OPERATOR:	**STATOIL PETROLEUM AS**
WELL:	**15/9-F-11**
WELLBORE:	**15/9-F-11 A**
FIELD:	**VOLVE**
RIG:	**MÆRSK INSPIRER**
COUNTRY:	**NORWAY**
DRILL PERMIT#:	**3563-P**

Report

WLC_PETROPHYSICAL_COMPOSITE_1.DLIS

Prepared by:	**LOGTEK AS**
Date:	**03-JUL-2013**

WLC_PETROPHYSICAL_COMPOSITE_1_INF_1

The WLC_PETROPHYSICAL_COMPOSITE_1.DLIS has been created in accordance with the NPD "**Guidelines to the Petroleum Regulations/REPORTING REQUIREMENTS FOR DIGITAL WELL DATA (Drilling Regulations, Section 12)**".
http://www.npd.no/Global/Norsk/5%20-%20Regelverk/Tematiske%20veiledninger/B_og_b_digital_rapportering_e.pdf

Purpose

To preserve 'specialist' composited data curves that may be created for a well but which do not fall into the 'standard' Composite (Section 3.1) or the 'Interpreted Data Input' data sets (described in Section 4.1). These data may have additional work done such as environmental or bed thickness corrections. This data set would normally be used by Petrophysicists. Operators are strongly recommended to report this data set in order to preserve value-added work.

Quality

Similar quality guidelines apply to the compositing work as described in Section 3.1.3 above. All work that is carried out must also be documented in an Information File.

Operationally, it is expected that both the 'standard' Composite Log and this 'specialized' Composite Log would normally be created in the same process but split into 2 data sets for reporting purposes. This ensures that the same depth shifting is applied to both data sets – an important quality requirement.

Content

Data that are not part of the 'Composited' or 'Interpretation Input' data sets. This may include:

- additional composited resistivity, NMR or other specialized curve data.
- composited data at high sampling rates for thin-bed analysis.
- a good guide is to include all 'presentation curves' from log prints (apart from those already included in the 'standard' composite). If quality curves such as Tension or Cable Speed are included (not a requirement), information must be included in the Information Files to show which data curves they refer to.

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MWD data plotted and verified to prints.
MWD AZTK-CCN-ORD-SDTK, run 8:
Gaps in TCDM not seen on plot.

Depth units are meter.

Quality comments:
Wellbore 15/9-F-11 A is an open hole sidetrack of wellbore 15/9-F-11 T2 kicked off at 2586 m (from MWD heading).
Wellbore 15/9-F-11 T2 is a sidetrack of wellbore 15/9-F-11 kicked off at 257 m (from MWD heading).

MWD AZTK-CCN-ORD-SDTK, run 8:
Data above 2571 m logged in casing (depth from log heading).
Log Comments:
Depth reference is driller's depth. All depths are measured depths (MD).
Well 15/9-F-11 A was kicked off from well 15/9-F-11 T2 as an open hole sidetrack in LWD Run#8 at 2586m (MD).
ORD version 2.6 was used in LWD Run#8, with an ORD Wear indicator:
Pre Run: Stabilizer: N/A, Source: 4, Long Space Receiver:3.
Post Run: Not measured, however, QC logs and log response in general indicated no problem with the tool.
Logger's TD for LWD Run#8 at 3762.2m (MD).

MWD SDTK Processed, run 8:
Data above 2571 m logged in casing (depth from log heading).
Log Comments:
Acoustic data presented on log is from the post processed data set utilizing 11 kHz Monopole Excitation.
Acoustic data presented on log is from the post processed data set. 3 kHz Quadrupole data is corrected for dispersion.
Log remarks:
No shear data found in the following intervals: 2761 m – 2766 m, 2776.5 m – 2782 m and 3527 m – 3548 m.

Editing on WLC_PETROPHYSICAL_COMPOSITE_1.DLIS:
MWD AZTK-CCN-ORD-SDTK, run 8:
Repeated values removed in top of curves.
Gaps in TCDM interpolated in order to match plot.

