

WellEye 2.3 Release Notes (Version 2.3.148)

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Product Overview

WellEye is a highly interactive, graphics-oriented, PC-based application that provides visualization of the borehole images in 2D and 3D as well as monitoring real-time update of image data. Several patented features differentiate WellEye from other visualization software.

Channels supported in WellEye

WellEye 2.3 supports the following tools:

- 1) LWD RAB tool (RAB Deep/Medium/Shallow Button Images, SOIM Caliper)
- 2) LWD ADN tool (Bulk Density Images, VERD Caliper, HORD Caliper, UOIM Caliper)
- 3) LWD EcoScope tool (Bulk Density, PEF, GR, and ultrasonic caliper Images)
- 4) Wireline FMI, FMS4, OBMI and Dual OBMI tools (FMI, FMS4, OBMI and Dual OBMI Images, 2-Arm Calipers)

5) Wireline UBI tool (AWBK image, XRBK caliper) (Use GVR template/RAB image type)

The channels that are currently available in WellEye 2.3 are listed at the end of this document.

System Requirements

Minimum Hardware Requirements

- Processor Speed: 550 MHz
- RAM: 256 MB
- Video Adapter: 32-bit True Color,
1024x768 screen resolution,
8 MB Video RAM

- Hard Drive: 1 GB Free Space
- Virtual Memory: 512 MB

Software Requirements

- Operating System: Windows 2000, or
Windows XP (Home or Professional Edition) or
Windows Vista
Windows 7

- DirectX: DirectX 8.1 or higher is required

There are also two levels of recommended requirements.

Low-End Recommended Hardware Requirements

- Processor Speed: 1G MHz
- RAM: 512 MB
- Video Adapter: 32-bit True Color,
 1280x1024 screen resolution,
 16 MB Video RAM
- Hard Drive: 1 GB Free Space

This hardware is recommended for use with LWD data.

High-End Recommended Hardware Requirements

- Processor Speed: 2 GHz
- RAM: 1 GB
- Video Adapter: 32-bit True Color,
 1280x1024 screen resolution,
 64 MB Video RAM
- Hard Drive: 4 GB Free Space

This hardware is recommended for use with Wireline data and with real time LWD images, which are 5000 ft long or more.

WellEye Main Limitations

Orientation of ADN Images

If the dataset does not contain both the orientation channels (RB and P1NO), then the ADN image defaults to Top Of Hole (TOH) orientation and the North Azimuth orientation is grayed out on the Control Board.

Caliper channels in WellEye

WellEye 2.3 can process a multidimensional caliper channel (like SOIM), a 2-Arm Caliper (like C1, C2), or a 1D Caliper (like DCAL) for display in the Small View. However, multiple 1D calipers cannot be selected and processed together.

Memory requirement based on data size

High-resolution data (like images from FMI, FMS4, and OBMI) should be processed and viewed in sections of 2000 feet (600 meters) due to the memory requirements for processing such data. For reference, when processing 200MB data, the system must have the following system resources:

RAM = 512 MB

Hard Drive Space = 1 GB free

Virtual Memory = 1.2 GB

Increasing the available RAM, virtual memory, and hard drive space will allow the user to process a larger interval.

Scrolling the Small View

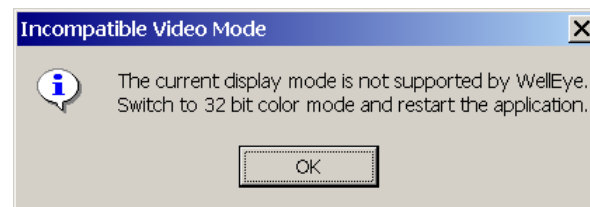
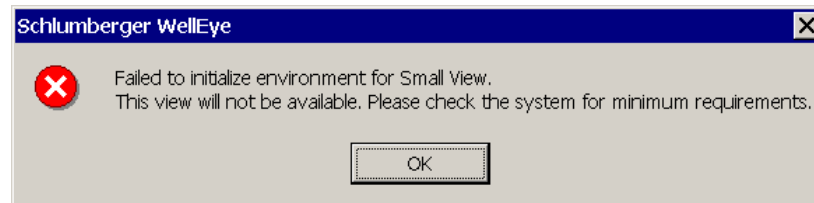
In WellEye 2.3, the Small View can only be scrolled by using the scrolling keys on the Control Board under the Small View tab, or by using the CTRL + Left Mouse Button on the Big View along the well trajectory.

