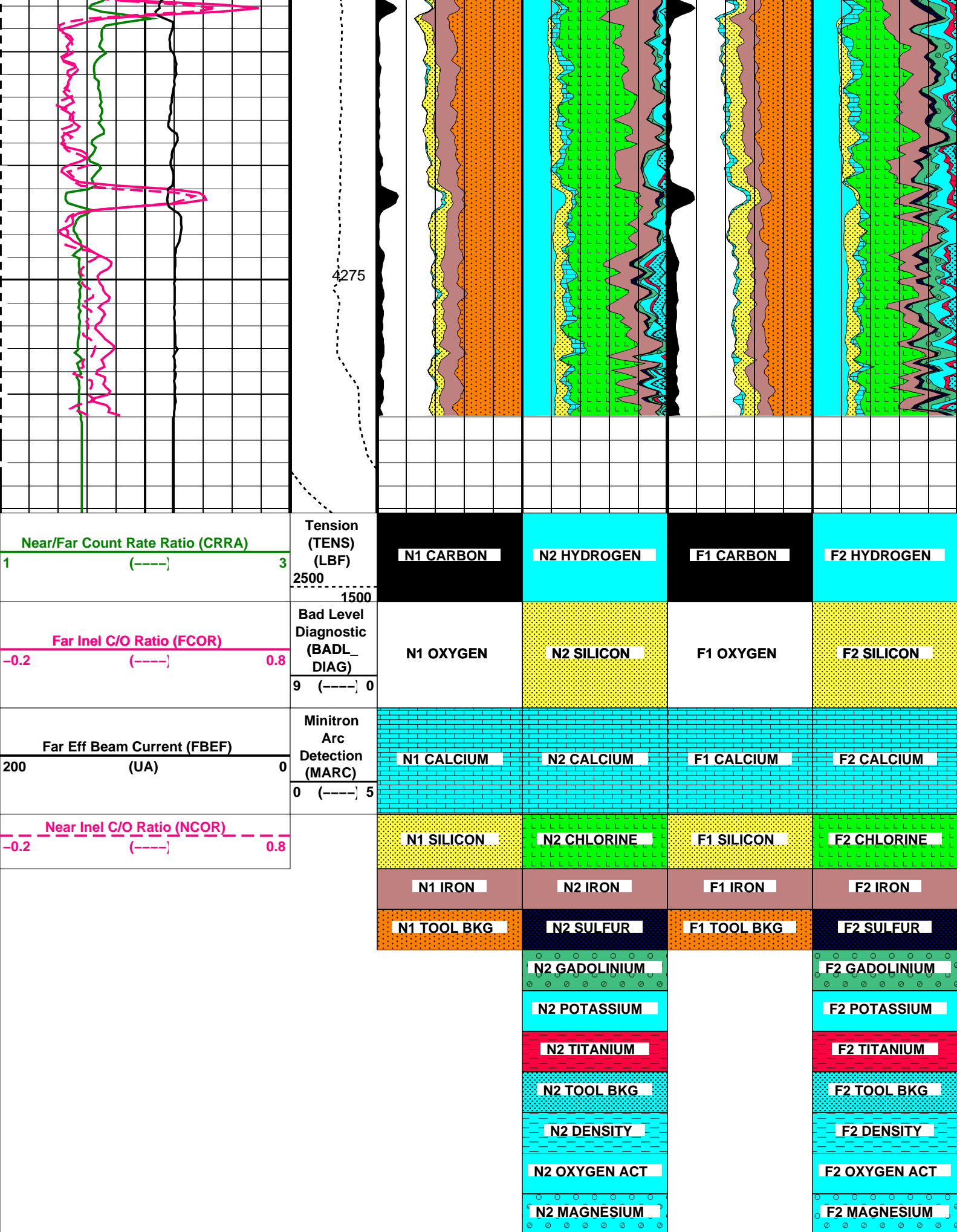
F2 POTASSIUM

F2 GADOLINIUM

F1 TOOL BKG

F2 SULFUR





Tension  
(TENS)  
(LBF)  
2500  
1500  
4275

Bad Level  
Diagnostic  
(BADL\_  
DIAG)  
9 (----) 0

Minitron  
Arc  
Detection  
(MARC)  
0 (----) 5

N1 CARBON	N2 HYDROGEN	F1 CARBON	F2 HYDROGEN
N1 OXYGEN	N2 SILICON	F1 OXYGEN	F2 SILICON
N1 CALCIUM	N2 CALCIUM	F1 CALCIUM	F2 CALCIUM
N1 SILICON	N2 CHLORINE	F1 SILICON	F2 CHLORINE
N1 IRON	N2 IRON	F1 IRON	F2 IRON
N1 TOOL BKG	N2 SULFUR	F1 TOOL BKG	F2 SULFUR
	N2 GADOLINIUM		F2 GADOLINIUM
	N2 POTASSIUM		F2 POTASSIUM
	N2 TITANIUM		F2 TITANIUM
	N2 TOOL BKG		F2 TOOL BKG
	N2 DENSITY		F2 DENSITY
	N2 OXYGEN ACT		F2 OXYGEN ACT
	N2 MAGNESIUM		F2 MAGNESIUM

PIP SUMMARY

Parameters		
DLIS Name	Description	Value
RST-C: Reservoir Saturation Pro Tool C		
TIER_IC	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith
	System and Miscellaneous	
DO	Depth Offset for Playback	0.4 M
PP	Playback Processing	NORMAL


Format: RST\_YIELDS

Vertical Scale: 1:200

Graphics File Created: 04-May-2010 10:45

OP System Version: 17C0-154			
RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17

Input DLIS Files						
DEFAULT	RST_PSP_025LUP	FN:34	PRODUCER	03-May-2010 14:50	4284.7 M	4214.6 M
Output DLIS Files						
DEFAULT	RST_PSP_039PUP	FN:58	PRODUCER	04-May-2010 10:45		
CUSTOMER	RST_PSP_039PUC	FN:59	CUSTOMER	04-May-2010 10:45		



