

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2, Dagny  
PL048**

Tittel:

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 A T2, Dagny  
PL048**

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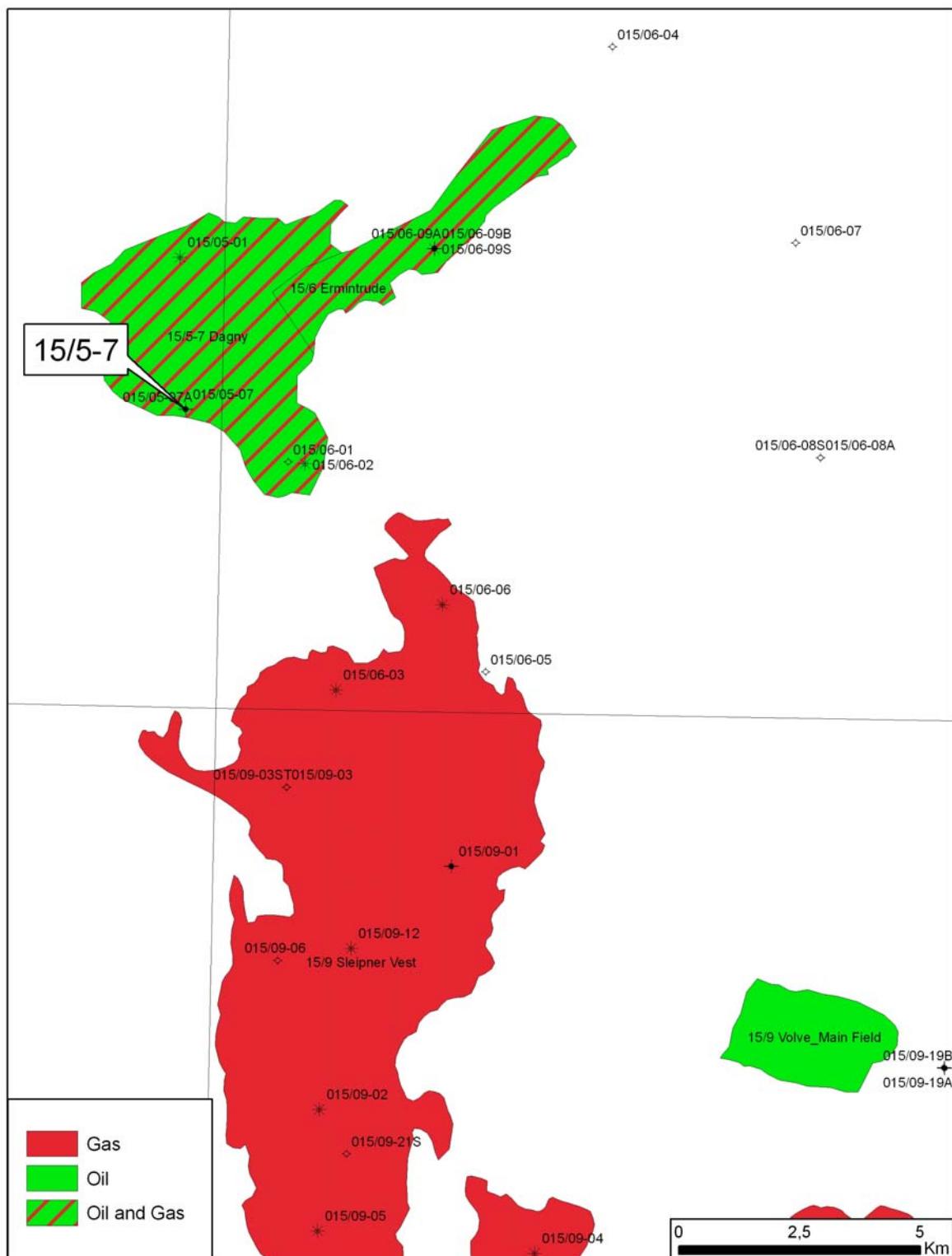
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## 1 Introduction

### 1.1 Well data record

Well name	:	15/5-7
Type of well	:	Appraisal well
Prospect	:	Dagny
Country	:	Norway
Area	:	North Sea
License	:	PL 048
Licencees	:	StatoilHydro ASA (Operator) 78.2 % Total E&P Norge AS 21.8 %
Drilling unit	:	Transocean Winner
Type	:	Semi Submersible
Water depth	:	119 m MSL
RKB	:	26.0 m
On license	:	01.07.2008 at 21:00 hrs
Spud date	:	04.07.2008 at 03:00 hrs
At TD	:	18.08.2008 at 00:00 hrs
Sidetrack A at TD	:	15.08.2008 at 15:00 hrs
Sidetrack A T2 at TD	:	29.08.2008 at 17:00 hrs
Rig released	:	14.09.2008 at 13:30 hrs
Formation at TD 15/5-7	:	Jurassic Skagerrak Fm
Formation at TD 15/5-7 A:	:	Sleipner Fm
Formation at TD 15/5-7 AT2:	:	Sleipner Fm
Surface coordinates	:	Geographic coordinates Latitude 58° 33' 22.2" N Longitude 01° 39' 19.3" E Datum/Spheroid ED50 / INT.1924
		UTM coordinates 6 491 566.0 m N 421 754.0 m E Zone: 31N, CM: 3°E
Seismic reference	:	ST06M02 In line 1800 Cross line 660

All depths in this report refer to MD RKB (Rotary Kelly Bushing) and logger's depth unless otherwise stated. Exception to this is chapter three and five and six, which refers to driller's depth.



**Figure 1-1: Location map**

## 1.2 Well objectives

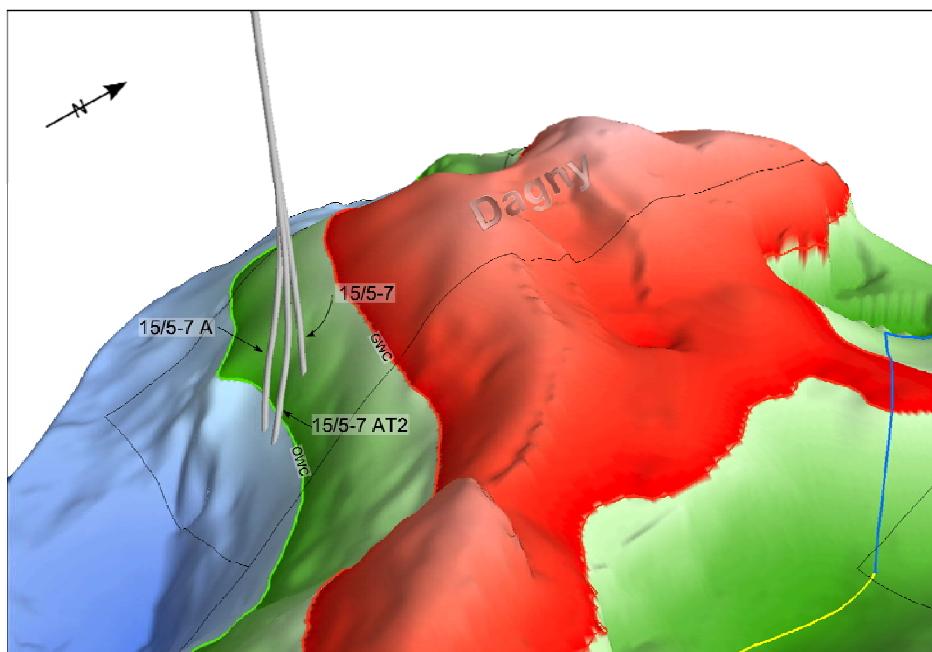
The primary objective of the well was to prove an oil leg beneath the proven gas in the Dagny structure and establish hydrocarbon contacts. Further objectives were the hydrocarbon characteristics in the Hugin and Sleipner Formation and to test the permeability and productivity of the reservoir. The second objective was to collect a water sample in the Hugin Formation.

## 1.3 Result of the well

Well 15/5-7 was spudded in a water depth of 119 m MSL and drilled to a total depth of 4031 m TVD RKB. No shallow gas was observed by the ROV at the wellhead or by the MWD while drilling the 36" hole or the 17 1/2" hole. The well penetrated rocks of Quaternary, Tertiary, Cretaceous and Jurassic age. TD of the well was in the Triassic Skagerrak Formation (Figures 4.1 and 4.2).

The well penetrated the Hugin Formation reservoir at 3815.3 m TVD RKB, 59.7 m TVD shallower than prognosed. Three cores were cut, whereas the first core was in Hugin Formation, the second core covered the transition zones between the Hugin and Sleipner Formation and the third core was in Sleipner Formation.

Pressure points and fluid sampling were carried out in oil bearing Hugin and Sleipner Formation. A mini-DST run was performed in the Hugin Formation. The 15/5-7 proved oil down to base of the Hugin Formation. This was the reason for drilling the two sidetracks. Both sidetracks proved water bearing reservoir. Based on informations from the wells, the OWC is estimated at 3923m TVD RKB.



**Figure 1-2: Location of the Dagny wells, 15/5-7 and the two sidetracks 15/5-7A and 15/5-7AT2 on a Top Reservoir map (Hugin Formation)**

The main Dagny well 15/5-7 was drilled in an oil down to situation in the Hugin Formation and the well 15/5-7A and 15/5-7 AT2 was drilled in the water zone in the Hugin Formation. Figure illustrates the oil – water and the gas – oil contacts.

## 1.4 Drilling summary

### 1.4.1 Casing

Table 1.1: Casing programme summary 15/5-7 Main well

Casing	Shoe depth [m MD, drillers depth]	LOT / FIT [Equivalent mud weight]
30"	194.0	
20"	1039.0	LOT: 1.92 sg
13 3/8"	2657.2	FIT: 1.65 sg

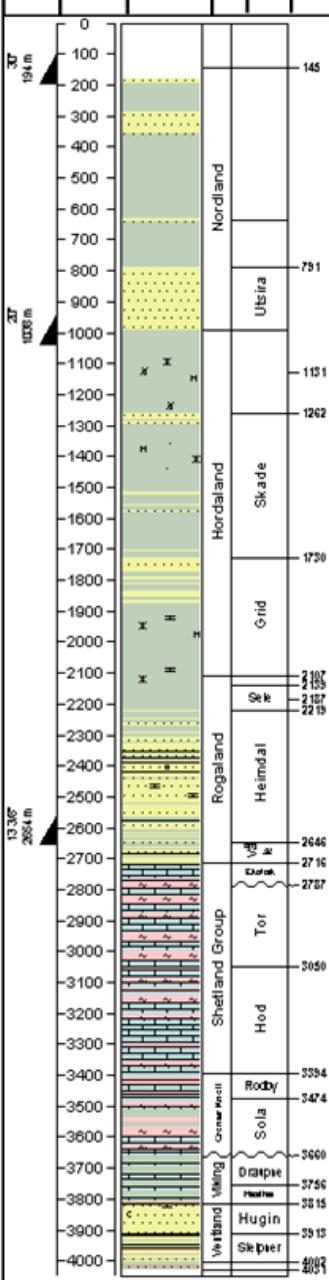
### 1.4.2 Drilling fluids

Table 1.2: Drilling fluids summary

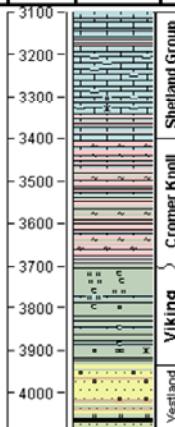
Section	Section TD [m MD, drillers depth]	Max mud weight [g/cm <sup>3</sup> ]	Mud type
36"	198.2	1.03/1.35	Spud Mud/WBM
26"	1048	1.03/1.35	Spud Mud/WBM
17 ½"	2669	1.35	KCL/Polymer/Glycol
8 ½" T1	4037	1.49	KCL/Polymer/Glycol
8 ½" T2	4130	1.40	Oil Based Mud
8 ½" T2	4199	1.46	Oil Based Mud

## 1.5 Data acquisition summary

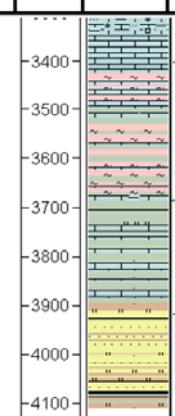
**Figure 1-3: Formation Evaluation, 15/5-7 Main well**

PL048		Well 15/5-7, Dagny				StatoilHydro			
		Data Acquisition				Made by: AMH	Date: 05.06.2009		
Casing	Depth m TVD RKB	Lithology	Group	Formation	Depth m TVD RKB	Sampling, Coring		MWD, Wireline	
		All returns to seabed		All returns to seabed		MWD GR-Res-PWD			
		Bulk samples: 10m Biostrat samples: 10m Mud samples: every 100m		MWD GR-Res-PWD					
		3 cores taken.		MWD GR-Res-PWD-GABI <b>Wireline</b> Res-Den-Neu DSI-FMI MDT Pressure points and Sampling Oil MDT Mini DST VSP					

**Figure 1-4: Data acquisition, 15/5-7 A**

PL048 RKB-MSL: 26m Water depth 119m			Well 15/5-7 A, Sidetrack Dagny Data Acquisition				StatoilHydro		
Casing	Depth m TVD RKB	Lithology	Group	Formation	Depth m TVD RKB	Sampling, Coring	MWD, Wireline		
		<p>Bulk samples: 10m, from 3803m every 3m  Biostrat samples: as bulk samples  Mud samples: every 20m from 3770m</p>		<p><b>MWD</b>  GR-Res-PWD  <b>Wireline</b>  Res-Den-Neu-Sonic</p>					

**Figure 1-5: Data acquisition, 15/5-7 A T2**

PL048 RKB-MSL: 26m Water depth 119m			Well 15/5-7 A T2, Sidetrack Dagny , Data Acquisition				StatoilHydro		
Casing	Depth m TVD RKB	Lithology	Group	Formation	Depth m TVD RKB	Sampling, Coring	MWD, Wireline		
		<p>Bulk samples: 10m, from 3923m every 3m  Biostrat samples: as bulk samples  Mud samples: every 100m</p>		<p><b>MWD</b>  GR-Res-Den-Neu-PWD  <b>Wireline</b>  Sonic-GR-PPC  MDT water sample  XPT pretests  VSP</p>					

## **2      Exemptions**

### **2.1    Exemptions from Petroleum Safety Authority regulations**

None

#### **2.1.1    WR0436, section 5.1 BOP testing**

Well head connector will be tested to maximum pressure expected in next section on initial install. Testing the well head connector to maximum well design pressure will be postponed until the 13 3/8" casing is installed

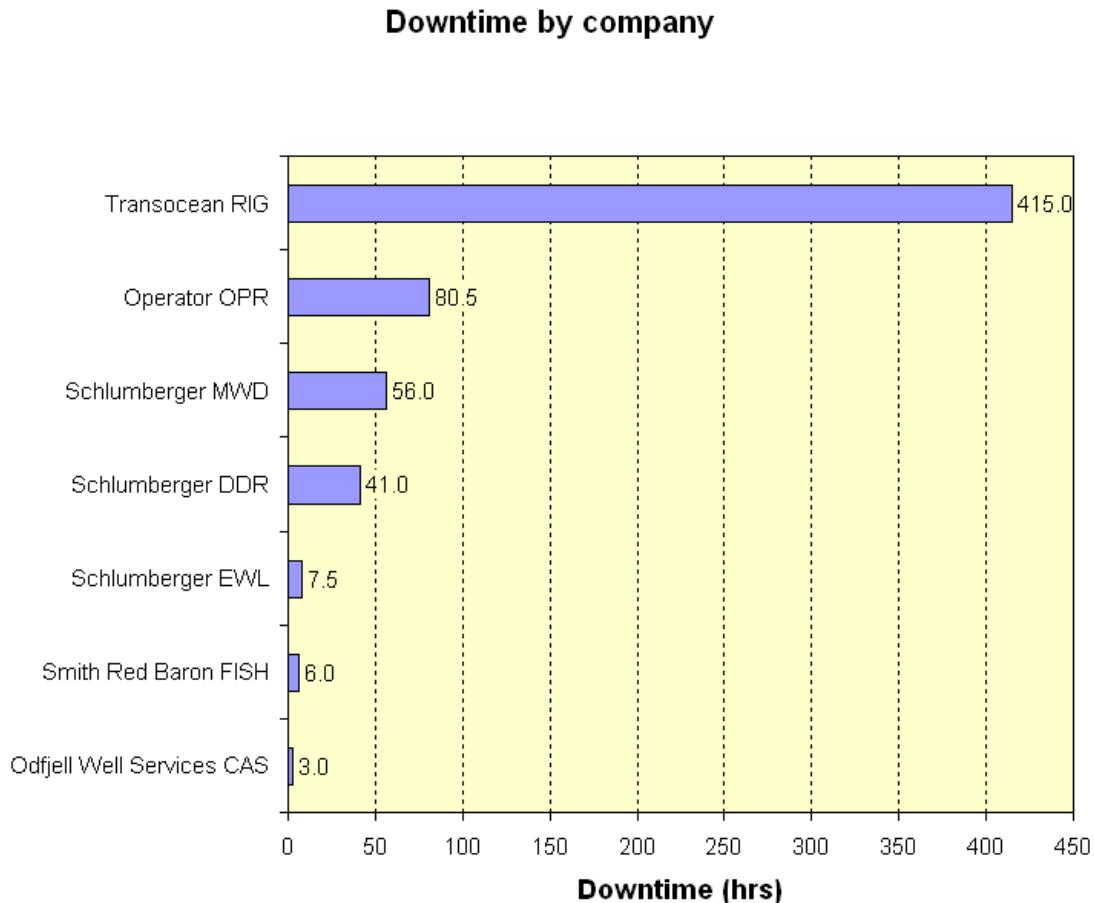
### **3 Health, safety, environment and quality (HSE&Q)**

#### **3.1 RUH**

Table 3.1 Summary RUH

Type (colour code)	Synergi code	Number of
Green	13	14
Sum	13	14

#### **3.2 Incidents by service and company**



**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**SERVICE COMPANY:** Casing Crew Service CAS Odfjell Well Services  
**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
07.07.2008 15:30:00	CAS-E08 Remote operated slips suppl. by contractor	1024282	Slips kilt	160000	3840000	1.0	100	1.0
07.07.2008 20:00:00	CAS-E01 Remote oper. tongs w/integrated B-U	1024276	Change battery, remote operated slips	80000	3840000	0.5	100	0.5
08.07.2008 00:30:00	CAS-E08 Remote operated slips suppl. by contractor	1024280	Brudd på ledd på slips.	160000	3840000	1.0	100	1.0

**WELLBORE:** NO 15/5-7 AT2

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
09.10.2008 02:30:00	CAS-E05 BX-elevator supplied by contractor	1043502	Elevator ville ikke åpne/ lukke	80000	3840000	0.5	100	0.5
				Total	480000			

**SERVICE COMPANY:** Directional Drilling DDR Schlumberger  
**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
05.09.2008 21:30:00	DDR-03 Procedure not followed	1036257	Wrong bent house setting on powermax	6560000	3840000	41.0	100	41.0
				Total	6560000			

**SERVICE COMPANY:** Electric Wireline Logging EWL Schlumberger  
**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
29.08.2008 20:00:00	EWL-E05 Downhole electronic	1035628	Feil på Geofon	80000	3840000	0.5	100	0.5
30.08.2008 10:00:00	EWL-E03 Acquisition/Computer s	1035629	Problemer med 50 v strømforsyning.	80000	3840000	0.5	100	0.5

**Final Well Report**  
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**Dagny, PL048**

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Rev. no. 0

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
31.08.2008 00:00:00	EWL-03 Procedure not followed	1035493	Cable broke on surface while running wireline with capstan winch	1040000	3840000	6.5	100	6.5
			Total	1200000				7.5

**SERVICE COMPANY:** Fishing service FISH Smith Red Baron

**WELLBORE:** NO 15/5-7 AT2

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
11.10.2008 22:00:00	PLUG-E07 Other equipment	1043952	Lekkasje på bumper sub.	960000	3840000	6.0	100	6.0
			Total	960000				6.0

**SERVICE COMPANY:** Measurement While Drilling MWD Schlumberger

**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
07.08.2008 22:00:00	MWD-E23 Loss real time data	1030553	Lost real time communication from Power Drive (Rotary Steerable) tool and ARC (LWD) Tool	4080000	3840000	25.5	100	25.5

**WELLBORE:** NO 15/5-7 AT2

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
30.09.2008 08:30:00	MWD-E30 Other	1041235	Wash out of MWD-tool collar.	4880000	3840000	30.5	100	30.5
			Total	8960000				56.0

**SERVICE COMPANY:** Operator OPR Operator

**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost	Downtime

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Nr.005

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Rev. no. 0

				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
17.07.2008 19:30:00	RIG-01 Procedure	1026670	Fikk ikke satt wear bushing.	1120000	3840000	7.0	100	7.0
24.08.2008 06:00:00	-	1037285	Stuck WL tool, 73,5 hr NPT	1176000 0	3840000	73.5	100	73.5
			Total	1288000 0				80.5

**SERVICE COMPANY:** Rig Operations RIG Transocean  
**WELLBORE:** NO 15/5-7

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
09.07.2008 17:30:00	RIG-E013 Diverter	1025016	18756: 111 Diverter, lekkasje i slange.	240000	3840000	1.5	100	1.5
18.07.2008 14:00:00	RIG-E03 BOP stack/valves	1027640	19062: 113 - Shear Ram failure, BOP	1832000 0	3806753	115.5	100	115.5
26.07.2008 17:30:00	RIG-E07 Top drive	1028252	19138: 114 - Noise from the top drive bearing.	3336000 0	3840000	208.5	100	208.5
04.08.2008 10:00:00	RIG-E388 General	1029478	Stuck finger on finger board.	80000	3840000	0.5	100	0.5
10.08.2008 12:00:00	RIG-E10 Drawwork	1032482	Low clutch på drawork slipping (7 hr NPT)	1120000	3840000	7.0	100	7.0
11.08.2008 15:00:00	RIG-E341 Vert pipe handling system	1032466	Hydraulikk slange Upper Arm Sprakk	80000	3840000	0.5	100	0.5
16.08.2008 06:00:00	RIG-E19 Drill pipe	1035703	Fall i SPP under boring	4800000	4042105	28.5	100	28.5
18.08.2008 09:00:00	RIG-E10 Drawwork	1032720	20642: 128 - Elmagco. lagerhavari.	8000000	3840000	50.0	100	50.0
01.09.2008 12:00:00	RIG-03 Procedure not followed	1035495	20885: 131 - STB skled ut fra øvre arm.	160000	3840000	1.0	100	1.0
03.09.2008 06:00:00	RIG-E07 Top drive	1035699	Løse bolter på torque wrench kjeft	80000	3840000	0.5	100	0.5

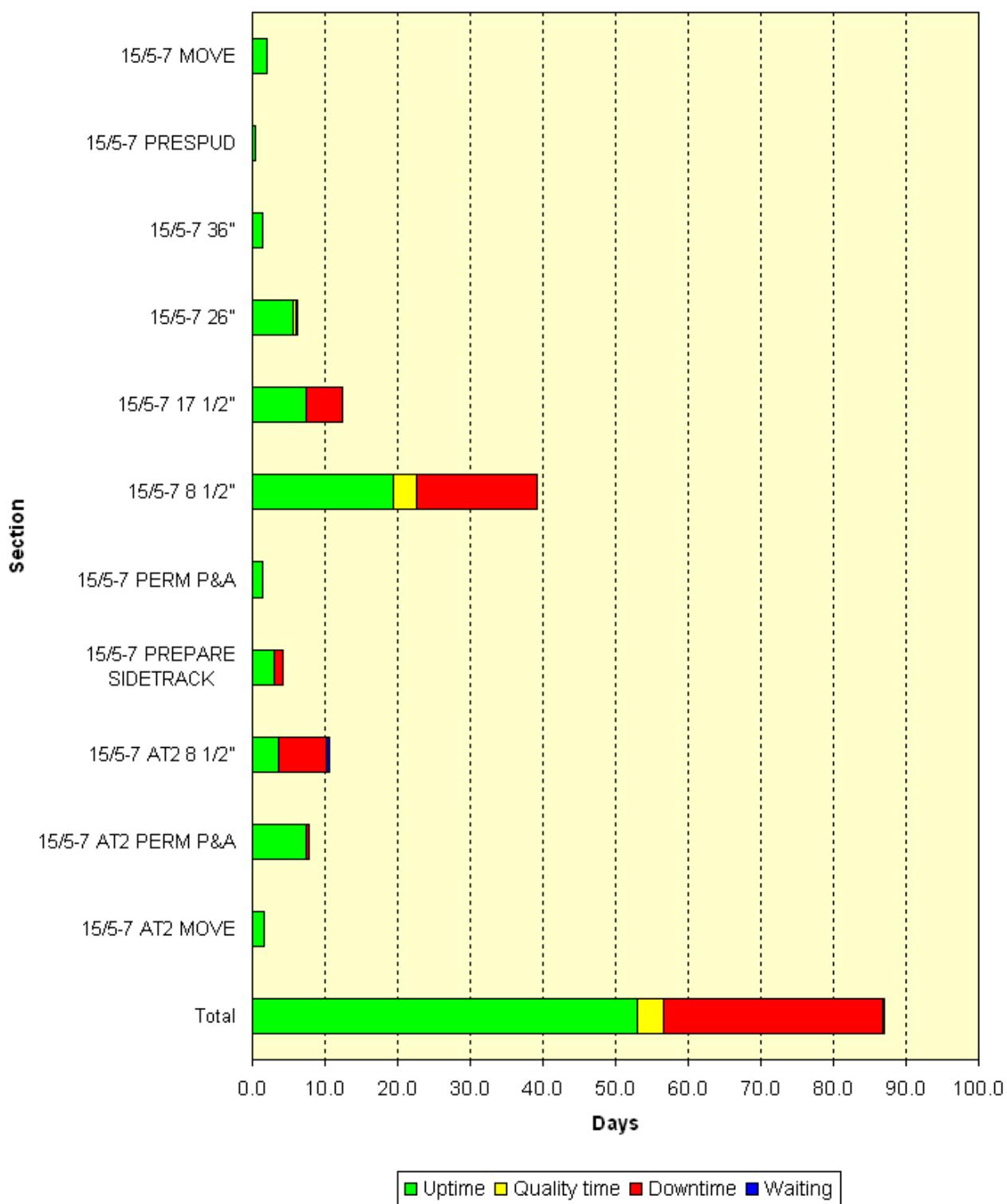
**WELLBORE:** NO 15/5-7 AT2

Incident start time	Failure code	Synergi no	Title	Quality cost		Downtime		
				NOK	NOK/d	Total hrs	Comp share %	Comp share hrs
07.10.2008 13:30:00	RIG-E342 Drillfloor tub handl system	1042944	21958: 148 - IRN, Slangebrudd.	160000	2560000	1.5	100	1.5
09.10.2008 03:00:00	RIG-E345 Elevator	1044011	22020: 151 - Bx 3 Elevator var skadet.	80000	0	0.0	100	0.0
			Total	6648000 0				415.0

### 3.3 Time distribution

Section	Start time	Length m	Budget		TL		Actual		Ops (f)
			hrs	days	hrs	days	hrs	days	
NO 15/5-7 MOVE	01.Jul.2008 21:00		74.0	3.1	42.0	1.8	46.0	1.9	100.0
NO 15/5-7 PRESPUDE	03.Jul.2008 19:00	143.5	16.5	0.7	8.5	0.4	8.0	0.3	100.0
NO 15/5-7 36"	04.Jul.2008 03:00	52.7	91.0	3.8	37.0	1.5	34.0	1.4	100.0
NO 15/5-7 26"	05.Jul.2008 13:00	849.8	205.0	8.5	118.8	4.9	148.5	6.2	97.3
NO 15/5-7 17 1/2"	11.Jul.2008 17:30	1624.0	388.5	16.2	267.5	11.1	300.0	12.5	59.2
NO 15/5-7 8 1/2"	24.Jul.2008 05:30	1374.0	697.5	29.1	690.5	28.8	942.0	39.3	57.4
NO 15/5-7 PERM P&A	01.Sep.2008 11:30	0.0	37.0	1.5	20.0	0.8	35.0	1.5	97.1
NO 15/5-7 PREPARE SIDETRACK	02.Sep.2008 22:30	-845.0	58.5	2.4	60.0	2.5	102.5	4.3	71.2
NO 15/5-7 AT2 8 1/2"	24.Sep.2008 19:00	862.0	71.0	3.0	172.0	7.2	253.0	10.5	36.0
NO 15/5-7 AT2 PERM P&A	05.Oct.2008 08:00	0.0	197.5	8.2	132.0	5.5	185.0	7.7	95.7
NO 15/5-7 AT2 MOVE	13.Oct.2008 01:00	0.0	40.0	1.7	30.0	1.3	36.5	1.5	100.0
Sum			1876.5	78.2	1578.3	65.8	2090.5	87.1	

### Time distribution



**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

The graph above is based on the following details:

Section	Downtime	Uptime	Quality time	Waiting time	Total time
15/5-7 MOVE	0.0	1.9	0.0	0.0	1.9
15/5-7 PRESPUD	0.0	0.3	0.0	0.0	0.3
15/5-7 36"	0.0	1.4	0.0	0.0	1.4
15/5-7 26"	0.2	5.7	0.3	0.0	6.2
15/5-7 17 1/2"	5.1	7.4	0.0	0.0	12.5
15/5-7 8 1/2"	16.7	19.4	3.1	0.0	39.3
15/5-7 PERM P&A	0.0	1.4	0.0	0.0	1.5
15/5-7 PREPARE SIDETRACK	1.2	3.0	0.0	0.0	4.3
15/5-7 AT2 8 1/2"	6.7	3.6	0.0	0.3	10.5
15/5-7 AT2 PERM P&A	0.3	7.4	0.0	0.0	7.7
15/5-7 AT2 MOVE	0.0	1.5	0.0	0.0	1.5
Total	30.3	53.0	3.5	0.3	87.1

## **4 Geology and formation evaluation report**

### **4.1 Geological setting**

The Dagny structure is located in block 15/5, southwest of the Ermintrude discovery and north of the Sleipner West Field on the south-eastern flank of the Southern Viking Graben. It is located in the northernmost extension of the Sleipner Terrace, but is separated from the Alpha segment of the Sleipner Vest Field by a graben. The Utsira High lies to the east, and the South Viking Graben is located immediately to the west. The Western margin of the South Viking Graben is defined by the Brae fault, which to a large degree controls the basins asymmetric geometry. The area is structurally complex, and lies at the intersection of three important tectonic elements; the NS trending Viking Graben grain, the NW-SE trending Tornquist grain, and the NE-SW trending Ling Graben. Mobile Zechstein halites have created salt withdrawal features and crestal collapse structures which further complicate the present day structural configuration. There are several visible faults on the seismic in the Dagny prospect and also in the older and younger sediments.

The reservoir in Dagny is the Hugin Formation, which is of Callovian age. This sandstone represents the southern most backstepping of the Brent Delta. Sediments were derived from the triple junction between the Viking Graben, the Central Graben and the Moray Firth Basin in the south where extensive erosion took place following a period of doming-related uplift. Note that during the Bathonian/Bajocian, when the Brent Delta was deposited in the north, the Dagny area was a region of sediment bypass and erosion. From Bathonian to Callovian times, extension related subsidence led to a relative rise in sea level, forcing the Brent Delta southwards. A regional transgression from the north (related to a global sea level rise) forced the delta back further until eventually the system was drowned. The fluvial Sleipner Formation and the marine Hugin Formation are seen as progradational wedges within an overall retrogradational system. Biostratigraphic dating shows that the Hugin Formation is time transgressive, with a younging of the formation onto the Utsira High and onto local highs (Statoil, 2006).

The Hugin Formation is a massive shoreface sandstone. The Sleipner Formation represents a more continental environment with coastal plain deposits of middle Jurassic age.

### **4.2 Shallow gas results**

Shallow gas was neither expected nor experienced in the well.

No shallow gas was observed while drilling the 36" hole and the 26" hole, neither by the ROV, nor from the MWD.

The standard NPD shallow gas form is presented in App D.

## 4.3 Stratigraphy

The stratigraphical zonation is based on interpretation of the biostratigraphic report, log curves and on correlation with nearby wells. The stratigraphy of the entire well is shown in Tables 4.1 and 4.2, and in Figures 4.1 and 4.2.

### 4.3.1 Tables of chronostratigraphy

Table 4.1: Chronostratigraphy, 15/5-7

Age		Top (m MD RKB)	Base (m MD RKB)	Comments
Middle Miocene	Serravallian	1105.0	1105.0	Top not seen
	Langhian	1115.0	1145.0	
Early Miocene	Burdigalian	1155.0	1235.0	
	Aquitanian	1245.0	1305.0	
Late Oligocene	Chattian	1315.0	1465.0	
Early Oligocene	Rupelian	1475.0	1695.0	
Late Eocene	Priabonian	1705.0	1725.0	
Middle Eocene	Lutetian	1735.0	2035.0	
Early Eocene	Ypresian	2045.0	2195.0	
Late Paleocene	Thanetian	2205.0	2585.0	
Middle Paleocene	Selandian	2595.0	2655.0	
Early Paleocene	Danian	2669.0	2750.0	
Late Cretaceous	Late Maastrichtian	2770.0	2970.0	
	Early Maastrichtian	2990.0	3050.0	
	Late Campanian	3070.0	3130.0	
	Middle Santonian - early Santonian	3170.0	3210.0	
	Late Coniacian	3230.0	3230.0	
	Late Turonian	3250.0	3330.0	
	Early Turonian	3350.0	3370.0	
	Early Cenomanian	3390.0	3390.0	
Early Cretaceous	ILte Albian	3410.0	3430.0	
	Middle Albian	3450.0	3470.0	
	Early Albian	3490.0	3510.0	
	Early Aptian (Bedoulian)	3530.0	3530.0	
	Late Barremian	3550.0	3590.0	
	Early Barremian	3610.0	3630.0	
	Early Barremian -	3636.0	3648.0	

	Valanginian			
	Berriasiain	3654.0	3666.0	
Late Jurassic	Late Tithonian	3672.0	3693.0	
	Late Tithonian - early Tithonian	3699.0	3699.0	
	Early Tithonian	3705.0	3741.0	
	Early Kimmeridgian	3747.0	3756.0	
	Middle Oxfordian	3762.0	3774.0	
	Early Oxfordian	3780.0	3780.0	
	Late Callovian	3786.0	3810.0	
Middle Jurassic	Early Callovian	3822.0	3894.9	
	Early Callovian - ?Bathonian	3895.5	3917.5	
	Bathonian	3918.9	4005.0	
	?Bajocian	4017.0	4035.0	Base not seen

**Table 4.2: Chronostratigraphy 15/5-7 A**

<b>Age</b>		<b>Top (m MD RKB)</b>	<b>Base (m MD RKB)</b>	<b>Comments</b>
Early Cretaceous	Berriasiain	3720.0	3740.0	Top not seen
Late Jurassic	Late Tithonian	3760.0	3760.0	
	Early Tithonian	3800.0	3857.0	
	Middle Oxfordian	3872.0	3872.0	
	Early Oxfordian	3887.0	3933.0	
Middle Jurassic	Late Callovian	3947.0	3947.0	
	Middle Callovian	3962.0	3962.0	
	Early Callovian	3974.0	4001.0	
	Early Callovian - ?Late Bathonian	4004.0	4097.0	
	Bathonian	4106.0	4130.0	Base not seen

**Table 4.3: Chronostratigraphy 15/5-7 A T2**

<b>Age</b>		<b>Top (m MD RKB)</b>	<b>Base (m MD RKB)</b>	<b>Comments</b>
Late Cretaceous	Late Cenomanian	3350.0	3350.0	Top not seen
	Middle Cenomanian	3390.0	3390.0	
Early Cretaceous	Late Albian	3430.0	3430.0	
	Middle Albian	3470.0	3470.0	
	Early Albian	3510.0	3510.0	
	Early Aptian (Bedoulian)	3550.0	3550.0	
	Late Barremian	3590.0	3590.0	
	Early Barremian	3630.0	3650.0	
	Early Barremian - Valanginian	3660.0	3690.0	
	Early Berriasian	3700.0	3700.0	
Late Jurassic	Early Tithonian	3710.0	3830.0	
	Middle Oxfordian	3840.0	3860.0	
	Early Oxfordian	3870.0	3890.0	
Middle Jurassic	Late Callovian	3900.0	3920.0	
	Middle Callovian	3929.0	3938.0	
	Early Callovian	3956.0	3974.0	
	Early Callovian - ?late Bathonian	3977.0	4151.0	
	Middle Bathonian	4154.0	4154.0	
	Middle Bathonian - early Bathonian	4163.0	4193.0	Base not seen

#### 4.3.2 Tables of lithostratigraphy

**Table 4.4: Formation Tops 15/5-7**

<b>Period</b>	<b>Group</b>	<b>Formation tops</b>	<b>Prognosed</b>			<b>Observed</b>			<b>Diff progn (m TVD)</b>
			(m MD RT)	(m TVD RT)	(m TVD MSL)	(m MD RT)	(m TVD RT)	(m TVD MSL)	
Quaternary		Seabed	145.0	145.0	119.0	145.0	145.0	119.0	0.0
Tertiary		Utsira	800.0	800.0	774.0	791.0	790.9	764.9	-9.1
	Hordaland		1000.0	1000.0	974.0	1132.0	1132.0	1106.0	132.0
		Skade	1265.5	1265.0	1239.0	1263.0	1262.5	1236.5	-2.5
			-	-	-	1297.0	1296.4	1270.4	
		Grid	1745.5	1745.0	1719.0	1732.0	1730.0	1704.0	-15.0
			-	-	-	1880.5	1877.6	1851.6	
	Rogaland	Balder	2111.0	2110.0	2084.0	2110.0	2107.4	2081.4	-2.6
		Sele	-	-	-	2142.0	2139.4	2113.4	
		Lista	-	-	-	2190.0	2187.4	2161.4	
		Heimdal	2236.0	2235.0	2209.0	2222.0	2219.4	2193.4	-15.6
		Våle	-	-	-	2649.0	2646.4	2620.4	
Cretaceous	Shetland	Ekofisk	2706.0	2705.0	2679.0	2719.0	2716.4	2690.4	11.4
		Tor	-	-	-	2790.0	2787.4	2761.4	
		Hod	-	-	-	3053.0	3050.0	3024.0	
	Cromer Knoll	Rødby	-	-	-	3399.0	3394.2	3368.2	
		Sola	3521.0	3520.0	3494.0	3480.0	3474.8	3448.8	-45.2
Jurassic	Viking	Draupne	3666.0	3665.0	3639.0	3666.0	3660.3	3634.3	-4.7
		Heather	3802.0	3775.0	3749.0	3762.0	3756.3	3730.3	-18.7
	Vestland	Hugin	3875.0	3875.0	3849.0	3821.0	3815.3	3789.3	-59.7
		Sleipner	3931.0	3930.0	3904.0	3919.0	3913.3	3887.3	-16.7
Triassic		Skagerak	4031.0	4030.0	4004.0	4008.0	4002.3	3976.3	-28.1
		TD				4037.0	4031.3	4005.3	

**Table 4.5: Formation Tops 15/5-7 A**

<b>Period</b>	<b>Group</b>	<b>Formation tops</b>	<b>Prognosed</b>			<b>Observed</b>			<b>Diff progn (m TVD)</b>
			(m MD RT)	(m TVD RT)	(m TVD MSL)	(m MD RT)	(m TVD RT)	(m TVD MSL)	
Cretaceous	Shetland	Kick off				3145.0	3141.7	3115.7	
	Cromer Knoll	Rødby	3410.0	3403.0	3377.0	3402.0	3397.7	3371.7	-5.3
		Sola	3505.0	3493.0	3467.0	3493.0	3486.9	3460.9	-6.3
Jurassic	Viking	Draupne	3727.0	3702.0	3676.0	3728.0	3703.2	3677.2	1.2
		Heather	3876.0	3846.0	3820.0	3870.0	3834.5	3808.5	-11.5
	Westland	Hugin	3969.0	3937.0	3911.0	3973.0	3933.8	3907.8	-3.2
		Sleipner	4074.0	4041.0	4015.0	4098.0	4056.6	4030.6	15.6
		TD				4130.0	4088.3	4062.3	

**Table 4.6: Formation Tops 15/5-7 A T2**

<b>Period</b>	<b>Group</b>	<b>Formation tops</b>	<b>Prognosed</b>			<b>Observed</b>			<b>Diff progn (m TVD)</b>
			(m MD RT)	(m TVD RT)	(m TVD MSL)	(m MD RT)	(m TVD RT)	(m TVD MSL)	
Cretaceous	Shetland	Kick off				3337.0	3333.1	3307.1	
	Cromer Knoll	Rødby	3401.0	3397.0	3371.0	3405.0	3400.1	3374.1	3.1
		Sola	3491.8	3485.0	3459.0	3488.0	3481.9	3455.9	-3.1
Jurassic	Viking	Draupne	3713.9	3691.0	3665.0	3695.0	3682.5	3656.5	-8.5
		Heather	3863.8	3828.0	3802.0	3940.0	3809.0	3783.0	-19
	Westland	Hugin	3971.0	3926.0	3900.0	3968.0	3916.5	3890.5	-9.5
		Sleipner	4091.7	4038.0	4012.0	4155.0	4077.3	4051.3	39.3
		TD				4199.0	4117.0	4091.0	

## **4.4      Lithology description**

The lithology descriptions are based on the enclosed cuttings and core descriptions. Chapter 4.4.1, 4.4.2 and 4.4.3 contain the lithostratigraphical description of the entire well. Extended descriptions can be found in the enclosures.

### **4.4.1    *Lithology description 15/5-7***

**Period:** Quaternary und Upper Tertiary

**Depth MD:** 145.0 – 1132.0

**Depth TVD:** 145.0 – 1132.0

**Description:**

All returns to sea bed. Base on the interpretation of the MWD logs, the lithology consists mainly of claystone and sandstone.

**Formation:** Utsira

**Depth MD:** 791.0 – 991.0

**Depth TVD:** 790.9 - 990.9

**Description:**

All returns to sea bed. Base on the interpretation of the MWD logs, the lithology consists mainly of sandstone.

**Group:** Hordaland

**Depth MD:** 1132.0 – 2110.0

**Depth TVD:** 1132.0 – 2107.4

### **Upper Hordaland Group**

**Description :**

The Hordaland Group consists mainly of soft sandy claystone. Two sandy intervals have been identified as Skade Formation and Grid Formation.

The claystone is medium grey to light grey, soft and sticky, amorphous or plastic, slightly to moderately calcareous with abundant shell fragments. It contains traces of mica and of glauconite and is sandy.

The claystone in the interval between Skade and Grid Formation (1297 to 1732m MD) is medium to light grey, soft to firm, sticky, occasionally blocky, slightly to moderately calcareous with a trace of mica, trace of glauconite, shell fragments and sandy.

The claystone in the interval between base Grid and top Balder (1877 to 2110m MD) is described as yellowish red brown mottled with medium bluish grey, soft to firm, blocky, non to slightly calcareous with a trace of pyrite, trace of glauconite, micromicaceous and rarely sandy.

**Formation:** Skade

**Depth MD:** 1263.0 – 1297.0

**Depth TVD:** 1262.5 – 1296.4

**Description:**

The Top Skade Formation is picked based on gamma ray and a change in lithology claystone to sandstone. The Formation consists of loose sand.

The sand is clear, colourless, spherical to sub spherical, well rounded, fine to coarse grained, poorly sorted with a trace of glauconite.

**Formation:** Grid

**Depth MD:** 1732.0 – 1880.5

**Depth TVD:** 1730.0 – 1877.6

**Description:**

The Grid Formation is picked on an increased GR. The top of the Formation is marked by occurrence of sand with limestone stringers. The sand is clear, colourless, spherical to sub spherical, reasonably well rounded, fine to coarse grained, poorly sorted with a trace of glauconite, rarely a poor calcareous cement was seen but mainly as loose quartz grains.

The limestone is described as yellowish grey, light grey, occasionally off white, firm to moderately hard, blocky and microcrystalline.

**Group:** Rogaland

**Depth MD:** 2110.0 – 2719.0

**Depth TVD:** 2107.4 – 2716.4

**Formation:** Balder Fm

**Depth MD:** 2110.0 – 2142.0

**Depth TVD:** 2107.4 – 2139.4

**Description:**

The Balder Formation consists of a claystone and tuffaceous claystone/tuff. The claystone is described as yellowish red brown mottled with medium bluish grey, olive grey, occasionally light brownish grey, firm, blocky, non to slightly calcareous with a trace of pyrite, trace of glauconite, micromicaceous and rarely sandy.

The tuffaceous claystone/tuff is very light grey, yellowish grey, light olive grey, light brown, soft to firm, blocky, non to moderately calcareous with traces of pyrite.

**Formation:** Sele

**Depth MD:** 2142.0 - 2190.0

**Depth TVD:** 2139.4 - 2187.4

**Description:**

The Sele Formation is spotted on the gamma ray and consists of claystone. The claystone is identical to that seen in the Balder Formation and described as yellowish red brown mottled with medium bluish grey, olive grey and occasionally light brownish grey. It is firm, blocky, non to slightly calcareous with a trace of pyrite, trace of glauconite, micromicaceous and rarely sandy.

**Formation:** Lista

**Depth MD:** 2190.0 - 2222.0

**Depth TVD:** 2187.4 - 2219.4

**Description:**

The Lista Formation is difficult to distinguish from the Sele Formation. It is distinguished by log characteristics. The claystone is identical to the claystone in the Sele Formation, but contains also limestone.

The claystone is yellowish red brown mottled with medium bluish grey, olive grey, occasionally light brownish grey, firm, blocky, non to slightly calcareous with a trace of pyrite, trace of glauconite, micromicaceous and rarely sandy.

The limestone is yellowish grey, light brown and off white, soft to firm, amorphous to blocky, microcrystalline and are black speckled.

**Formation:** Heimdal

**Depth MD:** 2222 – 2649.0

**Depth TVD:** 2219.4 – 2646.4

**Description:**

The Heimdal Formation was dominated by sandstones interbedded with claystones and occasional limestone stringers.

The claystone is dark grey to olive grey, brown grey, dusky green, occasionally light bluish grey, firm, blocky, non to slightly calcareous with traces of glauconite, traces of pyrite and occasionally sandy.

The sandstone is described as clear, colourless, medium to occasionally coarse grained, sub rounded, occasionally sub angular, sub spherical, poorly sorted, mainly as loose quartz grains, poor calcareous cement evident in places and in others a matrix of the claystone, traces of pyrite.

The limestone from the stringers is white, off white, soft, occasionally firm, crumbly, microcrystalline, occasionally crystalline with occasional black laminations.

**Formation:** Våle

**Depth MD:** 2649.0 – 2719.0

**Depth TVD:** 2646.4- 27716.4

**Description:**

The Våle Formation was marked by a drop in ROP. The Formation consists of hard claystone interbedded with sandstone.

The claystone was described as greyish green to dusky green, moderate hard blocky, brittle with traces of glauconite and pyrite.

The sandstone is clear, colourless, medium to occasionally coarse grained, sub rounded to sub spherical, occasionally sub angular, poorly sorted, sometimes as loose quartz grains, poor calcareous cement evident in places and in others a matrix of the hard dusky green Claystone.

**Group:** Shetland

**Depth MD:** 2719.0 – 3399.0

**Depth TVD:** 2716.4 – 3394.2

**Formation:** Ekofisk Fm

**Depth MD:** 2719.0 – 2790.0

**Depth TVD:** 2716.4 – 2787.4

**Description:**

The top of the Ekofisk Formation is identified by a slight decrease in the Gamma Ray log and a noticeable increase in the resistivity.

The Formation is 71m thick and consists of hard limestone beds with some interbeds of marl. The limestone is white to very light grey, firm, amorphous, blocky, chalky with trace of very fine sand and micropyrite.

The marl is light grey to medium light grey, soft to firm, amorphous, blocky, argillaceous, very sandy with traces of micropyrite.

The sand is predominately loose, clear, fine to medium grained, trace coarse, subrounded to rounded, well sorted, trace of a calcareous cement, trace of mica and micropyrite.

**Formation:** Tor

**Depth MD:** 2790.0 – 3053.0

**Depth TVD:** 2787.4 – 3050.0

**Description:**

The Tor Formation is marked by a sharp increase in the Gamma Ray.

The Tor Formation consists of hard limestones with interbedded marls of varying colours.

The limestone is white to off white, light grey, firm to hard, blocky, chalky, microcrystalline, argillaceous grading to marl in places, traces of micropyrite and sand.

The marl is light to medium dark grey, pale brown in place, soft to firm, amorphous, blocky, dark laminations in parts, trace micropyrite. From 3020m a pale brown colour is observed.

**Formation:** Hod

**Depth MD:** 3053.0 – 3399.0

**Depth TVD:** 3050.0 – 3394.2

**Description:**

The top of the Hod Formation is marked by a slightly higher gamma ray reading than the overlying Tor Formation. The Formation consists of limestone and marl interbeds.

The limestone is very similar in nature to the overlying Tor Formation, but is slightly more argillaceous in parts. It is light grey to very light grey, occasionally off white and light greenish grey to light bluish grey, occasionally very pale orange, firm to moderate hard, blocky to subblocky, microcrystalline, occasionally amorph and slightly argillaceous.

The marl is predominately pale brown to moderate brown, occasionally yellowish brown, soft to firm, amorphous to blocky with traces of micropyrite and pyrite. In part it is slightly silty.

**Group:** Cromer Knoll

**Depth MD:** 3399.0 – 3666.0

**Depth TVD:** 3394.2 – 3660.3

**Formation:** Rødby

**Depth MD:** 3399.0 – 3480.0

**Depth TVD:** 3394.2 – 3474.8

**Description:**

The Rødby Formation is a slightly more argillaceous limestone than the Hod Formation, with increasing amounts of marl. The gamma ray reading is on average slightly higher than the overlying Hod Formation, and increases with depth.