Depth shifts:
MWD AZTK-CCN-ORD-SDTK, run 8:
All data has been depth shifted in order to match data from MWD AZTK-CCN-ORD-MTK-SDTK, run 7 (wellbore 15/9-F-11 T2):

Reference curve:	GRCFM (MWD AZTK-CCN-ORD-MTK-SDTK-, run 7)
Offset curve:	GRCFM (MWD AZTK-CCN-ORD-SDTK, run 8)
Curves shifted:	All curves

Shift pairs used:
Observed: Actual:

2579.400 2579.100
2584.100 2583.900
2586.300 2585.800
2597.500 2597.500

CURVE SUMMARY, file WLC_PETROPHYSICAL_COMPOSITE_1.DLIS:

File #1. Increment: 0.1m

Main Services	Input Curve	Run no.	Date (start)	Interval (meter)	Merge depth (meter)	Depth shifted	Edited
MWD AZTK-CCN-ORD-SDTK	ABDC01M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC02M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC03M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC04M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC05M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC06M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC07M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC08M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC09M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC10M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC11M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC12M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC13M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC14M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC15M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDC16M	8	14-MAY-13	2593.3-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDCQF01	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDCQF02	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDCQF03	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ABDCQF04	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	BDCFM	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	CALCM	8	14-MAY-13	2489.3-3738.8		Yes	No
MWD AZTK-CCN-ORD-SDTK	DPEFM*	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	DRHFM	8	14-MAY-13	2473.4-3739.5		Yes	No
MWD SDTK Processed	DTC	8	14-MAY-13	2581.7-3723.4		Yes	No
MWD AZTK-CCN-ORD-SDTK	DTHM	8	14-MAY-13	2457.2-3723.5		Yes	No
MWD SDTK Processed	DTS	8	14-MAY-13	2581.7-3723.2		Yes	No
MWD AZTK-CCN-ORD-SDTK	GRCFM	8	14-MAY-13	2484.8-3751.4		Yes	No
MWD AZTK-CCN-ORD-SDTK	GRSIM	8	14-MAY-13	2485.0-3751.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	NPCKLFM	8	14-MAY-13	2470.6-3736.7		Yes	No
MWD AZTK-CCN-ORD-SDTK	NPCLFM*	8	14-MAY-13	2470.6-3736.7		Yes	No
MWD AZTK-CCN-ORD-SDTK	NPLFM*	8	14-MAY-13	2470.6-3736.7		Yes	No
MWD AZTK-CCN-ORD-SDTK	RACEHM	8	14-MAY-13	2565.6-3753.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	RACELM	8	14-MAY-13	2565.6-3753.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	ROPAVG	8	14-MAY-13	2585.5-3762.0		Yes	No
MWD AZTK-CCN-ORD-SDTK	RPCEHM	8	14-MAY-13	2570.8-3753.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	RPCELM	8	14-MAY-13	2569.0-3753.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	RPCESHM*	8	14-MAY-13	2565.6-3753.5		Yes	No
MWD AZTK-CCN-ORD-SDTK	RPTHM	8	14-MAY-13	2565.6-3753.5		Yes	No
MWD SDTK Processed	SVC	8	14-MAY-13	2581.7-3722.9		Yes	No
MWD AZTK-CCN-ORD-SDTK	SVHM	8	14-MAY-13	2457.2-3723.5		Yes	No
MWD SDTK Processed	SVS	8	14-MAY-13	2581.7-3722.6		Yes	No
MWD AZTK-CCN-ORD-SDTK	TCDM	8	14-MAY-13	2495.6-3762.1		Yes	Yes
MWD SDTK Processed	TTC	8	14-MAY-13	2581.7-3721.3		Yes	No
MWD SDTK Processed	TTS	8	14-MAY-13	2581.7-3721.3		Yes	No
MWD SDTK Processed	VPVS	8	14-MAY-13	2581.7-3723.2		Yes	No
MWD AZTK-CCN-ORD-SDTK	WOBAVG	8	14-MAY-13	2585.5-3762.0		Yes	No

* Not presented on plot.

Definitions:

Dynamic depth shift *– variable depth shifting (stretch and pull) as opposed to linear depth shifting.*
Linear depth shift *– Constant depth shift through a certain depth interval.*
Reference curve *– Curve that will be used as the depth* ***Reference*** *for a set of logging curves.*
Offset Curve *– Curve that will be compared to the* ***Reference*** *curve in order to find required depth pairs.*
Curves shifted *– Curves that will be shifted with depth pairs found by comparing* ***Reference*** *to* ***Offset*** *curve.*
Observed *–* ***Observed*** *depth is the depth of a point before depth shifting.*
Actual *–* ***Actual*** *depth is the depth of the point after depth shifting.*

WLC_PETROPHYSICAL_COMPOSITE_1.DLIS completed:	**03-JUL-2013**
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