RST I/C Survey

Pass 3

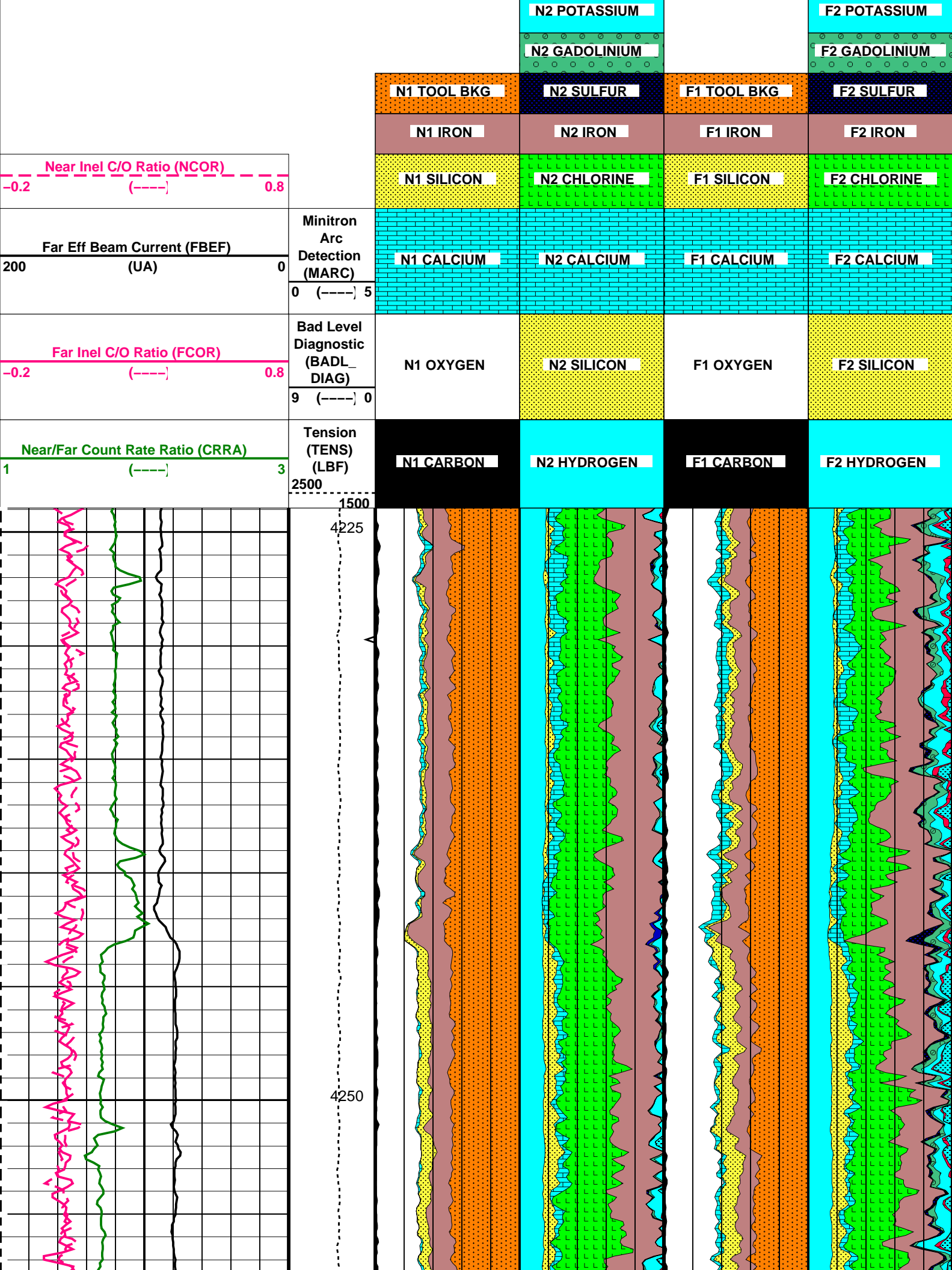
MAXIS Field Log

Company: Esso Australia Pty Ltd.				Well: FORTESCUE A5A		
Input DLIS Files						
DEFAULT	RST_PSP_024LUP	FN:32	PRODUCER	03-May-2010 13:11	4284.1 M	4214.6 M
Output DLIS Files						
DEFAULT	RST_PSP_033PUP	FN:47	PRODUCER	04-May-2010 08:47	4284.3 M	4223.9 M
CUSTOMER	RST_PSP_033PUC	FN:48	CUSTOMER	04-May-2010 08:47	4284.3 M	4223.9 M
OP System Version: 17C0-154						
RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17			