The limestone is light grey to medium dark grey, firm to hard, and is microcrystalline in nature with argillaceous laminae.

The marl is light brownish grey to moderate brown and light reddish brown and moderate red, blocky and firm, slightly silty and very calcareous.

**Formation:** Sola

**Depth MD:** 3480.0 – 3666.0

**Depth TVD:** 3474.8 – 3660.3

**Description:**

The Sola Formation was distinguished from the overlying Rødby Formation by a distinct increase in GR readings, and change from predominantly limestone to predominantly claystone and marl.

The claystone is medium light grey to medium dark grey, occasionally greenish grey and dark grey, firm to hard, subsplintery to sub-blocky, micropyritic, slightly silty and non to slightly calcareous. The claystone is interbedded with limestone and marl.

The limestone is medium dark grey to light greenish grey, firm to hard, blocky to brittle, glauconite in place and very argillaceous in place, as seen in the Rødby Formation.

The marl is generally light brownish grey, reddish brown to moderate reddish brown, but also medium to dark grey. It is firm, blocky, silty and grades to claystone.

Below 3560 m, the Formation changes to predominantly limestone Formation again, with minor claystones and marls.

**Group:** Viking

**Depth MD:** 3666.0 – 3821.0

**Depth TVD:** 3660.3 – 3815.3

**Formation:** Draupne

**Depth MD:** 3666.0 – 3762.0

**Depth TVD:** 3660.3 – 3756.3

**Description:**

The top of the Draupne Formation (base Cretaceous Unconformity) is marked by a sharp increase in GR, as compared to the the relatively low GR reading of the overlying limestones and marls of the Sola Formation. The lithology of the Draupne Formation is a homogenous claystone with only minor thin limestone stringers being present.

The claystone is dark grey to dark brownish grey, firm to moderate hard, blocky to subfissile, slightly sticky, carbonaceous and micromicaceous.

The limestone is white to off-white, greyish white to medium light grey, firm to moderate hard, microcrystalline, blocky with locally argillaceous.

**Formation:** Heather

**Depth MD:** 3762.0 – 3821.0

**Depth TVD:** 3756.3 – 3813.3

**Description:**

The top of the Heather Formation is marked by a drop in the gamma ray readings.

The Formation, although still predominantly claystone contains frequent minor limestone beds.

The claystone is dark grey to medium dark grey, brownish and olive grey, blocky, firm to moderately hard, carbonaceous, calcareous, micropyritic, micromicaceous, and slightly silty to very silty in parts. Traces of glauconite are present in parts. The claystone becomes increasingly silty and glauconitic with depth.

**Formation:** Hugin

**Depth MD:** 3821.0 – 3919.0

**Depth TVD:** 3815.3 – 3915.3

**Description:**

The top of the Hugin Formation is marked by a sharp drop in GR readings. The top of the Formation is silty, grading into sandstone with some minor coal beds present.

The sandstone at the top of the Formation is light grey to medium dark grey and olive grey, composing of clear to translucent quartz, grains. The grain size is very fine to fine, moderately sorted, very silty with an argillaceous matrix, micromicaceous, micropyritic, and glauconitic. Visible porosity is poor, however oil shows were observed a moderate blooming yellowish white cut fluorescence.

The sandstone changes to brownish grey and dark yellowish brown color with quartz grains that are clear to milky, very fine to occasionally medium and coarse, moderate sorted, firm to hard, subangular to subrounded, silica cemented, silty, abundant to traces argillaceous matrix, abundant to trace mica and micromicaceous and traces of carbonaceous material, pyrite and glauconite. The sandstone shows poor visible porosity.

**Formation:** Sleipner

**Depth MD:** 3919.0 – 4008.0

**Depth TVD:** 3915.3 – 4002.3

**Description:**

The top of the Sleipner Formation is identified by a massive coal. The Sleipner Formation consists of interbedded sandstone, claystone and coal.

The sandstone is light brownish grey to pale yellowish brown grey, predominately loose, occasionally firm to moderately hard, consisting of clear- to milky quartz grains, fine to medium grained. It is moderately sorted, occasionally silty, with some argillaceous matrix. It is calcareously cemented in parts, micromicaceous, glauconite in parts. The sandstone shows

poor visible porosity. However oil shows were observed, ref Hydrocarbon indicators in section details.

The claystone was predominantly brownish grey to brownish black, firm to moderately hard, blocky to subfissile, non calcareous. Also abundant micromica, micropyritic, with frequently large amounts of carbonaceous material, in parts also grading to earthy coal.

The coal was black to brown-black, hard, brittle, blocky to sub-angular, earthy-shiny-vitrinous, bituminous, also slightly argillaceous in parts, sub-conchoidal fractures.

Shows on core and drilled cuttings were seen down to 4004m, gradually becoming weaker with increasing depth.

**Formation:** Skagerak

**Depth MD:** 4008.0 – 4037.0

**Depth TVD:** 4002.3 – 4031.3

**Description:**

Top of the Skagerak Formation was identified by a significant reduction of ROP, a drop in GR and a change in the colouring of the claystone from brownish grey and brownish black, to predominately pale brown.

Traces of coal and brownish black claystone were seen throughout the interval, but this was probably due to instability of coal/shale higher up in the well.

The claystone is pale brown to light brownish grey, becoming medium light grey to grey, rare moderate brown, firm to moderately hard, blocky, silty, in parts grading to siltstone, traces of carbonaceous material.

The siltstone is light grey brown to light red brown, firm to slightly hard, blocky to partially fissile, very fine sandy in parts, also grading to claystone, trace to abundant argillaceous.

The sandstone is white to very light grey, very fine to medium, firm to friable, predominantly loose, subangular to subrounded, moderately sorted, in parts aggregates with slight calcareous cement, very abundant clay/kaoline matrix.

#### **4.4.2    *Lithology description 15/5-7 A***

**Formation:** Hod

**Depth MD:** 3053,0 – 3402,0

**Depth TVD:** 3050,0 – 3397,7

**Description:**

The Formation consists of limestone and marl interbeds.

The limestone is very similar in nature to the overlying Tor Formation, but is slightly more argillaceous in parts. It is light grey to very light grey, occasionally off white and light greenish grey to light bluish grey, occasionally very pale orange, firm to moderate hard, blocky to subblocky, microcrystalline, occasionally amorph and slightly argillaceous.

The marl is predominately pale brown to moderate brown, occasionally yellowish brown, soft to firm, amorphous to blocky with traces of micropyrite and pyrite. In part it is slightly silty.

**Group:** Cromer Knoll

**Depth MD:** 3402,0 – 3728,0

**Depth TVD:** 3397,7 – 3703,2

**Formation:** Rødby

**Depth MD:** 3402,0 – 3493,0

**Depth TVD:** 3397,7 – 3486,9

**Description:**

The Rødby Formation is marked by a change to a slightly more argillaceous limestone, with increasing amounts of marl. The GR reading is on average, slightly higher than the overlying Hod Formation, and increases with depth.

The limestone is darker in colour in parts, being light grey to medium dark grey, firm to hard and is microcrystalline in nature with argillaceous laminae.

The marl is medium light grey, occasionally medium dark grey and moderate brown, greenish grey to dark greenish grey. It is firm to hard, blocky, slightly silty to very fine sandy and argillaceous. It contains glauconite in parts and is lightly carbonaceous in parts.

**Formation:** Sola

**Depth MD:** 3493,0 – 3728,0

**Depth TVD:** 3486,9 – 3703,2

**Description:**

The Sola Formation was distinguished from the overlying Rodby Formation by a distinct increase in GR readings, and change from predominantly limestone Formation to predominantly claystone and marl Formation.

The marl is dark grey to dark greyish black. The darkest parts, dark grey to black are grading to claystone. It is firm to hard, blocky, micropyritic, and slightly to moderate calcareous. This is interbedded with limestone which is very similar to the limestone of the Rodby Formation: light grey to medium light grey, firm to moderate hard, blocky, argillaceous and occasionally slightly silty.

The claystone is very coloured, predominately dark grey, reddish brown and light grey, off white and greyish green. It is blocky to subblocky, slightly to moderate calcareous, rare silty and rare carbonaceous.

**Group:** Viking

**Depth MD:** 3728,0 – 3973,0

**Depth TVD:** 3703,2 – 3933,8

**Formation:** Draupne Fm

**Depth MD:** 3728,0 – 3870,0

**Depth TVD:** 3703,2 – 3834,5

**Description:**

The top of the Draupne Formation (base Cretaceous Unconformity) is marked by a sharp increase in GR, as compared to the relatively low GR reading of the overlying limestones and marls of the Sola Formation. The lithology of the Draupne Formation is a homogenous claystone with only minor thin limestone stringers being present.

The claystone is dark grey to dark brownish grey, greyish black and brownish black, firm to moderate hard, blocky to subblocky, non calcareous, slightly silty in parts, micropyritic and carbonaceous.

The Limestone is very light grey, moderate hard, blocky, microcrystalline, slightly argillaceous and occasionally very fine sandy.

**Formation:** Heather

**Depth MD:** 3870,0 – 3973,0

**Depth TVD:** 3834,5 – 3933,8

**Description:**

The top of the Heather Formation was marked by a drop in the GR readings from the very "hot shale" readings of the overlying Draupne Formation, to a reading more consistent with normal claystone. The Formation, although still predominantly claystone, contains increasingly minor limestones than in the Draupne Formation.

The claystone is dark grey to medium dark grey, and greyish black, brownish grey, blocky to subblocky, firm to moderately hard, carbonaceous, calcareous, micropyritic and micromicaceous. It is slightly silty to very silty in parts. The claystone becomes increasingly silty and glauconitic with depth.

**Group:** Vestland

**Depth MD:** 3973,0 – 4130,0

**Depth TVD:** 3933,8 – 4088,3

**Formation:** Hugin

**Depth MD:** 3973,0 – 4098,0

**Depth TVD:** 3933,8 - 4056,6

**Description:**

The top of the Hugin Formation was marked by a drilling break, and a sharp drop in GR readings. The top of the Formation was initially silty, grading into sandstone with some minor coal being present.

The sandstone is light brown, light grey to medium dark grey and olive grey, composed of clear to translucent and milky quartz grains. The grain size is very fine to fine, poor to moderately sorted, subrounded to subangular, very silty with an argillaceous matrix, micropyritic, and glauconitic, and often occurring as loose grains. The claystone is medium to dark grey, blocky, firm to hard, occasionally brittle, non calcareous with carbonaceous matrix. It is in parts also pale grey, soft to firm, calcareous with traces of carbonaceous material.

**Formation:** Sleipner

**Depth MD:** 4098,0 – 4130,0

**Depth TVD:** 4056,6 – 4088,3

**Description:**

The top is identified by a massive coal. The Sleipner Formation consists of interbedded sandstone, claystone and coal.

The sandstone is very light grey to pale yellowish brown, with quartz that is very fine to medium, moderately sorted, friable to firm, rock flower I parts, occasionally calcareous and silica cemented aggregates.

The claystone was predominantly brownish grey to brownish black, medium dark grey to dark grey, firm to moderately hard, blocky to subfissile, non calcareous. It is also abundant micropyritic, with frequently large amounts of carbonaceous material, in parts also grading to earthy coal. It is silty in parts, grading to siltstone.

The coal was black to brown-black, hard, brittle, blocky to sub-blocky, earthy-shiny-vitrinous.

#### **4.4.3 Lithology description 15/5-7 A T2**

**Formation:** Hod

**Depth MD:** 3053,0 – 3405,0

**Depth TVD:** 3050,0 – 3400,1

The Formation consists of limestone and marl interbeds.

The limestone is very similar in nature to the overlying Tor Formation, but is slightly more argillaceous in parts. It is light grey to very light grey, occasionally off white and light greenish grey to light bluish grey, occasionally very pale orange, firm to moderate hard, blocky to subblocky, microcrystalline, occasionally amorph and slightly argillaceous.

The marl is predominately pale brown to moderate brown, occasionally yellowish brown, soft to firm, amorphous to blocky with traces of micropyrite and pyrite. In part it is slightly silty.

**Group:** Cromer Knoll

**Depth MD:** 3405,0 – 3695,0

**Depth TVD:** 3400,1 – 3682,5

**Formation:** Rødby

**Depth MD:** 3405,0 – 3488,0

**Depth TVD:** 3400,1 - 3481,9

**Description:**

The Rødby Formation was marked by a change to a slightly more argillaceous limestone, with increasing amounts of marl. The GR reading is on average, slightly higher than the overlying Hod Formation, and increases with depth.

The limestone is darker in colour, being pale grey to medium grey, medium dark grey to dark grey and occasionally pale greenish grey and pale yellowish brown. It is brittle to moderate hard, in parts crumbly, subblocky to blocky, argillaceous and microcrystalline. In parts it is silty or argillaceous grading to marl.

The marl is moderate brown to reddish brown, subblocky to blocky, moderate hard, argillaceous.

**Formation:** Sola

**Depth MD:** 3488,0 – 3695,0

**Depth TVD:** 3481,9 - 3682,5

**Description:**

The Sola Formation was distinguished from the overlying Rødby Formation by a distinct increase in GR readings, and changed from predominantly limestone Formation to predominantly claystone and marl Formation with limestone stringers.

The claystone is dark to very dark grey as well as medium light grey to medium dark grey, occasionally greenish grey, firm to hard, sub-blocky to blocky, micropyritic with local nodular pyrite, slightly silty, and non to moderately calcareous in parts.

The interbedded marl, which is generally light to moderate grey and occasionally pale yellowish brown is brittle to moderate hard, grading to argillaceous limestone in parts. It is subblocky to blocky with traces of micropyrite and silt. Occasionally it shows traces of dolomite.

Minor limestone is pale yellowish brown to cream, hard, subblocky to blocky and microcrystalline.

**Group:** Viking  
**Depth MD:** 3695,0 – 3968,0  
**Depth TVD:** 3682,5 – 3916,5

**Formation:** Draupne  
**Depth MD:** 3695,0 – 3940,0  
**Depth TVD:** 3682,5 – 3809,0

**Description:**  
The top of the Draupne Formation (base Cretaceous Unconformity) is marked by a gradual increase in GR, as compared to the relatively low GR reading of the overlying limestones and marls of the Sola Formation. The lithology of the Draupne Formation is a homogenous claystone with only minor thin limestone stringers being present.

The claystone is dark brownish grey to olive black, occasionally very dark grey and rare greyish black, it is hard to moderate hard, blocky to subfissile, occasionally carbonaceous lamina, silty, micromicaceous, micropyritic and non calcareous. It contains traces of pyritic nodules.

The limestone is pale yellowish grey to pale yellowish brown and creamy in parts. It is brittle to hard, subblocky to blocky and cryptocrystalline.

**Formation:** Heather  
**Depth MD:** 3940,0 – 3968,0  
**Depth TVD:** 3809,0 – 3916,5

**Description:**  
The top of the Heather Formation was marked by a drop in the GR readings from the very "hot shale" readings of the overlying Draupne Formation, to a normal claystone. The Formation, although still predominantly claystone contains increasingly more minor limestones and siltstone, than in the Draupne Formation.

The claystone is olive black and brownish grey becoming dark grey, hard to very firm, blocky, silty, micromicaceous and micropyritic with non to slightly calcarous reaction. In parts it contains traces of pyrite nodules.

Traces of glauconite are present in parts. The claystone becomes increasingly silty and glauconitic with depth.

The limestone is light brownish grey to pale yellowish brown, hard with occasionally glimmer. The siltstones are light brown and light brownish grey to medium brownish grey, firm to moderate hard, blocky, lamina, traces of glauconite and micopyrite, occasionally slightly dolomitic. The siltstone is slightly to non calcareous.

**Group:** Vestland  
**Depth MD:** 3968,0 – 4199,0  
**Depth TVD:** 3916,5 – 4117,0

**Formation:** Hugin  
**Depth MD:** 3968,0 – 4155,0  
**Depth TVD:** 3916,5 – 4077,3  
**Description:**

The top of the Hugin Formation was marked by a sharp drop in GR readings. The top of the Formation consists of sandstone with some minor coal being present. Towards the base, the rock contain some silty lamina.

The sandstone is light grey, yellowish grey to light brownish grey and firm to hard. The quartz grains are very fine, rare fine and well sorted. The grains become medium towards base of the Formation. The grains are angular to subrounded and subspherical. The Rock is well calcarous cemented at the top and less cemented towards the base, argillaceous, occasionally grading to siltstone, and contains traces of glauconite.

The coal is black, brittle to moderate hard, blocky and lignitic.

The siltstone is brownish grey to dark brownish grey, subblocky to blocky, firm to moderate hard, argillaceous and sandy in part. It contains micromica and micropyrite as well as traces of carbonaceous material. It is generally non calcareous.

**Formation:** Sleipner

**Depth MD:** 4155,03 – 4199,0

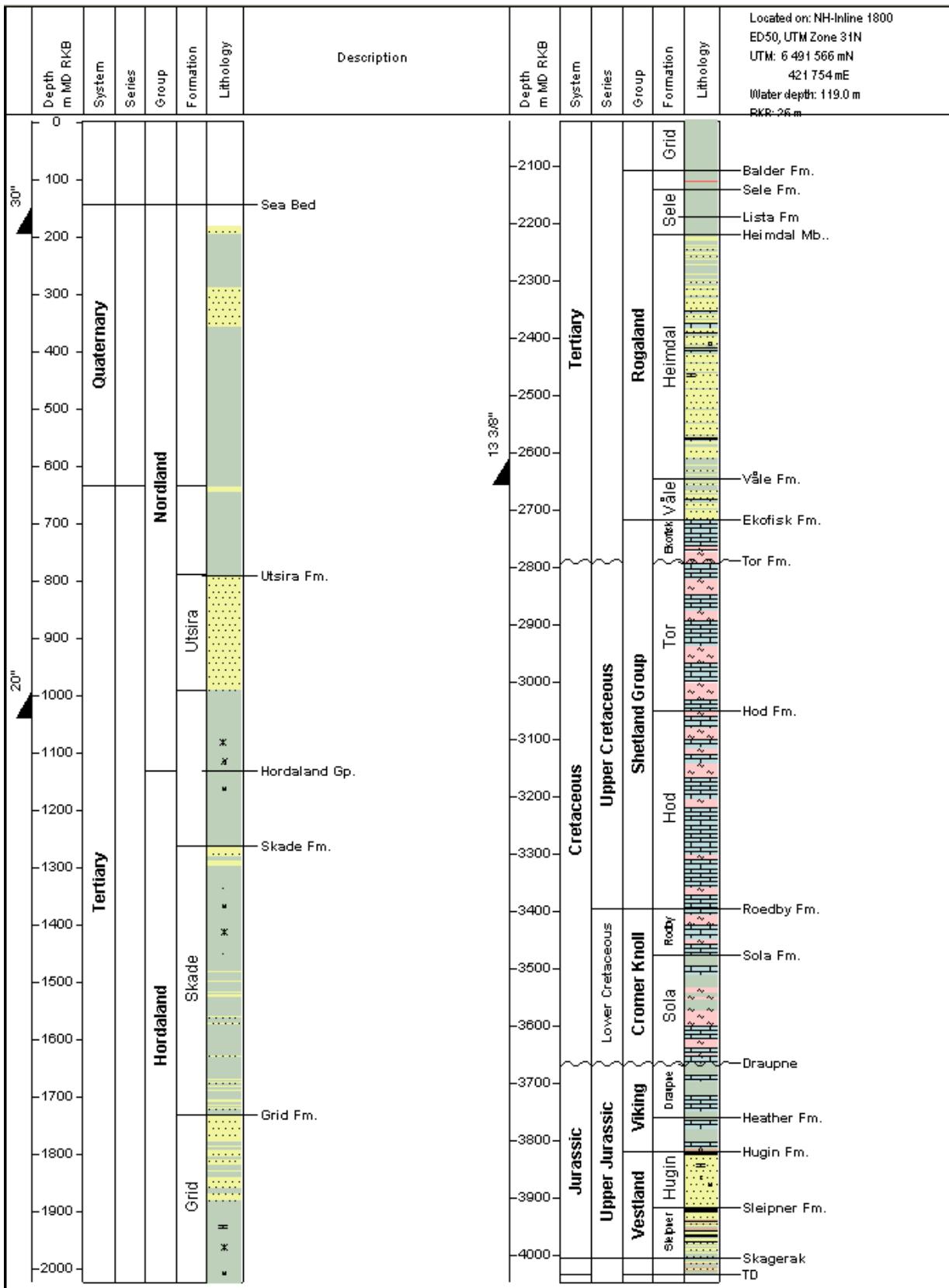
**Depth TVD:** 4077,3 – 4117,0

**Description:**

The top of this Formation occurred about 60m deeper than prognosed. It has been identified by a massive coal. The Sleipner Formation consists of interbedded sandstone, claystone and coal. The sandstone is grey to medium dark grey, olive grey to brownish grey, consisting of clear- to milky quartz grains, soft to moderately hard, very fine to fine grained with traces of medium sized grains. It is moderately sorted, occasionally silty, with some argillaceous matrix. In parts also calcareously cemented, micropyritic, abundant glauconite occur.

The claystone is brownish grey to dark yellowish brown, brittle to moderate hard and subblocky to blocky. It is non to slightly calcareous and locally very silty, grading to siltstone. It even occurs as sandy in parts. Also abundant micropyritic, with frequently large amounts of carbonaceous material, in parts also grading to earthy coal.

The coal is black to brown-black, brittle to moderate hard, splintery to blocky, also silty and argillaceous, in parts grading to very carbonaceous claystone.



**Figure 4-1: Well stratigraphy 15/5-7**

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

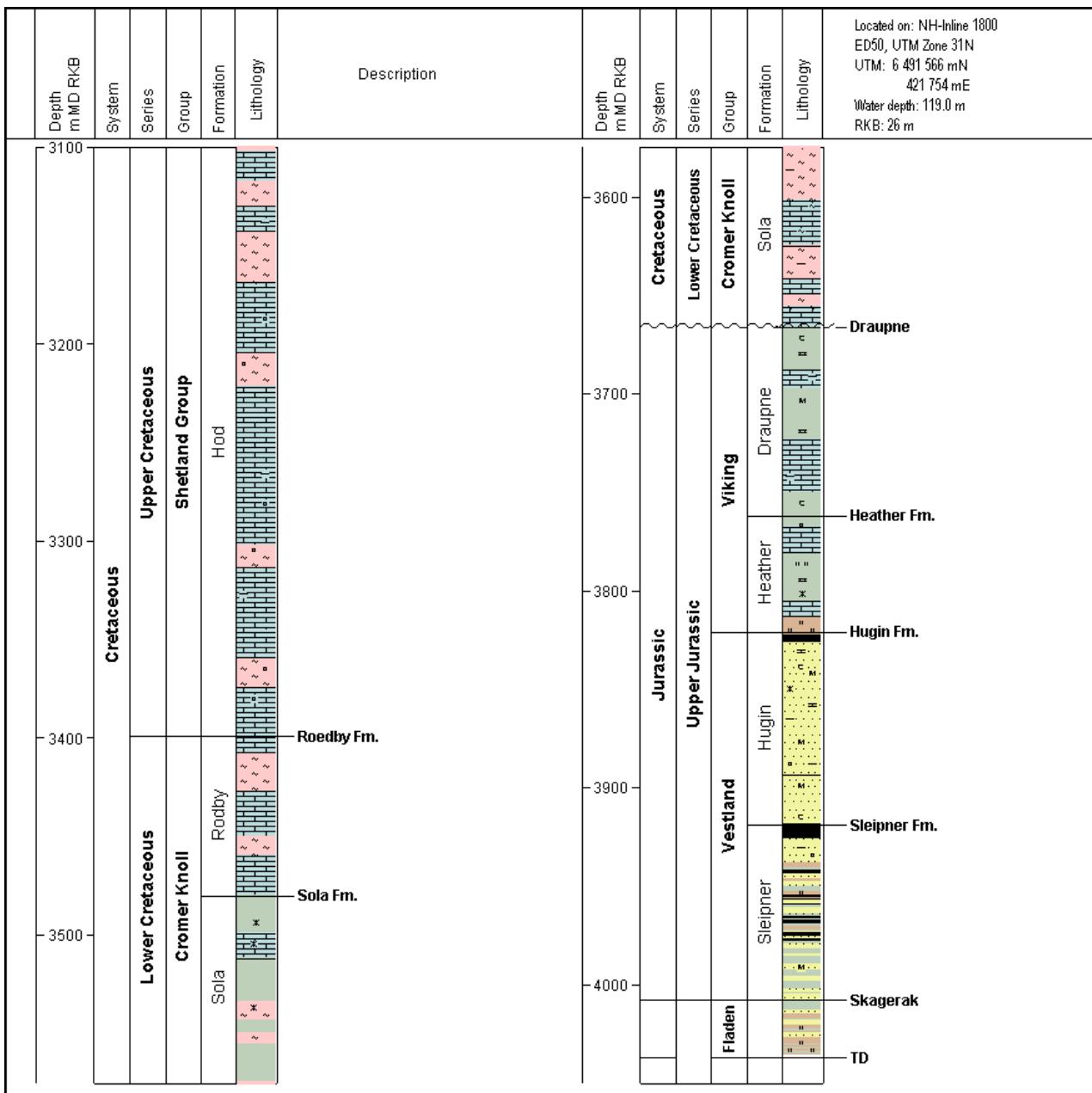
Nr.005

Nr.005

**StatoilHydro**

Date 08-08-2008

Rev. no. 0



**Figure 4-2: Well stratigraphy Reservoir 15/5-7**

#### **4.5 Hydrocarbon indications**

All cuttings were returned to seabed while drilling down to 1045 m MD RKB. No indications of hydrocarbons were observed by the ROV.

In the Tertiary and Cretaceous section the gas level was generally very low, see figure 4.3. No shows were observed in the cuttings.

Gas readings of 1,5% in Draupne Formation, 3,7% in Hugin Formation and 2,8% in Sleipner Formation was observed. The sandstone of the Hugin Formation contained good shows of oil.

Core#1 was cored in the upper part of the Hugin Formation with gas peak of 3,7 %. Core chip sampling was carried out every meter and good oil shows were seen throughout the core. The core material gave a strong petroleum odour, good uniform bright oil stain, even bright yellow to orange direct fluorescence, moderate blooming brownish bluish white cut fluorescence, good moderate bluish white residual fluorescence and poor orange visible residual.

Core#2 covered the lower part of the Hugin Formation and upper part of the Sleipner Formation. A gas peak of 2,8 % while coring. The core had low to moderate hydrocarbon odour, fair to moderate light brown stain, medium yellowish and orange brown direct fluorescence, slow to moderate blooming / streaming cut fluorescence and moderate to weak bluish white residual fluorescence. No visible residual was seen.

Core#3 was cut in the Sleipner Formation. It was cut with low levels of gas. The core showed poor to moderate petroleum odour, moderate uniform brown oil stain and moderate light yellow brown to light brown direct fluorescence. The cut fluorescence was slow blooming bluish with and changed to good to moderate pale bluish white residual fluorescence. There was no visible residual.

The sidetracks were drilled downflanks and did not penetrate HC filled sands. Gas readings was maximum 0,7 % in 15/5-7 A and 0,6% in 15/5-7 A T2. A gas peak of 1,2 % at 4163m MD was related to penetration of a thick coal layer.

General, gas readings on 15/5-7 have been very low, also if the well penetrates an oil reservoir. It has been concluded that the gas measurement has been too little sensitive which lead to a systematic error in gas reading. However, the gasreadings had a relative response which is reliable.

**Table 4.7: Gas peaks 15/5-7 (driller's depth)**

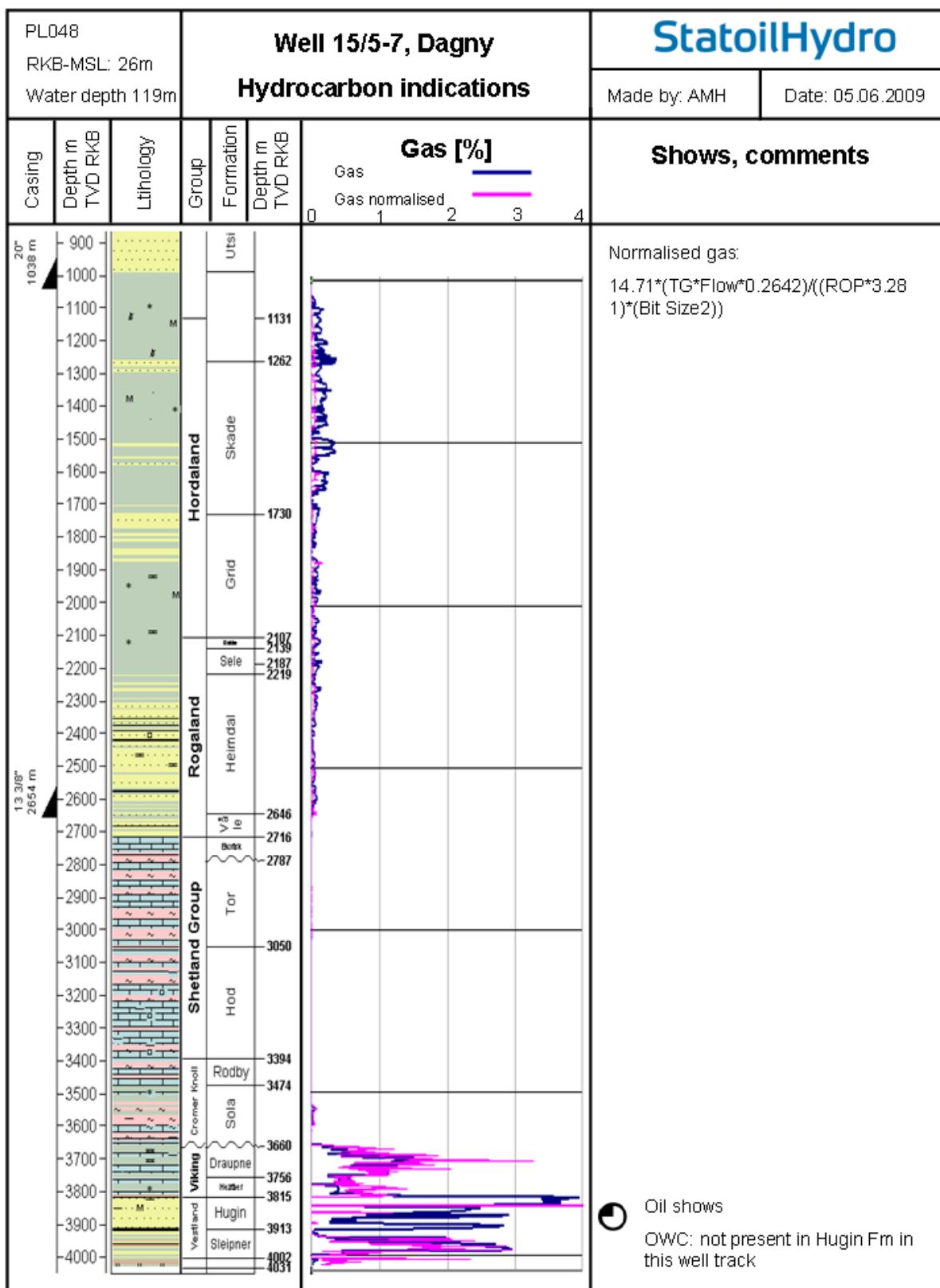
Depth (m MD RT)	Depth (m TVD RT)	Gas cont. (%)	BG	C1	C2	C3	iC4	nC4	iC5	nC5	Type of gas
3722	3718,0	1,80	0,6	7160	670	652	45	191	20	45	Formation gas
3790	3785,0	0,40	0,2	1347	174	191	22	97	21	20	Trip gas
3824	3819,0	1,40	0,4	6469	708	284	34	72	20	20	Formation gas
3829	3823,3	3,90	0,4	24723	2687	1217	117	230	66	95	Formation gas
3863	3857,3	2,50	0,4	13893	1666	740	72	138	34	54	Formation gas
3885	3879,2	1,77	0,2	14944	1654	697	65	126	30	44	Formation gas
3918	3912,2	1,70	0,2	14636	1466	653	92	114	43	36	Formation gas
3956	3950,2	1,70	0,1	10601	886	544	72	78	31	20	Formation gas
3986	3900,2	2,90	0,6	13852	1439	1281	169	217	87	90	Formation gas

**Table 4.8: Gas peaks 15/5-7 A (driller's depth)**

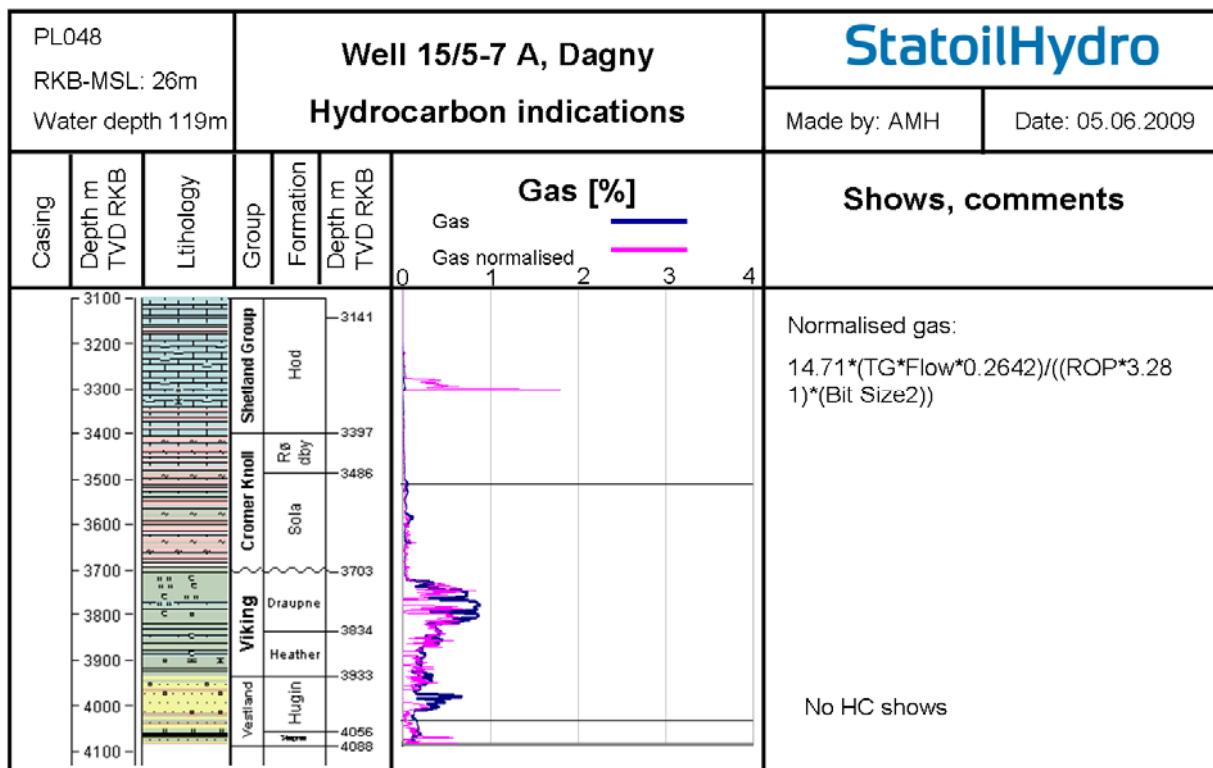
Depth (m MD RT)	(Depth m TVD RT)	Gas cont. (%)	BG	C1	C2	C3	iC4	nC4	iC5	nC5	Type of gas
3779	3751,7	0,89	0,2	4549	372	284	25	94	18	4	Formation gas
3807	3777,8	0,88	0,3	4378	370	290	26	99	20	4	Formation gas
3987	3949,9	0,69	0,2	3667	315	119	14	35	11	5	Formation gas
4107	4067,8	0,56	0,5	3101	237	104	9	14	5	4	Formation gas
4129	4088,65	0,43	0,2	2218	194	107	11	16	4	3	Formation gas
4130	4090,6	0,83	0,2	4991	258	84	7	11	4	3	Formation gas
4130	4090,6	0,30	0,3								Trip gas

**Table 4.9: Gas peaks 15/5-7 A T2 (driller's depth)**

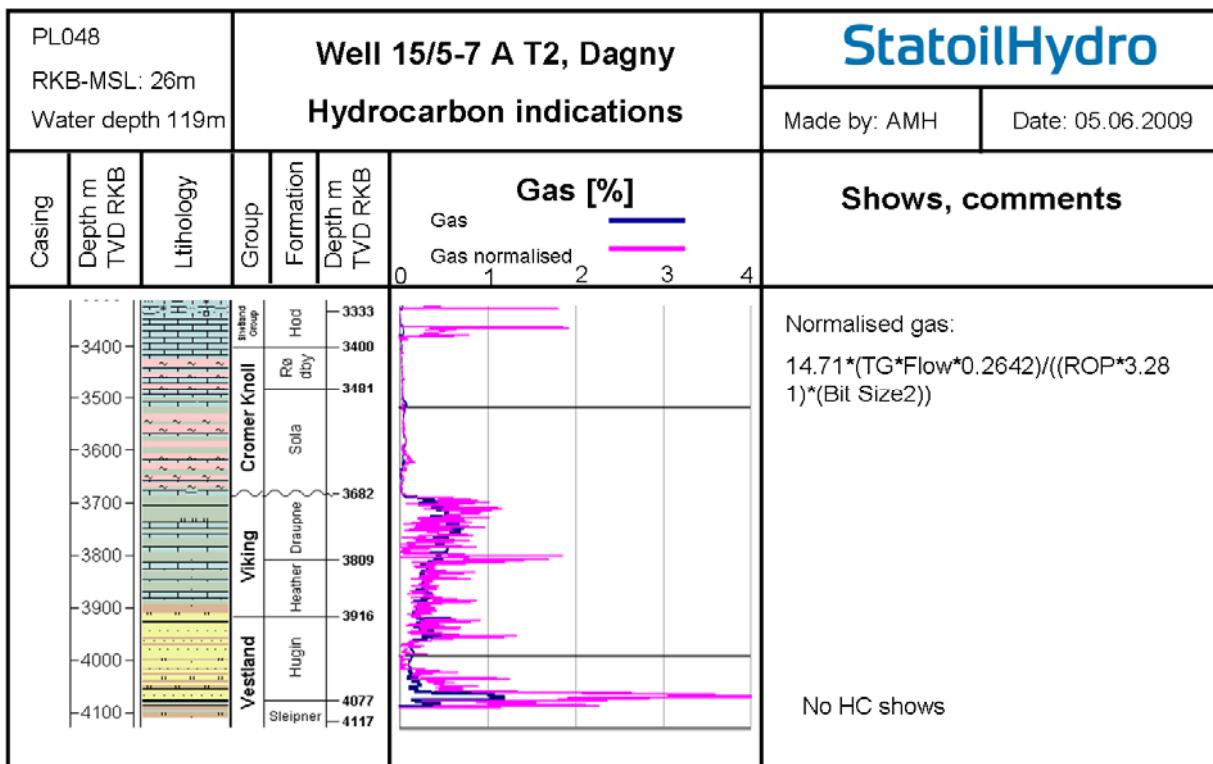
Depth (m MD RT)	Depth (m TVD RT)	Gas cont. (%)	BG	C1	C2	C3	iC4	nC4	iC5	nC5	Type of gas
3763	3743,8	0,75	0,3	3306	279	246	23	89	29	3	Formation gas
3983	3928,9	0,60	0,3	3300	246	92	11	34	19	4	Formation gas
4023	3962,2	0,70	0,2	3556	336	144	17	41	12	19	Formation gas
4166	4087,3	1,20	0,3	6976	567	229	18	28	15	6	Formation gas
4199	4117,0	0,74	0,2	4680	223	86	9	20	7		Trip gas



**Figure 4-3: Hydrocarbon indications 15/5-7**



**Figure 4-4: Hydrocarbon indications 15/5-7 A**



**Figure 4-5: Hydrocarbon indications 15/5-7 A T2**

#### 4.6 Geophysical results

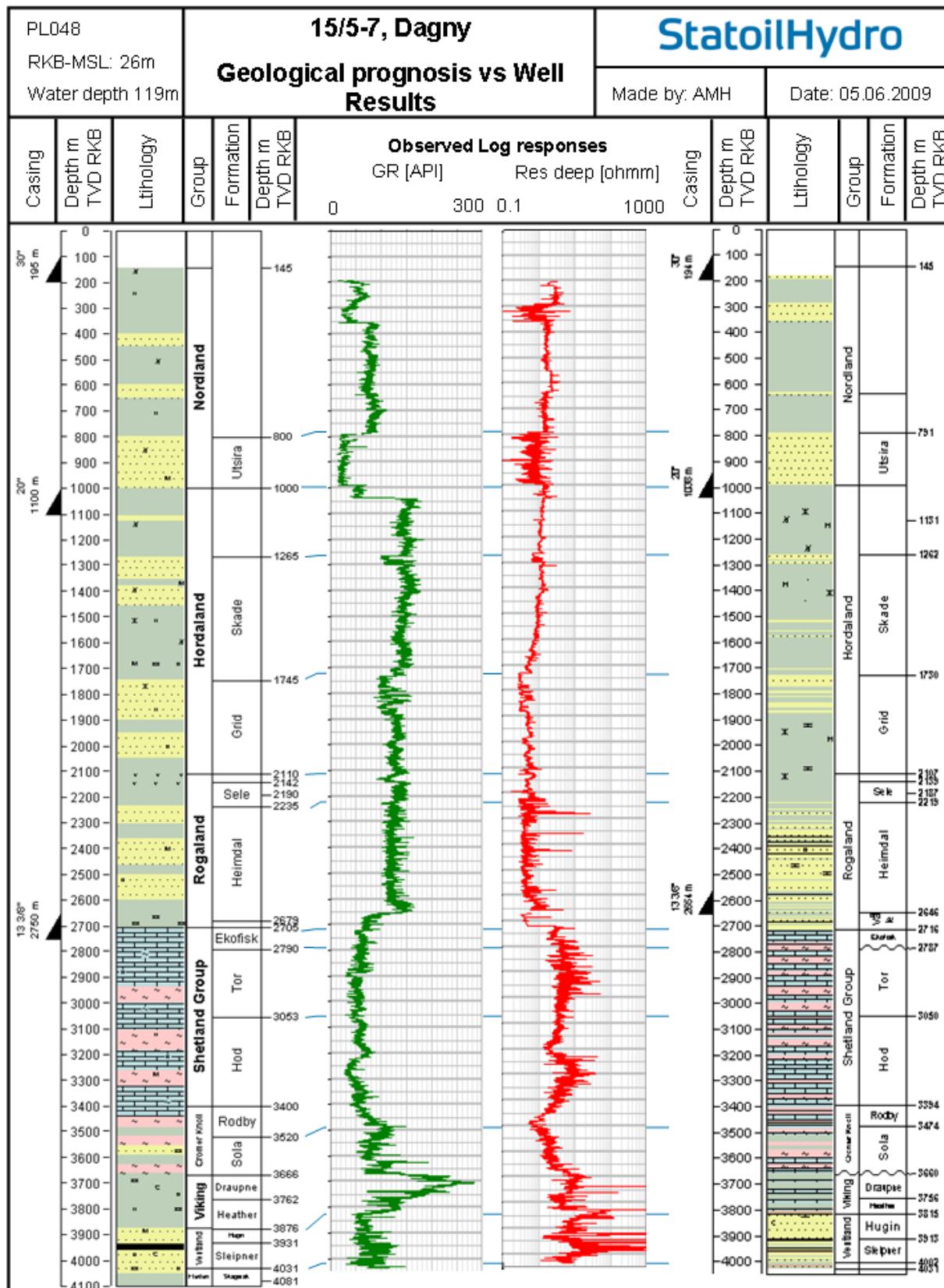
A seismic line along the 15/5-7 well path is shown in Figure 4-7, and a zoom in of the reservoir section with the well path of 15/5-7 and 15/5-7 AT2 in Figure 4-8.

Figure 4-6 and Table 4.4 show the prognosis versus drilled well results for well **15/5-7**. All horizons except Top Hugin Formation were encountered inside the uncertainties given before drilling. Key horizons used in depth conversion all came in very close to prognosis, confirming the depth conversion model.

As the Top Hugin Formation was not possible to interpret on seismic data (ST04M01), the prognosis was based on Hugin Formation thicknesses in nearby wells and a regional geological model. It was therefore constructed from the Top Sleipner Formation and predicted to be 55 m in the 15/5-7 well. The Top Hugin Formation came in 62 m shallow in the 15/5-7 well. The discrepancy is mainly explained by a larger thickness of this formation than predicted, plus a minor portion explained by deviation from planned well path.

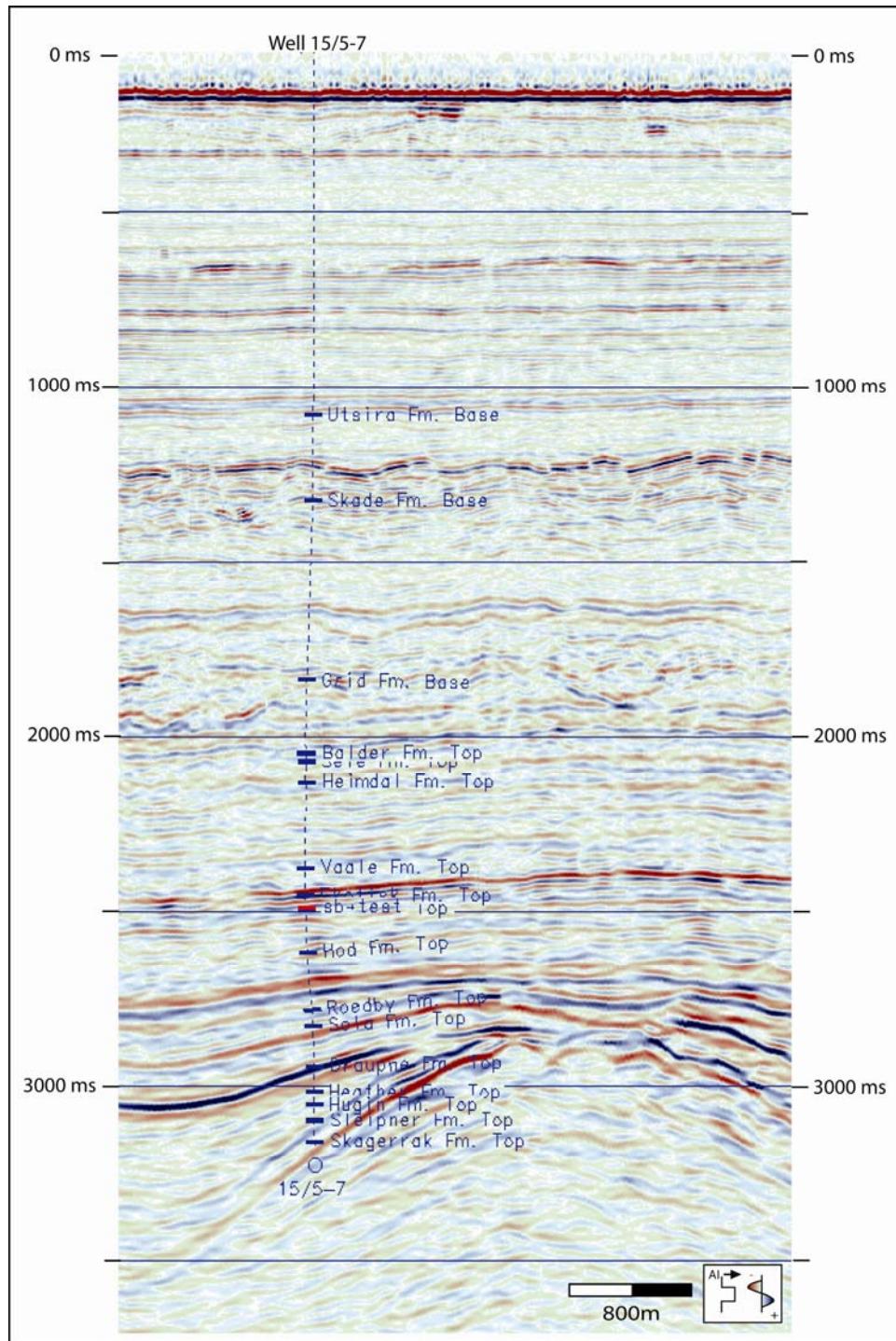
Table 4.2 show the prognosis versus drilled well results for well **15/5-7 A**. All horizons were within the prognosed error range. The increased thickness of Top Hugin in 15/5-7 was taken into account when preparing the prognosis, however Hugin Formation was thicker than predicted, but within the uncertainties given before drilling.

The results of the **15/5-7A T2** well is summarized in Table 4.3. In this sidetrack an even larger thickness of Hugin Formation is observed, especially an extra 25 m sandstone package that can be observed at the base of the formation.