Graphic Card Limitations

It is recommended to run the standard Microsoft diagnostic tool 'dxdiag' before using WellEye. If this tool encounters some problems or DirectDraw and Direct3D tests do not pass, WellEye 3D functionality may not work.

3D views in WellEye 2.3 require 32-bit colors, a large video card memory (at least 8MB), and other resources. Therefore, the full graphic card acceleration is necessary.

If resources are not sufficient even for initialization of 3D views, the user will be informed at the beginning of the work session with the following error messages.



If one of those error messages does arise, 3D views will never appear. In this case the user should check display settings, make sure that 32-bit colors and full acceleration are specified, close other applications to free graphic resources, reduce screen resolution, if possible, and restart WellEye. If the initialization error persists, resources of the particular graphic card are insufficient for WellEye and 3D displays will not work with that card. It may also happen that only one instance of WellEye can work on the particular machine at any given time.

However, even if the graphic resources are sufficient in the beginning of the session, they can become insufficient during its course. In this case, 3D views will not be updated properly and the user may see the fragments of older and surrounding pictures instead of the expected display, as well as some corrupted or white display elements. In this case, reducing the size of the 3D views, zooming them out, and closing other graphic-resource-consuming applications may help.

WITSML Data Limitations

Real time data monitoring in WellEye 2.3 is implemented through a WITSML stream. WellEye 2.3 can open WITSML files along with other data sources and monitor growth of those files, but WellEye uses WITSML schema 1.1.0 as it is implemented in the Schlumberger InterACT software. WellEye 2.3 may not properly recognize WITSML files that do not adhere to this schema, or that use namespace conventions different from those used by InterACT.

When using WITSML data, WellEye 2.3 expects to receive regularly sampled image and log data from the InterACT server. Irregularly sampled data will be filtered out. WellEye will work with mostly regular samples with some odd samples and repetitions, but loading of this data will take much longer.

Known Issues with the operation of WellEye

Orientation of ADN and EcoScope images by either "North" or "None"

There is a difference between the orientation of ADN in this version and v2.2.15. Be warned that None-Orientation and North Azimuth orientation of images from the ADN and EcoScope tools may be incorrect in this release. Please avoid using None-Orientation and North Azimuth for dip-picking, until this issue is clarified and resolved.

Hang when opening a survey file

WellEye may hang when opening a survey file and then the process must be killed from the Task Manager. The workaround is to open a menu while it is loading and cancel it again. e.g. open Edit - Options and hit 'Cancel'.

Dynamic image color scale

The color scale of the dynamic image is still reversed

Curve is wrongly labeled as "No Data"

Displaying Dips in a new tadpole track in 2D presentation

When the user creates a new Tadpole track in a 2D presentation using the Attribute Editor, the dips are not displayed in this track. Hence, the user must use one of the default formats to create a new format and use the existing tadpole track.

Insufficient Disk Space when processing Image or Caliper

When processing an image or a caliper channel (especially in the Small View), WellEye will need an available amount of disk space at least four times the size of the input data to be processed.

FMI MAXIS data display

WellEye 2.3 has been designed to display FMS4, OBMI and FMI Wireline image data generated by GeoFrame using BorEID. It can also display MAXIS FMS4, OBMI. As for MAXIS FMI data only processed (depth-corrected) data can be displayed properly in WellEye. Therefore, WellEye tries to determine the source of the data and will not allow the user to display non-corrected FMI data from a MAXIS-generated DLIS file. This is done because the same channel codes are used for non-depth-corrected MAXIS data and for the output of older versions of BorEID, so WellEye might display non-depth-corrected MAXIS FMI data improperly.