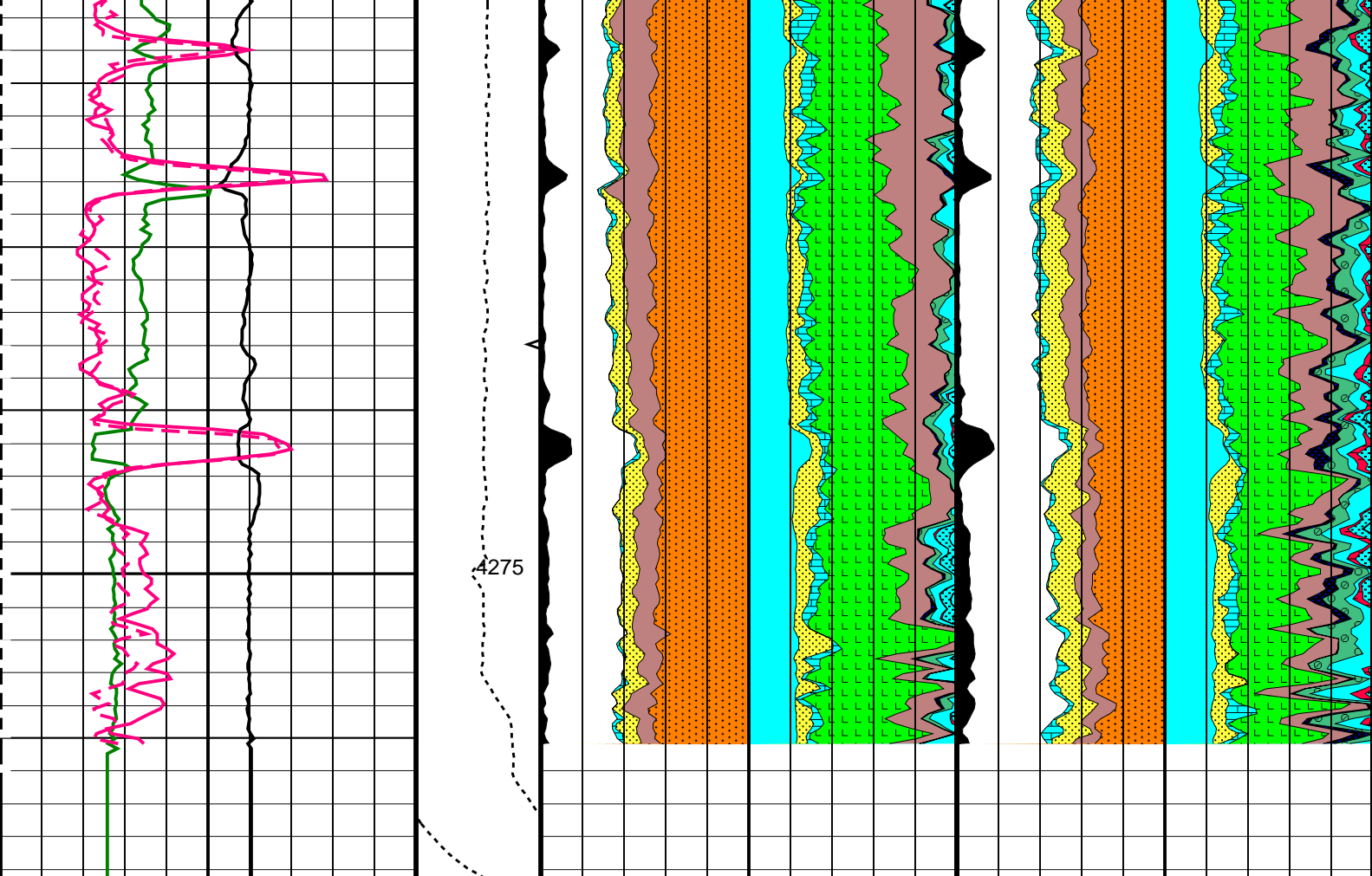
PIP SUMMARY

Time Mark Every 60 S

	<div>N2 MAGNESIUM</div> <div>N2 OXYGEN ACT</div> <div>N2 DENSITY</div> <div>N2 TOOL BKG</div> <div>N2 TITANIUM</div>		<div>F2 MAGNESIUM</div> <div>F2 OXYGEN ACT</div> <div>F2 DENSITY</div> <div>F2 TOOL BKG</div> <div>F2 TITANIUM</div>
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<div>Near/Far Count Rate Ratio (CRRR) 1 (----) 3</div>	<div>Tension (TENS) (LBF) 2500 1500</div>	<div>N1 CARBON</div>	<div>N2 HYDROGEN</div>	<div>F1 CARBON</div>	<div>F2 HYDROGEN</div>
<div>Far Inel C/O Ratio (FCOR) -0.2 (----) 0.8</div>	<div>Bad Level Diagnostic (BADL_DIAG) 9 (----) 0</div>	<div>N1 OXYGEN</div>	<div>N2 SILICON</div>	<div>F1 OXYGEN</div>	<div>F2 SILICON</div>
<div>Far Eff Beam Current (FBEF) 200 (UA) 0</div>	<div>Minitron Arc Detection (MARC) 0 (----) 5</div>	<div>N1 CALCIUM</div>	<div>N2 CALCIUM</div>	<div>F1 CALCIUM</div>	<div>F2 CALCIUM</div>
<div>Near Inel C/O Ratio (NCOR) -0.2 (----) 0.8</div>		<div>N1 SILICON</div>	<div>N2 CHLORINE</div>	<div>F1 SILICON</div>	<div>F2 CHLORINE</div>
		<div>N1 IRON</div>	<div>N2 IRON</div>	<div>F1 IRON</div>	<div>F2 IRON</div>
		<div>N1 TOOL BKG</div>	<div>N2 SULFUR</div>	<div>F1 TOOL BKG</div>	<div>F2 SULFUR</div>
			<div>N2 GADOLINIUM</div>		<div>F2 GADOLINIUM</div>
			<div>N2 POTASSIUM</div>		<div>F2 POTASSIUM</div>
			<div>N2 TITANIUM</div>		<div>F2 TITANIUM</div>
			<div>N2 TOOL BKG</div>		<div>F2 TOOL BKG</div>
			<div>N2 DENSITY</div>		<div>F2 DENSITY</div>
			<div>N2 OXYGEN ACT</div>		<div>F2 OXYGEN ACT</div>

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
TIER_IC	RST-C: Reservoir Saturation Pro Tool C RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith
DO	System and Miscellaneous	0.2 M
PP	Depth Offset for Playback Playback Processing	NORMAL

Format: RST\_YIELDS    Vertical Scale: 1:200    Graphics File Created: 04-May-2010 08:47

OP System Version: 17C0-154

RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17
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Input DLIS Files

DEFAULT	RST_PSP_024LUP	FN:32	PRODUCER	03-May-2010 13:11	4284.1 M	4214.6 M
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Output DLIS Files

DEFAULT	RST_PSP_033PUP	FN:47	PRODUCER	04-May-2010 08:47		
CUSTOMER	RST_PSP_033PUC	FN:48	CUSTOMER	04-May-2010 08:47		

Schlumberger

RST I/C Survey  
Pass 2

MAXIS Field Log

Company: Esso Australia Pty Ltd.    Well: FORTESCUE A5A

Input DLIS Files

DEFAULT	RST_PSP_023LUP	FN:30	PRODUCER	03-May-2010 11:39	4283.4 M	4214.0 M
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Output DLIS Files

DEFAULT	RST_PSP_032PUP	FN:45	PRODUCER	04-May-2010 08:39	4283.5 M	4223.9 M
CUSTOMER	RST_PSP_032PUC	FN:46	CUSTOMER	04-May-2010 08:39	4283.5 M	4223.9 M

OP System Version: 17C0-154

RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17
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PIP SUMMARY