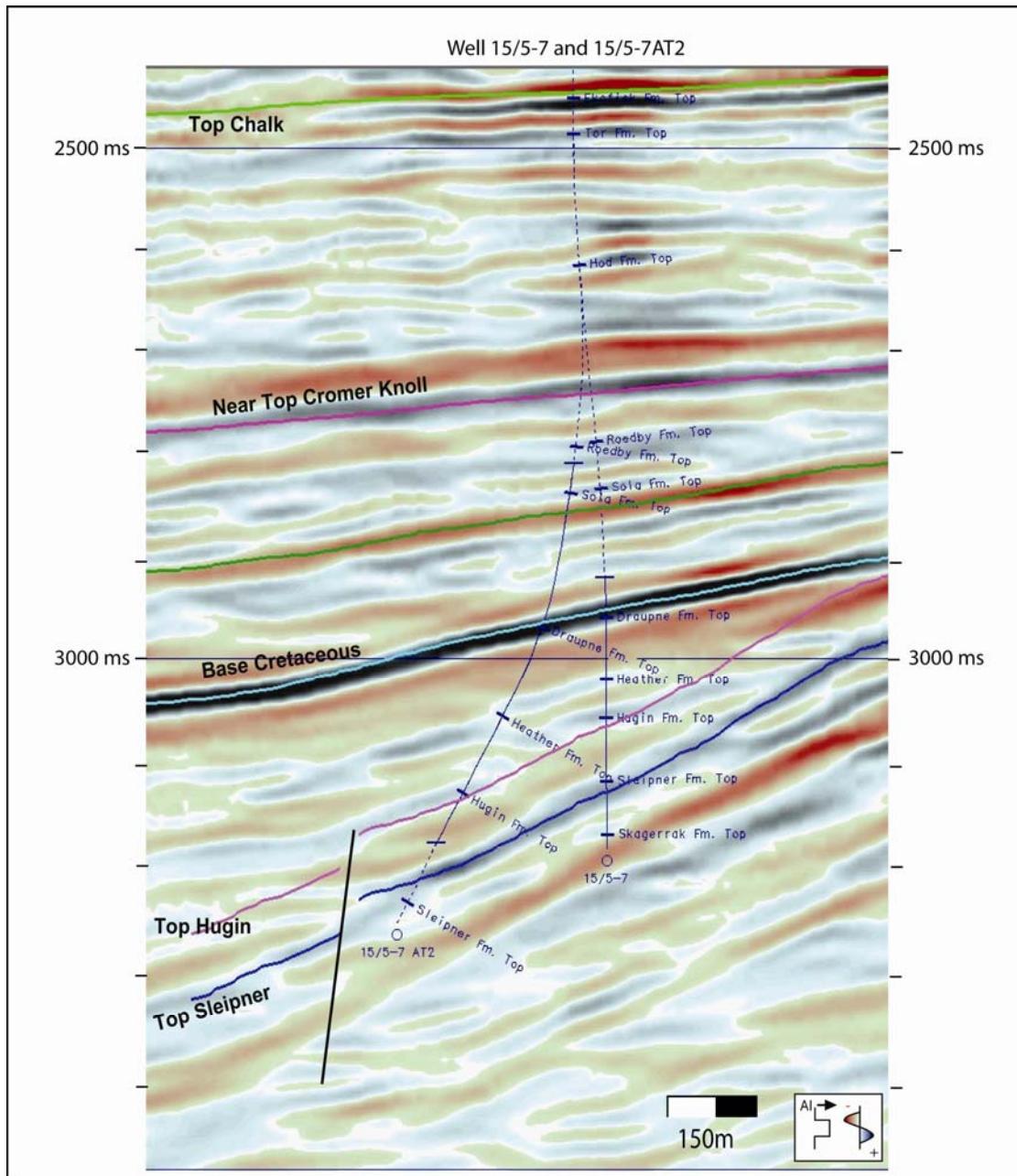


**Figure 4-6: Prognosis vs drilled well results 15/5-7**

**Figure 4-7: Seismic line along the 15/5-7 well path, entire well section**



**Figure 4-8: Seismic line along the 15/5-7 and the 15/5-7AT2 well paths, reservoir section**



## 4.7 Data acquisition

### 4.7.1 Cuttings and mud sampling

A standard Halliburton mudlogging unit was used for the well. Table 4.10, Table 4.11 and Table 4.12 gives the summary of the cuttings and sampling program performed in wells 15/5-7, 15/5-7 A and 15/5-7 AT2, respectively.

**Table 4.10: Cuttings and sampling, 15/5-7**

Depth/interval (m MD RKB)	Cuttings interval (m)	Mud interval (m)	Geochemical interval	Gas samples interval
1045 - 3600	10	100	-	-
3600 - 3825	3	100	-	-
3825 - TD	3	20 (1x2L)	-	-

**Table 4.11: Cuttings and sampling, 15/5-7 A**

Depth/interval (m MD RKB)	Cuttings interval (m)	Mud interval (m)	Geochemical interval	Gas samples interval
3192 - 3800	10	100	-	-
3800 - 4130	3	50	-	-

**Table 4.12: Cuttings and sampling, 15/5-7 AT2**

Depth/interval (m MD RKB)	Cuttings interval (m)	Mud interval (m)	Geochemical interval	Gas samples interval
3350 - 3800	10	100	-	-
3920 - 4193	3	100	-	-

### 4.7.2 Conventional coring

3 coring runs were performed in the 8 ½" section of the main well, 15/5-7, equivalent to a total of 113.9 m. Table 4.13 gives a summary of the coring runs;

**Table 4.13: Coring summary, 15/5-7**

8 ½" section				
Run	Barrel Length(m)	Cored Interval (m MD RKB)	Recovery (m)	Recovery (%)
1	54	3826.0 – 3880.5	54.5	100.9
2	54	3880.5 – 3927.4	46.9	87.0
3	54	3927.4 – 3939.9	12.5	23.1

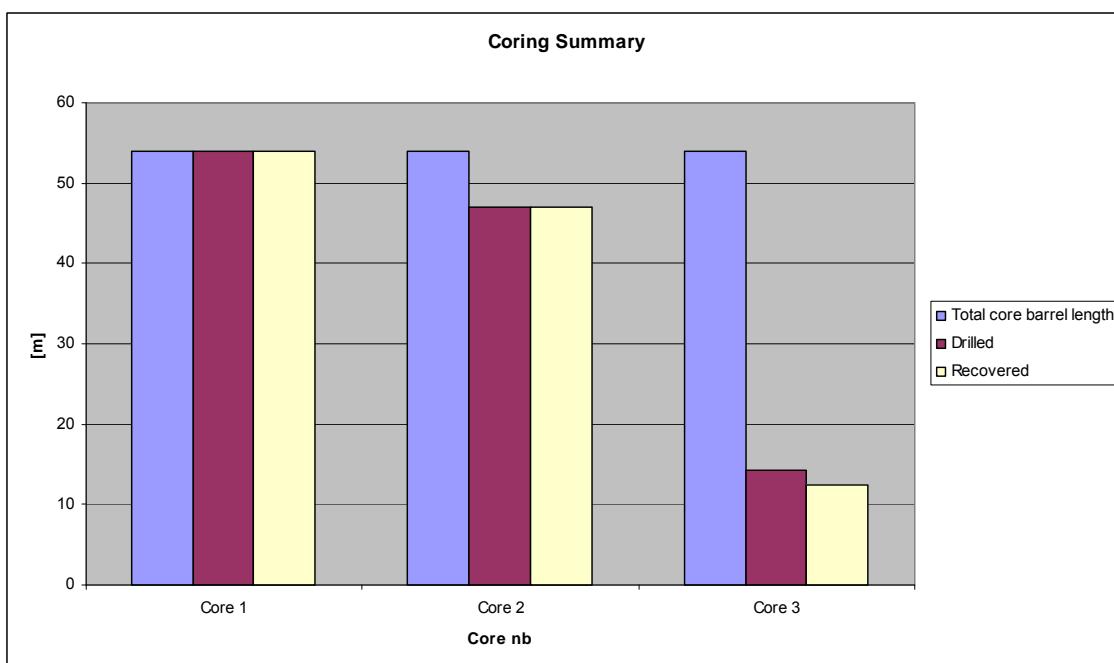
Core #1 was cut without problems. The average ROP was 15,4 m/hr. The core covered Hugin Formation sandstone.

Core #2 jammed off before it was full, probably at the lithological transition between Hugin Formation and Sleipner Formation (coal). The average ROP was 5,5 m hr. The core covers the clean sandstone from the Hugin Formation and the coal on the top of the Sleipner Formation.

Core #3 jammed off after 14,2m. The average ROP during coring was 24 m hr. The core consisted of coal and sandstone from the Sleipner Formation.

The coring was done using conventional coring equipment, see Figure 4-9 for coring statistic.

**Figure 4-9: Coring statistics, 15/5-7**



#### 4.7.3 MWD

Logging on MWD/LWD was performed by Schlumberger. Table 4.14, Table 4.15 and Table 4.16 give the bottom hole assembly (BHA) runs for wells 15/5-7, 15/5-7 A and 15/5-7 AT2, respectively.

**Table 4.14: BHA and LWD run summary, 15/5-7**

BHA run	Max depth (m MD RKB)	Bit size (in)	LWD	Comment
<b>36" section</b>				
1	198	36		Spud
2	194			30" conductor
<b>26" section</b>				

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

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BHA run	Max depth (m MD RKB)	Bit size (in)	LWD	Comment
3	1045	26	ARC	
4	1039			20" casing and 18 3/4" wellhead
<b>17 1/2" section</b>				
5	2663	17 1/2	ARC	
6	2657			13 3/8" casing
<b>12 1/4" section</b>				
11	2871	12 1/4	ARC	
<b>8 1/2" section</b>				
12	3032	8 1/2	ARC-GVR	Rotary drilling BHA
13	3623	8 1/2	ARC	Motor drilling BHA
14	3790	8 1/2	ARC	Powerdrive BHA
15	3826	8 1/2	ARC	Powerdrive BHA
16	3880	8 1/2		Coring run 1
17	3927	8 1/2		Coring run 2
18	3941	8 1/2		Coring run 3
19	4016	8 1/2	ARC	Powerdrive BHA
20	4037	8 1/2	ARC	Rotary drilling BHA
21	3855			Fishing stuck MDT toolstring
22	4020	8 1/2	ARC	Wipertrip
23	3894	8 1/2	ARC	Wipertrip to push down WL tools after Capstan failure
24	3887			Cement stinger
25	3143	8 1/2		Motor drilling kickoff to 15/5-7 A
26	3176	8 1/2		Motor drilling kickoff to 15/5-7 A

**Table 4.15: BHA and LWD run summary, 15/5-7 A**

BHA run	Max depth (m MD RKB)	Bit size (in)	LWD	Comment
<b>8 1/2" section</b>				
1	3275	8 1/2	ARC	Motor drilling BHA
2	3301	8 1/2	ARC	Motor drilling BHA
3	3301	8 1/4		Mill and junk basket BHA
4	4130	8 1/2	ARC	Powerdrive BHA
5	3756	8 1/2		Fishing stuck WL toolstring

BHA run	Max depth (m MD RKB)	Bit size (in)	LWD	Comment
6	3756	8 ½		Wipertrip to push WL toolstring down
7	3337	8 ½		Motor drilling kickoff to 15/5-7 AT2

**Table 4.16: BHA and LWD run summary, 15/5-7 AT2**

BHA run	Max depth (m MD RKB)	Bit size (in)	LWD	Comment
<b>8 ½" section</b>				
8	3637	8 ½	EcoScope	Motor drilling BHA. Misrun. No build.
9	4199	8 ½	EcoScope	Rotary drilling BHA.
10	4182	8 ¼		Wipertrip prior to P&A.

#### 4.7.4 Wireline logging

Wireline logging was performed by Schlumberger. Table 4.17, Table 4.18 and Table 4.19 give the summary of the open hole wireline logging in the 8 ½" sections for wells 15/5-7, 15/5-7 A and 15/5-7 AT2, respectively.

**Table 4.17: Wireline logging summary, 15/5-7**

<b>8 ½" section</b>			
Run	Tool combination	Interval (m MD RKB)	Comments
1A	PEX-HRLA	2600 – 4025	
1A	DSI-FMI	2250 – 4000	
1A	MDT	3825 – 4000	Pretests
1B	MDT	3828 – 3883	Sampling oil. Stuck after sampling. Cut and thread successful.
1C	MDT	3830.5	Sampling oil with dual packer
1A	VSP	690 – 4010	
1D	MDT	3830.5	sampling and miniDST (test interval 3830.0-3831.0 m MD)
1E	MDT	LIH	sampling and miniDST
1F	MDT	3882.7	miniDST (test interval 3882.2-3883.2 m MD)

**Table 4.18: Wireline logging summary, 15/5-7 A**

<b>8 ½" section</b>			
Run	Tool combination	Interval (m MD RKB)	Comments
1A	PEX-AIT-DSI	2650 – 3515	Partial downlog only. Stuck in hole.
1B	PPC-HNGS-GR	3350 – 2657	

**Table 4.19: Wireline logging summary, 15/5-7 AT2**

<b>8 1/2" section</b>			
<b>Run</b>	<b>Tool combination</b>	<b>Interval (m MD RKB)</b>	<b>Comments</b>
1A	MSIP-GR-PPC	3634 – 4132	
1A	MDT-GR	3969 – 4088	Pretests
1B	MDT-GR	3989 – 4085	Sampling and add. pretests
1A	VSI4-GR	2116 – 4100	
1A	XPT-GR	3998 – 4149	
1B	VSI11-GR	3695 – 4153	

#### **4.7.5 Data quality**

The data quality is generally good for both LWD and wireline. However, large washouts occurred in coal sections in the Sleipner Formation affecting the quality of all log data in these intervals.

The objectives of the data acquisition were met as all logs were run. In the 15/5-7 AT2 sidetrack the EcoScope was run to secure density, neutron and resistivity data on LWD as hole stability was a potential problem for the wireline program.

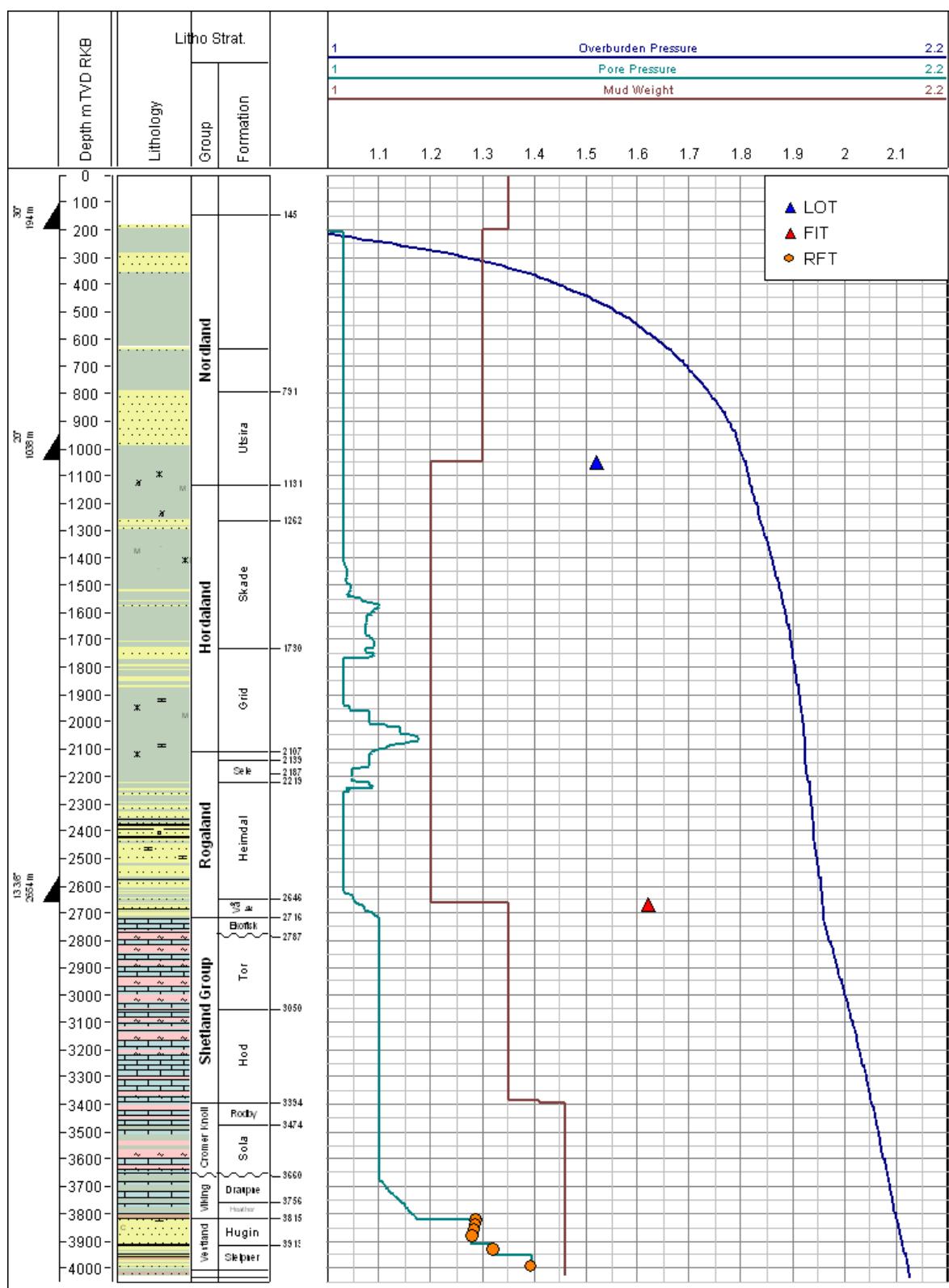
#### **4.8 Pore Pressure**

The pressure prognosis was based on evaluation of reference wells in the area with specific focus on 15/5-1, 15/6-2R and the exploration well 15/6-9 S, Ermintrude.

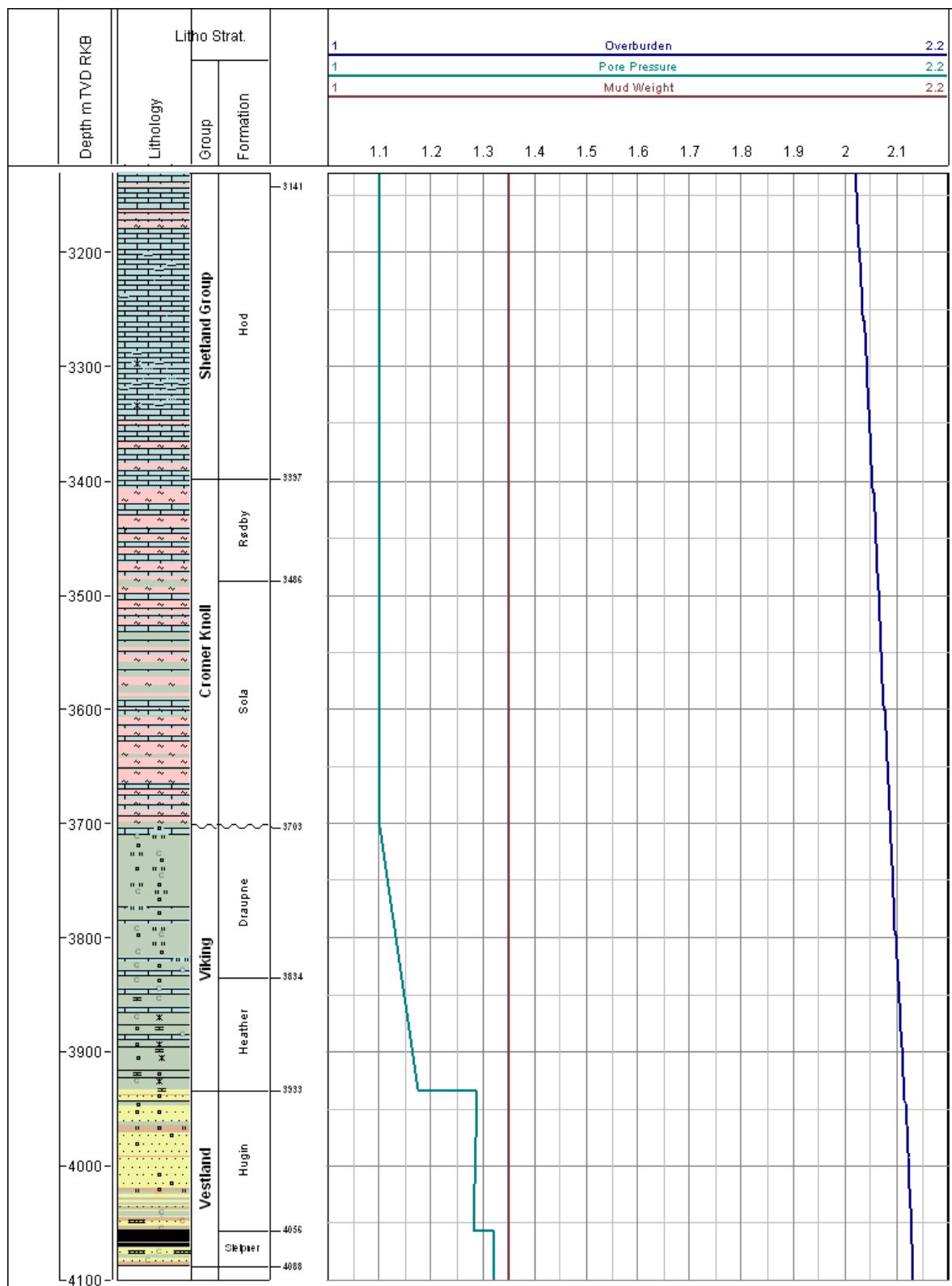
The pore pressure in 15/5-7 was in accordance with the prognosis, although some pressure cavings were reported in the lower parts of the Grid Formation and in to the Rogaland Group.

Due to the predefined well objectives it was decided to drill a downdip sidetrack, 15/5-7 A from the main well for data acquisition in the water zone, including formation water sampling. It was also changed to oil based mud to optimize for this sampling. As the formation pressure was known from 15/5-7, the sidetrack was drilled with a mud weight of 1.35 sg. Large washouts and major hole stability issues occurred during and after drilling, presumably in the Sola Formation. An increase in mudweight from 1.35 sg to 1.44 sg at TD of the well did not improve the conditions. The first wireline run got stuck and was partially left in the well. The well was then cemented and technically sidetracked. In this sidetrack, 15/5-7 AT2, the mudweight was increased to 1.44 sg and no hole stability issues were seen.

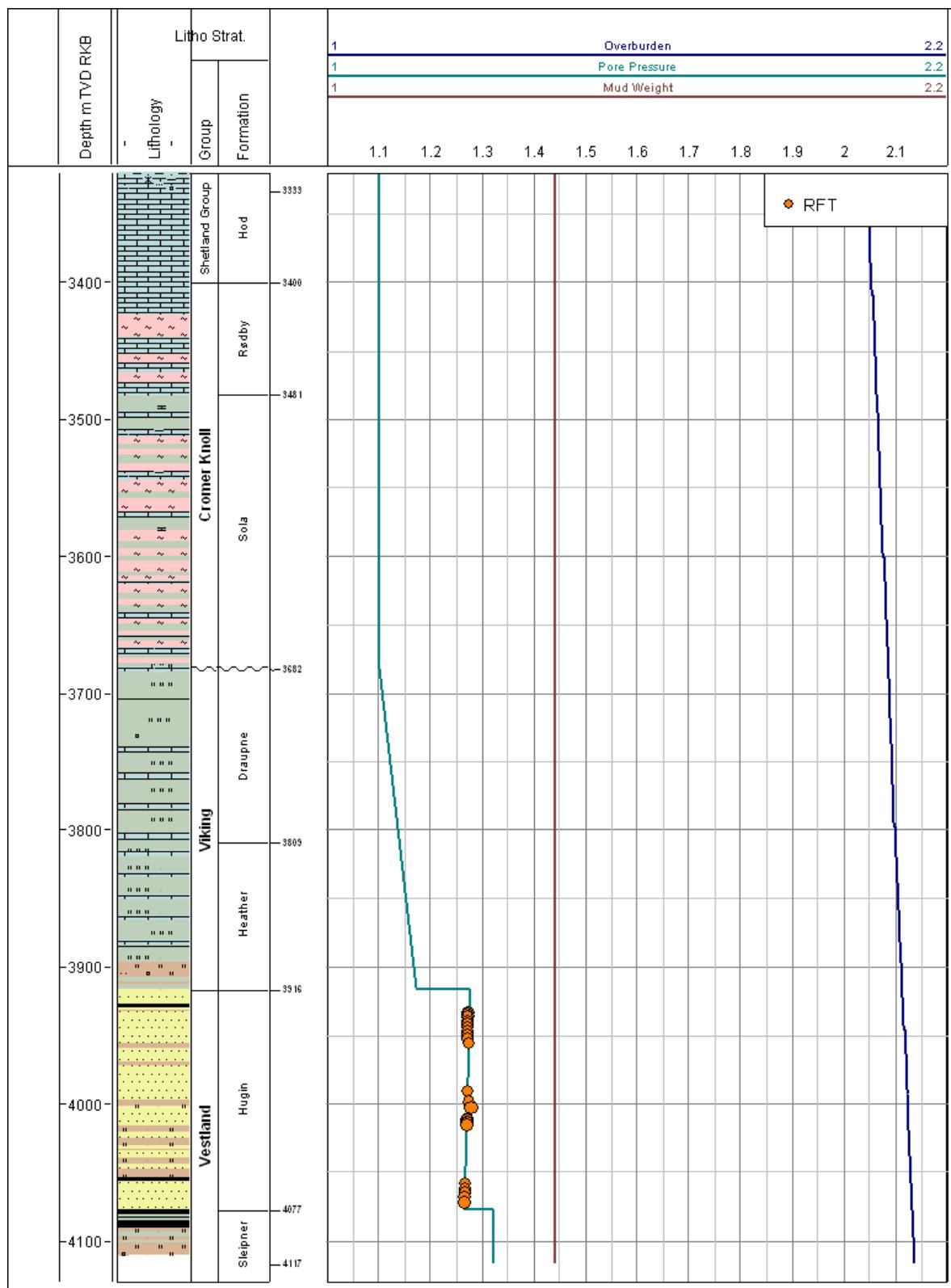
**Figure 4-10: Pressure plot, 15/5-7**



**Figure 4-11: Pressure plot, 15/5-7 A**



**Figure 4-12: Pressure plot, 15/5-7 AT2**



#### 4.8.1 Reservoir pressure summary

52 pressure measurements were performed in 15/5-7 of which 12 were tight. See Table 4.20 and Figure 4-13 for formation pressure details. Additional pretests were performed prior to sampling, however these are not presented in this listing.

In 15/5-7 AT2 40 pretests were taken of which 31 were good and 9 were either tight or not stable, ref. Table 4.21.

**Table 4.20: Formation pressure measurements from MDT, 15/5-7**

Test no	Depth (m MD RKB)	Depth (m TVD RKB)	Hydro-static before (Bar)	Hydro-static after (Bar)	Form. pressure (Bar)	Mobility (mD/cp)	Comment
1	3828.6	3822.9	556.87	556.84			Lost seal
2	3829.1	3823.4	556.95	556.87	483.41	24.3	Good test
3	3829.1	3823.4	556.88	556.86	483.23	42.7	Good test
4	3830.5	3824.8	557.13	557.08			Not stable
5	3830.5	3824.8	557.08	557.07	483.35	4.5	Good test
6	3832.0	3826.3	557.36	557.32			Not stable
7	3832.0	3826.3	557.32	557.32	483.44	4.7	Good test
8	3833.5	3827.8	557.59	557.54			Not stable
9	3833.6	3827.8	557.54	557.53	483.50		Good test
10	3836.5	3830.8	558.04	557.99			Not stable
11	3836.5	3830.8	557.99	557.97	483.71	22.3	Good test
12	3839.3	3833.6	558.45	558.41	483.91	13.0	Good test
13	3842.5	3836.8	558.93	558.88	484.11	20.1	Good test
14	3845.0	3839.3	559.32	559.27	484.31	10.5	Good test
15	3849.7	3844.0	560.09	559.98	484.76	5.6	Good test
16	3850.7	3845.0	560.16	560.14			Tight
17	3851.7	3846.0	560.34	560.28			Not stable
18	3851.7	3846.0	560.28	560.26	484.75	50.3	Good test
19	3865.2	3859.5	562.35	562.28			Unrec.
20	3867.5	3861.8	562.66	562.61	486.06	4.5	Good test
21	3869.3	3863.6	562.91	562.88	486.27	1.7	Good test
22	3872.1	3866.4	563.34	563.29	486.42	3.6	Good test
23	3878.7	3873.0	564.37	564.27	487.53	2.9	Good test
24	3882.5	3876.8	564.85	564.82	487.31	2.9	Good test
25	3884.7	3878.9	565.17	565.14	487.45	4.0	Good test
26	3888.0	3882.2	565.66	565.61	487.64	3.4	Good test
27	3890.7	3885.0	566.07	566.04			Tight
28	3891.3	3885.5	566.11	566.10	488.44	1.3	Good test
29	3892.6	3886.9	566.32	566.31			Tight
30	3902.8	3897.1	567.99	567.88	488.41	4.2	Good test
31	3905.2	3899.5	568.20	568.18			Not stable
32	3906.8	3901.1	568.40	568.38			Not stable
33	3913.0	3907.3	569.32	569.33			Not stable
34	3914.5	3908.8	569.55	569.52			Unrec.
35	3915.0	3909.3	569.61	569.60			Tight
36	3914.0	3908.3	569.44	569.44			Tight
37	3916.8	3911.1	569.90	569.89			Tight
38	3928.9	3923.2	571.53	571.61			Tight
39	3930.0	3924.3	571.78	571.77			Tight

Test no	Depth (m MD RKB)	Depth (m TVD RKB)	Hydro-static before (Bar)	Hydro-static after (Bar)	Form. pressure (Bar)	Mobility (mD/cp)	Comment
40	3933.6	3927.9	572.30	572.28			Not stable
41	3936.8	3931.1	572.76	572.70			Not stable
42	3938.5	3932.8	573.00	572.94	509.59	0.6	Good test
43	3944.7	3939.0	573.94	573.90			Tight
44	3945.1	3939.4	573.93	573.91			Tight
45	3979.3	3973.6	579.02	578.87			Lost Seal
46	3979.8	3974.1	578.95	578.90			Not stable
47	3996.8	3991.1	581.51	581.37			Not stable
48	3997.3	3991.6	581.46	581.46	545.95	1.4	Good test
49	3982.0	3976.3	579.24	579.30			Lost Seal
50	3962.0	3956.3	576.43	576.49			Tight
51	3935.0	3929.3	572.53	572.64			Tight
52	3903.0	3897.3	568.02	568.02	488.43	15.7	Good test

**Table 4.21: Formation pressure measurements from MDT and XPT, 15/5-7 AT2**

Test no	Depth (m MD RKB)	Depth (m TVD RKB)	Hydro-static before (Bar)	Hydro-static after (Bar)	Form. pressure (Bar)	Mobility (mD/cp)	Comment
1	3968.5	3916.9	563.87	563.98			Tight
2	3974.3	3921.8	564.31	564.29			Tight
3	3988.4	3933.5	566.02	566.01	491.45	9.3	Good test
4	3989.5	3934.4	565.69	565.68	491.50	10.59	Good test
5	3992.2	3936.6	493.88	566.31	492.15	14.4	Good test
6	3992.5	3936.9	565.98	565.97	491.69	48.75	Good test
7	3992.3	3936.7	566.49	566.47	491.73	10	Good test
8	3995.5	3939.4	566.37	566.37	491.96	16.18	Good test
9	3998.5	3941.8	566.60	566.96	492.18	95.71	Good test
10	3998.0	3941.4	567.16	567.13	492.20	40.6	Good test
11	3998.5	3941.8	566.69	566.68	492.18	24.83	Good test
12	4001.5	3944.3	567.07	567.07	492.42	72.45	Good test
13	4004.5	3946.4	567.43	567.41	492.73	6.2	Good test
14	4005.5	3947.2	568.08	568.07	492.90	7.5	Good test
15	4008.5	3950.1	568.22	568.19	493.38	2.15	Good test
16	4008.5	3950.1	567.93	567.98	493.14	1.32	Good test
17	4011.5	3952.6	568.23	568.27	493.39	2.3	Good test
18	4015.0	3955.5	569.25	569.23	494.76	0.4	Good test
19	4021.5	3960.9	570.10	570.06			Tight
20	4022.5	3961.8	570.19	570.24			Tight
21	4029.0	3967.2	571.00	570.97			Tight
22	4037.5	3974.4	572.13	572.23			Tight
23	4047.5	3982.5	573.39	573.36			Tight
24	4057.5	3991.4	574.71	574.64	498.66	0.9	Good test
25	4066.5	3999.1	575.88	575.86	500.38	0.5	Good test
26	4070.9	4002.9	577.20	577.32	502.66	0.1	Good test
27	4079.5	4010.3	578.03	578.02	500.80	1.19	Good test
28	4079.5	4010.3	577.24	577.25	500.85	0.93	Good test

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

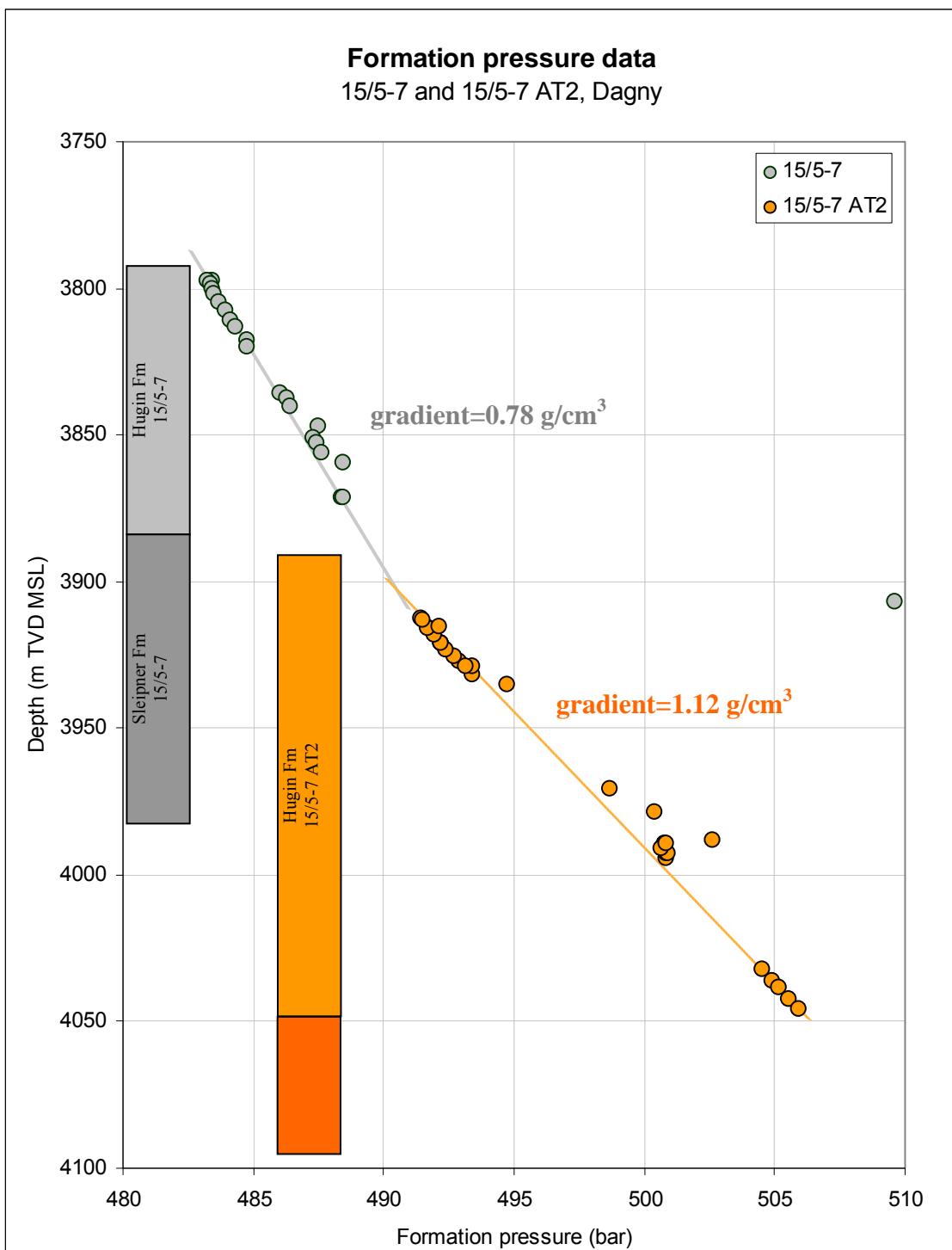
Date 08-08-2008

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Test no	Depth (m MD RKB)	Depth (m TVD RKB)	Hydro-static before (Bar)	Hydro-static after (Bar)	Form. pressure (Bar)	Mobility (mD/cp)	Comment
29	4081.5	4012.0	578.03	578.04	500.81	1.46	Good test
30	4081.5	4012.0	577.51	577.51	500.65	1.24	Good test
31	4082.7	4013.1	577.97	577.94			Tight
32	4083.5	4013.8	578.05	578.02	500.83	1.55	Good test
33	4083.5	4013.8	577.81	578.00	500.94	0.97	Good test
34	4085.5	4015.5	578.03	578.28	500.86	1.45	Good test
35	4087.6	4017.3	578.58	578.58			Tight
36	4134.0	4058.5	585.00	585.15	504.54	6	Good test
37	4138.0	4062.1	585.36	585.61	504.91	3.7	Good test
38	4141.0	4064.7	564.75	585.88	505.15	8.1	Good test
39	4145.0	4068.3	586.48	586.55	505.52	10.2	Good test
40	4149.0	4071.9	514.99	587.19	505.90	6.3	Good test

**Figure 4-13: Formation pressure plot**



The gradients of  $0.78 \text{ g/cm}^3$  in the oil zone and  $1.12 \text{ g/cm}^3$  the water zone shown in Figure 4-13 was found by best fit regression through the highest mobility points.

#### 4.9 Reservoir fluid sampling

Oil sampling were performed at three depths in 15/5-7. In addition, one level of water sampling was performed in the sidetrack AT2. In total approximately 520 litres were pumped during the oil sampling runs in 15/5-7 of which approximately 167 liters were collected to surface. During the water sampling in 15/5-7 AT2, 81.5 liters of formation water was pumped of which approximately 2.5 liters were collected to surface. See sampling details in Table 4.22 and Table 4.23.

**Table 4.22: Oil sample details, 15/5-7**

Run & Depth (m MD RKB)	Sample Size	Chamber Code	Shut-in pressure (bar)	Opening Pressure (bar)	Pumped volume before filling (ltr)	Avg. Draw down (bar)	Comments
1B 3828.8	420 cc	2835	634	220	45	111	
	420 cc	3047	635	220	48	111	
	420 cc	3066	638	220	50	110	
	1 gal	345	649	220	40	86	
	2.75 gal	389	620	210	25	106	
1B 3883.0	420 cc	37	609	0	94	103	No sample <sup>1</sup>
	420 cc	1631	605	205	96	139	
	420 cc	2719	607	220	97	141	
	1 gal	93	608	195	84	136	
	2.75 gal	228	611	195	72	128	
1C 3830.5	6 gal	001	727	230	93	16	
	6 gal	002	727	250	151	16	
	6 gal	003	727	245	180	16	
1D 3830.5	6 gal	001	727	190	78	18	
	6 gal	002	725	205	104	19	
	6 gal	003	726	210	131	19	

**Table 4.23: Water sample details, 15/5-7 AT2**

Run & Depth (m MD RKB)	Sample Size	Chamber Code	Shut-in pressure (bar)	Opening Pressure (bar)	Pumped volume before filling (ltr)	Avg. Draw down (bar)	Comments
3998.2	420 cc	2534	492.21	10	70	52	
	420 cc	2428	492.21	10	70	52	
	420 cc	3299	492.21	10	74	10	
	420 cc	710	492.21	10	74	10	
	420 cc	2970	492.21	10	78	9	
	420 cc	2827	492.21	10	78	9	

<sup>1</sup> Chamber did not close after sampling; hence the chamber was empty at surface.

#### 4.10 Leak off and formation integrity tests

The formation integrity tests performed are summarized in Table 4.24.

**Table 4.24: LOT and FIT summary, 15/5-7**

No	Depth (m MD RKB)	Casing size (in)	Type	Equivalent Mud Weight (sg)
1	1048	20	LOT	1.52
2	2669	13 ½	FIT	1.65

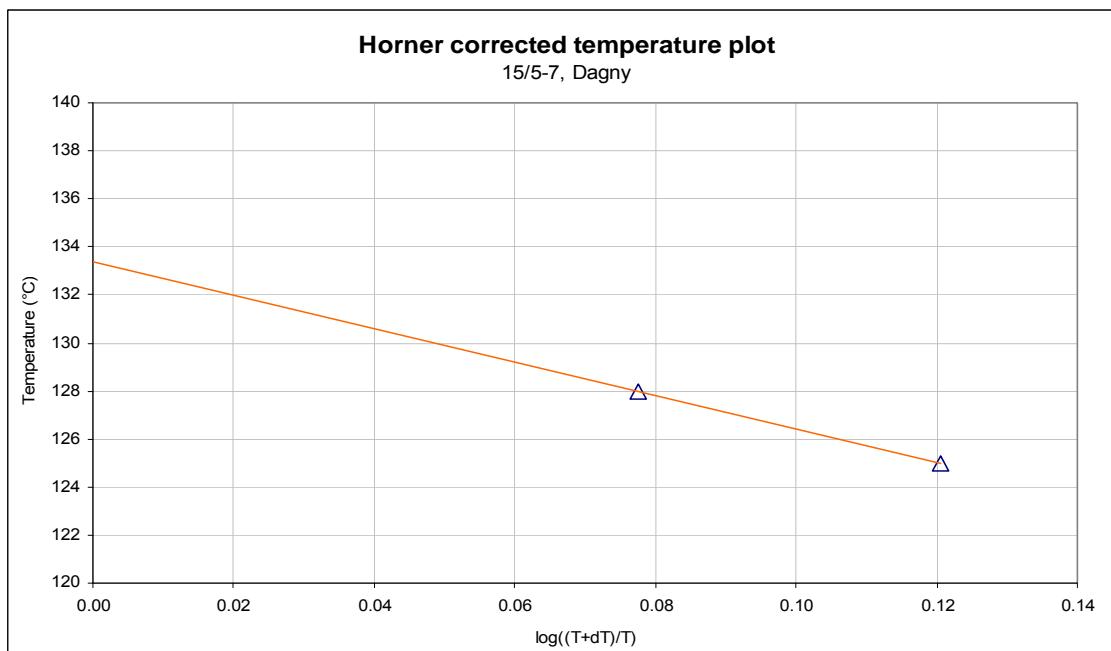
#### 4.11 Formation temperature

An average temperature gradient of 3.28 °C/100m was calculated from seabed to TD with a seabed temperature of 4°C. Reliable data for exact temperature measurement was not available other than wireline runs including MDT sampling in 15/5-7 AT2. Summary of temperatures from logging is given in Table 4.25 and an equivalent Horner corrected formation temperature was estimated at approx. depth 4058 m TVD RKB of 133.5 °C, ref. Figure 4-14. Figure 4-15 shows the formation temperature plot.

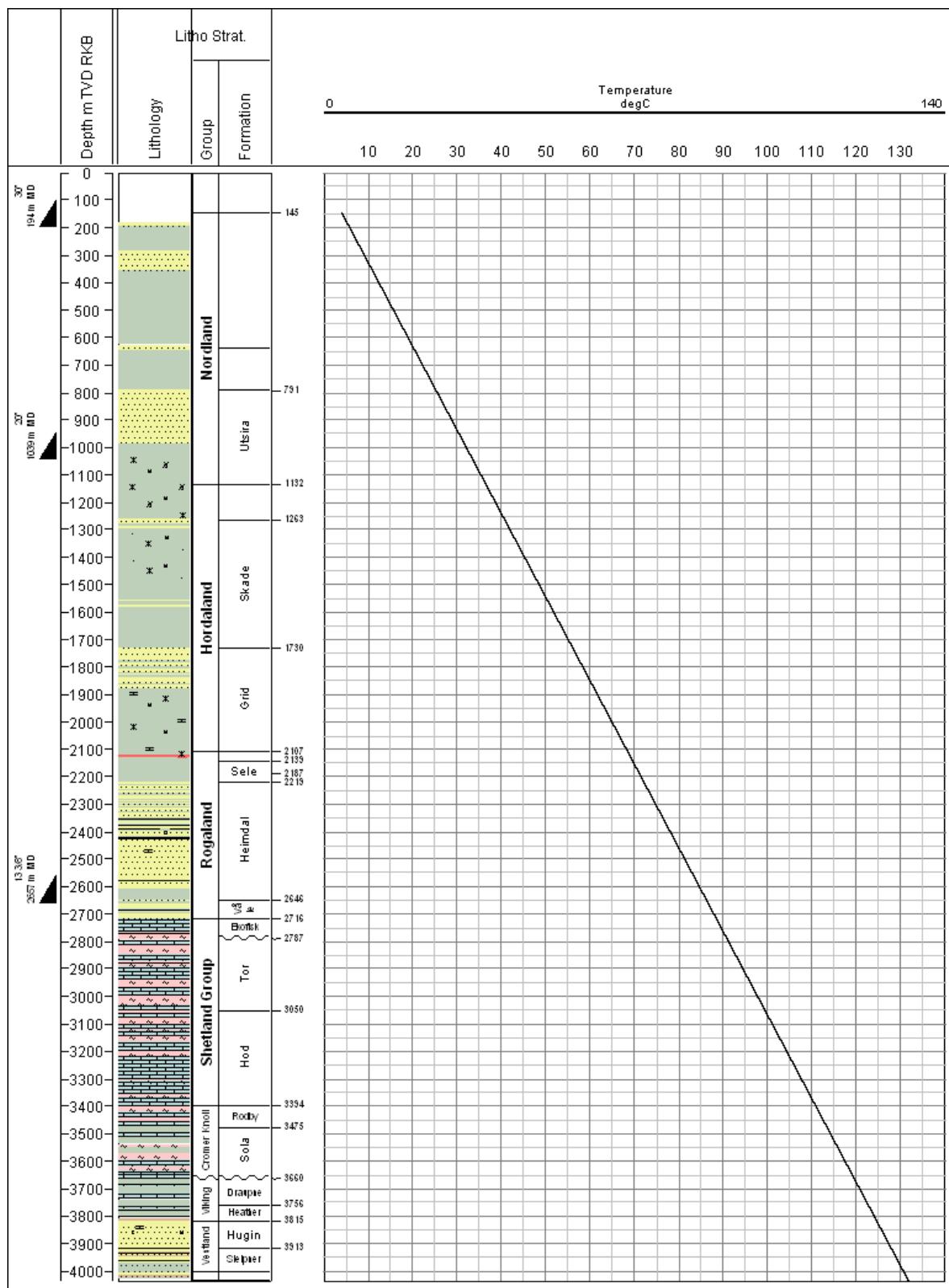
**Table 4.25: Summary of temperature measurements from wireline logging**

Logging sequence	Tool combination	Depth of meas. (m TVDRKB)	Max. rec. temp (°C)	Time since circulation (hrs)	Evaluated temperature (°C)
Run 2 (1A)	MDT-GR	4058	125	39	133.5
Run 3 (1B)	MDT-GR	4033	128	62	

**Figure 4-14: Horner corrected temperature plot at depth 4135 m MD RKB / 4058 m TVD RKB**



**Figure 4-15: Formation temperature plot, 15/5-7**



## **5 Drilling Operations Report**

### **5.1 NO 15/5-7, MOVE (01.Jul.2008 21:00)**

**START:** 01.Jul.2008 21:00 mMD  
**END :** 03.Jul.2008 19:00 0 mMD

#### **OBJECTIVE**

Move rig to Dagny location, anchor handling and mobilize rig for operations.

#### **SUMMARY**

The rig was towed from 32/2-1 Trow to Dagny location.

### **5.2 NO 15/5-7, PRESPUD (03.Jul.2008 19:00)**

**START:** 03.Jul.2008 19:00 0 mMD  
**END :** 04.Jul.2008 03:00 143.5 mMD

#### **OBJECTIVE**

Optimize preparations for spud

#### **SUMMARY**

A total of 8 hours was spent on pre-spud activities, making up 36" BHA and preparing cement stand for the conductor cement job.

### **5.3 NO 15/5-7, 36" (04.Jul.2008 03:00)**

**START:** 04.Jul.2008 03:00 145.5 mMD  
**END :** 05.Jul.2008 13:00 198.2 mMD

#### **OBJECTIVE**

Drill 17 1/2" x 36" hole from seabed (147 m RKB) to ~197 m (~50 m below mudline) with 5" DP. Cement 30" conductor with 4 joints below mudline, 2 m stick up above mudline and inclination < 1.0 degrees.

#### **SUMMARY**

Started to drill 36" section from seafloor to 151.5 m with 1000 lpm, 30-60 rpm and 1 ton WOB and then brought rate and rmp stepwise up to 3400 lpm/60 bar and 80 rpm/2-4 kNm torque. From 162 m to section TD the rate was increased to 4900 lpm/125 bar. Pumped high visc pill as required. Inclination recorded from MWD showed max inclination of 0.78 deg. at 157.5 m. Displaced hole to 1.30 sg mud and POOH. Ran and landed the 30" conductor according to plan. Cemented the 30" conductor in place as per program while ROV observed for returns on seabed. No backflow. Final stick up of 30" conductor was 2 m.

Drilling the 36" section was done with a rate of 74,3 m/day, an increase from previous performance average close to 60%. Overall performance including running of the conductor was 37,7 m/day for the section, compared to previous average for this section an performance increase of close to 100%.

#### **BIT RUNS**

The 36" section was drilled in one bit run. The 17 1/2" bit and 36" HO assembly worked as expected.  
Bit used was: Smith Bits 17 1/2" XR-VC. Grading: 1-1-WT-A-E-IN-BU-TD.  
and 36" hole opener from Odfjell Drilling AS.

#### **DRILLING FLUID**

Pumped Hi-vis pills, each of 10 m<sup>3</sup> at 158 m, 169 m and 184 m. At TD, pumped 15 m<sup>3</sup> Hi-vis sweep and displaced 1.5 times hole volume (54 m<sup>3</sup>) of 1.30 sg Hi-vis mud.

**CASING**

30" conductor; 309.7 lbs/ft, X-52 with DQ SL-60 coupling was set from 143.5 mMD to 194 mMD (194 mTVD).

**CEMENTING**

Cemented 30" conductor in place as per program. Mixed and pumped 18.8 m<sup>3</sup> 1.56 lead, 19 m<sup>3</sup> 1.95 tail. Displacement fluid was sea water, 4.1 m<sup>3</sup>. ROV observed for returns on sea bed. Positive indications of returns throughout the operation. No backflow. Final stick up of the 30" conductor was 2 m.