Impossibility to change survey data

WellEye 2.3 does not allow the user to load a different survey, after a survey has already been loaded. To switch to a different survey, the user must close and restart WellEye. Switching between real time monitoring and acquired data display modes is also prohibited, and requires a restart.

3D view initialization errors, when several instances of WellEye are running

Because 3D views in WellEye 2.3 consume significant graphic card video-memory and other resources, two or more instances of WellEye cannot be run simultaneously on most computers. If the user starts a second WellEye session and

the available resources are insufficient for initialization of another 3D view, an error messages described in the Graphic Card Limitations section will display. The user is encouraged to run Windows Task Manager to check if there is already a WellEye instance running. Note that a WellEye process can be running without a visible window if it encountered an unrecoverable error. If the user discovers a “hidden” WellEye process, it should be terminated using Windows Task Manager, in order to free graphics card resources.

Unit system issues while creating stream in InterACT

WellEye 2.3 while working with WITSML file takes data depth indices as they are specified. LWD tool indices are usually sent in 0.5 ft increments, however the InterACT server produces the stream in the units set for the account at the time, when the stream was created. Since InterACT server applies rounding, WellEye will get irregular depth indices in the case where the tool sends them in the English unit system and the InterACT server works in Metric. This issue may cause failure of image processing in the Real Time mode. It is recommended therefore to set the unit system, which is native for the tool (English as a rule) at the time of the stream creation. If the user wants to work in Metric units, the Metric system should be set later.

No support of DualOBMI in 2D window

WellEye 2.3.148 does not support DualOBMI display in 2D window due to the limitation of new version of LG component. When user tries to display a DualOBMI image, only half of the pads will show.

Major Enhancements and Bug Fixes in recent versions

Version 2.0.331

UOIM caliper image support is added.

2D/3D image display discrepancies in some case for Wireline images are eliminated.

Support for multiple hardware configuration licensing is added for SLB users. All licensed computer configurations may be specified in one file. To obtain such file user should present the credentials for all intended configurations. This feature is especially helpful for some old OFS Opspack laptop systems, which require a PCMCIA network card when undocked. For them docked and undocked states have different configurations and license file should be generated for both.

Requirement to have orientation channels for real time image data eliminated for some channels, which are already top of hole oriented. These are R3IM_TOH_RT, GR_RAB_IMG_RT, ADIM_RT, ADIM_TOH_RT channels. However in the absence of orientation channels (RB_RT, P1NO_RT) only top of hole orientation will be available for the 2D view.

Version 2.0.338

Support for Dual OBMI is added.

Sand count module for OBMI images (or other data containing the summary resistivity channel SRES).

Version 2.1.10

Support for UBI is added.

Dip planes are made visible in Big View. To ensure proper positioning of the dip

planes against the image, borehole diameter is now taken from the data as a bit size parameter, if any, or 8.5” by default. This is consistent with the average borehole radius calculation method used in dip picking. To ensure consistency changing of the visible borehole diameter is prohibited. Occasional “hourglass” shape bug of the borehole in case of significant deviation or azimuth changes is fixed. Bug, which caused inability to switch depth units from meters to ft and vice versa in Real Time mode, is fixed.

Version 2.1.72

Upgrade to Log Graphic Erika components. User can disable the 'Interpolate' function used for the 2D image and can modify bit size. Default bit size comes from the data file.

Orientation bugs are fixed. ADN, RAB, OBMI, Real Time ADN and Real Time RAB orientation bugs introduced by Log Graphic Erika components are all fixed and validated by experts.

Continuous printing is added. In 2D presentation, logs and header information can be printed continuously to a PDF file.

Performance improvement when processing image.

Dynamic Real Time image channels R3IM_DYN_TOH_RT and ADIM_DYN_TOH_RT are supported.