Time Mark Every 60 S

N2 MAGNESIUM

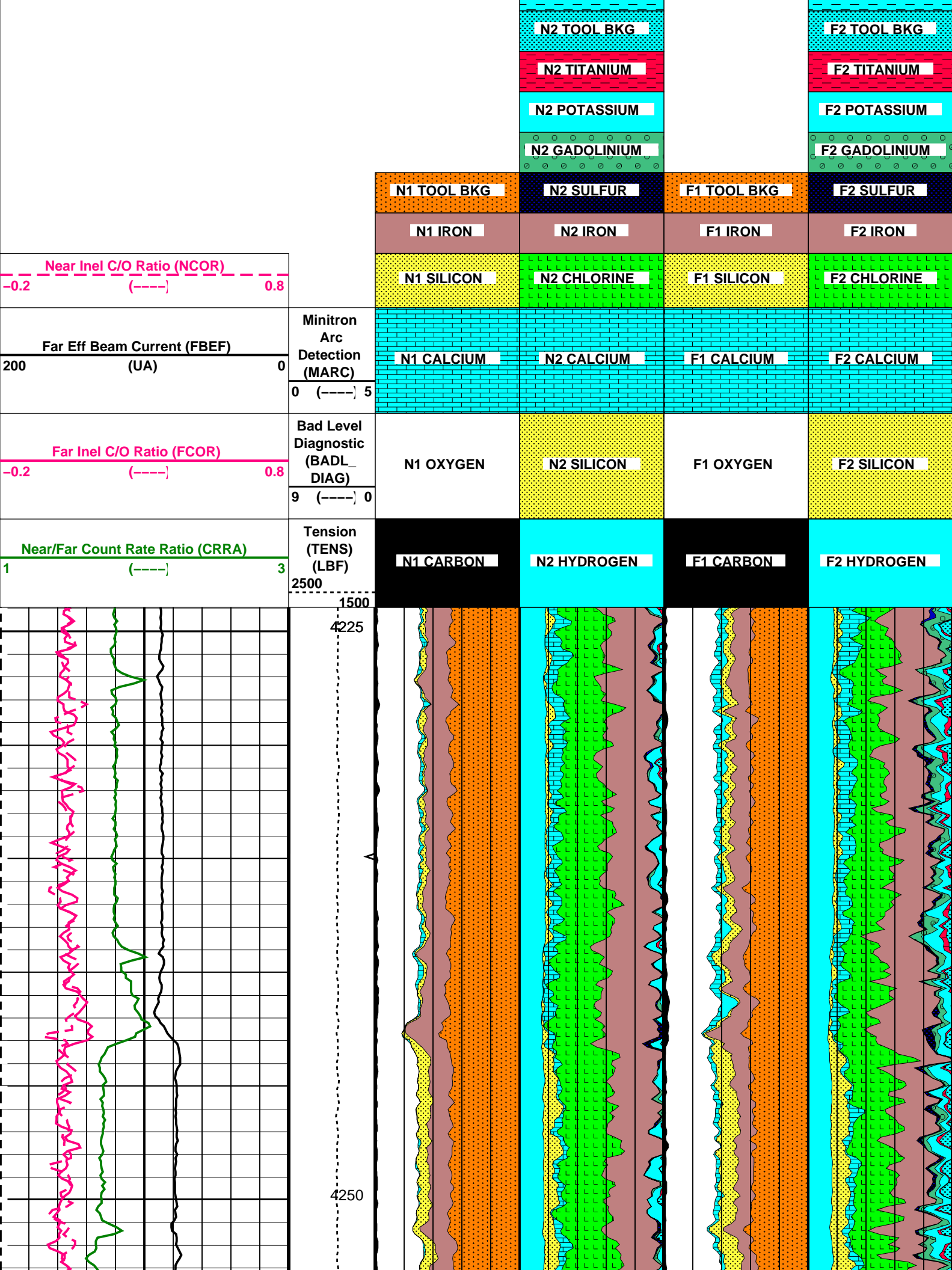
N2 OXYGEN ACT

N2 DENSITY

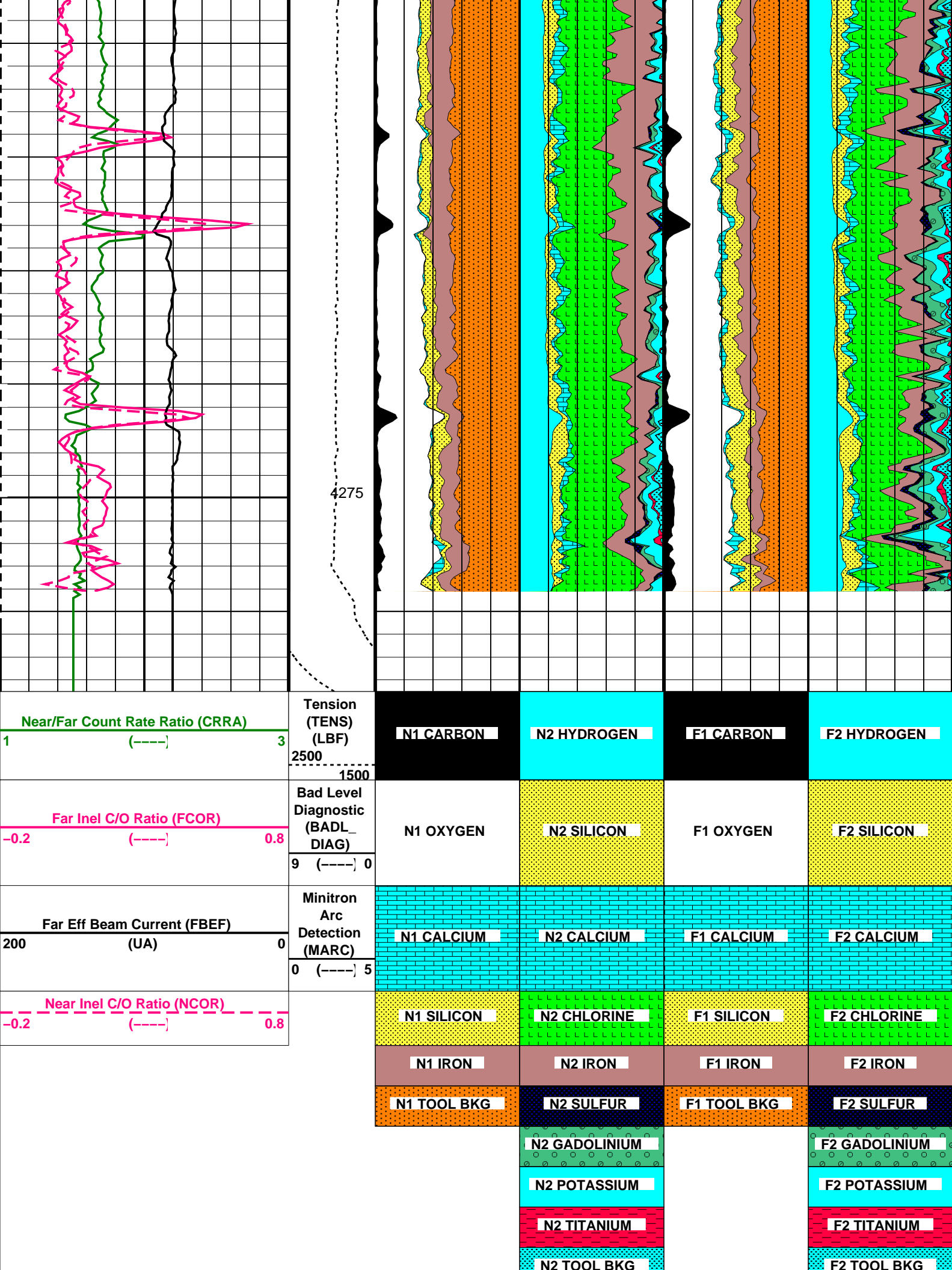
F2 MAGNESIUM

F2 OXYGEN ACT

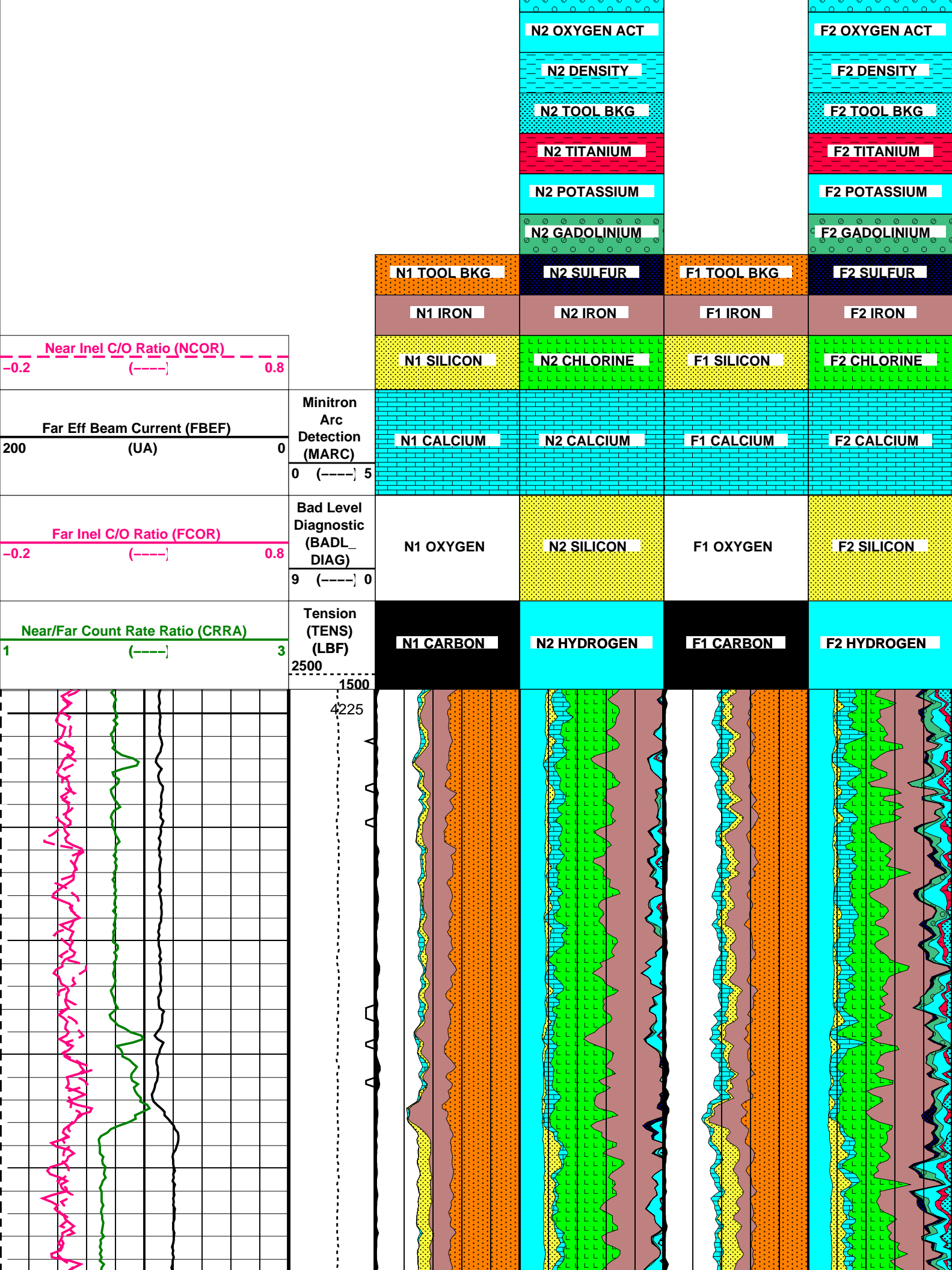
F2 DENSITY

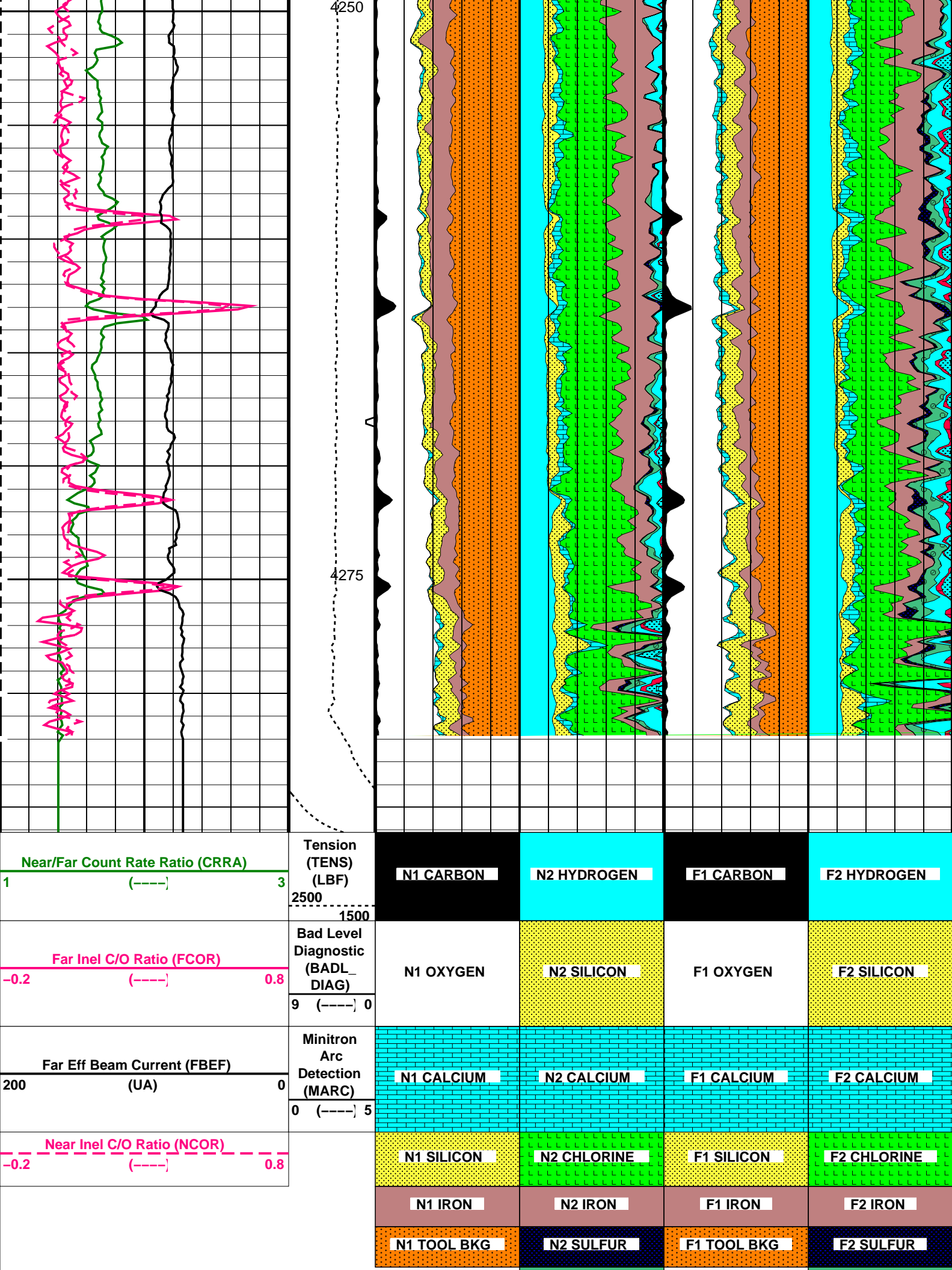


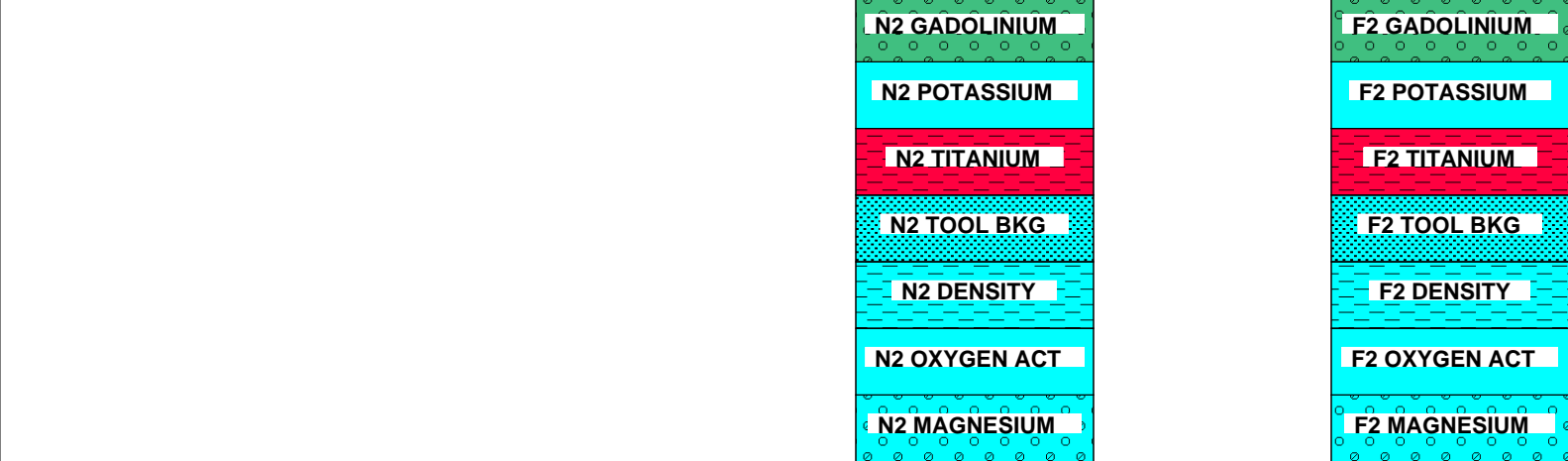












PIP SUMMARY

Time Mark Every 60 S

Parameters			
DLIS Name	Description	Value	
TIER_IC	RST-C: Reservoir Saturation Pro Tool C RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith	
DO	System and Miscellaneous	0.0	M
PP	Depth Offset for Playback Playback Processing	NORMAL	

Format: RST\_YIELDS    Vertical Scale: 1:200

Graphics File Created: 04-May-2010 08:25

OP System Version: 17C0-154			
RST-C	SRPC-3971-Q1_2010_OP17	PSPT	SRPC-3971-Q1_2010_OP17

Input DLIS Files						
DEFAULT	RST_PSP_022LUP	FN:28	PRODUCER	03-May-2010 10:04	4286.1 M	4214.6 M
Output DLIS Files						
DEFAULT	RST_PSP_031PUP	FN:43	PRODUCER	04-May-2010 08:25		
CUSTOMER	RST_PSP_031PUC	FN:44	CUSTOMER	04-May-2010 08:25		

Schlumberger

Correlation Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd.