**5.4 NO 15/5-7, 26" (05.Jul.2008 13:00)**

**START:** 05.Jul.2008 13:00 198.2 mMD

**END :** 11.Jul.2008 17:30 1048 mMD

**OBJECTIVE**

Drill 26" hole from the 30" conductor shoe to 1100 m to get 20" shoe below Utsira with 5" DP. Adjust TD to prevent setting casing shoe in sand. Cement 20" surface casing with top of cement at seabed. Install BOP and Riser.

**SUMMARY**

Ran in hole with 26" BHA and tagged TOC at 189 m. Drilled out cement shoe and rat hole. Hard boulders in rate hole (194-198 m). The same BHA drilled to section TD, 1045 m. Typical parameters were: Flow: 3500-5000 lpm, Pressure: 109-280 bar, Rotation: 140 rpm, WOB: 10-20 ton, Torque: 10-25 kNm. Average ROP: 49.2 m/hr. Entered Utsira formation at 793 m and Hordaland formation at 991 m. At 1015 m experienced high torque and drag.

When POOH experienced tight hole from 744 to 705 m and a tight spot at 531 m. Preformed a wipertrip and worked tight spot and reamed tight area. Displaced 26" hole to 1.30 sg FromPro mud.

ROV met casing shoe 10 m above WH housing and assisted when stabbing in. Made up 18 3/4" WH to 20" casing and landed WH in 30" housing. Landing point WH-RKB verified to be 142.5 m. Cemented 20" casing in place.

Again an performance increase was achived from previous 26" section drilled with the rig.

Drilling 26" hole was done in 366 m/day, and total for the section including caisng running was 232 m/day, an performance increase of 61 %.

Run and landed BOP and riser. Observed leakage into well bore when pressure tested diverter housing. Picked up and installed diverter running tool. Lifted up diverter housing and found damage on hydraulic hose between upper and lower packer element. Replaced leaking diverter house.

**BIT RUNS**

The section was drilled with a Smith bit XR+VEJ3C 26" bit. Drilled from 198 mMD to 1045 mMD. Dull grading: 1-2-WT-A-E-IN-NO-TD.

**DRILLING FLUID**

Drilling fluid was seawater/Bentonite. Pumped 10 m<sup>3</sup> high visc pills on each stand from 198 to 785 m and 3 x 10 m<sup>3</sup> high visc pills on each stand from 785 to section TD, 1045 m. Circulated hole clean pumping seawater and then displaced open hole to 1.30 FormPro mud.

**CASING**

20" casing set from 142.5 mMD to 1039 mMD, 74 joints incl shoe and float: grade: N-80, Coupling: AntaresER, weight: 133 lbs/ft.

Wellhead data: Type: SS-15, Dimension: 18 3/4", Rating: 15000, Coupling: New Vam (20"x625" TenarisER), Lock ring used: 'N'.

**CEMENTING**

Mixed and pumped 252 m<sup>3</sup> 1.56 sg Class G lead cement slurry followed by 67 m<sup>3</sup> 1.90 sg Class G tail slurry. ROV observed for returns during operation. Displaced cement slurry pumping sea water with rig pumps. Bumped plug after 9540 strokes, equal to 97% pump efficency. Pressure tested casing to 133 bar for 10 minutes. Bled off pressure and checked for back flow, no back flow observed.

**5.5 NO 15/5-7, 17 1/2" (11.Jul.2008 17:30)**

**START:** 11.Jul.2008 17:30 1045 mMD  
**END :** 24.Jul.2008 05:30 2669 mMD

**OBJECTIVE**

Drill 17 1/2" section from the 20" casing shoe into the Ekofisk Fm (2705 m RKB). Drill section with 5 1/2" drill pipe. Align well vertically on target in 8 1/2" section (70 m horizontal displacement from surface location). Run 13 3/8" casing (2 quality string) with top of cement 400 m above shoe.

**SUMMARY**

The section was drilled in one bit run, increasing mud weight up to 1,35 sg while drilling with good performance. Using 5 1/2" DP reduced the previous experience vibration on MWD tools. Also the handling of 5 1/2" DP on the rig, did not cause any deficiencies in performance. Running and cementing the casing went without any problems, the setting of the seal assembly failed causing 7 hours of down time.

The section performance was jeopardized due to the pulling of the BOP and riser after the BOP test failed during the biweekly pressure test. This resulted in 118 hours of BOP related down time.

Section performance including BOP down time was 118 m/day compared to the 115 m/day achieved on Ermintrude. Indication that the lessons learned from Ermintrude was well implemented in this section on Dagny.

**BIT RUNS**

The bit selection was based on the previous well Ermintrude (15/6-9S) experience drilling the Shetland formation, the PDC bit used on this was pulled premature with the grading of 2-4-WT due to low penetration rate. The bit that trailed this did not perform at all (ROP 1,5 m/hr).

For Dagny a similar PDC was run (Smith MDI619LHBPX) giving an bit run ROP of 32,6 m/hr compared to Ermintrude (Smith MDI619BHVPX) of 25,2 m hr. The section was completed in one bit run and pulled due to slow progress.

**DRILLING FLUID**

Drilling fluid was KCL based water based mud system. Starting out with 1.21 sg, increased to 1,25 sg at 1894 m and before pulling out of hole for the 13 3/8 casing the weight was increased to 1,35 sg to ensure sufficient stability of the hole.

**CASING**

13 3/8 casing 72 lb/ft (Vam Top) was run to planned depth without any problems. The casing was tested to 360 bar.

**5.6 NO 15/5-7, 8 1/2" (24.Jul.2008 05:30)**

**START:** 24.Jul.2008 05:30 2663 mMD  
**END :** 01.Sep.2008 11:30 4037 mMD

**OBJECTIVE**

Drill out 13 3/8" casing with 12 1/4" BHA and 12 1/4" hole to 100 m above expected core point (2 x uncertainty). Pick core point with 8 1/2" BHA with near bit GR and resistivity. Core minimum 20 m of the Hugin formation (also if no HC present). Continue to drill 8 1/2" hole to planned TD. Log 8 1/2" section according to scope; dry or discovery case logging.

**SUMMARY**

The 13 3/8" casing was drilled out with a 12 1/4" bit and after a successful FIT to 1.65 SG MWEQ and this BHA was used to drill further as this was seen as the most economical strategy. 12 1/4" BHA was pulled earlier than planned objective due to expectation of higher penetration rate with 8 1/2" BHA. New BHA (8 1/2" bit) including motor was run and was pulled out of hole due to the top drive failure. At surface preliminary evaluation of the bit showed severe damage to the nose of the bit. The BHA showed also a high building tendency to the north. Due to an adjustment of target after new seismic this was acceptable, but building tendency was too high to avoid a correction run. After top drive repair a new BHA on motor to be able to stop the building tendency was deployed with the objective of optimise directional control. Well trajectory was aligned to directional plan and a new BHA was used to drill to coring point. Three core where cut and well was drilled to TD with an additional two bit runs, before wireline could start again the operation was affected by rig equipment brake down, when the draw work brake failed and had to be replaced. Nine wireline runs were performed where the last MDT was lost in hole when the cable snatch at the unit level, and tool lost in hole. The tool was pushed to bottom. The section was plugged back with cement to prepare for a sidetrack at 3066 m.

Section performance was highly affected by the rig equipment failures. A performance of only 48.03 m/day including down time was achieved, which are in the lower range of other 8 1/2" section down by Transocean Winner. The severe down time

contribution to this caused by the tow incident in rig equipment failure, triggered a improvement focus on rig critical equipment.

#### **BIT RUNS**

The 13 3/8 casing was drilled out with a 12 1/4 BHA and the intention was to drill down to the uncertainty of the core point with this hole size. Bit performance made it required to pull the bit and go in with a 8 1/2 BHA to drill to core point. The chosen PDC bit was severely damaged in this run, which might be a result of the reduced hole size (12 1/4 to 8 1/2) and hard formation. The previous run might have created a profile that the new sixe did not centre on creating uneven bit wear on the nose of the PDC bit, indicated by the severe damage of the nose of the bit. A tricone bit was chosen as next run to ensure improved directional control and a more robust strategy to handle the size reduction. A third run was required to get to the core point. After reaching core point three core was cut and a PDC bit was used to drill to TD

#### **DRILLING FLUID**

The section was drilled with KCL water based mud system where CaCO<sub>3</sub> and G-seal was added to enhance the mud capability of handling losses. Mud weight was based on the Ermintrude well and was increased from 1,35 sg to 1,46 sg. Fluid loss was reduce before getting to core point to be able to reduce the risk of getting stuck due to high overbalance entering the reservoir.

### **5.7 NO 15/5-7, PERM P&A (01.Sep.2008 11:30)**

**START:** 01.Sep.2008 11:30 4037 mMD  
**END :** 02.Sep.2008 22:30 4037 mMD

#### **OBJECTIVE**

Plug back the open hole to secure no future movement of fluids from the reservoir, and make a kick off plug for the sidetrack

#### **SUMMARY**

3 plugs was placed in the open hole with 3 1/2" stinger. (3887 m to 3270 m) 1,90 sg slurry.

### **5.8 NO 15/5-7, PREPARE SIDETRACK (02.Sep.2008 22:30)**

**START:** 02.Sep.2008 22:30 4037 mMD  
**END :** 07.Sep.2008 05:00 3192 mMD

#### **OBJECTIVE**

Set a sidtrack plug below 13 3/8" casing and kick off according to directional target.

#### **SUMMARY**

A 2.05 sg designed side track plug was placed from 3270 m to 3036 m MD. A 8 1/2 motor BHA with 1.5 deg bend and tricone was run in hole to perform the sidetrack. Time drilling started after firm cement was observed at 3051 m to 3143 m without any indications of new formation being cut. A new BHA was run in hole with a 8 1/2 stab moved below the MWD. At surface it was found that the setting of the motor bend housing was not the planned 1.5 but 0.78 deg.

### **5.9 NO 15/5-7 AT2, 8 1/2" (24.Sep.2008 19:00)**

**START:** 24.Sep.2008 19:00 3337 mMD  
**END :** 05.Oct.2008 08:00 4199 mMD

#### **OBJECTIVE**

Kick off well according to directional plan and drill to TD 4199 m

#### **SUMMARY**

The well was kicked off at 3337 m with a 8 1/2" kick off BHA with a higher bend (1.78 deg) and with increased mud weight (1.43 sg) than the first unsuccessful sidetrack. After positive indications of kick off the BHA was pulled out. A new steerable system with LWD was run in hole but had to be pulled out due to the problems of following the planned well trajectory (unable to build angle). A new rotary steerable system was run in hole and drilled from 3675 m to 4199 m, high stick slip was observed. At TD a slight progressive pressure drop was observed indicating a washout. After lubricating out and checking connections a washout was found in the MWD collar body. A wiper trip was performed prior to logging

**DRILLING FLUID**

Oilbased mud system was used with a start weight of 1.43 sg increasing to 1.46 sg to ensure stability.

**5.10 NO 15/5-7 AT2, PERM P&A (05.Oct.2008 08:00)**

**START:** 05.Oct.2008 08:00 4199 mMD  
**END :** 13.Oct.2008 01:00 4199 mMD

**OBJECTIVE**

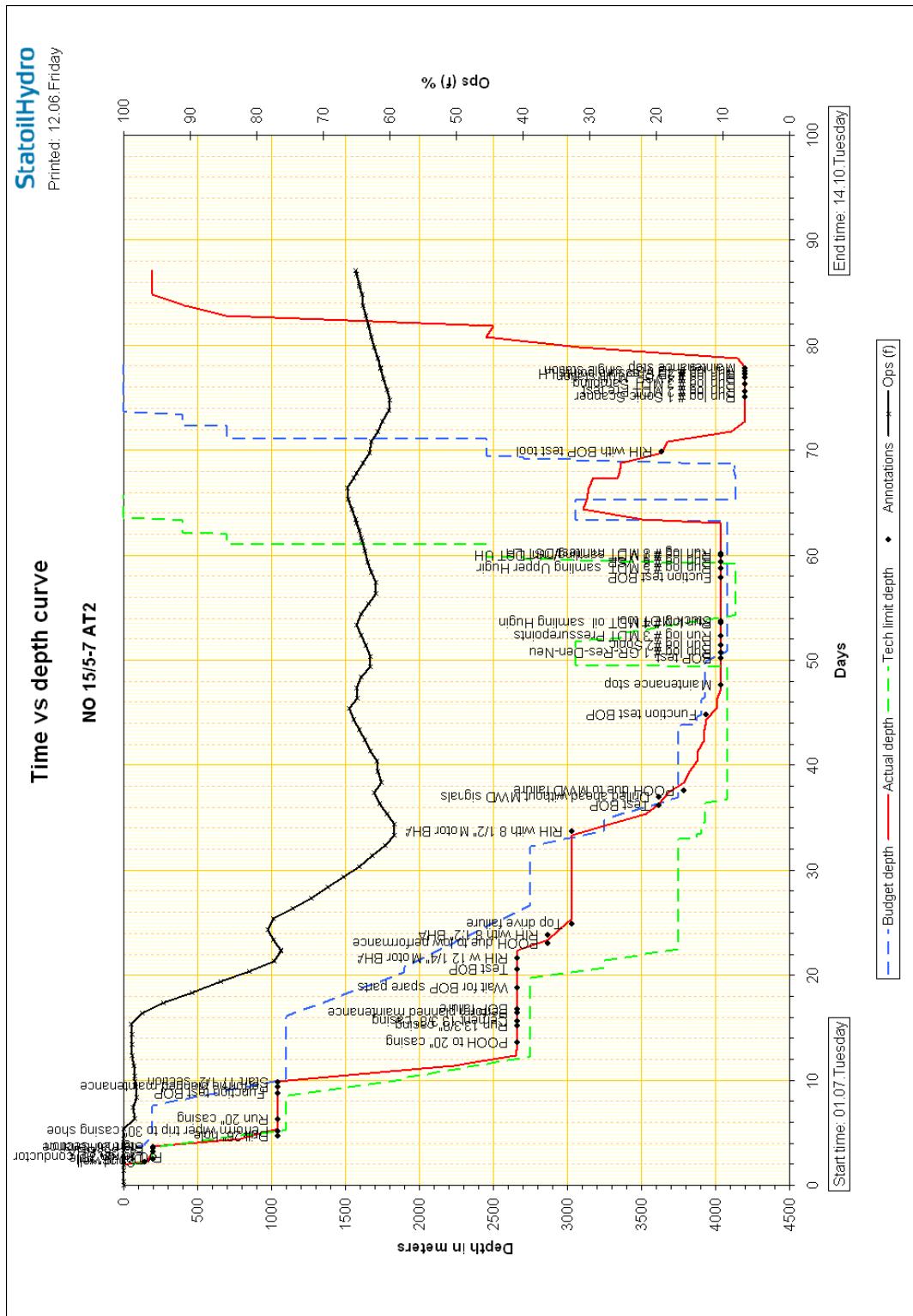
Plugg well permanently

**SUMMARY**

The well was permanently plugged with cement plugs in open hole. The 13 3/8 casing was cut at 703 m and pulled out of hole. Well head was cut and retrieved.

## 6 Figures and tables

## 6.1 Time/depth curve 15/5-7, 15/5-7 A and 15/5-7 AT2



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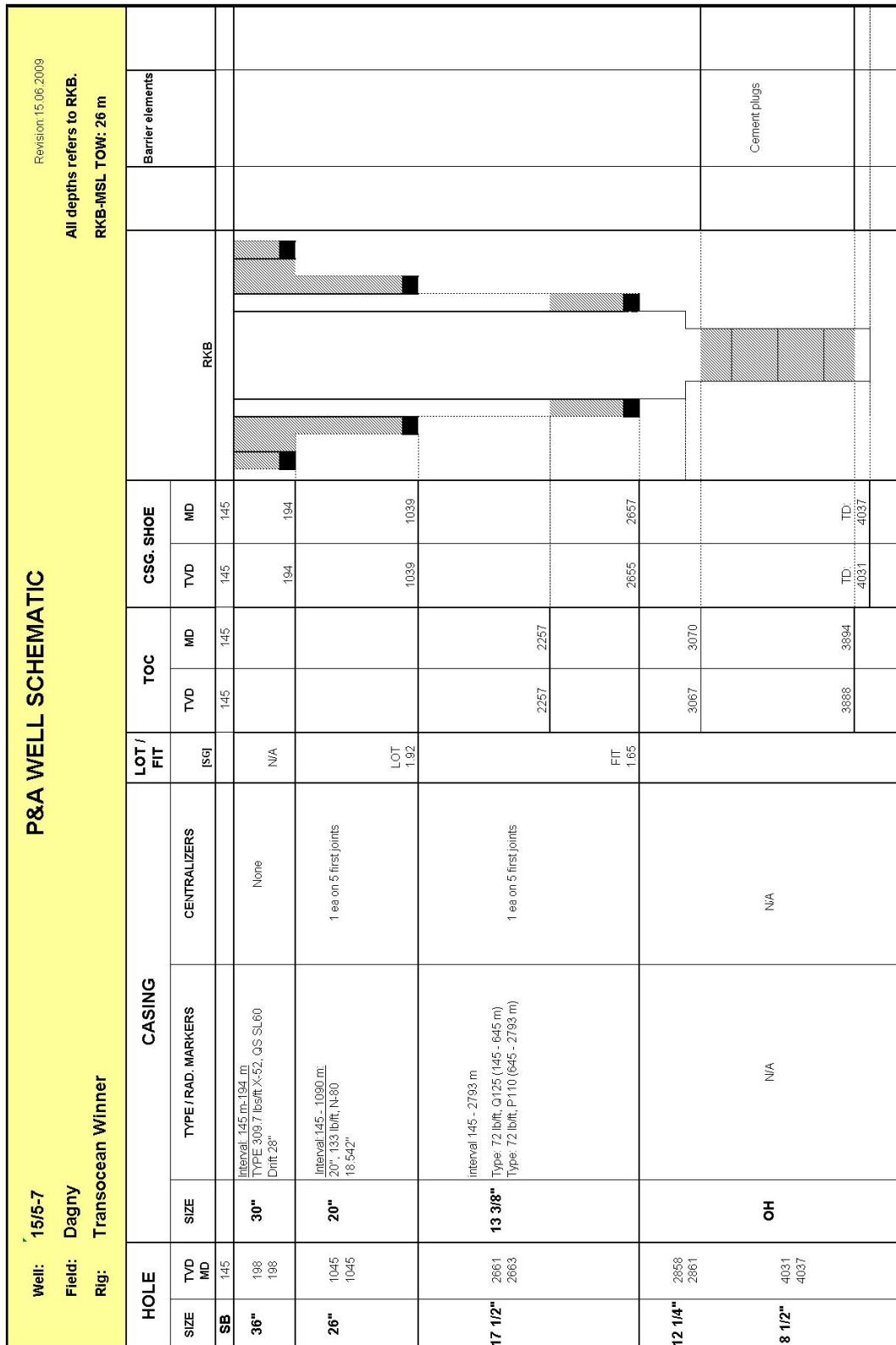
# StatoilHydro

Date 08-08-2008

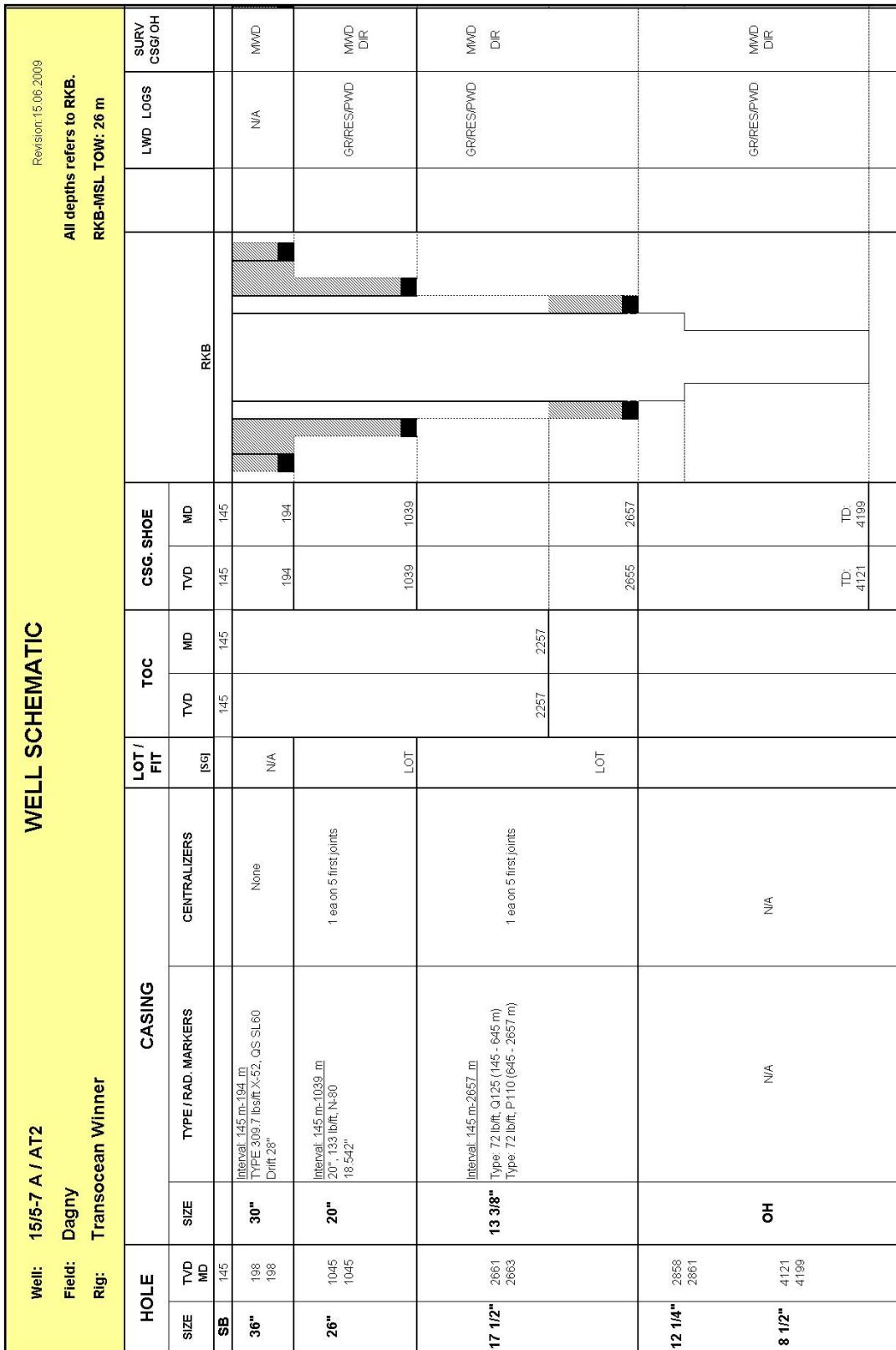
Rev. no. 0

## 6.2 Well Schematic 15/5-7

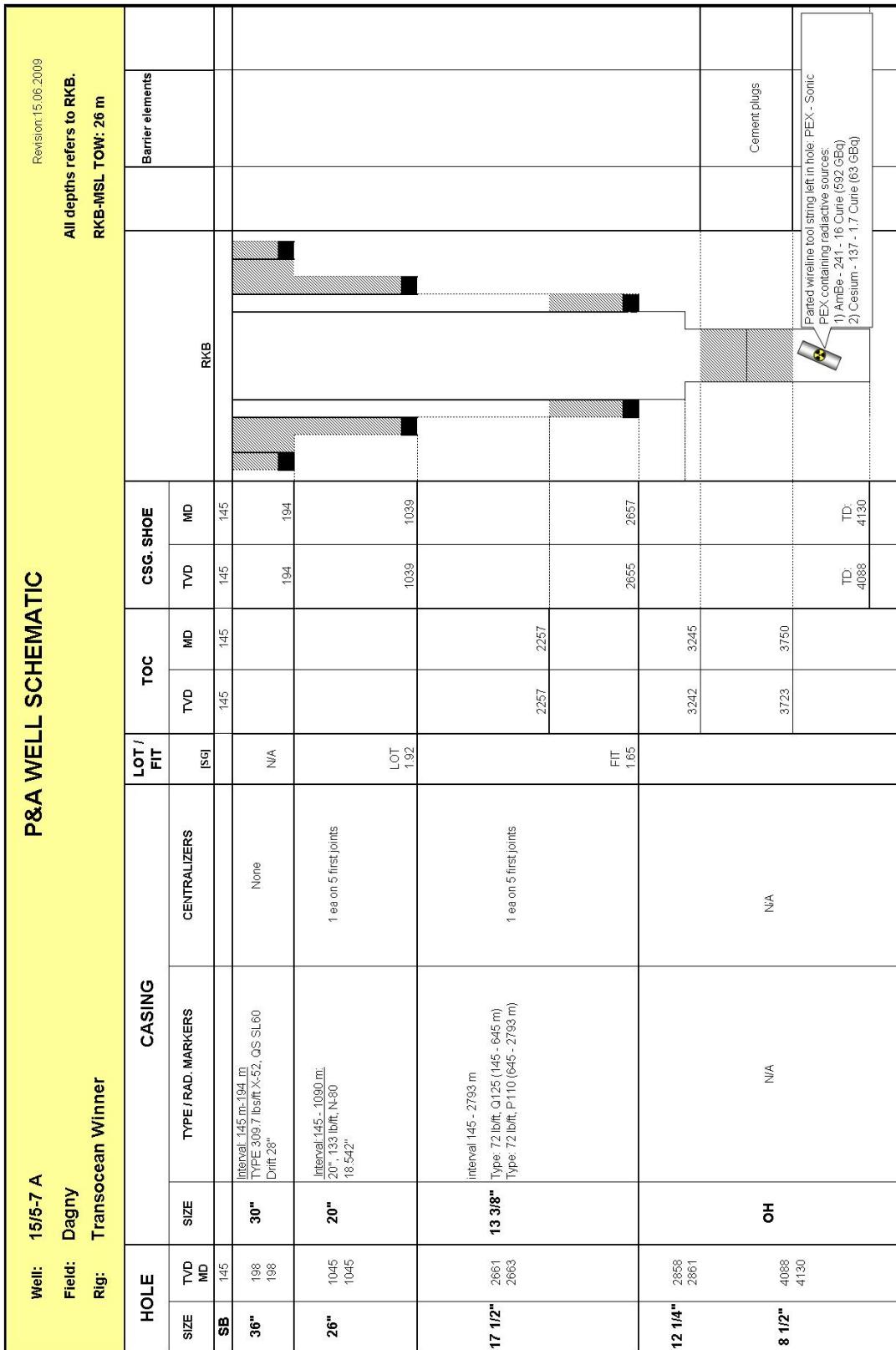
**6.3 P&A Well Scematic 15/5-7**



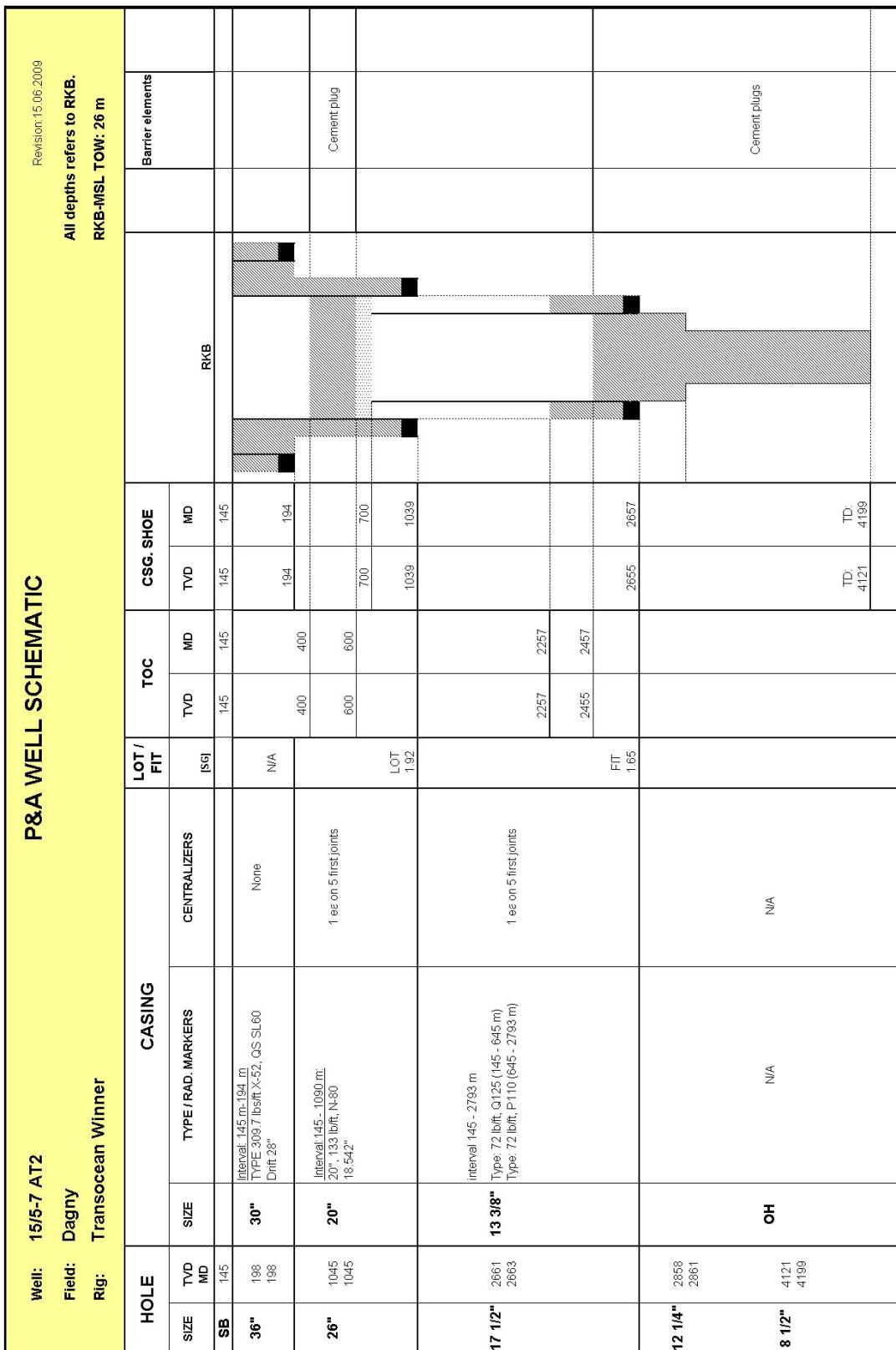
## 6.4 Well Schematic 15-5-7 A / AT2



## 6.5 P&A Well Schematic 15/5-7 A



## **6.6 P&A Well Schematic 15/5-7 AT2**



## 6.7 Project planner

**PROJECT NAME:** Dagny

**PROJECT NUMBER:** T.O048N.AP.20400

Start time	End time	Budget time hrs	Acc budget days	Tech limit hrs	Acc tech days	Plan time hrs	Act time hrs	Acc actual days	Down time	Description	Companies
01.Jul.2008 21:00	03.Jul.2008 19:00	74.0	3.1	42.0	1.8	48.0	46.0	1.9	0.0	MOVE [NO 15/5-7]	
01.Jul.2008 21:00	03.Jul.2008 03:00	30.0	1.3	24.0	1.0	24.0	30.0	1.3	0.0	1 Move rig from Trow to Dagny	Trans
03.Jul.2008 03:00	03.Jul.2008 15:30	36.0	2.8	15.0	1.6	20.0	12.5	1.8	0.0	2 Run anchors and ballast rig to drilling draft	Trans
03.Jul.2008 15:30	03.Jul.2008 19:00	8.0	3.1	3.0	1.8	4.0	3.5	1.9	0.0	3 Test anchors	Trans
03.Jul.2008 19:00	04.Jul.2008 03:00	16.5	0.7	8.5	0.4	13.5	8.0	0.3	0.0	PRESPUD [NO 15/5-7]	
03.Jul.2008 19:00	03.Jul.2008 20:30	5.0	3.3	3.0	1.9	5.0	1.5	2.0	0.0	4 P/U and M/U Cmt stand and rack back	Trans,DQ
03.Jul.2008 20:30	03.Jul.2008 21:30	3.0	3.4	1.0	1.9	1.5	1.0	2.0	0.0	5 M/U drilling stand	Trans,DQ
03.Jul.2008 21:30	04.Jul.2008 01:00	6.0	3.7	3.0	2.0	5.0	3.5	2.2	0.0	6 P/U and M/U 36" BHA	Trans,Schlum,Schlum
04.Jul.2008 01:00	04.Jul.2008 03:00	2.5	3.8	1.5	2.1	2.0	2.0	2.2	0.0	7 Run to 5 m above seabed	Trans,Schlum,Schlum
04.Jul.2008 03:00	05.Jul.2008 13:00	91.0	3.8	37.0	1.5	64.0	34.0	1.4	0.0	36" [NO 15/5-7]	
04.Jul.2008 03:00	04.Jul.2008 09:30	26.0	4.9	7.0	2.4	10.0	6.5	2.5	0.0	8 Spud well and drill 36" hole from 145 m to 195 m	Trans,Schlum,Schlum
04.Jul.2008 09:29	04.Jul.2008 09:30	1.5	4.9	0.5	2.4	1.0	0.0	2.5	0.0	9 Displace hole to 1.5 sg mud	Trans,Schlum,Schlum,MI
04.Jul.2008 09:29	04.Jul.2008 09:30	6.0	5.2	0.0	2.4	6.0	0.0	2.5	0.0	10 WOC while holding conductor in tension	Trans,Ocean
04.Jul.2008 09:29	04.Jul.2008 09:30	3.0	5.3	1.0	2.5	2.0	0.0	2.5	0.0	11 P/U and M/U cement head. Rack same	Trans,Schlum

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**Restricted**  
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Start time	End time	Budget time hrs	Acc budget days	Tech limit hrs	Acc tech days	Plan time hrs	Act time hrs	Acc actual days	Down time	Description	Companies
04.Jul.2008 09:29	04.Jul.2008 09:30	14.0	5.9	5.0	2.7	11.0	0.0	2.5	0.0	12 P/U 90 joints 5 1/2" DP. Rack same	Trans
04.Jul.2008 09:30	04.Jul.2008 10:30	2.0	6.0	1.0	2.7	1.5	1.0	2.6	0.0	13 Displace hole to 1.5 sg mud. Perform wipertrip.	Trans,Schlum
04.Jul.2008 10:30	04.Jul.2008 12:00	2.5	6.1	1.5	2.8	2.0	1.5	2.6	0.0	14 POOH. Top up hole with 1.5 sg mud. POOH to surface L/D BHA	Trans,Schlum,Schlum
04.Jul.2008 12:00	04.Jul.2008 14:00	2.0	6.1	1.0	2.8	1.5	2.0	2.7	0.0	15 R/U to run 30" conductor	Trans,DQ,OWS
04.Jul.2008 14:00	04.Jul.2008 16:30	3.0	6.3	1.5	2.9	2.0	2.5	2.8	0.0	16 Run 30" conductor	Trans,DQ,OWS
04.Jul.2008 16:30	04.Jul.2008 18:30	3.0	6.4	1.0	2.9	3.0	2.0	2.9	0.0	17 Run cemeent stinger	Trans,Schlum
04.Jul.2008 18:30	04.Jul.2008 20:30	2.5	6.5	1.0	3.0	1.5	2.0	3.0	0.0	18 Run conductor and land with 1.5 m stick up	Trans,DQ,Schlum
04.Jul.2008 20:30	04.Jul.2008 21:00	1.0	6.5	0.5	3.0	0.5	0.5	3.0	0.0	19 Circulate prior to cement	Trans,DQ,Schlum
04.Jul.2008 21:00	04.Jul.2008 22:00	3.0	6.7	1.0	3.0	2.0	1.0	3.0	0.0	20 Cement conductor. Displace cement and check for backflow	Trans,Schlum
04.Jul.2008 22:00	04.Jul.2008 23:30	1.0	6.7	0.5	3.0	1.0	1.5	3.1	0.0	21 Release RT and wash conductor housing	Trans,DQ,Ocean,Schlum
04.Jul.2008 23:30	05.Jul.2008 00:00	1.5	6.8	0.5	3.1	1.0	0.5	3.1	0.0	22 POOH	Trans,DQ,Schlum
05.Jul.2008 00:00	05.Jul.2008 02:00	1.5	6.8	0.5	3.1	1.0	2.0	3.2	0.0	23 L/D running tool and stinger	Trans,DQ,Schlum
05.Jul.2008 02:00	05.Jul.2008 02:30	3.0	7.0	2.0	3.2	2.5	0.5	3.2	0.0	24 L/D Cement stand	Trans,Schlum,Schlum,Schlum
05.Jul.2008 02:30	05.Jul.2008 04:00	2.0	7.0	1.0	3.2	1.0	1.5	3.3	0.0	25 L/D 36" BHA	Trans
05.Jul.2008 04:00	05.Jul.2008 04:30	0.0	7.0	2.0	3.3	2.0	0.5	3.3	0.0	26 Performed planned rig maintenance	Trans
05.Jul.2008 04:29	05.Jul.2008 04:30	3.5	7.2	3.5	3.4	3.5	0.0	3.3	0.0	27 Rig maintenance	Trans
05.Jul.2008 04:30	05.Jul.2008 08:30	3.0	7.3	3.0	3.6	5.0	4.0	3.5	0.0	28 P/U and M/U and RIH with 26" BHA	Trans,Schlum,Schlum
05.Jul.2008 08:30	05.Jul.2008 11:00	0.0	7.3	0.0	3.6	0.0	2.5	3.6	0.0	29 Rig maintenance	Schlum,Schlum,Trans
05.Jul.2008 11:00	05.Jul.2008 11:30	3.0	7.4	1.0	3.6	1.0	0.5	3.6	0.0	30 Cont RIH 26" BHA	Trans

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
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Nr.005

# StatoilHydro

Date 08-08-2008

Rev. no. 0

Start time	End time	Budget time hrs	Acc budget days	Tech limit hrs	Acc tech days	Plan time hrs	Act time hrs	Acc actual days	Down time	Description	Companies
05.Jul.2008 11:30	05.Jul.2008 13:00	3.0	7.6	1.0	3.6	2.0	1.5	3.7	0.0	31 Drill cement and 30" shoe. Clean out rat hole	Trans
05.Jul.2008 13:00	11.Jul.2008 17:30	205.0	8.5	118.8	5.0	157.5	148.5	6.2	4.0	26" [NO 15/5-7]	
05.Jul.2008 13:00	06.Jul.2008 15:00	62.0	10.1	40.0	5.3	50.0	26.0	4.8	0.0	32 Drill 26" hole from 195 m to 1100 m (18 m/hr)	Trans,Schlum,Schlum,Ocean
06.Jul.2008 15:00	06.Jul.2008 17:00	7.0	10.4	5.0	5.5	6.0	2.0	4.8	0.0	33 Circulate hole clean and displace to 1.xx sg mud	Trans,Schlum,Schlum,Ocean ,MI
06.Jul.2008 17:00	07.Jul.2008 01:00	0.0	10.4	0.0	5.5	0.0	8.0	5.2	0.0	34 Perform wiper trip to 30" casing shoe (optional)	Trans,Schlum,Schlum
07.Jul.2008 01:00	07.Jul.2008 07:00	10.0	10.9	6.0	5.8	9.0	6.0	5.4	0.0	35 Displace well to 1.3 sg mud. POOH.	Trans,Ocean
07.Jul.2008 07:00	07.Jul.2008 08:30	0.5	10.9	0.5	5.8	0.5	1.5	5.5	0.0	36 Wash well head	Ocean,Trans
07.Jul.2008 08:30	07.Jul.2008 10:30	1.5	10.9	1.5	5.9	1.5	2.0	5.6	0.0	37 Rack back BHA	Trans
07.Jul.2008 10:30	07.Jul.2008 12:00	0.0	10.9	1.0	5.9	1.0	1.5	5.6	0.0	38 MU cement stand	Trans
07.Jul.2008 12:00	07.Jul.2008 15:30	4.0	11.1	1.5	6.0	2.0	3.5	5.8	0.0	39 R/U to run 20" casing	Trans,Ocean,OWS
07.Jul.2008 15:30	08.Jul.2008 05:00	18.0	11.9	7.0	6.3	11.0	13.5	6.3	2.5	40 Run 20" casing (7 joints/hour)	Trans,Ocean,OWS
08.Jul.2008 05:00	08.Jul.2008 07:00	2.0	11.9	1.0	6.3	1.5	2.0	6.4	0.0	41 M/U 20" casing hanger	Trans,DQ
08.Jul.2008 07:00	08.Jul.2008 09:00	3.0	12.1	1.0	6.3	2.0	2.0	6.5	0.0	42 RIH on landing string. Land WH in WH housing.	Trans,DQ
08.Jul.2008 09:00	08.Jul.2008 10:30	3.0	12.2	0.5	6.4	1.0	1.5	6.6	0.0	43 Circulate prior to cementing. Pump spacer.	Trans,Schlum
08.Jul.2008 10:30	08.Jul.2008 15:30	8.0	12.5	4.0	6.5	5.0	5.0	6.8	0.0	44 Mix and pump cement.	Trans,MI,Ocean,Schlum
08.Jul.2008 15:30	08.Jul.2008 17:00	2.0	12.6	1.0	6.6	1.5	1.5	6.8	0.0	45 Displace cement, bump plug and test casing to 113 bar.	Trans,MI,Ocean,Schlum
08.Jul.2008 17:00	08.Jul.2008 17:30	2.0	12.7	0.5	6.6	1.0	0.5	6.9	0.0	46 Check for backflow. Release RT. Energize wellhead	Trans,DQ,Ocean
08.Jul.2008 17:30	08.Jul.2008 19:00	6.0	12.9	1.5	6.6	2.0	1.5	6.9	0.0	47 POOH with landing string and cement stinger. Wash wellhead area	Trans,DQ,Ocean
08.Jul.2008 18:59	08.Jul.2008 19:00	2.0	13.0	0.8	6.7	1.0	0.0	6.9	0.0	48 L/D cement head	Trans,Schlum

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Dagny, PL048**

**Restricted**  
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Nr.005

**StatoilHydro**

Date 08-08-2008

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Start time	End time	Budget time hrs	Acc budget days	Tech limit hrs	Acc tech days	Plan time hrs	Act time hrs	Acc actual days	Down time	Description	Companies
08.Jul.2008 19:00	08.Jul.2008 23:00	4.0	13.2	2.0	6.8	3.0	4.0	7.1	0.0	49 R/U to run BOP	Trans,Ocean
08.Jul.2008 22:59	08.Jul.2008 23:00	4.0	13.4	3.0	6.9	4.0	0.0	7.1	0.0	50 L/D 26" BHA	Trans,Schlum,Schlum,Schlum
08.Jul.2008 23:00	09.Jul.2008 04:00	6.0	13.6	4.0	7.1	5.0	5.0	7.3	0.0	51 Skid BOP to moonpool center. Install landing joint.	Trans,Ocean
09.Jul.2008 04:00	09.Jul.2008 08:30	6.0	13.9	5.0	7.3	7.0	4.5	7.5	0.0	52 Run BOP & riser	Trans,Ocean
09.Jul.2008 08:30	09.Jul.2008 16:30	12.0	14.4	5.0	7.5	6.0	8.0	7.8	0.0	53 Install slip joint . Land BOP. Test connector. L/D landing joint	Trans,Ocean
09.Jul.2008 16:30	09.Jul.2008 23:00	2.0	14.4	2.0	7.6	2.0	6.5	8.1	1.5	54 Install diverter	Trans
09.Jul.2008 23:00	10.Jul.2008 14:30	15.0	15.1	8.0	7.9	12.0	15.5	8.7	0.0	55 P/U 5 1/2" DP appx. 200 jnt.	Trans
10.Jul.2008 14:30	10.Jul.2008 17:00	2.0	15.1	2.0	8.0	2.0	2.5	8.8	0.0	56 Displace well to 1.20 rd mud. Function test BOP	Trans
10.Jul.2008 17:00	10.Jul.2008 18:30	2.0	15.2	2.0	8.1	2.0	1.5	8.9	0.0	57 POOH. Rack stands	Trans
10.Jul.2008 18:30	10.Jul.2008 20:30	2.0	15.3	1.0	8.1	2.0	2.0	9.0	0.0	58 Pressure test surface equipment.	Schlum,Trans,Schlum
10.Jul.2008 20:30	11.Jul.2008 01:30	5.0	15.5	2.0	8.2	3.0	5.0	9.2	0.0	59 M/U 17 1/2" BHA	Trans
11.Jul.2008 01:30	11.Jul.2008 04:30	3.0	15.6	3.0	8.3	5.0	3.0	9.3	0.0	60 RIH with 17 1/2" BHA to 1000 m while P/U DP from deck	Trans,Schlum,Schlum
11.Jul.2008 04:30	11.Jul.2008 07:30	3.0	15.8	2.5	8.4	2.5	3.0	9.4	0.0	61 Performe planned maintenance	Schlum,Schlum,Trans
11.Jul.2008 07:30	11.Jul.2008 11:30	3.0	15.9	1.5	8.5	2.0	4.0	9.6	0.0	62 Continue RIH while P/U 5 1/2" DP	Schlum,Trans,Schlum
11.Jul.2008 11:30	11.Jul.2008 16:00	3.0	16.0	2.0	8.6	3.0	4.5	9.8	0.0	63 Drill out shoetrack and drill 3 m new formation	Schlum,Schlum,Trans
11.Jul.2008 16:00	11.Jul.2008 17:30	2.0	16.1	1.0	8.6	1.0	1.5	9.9	0.0	64 Perform LOT	Trans,Schlum,Schlum,Schlum
11.Jul.2008 17:30	24.Jul.2008 05:30	388.5	16.2	267.5	11.1	331.5	300.0	12.5	122.5	17 1/2" [NO 15/5-7]	
11.Jul.2008 17:30	12.Jul.2008 16:00	100.0	20.3	36.0	10.1	50.0	22.5	10.8	0.0	65 Drill 17 1/2" hole from 1048 m to 1894 m	Trans,MI,Schlum,Schlum
12.Jul.2008 16:00	12.Jul.2008 19:00	12.0	20.8	3.0	10.2	4.0	3.0	10.9	0.0	66 Circulate hole clean. Increase MW to 1.25 rd	Trans,MI,Schlum,Schlum

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12.Jul.2008 19:00	14.Jul.2008 19:00	141.0	26.6	48.0	12.2	80.0	48.0	12.9	0.0	67 Drill 17 1/2" hole from 1894 m to 2663 m	Trans,Schlum,Schlum
14.Jul.2008 19:00	14.Jul.2008 20:00	6.0	26.9	2.0	12.3	4.0	1.0	13.0	0.0	68 Circulate hole clean. Flow check	Trans,Schlum,Schlum
14.Jul.2008 19:59	14.Jul.2008 20:00	0.0	26.9	0.0	12.3	0.0	0.0	13.0	0.0	69 Perform wiper trip (optional)	Trans
14.Jul.2008 20:00	15.Jul.2008 14:00	12.0	27.4	5.0	12.5	9.0	18.0	13.7	0.0	70 POOH to 20" casing	Trans,Schlum,Schlum
15.Jul.2008 14:00	15.Jul.2008 19:00	5.0	27.6	3.5	12.7	4.0	5.0	13.9	0.0	71 POOH and rack back BHA	Trans
15.Jul.2008 19:00	15.Jul.2008 20:30	4.0	27.8	1.5	12.7	2.0	1.5	14.0	0.0	72 M/U cement head. Rack same	Trans
15.Jul.2008 20:30	15.Jul.2008 22:30	4.0	27.9	2.0	12.8	3.0	2.0	14.1	0.0	73 Retrive nominal bore protector. LO bore protector	Trans,DQ
15.Jul.2008 22:30	16.Jul.2008 00:00	1.5	28.0	1.5	12.9	1.5	1.5	14.1	0.0	74 Cut and slip	DQ,Trans
16.Jul.2008 00:00	16.Jul.2008 02:00	4.0	28.2	1.0	12.9	1.5	2.0	14.2	0.0	75 RU 13 3/8" casing	Trans,DQ
16.Jul.2008 02:00	16.Jul.2008 03:00	3.0	28.3	1.0	12.9	2.0	1.0	14.3	0.0	76 PU shoe track and baker lock same	Trans,DQ
16.Jul.2008 03:00	17.Jul.2008 04:00	35.0	29.7	20.0	13.8	24.0	25.0	15.3	0.0	77 Run 13 3/8" casing (10 joints/hr)	Trans,OWS
17.Jul.2008 04:00	17.Jul.2008 05:00	2.0	29.8	1.0	13.8	1.0	1.0	15.3	0.0	78 Make up hanger	
17.Jul.2008 05:00	17.Jul.2008 08:00	2.0	29.9	1.0	13.9	2.0	3.0	15.5	0.0	79 Run in on landing string. Land hanger in WH.	Trans
17.Jul.2008 08:00	17.Jul.2008 10:00	6.0	30.2	1.5	13.9	4.0	2.0	15.5	0.0	80 Circulate prior to cementing	Trans
17.Jul.2008 10:00	17.Jul.2008 14:00	6.0	30.4	3.0	14.1	4.0	4.0	15.7	0.0	81 Cement 13 3/8" casing	Trans,Schlum
17.Jul.2008 14:00	17.Jul.2008 17:30	6.0	30.7	3.0	14.2	5.5	3.5	15.9	0.0	82 Set seal assembly and test BOP	Trans,DQ,Schlum
17.Jul.2008 17:30	17.Jul.2008 19:00	4.0	30.8	1.0	14.2	2.0	1.5	15.9	0.0	83 POOH with 13 3/8" RT and LD	Trans
17.Jul.2008 19:00	18.Jul.2008 03:30	4.0	31.0	2.0	14.3	2.0	8.5	16.3	7.0	84 Install 13 3/8" wear bushing	Trans
18.Jul.2008 03:30	18.Jul.2008 04:30	4.0	31.2	3.0	14.4	3.0	1.0	16.3	0.0	85 LD cement head to deck	Trans