Auto save dips function is added. Dips picked are automatically saved every 30 seconds.

Bugs in cross section are fixed. The TOH line always points from center to top and viewpoint is changing according to the rotation of Small View. Cross section orientation is changed in order to provide downhole look (MD increases while moving behind the screen). Default Small View position is changed accordingly.

Radius of borehole in cross section is adjusted in case that some large value cannot be seen.

Dip planes' transparency can be changed according to different dip sets.

In order to be consistent with "Start Real Time" mode and other applications (e.g., BHAiM) survey processor in "Load Survey" mode extrapolates behind the last survey point up to the last MD.

Version 2.1.105

1. Major Improvements:

- 1) Support Dynamic 2D image by migrating WellEye to use Fabian Log Graphics. It is accessible by using the "Attribute Editor" on top of 2D view.
- 2) Support apparent dip track and display apparent dip information in dip spreadsheet.
- 3) Generate the sand count 2D format for FMI and FMS4 and update all the 2D formats.
- 4) Support good dip quality threshold.
- 5) Integrate PUC component to monitor usages of WellEye.

2. SMRs Resolved (excluding the duplicated ones with Major Improvements):

- 1) 270729 Dip management numbers the dips from 0 instead 1.
- 2) 276248 Cannot restore saved edited 2D formats.
- 3) 277350 When changing scale in the control board and the number is zero, WellEye bombs.
- 4) 279049 GVR Images come up with ADN name.
- 5) 285075 Camera position overwritten automatically
- 6) 286134 2D images default interpolation could lead to error.
- 7) 286135 Vertical/azimuthal sampling values are reset.
- 8) 286735 Paper length not calculated before printing file to continuous printer

- 9) 1101633 InTouch 3902839 / Temp folder location undesirable and write permissions issue
- 10) 1103946 WellEye support info in the Control Panel->Add/Remove Programs is incorrect
- 11) 1109238 Windows XP - instability in dip picking mode

3. Other Issues Improved:

- 1) In 2D view, image track will be the default track to add images.
- 2) Sand count curves (cutoff and SRES is set to start at 0).
- 3) For Wireline data, the orientation default is North not TOH.
- 4) The default color map is yellow and not heated, as yellow is what the GeoFrame prints are made with.

4. Already Known Issues:

- 1) The insert for inside view on the image is incorrect. It shows N-W-S-E-N and it should be N-E-S-W-N.
- 2) Depth numbers disappear if the 2D view window shrinks.
- 3) FMI image in 3D view does not consider the overlap of the flap from one arm with the pad on the adjacent arm. So some duplicated features will be displayed when the bit size is less than 8 inches.

Version 2.1.111

1. Improvements:

Fix the bug that FMI image processing in 3D view does not handle the overlap of the flap from one arm with the pad on the adjacent arm. Now no duplicated features will be displayed.

Measurement penetration of different tools is used when computing dips. (Hole Size = Caliper + 2 x Measurement Penetration)

Modify the sequence of apparent dip track and true dip track in 2D formats. Put the apparent dip track next to the image and then the true dip track.

Use updated PUC shared merge module to avoid incompatibility issues with other applications.

2. Already Known Issues:

- 1) The insert for inside view on the image is incorrect. It shows N-W-S-E-N and it should be N-E-S-W-N.
- 2) The color scale of dynamic image is reversed.
- 3) The dip tadpoles cannot be printed.
- 4) Locally created xml templates from older versions of WellEye are not compatible with the newer Log Graphics component used by WellEye versions 2.1.105 and 2.1.111. These older templates won't be removed by the uninstaller and so need to be manually removed and (if needed) replacements created.

Version 2.2.15

1. Improvements:

- 1) The WellEye-Petrel and WellEye-Inside Reality links are added in this version to provide real-time data updates from the rig (via IDEAL/InterACT) to Petrel and Inside Reality (IR). The current scenario supports export of well trajectories, 1D logs and dip data.