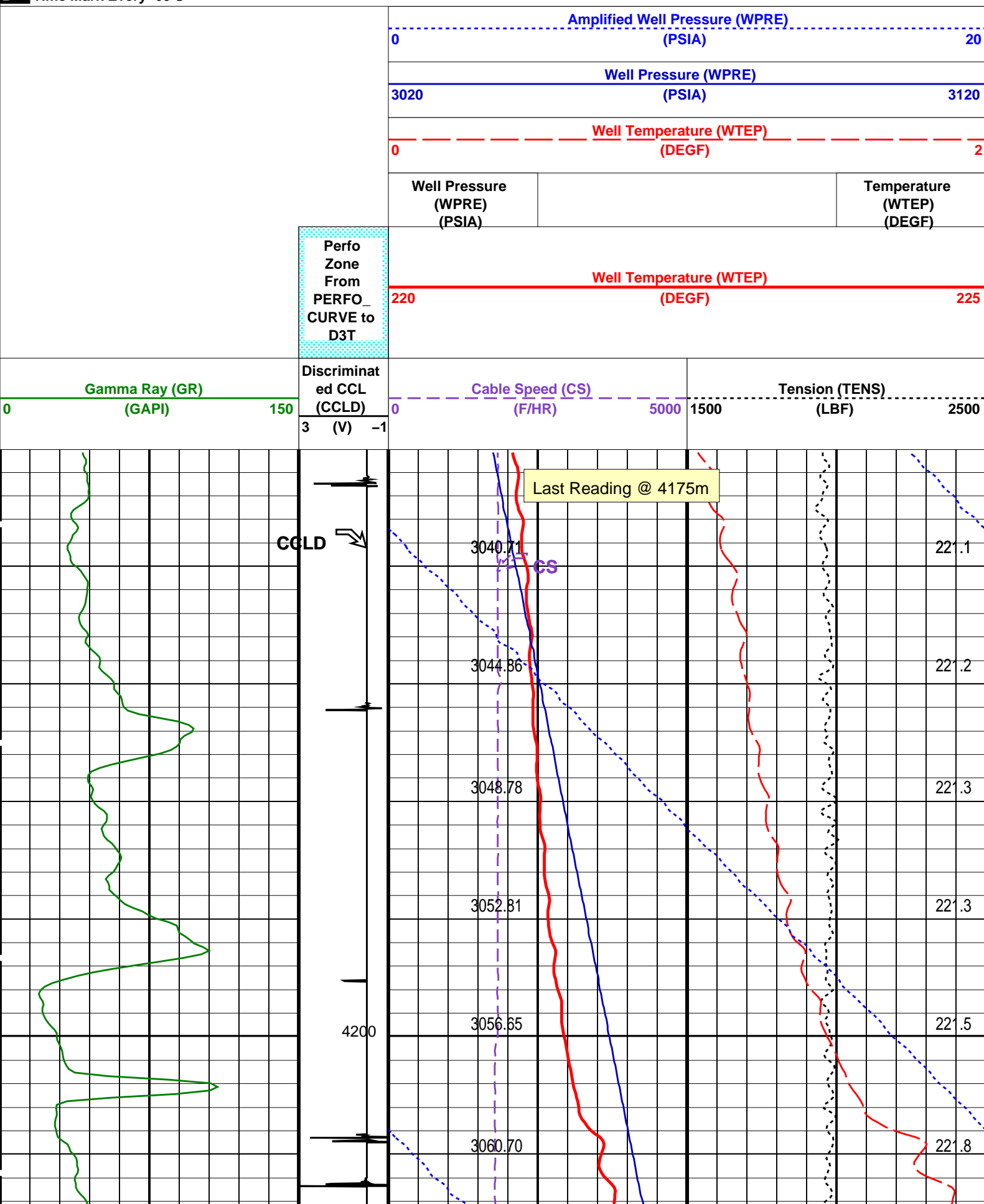
Well: FORTESCUE A5A

Input DLIS Files						
DEFAULT	RST_PSP_017LUP	FN:18	PRODUCER	03-May-2010 09:22	4287.0 M	4167.7 M
Output DLIS Files						
DEFAULT	RST_PSP_036PUP	FN:53	PRODUCER	04-May-2010 09:23	4286.3 M	4175.0 M
CUSTOMER	RST_PSP_036PUC	FN:54	CUSTOMER	04-May-2010 09:23	4286.3 M	4175.0 M