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18.Jul.2008 04:30	18.Jul.2008 06:00	4.0	31.3	2.5	14.5	3.0	1.5	16.4	0.0	86 LD 17 1/2" BHA	Trans,Schlum,Schlum
18.Jul.2008 06:00	18.Jul.2008 08:00	3.5	31.5	3.0	14.7	3.5	2.0	16.5	0.0	87 Perform planned maintenance	Trans,Schlum
18.Jul.2008 08:00	18.Jul.2008 11:00	2.0	31.6	1.0	14.7	1.5	3.0	16.6	0.0	88 L/D 5 std 5 1/2" HWDP to deck.	Trans
18.Jul.2008 11:00	18.Jul.2008 14:00	3.5	31.7	3.5	14.8	3.5	3.0	16.7	0.0	89 12 1/4" motor BHA . Test shear ram	Trans
18.Jul.2008 14:00	18.Jul.2008 16:30	3.0	31.8	15.0	15.5	2.0	2.5	16.8	0.5	90 P/U 5" DP from deck while trouble shooting shear ram failure	Trans
18.Jul.2008 16:30	18.Jul.2008 18:00	0.0	31.8	1.5	15.5	2.0	1.5	16.9	1.5	91 POOH. Rack BHA	Trans,Schlum
18.Jul.2008 18:00	18.Jul.2008 22:00	0.0	31.8	1.0	15.6	2.0	4.0	17.0	4.0	92 M/U packer. RIH to 500 m	Trans,Schlum
18.Jul.2008 22:00	19.Jul.2008 00:00	0.0	31.8	1.0	15.6	2.0	2.0	17.1	2.0	93 Set & test packer	Trans
19.Jul.2008 00:00	19.Jul.2008 01:00	0.0	31.8	1.0	15.7	1.0	1.0	17.2	1.0	94 POOH. L/D running tool	Trans
19.Jul.2008 01:00	19.Jul.2008 02:30	0.0	31.8	1.0	15.7	2.0	1.5	17.2	1.5	95 R/U to pull BOP	Trans
19.Jul.2008 02:30	19.Jul.2008 05:00	0.0	31.8	2.0	15.8	4.0	2.5	17.3	2.5	96 Pull diverter assy. Make up landing joint	Trans
19.Jul.2008 05:00	19.Jul.2008 12:00	0.0	31.8	6.0	16.0	6.0	7.0	17.6	7.0	97 Unlatch BOP. Disconnect pod sleeves & K/C/B lines	Trans
19.Jul.2008 12:00	19.Jul.2008 15:00	0.0	31.8	6.0	16.3	6.0	3.0	17.8	3.0	98 Pull slip joint, riser & BOP	Trans
19.Jul.2008 15:00	19.Jul.2008 17:00	0.0	31.8	2.0	16.4	2.0	2.0	17.8	2.0	99 Remove beacon . Land BOP on trolley.	Trans
19.Jul.2008 17:00	19.Jul.2008 18:30	0.0	31.8	1.0	16.4	1.0	1.5	17.9	1.5	100 Disconnect handling joints. Skid BOP to parking position	Trans
19.Jul.2008 18:30	20.Jul.2008 18:00	0.0	31.8	8.0	16.7	12.0	23.5	18.9	18.5	101 Wait for BOP spare parts	Trans
20.Jul.2008 18:00	21.Jul.2008 05:00	0.0	31.8	10.0	17.2	6.0	11.0	19.3	11.0	102 Redress arrived shear rams. Install same in BOP	Trans
21.Jul.2008 05:00	21.Jul.2008 17:00	0.0	31.8	10.0	17.6	10.0	12.0	19.8	12.0	103 Test shear ram.. R/U riser handling equipment	Trans
21.Jul.2008 17:00	22.Jul.2008 03:30	0.0	31.8	10.0	18.0	10.0	10.5	20.3	10.5	104 Repaire LPM. Test same	Trans

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22.Jul.2008 03:30	22.Jul.2008 11:30	0.0	31.8	4.0	18.2	4.0	8.0	20.6	8.0	105 Test BOP	Trans
22.Jul.2008 11:30	22.Jul.2008 16:00	0.0	31.8	5.0	18.4	5.0	4.5	20.8	4.5	106 Skid BOP to well senter. M/U handling joint	Trans
22.Jul.2008 16:00	22.Jul.2008 21:00	0.0	31.8	3.0	18.5	3.0	5.0	21.0	5.0	107 Run BOP & Riser	Trans
22.Jul.2008 21:00	23.Jul.2008 04:30	0.0	31.8	8.0	18.8	8.0	7.5	21.3	7.5	108 Install slip joint. Land BOP. Test connector. L/D handling joint	Trans
23.Jul.2008 04:30	23.Jul.2008 05:30	0.0	31.8	6.0	19.1	3.0	1.0	21.4	1.0	109 Install diverter.	Trans
23.Jul.2008 05:30	23.Jul.2008 07:00	0.0	31.8	0.5	19.1	1.0	1.5	21.4	1.5	110 Rig down riser handling equipment	Trans
23.Jul.2008 07:00	23.Jul.2008 09:00	0.0	31.8	2.0	19.2	2.0	2.0	21.5	2.0	111 M/U DLT running tool. RIH to 450 m	Trans,Schlum
23.Jul.2008 09:00	23.Jul.2008 10:00	0.0	31.8	2.0	19.3	2.0	1.0	21.5	1.0	112 Engauge plug , open storm valve & release plug	Trans,Schlum
23.Jul.2008 10:00	23.Jul.2008 14:00	0.0	31.8	3.0	19.4	4.0	4.0	21.7	4.0	113 POOH w DLT plug & DP	Trans,Schlum
23.Jul.2008 14:00	23.Jul.2008 21:30	0.0	31.8	4.0	19.6	5.0	7.5	22.0	2.5	114 M/U 12 1/4" BHA and RIH to 2630 m	Trans
23.Jul.2008 21:30	23.Jul.2008 22:30	2.0	31.9	1.0	19.6	1.0	1.0	22.1	0.0	115 Perform choke drill	Trans,MI
23.Jul.2008 22:30	24.Jul.2008 03:00	6.0	32.2	2.0	19.7	3.5	4.5	22.3	0.0	116 Drill out shoe track and clean out rathole	Trans,MI
24.Jul.2008 03:00	24.Jul.2008 05:30	3.0	32.3	1.5	19.7	2.0	2.5	22.4	0.0	117 Drill 3 m new formation and perform FIT	Trans,MI,Schlum,Schlum
24.Jul.2008 05:30	01.Sep.2008 11:30	697.5	29.1	690.5	28.8	874.5	942.0	39.2	401.5	8 1/2" [NO 15/5-7]	
24.Jul.2008 05:30	24.Jul.2008 22:30	35.0	33.7	24.0	20.7	20.0	17.0	23.1	0.0	118 Drill 12 1/4 from 2669 m to 2871 m	Trans,Schlum,Schlum
24.Jul.2008 22:30	25.Jul.2008 00:30	2.0	33.8	2.0	20.8	2.0	2.0	23.1	0.0	119 Circulate hole clean. Flowcheck	Schlum,Schlum,Trans
25.Jul.2008 00:30	25.Jul.2008 05:00	7.0	34.1	7.0	21.1	4.0	4.5	23.3	0.0	120 POOH with 12 1/4" drilling BHA	Schlum,Schlum,Trans
25.Jul.2008 05:00	25.Jul.2008 09:00	3.0	34.2	2.0	21.2	2.0	4.0	23.5	0.0	121 LD 12 1/4" motor drilling BHA	Schlum,Trans,Schlum
25.Jul.2008 09:00	25.Jul.2008 14:00	5.0	34.5	2.0	21.3	3.0	5.0	23.7	0.0	122 MU 8 1/2" rotary drilling BHA	Schlum,Schlum,Trans

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25.Jul.2008 14:00	25.Jul.2008 19:30	9.0	34.8	4.0	21.4	4.0	5.5	23.9	0.0	123 RIH to 2871 m	Schlum,Schlum,Trans
25.Jul.2008 19:30	26.Jul.2008 18:00	50.0	36.9	24.0	22.4	36.0	22.5	24.9	0.0	124 Drill 8 1/2" hole 2871 m to 3032 m	Trans,Schlum,Schlum
26.Jul.2008 18:00	26.Jul.2008 20:00	0.0	36.9	1.5	22.5	1.5	2.0	25.0	2.0	125 Circulate hole clean. Flow check	Schlum,Schlum,Trans
26.Jul.2008 20:00	26.Jul.2008 22:30	0.0	36.9	2.0	22.6	2.0	2.5	25.1	1.0	126 Pull into 13 3/8" shoe and check top drive	Trans
26.Jul.2008 22:30	27.Jul.2008 03:30	0.0	36.9	4.0	22.8	4.0	5.0	25.3	5.0	127 Pull out of hole and rack back 8 1/2" assembly	Trans,Schlum,Schlum
27.Jul.2008 03:30	28.Jul.2008 18:00	0.0	36.9	60.0	25.3	36.0	38.5	26.9	38.5	128 Disassemble and LD top drive on drillfloor	Trans
28.Jul.2008 18:00	31.Jul.2008 20:00	0.0	36.9	36.0	26.8	72.0	74.0	30.0	74.0	129 Check and repair top drive. Wait for spare parts	Trans
31.Jul.2008 20:00	04.Aug.2008 01:00	0.0	36.9	36.0	28.3	36.0	77.0	33.2	77.0	130 Assemble and rig up top drive	Trans
04.Aug.2008 01:00	04.Aug.2008 06:00	0.0	36.9	4.0	28.4	6.0	5.0	33.4	2.0	131 Rearrange BHA	Trans
04.Aug.2008 06:00	04.Aug.2008 16:30	0.0	36.9	6.0	28.7	6.0	10.5	33.8	9.5	132 RIH to 3032 m	Trans,Schlum,Schlum
04.Aug.2008 16:30	06.Aug.2008 13:30	60.0	39.4	32.0	30.0	80.0	45.0	35.7	0.0	133 Drill 8 1/2" hole from 3032 to 3623m	Schlum,Schlum,Trans
06.Aug.2008 13:30	06.Aug.2008 14:30	4.0	39.6	2.0	30.1	3.0	1.0	35.7	0.0	134 Circulate hole clean	Schlum,Trans,Schlum
06.Aug.2008 14:30	06.Aug.2008 19:30	12.0	40.1	6.0	30.3	6.0	5.0	35.9	0.0	135 POOH	Schlum,Schlum,Trans
06.Aug.2008 19:30	07.Aug.2008 03:00	0.0	40.1	4.0	30.5	5.0	7.5	36.3	0.0	136 Test BOP	Trans
07.Aug.2008 03:00	07.Aug.2008 07:30	0.0	40.1	2.0	30.6	3.0	4.5	36.4	0.0	137 POOH with BHA	Schlum,Schlum,Trans
07.Aug.2008 07:30	07.Aug.2008 13:00	3.5	40.2	3.5	30.7	3.5	5.5	36.7	0.0	138 Slip and cut - Maintenance stop	Trans
07.Aug.2008 13:00	07.Aug.2008 15:30	4.0	40.4	2.0	30.8	4.0	2.5	36.8	0.0	139 Change out BHA	Schlum,Schlum,Trans
07.Aug.2008 15:30	07.Aug.2008 22:00	8.0	40.7	5.0	31.0	6.0	6.5	37.0	0.0	140 RIH to 3623m	Schlum,Schlum,Trans
07.Aug.2008 22:00	08.Aug.2008 11:00	20.0	41.6	20.0	31.9	20.0	13.0	37.6	1.5	141 Drill 8 1/2" hole from 3623m to 3790m	Schlum,Schlum,Trans

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08.Aug.2008 11:00	08.Aug.2008 13:00	8.0	41.9	1.0	31.9	2.0	2.0	37.7	2.0	142 Circulate hole clean	Trans,Schlum,Schlum
08.Aug.2008 13:00	08.Aug.2008 18:00	12.0	42.4	4.0	32.1	6.0	5.0	37.9	5.0	143 POOH	Schlum,Schlum,Trans
08.Aug.2008 18:00	08.Aug.2008 23:30	4.0	42.6	2.0	32.2	3.0	5.5	38.1	5.5	144 Change out BHA	Schlum,Trans,Schlum
08.Aug.2008 23:30	09.Aug.2008 05:30	6.0	42.8	4.0	32.3	6.0	6.0	38.4	6.0	145 RIH to 3595m	Trans,Schlum,Schlum
09.Aug.2008 05:30	09.Aug.2008 11:00	0.0	42.8	3.0	32.4	4.0	5.5	38.6	5.5	146 Ream down between 3595m to 3790m	Trans,Schlum,Schlum
09.Aug.2008 11:00	09.Aug.2008 14:30	14.0	43.4	10.0	32.9	12.0	3.5	38.7	0.0	147 Drill 8 1/2" hole from 3790m to core point (app @ 3876m, 15 m/h)	Trans,Schlum,Schlum
09.Aug.2008 14:30	09.Aug.2008 18:30	3.0	43.5	1.0	32.9	2.0	4.0	38.9	0.0	148 Circulate for samples and clean well.	Schlum,Trans,Schlum
09.Aug.2008 18:30	10.Aug.2008 03:30	7.0	43.8	2.0	33.0	4.0	9.0	39.3	0.0	149 POOH	Trans,Schlum,Schlum
10.Aug.2008 03:30	10.Aug.2008 06:00	3.0	43.9	1.0	33.0	2.0	2.5	39.4	0.0	150 Rack back 8 1/2" BHA	Schlum,Trans,Schlum
10.Aug.2008 06:00	10.Aug.2008 10:00	4.0	44.1	1.5	33.1	2.5	4.0	39.5	0.0	151 MU 8 1/2" Core BHA	Trans,Hall
10.Aug.2008 10:00	10.Aug.2008 23:30	8.0	44.4	5.0	33.3	7.0	13.5	40.1	7.0	152 RIH with 8 1/2" Core BHA	Trans,Hall
10.Aug.2008 23:30	11.Aug.2008 02:30	4.0	44.6	4.0	33.5	4.0	3.0	40.2	0.0	153 Circulate btm up prior to coring	Hall,Trans
11.Aug.2008 02:30	11.Aug.2008 06:30	4.0	44.8	2.0	33.6	3.0	4.0	40.4	0.0	154 Cut core # 1	Trans,Hall
11.Aug.2008 06:30	11.Aug.2008 10:00	4.0	44.9	1.0	33.6	4.0	3.5	40.5	0.0	155 Circulate bottoms up	Hall,Trans
11.Aug.2008 10:00	11.Aug.2008 15:30	6.0	45.2	3.0	33.7	4.0	5.5	40.8	0.0	156 Flow check and pull into 13 3/8" shoe	Trans,Hall
11.Aug.2008 15:30	12.Aug.2008 00:30	10.0	45.6	5.0	33.9	6.0	9.0	41.1	0.5	157 POOH with controlled speed	Trans,Hall
12.Aug.2008 00:30	12.Aug.2008 04:00	3.0	45.7	3.0	34.1	4.0	3.5	41.3	0.0	158 LD core # 1	Trans,Hall
12.Aug.2008 04:00	12.Aug.2008 06:30	2.0	45.8	1.0	34.1	1.0	2.5	41.4	0.0	159 Redress core bbl	Trans,Hall
12.Aug.2008 06:30	12.Aug.2008 14:30	8.0	46.1	5.0	34.3	6.5	8.0	41.7	0.0	160 RIH with Core BHA	Trans,Hall

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12.Aug.2008 14:30	12.Aug.2008 17:30	4.0	46.3	4.0	34.5	4.0	3.0	41.9	0.0	161 Circulate btm up prior to coring	Hall,Trans
12.Aug.2008 17:30	12.Aug.2008 22:00	4.0	46.5	2.0	34.6	4.0	4.5	42.0	0.0	162 Cut Core # 2	Trans,Hall
12.Aug.2008 22:00	13.Aug.2008 02:00	4.0	46.6	1.0	34.6	4.0	4.0	42.2	0.0	163 Circulate bottoms up	Hall,Trans
13.Aug.2008 02:00	13.Aug.2008 08:00	2.0	46.7	1.0	34.6	4.0	6.0	42.5	0.0	164 Flow check and pull into 13 3/8" shoe	Trans,Hall
13.Aug.2008 08:00	13.Aug.2008 17:00	9.0	47.1	5.0	34.8	6.0	9.0	42.8	0.0	165 POOH with controlled speed	Trans,Hall
13.Aug.2008 17:00	13.Aug.2008 20:00	3.0	47.2	3.0	35.0	4.0	3.0	43.0	0.0	166 LD Core #2	Hall,Trans
13.Aug.2008 20:00	13.Aug.2008 23:00	3.0	47.4	1.0	35.0	1.0	3.0	43.1	0.0	167 Redress core barrel	Hall,Trans
13.Aug.2008 23:00	14.Aug.2008 05:30	6.5	47.6	3.0	35.1	4.5	6.5	43.4	0.0	168 RIH with core barrel #3	Hall,Trans
14.Aug.2008 05:30	14.Aug.2008 06:30	1.0	47.7	3.5	35.3	2.5	1.0	43.4	0.0	169 Slip an cut	Trans
14.Aug.2008 06:30	14.Aug.2008 10:00	3.5	47.8	2.0	35.4	2.0	3.5	43.5	0.0	170 Cont. RIH with core barrel #3 to TD	Hall,Trans
14.Aug.2008 10:00	14.Aug.2008 19:00	9.0	48.2	5.0	35.6	8.0	9.0	43.9	0.0	171 Cut Core # 3	Trans,Hall
14.Aug.2008 19:00	14.Aug.2008 19:30	0.5	48.2	1.0	35.6	4.0	0.5	43.9	0.0	172 Flow check and pull into 13 3/8" shoe	Hall,Trans
14.Aug.2008 19:30	15.Aug.2008 09:00	13.5	48.8	5.0	35.8	6.0	13.5	44.5	0.0	173 POOH with controlled speed	Hall,Trans
15.Aug.2008 09:00	15.Aug.2008 12:00	3.0	48.9	3.0	35.9	4.0	3.0	44.6	0.0	174 LD Core #3	Hall,Trans
15.Aug.2008 12:00	15.Aug.2008 13:30	5.0	49.1	2.0	36.0	2.0	1.5	44.7	0.0	175 LD core BHA	Trans,Hall
15.Aug.2008 13:30	15.Aug.2008 15:00	4.0	49.3	2.0	36.1	2.0	1.5	44.8	0.0	176 M/U 8 1/2" drilling assy	Trans,Schlum,Schlum
15.Aug.2008 15:00	15.Aug.2008 17:00	3.0	49.4	2.0	36.2	2.0	2.0	44.8	0.0	177 RIH	Trans,Schlum,Schlum
15.Aug.2008 17:00	15.Aug.2008 18:30	0.0	49.4	0.5	36.2	0.5	1.5	44.9	0.0	178 Function test BOP	Trans
15.Aug.2008 18:30	15.Aug.2008 22:30	9.0	49.8	4.0	36.4	6.0	4.0	45.1	0.0	179 Cont RIH to TD	Trans,Schlum,Schlum

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15.Aug.2008 22:30	16.Aug.2008 02:30	2.0	49.9	0.5	36.4	1.0	4.0	45.2	0.0	180 Ream cored section	Trans,Schlum,Schlum
16.Aug.2008 02:30	16.Aug.2008 07:30	24.0	50.9	9.0	36.8	14.0	5.0	45.4	0.0	181 Drill 8 1/2" hole from 3931 m to 4080 m (Well TD)	Trans,Schlum,Schlum
16.Aug.2008 07:30	16.Aug.2008 08:00	0.0	50.9	3.0	36.9	3.0	0.5	45.5	0.5	182 Troubleshoot pressure drop	Schlum,Schlum,Trans
16.Aug.2008 08:00	16.Aug.2008 23:00	0.0	50.9	3.0	37.0	3.0	15.0	46.1	15.0	183 POOH	Trans,Schlum,Schlum
16.Aug.2008 23:00	17.Aug.2008 14:00	0.0	50.9	4.0	37.2	3.0	15.0	46.7	13.0	184 RIH with 8 1/2" BHA	Trans,Schlum,Schlum
17.Aug.2008 14:00	18.Aug.2008 00:00	16.0	51.5	3.0	37.3	4.0	10.0	47.1	0.0	185 Drill 8 1/2" hole to well TD	Schlum,Schlum,Trans
18.Aug.2008 00:00	18.Aug.2008 07:00	10.0	51.9	4.0	37.5	5.0	7.0	47.4	0.0	186 Circulate hole clean	Trans,Schlum,Schlum
18.Aug.2008 07:00	18.Aug.2008 11:00	10.0	52.4	3.0	37.6	3.0	4.0	47.6	1.0	187 POOH	Trans,Schlum,Schlum
18.Aug.2008 11:00	18.Aug.2008 14:00	0.0	52.4	1.5	37.7	2.0	3.0	47.7	0.0	188 Maintenance stop	Trans
18.Aug.2008 14:00	20.Aug.2008 15:00	0.0	52.4	0.0	37.7	30.0	49.0	49.8	49.0	189 Change out Elmaco (Draw work brake)	Trans
20.Aug.2008 15:00	20.Aug.2008 21:00	10.0	52.8	4.0	37.8	4.0	6.0	50.0	0.0	190 POOH from 1367m to 250 m	Trans
20.Aug.2008 21:00	21.Aug.2008 02:30	3.0	52.9	5.0	38.1	6.0	5.5	50.2	0.0	191 BOP test	Trans
21.Aug.2008 02:30	21.Aug.2008 04:30	2.0	53.0	1.0	38.1	1.0	2.0	50.3	0.0	192 RB 8 1/2" BHA	Trans
21.Aug.2008 04:30	21.Aug.2008 06:00	5.0	53.2	2.0	38.2	2.0	1.5	50.4	0.0	193 RU for wireline	Trans,Schlum
21.Aug.2008 06:00	21.Aug.2008 15:30	9.5	53.6	6.0	38.4	10.0	9.5	50.8	0.0	194 Run log # 1 GR-Res-Den-Neu	Schlum,Trans
21.Aug.2008 15:30	22.Aug.2008 09:00	17.5	54.3	6.0	38.7	10.0	17.5	51.5	0.0	195 Run log #2 Sonic	Trans,Schlum
22.Aug.2008 09:00	23.Aug.2008 07:00	12.0	54.8	18.0	39.4	24.0	22.0	52.4	0.0	196 Run log # 3 MDT Pressurepoints	Trans,Schlum
23.Aug.2008 07:00	24.Aug.2008 12:30	12.0	55.3	24.0	40.4	24.0	29.5	53.6	0.0	197 Run log # 4 MDT oil samling Hugin	Schlum,Trans
24.Aug.2008 12:30	24.Aug.2008 16:00	4.0	55.5	4.0	40.6	4.0	3.5	53.8	3.5	198 Work stuck wireline cable/tool	Schlum,Trans

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24.Aug.2008 16:00	26.Aug.2008 06:00	0.0	55.5	36.0	42.1	36.0	38.0	55.4	38.0	199 Run overshot & DP over cable (Cut & tread)	Trans,Schlum
26.Aug.2008 06:00	26.Aug.2008 21:30	0.0	55.5	8.0	42.4	8.0	15.5	56.0	15.5	200 Engauge overshot. Pull into casing	Trans,Schlum
26.Aug.2008 21:30	27.Aug.2008 04:30	0.0	55.5	4.0	42.6	4.0	7.0	56.3	7.0	201 Pull wirelinecabel. R/D w/L equipment	Trans,Schlum
27.Aug.2008 04:30	27.Aug.2008 11:30	0.0	55.5	8.0	42.9	8.0	7.0	56.6	7.0	202 POOH	Trans,Schlum
27.Aug.2008 11:30	27.Aug.2008 14:00	0.0	55.5	2.0	43.0	2.0	2.5	56.7	2.5	203 Recover & L/D MDT toolstring	Trans,Schlum
27.Aug.2008 14:00	27.Aug.2008 15:00	2.0	55.6	1.5	43.1	2.0	1.0	56.8	0.0	204 Slip and cut	Trans
27.Aug.2008 15:00	27.Aug.2008 17:30	4.0	55.7	4.0	43.2	4.0	2.5	56.9	0.0	205 M/U wipertrip assy	Trans
27.Aug.2008 17:30	28.Aug.2008 03:30	9.0	56.1	8.0	43.6	8.0	10.0	57.3	0.0	206 RIH to 4020 m	Trans
28.Aug.2008 03:30	28.Aug.2008 11:00	5.0	56.3	4.0	43.7	4.0	7.5	57.6	0.0	207 Circulate & condition mud.	Trans
28.Aug.2008 11:00	28.Aug.2008 15:00	5.0	56.5	4.0	43.9	6.0	4.0	57.8	0.0	208 POOH to casing shoe	Trans
28.Aug.2008 15:00	28.Aug.2008 16:30	2.0	56.6	2.0	44.0	2.0	1.5	57.8	0.0	209 Circulate & condition mud	Trans
28.Aug.2008 16:30	28.Aug.2008 18:30	3.0	56.7	2.0	44.1	2.0	2.0	57.9	0.0	210 POOH to +- 1000 m.	Trans
28.Aug.2008 18:30	28.Aug.2008 19:30	1.0	56.8	0.5	44.1	1.0	1.0	57.9	0.0	211 Fuction test BOP	Trans
28.Aug.2008 19:30	28.Aug.2008 22:00	4.0	56.9	3.0	44.2	3.0	2.5	58.0	0.0	212 Continue POOH. Rack BHA.	Trans
28.Aug.2008 22:00	29.Aug.2008 01:00	0.0	56.9	2.0	44.3	2.0	3.0	58.2	0.0	213 R/U wireline equipment	Trans,Schlum
29.Aug.2008 01:00	29.Aug.2008 16:00	30.0	58.2	15.0	44.9	24.0	15.0	58.8	0.0	214 Run log # 5 MDT samling Upper Hugin	Trans,Schlum
29.Aug.2008 16:00	30.Aug.2008 08:30	12.0	58.7	10.0	45.3	12.0	16.5	59.5	0.5	215 Run log # 6 VSP	Schlum,Trans
30.Aug.2008 08:30	30.Aug.2008 22:30	35.0	60.1	20.0	46.2	20.0	14.0	60.1	0.5	216 Run log # 7 MDT samling/mini DST Upper Hugin	Trans,Schlum
30.Aug.2008 22:30	31.Aug.2008 00:00	0.0	60.1	3.0	46.3	4.0	1.5	60.1	0.0	217 Rig up capstan unit	Schlum,Trans

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31.Aug.2008 00:00	31.Aug.2008 03:00	5.0	60.4	16.0	47.0	16.0	3.0	60.3	1.0	218 Run log # 8 MDT minitest/DST Lower Hugin	Schlum,Trans
31.Aug.2008 03:00	31.Aug.2008 04:30	0.0	60.4	2.0	47.1	2.0	1.5	60.3	1.5	219 Rig down WL equipment	Schlum,Trans
31.Aug.2008 04:30	31.Aug.2008 13:00	0.0	60.4	10.0	47.5	5.0	8.5	60.7	0.0	220 RIH with 8 1/2" wiper trip BHA to push cable to below logging depth	Trans
31.Aug.2008 13:00	01.Sep.2008 00:00	0.0	60.4	4.0	47.6	8.0	11.0	61.1	2.0	221 Circ BU. POOH	Trans
01.Sep.2008 00:00	01.Sep.2008 01:00	0.0	60.4	3.0	47.8	3.0	1.0	61.2	1.0	222 Rig up WL equipment	Trans,Schlum
01.Sep.2008 01:00	01.Sep.2008 11:00	20.0	61.2	16.0	48.4	16.0	10.0	61.6	1.0	223 Run log # 8 MDT minitest/DST Lower Hugin	Trans,Schlum
01.Sep.2008 11:00	01.Sep.2008 11:30	4.0	61.4	2.0	48.5	1.0	0.5	61.6	0.0	224 R/D wireline equipment	Schlum,Trans
01.Sep.2008 11:30	02.Sep.2008 22:30	37.0	1.5	20.0	0.8	28.0	35.0	1.5	1.0	PERM P&A [NO 15/5-7]	
01.Sep.2008 11:30	01.Sep.2008 23:00	10.0	61.8	5.0	48.7	8.0	11.5	62.1	1.0	225 RIH with cement stinger to TD	Schlum,Trans
01.Sep.2008 23:00	02.Sep.2008 02:30	3.0	61.9	1.0	48.8	2.0	3.5	62.2	0.0	226 Set cement plug #1 (250 m) OH plug	Schlum,Trans
02.Sep.2008 02:30	02.Sep.2008 03:00	3.0	62.0	1.0	48.8	1.0	0.5	62.3	0.0	227 Pull above plug	Trans,Schlum
02.Sep.2008 03:00	02.Sep.2008 04:00	3.0	62.1	1.0	48.8	2.0	1.0	62.3	0.0	228 Set cement plug #2 OH plug (250 m)	Trans,Schlum
02.Sep.2008 04:00	02.Sep.2008 07:30	2.0	62.2	2.0	48.9	2.0	3.5	62.4	0.0	229 Pull above plug and circulate out excess cement	Trans,Schlum
02.Sep.2008 07:30	02.Sep.2008 08:30	3.0	62.4	1.0	49.0	2.0	1.0	62.5	0.0	230 Set cement plug #3 OH plug (250 m)	Trans,Schlum
02.Sep.2008 08:30	02.Sep.2008 09:00	2.0	62.4	1.0	49.0	1.0	0.5	62.5	0.0	231 Pull above plug	Trans,Schlum
02.Sep.2008 09:00	02.Sep.2008 10:30	3.0	62.6	1.0	49.1	2.0	1.5	62.6	0.0	232 Set cement plug #4 KOP plug (250 m)	Trans,Schlum
02.Sep.2008 10:30	02.Sep.2008 13:30	2.0	62.6	2.0	49.1	2.0	3.0	62.7	0.0	233 Pull above plug and circulate out excess cement	Trans,Schlum
02.Sep.2008 13:30	02.Sep.2008 21:30	6.0	62.9	4.0	49.3	5.0	8.0	63.0	0.0	234 POOH.L/D cement stinger	Trans,Schlum
02.Sep.2008 21:30	02.Sep.2008 22:30	0.0	62.9	1.0	49.3	1.0	1.0	63.1	0.0	235 RD wire used for cut & tread operation from derrick	Schlum,Trans

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02.Sep.2008 22:30	07.Sep.2008 05:00	58.5	2.4	60.0	2.5	105.5	102.5	4.3	29.5	PREPARE SIDETRACK [NO 15/5-7]	
02.Sep.2008 22:30	03.Sep.2008 03:30	10.0	63.3	4.0	49.5	6.0	5.0	63.3	0.0	236 Rearrange BHA to kick off assy	Schlum,Trans
03.Sep.2008 03:30	03.Sep.2008 04:30	3.0	63.4	1.0	49.6	2.0	1.0	63.3	0.0	237 M/U BOP test tool. RIH	Schlum,Trans
03.Sep.2008 04:30	03.Sep.2008 09:00	6.0	63.7	3.5	49.7	4.0	4.5	63.5	0.5	238 Test BOP & surface equipment	Trans
03.Sep.2008 09:00	03.Sep.2008 10:00	3.0	63.8	1.0	49.7	1.0	1.0	63.5	0.0	239 POOH with BOP test tool	Trans
03.Sep.2008 10:00	03.Sep.2008 17:00	8.0	64.1	3.5	49.9	3.5	7.0	63.8	0.0	240 Continue RIH with kick-off assy	Trans
03.Sep.2008 17:00	03.Sep.2008 19:30	9.0	64.5	4.0	50.1	6.0	2.5	63.9	0.0	241 Wash down & dress of cement	Trans
03.Sep.2008 19:30	05.Sep.2008 13:30	16.5	65.2	12.0	50.6	38.0	42.0	65.7	0.0	242 Perform kick off. 3120 m to 3137 m. Flowcheck	Trans,Schlum,Schlum,MI
05.Sep.2008 13:30	05.Sep.2008 15:00	0.0	65.2	2.0	50.6	2.0	1.5	65.8	0.0	243 POOH casing shoe	MI,Schlum,Schlum,Trans
05.Sep.2008 15:00	05.Sep.2008 16:30	2.0	65.3	1.0	50.7	2.0	1.5	65.8	0.0	244 Slip & cut drillline	Trans,Schlum,Schlum
05.Sep.2008 16:30	05.Sep.2008 17:30	1.0	65.3	1.0	50.7	1.0	1.0	65.9	0.0	245 Perform planned maintenance. Check & Grease TDS	Schlum,Trans,Schlum
05.Sep.2008 17:30	06.Sep.2008 00:00	0.0	65.3	4.0	50.9	5.0	6.5	66.1	0.0	246 POOH	Schlum,Schlum,Trans
06.Sep.2008 00:00	06.Sep.2008 02:00	0.0	65.3	2.0	51.0	3.0	2.0	66.2	2.0	247 Change DHM & bit. Adjust setting to 1.83 deg	Trans,Schlum,Schlum
06.Sep.2008 02:00	06.Sep.2008 08:30	0.0	65.3	3.0	51.1	8.0	6.5	66.5	6.5	248 RIH to 3143 m	Trans,Schlum,Schlum
06.Sep.2008 08:30	07.Sep.2008 05:00	0.0	65.3	18.0	51.8	24.0	20.5	67.3	20.5	249 Time drill to kick off	Trans,Schlum,Schlum
24.Sep.2008 19:00	05.Oct.2008 08:00	71.0	3.0	172.0	7.2	263.5	253.0	10.5	160.0	8 1/2" [NO 15/5-7 AT2]	
24.Sep.2008 19:00	25.Sep.2008 10:30	0.0	65.3	6.0	52.1	8.0	15.5	68.0	15.5	315 Drill and orient 8 1/2" hole to 3361m	Trans,Schlum,MI,Schlum
25.Sep.2008 10:30	25.Sep.2008 11:00	0.0	65.3	1.0	52.1	1.0	0.5	68.0	0.5	316 Flow check	MI,Schlum,Schlum,Trans
25.Sep.2008 11:00	25.Sep.2008 18:00	0.0	65.3	5.0	52.3	6.0	7.0	68.3	7.0	317 POOH	MI,Schlum,Schlum,Trans

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25.Sep.2008 18:00	25.Sep.2008 23:30	0.0	65.3	0.0	52.3	5.0	5.5	68.5	5.5	318 Rearrange BHA to rotary steerable system	MI,Schlum,Schlum,Trans
25.Sep.2008 23:30	26.Sep.2008 06:00	0.0	65.3	5.0	52.6	7.0	6.5	68.8	6.5	319 RIH to TD	Trans,MI,Schlum,Schlum
26.Sep.2008 06:00	26.Sep.2008 20:30	0.0	65.3	42.0	54.3	53.0	14.5	69.4	14.5	320 Drill 8 1/2" hole to TD 3637m	Trans,Schlum,MI,Schlum
26.Sep.2008 20:30	26.Sep.2008 23:30	0.0	65.3	0.0	54.3	4.0	3.0	69.5	3.0	321 Circulate hole clean, increase mud weight. Flow check	MI,Schlum,Schlum,Trans
26.Sep.2008 23:30	27.Sep.2008 07:00	0.0	65.3	5.0	54.5	6.0	7.5	69.8	7.5	322 POOH	Trans
27.Sep.2008 07:00	27.Sep.2008 10:00	0.0	65.3	0.0	54.5	1.5	3.0	70.0	0.0	323 RIH with BOP test tool	Trans
27.Sep.2008 10:00	27.Sep.2008 12:00	0.0	65.3	1.5	54.6	2.0	2.0	70.0	0.0	324 POOH	Trans
27.Sep.2008 12:00	27.Sep.2008 20:30	0.0	65.3	3.0	54.7	4.0	8.5	70.4	4.0	325 Rearrange BHA to rotary steerable system	Schlum,Schlum,Trans
27.Sep.2008 20:30	28.Sep.2008 03:00	0.0	65.3	0.0	54.7	6.0	6.5	70.7	6.5	326 RIH to TD	Schlum,Schlum,Trans
28.Sep.2008 03:00	29.Sep.2008 17:30	0.0	65.3	25.0	55.7	35.0	38.5	72.3	38.5	327 Drill 8 1/2" hole to TD +/- 4140m	Schlum,Schlum,Trans
29.Sep.2008 17:30	30.Sep.2008 05:00	0.0	65.3	6.0	56.0	8.0	11.5	72.8	11.5	328 POOH	Schlum,Schlum,Trans
30.Sep.2008 05:00	30.Sep.2008 12:00	0.0	65.3	0.0	56.0	4.0	7.0	73.0	7.0	329 Rearrange BHA	Schlum,Schlum,MI,Trans
30.Sep.2008 12:00	30.Sep.2008 20:30	0.0	65.3	0.0	56.0	7.0	8.5	73.4	8.5	330 RIH with Wiper trip BHA to TD	Schlum,Schlum,MI,Trans
30.Sep.2008 20:30	01.Oct.2008 01:00	0.0	65.3	0.0	56.0	5.0	4.5	73.6	4.5	331 Circulate hole clean and increase mud weight. Flow check	Trans,MI
01.Oct.2008 01:00	01.Oct.2008 12:30	0.0	65.3	0.0	56.0	8.0	11.5	74.1	11.5	332 POOH	Trans
01.Oct.2008 12:30	01.Oct.2008 13:00	0.0	65.3	0.0	56.0	1.5	0.5	74.1	0.0	333 M/U BOP test tool and RIH	Trans
01.Oct.2008 13:00	01.Oct.2008 17:00	0.0	65.3	3.0	56.1	4.0	4.0	74.3	0.0	334 Pressure Test BOP	Trans
01.Oct.2008 17:00	01.Oct.2008 18:00	0.0	65.3	0.0	56.1	1.5	1.0	74.3	0.0	335 POOH and lay down BOP test tool	Trans
01.Oct.2008 18:00	01.Oct.2008 20:00	0.0	65.3	0.0	56.1	1.0	2.0	74.4	2.0	336 POOH	Trans

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Start time	End time	Budget time hrs	Acc budget days	Tech limit hrs	Acc tech days	Plan time hrs	Act time hrs	Acc actual days	Down time	Description	Companies
01.Oct.2008 20:00	01.Oct.2008 21:00	0.0	65.3	2.5	56.2	3.0	1.0	74.4	1.0	337 Rack back BHA in derrick	Trans,Schlum,Schlum
01.Oct.2008 21:00	02.Oct.2008 01:00	0.0	65.3	3.0	56.3	4.0	4.0	74.6	0.0	338 RU for wireline	Trans,Schlum
02.Oct.2008 01:00	02.Oct.2008 13:30	10.0	65.7	8.0	56.7	10.0	12.5	75.1	5.0	339 Run log # 1 Sonic Scanner	Trans,Schlum
02.Oct.2008 13:30	03.Oct.2008 02:00	10.0	66.2	10.0	57.1	12.0	12.5	75.6	0.0	340 Run log # 2 MDT Pre test	Trans,Schlum
03.Oct.2008 02:00	03.Oct.2008 19:30	16.0	66.8	14.0	57.7	18.0	17.5	76.4	0.0	341 Run log # 3 MDT Sampling	Trans,Schlum
03.Oct.2008 19:30	04.Oct.2008 10:00	10.0	67.2	10.0	58.1	12.0	14.5	77.0	0.0	342 Run log # 4 VSP. Multi station	Trans,Schlum
04.Oct.2008 10:00	04.Oct.2008 19:30	6.0	67.5	6.0	58.3	6.0	9.5	77.4	0.0	343 Run log # 2B Pressure points lower Hugin	Schlum,Trans
04.Oct.2008 19:30	05.Oct.2008 02:00	12.0	68.0	10.0	58.8	12.0	6.5	77.6	0.0	344 Run log # 4B VSP single station	Trans,Schlum
05.Oct.2008 02:00	05.Oct.2008 03:30	4.0	68.2	3.0	58.9	3.0	1.5	77.7	0.0	345 R/D wireline equipment	Schlum,Trans
05.Oct.2008 03:30	05.Oct.2008 05:00	3.0	68.3	1.5	58.9	2.0	1.5	77.8	0.0	346 Slip & cut drilling line	Schlum,Trans
05.Oct.2008 05:00	05.Oct.2008 08:00	0.0	68.3	1.5	59.0	3.0	3.0	77.9	0.0	347 Maintenance stop	
05.Oct.2008 08:00	13.Oct.2008 01:00	197.5	8.2	132.0	5.5	169.5	185.0	7.7	8.0	PERM P&A [NO 15/5-7 AT2]	
05.Oct.2008 08:00	05.Oct.2008 18:00	9.0	68.7	6.0	59.3	10.0	10.0	78.3	0.0	348 RIH to with 3 1/2" stinger to casing shoe	Schlum,Trans
05.Oct.2008 18:00	05.Oct.2008 20:30	2.0	68.7	1.0	59.3	1.0	2.5	78.4	0.0	349 Circulate and condition mud	Schlum,Trans
05.Oct.2008 20:30	05.Oct.2008 22:00	1.0	68.8	1.0	59.3	2.0	1.5	78.5	0.0	350 Set cement plug # 1	Trans,Schlum
05.Oct.2008 22:00	06.Oct.2008 00:00	2.0	68.9	1.0	59.4	1.0	2.0	78.5	0.0	351 Pull above plug #1	Schlum,Trans
06.Oct.2008 00:00	06.Oct.2008 01:00	1.0	68.9	1.0	59.4	2.0	1.0	78.6	0.0	352 Set cement plug # 2	Trans,Schlum
06.Oct.2008 01:00	06.Oct.2008 02:00	2.0	69.0	1.0	59.5	1.0	1.0	78.6	0.0	353 Pull above plug #2	Schlum,Trans
06.Oct.2008 02:00	06.Oct.2008 05:00	2.0	69.1	1.0	59.5	2.0	3.0	78.8	0.0	354 Circ out excess cmt.	Trans,Schlum

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06.Oct.2008 05:00	06.Oct.2008 06:00	1.0	69.1	2.0	59.6	2.0	1.0	78.8	0.0	355 Set cement plug # 3	Schlum,Trans
06.Oct.2008 06:00	06.Oct.2008 08:30	2.0	69.2	1.0	59.6	1.0	2.5	78.9	0.0	356 Pull above plug #3	Schlum,Trans
06.Oct.2008 08:30	06.Oct.2008 10:00	1.0	69.2	2.0	59.7	2.0	1.5	79.0	0.0	357 Set cement plug # 4	Schlum,Trans
06.Oct.2008 10:00	06.Oct.2008 11:00	2.0	69.3	1.0	59.8	1.0	1.0	79.0	0.0	358 Pull above plug #4	Trans,Schlum
06.Oct.2008 11:00	06.Oct.2008 13:30	2.0	69.4	2.0	59.8	2.0	2.5	79.1	0.0	359 Circ out excess cement	Schlum,Trans
06.Oct.2008 13:30	06.Oct.2008 15:00	2.0	69.5	1.0	59.9	2.0	1.5	79.2	0.0	360 Set cement plug # 5	Trans,Schlum
06.Oct.2008 15:00	06.Oct.2008 16:30	2.5	69.6	1.0	59.9	1.0	1.5	79.2	0.0	361 Pull above plug #5 to 2100 m	Schlum,Trans
06.Oct.2008 16:30	06.Oct.2008 18:00	2.0	69.7	2.0	60.0	2.0	1.5	79.3	0.0	362 Circ out excess cement	Schlum,Trans
06.Oct.2008 18:00	07.Oct.2008 03:30	4.0	69.9	7.0	60.3	6.0	9.5	79.7	0.0	363 POOH. L/D excess pipe.	Trans
07.Oct.2008 03:30	07.Oct.2008 09:30	4.0	70.0	1.0	60.3	2.0	6.0	79.9	0.0	364 L/D 8 1/2" BHA.	Trans
07.Oct.2008 09:30	07.Oct.2008 13:30	4.0	70.2	1.0	60.4	2.0	4.0	80.1	0.0	365 RIH with 5 1/2" DP to 1300 m. Test Cement	Trans
07.Oct.2008 13:30	07.Oct.2008 17:00	9.0	70.6	6.0	60.6	6.0	3.5	80.3	1.0	366 POOH to 800 m while L/D DP	Trans
07.Oct.2008 17:00	07.Oct.2008 21:00	2.0	70.6	2.0	60.7	2.0	4.0	80.4	0.0	367 Displace well to WBM	Trans
07.Oct.2008 21:00	08.Oct.2008 02:30	5.0	70.9	3.0	60.8	5.0	5.5	80.6	0.0	368 POOH. L/D excess DP.	Trans
08.Oct.2008 02:30	08.Oct.2008 05:00	2.0	70.9	2.0	60.9	2.0	2.5	80.8	0.0	369 Retrieve wear bushing	Trans
08.Oct.2008 05:00	08.Oct.2008 11:30	5.0	71.1	4.0	61.1	5.0	6.5	81.0	0.0	370 M/U 13 3/8" cutting assembly and RIH	Smith-RB,Trans
08.Oct.2008 11:30	08.Oct.2008 12:00	1.0	71.2	1.0	61.1	1.0	0.5	81.0	0.0	371 Cut 13 3/8" casing	Smith-RB,Trans
08.Oct.2008 12:00	08.Oct.2008 15:00	2.0	71.3	2.0	61.2	2.0	3.0	81.2	0.0	372 Flow check and POOH to 550 m.	Smith-RB,Trans
08.Oct.2008 15:00	08.Oct.2008 15:30	1.0	71.3	0.5	61.2	0.5	0.5	81.2	0.0	373 Function test BOP	Smith-RB,Trans

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08.Oct.2008 15:30	08.Oct.2008 17:00	2.0	71.4	2.0	61.3	2.0	1.5	81.3	0.0	374 Continue POOH. LD spear assy.	Trans,Smith-RB
08.Oct.2008 17:00	08.Oct.2008 19:00	2.0	71.5	1.0	61.4	1.0	2.0	81.3	0.0	375 RIH BOP test tool. Verify UAP open.POOH	Smith-RB,Trans
08.Oct.2008 19:00	08.Oct.2008 20:30	2.0	71.6	2.0	61.4	2.0	1.5	81.4	0.0	376 M/U 13 3/8" casing spear	Smith-RB,DQ,Trans
08.Oct.2008 20:30	09.Oct.2008 02:30	4.0	71.7	3.0	61.6	3.0	6.0	81.6	0.0	377 RIH. Pull casing to surface	Smith-RB,DQ,Trans
09.Oct.2008 02:30	09.Oct.2008 04:30	3.0	71.9	2.0	61.7	2.0	2.0	81.7	1.0	378 R/U casing equipment	OWS,Trans
09.Oct.2008 04:30	09.Oct.2008 12:00	6.0	72.1	6.0	61.9	6.0	7.5	82.0	0.0	379 L/D casing	OWS,Trans,Smith-RB
09.Oct.2008 12:00	09.Oct.2008 13:30	3.0	72.2	2.0	62.0	2.0	1.5	82.1	0.0	380 R/D casing equipment	OWS,Trans
09.Oct.2008 13:30	09.Oct.2008 15:00	3.0	72.4	1.0	62.0	2.0	1.5	82.2	0.0	381 RIH with 5" DP to 690 m	Schlum,Trans
09.Oct.2008 15:00	09.Oct.2008 16:00	0.0	72.4	1.0	62.1	2.0	1.0	82.2	0.0	382 Circulate & condition mud. Spot high-vis pill	Schlum,Trans
09.Oct.2008 16:00	09.Oct.2008 16:30	2.0	72.4	1.0	62.1	1.0	0.5	82.2	0.0	383 POOH to 600 m	Trans
09.Oct.2008 16:30	09.Oct.2008 17:30	0.0	72.4	2.0	62.2	2.0	1.0	82.3	0.0	384 Drop & set CST	Schlum,Trans
09.Oct.2008 17:30	09.Oct.2008 18:30	3.0	72.6	1.0	62.2	2.0	1.0	82.3	0.0	385 Set top sement plug	Schlum,Trans
09.Oct.2008 18:30	10.Oct.2008 10:30	11.0	73.0	19.0	63.0	19.0	16.0	83.0	0.0	386 POOH. L/D excess DP, WOC. Test surface plug	Trans,Schlum
10.Oct.2008 10:30	10.Oct.2008 11:30	0.0	73.0	1.0	63.1	1.0	1.0	83.0	0.0	387 RIH to 200 m.	Schlum,Trans
10.Oct.2008 11:30	10.Oct.2008 15:00	0.0	73.0	2.0	63.2	2.0	3.5	83.2	0.0	388 Set top cement plug # 2	Trans,Schlum
10.Oct.2008 15:00	10.Oct.2008 16:30	0.0	73.0	1.0	63.2	1.0	1.5	83.2	0.0	389 POOH above plug	Trans,Schlum
10.Oct.2008 16:30	10.Oct.2008 18:00	4.0	73.2	2.0	63.3	2.0	1.5	83.3	0.0	390 Displace riser to SW. Wash WH & BOP	Trans
10.Oct.2008 18:00	10.Oct.2008 19:30	2.0	73.3	1.0	63.3	6.0	1.5	83.4	0.0	391 POOH. L/D excess DP	Trans
10.Oct.2008 19:30	10.Oct.2008 21:30	4.0	73.4	1.5	63.4	2.0	2.0	83.4	0.0	392 R/U to pull BOP	Trans