In addition to real-time WITSML streaming data, the links can be used to export any trajectory/log/dip data that can be loaded into WellEye (via DLIS, etc. formats).

- 2) The bit size value input from the Log Graphics Attribute Editor is used to calculate dips. (Hole Size = Bit Size + 2 x Measurement Penetration)

The Measurement Penetration value for each image type is listed below:

Image Type	Measurement Penetration (in)
ADN	1.0
RAB	1.5
FMI	0.394
FMS4	0.394
OBMI	0.2
UBI	0
DualOBMI	0.2

In previous WellEye versions, if there was no associated caliper channel, the bit size value in the data file was used to calculate dips and this value could not be changed. If there was no bit size value, the default 8.5 inches was used to calculate dips and the user could not modify it. In this version, the bit size value used to calculate dips can be modified from the Log Graphics Attribute Editor and caliper channels are no longer used to calculate dips. If the data file contains the bit size value, that value will be displayed on the Log Graphics Attribute Editor as the default value and the user can modify it at any time to calculate dips.

- 3) Fix the bug that the WITSML data with the metric index units cannot be loaded into WellEye. (SMR 1151094)
- 4) Fix the bug that the Small View is upside down. (SMR 1120565)

2. Already Known Issues:

- 1) The insert for inside view on the image is incorrect. It shows N-W-S-E-N and it should be N-E-S-W-N.
- 2) The color scale of dynamic image is reversed.
- 3) The dip tadpoles cannot be printed.
- 4) Locally created xml templates from older versions of WellEye are not compatible with the newer Log Graphics component used by WellEye versions 2.1.105, 2.1.111 and 2.2.15. These older templates won't be removed by the uninstaller and so need to be manually removed and (if needed) replacements created.

Version 2.3.53

1. Improvements:

- 1) A modification was made to display EcoScope images with correct orientation. ADN format files can be modified to display EcoScope data by simply replacing the ModuleName ADN with ECO. And the option to add an image will also be available if the image is generated by ADN or EcoScope.
- 2) Supports FMI images generated by Maxis, GF4.0 and GF 4.2/4.3.
- 3) Tadpoles don't print on hardcopy - fixed
- 4) Insert for inside view shows N-W-S-E-N and it should be N-E-S-W-N - fixed

2. Already Known Issues:

- 1) Curve is wrongly labeled as "No Data"
- 2) There is a difference between the orientation of ADN in this version and v2.2.15. Be warned that None-Orientation and North Azimuth orientation of images from the ADN and EcoScope tools may be incorrect in this release. Please avoid using None-Orientation and North Azimuth for dip-picking, until this issue is clarified and resolved.

3) There is a known problem with this version of Well-Eye and Windows2000, where on some machines the application will crash at launch. A fix to this problem will be released shortly.

Version 2.3.101

1. Improvements:

- 1) Fix the crash issue in Windows2000 when loading 2D view.
- 2) Fix the bug that Curve is wrongly labeled as "No Data".
- 3) Fix the installation issue when there is no D: partition.

Version 2.3.110

1. Improvements:

- 1) Fix a bug in Cross Section View.
- 2) It's clarified by tool expert that current ADN orientation is correct. The relevant warning is removed (please refer to known issues of v2.3.53).
- 3) Add the search functionality into build-in help, and a table of supported tools and channels is added into reference section.

Version 2.3.115

1. Improvements:

- 1) Support Vista.

- 2) Include some dependency patches in the installation kit. Lack of these patches may cause a runtime error with "Out of Memory" message. (SMR 2439071)
- 3) Update the built-in help file to point out that survey data (in ASCII file) has to be indexed in feet unit and US regional settings are required for running WellEye. (SMR 1151094 and 2112695)

Version 2.3.121

1. Improvements

- 1) Support GVR4 UHRI image.

Version 2.3.124

1. Improvements:

- 1) Fix bug of dip-picking license failure when MAC address of Juniper Network Virtual Adapter is changed.