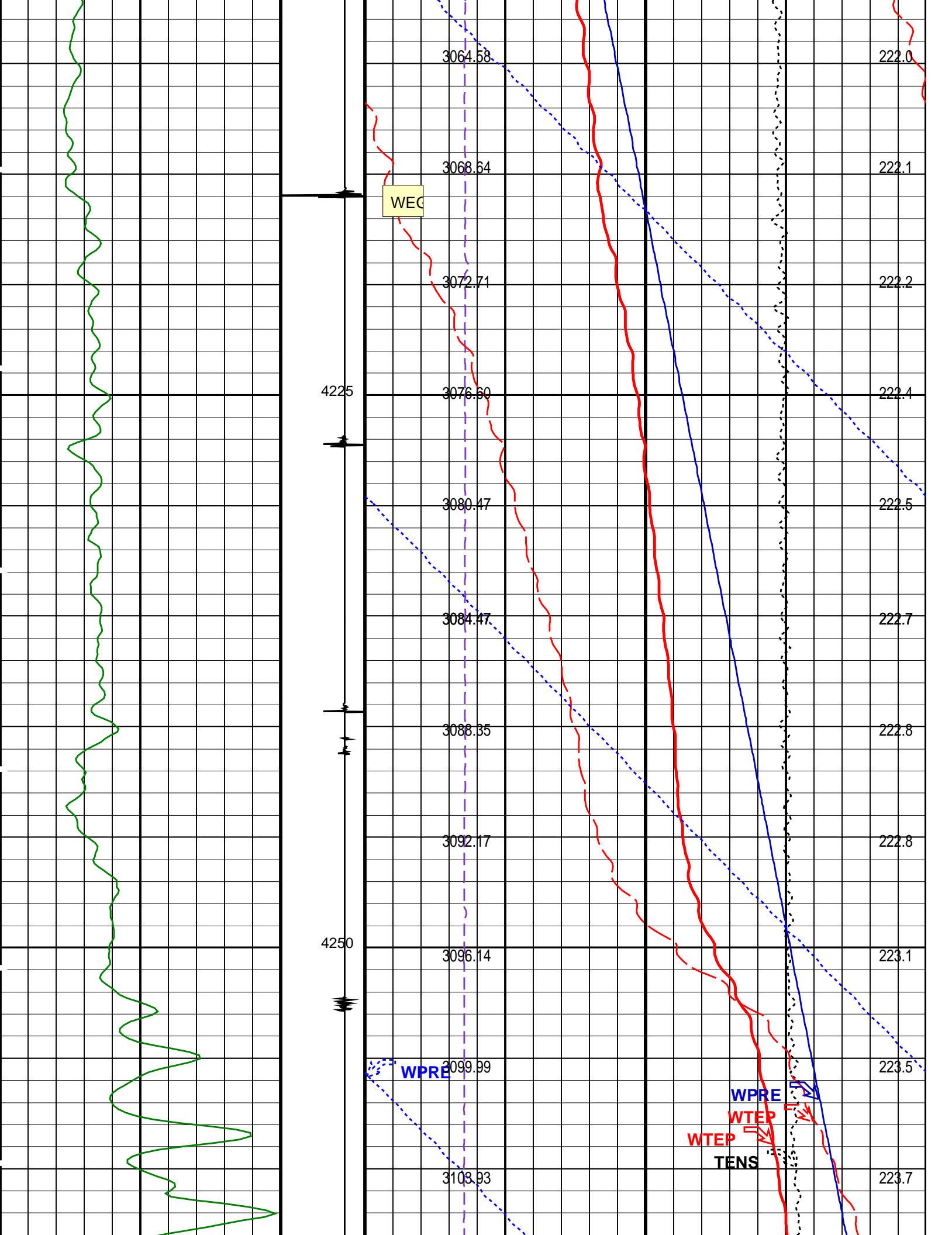
OP System Version: 17C0-154

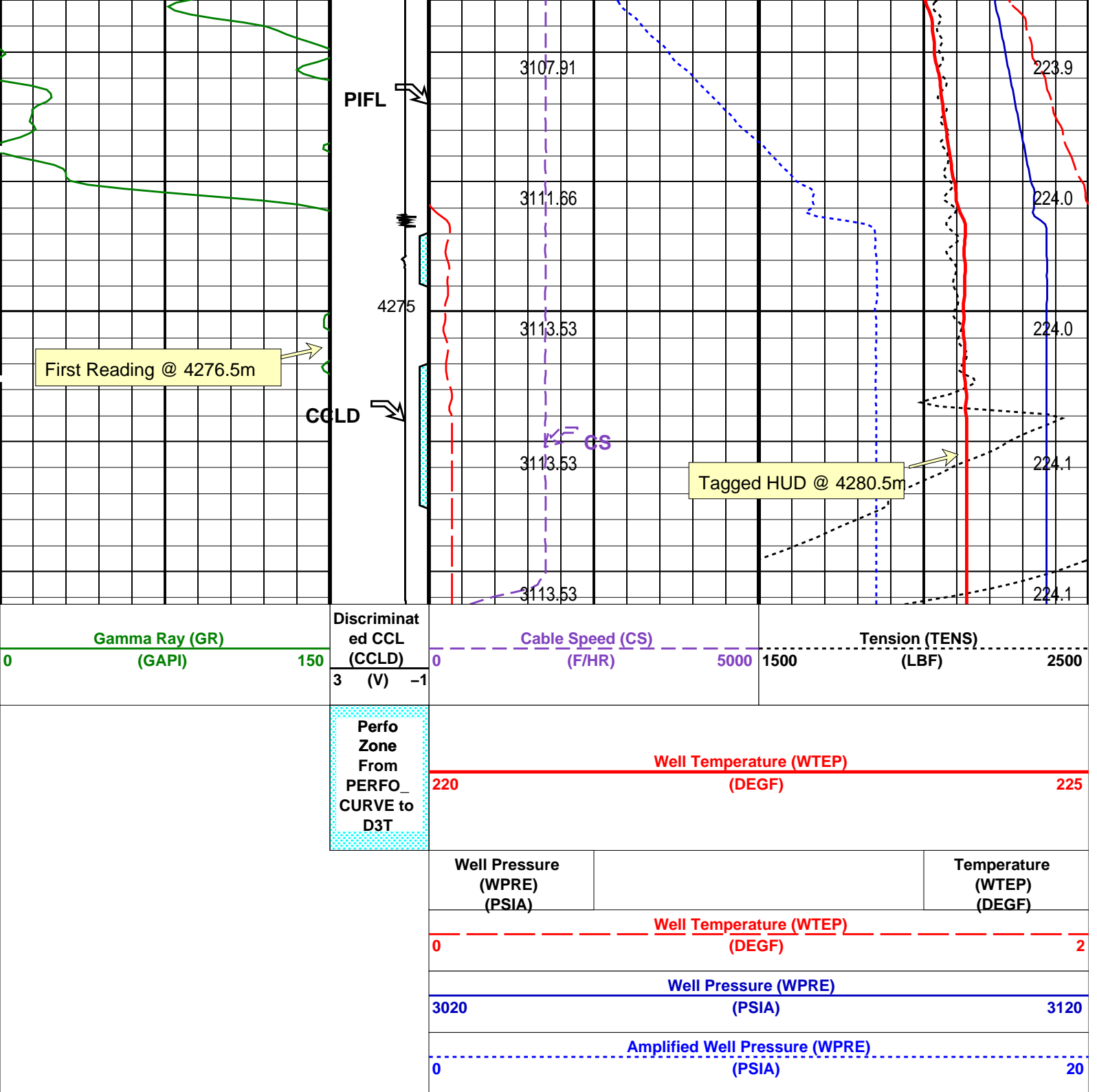
## PIP SUMMARY

**Time Mark Every 60 S**









Time Mark Every 60 S		
Format: PSP_1 Vertical Scale: 1:200		Graphics File Created: 04-May-2010 09:23
OP System Version: 17C0-154		
RST-C	SRPC-3971-Q1_2010_OP17	PSPT SRPC-3971-Q1_2010_OP17
Parameters		
DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	-0.8 M
PP	Playback Processing	NORMAL



## Input DLIS Files

DEFAULT	RST_PSP_017LUP	FN:18	PRODUCER	03-May-2010 09:22	4287.0 M	4167.7 M
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## Output DLIS Files

DEFAULT	RST_PSP_036PUP	FN:53	PRODUCER	04-May-2010 09:23
CUSTOMER	RST_PSP_036PUC	FN:54	CUSTOMER	04-May-2010 09:23

**Schlumberger**

**Before Calibration**

MAXIS Field Log

### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Production Services Logging Platform Wellsite Calibration – Detector Calibration							
Before: 2-May-2010 9:51							
Gamma-Ray Jig-Bkg	125.0	N/A	128.9	N/A	N/A	N/A	GAPI

### Production Services Logging Platform / Equipment Identification



#### Primary Equipment:

Production Logging Platform (CQG-F)	PSPT – B	1864
PSP Basic Measurement Sonde (CQG_F)	PBMS – B	3918
PSP Basic measurement module	PBMS –	3918
PSP CCL	CCL –	3918
PSP GR	GR –	3918
PSP RTD Well Temperature	RTD_ –	3918
PSP Crystal Quartz Gauge Type F	CQG_ –	3918
PSP Telemetry and bus master cartridge	PSTC – A	1864

#### Auxiliary Equipment:

### Production Services Logging Platform Wellsite Calibration

#### Detector Calibration

Phase	Gamma-Ray Background	GAPI	Value	Phase	Gamma-Ray Jig-Bkg	GAPI	Value
Before			5.006	Before			128.9
0 (Minimum)		30.00 (Nominal)	120.0 (Maximum)	110.0 (Minimum)		125.0 (Nominal)	140.0 (Maximum)

Before: 2-May-2010 9:51

Company: **Esso Australia Pty Ltd.**

**Schlumberger**

Well: **FORTESCUE A5A**  
Field: **FORTESCUE**  
Rig: **Prod 4 / Crane**  
Country: **Australia**

RST-E  
C/O Logging Survey  
3-MAY-2010