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10.Oct.2008 21:30	11.Oct.2008 00:00	6.0	73.7	5.0	63.6	5.0	2.5	83.5	0.0	393 Pull diverter assy and make up landing joint	Trans
11.Oct.2008 00:00	11.Oct.2008 06:00	3.0	73.8	2.0	63.7	2.0	6.0	83.8	0.0	394 Unlatch BOP. Disconnect pod sheeves & K/C/B lines	Trans
11.Oct.2008 06:00	11.Oct.2008 11:30	8.0	74.1	4.0	63.8	8.0	5.5	84.0	0.0	395 Pull slip joint , riser & BOP.	Trans
11.Oct.2008 11:30	11.Oct.2008 14:00	12.0	74.6	1.5	63.9	4.0	2.5	84.1	0.0	396 Remove beacon. Land BOP on trolley and secure. Disconnect & I/D riser joints	Trans
11.Oct.2008 14:00	11.Oct.2008 15:00	8.0	75.0	1.0	63.9	2.0	1.0	84.2	0.0	397 R/D riser equipment	Trans
11.Oct.2008 15:00	11.Oct.2008 19:00	5.0	75.2	1.0	64.0	4.0	4.0	84.3	0.0	398 P/U wellhead/casing assembly	Smith-RB,Trans
11.Oct.2008 19:00	12.Oct.2008 10:00	10.0	75.6	5.0	64.2	6.0	15.0	85.0	6.0	399 RIH and cut 36" x 20" wellhead/casing	Ocean,Smith-RB,Trans
12.Oct.2008 10:00	12.Oct.2008 12:30	5.0	75.8	2.0	64.3	3.0	2.5	85.1	0.0	400 Pull PGB/30"/20" to surface. Secure same	Ocean,Smith-RB,Trans
12.Oct.2008 12:30	12.Oct.2008 13:30	6.0	76.1	1.5	64.3	2.0	1.0	85.1	0.0	401 Disconnect spear from WH. L/D cutting assy	DQ,Trans,Smith-RB
12.Oct.2008 13:30	12.Oct.2008 16:00	3.0	76.2	1.0	64.4	2.0	2.5	85.2	0.0	402 M/U 18 3/4" RT. Latch to WH. Disconnetc PGB. L/D 20&30" casing	Trans,Smith-RB
12.Oct.2008 16:00	13.Oct.2008 01:00	8.0	76.5	3.0	64.5	6.0	9.0	85.6	0.0	403 Lay down remaining pipe. Backload equipment	Trans
13.Oct.2008 01:00	14.Oct.2008 13:30	40.0	1.7	30.0	1.2	33.0	36.5	1.5	0.0	MOVE [NO 15/5-7 AT2]	
13.Oct.2008 01:00	13.Oct.2008 10:30	10.0	76.9	10.0	64.9	8.0	9.5	86.0	0.0	404 Deballast rig	Trans
13.Oct.2008 10:30	14.Oct.2008 13:30	30.0	78.2	20.0	65.8	25.0	27.0	87.1	0.0	405 Pull anchors	Trans

## 6.8 Bit record

**WELL: NO 15/5-7**

Run no	Bit size	Bit no	BHA no	Bit type	IADC code	Bit manufacturer
1	17"	1	1	XR+VC	115	Smith Bits
1	36"	2	1	HOLE OPENER	38½"	Odfjell Drilling AS
3	26"	2	3	XR+VEJ3C	115	Smith Bits
5	17 1/2"	4	5	MDI619LHBPX	M423	Smith Bits
11	12 1/4"	5	11	HCM507ZX	M423	Hughes Christensen
12	8 1/2"	5	13	HCM406ZX	M333	Hughes Christensen
13	8 1/2"	6	14	MK50PX	432	Smith Bits
14	8 1/2"	7	15	MI613BHPX	M333	Smith Bits
15	8 1/2"	7RR	16	MI613BHPX	M333	Smith Bits
16	8 1/2"	8	17	FC284LI	M231	Security DBS
17	8 1/2"	8RR	18	FC284LI	M231	Security DBS
18	8 1/2"	9	19	CT103	M623	DIAMANT BOART S
19	8 1/2"	7rr2	20	MI613BHPX	M333	Smith Bits
20	8 1/2"	7rr3	21	MI613BHPX	M333	Smith Bits
22	8 1/2"		23	MI613BHPX	M333	Smith Bits
23	8 1/2"		24	MI613BHPX	M333	Smith Bits
25	8 1/2"	25	26	EQH12DR	437W	Security DBS

Run no	Bit size	Bit no	BHA no	Serial no	Nozzles (n/32")					Flow area in
					no x n	no x n	no x n	no x n	no x n	
1	17"	1	1	PM0239	1 x 16	3 x 18	x	x	x	0,9420
1	36"	2	1	HO3506	x	x	x	x	x	
3	26"	2	3	MZ 5437	3 x 10	3 x 20	x	x	x	1,1510
5	17 1/2"	4	5	JY 3085	9 x 14	x	x	x	x	1,3530
11	12 1/4"	5	11	7210980	7 x 13	x	x	x	x	0,9080
12	8 1/2"	5	13	7208899	6 x 12	x	x	x	x	0,6630
13	8 1/2"	6	14	JW1498	6 x 13	x	x	x	x	0,7780
14	8 1/2"	7	15	JW7420	8 x 11	x	x	x	x	0,7430
15	8 1/2"	7RR	16	JW7420	8 x 11	x	x	x	x	0,7430
16	8 1/2"	8	17	11047971	x	x	x	x	x	1,80
17	8 1/2"	8RR	18	11047971	x	x	x	x	x	1,80
18	8 1/2"	9	19	11047974	x	x	x	x	x	0,70
19	8 1/2"	7rr2	20	JW7420	8 x 11	x	x	x	x	0,7430
20	8 1/2"	7rr3	21	JW 7420	8 x 11	x	x	x	x	0,7430
22	8 1/2"		23	jw7420	x	x	x	x	x	
23	8 1/2"		24	jw7420	x	x	x	x	x	
25	8 1/2"	25	26	11065865	1 x 15	2 x 18	x	x	x	0,67

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Run no	Bit size	Pump rate l/min	Pump press bar	Depth in mMD	Depth out mMD	Form drld m	Total drld m	Drld hrs	Circ hrs	ROP m/hr
1	17"	4900	125	145.0	198.0	53.0	53.0	5.5	6.6	9.6
1	36"	4900	125							
3	26"			198.0	1045.0	847.0	847.0	17.2	33.0	49.2
5	17 1/2"			1045.0	2663.0	1618.0	1618.0	49.6	73.3	32.6
11	12 1/4"			2663.0	2871.0	208.0	233.0	14.7	26.1	14.1
12	8 1/2"	2100	154	2871.0	3032.0	161.0	158.0	19.5	25.1	8.3
13	8 1/2"			3032.0	3623.0	591.0	591.0	36.4	48.1	16.2
14	8 1/2"	2200	202	3623.0	3790.0	167.0	167.0	9.6	15.2	17.4
15	8 1/2"			3790.0	3826.0	36.0	36.0	1.3	11.0	27.7
16	8 1/2"			3826.0	3880.0	54.0	54.0	3.5	16.5	15.4
17	8 1/2"			3880.0	3927.0	47.0	47.0	5.7	12.1	8.2
18	8 1/2"			3927.0	3941.0	14.0	14.0	8.6	10.9	1.6
19	8 1/2"			3941.0	4016.0	75.0		3.3	10.2	22.7
20	8 1/2"			4016.0	4037.0	21.0	21.0	7.3	22.1	2.9
22	8 1/2"			4037.0	4037.0	0.0	0.0	0.0	11.9	
23	8 1/2"			4037.0	4037.0	0.0				
25	8 1/2"			3034.0	3143.0	109.0	109.0	0.0	44.4	

Run no	Bit size	Min WOB ton	Max WOB ton	Min RPM	Max RPM	Torque Min Nm	Torque Max Nm	Con drag Min 1000 daN	Con drag Max 1000 daN
1	17"	2	5	80	80	1	3		
1	36"	2	5	80	80	1	3		
3	26"								
5	17 1/2"								
11	12 1/4"								
12	8 1/2"	8	15	80	180	2	15		
13	8 1/2"								
14	8 1/2"	3	11	150	150	9	15	175	188
15	8 1/2"								
16	8 1/2"								
17	8 1/2"								
18	8 1/2"								
19	8 1/2"								
20	8 1/2"								
22	8 1/2"								
23	8 1/2"								
25	8 1/2"								

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Date 08-08-2008

**StatoilHydro**

Rev. no. 0

Run no	Bit size	I	O	DC	L	B	G	OC	RP
1	17"	1	1	WT	A	E	IN	BU	TD
1	36"								
3	26"	1	2	WT	A	E	IN	NO	TD
5	17 1/2"	1	8	RO	S	X	In	LT	TD
11	12 1/4"	1	2	BT	T	X	1/16	WT	PR
12	8 1/2"	5	0	LT	C	X	I	NO	RIG
13	8 1/2"	2	1	CT	C	X	I	PN	BHA
14	8 1/2"	1	1	WT	A	X	In	NO	DTF
15	8 1/2"	1	1	WT	A	X	In	NO	CP
16	8 1/2"	1	1	WT	C	X	I	PN	CP
17	8 1/2"	1	5	WT	S	X	1/32	NO	PR
18	8 1/2"	2	2	FC	N	X	I	SS	PR
19	8 1/2"	1	3	WT	T	X	IN	CT	DSF
20	8 1/2"	1	3	WT	T	X	IN	CT	TD
22	8 1/2"	1	3	WT	T	X	I	CT	LOG
23	8 1/2"								
25	8 1/2"	0	3	NO	S	0	IG	NO	BHA

Run no	Bit size	Remarks
1	17"	PM0239
1	36"	HO3606
3	26"	BIT Type : XR+J3C, unable to find this type in DBR database
5	17 1/2"	
11	12 1/4"	19 CT and BT, 17 WT all at the gauge area.
12	8 1/2"	Of 14 cutters, 8 were lost in hole
13	8 1/2"	IADC code = M333
14	8 1/2"	IADC code = M333
15	8 1/2"	Bit slightly undergauge. Approx 1/32".
16	8 1/2"	
17	8 1/2"	
18	8 1/2"	
19	8 1/2"	Bit slightly undergauge. Approx 1/32". BHA pulled due to 60B bar drop in STP.
20	8 1/2"	Bit slightly undergauge. Approx 1/32".
22	8 1/2"	Clean up run
23	8 1/2"	Clean up run
25	8 1/2"	

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**WELL: NO 15/5-7 AT2**

Run no	Bit size	Bit no	BHA no	Bit type		IADC code	Bit manufacturer	
8	8 1/2"	16	8	GF15PS		447X	Smith Bits	
9	8 1/2"	17	1	HCM406ZX		M333	Hughes Christensen	
10	8 1/2"	17RR	3	HCM406ZX		M333	Hughes Christensen	
11	8 1/2"	17RR	4	HCM406ZX		M333	Hughes Christensen	

Run no	Bit size	Bit no	BHA no	Serial no	Nozzles (n/32")				Flow area in
					no x n	no x n	no x n	no x n	
8	8 1/2"	16	8	PK 7798	3 x 18	x	x	x	0.7460
9	8 1/2"	17	1	7211302	4 x 12	2 x 13	x	x	0.7020
10	8 1/2"	17RR	3	7211302	4 x 12	2 x 13	x	x	0.7020
11	8 1/2"	17RR	4	7211302	4 x 12	2 x 13	x	x	0.7020

Run no	Bit size	Pump rate l/min	Pump press bar	Depth in mMD	Depth out mMD	Form drld m	Total drld m	Drld hrs	Circ hrs	ROP m hr's
8	8 1/2"			3222.0	3361.0	139.0	24.0	14.5	32.9	9.6
9	8 1/2"			3361.0	3637.0	276.0	276.0	10.4	19.2	26.5
10	8 1/2"			3637.0	4199.0	562.0	562.0	29.8	39.5	18.9
11	8 1/2"			4199.0	4199.0	0.0	0.0	0.0	9.9	

Run no	Bit size	Min WOB ton	Max WOB ton	Min RPM	Max RPM	Torque Min Nm	Torque Max Nm	Con drag Min 1000 daN	Con drag Max 1000 daN
8	8 1/2"								
9	8 1/2"								
10	8 1/2"								
11	8 1/2"								

Run no	Bit size	I	O	DC	L	B	G	OC	RP
8	8 1/2"	1	1	WT	A	E	IN	NO	BHA
9	8 1/2"	1	1	WT	A	X	In	NO	BHA
10	8 1/2"	1	3	WT	A	X	1/16	CT	DTF
11	8 1/2"	1	3	WT	A	X	1/16	CT	LOG

Run no	Bit size	Remarks							
8	8 1/2"								
9	8 1/2"	POOH to pick up Xceed 675.							
10	8 1/2"	7211302							
11	8 1/2"	Re-Run bit Previous IADC: 1.3.WT,A,X,1/16,DTF							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**WELLBORE:** NO 15/5-7

**BHA NO:** 1

**BHA KIND:**

**DESCRIPTION:** 36" Spud BHA

**BHA NAME:** 1

String component	OD in	ID in	Length m	Acc length m
XR+VC~17 1/2"	17.000	3.750	0.44	0.44
WEIGHT SUB W/FLOAT	9.500		2.00	2.44
HOLE OPENER~38 1/4"	36.000		3.86	6.30
BIT SUB W/FLOAT	9.500		0.96	7.26
PONY COLLAR	9.500	3.000	2.54	9.80
POWERPULSE 900	9.062		9.28	19.08
NM DRILL COLLAR	9.625	3.000	9.34	28.42
NM DRILL COLLAR	9.625	3.000	9.46	37.88
DRILL COLLAR STEEL,	8.250		9.45	47.33
X-OVER	9.500		0.92	48.25
DRILL COLLAR	8.250		56.59	104.84
ACCELERATOR	8.250		10.22	115.06
X-OVER	9.500		1.00	116.06
HW DRILL PIPE, 5"	5.000		150.00	266.06

**BHA NO:** 3

**BHA KIND:**

**DESCRIPTION:** 26" BHA

**BHA NAME:** 3

String component	OD in	ID in	Length m	Acc length m
XR+VEJ3C~26"	26.000		0.64	0.64
BIT SUB	9.500		0.97	1.61
ARC			6.25	7.86
POWERPULSE 900	9.000		8.82	16.68
PONY COLLAR	9.560		2.98	19.66
STABILIZER	9.500		3.44	23.10
FLOAT SUB	9.375		1.29	24.39
NM DRILL COLLAR	9.625		18.80	43.19
DRILL COL	9.500		9.44	52.63
X-OVER			0.92	53.55
DRILL COLLAR 8 1/4"	8.250		47.18	100.73
JAR	8.250		9.49	110.22
DRILL COLLAR 8 1/4"	8.250		28.32	138.54
ACCELERATOR	8.000		10.22	148.76
X-OVER			1.00	149.76
5" HWDP	5.000		110.07	259.83

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO: 5**

**BHA KIND:**

**DESCRIPTION: 17 1/2" BHA**

**BHA NAME: 5**

String component	OD in	ID in	Length m	Acc length m
MDI619LHBPX~17 1/2"	17.500	3.750	0.45	0.45
POWERDRIVE X5 1100	9.750	3.000	4.28	4.73
CONTROL STAB	17.250	3.000	1.70	6.43
ARC	9.000	3.000	5.89	12.32
IN LINE STAB (ILS)	17.250	3.500	1.49	13.81
POWERPULSE 900	9.000	3.000	8.74	22.55
FLOAT SUB	9.250	3.000	1.26	23.81
STABILIZER, NM	17.250	3.000	2.40	26.21
NM DRILL COLLAR	9.500	3.000	18.76	44.97
COLLAR	9.500	3.000	9.44	54.41
XO	9.500	3.000	0.92	55.33
COLLAR	8.000	2.810	47.18	102.51
JAR	8.250	3.000	9.49	112.00
COLLAR	8.000	2.810	28.32	140.32
ACCELERATOR	8.000	3.000	10.22	150.54
COLLAR	8.000	2.810	9.43	159.97
XO	7.250	2.810	0.92	160.89
5½" HWDP	5.500	3.880	111.83	272.72
5 1/2" DP	5.360		10.00	282.72

**BHA NO: 10**

**BHA KIND:**

**DESCRIPTION: Set DLT Packer w/Storm Valve**

**BHA NAME: 10**

String component	OD in	ID in	Length m	Acc length m
DRILL PIPE	5.000		780.00	780.00
DLT PACKER	11.875		4.68	784.68

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO:** 11

**BHA KIND:**

**DESCRIPTION:** 12 1/4" Motor Drilling BHA

**BHA NAME:** 11

String component	OD in	ID in	Length m	Acc length m
HCM507ZX~12 1/4"	12.250	3.250	0.42	0.42
MUD MOTOR	12.125		9.83	10.25
NM STRING STAB	12.125	3.750	1.89	12.14
ARC 825	8.250	2.810	6.12	18.26
TELESCOPE 825	8.250		8.49	26.75
NM STRING STAB	12.125	3.750	2.51	29.26
NM DRILL COLLAR	8.250	2.810	18.30	47.56
DRILL COLLAR	8.000	2.810	47.18	94.74
JAR	8.250	3.000	9.49	104.23
DRILL COLLAR	8.000	2.810	28.33	132.56
ACCELERATOR	8.000	3.000	10.22	142.78
DRILL COLLAR	8.000	2.810	9.43	152.21
XO	7.250	2.810	1.00	153.21
HW DRILL PIPE, 5"	5.000		110.28	263.49
5 1/2" DP	5.500			263.49

**BHA NO:** 13

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Rotary Drilling BHA

**BHA NAME:** 12

String component	OD in	ID in	Length m	Acc length m
HCM406ZX~8 1/2"	8.500		0.39	0.39
GVR 675	8.375		3.08	3.47
ARC 675	6.750		5.56	9.03
STABILIZER, NM	8.250		1.45	10.48
POWERPULSE 675	6.750		8.56	19.04
STABILIZER, NM	8.250	2.810	2.41	21.45
NM DRILL COLLAR	6.750	2.810	18.89	40.34
DRILL COL	6.500	2.810	28.05	68.39
JAR	6.500	2.750	9.52	77.91
DRILL COL	6.500	2.810	28.39	106.30
ACCELERATOR	6.500	2.750	10.21	116.51
DRILL COLLAR	6.500	2.810	18.88	135.39
HW DRILL PIPE, 5"	5.000	3.000	110.28	245.67
DRILL PIPE	5.000	4.280	1333.85	1579.52
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	0.92	1580.44
5 1/2" DP	5.500	4.780	10.00	1590.44

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO:** 14

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Motor Drilling BHA

**BHA NAME:** 13

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
MK50PX~8 1/2"	8.500		0.31	0.31
POWERPAK A700	7.000	5.500	10.28	10.59
STABILIZER	8.325		2.26	12.85
ARC 675	6.750	2.810	5.86	18.71
IN LINE STAB (ILS)	8.250	2.810	1.45	20.16
POWERPULSE 675	6.750		8.55	28.71
NM DRILL COLLAR	6.750	2.810	18.89	47.60
DRILL COL	6.500	2.810	28.05	75.65
JAR	6.500	2.750	9.64	85.29
DRILL COL	6.500	2.810	28.39	113.68
DRILL COLLAR	6.500	2.810	28.34	142.02
HW DRILL PIPE, 5"	5.000	3.000	119.81	261.83
DRILL PIPE	5.000	4.280	1333.85	1595.68
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	0.92	1596.60
5 1/2" DP	5.500	4.780	10.00	1606.60

**BHA NO:** 15

**BHA KIND:**

**DESCRIPTION:** 8 1/2" PowerDrive BHA

**BHA NAME:** 14

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
MI613BHPX~8 1/2"	8.500		0.27	0.27
POWERDRIVE X5 675	6.750	5.500	5.83	6.10
ARC 675	6.750	2.810	5.56	11.66
IN LINE STAB (ILS)	8.250	2.810	1.45	13.11
POWERPULSE 675	6.750		8.55	21.66
NM DRILL COLLAR	6.750	2.810	18.89	40.55
DRILL COL	6.500	2.810	28.05	68.60
JAR	6.500	2.750	9.64	78.24
DRILL COL	6.500	2.810	28.39	106.63
DRILL COLLAR	6.500	2.810	28.34	134.97
HW DRILL PIPE, 5"	5.000	3.000	110.28	245.25
DRILL PIPE	5.000	4.280	1333.85	1579.10
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	0.92	1580.02
5 1/2" DP	5.500	4.780	10.00	1590.02

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO: 16**

**BHA KIND:**

**DESCRIPTION:** 8 1/2 Powerdrive BHA

**BHA NAME:** 15

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
MI613BHPX~8 1/2"	8.500		0.27	0.27
POWERDRIVE X5 675	6.750	5.500	5.84	6.11
ARC 675	6.750	2.810	5.61	11.72
IN LINE STAB (ILS)	8.250	2.810	1.21	12.93
POWERPULSE 675	6.750	5.100	9.47	22.40
NM DRILL COLLAR	6.750	2.810	18.53	40.93
DRILL COL	6.500	2.810	28.05	68.98
JAR	6.500	2.750	9.64	78.62
DRILL COL	6.500	2.810	28.39	107.01
DRILL COLLAR	6.500	2.810	28.34	135.35
HW DRILL PIPE, 5"	5.000	3.000	110.28	245.63
DRILL PIPE	5.000	4.280	1333.85	1579.48
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	0.92	1580.40
5 1/2" DP	5.500	4.780	10.00	1590.40

**BHA NO: 17**

**BHA KIND:**

**DESCRIPTION:** Core run number 1

**BHA NAME:** 16

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
FC284LI~8 1/2"	8.500		0.36	0.36
CORE BARREL	6.750		57.52	57.88
NM DRILL COLLAR	6.750		9.42	67.30
DRILL COL	6.500		75.32	142.62
JAR	6.500		9.64	152.26
DRILL COL	6.500		9.46	161.72
HW DRILL PIPE, 5"	5.000		110.28	272.00

**BHA NO: 18**

**BHA KIND:**

**DESCRIPTION:** Core run number 2

**BHA NAME:** 17

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
FC284LI~8 1/2"	8.500		0.36	0.36
CORE BARREL	6.750		57.52	57.88
NM DRILL COLLAR	6.750		9.42	67.30
DRILL COL	6.500		75.32	142.62
JAR	6.500		9.64	152.26
DRILL COL	6.500		9.46	161.72
HW DRILL PIPE, 5"	5.000		110.28	272.00

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO: 19**

**BHA KIND:**

**DESCRIPTION:** Core run number 3

**BHA NAME:** 18

String component	OD in	ID in	Length m	Acc length m
CT103~NA	8.500		0.37	0.37
CORE BARREL	6.750		57.52	57.89
NM DRILL COLLAR	6.750		9.42	67.31
DRILL COL	6.500		102.89	170.20
JAR	6.500		9.64	179.84
DRILL COL	6.500		9.46	189.30
HW DRILL PIPE, 5"	5.000		109.12	298.42
DP 5"	5.000		1344.38	1642.80

**BHA NO: 20**

**BHA KIND:**

**DESCRIPTION:** 8 1/2" PowerDrive BHA

**BHA NAME:** 19

String component	OD in	ID in	Length m	Acc length m
MI613BHPX~8 1/2"	8.500		0.27	0.27
POWERDRIVE X5 675	6.750	5.500	5.84	6.11
ARC 675	6.750	2.810	5.61	11.72
IN LINE STAB (ILS)	8.250	2.810	1.21	12.93
POWERPULSE 675	6.750	5.100	9.47	22.40
NM DRILL COLLAR	6.750	2.810	18.53	40.93
DRILL COL	6.500	2.810	28.05	68.98
JAR	6.500	2.750	9.64	78.62
DRILL COL	6.500	2.810	28.39	107.01
DRILL COLLAR	6.500	2.810	28.34	135.35
HW DRILL PIPE, 5"	5.000	3.000	110.28	245.63
DRILL PIPE	5.000	4.280	1333.85	1579.48
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	0.92	1580.40
5 1/2" DP	5.500	4.780	10.00	1590.40

**BHA NO: 21**

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Roraty BHA w/Powerpulse and ARC

**BHA NAME:** 20

String component	OD in	ID in	Length m	Acc length m
MI613BHPX~8 1/2"	8.500		0.27	0.27
X-O BIT SUB	6.750	2.875	1.23	1.50
X-OVER	6.750	3.000	0.34	1.84
ARC 675	7.687	2.810	5.61	7.45
IN LINE STAB (ILS)	8.250	2.810	1.21	8.66
POWERPULSE 675	6.750	5.100	9.11	17.77
NM DRILL COLLAR	6.750	2.810	18.89	36.66
DRILL COL	6.500	2.810	28.17	64.83
JAR	6.500	2.750	9.64	74.47
DRILL COLLAR	6.500	2.810	56.45	130.92
HW DRILL PIPE, 5"	5.000	3.000	110.28	241.20
DP 5"	5.000	4.780	1333.85	1575.05
DP 5 1/2"	5.500			1575.05

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO:** 22

**BHA KIND:**

**DESCRIPTION:** Fishing MDT Toolstring

**BHA NAME:** 21

String component	OD in	ID in	Length m	Acc length m
OVERSHOT			0.94	0.94

**BHA NO:** 23

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Wiper Trip

**BHA NAME:** 22

String component	OD in	ID in	Length m	Acc length m
MI613BHPX~8 1/2"	8.500		0.27	0.27
BIT SUB	6.750		1.50	1.77
X-OVER	6.750		1.84	3.61
ARC 675	7.687		7.45	11.06
NON MAG. STAB,	8.250		1.21	12.27
MWD TOOL ASSY	6.750		17.77	30.04
NON MAG. COLLAR,	6.750		18.89	48.93
DRILL COLLAR	6.500		28.27	77.20
JAR	6.500		9.64	86.84
DRILL COLLAR	6.500		56.45	143.29
HW DRILL PIPE	5.000		119.93	263.22

**BHA NO:** 24

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Wiper Trip to Push Wireline Cable Below Logging Depth

**BHA NAME:** 23

String component	OD in	ID in	Length m	Acc length m
MI613BHPX~8 1/2"	8.500		0.27	0.27
BIT SUB	6.750		1.50	1.77
X-OVER	6.750		1.84	3.61
ARC 675	7.687		7.45	11.06
NON MAG. STAB,	8.250		1.21	12.27
MWD TOOL ASSY	6.750		17.77	30.04
NON MAG. COLLAR,	6.750		18.89	48.93
DRILL COLLAR	6.500		28.27	77.20
JAR	6.500		9.64	86.84
DRILL COLLAR	6.500		56.45	143.29
HW DRILL PIPE	5.000		119.93	263.22

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO: 25**

**BHA KIND:**

**DESCRIPTION:** 3 1/2" Cement Stinger to Set P&A Plugs and KOP

**BHA NAME:** 24

String component	OD in	ID in	Length m	Acc length m
CEMENT STINGER	3.500		285.00	285.00

**BHA NO: 26**

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Motor Kick Off BHA

**BHA NAME:** 25

String component	OD in	ID in	Length m	Acc length m
EQH12DR~8 1/2"	8.500	2.250	0.27	0.27
POWERPAK A700	7.000	5.500	10.28	10.55
POWERPULSE 675	6.750	5.110	9.45	20.00
STABILIZER, NM	6.750	2.810	1.69	21.69
NM DRILL COLLAR	6.750	3.000	18.89	40.58
DRILL COLLAR	6.500	2.810	47.10	87.68
JAR	6.500	2.750	9.64	97.32
DRILL COLLAR	6.500	2.810	28.06	125.38
HW DRILL PIPE, 5"	5.000	3.000	110.28	235.66
DP 5"	5.000	4.280	1050.00	1285.66
X-O 4 1/2" IF - 5 1/2" FH	6.500	2.810	1.00	1286.66
DP 5 1/2"	5.500	4.780		1286.66

**BHA NO: 27**

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Motor Kick Off BHA

**BHA NAME:** 26

String component	OD in	ID in	Length m	Acc length m
MSR616M-A3B~8 1/2"	8.500	2.250	0.23	0.23
POWERPAK A700	7.000	5.500	10.20	10.43
STABILIZER, NM	6.750	2.810	1.69	12.12
POWERPULSE 675	6.750	5.510	9.45	21.57
DRILL COLLAR, NM	6.750	2.810	18.89	40.46
DRILL COLLAR	6.500	2.813	47.10	87.56
JAR	6.500	2.810	9.64	97.20
DRILL COLLAR	6.500	2.813	18.60	115.80
HW DRILL PIPE, 5"	5.000	3.000	110.28	226.08
DP 5"	5.000	4.280	1050.00	1276.08
X-O 4 1/2" IF - 5 1/2" FH	6.500	1.750	1.00	1277.08
DP 5 1/2"	5.500	4.780		1277.08

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**WELLBORE:** NO 15/5-7 AT2

**BHA NO:** 1

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Powerdrive BHA

**BHA NAME:** 9

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
HCM406ZX~8 1/2"	8.500	2.250	0.25	0.25
POWERDRIVE X5 675	6.900	3.000	8.69	8.94
ECOSCOPE	6.500	2.810	0.43	9.37
TELESCOPE 675	6.750	5.110	9.04	18.41
NM STRING STAB	6.750	2.810	1.45	19.86
NM DRILL COLLAR	6.750	3.000	18.76	38.62
DRILL COLLAR	6.500	2.813	47.10	85.72
JAR	6.500	2.750	9.69	95.41
DRILL COLLAR	6.500	2.813	18.60	114.01
HW DRILL PIPE, 5"	5.000	3.000	110.25	224.26

**BHA NO:** 3

**BHA KIND:**

**DESCRIPTION:** 8 1/2" Xceed BHA

**BHA NAME:** 10

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
HCM406ZX-8 1/2"	8.500	2.250	0.30	0.30
POWERDRIVE XCEED	6.900	3.000	7.61	7.91
ECOSCOPE	6.500	2.810	8.02	15.93
TELESCOPE 675	6.750	5.110	9.04	24.97
NM STRING STAB	6.750	2.810	1.45	26.42
NM DRILL COLLAR	6.750	3.000	18.76	45.18
DRILL COLLAR	6.500	2.813	47.10	92.28
JAR	6.500	2.750	9.69	101.97
DRILL COLLAR	6.500	2.813	18.60	120.57
HW DRILL PIPE, 5"	5.000	3.000	110.25	230.82

**BHA NO:** 4

**BHA KIND:**

**DESCRIPTION:** 8 1/2" wiper BHA

**BHA NAME:** 11

<b>String component</b>	<b>OD in</b>	<b>ID in</b>	<b>Length m</b>	<b>Acc length m</b>
HCM406ZX-8 1/2"	8.500		0.30	0.30
NEAR BIT STAB	8.375		2.36	2.66
X-OVER	7.312		0.92	3.58
TELESCOPE 675	6.750	2.810	7.97	11.55
IN LINE STAB (ILS)	8.250	2.810	1.21	12.76
ARC 675	6.750		5.61	18.37
X-OVER	6.750		0.64	19.01
NM STRING STAB	8.125		1.45	20.46
NM DRILL COLLAR	6.750	2.810	18.76	39.22
DRILL COL	6.500	2.810	47.10	86.32
JAR	6.500	2.750	9.64	95.96
DRILL COL	6.500	2.810	18.60	114.56
HW DRILL PIPE, 5"	5.000	3.000	110.25	224.81

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Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**BHA NO: 5**

**BHA KIND:**

**DESCRIPTION:** 3 1/2" Cement stinger

**BHA NAME:** 12

String component	OD in	ID in	Length m	Acc length m
BULL NOSE	3.500		5.61	5.61
DP 3 1/2"	3.500		404.30	409.91
DP 5"	5.000		1304.90	1714.81

**BHA NO: 6**

**BHA KIND:**

**DESCRIPTION:** 13 3/8" Casing Spear

**BHA NAME:** 14

String component	OD in	ID in	Length m	Acc length m
PACK OFF TOOL FOR 13 3/8" CSG	12.188		1.35	1.35
SPEAR	8.188		1.31	2.66
SPEAR STOP SUB	14.500		0.80	3.46
BUMPER SUB	8.000		2.28	5.74

**BHA NO: 7**

**BHA KIND:**

**DESCRIPTION:** 13 3/8" Casing Cutting Assy

**BHA NAME:** 13

String component	OD in	ID in	Length m	Acc length m
PIPE CUTTER	7.875		2.64	2.64
FLOAT SUB	8.000		0.93	3.57
X-OVER	8.000		0.45	4.02
DRILL PIPE	5.000		555.44	559.46
X-OVER	7.750		0.44	559.90
MARINE SWIVEL	13.750		1.74	561.64
X-OVER	8.063		0.91	562.55
DRILL PIPE	5.000		5.00	567.55
ANNULAR SWIVEL	6.500		4.88	572.43

**BHA NO: 8**

**BHA KIND:**

**DESCRIPTION:** 5" Cement Stinger

**BHA NAME:** 15

String component	OD in	ID in	Length m	Acc length m
DRILL PIPE	5.000			

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Dagny, PL048**

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Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**DESCRIPTION:** 8 1/2" Motor Kick Off BHA

**BHA NAME:** 8

String component	OD in	ID in	Length m	Acc length m
GF15PS~8 1/2"	8.500	2.250	0.25	0.25
POWERPAK A700	7.000	5.500	7.84	8.09
X-O 5 1/2" FH - 4 1/2" IF	6.500	2.810	0.43	8.52
TELESCOPE 675	6.750	5.110	9.09	17.61
NM STRING STAB	6.750	2.810	1.45	19.06
NM DRILL COLLAR	6.750	3.000	18.76	37.82
DRILL COLLAR	6.500	2.813	47.10	84.92
JAR	6.500	2.750	9.69	94.61
DRILL COLLAR	6.500	2.813	18.60	113.21
HW DRILL PIPE, 5"	5.000	3.000	110.25	223.46

**BHA NO:** 10

**BHA KIND:**

**DESCRIPTION:** 5" Cement stinger

**BHA NAME:** 16

String component	OD in	ID in	Length m	Acc length m
DIVERTING SUB	5.000		2.00	2.00

**BHA NO:** 11

**BHA KIND:**

**DESCRIPTION:** 20" x 30" WH Cutting Assembly

**BHA NAME:** 17

String component	OD in	ID in	Length m	Acc length m
PIPE CUTTER	11.750		2.99	2.99
NON ROTATING STAB	17.500		1.88	4.87
SPEAR W/GRAPPLE	17.625		2.43	7.30
BUMPER SUB	8.000		1.51	8.81
DRILL COLLAR 8 1/4"	8.250		123.00	131.81

**BHA NO:** 12

**BHA KIND:**

**DESCRIPTION:** 20" x 30" WH Cutting Assembly

**BHA NAME:** 18

String component	OD in	ID in	Length m	Acc length m
PIPE CUTTER	11.750		2.99	2.99
NON ROTATING STAB	17.500		1.88	4.87
SPEAR W/GRAPPLE	17.625		2.43	7.30
BUMPER SUB	8.000		2.00	9.30
DRILL COLLAR 8 1/4"	8.250		123.00	132.30

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Dagny, PL048**

**Restricted**  
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Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**6.9 Drilling fluids**

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
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Nr.005

**StatoilHydro**

Date 08-08-2008

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HOLE		CASING		MUD TYPE	MW [SG]	LGS [kg/m³]	10 sec. [Pa]	10 min. [Pa]	Funnel Visc. 3 rpm	O / W ratio	PV [mPa]	API FL [m]	HTHP FL [m]	MBT [KG/m³]	pH	KCl [KG/m³]	Glyc. [%]	Ca ++ [mg/l]	Sulphate [mg/l]	Usage Volume [m³]	
SIZE	TVD MD	SIZE	TVD MD																		
<b>36"</b>	195 195	<b>30"</b>	195 195	Bent/CMC	Sweeps 1.5				100+ Sec							>9 >9			205		
				COMMENTS: Drill the section with seawater and Bentonite hivis pills. Displace open hole to 1,50 sg Bentonite mud. Used Glydril mud or other wbm may be used.																	
<b>9 7/8"</b> Pilot hole	1100 1100	<b>N/A</b>		Bent/CMC	SW																
				COMMENTS:																	
<b>26"</b>	1100 1100	<b>20"</b>	1090 1090	Bent/CMC	SW Seeps 1.30		> 5		100+ Sec	6-10			< 6			>9 8-9	100-160	3-4		2105	
				COMMENTS: Drill the section with seawater and Bentonite hivis pills down to below Utsira, use Glydril pills further to TD. Displacement mud for 26" section will be used wbm if available. The last 100 m of the hole must be left with inhibited wbm like Glydril. The estimated volume includes backup displacement volume. MW: 1.30sg																	
<b>17 1/2"</b>	2800 2800	<b>13 3/8"</b>	2793 2793	Glydril	1.35	< 175	>= 5	<= 25		10-14		alap	2-4		< 75	8-9	160-190	3.5-4.5	< 1000	alap	1251
				COMMENTS: Pretreat Glydril mud with citric acid and sodium bicarbonate prior to displacement. Ensure that the mud are within specification prior to drilling any new formation. Start out with +/- 160 kg/m³ KCl and increase to 180-190 kg/m³ before entering green clay. Avoid seawater contamination to keep sulphate level as low as possible. CaCO3 M and G-Seal will be added to improve filter cake and prevent loss to formation.																	
<b>8 1/2"</b>	4081 4100	<b>OH</b>		Glydril	1.46	< 175	>= 5	<= 25		8-12		alap	< 2		< 60	8-9	150-160	3.5-4.5	< 1000	alap	612
				COMMENTS: Pretreat Glydril mud with citric acid and sodium bicarbonate prior to drill out cement and casing shoe. Ensure that the mud are within specification prior to drilling any new formation. Keep the KCl concentration at 150-160 kg/m³. Avoid seawater contamination to keep sulphate level as low as possible. CaCO3 M and G-Seal will be added to improve filter cake and prevent loss to formation.																	
<b>8 1/2"</b>	4081 4200	<b>OH</b>		Glydril	1.46	< 200	>= 5	<= 20		8-12	75/25 80/20	alap		< 2				110000 135000	alap	487	
				COMMENTS: Keep focus on shearing of mud before displacement and while drilling. Reduce HTHP to < 2 prior to entering the reservoir. CaCl2 conc to be evaluated after cuttings quality. Avoid seawater contamination to keep sulphate level as low as possible and to avoid expensive treatments of the mud system. CaCO3 M and G-Seal will be added to improve filter cake and prevent loss to formation.																	

## 6.10 Cementing operations

### 6.10.1 Casing/Liner cementing

**WELLBORE ID:** NO 15/5-7

**CASING SIZE:** 30"

**STAGE CEMENTING:** 1

**REPORT DATE:** 05.Jul.2008

**THEORETICAL TOC:** 145 mMD

**EVALUATED TOC:** 145 mMD

Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Lead	Cement Slurry Non Standard	1.56	18.8	1000	25	F	B143 Liquid Antifoam	0.20	l/100kg	0.94	
							D75 Silicate Additive	3.60	l/100kg	1.40	
							Norwell "G"	14.40	kg/100kg	3.22	
							Seawater	95.81	l/100kg	1.03	
Tail	Cement Slurry Non Standard	1.95	19.0	800	40	F	B143 Liquid Antifoam	0.20	l/100kg	0.94	
							D77 Liquid Accelerator	2.00	l/100kg	1.40	
							Norwell "G"	25.60	kg/100kg	3.22	
							Seawater	41.25	l/100kg	1.03	
Displacement	Sea Water	1.03	4.1	800	20	F	Seawater	4.10	l/m <sup>3</sup>	1.03	

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**CASING SIZE: 20"**

**STAGE CEMENTING: 1**

**REPORT DATE: 09.Jul.2008**

**THEORETICAL TOC: 145.5 mMD**

**REMARKS:** Length of tail, app 180 m

Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Sea Water	1.03	5.0	1000	10	N	Seawater	5.00	l/100kg	1.03	
Lead	Cement Slurry Non Standard	1.56	252.0	1250	20	N	B143 Liquid Antifoam	0.30	l/100kg	0.94	
							D75 Silicate Additive	3.60	l/100kg	1.40	
							D81 Liquid Retarder	0.30	l/100kg	1.25	
							Norwell "G"	192.50	kg/100kg	3.22	
							Seawater	95.63	l/100kg	1.03	
Tail	Cement Slurry Non Standard	1.90	67.0	750	20	N	B143 Liquid Antifoam	0.10	l/100kg	0.94	
							B213 Dispersant	0.80	l/100kg	1.18	
							D81 Liquid Retarder	0.10	l/100kg	1.25	
							Freshwater	42.70	l/100kg	1.00	
							Norwell "G"	89.48	kg/100kg	3.22	
Spacer after	Sea Water	1.03	1.6	1000	20	N	Seawater	1.59	l/100kg	1.03	

**CASING SIZE: 13 3/8"**

**STAGE CEMENTING: 1**

**REPORT DATE: 17.Jul.2008**

**THEORETICAL TOC: 2257 mMD**

Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	14.0				B143 Liquid Antifoam	2.00	l/m <sup>3</sup>	0.94	
							B174 Viscosifier for MUDPUSH II spacer	2.36	l/m <sup>3</sup>	1.50	
							D31 BARITE	912.50	kg/m <sup>3</sup>	4.23	
Lead	Cement Slurry Non Standard	1.90	29.0	750	20	F	B143 Liquid Antifoam	0.20	l/100kg	0.94	

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Dagny, PL048**

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Nr.005

Date 08-08-2008

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Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
							B165 Environmental Friendly Dispersant	1.10	l/100kg	1.10	
							D193 Fluid Loss Control Additive	3.50	l/100kg	1.00	
							D81 Liquid Retarder	0.20	l/100kg	1.25	

### 6.10.2 Plugging

**WELLBORE ID:** NO 15/5-7

**REPORT DATE:** 03.Sep.2008

**PLUG NO:** 1

**TOP DEPTH:** 3770

**BOTTOM DEPTH:** 3894

**CASING SIZE:**

**HOLE DIAMETER:** 8 1/2"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** P and A plug number 1. 1.90 sg slurry

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	5.5	700	20		B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	1.97	kg/m3	1.50	Y
							D31 BARITE	912.60	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	
Slurry	Cement Slurry Non Standard	1.90	11.0	700	45		B143 Antifoam	0.20	l/100kg		Y
							B165 Environmental Friendly Dispersant	2.70	l/100kg	1.10	Y
							B18 Antisedimentation Agent	10.00	l/100kg	1.40	Y

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**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

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Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
							D193 Fluid Loss Control Additive	5.00	l/100kg	1.00	Y
							D66 Silica Flour	35.00	kg/100kg	2.60	
							D75 Silicate Additive	0.30	l/100kg	1.40	Y
							D77 Liquid Accelerator	1.00	l/100kg	1.40	Y
							Freshwater	42.27	l/100kg	1.00	
Spacer after	Spacer Non Standard	1.70	2.1	700	20		B143 Antifoam	2.00	l/m3		Y
							B174 Viscosifier for MUDPUSH II spacer	1.97	kg/m3	1.50	Y
							D31 BARITE	912.60	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	
Displacement	Water based mud	1.46	33.7								

**PLUG NO: 2**

**TOP DEPTH: 3520**

**BOTTOM DEPTH: 3770**

**CASING SIZE: 13 3/8"**

**HOLE DIAMETER: 8 1/2"**

**CEMENTING TYPE: OPEN HOLE**

**REMARKS:** P and A plug nimber 2. 1,90 sg slurry

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Fresh Water	1.00	3.2	700	45						
Slurry	Cement Slurry Non Standard	1.90	11.0	700	45		B143 Liquid Antifoam	0.20	l/100kg	0.94	Y
							B165 Environmental Friendly Dispersant	2.70	l/100kg	1.10	Y
							B18 Antisedimentation Agent	10.00	l/100kg	1.40	Y
							D193 Fluid Loss Control Additive	5.00	l/100kg	1.00	Y
							D66 Silica Flour	35.00	kg/100kg	2.60	

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Dagny, PL048**

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Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
							D75 Silicate Additive	0.30	l/100kg	1.40	Y
							D77 Liquid Accelerator	1.00	l/100kg	1.40	Y
							Freshwater	42.27	l/100kg	1.00	
Spacer after Displacement	Fresh Water	1.00	1.2	700	20						
	Water based mud	1.46	33.3								

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Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO:** 3

**TOP DEPTH:** 3270

**BOTTOM DEPTH:** 3520

**CASING SIZE:** 13 3/8"

**HOLE DIAMETER:** 8 1/2"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** P and A plug number 3. 1,90 sg slurry

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Fresh Water	1.00	3.2	700	45						
Slurry	Cement Slurry Non Standard	1.90	11.0	700	45		B143 Antifoam	0.20	l/100kg		Y
							B165 Environmental Friendly Dispersant	2.70	l/100kg	1.10	Y
							B18 Antisedimentation Agent	10.00	l/100kg	1.40	Y
							D193 Fluid Loss Control Additive	5.00	l/100kg	1.00	Y
							D66 Silica Flour	35.00	kg/100kg	2.60	
							D75 Silicate Additive	0.30	l/100kg	1.40	Y
							D77 Liquid Accelerator	1.00	l/100kg	1.40	Y
							Freshwater	42.27	l/100kg	1.00	
Spacer after	Fresh Water	1.00	1.2	700	20						
Displacement	Water based mud	1.46	30.5								

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Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO: 4**

**TOP DEPTH:** 3070

**BOTTOM DEPTH:** 3270

**CASING SIZE:** 13 3/8"

**HOLE DIAMETER:** 8 1/2"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** Kick Off Plug. 2.05 sg slurry

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	5.5	700	45		B143 Antifoam	2.00	l/m3		Y
							B174 Viscosifier for MUDPUSH II spacer	1.97	kg/m3	1.50	Y
							D31 BARITE	912.60	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	
Slurry	Cement Slurry Non Standard	2.05	13.5	700	45		B143 Antifoam	0.20	l/100kg		Y
							B165 Environmental Friendly Dispersant	1.40	l/100kg	1.10	Y
							D75 Silicate Additive	0.30	l/100kg	1.40	Y
							D81 Liquid Retarder	0.20	l/100kg	1.25	Y
							Freshwater	32.55	l/100kg	1.00	
Spacer after	Spacer Non Standard	1.70	2.1	700	20		B143 Antifoam	2.00	l/100kg		Y
							B174 Viscosifier for MUDPUSH II spacer	1.97	kg/m3	1.50	Y
							D31 BARITE	912.60	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	
Displacement	Water based mud	1.46	26.8								

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**WELLBORE ID:** NO 15/5-7 AT2

**REPORT DATE:** 07.Oct.2008

**PLUG NO:** 1

**TOP DEPTH:** 3830

**BOTTOM DEPTH:** 4150

**CASING SIZE:**

**HOLE DIAMETER:** 8 1/2"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** Job went according to plan

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	5.0	1500							
Slurry	Cement Slurry Non Standard	1.90	16.5	750	15						
Spacer after	Spacer Non Standard	1.70	1.9	1500			B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.14	kg/m3	1.50	Y
							BARITE	921.14	kg/m3		Y
							Freshwater	714.00	l/m3	1.00	Y
							U66 Mutual Solvent	70.00	l/m3	0.90	Y
Displacement	Oil Based Mud	1.46	35.2	1500							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO: 2**

**TOP DEPTH: 3460**

**BOTTOM DEPTH: 3830**

**CASING SIZE:**

**HOLE DIAMETER: 8 1/2"**

**CEMENTING TYPE: OPEN HOLE**

**REMARKS:** Job went according to plan

Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Fresh Water	1.00	3.2	1000							
Slurry	Cement Slurry Non Standard	1.90	16.5	750	30		B143 Liquid Antifoam	0.20	l/100kg	0.94	
							B165 Environmental Friendly Dispersant	2.70	l/100kg	1.10	
							B18 Antisedimentation Agent	10.00	l/100kg	1.40	
							D193 Fluid Loss Control Additive	5.00	l/100kg	1.00	
							D66 Silica Flour	35.00	kg/100kg	2.60	
							D75 Silicate Additive	0.30	l/100kg	1.40	
							D77 Liquid Accelerator	1.00	l/100kg	1.40	
							Freshwater	42.27	l/100kg	1.00	
Spacer after	Fresh Water	1.00	1.2	1000							
Displacement	Oil Based Mud	1.46	32.0	1500							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO:** 3

**TOP DEPTH:** 3090

**BOTTOM DEPTH:** 3460

**CASING SIZE:**

**HOLE DIAMETER:** 8 1/2"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** Job went accordign to plan

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Fresh Water	1.00	3.2	1000							
Slurry	Cement Slurry Non Standard	1.90	16.5	750	30		B143 Liquid Antifoam	0.20	1/100kg	0.94	
							B165 Environmental Friendly Dispersant	2.70	1/100kg	1.10	
							B18 Antisedimentation Agent	10.00	1/100kg	1.40	
							D193 Fluid Loss Control Additive	5.00	1/100kg	1.00	
							D66 Silica Flour	35.00	kg/100kg	2.60	
							D75 Silicate Additive	0.30	1/100kg	1.40	
							D77 Liquid Accelerator	1.00	1/100kg	1.40	
							Freshwater	42.27	1/100kg	1.00	
Spacer after	Fresh Water	1.00	1.2	1000							
Displacement	Oil Based Mud	1.46	30.4	1500							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO:** 4

**TOP DEPTH:** 2720

**BOTTOM DEPTH:** 3090

**CASING SIZE:**

**HOLE DIAMETER:** 12 1/4"

**CEMENTING TYPE:** OPEN HOLE

**REMARKS:** Job went according to plan.

Fluids pumped	Type	Density SG	Volume m <sup>3</sup>	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Fresh Water	1.00	6.4	1000							
Slurry	Cement Slurry Non Standard	1.90	24.0	750	30		B143 Liquid Antifoam	0.10	1/100kg	0.94	
							B165 Environmental Friendly Dispersant	1.20	1/100kg	1.10	
							D75 Silicate Additive	0.30	1/100kg	1.40	
							Freshwater	43.89	1/100kg	1.00	
Spacer after	Fresh Water	1.00	0.9	1000							
Displacement	Oil Based Mud	1.46	24.0	1500							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**PLUG NO: 5**

**TOP DEPTH:** 2500

**BOTTOM DEPTH:** 2720

**CASING SIZE:** 13 3/8"

**HOLE DIAMETER:** 12 1/4"

**CEMENTING TYPE:** OPEN HOLE/CSG

**REMARKS:** Job went according to plan

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	11.0	1500			B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.14	kg/m3	1.50	Y
							BARITE	921.40	kg/m3		Y
							Freshwater	714.00	l/m3	1.00	Y
							U66 Mutual Solvent	70.00	l/m3	0.90	Y
Slurry	Cement Slurry Non Standard	1.90	24.0	750	15		B143 Liquid Antifoam	0.10	l/100kg	0.94	
							B165 Environmental Friendly Dispersant	1.20	l/100kg	1.10	
							D75 Silicate Additive	0.30	l/100kg	1.40	
							Freshwater	43.89	l/100kg	1.00	
Spacer after	Spacer Non Standard	1.70	1.6	1500			B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.14	kg/m3	1.50	Y
							BARITE	921.40	kg/m3		Y
							Freshwater	714.00	l/m3	1.00	Y
							U66 Mutual Solvent	70.00	l/m3	0.90	Y
Displacement	Oil Based Mud	1.46	20.0	1500							

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**REPORT DATE:** 10.Oct.2008

**PLUG NO:** 6

**TOP DEPTH:** 400

**BOTTOM DEPTH:** 600

**CASING SIZE:** 20"

**HOLE DIAMETER:** 26"

**CEMENTING TYPE:** CASING

**REMARKS:** Job went according to plan. 5 tons tagging

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer Non Standard	1.70	25.0	2000			B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.36	kg/m3	1.50	Y
							BARITE	912.50	kg/m3		Y
							Freshwater	786.00	l/m3	1.00	Y
Slurry	Cement Slurry Non Standard	1.95	36.0	750	10		B143 Antifoam	0.10	l/100kg		
							D77 Liquid Accelerator	1.00	l/100kg	1.40	
							Norwell "G"	1300.00	kg/m3	3.22	
Spacer after	Spacer Non Standard	1.70	1.6	900			B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.36	kg/m3	1.50	Y
							BARITE	912.50	kg/m3		Y
							Freshwater	786.00	l/m3	1.00	Y

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**REPORT DATE:** 11.Oct.2008

**PLUG NO:** 7

**TOP DEPTH:** 200

**BOTTOM DEPTH:** 400

**CASING SIZE:** 20"

**HOLE DIAMETER:** 24"

**CEMENTING TYPE:** CASING

**REMARKS:** Job went as planned. 5 tons tagging

Fluids pumped	Type	Density SG	Volume m3	Pump Rate l/min	Pump Press bar	Return	Component	Quantity	Unit	Density SG	Premixed in mixwater
Spacer before	Spacer WSWBM	1.70	14.0	700	10		B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.36	kg/m3	1.50	Y
							D31 BARITE	912.50	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	Y
Slurry	Cement Slurry Non Standard	1.95	36.0	700	10		B143 Liquid Antifoam	1.00	l/100kg	0.94	
							D77 Liquid Accelerator	10.00	l/100kg	1.40	
							Seawater	41.98	l/100kg	1.03	
Spacer after	Spacer WSWBM	1.70	0.7	700	10		B143 Liquid Antifoam	2.00	l/m3	0.94	Y
							B174 Viscosifier for MUDPUSH II spacer	2.36	kg/m3	1.50	Y
							D31 BARITE	912.17	kg/m3	4.23	Y
							Freshwater	786.00	l/m3	1.00	Y
Displacement	Sea Water	1.03	0.5	700	10						

## App A Operational listing

**WELLBORE ID:** NO 15/5-7

**INTERVAL:** MOVE

**START TIME:** 01.Jul.2008 21:00

**END TIME:** 03.Jul.2008 19:00

<b>Report date</b>	<b>Description</b>
02.Jul.2008	Commenced rig transit from 32/2-1 TROW to new location 15/5-7 Dagny
03.Jul.2008	Continued rig transit from 32/2-1 TROW to 15/5-7 Dagny. Arrived location at 03:00. Ran anchor #4 and #8.