Version 2.3.148

1. Improvements

- 1) Support USOI image.
- 2) Remove the Control Board placeholder (the "hand").
- 3) Officially support Windows 7.
- 4) Update license scheme: Previous licensed features (such as dip-picking, sand count, image processing) are disabled except for the licensed dlis file.

5) Display dip position and azimuth in deg unit in the tooltip of Tadpole in 2D window (SMR 2542809).

6) Fix the issue of image flaws when P1AZ rotates from 360 degree to 0 degree (SMR 2418772).

2. Already Known Issues:

1) No support of DualOBMI image.

List of channels available in WellEye 2.3

OSDD Channel	WE Name	Description	Type	Tool
BDIM	RAB_Deep_Image_BDIM	RAB Deep Button Image	Image	LWD – RAB
BMIM	RAB_Medium_Image_BMIM	RAB Medium Button Image	Image	LWD – RAB
BSIM	RAB_Shallow_Image_BSIM	RAB Shallow Button Image	Image	LWD – RAB
RES_BD_IMG	RAB_Deep_Image_RES_BD_IMG	RAB Deep Button Image	Image	LWD – RAB
RES_BM_IMG	RAB_Medium_Image_RES_BM_IMG	RAB Medium Button Image	Image	LWD – RAB
RES_BS_IMG	RAB_Shallow_Image_RES_BS_IMG	RAB Shallow Button Image	Image	LWD – RAB
R3IM_RT	RAB_Deep_Image – Realtime	RAB Deep Button Image	Image	LWD – RAB
R3IM_RT	RAB_Deep_Image (RB Only) – Realtime	RAB Deep Button Image with RB orientation only	Image	LWD – RAB
R3IM_RT	RAB_Deep_Image (P1NO Only) – Realtime	RAB Deep Button Image with P1NO orientation only	Image	LWD – RAB
R3IM_TOH_RT	RAB_Deep_Image TOH – Realtime	RAB Deep Button Image with TOH orientation	Image	LWD – RAB

R3IM_DYN_TOH_RT	RAB_Deep_Dynamic_Image TOH – Realtime	Deep Button Resistivity Dynamic Top-of-Hole Image	Image	LWD – RAB
GR_RAB_IMG_RT	RAB_Gamma_Ray – Realtime	RAB Gamma Ray Image	Image	LWD – RAB
GR_RAB_IMG	RAB_Gamma_Ray	RAB Gamma Ray Image	Image	LWD – RAB
UHRI_IMG	UHRI_Image (UHRI_IMG)	UHRI Image	Image	LWD – RAB
RBIM	Density_Quadrant_Image (RBIM)	Density Image from Quadrant data	Image	LWD – ADN
OSDD Channel	WE Name	Description	Type	Tool
ROSI	Density_16Sector_Image (ROSI)	Density 16-Sector Image	Image	LWD – ADN
RLSI	Density_Long_Spacing_Image (RLSI)	Density Long Spacing 16-Sector Image	Image	LWD – ADN
RSSI	Density_Short_Spacing_Image (RSSI)	Density Short Spacing 16-Sector Image	Image	LWD – ADN
DRSI	Density_Correction_Image (DRSI)	Density Correction 16-Sector Image	Image	LWD – ADN
IDDQ	Density_Quality_Image (IDDQ)	Image Derived Density Quality (16-Sector)	Image	LWD – ADN
PEIM	PEF_Quadrant_Image (PEIM)	PEF Image (Quadrant data)	Image	LWD – ADN
PESI	PEF_16Sector_Image (PESI)	PEF 16-Sector Image	Image	LWD – ADN
USI	PEF_Volumetric_16Sector (USI)	PEF Volumetric 16-Sector Image	Image	LWD – ADN
ADIM_RT	Density_Image - Realtime	Density Realtime Image	Image	LWD – ADN
ADIM_TOH_RT	Density_Image – TOH Realtime	Density Realtime Image with TOH orientation (actually the same as ADIM_RT)	Image	LWD – ADN
ADIM_DYN_TOH_RT	Density_Dynamic_Image - TOH	ADIM Dynamic Realtime Image (Top of	Image	LWD – ADN