**INTERVAL:** 36"

**START TIME:** 04.Jul.2008 03:00

**END TIME:** 05.Jul.2008 13:00

<b>Report date</b>	<b>Description</b>
04.Jul.2008	Continued to run and set anchors. Tension tested all anchors to 240 ton. Positioned rig. Meanwhile ballast rig to drilling draught. Re-arranged and racked back cement stand and drilling stand. Made up 36" BHA. Tagged seabed and spudded well 15/5-7 at 02:55 hr at 145.5 m RKB. Drilled 36" hole from 145.5 to 162 m. Performed check surveys as required.
05.Jul.2008	Drilled 36" hole to 198.1 m (TD). Verified by MWD surveys < 1 deg inclination. Pumped high visc pills as required. Displaced open hole to 1.30 sg mud. Performed wiper trip. Pulled out of hole with 36" BHA. Rigged up and ran 30" conductor with glas fiber inner stinger. Made up to PGB and ran to conductor to 194 m giving it 2 m stick up. Cemented same. Pulled out of hole with 30" running tool. Laid down same. Laid down glas fiber stinger. Laid down cement stand. Laid down 36" BHA. Picked up and made up 26" BHA.

**INTERVAL:** 26"

**START TIME:** 05.Jul.2008 13:00

**END TIME:** 11.Jul.2008 17:30

<b>Report date</b>	<b>Description</b>
06.Jul.2008	Made up 26" drilling BHA. Performed planned rigmaintenance. Ran in hole and tagged cement at 189 m. Drilled out cement in 30" shoe. Drilled and cleaned out rathole. Continued to drill 26" hole from 198 to 785 m.
07.Jul.2008	Drilled 26" hole from 785 to 1045 m (TD). Circulated hole clean. Performed wipertrip to 30" conductor shoe. Worked and reamed tight areas. Displaced 26" hole to 1.30 sg FormPro mud. Pulled out of hole with 26" BHA from 1045 to 467 m.
08.Jul.2008	Pulled out of hole with 26" BHA. Racked back and laid down 26" BHA. Made up cement stand, racked back. Rigged up casing handling equipment and ran 20" casing. Picked up 18 3/4" WH.
09.Jul.2008	Made up 18 3/4" WH to 20" casing. Run 20" casing on 5" HWDP. Landed 18 3/4" WH in 30" housing. Cemented 20" casing in place. Released running tool and pulled to surface. Laid down cement head. Rigged up and ran BOP.
10.Jul.2008	Continued to run BOP and Riser. Installed slip joint, landed BOP, tested connector and laid down landing joint. Installed diverter and rigged down riser equipment. Picked up 5,5" drill pipe.
11.Jul.2008	Picked up 5.5" drill pipe and racked back stands in derrick. Displaced the well to 1.20 sg mud. Function tested the BOP. Pulled out of the hole and racked the 5.5" drill pipe in derrick. Pressure tested IBOP. Made up 17 1/2" BHA and ran in hole to 533 m while picking up 5.5" drill pipe. Performed planned maintance.

**INTERVAL:** 17 1/2"

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Dagny, PL048**

**Restricted**  
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Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**START TIME:** 11.Jul.2008 17:30

**END TIME:** 24.Jul.2008 05:30

<b>Report date</b>	<b>Description</b>
12.Jul.2008	Ran in hole with 17 1/2" bottom hole assembly while picking up 5.5" drill pipe. Performed choke drill. Drilled out shoe track and cleaned rathole. Drilled 3 m new formation and performed LOT to 1,92 sg (estimated LOT:1,52 sg). Drilled 17 1/2" hole from 1048 m to 1450 m.
13.Jul.2008	Drilled 17 1/2" section from 1450 m to 1894 m. Circulated hole clean and increased mud weight to 1,25 sg. Continued to drill 17 1/2" hole from 1894 m to 2228 m.
14.Jul.2008	Drilled 17 1/2" hole from 2228 m to 2652 m.
15.Jul.2008	Circulated hole clean while increasing the mud weight to 1.35 sg. Flow checked and pulled out of hole to 1682 m.
16.Jul.2008	Pulled out of hole with the 17 1/2" bottomhole assembly. Made up and racked back cement stand. Retrieved bore protector. Cut and slip. Rigged up and ran casing to 287 m.
17.Jul.2008	Ran 13 3/8" casing from 287 to 2595 m.
18.Jul.2008	Circulated bottom up prior to cementing. Cemented 13 3/8" casing and tested same to 360 bar. Set and tested seal assembly. Pulled out of hole with 13 3/8" casing running tool. Ran in hole and attempted to set 13 3/8" wear bushing. Nogo. Washed wellhead area and attempted to set wear bushing. Nogo. Ran in hole with diverter sub and washed wellhead. Set wear bushing OK. Laid down 13 3/8" cement head and 17 1/2" drilling BHA.
19.Jul.2008	Performed planned maintenance stop. Laid down 12 x 5 1/2" HWDP to deck. Picked up and made up 12 1/4" motor drilling BHA. Tested shear ram. Shear ram test failed. Trouble shoted and verified problems with shear ram. Ran in hole and installed DLT packer @ 505 m. Tested same to 175 bar. Pulled out of hole. Displaced riser to seawater. Rigged up riser equipment. Collapsed slip joint and disconnected BOP from wellhead. Retrieved guide wires and pulled rig of location. Rigged down pod hose saddles.
20.Jul.2008	Rigged down pod hose saddles and laid down BOP landing joint. Rigged down and secured choke/kill/booster lines. Laid down slip joint. Pulled BOP/riser. Landed BOP on carrier and secured same. Laid down dual riser joint. Repaired BOP shear ram.
21.Jul.2008	Repaired BOP shear ram. Meanwhile: Performed general rig maintenance.
22.Jul.2008	Verified poslock on shear ram after ram block change. Changed dump valve on shear ram booster kit. Tested shear ram, middle pipe ram and fail-safe valves OK. Lower pipe ram failed test. Opened lower pipe ram and changed seals on lower pipe ram blocks. Installed lower pipe ram blocks and torqued up door flanges. Tested lower pipe ram, upper pipe ram, lower annular and upper annular OK. Meanwhile: Performed general rig maintenance.
23.Jul.2008	Function tested BOP after repair. Tested BOP fail-safe valves from above. Skidded BOP to moonpool center. Ran BOP/riser to 10 m above seafloor. Picked up and made up slip joint and landing joint. Hooked up choke/kill/booster lines to slip joint and rigged up pod hose saddles. Connected support ring to slip joint and moved rig to well center. Landed BOP on wellhead. Laid down landing joint and extended slip joint. Tested wellhead connector to 35 bar. Installed diverter body and rigged down riser handling equipment.

**INTERVAL:** 8 1/2"

**START TIME:** 24.Jul.2008 05:30

**END TIME:** 01.Sep.2008 11:30

<b>Report date</b>	<b>Description</b>
24.Jul.2008	Continued rigging down riser handling equipment. Displaced riser to water based mud. Made up 12 1/4" motor drilling BHA and ran in hole to 2629 m. Function tested BOP and performed choke drill. Drilled shoe track and cleaned rathole. Drilled 3 m of new formation. Circulated hole clean. Performed FIT.
25.Jul.2008	Drilled 12 1/4" hole with motor drilling BHA from 2670 to 2871 m. Circulated hole clean. Pulled out of hole with 12 1/4" motor drilling BHA to change to 8 1/2" rotary drilling BHA.
26.Jul.2008	Made up and ran in hole with 8 1/2" rotary drilling BHA. Drilled 8 1/2" hole from 2871 m to 2947 m.
27.Jul.2008	Continued drilling 8 1/2" hole with rotary drilling BHA from 2947 to 3032 m. Troubleshooted bearing failure on top drive quill shaft. Circulated hole clean. Pulled out of hole to change bearings on top drive.
28.Jul.2008	Continued repairing top drive (failure on quill shaft bearings).
29.Jul.2008	Repaired top drive (quill shaft bearing failure).
30.Jul.2008	Repaired top drive (quill shaft bearing failure).
31.Jul.2008	Repaired top drive.
01.Aug.2008	Repaired top drive system. Re-assembled top drive.

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

<b>Report date</b>	<b>Description</b>
02.Aug.2008	Continued to re-assemble top drive.
03.Aug.2008	Continued to re-assemble top drive.
04.Aug.2008	Completed re-assemble and commissioning of top drive. Laid down 8 1/2" BHA from derrick to deck. Picked up new 8 1/2" BHA from deck and ran in hole.
05.Aug.2008	Continued to run in hole with 8 1/2" BHA. Function tested BOP. Ran in hole to 13 3/8" casing shoe with 8 1/2" BHA. Trouble shoted problem with top drive blower. Ran in open hole and tagged TD at 3032m. Continue to drill 8 1/2" hole form 3032m to 3290m.
06.Aug.2008	Continued to drill 8 1/2" hole between 3290m and 3535m.
07.Aug.2008	Continued to drill 8 1/2" hole from 3533m to 3623m. Circulated hole clean. Pulled out of hole with 8 1/2" BHA to 262m. Made up BOP test tool, ran in hole and landed in well head. Pressure tested BOP to 25/360bar for 5/10mins. Pulled out of hole with BOP test tool and laid down t deck. Pulled out of hole and racked back 8 1/2" BHA in the derrick.
08.Aug.2008	Laid down 8 1/2" BHA to deck. Slip and cut drilling line. Carried out maintenance stop. Picked up new 8 1/2" BHA and ran in hole to 3623m. Drilled ahead to 3626m, trouble shoted problems with LWD / Powerdrive real time communications. Continued to drill 8 1/2" hole from 3626m to 3683m.
09.Aug.2008	Continued to drill 8 1/2" hole from 3683m to 3790m. Circulated hole clean and pulled out of hole. Laid down 8 1/2" BHA and picked up new 8 1/2" BHA. Ran in hole with 8 1/2" BHA to 3595m. Washed down and logged open hole from 3595m
10.Aug.2008	Washed down and re-logged open hole section between 3605m to 3790m. Continued to drill 8 1/2" from 3790m to 3819m. Circulated bottoms up for samples. Continued to drill 8 1/2" hole from 3819m to 3826m. Circulated for samples and hole clean. Pulled out of hole from 3826m to 3432m. Worked tight spot. Continued to pull out of hole from 3432m to surface.
11.Aug.2008	Run in hole with core assembly. Repair draw works low clutch. Continue to run in hole with coring assembly to 3826m, circulate bottoms up. Cut core number 1 from 3826m to 3878m.
12.Aug.2008	Circulated bottoms up after coring operations. Pulled out of hole with coring assembly and laid down 6 core barrels to deck. Re-dressed core barrel for run number 2.
13.Aug.2008	Ran in hole with coring assembly number 2. Circulated bottoms up. Carried out coring operations. Cored between 3880m to 3927m. Circulated out gas. Flow checked well and pulled out out of open hole with coring assembly at 3250m
14.Aug.2008	Pulled out of hole with coring assembly#2 from 3250 m to surface. Laid down core#2. Recovered 47 m core. Re-dressed core barrel and ran in hole with core assembly #3 to 2647 m (13 3/8" shoe). Slip and cut drill line.
15.Aug.2008	RIH with core assembly #3 from 2647 m to 3927 m (TD). Dropped ball to close inner barrel. Cut core #3 from 3927 m to 3941,5 m where core head jammed off. POOH with core assembly #3 from 3941,5 m to 386 m.
16.Aug.2008	POOH with core assembly #3 from 386 m to surface. Laid down core #3. Made up and RIH with 8 1/2" drilling BHA. Function tested BOP on way in. Broke circulation and reamed cored interval from 3826 m to 3941 m. Drilled 8 1/2" hole from 3941 m to 4007 m.
17.Aug.2008	Drilled 8 1/2" hole 4007 m to 4016 m when SPP suddenly dropped 60 bars. Simultaneously MWD turbine rotations dropped significant. Tested surface lines to eliminate leakage. Test OK. POOH to locate leakage in string. No leakage identified in drill string nor 8 1/2" drilling BHA. RIH with 8 1/2" drilling BHA to 2309 m. Established circulation every 10th stand to verify pump rate vs rpm on MWD turbine to allow for location of leakage in string.
18.Aug.2008	RIH with 8 1/2" drilling BHA from 2309 m to 3987 m. Reamed down last stands. Worked tight hole from 3987 m to 4006 m. Tagged TD at 4016 m POOH and reamed hole from 3958 m to 4016 m. Drilled 8 1/2" hole from 4016 m to 4037 m. Circulated hole clean.
19.Aug.2008	Circulated hole clean. POOH with 8 1/2" drilling BHA from 4037 m to 3167 m when draw works Elmagco brake failed to operate. Inspected and found outer bearings in poor condition. Mobilized new Elmagco brake from town. Disconnected Elmagco from draw work and fundation. Lifted same to deck. While waiting for new Elmagco to arrive from town performed general rig maintenance.
20.Aug.2008	Waited on new Elmagco (draw work brake) to arrive from town. Meanwhile prepared area for installation of new Elmagco and performed rig maintenance. Supply boat along side rig at 01:00 hrs. Elmagco lifted onboard and started installation.
21.Aug.2008	Installed new Elmagco (draw work brake). POOH with 8 1/2" drilling BHA from 3167 m to 251 m. Installed and RIH with BOP test tool. Landed same in WH and performed BOP test to 360 bars. POOH with BOP test tool. Racked back 8 1/2" drilling BHA. Rigged up WL equipment.
22.Aug.2008	Performed WL run#1 (HRLA-PEX). Performed WL run#2 (FMI-DSI).
23.Aug.2008	POOH with WL toolstring #2 (FMI-DSI). Rigged up and RIH with WL toolstring #3 (MDT-pressure points). Took pressure points as required. POOH with WL toolstring #3 (MDT-pressure points).

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

<b>Report date</b>	<b>Description</b>
24.Aug.2008	POOH and laid down WL toolstring #3 (MDT-pressure points). Rigged up and RIH with WL toolstring #4 (MDT-sampling). Performed MDT-sampling at first sampling station in upper Hugin fm. Moved MDT-toolstring to second sampling station in lower Hugin fm and started MDT sampling.
25.Aug.2008	Performed WL logging, run#4 (MDT-sampling). Filled sample bottles as required. Attempted to POOH. No-go. Attempted to work cable free, no-go. Cut cable and rigged up for fishing operations using "cut and thread" method. Made up overshot to 5" DP and RIH outside wire to 698 m.
26.Aug.2008	Continued "cut and thread" fishing operation. RIH with 5" DP from 698 m to 1335 m. Changed to 5 1/2" DP and RIH to 2639 m (13 3/8" casing shoe). Re-cut cable to tension up WL before entering open hole. Continued to RIH 5 1/2" DP outside WL to 3824 m. Installed circulation sub one stand above fish. Circulation 5 minutes to clean overshot free of debrie. Ran slowly down to engage on fish.
27.Aug.2008	Engaged on fish (WL MDT sampling tool) at 3855 m. POOH with 5 1/2" DP, fish and WL. Performed reverse "cut and thread" method until fish was secured inside casing shoe at 2638 m. Fired off eletrical weakpoint and spooled cable to surface. Continued to POOH with 5 1/2" DP and fish to 1880 m.
28.Aug.2008	Pulled out of hole with wireline fish on DP and laid down same. Slipped and cut drillline. Made up and ran in hole with wiper trip assembly to 4020 m. Circulated bottom up.
29.Aug.2008	Circulated hole clean after wiper trip. Pulled out of hole with 8 1/2" wiper trip assembly. Rigged up wireline equipment. Ran in hole with MDT sampling toolstring on wireline to 3830 m. Cleaned up prior to sampling.
30.Aug.2008	Continued sampling with MDT on wireline. Pulled out of hole with wireline toolstring #5 (MDT). Ran in hole with wireline toolstring #6 (VSP). Recorded seismic data @ 23 stations in interval from 4010 to 2657 m. Pulled out of hole with wireline toolstring #6 (VSP) to 1400 m.
31.Aug.2008	Continued pulling out of hole with wireline toolstring #6 (VSP). Rigged up and ran in hole with wireline toolstring #7 (MDT) to 3830 m. Filled bottles with oil samples and performed mini DST. Pulled out of hole with wireline toostring #7 (MDT). Recovered and laid down sample bottles. Rigged up wireline capstan winch and reconfigured MDT toolstring. Ran in hole with wireline toolstring #8 (MDT) to 170 m, then the cable snapped in the Capstan-winch and the toolstring was lost in hole. Rigged down wireline equipment. Ran in hole with 8 1/2" wiper trip BHA to 400 m.
01.Sep.2008	Continued running in hole with 8 1/2" wiper trip BHA from 400 m to top of fish 3874 m. Worked wire down to 3894 m. Circulated 1.5 bottom up. Pulled out of hole with 8 1/2" wiper trip BHA. Rigged up wireline equipment. Ran in hole with wireline toolstring #8 (MDT) to 3882 m. Performed mini formation build up test.

**INTERVAL: PERM P&A**

**START TIME:** 01.Sep.2008 11:30

**END TIME:** 02.Sep.2008 22:30

<b>Report date</b>	<b>Description</b>
02.Sep.2008	Finished mini formation build up test. Pulled out of hole with wireline toolstring #8 (MDT). Rigged down wireline equipment. Picked up 30 joints 3 1/2" cement stinger from deck. Ran in hole with cement stinger to 3887 m. Circulated 2 x bottom up. Set P&A plug 1 & 2. Circulated out excess cement and spacer.

**INTERVAL: PREPARE SIDETRACK**

**START TIME:** 02.Sep.2008 22:30

**END TIME:** 07.Sep.2008 05:00

<b>Report date</b>	<b>Description</b>
03.Sep.2008	Continued circulating out excess cement/spacer after setting P&A plug 1 & 2. Set P&A plug 3 and kick off plug. Circulated out excess cement/spacer. Pulled out of hole with 3 1/2" cement stinger. Laid down 3 1/2" cement stinger to deck. Rigged down "cut & tread" equipment from derrick. Converted 8 1/2" wiper trip BHA to 8 1/2" motor kick off BHA. Tested BOP and surface equipment.
04.Sep.2008	Continued testing BOP and surface equipment. Repaired top drive torque wrench. Pulled out of hole with BOP test tool and laid down same. Ran in hole to 3034 m with 8 1/2" motor kick off assembly and tagged top of cement. Drilled from 3034 to 3066 to confirm hard cement. Slid and attempted to kick off from 3066 m.
05.Sep.2008	Continued time drilling to kick off from 3109 to 3133 m.

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<b>Report date</b>	<b>Description</b>
06.Sep.2008	Continued time drilling to kick off from 3133 to 3143 m. Slipped & cut drillline. Pulled out of hole with 8 1/2" motor kick off assembly to change bit and motor bend setting. Ran in hole with 8 1/2" motor kick off assembly to 2500 m.

**WELLBORE ID:** NO 15/5-7 AT2

**INTERVAL:** 8 1/2"

**START TIME:** 24.Sep.2008 19:00

**END TIME:** 05.Oct.2008 08:00

<b>Report date</b>	<b>Description</b>
25.Sep.2008	Continued to time drill/kick off from 3337m to 3351m
26.Sep.2008	Continued to drill kick off from 3351m to 3361m. Flow checked well, OK. Pulled out of hole with 8 1/2" BHA to surface. Laid down MWD and mud motor to deck. Prepared new 8 1/2" BHA. Picked up new BHA and ran in hole.
27.Sep.2008	Drilled 8 1/2" hole from 3361m to 3637m. Problems with well trajectory. Circulated hole clean and lubricated out of hole to 3418m Continued to pull out of hole to 1200m
28.Sep.2008	Pulled out of hole with 8 1/2" BHA to 250m. Made up BOP test tool and ran in hole. Unable to pass lower annular with test tool. Pulled out and laid down tool and BHA. Ran in hole and washed BOP area whilst waiting on equipment. Made up new BHA and ran in hole. Washed down last stand and continued to drill ahead from 3637m to 3675m
29.Sep.2008	Continued to drill 8 1/2" hole from 3675m to 4105m.
30.Sep.2008	Continued to drill 8 1/2" hole from 4105m to well TD at 4199m. Observed wash out in drill string. Lubricated and pulled out of hole to 3490m. Continued to pull to surface with 8 1/2" BHA. Checked for wash out when pulling out of hole.
01.Oct.2008	Laid down 8 1/2" drilling BHA. Made up wiper trip BHA and ran in hole to 4160m Washed down and took weight at 4182m. Lubricated above coal area and circulated hole clean. Increased mud weight to 1,46sg. Pulled out of hole, lubricating over Sola formation. Pulled back in to 13 3/8" shoe.
02.Oct.2008	POOH with 8 1/2" wiper BHA from 2775 m 1355 m. Installed BOP test tool and RIH and landed in WH. Pressure tested BOP to 20/360 bar. POOH with BOP test tool and 8 1/2" wiper BHA. LD and RB same. Rigged up WL equipment (CAPSTAN). MU WL toolstring #1, Sonic. RIH and performed WL logging, tool string #1 (Sonic).
03.Oct.2008	Finished WL logging run #1 (Sonic). POOH and LD tools. MU and RIH WL tool string #2 (MDT-pressure points). Performed WL run #2. Took pressure points as required. POOH and LD tools. MU and RIH WL tool string #3 (MDT-sampling).
04.Oct.2008	RIH with WL tool string#3 (MDT-Sampling) to sampling point at 3998 m. Filled 6 x 450 cc sample bottles with formation water. Re-recorded 12 pressure points. POOH and LD WL tool string#3 (MDT-Sampling). MU WL tool string#4 (VSP). RIH to first check shot station. Due to weather conditions, could not lower seismic equipment (air guns) into sea. WOW. Performed logging, run #4 (VSP) as per program.
05.Oct.2008	Finished logging run#4 (VSP). POOH and LD tools. RU and RIH WL tool string #2B (XPT- Pressure point). Took pressure points in lower Hugin formation. POOH and LD tools. RU and RIH WL tool string #4B (VSP single station). Took shots in lower Hugin formation. POOH and LD tool. RD WL equipment (incl. Capstan). Slip and cut drill line. Performed planned rig maintenance.

**INTERVAL:** PERM P&A

**START TIME:** 05.Oct.2008 08:00

**END TIME:** 13.Oct.2008 01:00

<b>Report date</b>	<b>Description</b>
06.Oct.2008	Performed planned rig maintenance. RIH with 3 1/2" cement stinger to 4150 m. Circulated prior to cement operation. Set cement plug #1. Pulled out to above plug #1. Set cement plug #2. Pulled out to above plug #2. Circulated out excess cement. Set cement plug #3.

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<b>Report date</b>	<b>Description</b>
07.Oct.2008	Pulled out to above cement plug #3. Set cement plug #4. Pulled out to above plug #4. Circulated out excess cement. Set cement plug #5. Pulled out to above plug #5. Circulated out excess cement. POOH with 3 1/2" cement stinger. LD excess pipe. LD 8 1/2" BHA.
08.Oct.2008	LD 8 1/2" BHA. RIH with 5 1/2" DP to 800 m. PT cement plug to 140 bar. Good test. Continued to RIH with 5 1/2" DP to 1350 m. POOH and LD DP from 1350 m to 800 m. Displaced well from 1.46 sg OBM to 1.38 sg WBM. POOH and LD 5 1/2" DP from 800 m to surface. MU and RIH with WB pulling tool. Retrieved WB. MU 13 3/8" cutting assembly.
09.Oct.2008	Ran in with 13 3/8" casing cutting assembly. Cut 13 3/8" casing @ 703 m. POOH. Function tested BOP when POOH. Performed dummy run with BOP test tool to verify lower annular open. RIH with 13 3/8" casing spear. Engaged spear and POOH with 13 3/8" casing from 703 to 500 m.
10.Oct.2008	
11.Oct.2008	Broke and laid down 3 1/2" DP to deck. Tested P&A cement plug to 95 bar. RIH with 5" cement stinger. Circulated prior to cementing. Set P&A plug from 395 to 195 m. Circulated out spacer, excess cement and contaminated mud. POOH with 5" cement stinger while laying down 5" DP to deck. Rigged up riser handling equipment. Tested choke/kill lines to 980 bar. Pulled BOP above guide posts. Disconnected kill/choke/booster lines.
12.Oct.2008	Laid down slip joint. Pulled riser/BOP. Secured BOP on carrier and skidded BOP to parking position. Rigged down riser handling equipment. Picked up 20" x 30" WH cutting assembly. Ran in with cutting assembly while picking up DC from deck. Positioned rig and stabbed in. Cut 20" x 30" wellhead. Pulled out due to leakage on cutting assembly bumper sub. Changed bumper sub and RIH with 20" x 30" cutting assembly. Cut 20" x 30" WH.

**INTERVAL: MOVE**

**START TIME:** 13.Oct.2008 01:00

**END TIME:** 14.Oct.2008 13:30

<b>Report date</b>	<b>Description</b>
13.Oct.2008	Cut and retrieved 20" x 30" WH and guide base. Laid down WH and cutting assembly. Broke and laid down 5" DP to deck. Prepared for rig move and deballasted rig.
14.Oct.2008	Continued deballasting rig from survival draft to transit draft. Pulled anchors (6 out of 8 pulled).

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## App B Directional data

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny		
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 26.00m (TO Winner)		
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 26.00m (TO Winner)		
Well:	15/5-7 Primary	North Reference:	Grid		
Wellbore:	15/5-7S Original Hole	Survey Calculation Method:	Minimum Curvature		
Design:	15/5-7S Original Hole	Database:	EDM 2003.16 Single User Db		
<b>Project</b>	EXPLORATION - UTM Zone 31				
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level		
Geo Datum:	European 1950 - Mean		Using Well Reference Point		
Map Zone:	Zone 31N (0 E to 6 E)		Using geodetic scale factor		
<b>Site</b>	15/5-7 Dagny				
Site Position:	Map	Northing:	6,491,566.00 m		
From:		Easting:	421,755.00 m		
Position Uncertainty:	0.00 m	Slot Radius:	in Grid Convergence: -1.15 °		
<b>Well</b>	15/5-7 Primary				
Well Position	+N/S 0.00 m	Northing:	6,491,566.00 m	Latitude:	58° 33' 22.242 N
	+E/W 0.00 m	Easting:	421,755.00 m	Longitude:	1° 38' 19.301 E
Position Uncertainty	2.00 m	Wellhead Depth:	119.00 m	Water Depth:	119.00 m
<b>Wellbore</b>	15/5-7S Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2007	14/09/2007	-2.38	71.70	50,358
<b>Design</b>	15/5-7S Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	145.00
Vertical Section:	Depth From (TVD) (m)	+N/S (m)	+E/W (m)	Direction (°)	
	145.00	0.00	0.00	180.95	
<b>Survey Program</b>	Date	18/09/2008			
From (m)	To (m)	Survey (Wellbore)	Tool Name	Description	
156.04	183.85	15/5-7 Dagny MWD 36" Section (15/5-7S	Magnetic, other	Magnetic Tools (MWD, EMS)	
220.29	1,028.98	15/5-7 Dagny MWD 26" Section (15/5-7S	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
1,094.40	2,628.37	15/5-7 Dagny MWD 17 1/2" Section (15/5-	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
2,676.89	2,821.57	15/5-7 Dagny MWD 12 1/4" Section (15/5-	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)	
2,868.01	4,037.00	15/5-7 Dagny MWD 8 1/2" Section (15/5-7	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	

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Company:	STATOILHYDRO NORWAY			Local Co-ordinate Reference:			Site 15/5-7 Dagny		
Project:	EXPLORATION - UTM Zone 31			TVD Reference:			RKB TO Winner @ 26.00m (TO Winner)		
Site:	15/5-7 Dagny			MD Reference:			RKB TO Winner @ 26.00m (TO Winner)		
Well:	15/5-7 Primary			North Reference:			Grid		
Wellbore:	15/5-7S Original Hole			Survey Calculation Method:			Minimum Curvature		
Design:	15/5-7S Original Hole			Database:			EDM 2003.16 Single User Db		
<b>Survey</b>									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N-S (m)	+E-W (m)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
145.00	0.00	0.00	145.00	0.00	0.00	6,491,566.00	421,755.00	58° 33' 22.242 N	1° 39' 19.303 E
156.04	0.61	150.67	156.04	-0.05	0.03	6,491,565.95	421,755.03	58° 33' 22.240 N	1° 39' 19.303 E
166.99	0.34	206.19	166.99	-0.15	0.05	6,491,565.85	421,755.05	58° 33' 22.237 N	1° 39' 19.304 E
183.85	0.26	102.77	183.85	-0.20	0.06	6,491,565.80	421,755.06	58° 33' 22.236 N	1° 39' 19.305 E
194.00	0.23	118.85	194.00	-0.21	0.10	6,491,565.79	421,755.10	58° 33' 22.235 N	1° 39' 19.307 E
<b>30"</b>									
220.29	0.26	164.67	220.29	-0.29	0.16	6,491,565.71	421,755.16	58° 33' 22.233 N	1° 39' 19.311 E
247.41	0.55	147.44	247.41	-0.46	0.25	6,491,565.54	421,755.25	58° 33' 22.227 N	1° 39' 19.317 E
276.64	0.52	122.19	276.64	-0.65	0.44	6,491,565.35	421,755.44	58° 33' 22.221 N	1° 39' 19.329 E
305.58	0.50	148.39	305.58	-0.83	0.62	6,491,565.17	421,755.62	58° 33' 22.216 N	1° 39' 19.340 E
334.86	0.42	163.45	334.85	-1.04	0.72	6,491,564.96	421,755.72	58° 33' 22.209 N	1° 39' 19.347 E
364.21	0.97	149.29	364.20	-1.35	0.88	6,491,564.65	421,755.88	58° 33' 22.199 N	1° 39' 19.357 E
393.33	0.20	145.66	393.32	-1.61	1.03	6,491,564.39	421,756.03	58° 33' 22.191 N	1° 39' 19.367 E
422.35	0.40	123.57	422.34	-1.71	1.14	6,491,564.29	421,756.14	58° 33' 22.188 N	1° 39' 19.374 E
451.31	0.30	73.98	451.30	-1.74	1.30	6,491,564.26	421,756.30	58° 33' 22.187 N	1° 39' 19.383 E
480.43	0.76	57.07	480.42	-1.61	1.54	6,491,564.39	421,756.54	58° 33' 22.191 N	1° 39' 19.398 E
509.48	0.59	56.30	509.47	-1.43	1.82	6,491,564.57	421,756.82	58° 33' 22.197 N	1° 39' 19.415 E
538.69	0.64	78.75	538.68	-1.31	2.11	6,491,564.69	421,757.11	58° 33' 22.201 N	1° 39' 19.433 E
567.73	0.62	85.03	567.71	-1.27	2.42	6,491,564.73	421,757.42	58° 33' 22.203 N	1° 39' 19.452 E
596.97	0.72	87.74	596.95	-1.25	2.76	6,491,564.75	421,757.78	58° 33' 22.203 N	1° 39' 19.473 E
625.83	0.95	87.33	625.81	-1.23	3.18	6,491,564.77	421,758.18	58° 33' 22.204 N	1° 39' 19.499 E
654.93	1.06	101.19	654.90	-1.27	3.69	6,491,564.73	421,758.69	58° 33' 22.203 N	1° 39' 19.531 E
683.88	0.85	99.18	683.85	-1.35	4.18	6,491,564.65	421,759.16	58° 33' 22.201 N	1° 39' 19.560 E
713.02	1.03	102.72	712.99	-1.45	4.63	6,491,564.55	421,759.63	58° 33' 22.198 N	1° 39' 19.589 E
741.88	1.08	92.72	741.84	-1.52	5.18	6,491,564.48	421,760.16	58° 33' 22.196 N	1° 39' 19.622 E
770.91	1.26	98.93	770.86	-1.58	5.75	6,491,564.42	421,760.74	58° 33' 22.195 N	1° 39' 19.658 E
799.61	1.27	108.70	799.56	-1.73	6.38	6,491,564.27	421,761.36	58° 33' 22.190 N	1° 39' 19.696 E
828.67	1.58	123.42	828.61	-2.05	7.00	6,491,563.95	421,762.00	58° 33' 22.180 N	1° 39' 19.738 E
857.41	0.92	105.13	857.34	-2.33	7.55	6,491,563.87	421,762.55	58° 33' 22.171 N	1° 39' 19.771 E
886.08	0.89	113.22	886.01	-2.48	7.98	6,491,563.52	421,762.98	58° 33' 22.187 N	1° 39' 19.797 E
915.10	0.38	99.84	915.03	-2.50	8.28	6,491,563.42	421,763.28	58° 33' 22.184 N	1° 39' 19.816 E
942.91	1.04	107.61	942.83	-2.68	8.61	6,491,563.32	421,763.81	58° 33' 22.181 N	1° 39' 19.837 E
972.59	0.97	104.36	972.51	-2.82	9.11	6,491,563.18	421,764.11	58° 33' 22.157 N	1° 39' 19.868 E
1,001.71	1.55	95.03	1,001.82	-2.92	9.74	6,491,563.08	421,764.74	58° 33' 22.154 N	1° 39' 19.907 E
1,028.98	1.74	94.24	1,028.88	-2.98	10.52	6,491,563.02	421,765.52	58° 33' 22.152 N	1° 39' 19.955 E
1,039.10	1.52	94.20	1,039.00	-3.00	10.81	6,491,563.00	421,765.81	58° 33' 22.152 N	1° 39' 19.973 E
<b>20"</b>									
1,094.40	0.33	93.18	1,094.29	-3.08	11.70	6,491,562.94	421,766.70	58° 33' 22.150 N	1° 39' 20.028 E
1,123.35	1.40	228.30	1,123.24	-3.30	11.52	6,491,562.70	421,766.52	58° 33' 22.143 N	1° 39' 20.017 E
1,151.14	3.18	231.87	1,151.00	-4.01	10.66	6,491,562.00	421,765.66	58° 33' 22.119 N	1° 39' 19.965 E
1,179.33	4.82	229.72	1,179.12	-5.25	9.14	6,491,560.75	421,764.14	58° 33' 22.078 N	1° 39' 19.873 E
1,208.69	4.93	229.01	1,208.38	-6.88	7.25	6,491,559.12	421,762.25	58° 33' 22.024 N	1° 39' 19.758 E
1,237.73	4.63	230.55	1,237.32	-8.44	5.40	6,491,557.56	421,760.40	58° 33' 21.973 N	1° 39' 19.645 E
1,267.08	4.80	230.24	1,266.57	-9.98	3.54	6,491,556.02	421,758.54	58° 33' 21.922 N	1° 39' 19.532 E
1,296.44	4.87	231.28	1,295.82	-11.55	1.63	6,491,554.46	421,756.63	58° 33' 21.870 N	1° 39' 19.416 E
1,325.78	4.58	229.98	1,325.08	-13.08	-0.24	6,491,552.93	421,754.76	58° 33' 21.819 N	1° 39' 19.302 E
1,354.87	4.61	223.33	1,354.06	-14.68	-1.93	6,491,551.33	421,753.07	58° 33' 21.766 N	1° 39' 19.200 E
1,383.65	4.74	216.71	1,382.74	-16.47	-3.44	6,491,549.54	421,751.56	58° 33' 21.708 N	1° 39' 19.109 E
1,412.55	4.72	210.63	1,411.55	-18.45	-4.76	6,491,547.56	421,750.24	58° 33' 21.643 N	1° 39' 19.030 E
1,441.47	4.68	205.72	1,440.37	-20.54	-5.88	6,491,545.47	421,749.13	58° 33' 21.575 N	1° 39' 18.963 E
1,470.61	4.61	190.26	1,469.41	-22.71	-6.78	6,491,543.29	421,748.22	58° 33' 21.504 N	1° 39' 18.910 E
1,499.80	4.64	191.97	1,498.51	-24.98	-7.41	6,491,541.03	421,747.59	58° 33' 21.430 N	1° 39' 18.874 E
1,528.80	4.62	184.45	1,527.41	-27.29	-7.74	6,491,538.72	421,747.26	58° 33' 21.355 N	1° 39' 18.856 E
1,557.50	4.53	178.14	1,556.02	-29.57	-7.80	6,491,536.44	421,747.21	58° 33' 21.281 N	1° 39' 18.856 E
1,586.54	4.82	174.76	1,584.97	-31.93	-7.65	6,491,534.08	421,747.35	58° 33' 21.205 N	1° 39' 18.866 E

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

Company:	STATOILHYDRO NORWAY		Local Co-ordinate Reference:		Site 15/5-7 Dagny				
Project:	EXPLORATION - UTM Zone 31		TVD Reference:				RKB TO Winner @ 26.00m (TO Winner)		
Site:	15/5-7 Dagny		MD Reference:				RKB TO Winner @ 26.00m (TO Winner)		
Well:	15/5-7 Primary		North Reference:				Grid		
Wellbore:	15/5-7S Original Hole		Survey Calculation Method:				Minimum Curvature		
Design:	15/5-7S Original Hole		Database:				EDM 2003.16 Single User Db		
<b>Survey</b>									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/S (m)	+E/W (m)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
1,615.36	4.74	173.41	1,613.69	-34.32	-7.40	6,491,531.69	421,747.60	58° 33' 21.128 N	1° 39' 18.886 E
1,644.19	4.28	172.25	1,642.43	-36.57	-7.12	6,491,529.44	421,747.88	58° 33' 21.056 N	1° 39' 18.906 E
1,673.91	4.21	172.80	1,672.07	-38.75	-6.83	6,491,527.26	421,748.17	58° 33' 20.985 N	1° 39' 18.927 E
1,703.02	4.31	172.07	1,701.09	-40.90	-6.54	6,491,525.12	421,748.46	58° 33' 20.916 N	1° 39' 18.947 E
1,731.11	4.33	170.40	1,729.10	-42.99	-6.22	6,491,523.03	421,748.78	58° 33' 20.849 N	1° 39' 18.970 E
1,760.28	4.23	167.83	1,758.19	-45.12	-5.81	6,491,520.89	421,749.19	58° 33' 20.780 N	1° 39' 18.998 E
1,789.05	4.26	166.17	1,786.88	-47.20	-5.33	6,491,518.82	421,749.67	58° 33' 20.713 N	1° 39' 19.030 E
1,817.78	4.16	166.17	1,815.54	-49.25	-4.82	6,491,516.77	421,750.18	58° 33' 20.648 N	1° 39' 19.064 E
1,848.96	4.13	164.25	1,844.64	-51.29	-4.29	6,491,514.73	421,750.72	58° 33' 20.582 N	1° 39' 19.099 E
1,876.02	4.21	163.43	1,873.62	-53.32	-3.70	6,491,512.70	421,751.30	58° 33' 20.517 N	1° 39' 19.138 E
1,904.74	4.18	163.34	1,902.27	-55.33	-3.10	6,491,510.69	421,751.90	58° 33' 20.452 N	1° 39' 19.178 E
1,933.81	3.64	163.97	1,931.27	-57.23	-2.54	6,491,508.79	421,752.46	58° 33' 20.391 N	1° 39' 19.215 E
1,962.57	2.77	166.30	1,959.98	-58.78	-2.12	6,491,507.24	421,752.88	58° 33' 20.341 N	1° 39' 19.243 E
1,991.80	1.77	170.68	1,988.99	-59.91	-1.88	6,491,506.11	421,753.12	58° 33' 20.305 N	1° 39' 19.259 E
2,020.87	0.78	174.43	2,018.25	-60.55	-1.79	6,491,505.47	421,753.21	58° 33' 20.284 N	1° 39' 19.265 E
2,049.25	0.10	64.95	2,046.63	-60.73	-1.75	6,491,505.29	421,753.25	58° 33' 20.278 N	1° 39' 19.268 E
2,078.22	0.06	270.12	2,075.60	-60.72	-1.74	6,491,505.30	421,753.28	58° 33' 20.279 N	1° 39' 19.268 E
2,107.33	0.13	53.68	2,104.71	-60.70	-1.73	6,491,505.32	421,753.27	58° 33' 20.279 N	1° 39' 19.269 E
2,136.38	0.08	249.31	2,133.76	-60.69	-1.72	6,491,505.33	421,753.28	58° 33' 20.280 N	1° 39' 19.270 E
2,165.07	0.09	207.74	2,162.45	-60.72	-1.75	6,491,505.30	421,753.25	58° 33' 20.279 N	1° 39' 19.288 E
2,193.89	0.06	257.09	2,191.27	-60.74	-1.78	6,491,505.28	421,753.22	58° 33' 20.278 N	1° 39' 19.286 E
2,226.13	0.23	324.77	2,223.51	-60.69	-1.83	6,491,505.33	421,753.17	58° 33' 20.280 N	1° 39' 19.283 E
2,252.12	0.18	121.37	2,249.50	-60.67	-1.83	6,491,505.35	421,753.17	58° 33' 20.280 N	1° 39' 19.283 E
2,310.07	0.14	75.91	2,307.45	-60.70	-1.68	6,491,505.32	421,753.32	58° 33' 20.279 N	1° 39' 19.272 E
2,368.07	0.06	221.01	2,365.45	-60.71	-1.63	6,491,505.31	421,753.37	58° 33' 20.279 N	1° 39' 19.275 E
2,398.85	0.17	185.78	2,394.23	-60.76	-1.64	6,491,505.28	421,753.38	58° 33' 20.278 N	1° 39' 19.274 E
2,425.67	0.14	71.07	2,423.05	-60.79	-1.62	6,491,505.23	421,753.38	58° 33' 20.277 N	1° 39' 19.276 E
2,454.80	0.14	296.31	2,451.98	-60.76	-1.61	6,491,505.28	421,753.39	58° 33' 20.277 N	1° 39' 19.276 E
2,483.63	0.03	143.45	2,481.01	-60.75	-1.64	6,491,505.27	421,753.36	58° 33' 20.278 N	1° 39' 19.275 E
2,512.79	0.06	113.92	2,510.17	-60.77	-1.62	6,491,505.25	421,753.38	58° 33' 20.277 N	1° 39' 19.276 E
2,541.14	0.08	214.50	2,538.52	-60.79	-1.62	6,491,505.23	421,753.38	58° 33' 20.277 N	1° 39' 19.276 E
2,570.53	0.13	249.19	2,567.91	-60.82	-1.66	6,491,505.20	421,753.34	58° 33' 20.276 N	1° 39' 19.273 E
2,598.78	0.06	262.00	2,596.16	-60.83	-1.71	6,491,505.19	421,753.29	58° 33' 20.275 N	1° 39' 19.271 E
2,628.37	0.10	52.64	2,625.75	-60.82	-1.70	6,491,505.20	421,753.30	58° 33' 20.276 N	1° 39' 19.271 E
2,657.12	0.22	99.02	2,654.50	-60.81	-1.63	6,491,505.21	421,753.37	58° 33' 20.276 N	1° 39' 19.276 E
<b>13 3/8"</b>									
2,676.89	0.33	107.70	2,674.27	-60.83	-1.54	6,491,505.18	421,753.46	58° 33' 20.275 N	1° 39' 19.281 E
2,705.19	0.33	97.83	2,702.57	-60.87	-1.38	6,491,505.15	421,753.62	58° 33' 20.274 N	1° 39' 19.281 E
2,733.95	0.27	66.74	2,731.33	-60.85	-1.23	6,491,505.17	421,753.77	58° 33' 20.275 N	1° 39' 19.300 E
2,763.91	0.53	28.82	2,761.29	-60.71	-1.10	6,491,505.31	421,753.90	58° 33' 20.280 N	1° 39' 19.308 E
2,793.00	0.71	12.75	2,790.38	-60.41	-1.00	6,491,505.61	421,754.00	58° 33' 20.289 N	1° 39' 19.314 E
2,821.57	0.92	10.28	2,818.95	-60.01	-0.92	6,491,506.01	421,754.08	58° 33' 20.302 N	1° 39' 19.319 E
2,868.01	1.25	6.42	2,865.38	-59.14	-0.79	6,491,506.88	421,754.21	58° 33' 20.330 N	1° 39' 19.325 E
2,895.83	1.87	6.60	2,893.19	-58.39	-0.71	6,491,507.63	421,754.29	58° 33' 20.355 N	1° 39' 19.329 E
2,923.47	3.14	10.79	2,920.80	-57.20	-0.51	6,491,508.82	421,754.49	58° 33' 20.393 N	1° 39' 19.340 E
2,953.04	3.48	13.20	2,951.22	-55.48	-0.15	6,491,510.54	421,754.85	58° 33' 20.449 N	1° 39' 19.381 E
2,983.46	3.80	10.84	2,980.68	-53.65	0.24	6,491,512.37	421,755.24	58° 33' 20.509 N	1° 39' 19.382 E
3,013.53	4.04	5.93	3,010.68	-51.81	0.54	6,491,514.40	421,755.54	58° 33' 20.575 N	1° 39' 19.398 E
3,019.82	4.17	8.13	3,016.95	-51.17	0.59	6,491,514.85	421,755.59	58° 33' 20.589 N	1° 39' 19.401 E
3,048.73	4.41	10.32	3,045.78	-49.03	0.94	6,491,516.98	421,755.94	58° 33' 20.658 N	1° 39' 19.420 E
3,077.93	4.46	10.63	3,074.89	-46.81	1.35	6,491,519.20	421,756.35	58° 33' 20.730 N	1° 39' 19.442 E
3,106.43	4.82	10.22	3,103.30	-44.55	1.77	6,491,521.47	421,756.77	58° 33' 20.804 N	1° 39' 19.485 E
3,135.38	5.21	12.16	3,132.14	-42.06	2.26	6,491,523.95	421,757.26	58° 33' 20.884 N	1° 39' 19.493 E
3,163.53	5.54	14.69	3,160.17	-39.50	2.88	6,491,526.51	421,757.87	58° 33' 20.967 N	1° 39' 19.528 E
3,192.38	5.62	15.10	3,188.88	-36.79	3.60	6,491,529.22	421,758.60	58° 33' 21.056 N	1° 39' 19.569 E

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 28.00m (TO Winner)
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 28.00m (TO Winner)
Well:	15/5-7 Primary	North Reference:	Grid
Wellbore:	15/5-7S Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	15/5-7S Original Hole	Database:	EDM 2003.16 Single User Db

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N-S (m)	+E-W (m)	Map Northing (m)	Map Easting (m)	Latitude	Longitude	
3,220.38	5.73	13.74	3,216.74	-34.11	4.29	6,491,531.90	421,759.28	58° 33' 21.143 N	1° 39' 19.808 E	
3,250.87	5.99	13.89	3,247.07	-31.08	5.02	6,491,534.93	421,760.02	58° 33' 21.241 N	1° 39' 19.850 E	
3,280.00	6.38	13.71	3,276.03	-28.03	5.77	6,491,537.98	421,760.77	58° 33' 21.340 N	1° 39' 19.892 E	
3,309.16	6.84	13.14	3,305.00	-24.77	6.55	6,491,541.24	421,761.54	58° 33' 21.446 N	1° 39' 19.738 E	
3,338.15	6.96	13.51	3,333.78	-21.38	7.35	6,491,544.63	421,762.35	58° 33' 21.556 N	1° 39' 19.782 E	
3,367.23	6.40	11.95	3,362.66	-18.08	8.10	6,491,547.93	421,763.09	58° 33' 21.663 N	1° 39' 19.824 E	
3,396.15	6.47	13.87	3,391.40	-14.92	8.82	6,491,551.08	421,763.82	58° 33' 21.765 N	1° 39' 19.885 E	
3,425.21	6.14	15.63	3,420.28	-11.84	9.63	6,491,554.17	421,764.63	58° 33' 21.866 N	1° 39' 19.911 E	
3,453.80	5.82	14.05	3,448.72	-8.96	10.40	6,491,557.05	421,765.39	58° 33' 21.959 N	1° 39' 19.955 E	
3,511.37	4.13	10.81	3,506.07	-4.09	11.49	6,491,561.91	421,766.49	58° 33' 22.117 N	1° 39' 20.017 E	
3,540.23	3.64	11.87	3,534.86	-2.17	11.88	6,491,563.83	421,766.87	58° 33' 22.179 N	1° 39' 20.038 E	
3,569.03	4.12	14.49	3,563.60	-0.28	12.32	6,491,565.72	421,767.32	58° 33' 22.241 N	1° 39' 20.083 E	
3,597.90	4.64	16.61	3,592.38	1.85	12.92	6,491,567.85	421,767.91	58° 33' 22.310 N	1° 39' 20.097 E	
3,627.15	4.43	13.68	3,621.54	4.08	13.52	6,491,570.08	421,768.52	58° 33' 22.382 N	1° 39' 20.132 E	
3,639.67	3.35	12.10	3,634.03	4.91	13.71	6,491,570.91	421,768.71	58° 33' 22.409 N	1° 39' 20.143 E	
3,655.97	2.27	12.20	3,650.31	5.69	13.88	6,491,571.69	421,768.88	58° 33' 22.435 N	1° 39' 20.152 E	
3,684.95	0.64	5.81	3,679.28	6.41	14.02	6,491,572.41	421,769.01	58° 33' 22.458 N	1° 39' 20.160 E	
3,713.86	0.44	183.58	3,708.19	6.46	14.03	6,491,572.46	421,769.02	58° 33' 22.460 N	1° 39' 20.160 E	
3,742.98	1.08	190.98	3,737.31	6.08	13.97	6,491,572.08	421,768.97	58° 33' 22.448 N	1° 39' 20.157 E	
3,771.94	0.82	199.78	3,766.26	5.63	13.85	6,491,571.62	421,768.84	58° 33' 22.433 N	1° 39' 20.150 E	
3,801.11	0.29	190.39	3,795.43	5.36	13.77	6,491,571.35	421,768.76	58° 33' 22.424 N	1° 39' 20.145 E	
3,830.10	0.23	323.59	3,824.42	5.33	13.72	6,491,571.33	421,768.71	58° 33' 22.423 N	1° 39' 20.142 E	
3,858.20	0.29	323.11	3,852.52	5.43	13.64	6,491,571.43	421,768.64	58° 33' 22.426 N	1° 39' 20.138 E	
3,886.27	0.51	342.79	3,880.59	5.61	13.56	6,491,571.61	421,768.56	58° 33' 22.432 N	1° 39' 20.132 E	
3,915.21	0.89	4.87	3,909.53	5.96	13.54	6,491,571.95	421,768.54	58° 33' 22.443 N	1° 39' 20.131 E	
3,943.64	1.29	6.31	3,937.95	6.49	13.60	6,491,572.49	421,768.59	58° 33' 22.461 N	1° 39' 20.133 E	
3,974.84	0.49	355.51	3,969.15	6.98	13.62	6,491,572.97	421,768.62	58° 33' 22.476 N	1° 39' 20.135 E	
4,002.78	0.30	342.22	3,997.09	7.17	13.59	6,491,573.18	421,768.59	58° 33' 22.482 N	1° 39' 20.132 E	
4,022.53	0.55	59.93	4,016.84	7.26	13.66	6,491,573.26	421,768.65	58° 33' 22.485 N	1° 39' 20.136 E	
4,037.00	0.55	59.93	4,031.31	7.33	13.78	6,491,573.33	421,768.77	58° 33' 22.488 N	1° 39' 20.144 E	

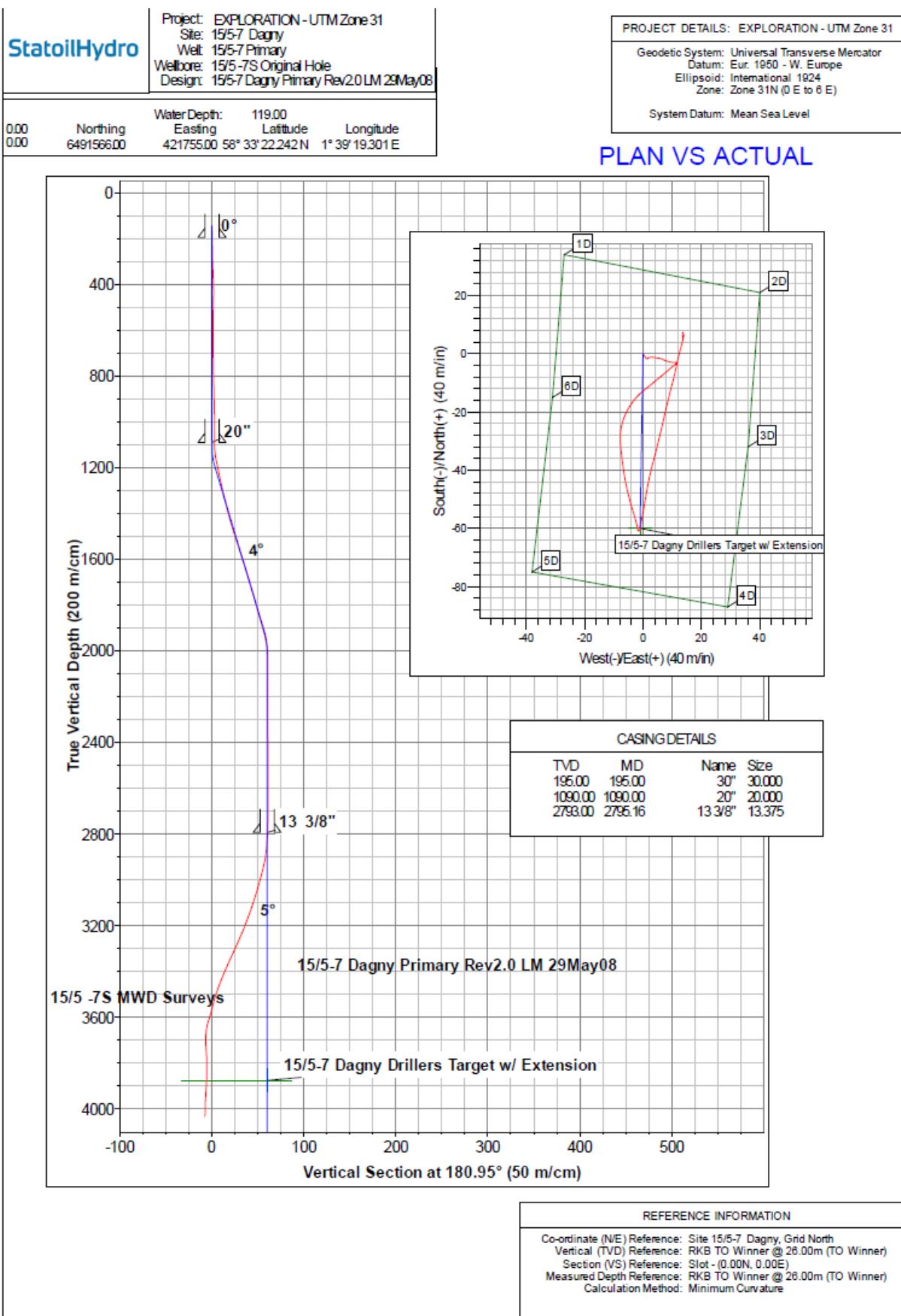
**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0



**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
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Rev. no. 0

**StatoilHydro**  
Survey Report - Geographic

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny		
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 28,00m (TO Winner)		
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 28,00m (TO Winner)		
Well:	15/5-7 Primary	North Reference:	Grid		
Wellbore:	5-7A Down Dip Sidetrack	Survey Calculation Method:	Minimum Curvature		
Design:	5-7A Down Dip Sidetrack	Database:	EDM Prod P248N		
<b>Project</b>	EXPLORATION - UTM Zone 31				
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level		
Geo Datum:	Eur. 1950 - W. Europe				
Map Zone:	Zone 31N (0 E to 6 E)		Using geodetic scale factor		
<b>Site</b>	15/5-7 Dagny, 15/5				
Site Position:		Northing:	6 491 566,00 m		
From:	Map	Easting:	421 755,00 m		
Position Uncertainty:	0,00 m	Slot Radius:	in Grid Convergence: -1,15 °		
<b>Well</b>	15/5-7 Primary				
Well Position	+N/S 0,00 m	Northing:	6 491 566,00 m		
	+E/W 0,00 m	Easting:	421 755,00 m		
Position Uncertainty	2,00 m	Wellhead Depth:	119,00 m		
			Latitude: 58° 33' 22,242 N		
			Longitude: 1° 39' 19,301 E		
			Water Depth: 119,00 m		
<b>Wellbore</b>	5-7A Down Dip Sidetrack				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	3NETICREFERENCE	13.12.2007	-2,34	71,70	50 364
<b>Design</b>	5-7A Down Dip Sidetrack				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	3 120,00
Vertical Section:	Depth From (TVD) (m)	+N/S (m)	+E/W (m)	Direction (°)	
	0,00	0,00	0,00	180,95	
<b>Survey Program</b>	Date 03.10.2008				
From (m)	To (m)	Survey (Wellbore)	Tool Name	Description	
156,04	183,85	15/5-7 Dagny MWD 38" Section (15/5 -7S	Magnetic, other	Magnetic Tools (MWD, EMS)	
220,29	1 028,98	15/5-7 Dagny MWD 26" Section (15/5 -7S	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
1 084,40	2 628,37	15/5-7 Dagny MWD 17 1/2" Section (15/5	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
2 676,89	2 821,57	15/5-7 Dagny MWD 12 1/4" Section (15/5	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)	
2 868,01	3 120,00	15/5-7 Dagny MWD 8 1/2" Section (15/5 -7	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
3 184,49	3 242,34	8 1/2in MWD PDvortex (5-7A Down Dip Si	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
3 263,01	3 280,14	8 1/2in Motor (5-7A Down Dip Sidetrack)	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)	
3 312,60	4 109,62	8 1/2" MWD PD +flex (5-7A Down Dip Side	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

**StatoilHydro**

Date 08-08-2008

Rev. no. 0

**StatoilHydro**  
Survey Report - Geographic

<b>Company:</b>	STATOILHYDRO NORWAY			<b>Local Co-ordinate Reference:</b>	Site 15/5-7 Dagny				
<b>Project:</b>	EXPLORATION - UTM Zone 31			<b>TVD Reference:</b>	RKB TO Winner @ 26,00m (TO Winner)				
<b>Site:</b>	15/5-7 Dagny			<b>MD Reference:</b>	RKB TO Winner @ 26,00m (TO Winner)				
<b>Well:</b>	15/5- Primary			<b>North Reference:</b>	Grid				
<b>Wellbore:</b>	5-7A Down Dip Sidetrack			<b>Survey Calculation Method:</b>	Minimum Curvature				
<b>Design:</b>	5-7A Down Dip Sidetrack			<b>Database:</b>	EDM Prod P246N				
<b>Survey</b>									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N-S (m)	+E-W (m)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
3 013,53	4,04	5,93	3 010,68	-51,81	0,54	6 491 514,40	421 755,54	58° 33' 20,575 N	1° 39' 19,398 E
3 019,82	4,17	8,13	3 016,95	-51,17	0,59	6 491 514,85	421 755,59	58° 33' 20,589 N	1° 39' 19,401 E
3 048,73	4,41	10,32	3 045,78	-49,03	0,94	6 491 516,98	421 755,94	58° 33' 20,658 N	1° 39' 19,420 E
3 077,93	4,46	10,63	3 074,89	-46,81	1,35	6 491 519,20	421 756,35	58° 33' 20,730 N	1° 39' 19,442 E
3 106,43	4,82	10,22	3 103,30	-44,55	1,77	6 491 521,47	421 756,77	58° 33' 20,804 N	1° 39' 19,465 E
3 120,00	5,00	11,17	3 116,82	-43,40	1,98	6 491 522,61	421 756,98	58° 33' 20,841 N	1° 39' 19,477 E
3 184,49	4,01	79,54	3 181,15	-40,23	4,75	6 491 525,78	421 759,75	58° 33' 20,945 N	1° 39' 19,844 E
3 213,26	4,10	79,94	3 209,85	-39,87	6,75	6 491 526,14	421 761,75	58° 33' 20,958 N	1° 39' 19,768 E
3 242,34	4,34	80,09	3 238,85	-39,50	8,86	6 491 526,51	421 763,86	58° 33' 20,971 N	1° 39' 19,897 E
3 263,01	4,65	81,88	3 259,46	-39,25	10,46	6 491 528,77	421 765,45	58° 33' 20,981 N	1° 39' 19,996 E
3 280,14	5,02	84,48	3 276,53	-39,08	11,89	6 491 526,94	421 766,89	58° 33' 20,987 N	1° 39' 20,084 E
3 312,60	6,32	123,43	3 308,84	-39,92	14,80	6 491 526,09	421 769,79	58° 33' 20,961 N	1° 39' 20,265 E
3 342,75	6,11	162,95	3 338,82	-42,37	16,85	6 491 523,64	421 771,85	58° 33' 20,884 N	1° 39' 20,383 E
3 370,31	6,25	203,13	3 366,24	-45,16	16,49	6 491 520,86	421 771,49	58° 33' 20,793 N	1° 39' 20,377 E
3 400,65	7,71	211,08	3 398,35	-48,42	14,80	6 491 517,60	421 769,79	58° 33' 20,687 N	1° 39' 20,276 E
3 428,44	9,53	195,98	3 423,83	-52,23	13,20	6 491 513,79	421 768,20	58° 33' 20,563 N	1° 39' 20,182 E
3 457,23	11,46	188,65	3 452,14	-57,35	12,11	6 491 508,67	421 767,11	58° 33' 20,397 N	1° 39' 20,121 E
3 487,42	14,82	180,51	3 481,53	-64,20	11,83	6 491 501,82	421 766,83	58° 33' 20,175 N	1° 39' 20,099 E
3 515,93	19,70	175,01	3 508,74	-72,87	12,01	6 491 493,36	421 767,01	58° 33' 19,902 N	1° 39' 20,134 E
3 573,03	23,49	171,89	3 561,83	-93,53	14,48	6 491 472,50	421 769,45	58° 33' 19,229 N	1° 39' 20,311 E
3 603,55	23,53	172,72	3 589,81	-105,59	16,09	6 491 460,44	421 771,08	58° 33' 18,840 N	1° 39' 20,426 E
3 660,92	23,26	189,16	3 642,52	-128,16	15,74	6 491 437,88	421 770,73	58° 33' 18,111 N	1° 39' 20,432 E
3 689,80	24,85	197,54	3 668,90	-139,58	13,00	6 491 426,47	421 767,99	58° 33' 17,740 N	1° 39' 20,277 E
3 717,70	26,18	205,98	3 694,09	-150,71	8,54	6 491 415,34	421 763,53	58° 33' 17,378 N	1° 39' 20,015 E
3 747,97	26,72	205,97	3 721,19	-162,83	2,63	6 491 403,22	421 757,63	58° 33' 16,982 N	1° 39' 19,665 E
<b>15/5-7 A Base Cretaceous_Final</b>									
3 748,30	26,73	205,97	3 721,49	-162,96	2,57	6 491 403,09	421 757,57	58° 33' 16,978 N	1° 39' 19,661 E
3 775,85	22,54	203,42	3 748,52	-173,38	-2,25	6 491 392,67	421 752,75	58° 33' 16,638 N	1° 39' 19,377 E
3 806,04	19,91	199,46	3 774,66	-183,54	-8,26	6 491 382,52	421 748,74	58° 33' 16,307 N	1° 39' 19,141 E
3 833,28	20,60	193,25	3 800,22	-192,58	-8,90	6 491 373,48	421 746,10	58° 33' 16,014 N	1° 39' 18,899 E
3 862,00	20,23	186,50	3 827,14	-202,43	-10,62	6 491 363,63	421 744,38	58° 33' 15,694 N	1° 39' 18,895 E
3 891,28	17,66	184,12	3 854,83	-211,90	-11,52	6 491 354,17	421 743,49	58° 33' 15,388 N	1° 39' 18,851 E
3 920,08	15,60	182,50	3 882,43	-220,12	-12,00	6 491 345,95	421 743,00	58° 33' 15,122 N	1° 39' 18,832 E
3 950,11	12,72	180,50	3 911,54	-227,46	-12,21	6 491 338,61	421 742,80	58° 33' 14,884 N	1° 39' 18,828 E
3 977,64	10,88	176,51	3 938,49	-233,09	-12,07	6 491 332,99	421 742,93	58° 33' 14,703 N	1° 39' 18,843 E
<b>15/5-7A Top Hugin_Final</b>									
3 979,16	10,78	178,25	3 939,98	-233,37	-12,06	6 491 332,70	421 742,95	58° 33' 14,693 N	1° 39' 18,845 E
4 008,53	10,82	175,39	3 968,83	-238,88	-11,65	6 491 327,22	421 743,35	58° 33' 14,516 N	1° 39' 18,876 E
4 032,43	10,69	174,80	3 992,32	-243,31	-11,27	6 491 322,77	421 743,73	58° 33' 14,373 N	1° 39' 18,905 E
<b>15/5-7A Tgt1 Hugin</b>									
4 037,57	10,66	174,67	3 997,36	-244,25	-11,19	6 491 321,83	421 743,82	58° 33' 14,342 N	1° 39' 18,912 E
4 066,04	10,91	173,34	4 025,33	-249,55	-10,63	6 491 316,53	421 744,37	58° 33' 14,172 N	1° 39' 18,953 E
4 082,54	10,08	173,84	4 041,56	-252,54	-10,29	6 491 313,54	421 744,71	58° 33' 14,075 N	1° 39' 18,977 E
<b>15/5-7A Top Sleipner_Final</b>									
4 094,07	9,50	174,24	4 052,92	-254,49	-10,09	6 491 311,59	421 744,91	58° 33' 14,012 N	1° 39' 18,992 E
4 109,62	7,90	170,54	4 068,29	-256,82	-9,78	6 491 309,26	421 745,22	58° 33' 13,937 N	1° 39' 19,014 E
<b>15/5-7A Tgt2 Sleipner</b>									

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**StatoilHydro**

Survey Report - Geographic

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny		
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 26,00m (TO Winner)		
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 26,00m (TO Winner)		
Well:	15/5-7 Primary	North Reference:	Grid		
Wellbore:	5-7A Down Dip Sidetrack	Survey Calculation Method:	Minimum Curvature		
Design:	5-7A Down Dip Sidetrack	Database:	EDM Prod P246N		
	194,00      194,00      30"		30,000      36,000		
	1 039,10      1 039,00      20"		20,000      26,000		
	2 657,12      2 654,50      13 3/8"		13,375      17,500		
<b>Formations</b>					
Measured Depth (m)	Vertical Depth (m)	Name	Lithology	Dip (°)	Dip Direction (°)
3 756,00	3 728,40	Top of Fish		0,00	

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

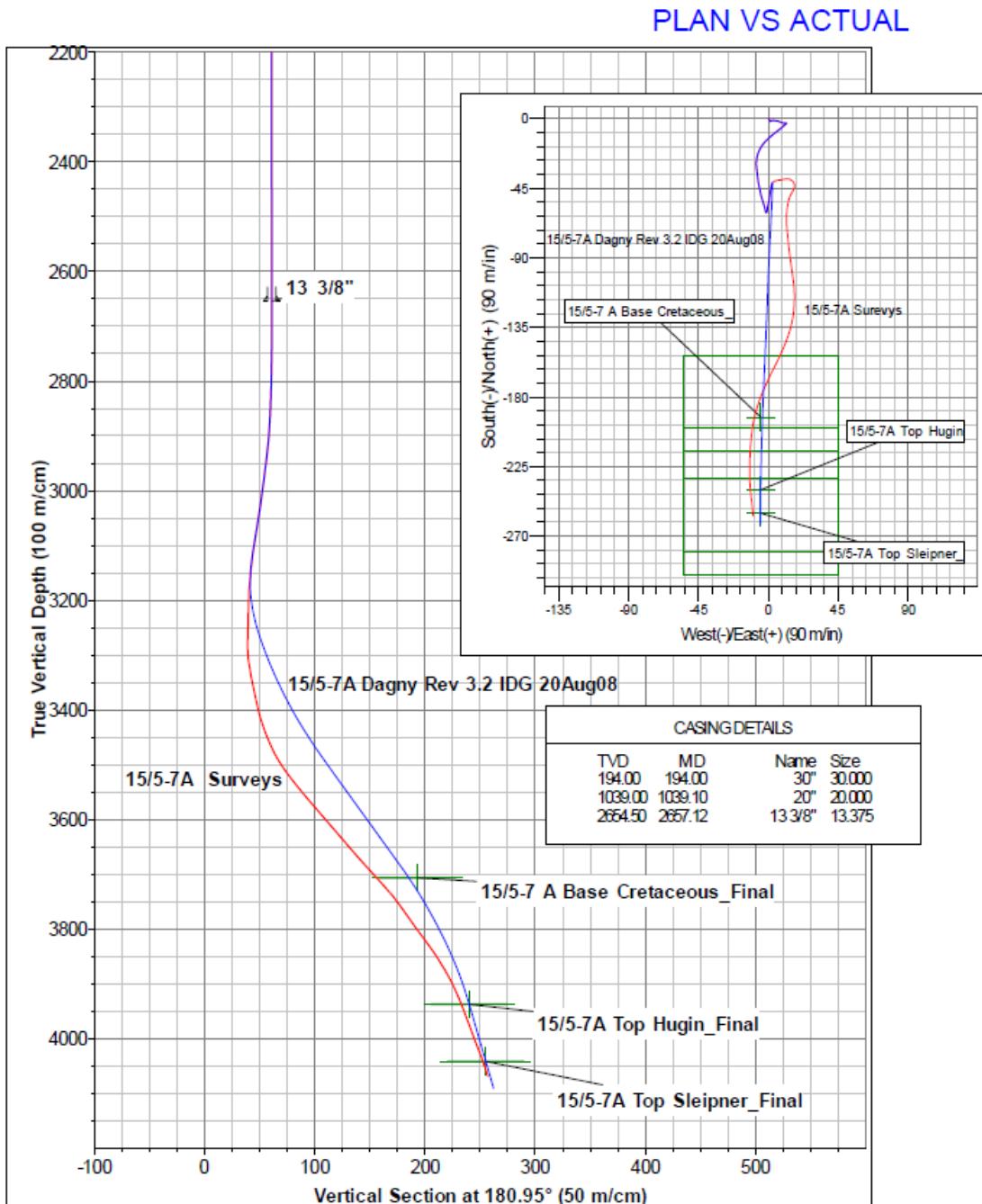
**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

**StatoilHydro**

Date 08-08-2008

Rev. no. 0

<p><b>StatoilHydro</b></p> <p>Project: EXPLORATION - UTM Zone 31  Site: 15/5-7 Dagny  Well: 15/5-7 Primary  Wellbore: 5-7A Down Dip Sidetrack  Design: 57ADagny Rev 3.2 IDG 20Aug08</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">0.00</td><td style="width: 10%;">Northing</td><td style="width: 10%;">Water Depth:</td><td style="width: 10%;">119.00</td></tr> <tr> <td>0.00</td><td>Easting</td><td>Latitude</td><td>Longitude</td></tr> <tr> <td></td><td>6491566.00</td><td>421755.00</td><td>58° 33' 22.242 N    1° 39' 19.301 E</td></tr> </table>	0.00	Northing	Water Depth:	119.00	0.00	Easting	Latitude	Longitude		6491566.00	421755.00	58° 33' 22.242 N    1° 39' 19.301 E	<p>PROJECT DETAILS: EXPLORATION - UTM Zone 31</p> <p>Geodetic System: Universal Transverse Mercator  Datum: Eur. 1950 - W. Europe  Ellipsoid: International 1924  Zone: Zone 31N (0 E to 6 E)</p> <p>System Datum: Mean Sea Level</p>
0.00	Northing	Water Depth:	119.00										
0.00	Easting	Latitude	Longitude										
	6491566.00	421755.00	58° 33' 22.242 N    1° 39' 19.301 E										



REFERENCE INFORMATION	
Co-ordinate (N/E) Reference: Site 15/5-7 Dagny, Grid North	
Vertical (TVD) Reference: RKB TO Winner @ 28.00m (TO Winner)	
Section (VS) Reference: Slot - (0.00N, 0.00E)	
Measured Depth Reference: RKB TO Winner @ 28.00m (TO Winner)	
Calculation Method: Minimum Curvature	

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**Schlumberger**

**SCHLUMBERGER SURVEY MANAGEMENT**

**DEFINITIVE SURVEY SIGN-OFF**

<b>Client:</b>	<b>Statoil</b>	<b>Slot Name:</b>	
<b>Field:</b>	<b>Exploration</b>	<b>Well Name:</b>	<b>15/5-7 Primary</b>
<b>Structure:</b>	<b>15/5-7 Dagny</b>	<b>Borehole Name:</b>	<b>5-7A Down Dip Sidetrack</b>

<b>Structure Co-ords:</b>	6491566.00m N	421755.00m E	<b>Depth Units:</b>	<b>Meter</b>
<b>Slot Co-ordinates:</b>	6491566.00m N	421755.00m E	<b>Azimuth Reference:</b>	<b>Grid North</b>
<b>UTM Model:</b>	ED50-UTM-Zone 31N		<b>Grid Convergence:</b>	-1.15°
<b>Central Meridian:</b>			<b>Section Origin:</b>	<b>Structure</b>
<b>Vertical Reference:</b>	Rotary Table		<b>Section Plane VS:</b>	180.95°
<b>Elevation:</b>	26.00 m relative to MSL	119.00 m water depth		

**DEFINITIVE SURVEY CONSTRUCTION**

<b>Report No.</b>	<b>Instrument Type Statoil</b>	<b>Instrument Type SLB</b>	<b>Survey From</b>	<b>Survey To</b>
	Magnetic, other	Magnetic, other	156.04	183.85
	Magnetic, std, non-mag	Magnetic, std, non-mag	220.29	1028.98
	Magnetic, std, non-mag	Magnetic, std, non-mag	1094.40	2628.37
	Magnetic, std, mag-corr	Magnetic, std, mag-corr	2676.89	2821.57
	Magnetic, std, non-mag	Magnetic, std, non-mag	2868.01	3120.00
	Magnetic, std, non-mag	Magnetic, std, non-mag	3184.49	3242.34
	Magnetic, std, mag-corr	Magnetic, std, mag-corr	3263.01	3280.14
	Magnetic, std, non-mag	Magnetic, std, non-mag	3312.60	4109.62

**DEFINITIVE SURVEY BOTTOM HOLE LOCATION COMPARISONS**

<b>Source</b>	<b>Depth</b>	<b>Local Northing</b>	<b>Local Easting</b>	<b>TVD</b>	<b>ΔN</b>	<b>ΔE</b>	<b>ΔTVD</b>
SLB Db	4109.62	-256.82	-9.78	4068.29	0	0	0
Client Db	4109.62	-256.82	-9.78	4068.29			

**DEFINITIVE CASING POINTS**

<b>Depth</b>	<b>TVD</b>	<b>Casing Size</b>	<b>Hole Size</b>	<b>Name</b>
194.00	194.00	30.00	36.000	30"
1039.10	1039.00	20.00	26.000	20"
2657.12	2654.50	13.375	17.500	13 3/8"

**COMMENTS**

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**DEFINITIVE SURVEY SIGNED OFF**

<b>For Schlumberger:</b> Approved By: (Sign)	<i>Elena McMorris</i>	<b>For Client:</b> Approved By: (Sign)	<i>John</i>
<b>Name:</b>	<b>Elena McMorris</b>	<b>Name:</b>	<b>John</b>
<b>Date:</b>	<b>23<sup>rd</sup> September, 2008</b>	<b>Date:</b>	<b>6/1/08</b>

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**StatoilHydro**  
Survey Report - Geographic

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny		
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 26,00m (TO Winner)		
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 26,00m (TO Winner)		
Well:	15/5-7 Primary	North Reference:	Grid		
Wellbore:	15/5-7 A T2 Dagny Sidetrack	Survey Calculation Method:	Minimum Curvature		
Design:	15/5-7 A T2 Dagny Sidetrack	Database:	EDM Prod P246N		
<b>Project</b>	EXPLORATION - UTM Zone 31				
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level		
Geo Datum:	Eur. 1950 - W. Europe				
Map Zone:	Zone 31N (0 E to 6 E)		Using geodetic scale factor		
<b>Site</b>	15/5-7 Dagny, 15/5				
Site Position:		Northing:	6 491 566,00 m		
From:	Map	Easting:	421 755,00 m		
Position Uncertainty:	0,00 m	Slot Radius:	in Grid Convergence: 58° 33' 22,242 N 1° 39' 19,301 E -1,15 °		
<b>Well</b>	15/5-7 Primary				
Well Position	+N/S 0,00 m	Northing:	6 491 566,00 m	Latitude:	58° 33' 22,242 N
	+E/W 0,00 m	Easting:	421 755,00 m	Longitude:	1° 39' 19,301 E
Position Uncertainty	2,00 m	Wellhead Depth:	119,00 m	Water Depth:	119,00 m
<b>Wellbore</b>	15/5-7 A T2 Dagny Sidetrack				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	22.09.2008	-2,23	71,65	50 420
<b>Design</b>	15/5-7 A T2 Dagny Sidetrack				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	3 312,60
Vertical Section:	Depth From (TVD) (m)	+N/S (m)	+E/W (m)	Direction (°)	
	0,00	0,00	0,00	180,95	
<b>Survey Program</b>	Date 04.12.2008				
From (m)	To (m)	Survey (Wellbore)	Tool Name	Description	
156,04	183,85	15/5-7 Dagny MWD 36" Section (15/5 -S)	Magnetic, other	Magnetic Tools (MWD, EMS)	
220,29	1 028,98	15/5-7 Dagny MWD 26" Section (15/5 -S)	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
1 094,40	2 828,37	15/5-7 Dagny MWD 17 1/2" Section (15/5	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
2 676,89	2 821,57	15/5-7 Dagny MWD 12 1/4" Section (15/5	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)	
2 868,01	3 120,00	15/5-7 Dagny MWD 8 1/2" Section (15/5 -	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
3 184,49	3 242,34	8 1/2in MWD PDvortex (5-7A Down Dip Si	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
3 263,01	3 280,14	8 1/2 in Motor (5-7A Down Dip Sidetrack)	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)	
3 312,60	3 312,60	8 1/2" MWD PD +flex (5-7A Down Dip Side	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	
3 338,79	4 150,61	15/5-7 A T2 Dagny MWD 8 1/2" Surveys (	Magnetic, std, non-mag	Magnetic Tools (MWD, EMS)	

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**StatoilHydro**  
Survey Report - Geographic

Company:	STATOILHYDRO NORWAY			Local Co-ordinate Reference:	Site 15/5-7 Dagny				
Project:	EXPLORATION - UTM Zone 31			TVD Reference:	RKB TO Winner @ 26,00m (TO Winner)				
Site:	15/5-7 Dagny			MD Reference:	RKB TO Winner @ 26,00m (TO Winner)				
Well:	15/5-7 Primary			North Reference:	Grid				
Wellbore:	15/5-7 A T2 Dagny Sidetrack			Survey Calculation Method:	Minimum Curvature				
Design:	15/5-7 A T2 Dagny Sidetrack			Database:	EDM Prod P246N				
<b>Survey</b>									
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	+N/S (m)	+E/W (m)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
3 013,53	4,04	5,93	3 010,68	-51,61	0,54	6 491 514,40	421 755,54	58° 33' 20,575 N	1° 39' 19,398 E
3 019,82	4,17	8,13	3 016,95	-51,17	0,59	6 491 514,85	421 755,59	58° 33' 20,589 N	1° 39' 19,401 E
3 048,73	4,41	10,32	3 045,78	-49,03	0,94	6 491 516,98	421 755,94	58° 33' 20,658 N	1° 39' 19,420 E
3 077,93	4,46	10,63	3 074,89	-46,81	1,35	6 491 519,20	421 756,35	58° 33' 20,730 N	1° 39' 19,442 E
3 106,43	4,82	10,22	3 103,30	-44,55	1,77	6 491 521,47	421 756,77	58° 33' 20,804 N	1° 39' 19,465 E
3 120,00	5,00	11,17	3 116,82	-43,40	1,98	6 491 522,61	421 756,98	58° 33' 20,841 N	1° 39' 19,477 E
3 184,49	4,01	79,54	3 181,15	-40,23	4,75	6 491 525,78	421 759,75	58° 33' 20,945 N	1° 39' 19,644 E
3 213,26	4,10	79,94	3 209,85	-39,87	6,75	6 491 526,14	421 761,75	58° 33' 20,958 N	1° 39' 19,768 E
3 242,34	4,34	80,09	3 238,85	-39,50	8,86	6 491 526,51	421 763,88	58° 33' 20,971 N	1° 39' 19,897 E
3 263,01	4,65	81,88	3 250,46	-39,25	10,46	6 491 526,77	421 765,45	58° 33' 20,981 N	1° 39' 19,996 E
3 280,14	5,02	84,46	3 276,53	-39,08	11,89	6 491 526,94	421 766,89	58° 33' 20,987 N	1° 39' 20,084 E
3 312,60	6,32	123,43	3 308,84	-39,92	14,80	6 491 526,09	421 769,79	58° 33' 20,961 N	1° 39' 20,265 E
3 338,79	6,98	127,23	3 334,85	-41,68	17,27	6 491 524,33	421 772,28	58° 33' 20,906 N	1° 39' 20,420 E
3 368,98	10,39	98,60	3 364,70	-43,20	21,42	6 491 522,81	421 776,42	58° 33' 20,860 N	1° 39' 20,679 E
3 398,24	10,24	103,38	3 393,49	-44,20	26,56	6 491 521,82	421 781,55	58° 33' 20,831 N	1° 39' 20,998 E
3 427,26	10,27	114,24	3 422,05	-45,86	31,43	6 491 520,16	421 786,42	58° 33' 20,781 N	1° 39' 21,301 E
3 456,24	9,91	116,16	3 450,58	-48,02	36,02	6 491 518,00	421 791,01	58° 33' 20,714 N	1° 39' 21,588 E
3 484,05	8,87	126,36	3 478,02	-50,34	39,90	6 491 515,67	421 794,89	58° 33' 20,641 N	1° 39' 21,830 E
3 513,34	9,38	145,01	3 506,95	-53,64	43,09	6 491 512,38	421 798,07	58° 33' 20,537 N	1° 39' 22,031 E
3 542,42	11,25	147,16	3 535,56	-57,96	45,98	6 491 508,06	421 800,97	58° 33' 20,399 N	1° 39' 22,218 E
3 571,35	12,12	147,12	3 563,89	-62,88	49,16	6 491 503,14	421 804,15	58° 33' 20,242 N	1° 39' 22,418 E
3 599,06	12,39	142,33	3 590,97	-67,68	52,56	6 491 498,34	421 807,54	58° 33' 20,089 N	1° 39' 22,634 E
3 629,87	15,25	139,19	3 620,88	-73,36	57,23	6 491 492,66	421 812,21	58° 33' 19,908 N	1° 39' 22,930 E
3 658,90	18,85	144,89	3 648,63	-80,08	62,44	6 491 485,94	421 817,42	58° 33' 19,895 N	1° 39' 23,260 E
3 687,29	21,09	153,49	3 675,32	-88,40	67,37	6 491 477,63	421 822,35	58° 33' 19,429 N	1° 39' 23,575 E
3 715,69	23,24	159,66	3 701,62	-98,23	71,60	6 491 467,80	421 826,58	58° 33' 19,114 N	1° 39' 23,849 E
3 744,27	27,66	167,00	3 727,43	-109,99	75,05	6 491 456,05	421 830,03	58° 33' 18,737 N	1° 39' 24,077 E
3 773,83	31,70	167,99	3 753,11	-124,28	78,21	6 491 441,76	421 833,19	58° 33' 18,277 N	1° 39' 24,290 E
3 802,66	32,56	166,89	3 777,52	-139,24	81,55	6 491 426,80	421 836,52	58° 33' 17,796 N	1° 39' 24,515 E
3 831,80	32,49	165,13	3 802,09	-154,44	85,34	6 491 411,61	421 840,31	58° 33' 17,307 N	1° 39' 24,768 E
3 860,98	32,81	164,51	3 826,66	-169,64	89,46	6 491 396,42	421 844,43	58° 33' 16,819 N	1° 39' 25,042 E
3 890,18	32,71	163,22	3 851,22	-184,81	93,85	6 491 381,25	421 848,82	58° 33' 16,331 N	1° 39' 25,332 E
3 919,43	32,73	162,81	3 875,83	-199,93	98,47	6 491 366,13	421 853,44	58° 33' 15,845 N	1° 39' 25,636 E
3 947,43	33,17	162,23	3 899,32	-214,46	103,04	6 491 351,61	421 858,01	58° 33' 15,379 N	1° 39' 25,937 E
3 974,84	33,70	162,85	3 922,20	-228,87	107,58	6 491 337,21	421 862,54	58° 33' 14,916 N	1° 39' 26,235 E
3 983,75	33,86	163,49	3 929,60	-233,61	109,01	6 491 332,47	421 863,97	58° 33' 14,764 N	1° 39' 26,329 E
<b>New Top Hugin Target</b>									
4 004,67	34,25	164,96	3 946,93	-244,88	112,19	6 491 321,20	421 867,16	58° 33' 14,402 N	1° 39' 26,540 E
4 033,78	32,55	164,21	3 971,24	-260,33	116,45	6 491 305,76	421 871,41	58° 33' 13,906 N	1° 39' 26,822 E
4 063,43	30,96	163,95	3 996,45	-275,33	120,73	6 491 290,75	421 875,69	58° 33' 13,423 N	1° 39' 27,106 E
4 091,93	29,33	163,78	4 021,09	-289,08	124,71	6 491 277,01	421 879,67	58° 33' 12,982 N	1° 39' 27,368 E
4 102,83	28,23	163,64	4 030,64	-294,12	126,18	6 491 271,98	421 881,14	58° 33' 12,820 N	1° 39' 27,466 E
<b>Top Sleipner Target</b>									
4 103,06	28,21	163,64	4 030,84	-294,22	126,21	6 491 271,87	421 881,17	58° 33' 12,817 N	1° 39' 27,468 E
<b>Hardline</b>									
4 121,94	28,31	163,37	4 047,63	-302,52	128,66	6 491 263,58	421 883,62	58° 33' 12,550 N	1° 39' 27,630 E
4 150,61	25,72	162,34	4 073,39	-314,53	132,37	6 491 251,57	421 887,33	58° 33' 12,164 N	1° 39' 27,674 E

**Final Well Report  
15/5-7, 15/5-7 A and 15/5-7 AT2  
Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**StatoilHydro**  
Survey Report - Geographic

Company:	STATOILHYDRO NORWAY	Local Co-ordinate Reference:	Site 15/5-7 Dagny
Project:	EXPLORATION - UTM Zone 31	TVD Reference:	RKB TO Winner @ 26,00m (TO Winner)
Site:	15/5-7 Dagny	MD Reference:	RKB TO Winner @ 26,00m (TO Winner)
Well:	15/5-7 Primary	North Reference:	Grid
Wellbore:	15/5-7 A T2 Dagny Sidetrack	Survey Calculation Method:	Minimum Curvature
Design:	15/5-7 A T2 Dagny Sidetrack	Database:	EDM Prod P246N

Targets										
Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
	- Shape	(°)	(°)	(m)	(m)	(m)	(m)	(m)		
Hardline		0,00	0,00	4 038,00	-288,09	99,03	6 491 278,00	421 854,00	58° 33' 12,997 N	1° 39' 25,780 E
	- actual wellpath misses target center by 28,76m at 4103,19m MD (4030,96 TVD, -294,28 N, 126,23 E)									
	- Polygon									
	Point 1			4 038,00	-310,10	103,03	6 491 256,00	421 858,00		
	Point 2			4 038,00	-298,09	135,04	6 491 268,00	421 890,00		
New Top Hugin Target		0,00	0,00	3 926,00	-246,08	85,03	6 491 320,00	421 840,00	58° 33' 14,346 N	1° 39' 24,862 E
	- actual wellpath misses target center by 27,27m at 3983,53m MD (3929,42 TVD, -233,49 N, 108,98 E)									
	- Polygon									
	Point 1			3 926,00	-221,08	45,03	6 491 344,99	421 800,01		
	Point 2			3 926,00	-221,08	125,03	6 491 344,99	421 879,99		
	Point 3			3 926,00	-281,08	125,03	6 491 285,01	421 879,99		
	Point 4			3 926,00	-281,08	45,03	6 491 285,01	421 800,01		
Top Sleipner Target		0,00	0,00	4 038,00	-288,09	99,03	6 491 278,00	421 854,00	58° 33' 12,997 N	1° 39' 25,780 E
	- actual wellpath misses target center by 28,76m at 4103,19m MD (4030,96 TVD, -294,28 N, 126,23 E)									
	- Polygon									
	Point 1			4 038,00	-248,09	59,03	6 491 317,99	421 814,01		
	Point 2			4 038,00	-313,09	59,03	6 491 253,01	421 814,01		
	Point 3			4 038,00	-313,09	139,03	6 491 253,01	421 893,99		
	Point 4			4 038,00	-248,09	139,03	6 491 317,99	421 893,99		

Casing Points							Casing Diameter	Hole Diameter
	Measured Depth (m)	Vertical Depth (m)	Name				(in)	(in)
	194,00	194,00	30"				30,000	36,000
	1 039,10	1 039,00	20"				20,000	26,000
	2 657,12	2 654,50	13 3/8"				13,375	17,500

**Final Well Report**  
**15/5-7, 15/5-7 A and 15/5-7 AT2**  
**Dagny, PL048**

**Restricted**  
Doc. no. Well 16/2-4  
Nr.005

Date 08-08-2008

**StatoilHydro**

Rev. no. 0

**StatoilHydro**

Project: EXPLORATION - UTM Zone 31  
Site: 15/5-7 Dagny  
Well: 15/5-7 Primary  
Wellbore: 15/5-7 AT2 Dagny Sidetrack  
Design: 15/5-7 AT2 Dagny jok Rev 2.0 22Sep08

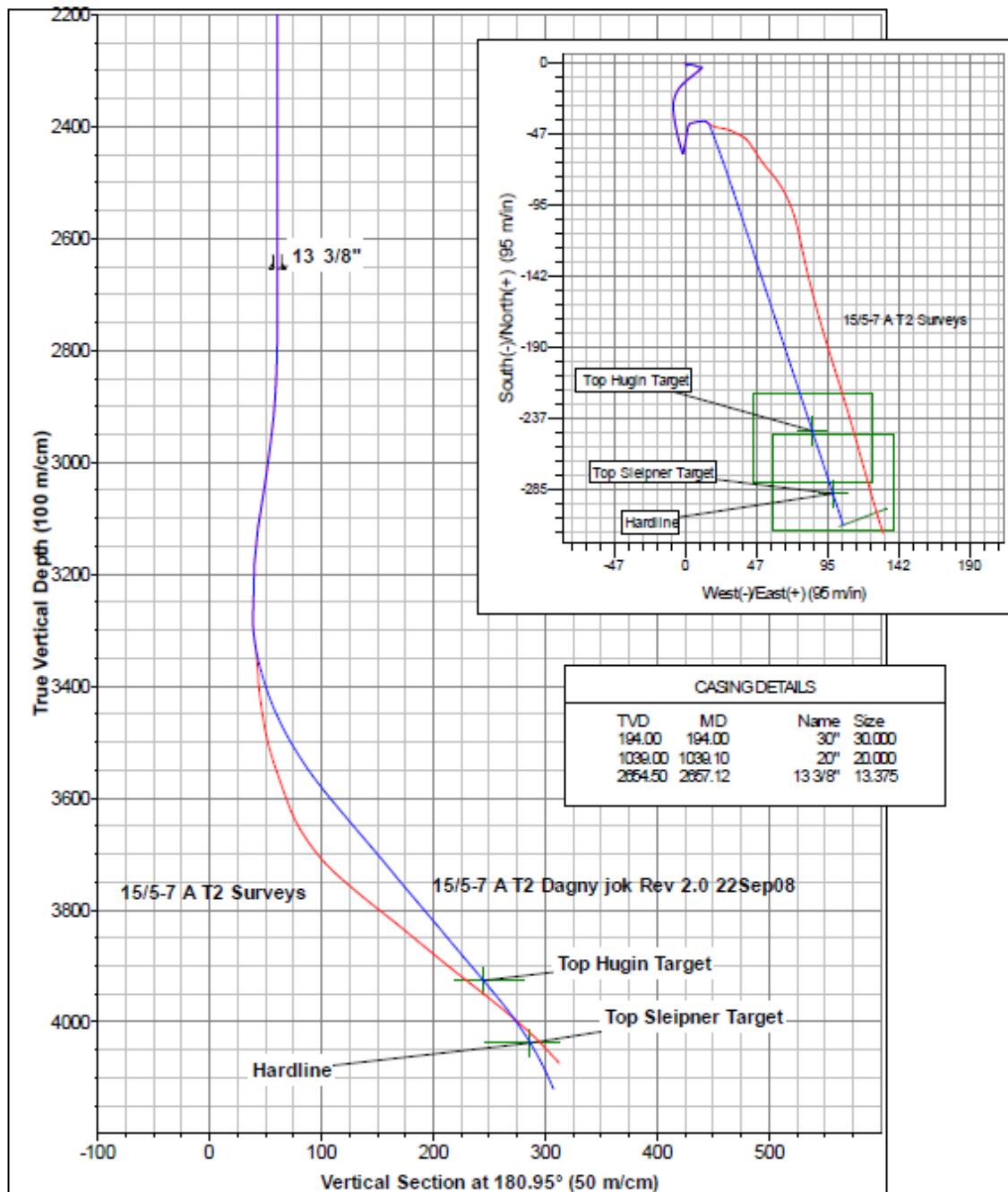
Water Depth: 119.00  
0.00 Northing  
0.00 Easting  
421755.00 Latitude  
58° 33' 22.242 N  
1° 39' 19.301 E Longitude

PROJECT DETAILS: EXPLORATION - UTM Zone 31

Geodetic System: Universal Transverse Mercator  
Datum: Eur. 1950 - W. Europe  
Ellipsoid: International 1924  
Zone: Zone 31N (0 E to 6 E)

System Datum: Mean Sea Level

### PLAN VS ACTUAL



## **App C Contractors list (optional)**

<b>Service</b>	<b>Contract no</b>	<b>Contractor</b>
Fishing service	SAP4600009489	Smith Red Baron
Rig Operations	SAP4600009636	Transocean
ROV Systems	SAP4600009500	Oceaneering
Drilling Fluids	SAP 4600009493	M-I Drilling Fluids
Core company	SAP4600009491	Halliburton
Subsea WH/X-mas tree	SAP4600009499	Drill Quip
Cementing	SAP4600009653	Schlumberger
Directional Drilling	SAP4600009504	Schlumberger
Electric Wireline Logging	SAP4600009506	Schlumberger
Measurement While Drilling	SAP4600009504	Schlumberger
Casing Crew Service	SAP4600009488	Odfjell Well Services

## **App D Standard sheet for reporting shallow gas**

1. Distance from drill floor to sea level: 26 m
2. Water depth: 119m MSL
- 3a. Setting depth for conductor: 194m MD RKB
- 3b. Leak off/ Formation integration test (g/cc): N/A
- 4a. Setting depth for casing on which BOP is installed: 1039m MD RKB
6. *Depth interval (m RKB and m TVD RKB) and age of sand layers shallower than 1000m below seabed. State which layer if any contains gas.*  
Quaternary sand layer 282-308m, water wet  
Sandlayer in Naust Fm. 635 - 636m, water wet  
Sandlayer in Utsira Fm. 791 - 990m, water wet
7. Shallow gas is not observed.
8. Composition and origin of gas: N/A
9. Describe all measurements performed in gas bearing layers: N/A
10. *Indicate the depths (m RKB and TWT) of unconformities in the well bore:*  
Base Quaternary was prognosed 636m +/-22m, and was observed at 635m on MWD log.

- 
11. Indicate depth and extension of sand layers (communication, continuity, truncation, ect.):  
N/A
  12. Indicate depth and extension of any gas blanking, seismic anomalies: None.
  13. State possible seismic indications that the gas originates from deeper levels. Description if gas originates from deeper levels: N/A
  14. *How does the interpretation of the site survey correspond with well data with respect to:*
    - *shallow gas*  
No shallow gas was expected and the well was not penetrating any gas filled level.
    - *Sand layers*  
Good correlation to site survey. The well showed generally less sand layers than the site survey signalized.
    - *Unconformities*  
Base Quaternary was prognosed at 336m +/-22m.
    - Base Quaternary was observed at 335m.
    - *Correlation with adjacent wells:* N/A

## **7 Enclosures**

### **Wellsite sample descriptions**

#### **Conventional Core descriptions**

**Completion log, well 15/5-7, 15/5-7 A and 15/5-7 A T2**

**Formation evaluation log, well 15/5-7, 15/5-7 A and 15/5-7 A T2**

**Pressure evaluation log, well 15/5-7, 15/5-7 A and 15/5-7 A T2**