	Realtime	Hole)		
SOIM	Ultrasonic_Standoff_Image (SOIM)	Ultrasonic Standoff Image from Quadrant data	Image	LWD – ADN
UOIM	Ultrasonic_Standoff_Image (UOIM)	Average Ultrasonic Standoff Image, Sectors	Image	LWD – ADN
DCRA	Density_Caliper_Image (DCRA)	Density 16-sectors Caliper Radii Image	Image	LWD – ADN
OSDD Channel	WE Name	Description	Type	Tool
GRIQ_ECO_RT	ECO Gamma Ray RT Image	Gamma Ray Image from Quadrants, Real-Time	Image	LWD – ECO
PEIQ_ECO_RT	ECO PEF RT Image (Quadrant data)		Image	LWD – ECO
PESI_STA_ECO_RT	ECO PEF 16-Sector RT Image		Image	LWD – ECO
PESI_STA_TOH_ECO_RT	ECO PEF 16-Sector TOH RT Image		Image	LWD – ECO
PESI_DYN_TOH_ECO_RT	ECO PEF 16-Sector Dynamic TOH RT Image		Image	LWD – ECO
ROSI_STA_ECO_RT	ECO ROSI Density RT Image		Image	LWD – ECO
ROIQ_ECO_RT	ECO ROIQ Density RT Image	Bulk Density Image from Quadrants, Real- Time	Image	LWD – ECO
ROSI_STA_TOH_ECO_RT	ECO ROSI Density TOH RT Image	Bulk Density (16-Sector) Image Oriented Top of Hole (U,R,B,L,U), Real-Time	Image	LWD – ECO
ROSI_DYN_TOH_ECO_RT	ECO ROSI Dynamic TOH RT Image	Bulk Density (16-Sector) Dynamic Image Oriented TOH (U,R,B,L,U), Real-Time	Image	LWD – ECO
GR_IMG16_STA_ECO_RT	ECO GR RT Image from Sectors		Image	LWD – ECO

GR_IMG16_STA_TOH_ECO_RT	ECO GR TOH RT Image from Sectors	Gamma Ray (16-Sector) Image Oriented Top of Hole (U,R,B,L,U), Real-Time	Image	LWD – ECO
GR_IMG16_DYN_TOH_ECO_RT	ECO GR Dynamic TOH RT Image from Sectors	Gamma Ray (16-Sector) Dynamic Image Oriented TOH (U,R,B,L,U), Real-Time	Image	LWD – ECO

OSDD Channel	WE Name	Description	Type	Tool
FCA1-4, FCB1-4, FCC1-4, FCD1-4, C1, C2	FMI_LEGACY_GF	GeoFrame (before 4.2) FMI Image	Image	Wireline – FMI
FMPA-D, FMFA-D, C1, C2	FMI_GF	GeoFrame 4.2 FMI Image	Image	Wireline – FMI
FBAA_P, FBAB_P, FBAC_P, FBAD_P, C1, C2	FMI_MAXIS	MAXIS Processed FMI Image	Image	MAXIS – FMI
BA11-BA18, BA21-BA28, BB11- BB18, BB21-BB28, BC11-BC18, BC21-BC28, BD11-BD18, BD21- BD28, C1, C2	FMS4	FMS Image	Image	Wireline – FMS4
BA11-BA18, BA21-BA28, BB11- BB18, BB21-BB28, BC11-BC18, BC21-BC28, BD11-BD18, BD21- BD28, C1, C2	FMS4 TOH	FMS Image	Image	Wireline – FMS4
OBRA – D, C1_OBMT, C2_OBMT	OBMI	OBMI Image	Image	Wireline – OBMI
OBRA – D, C1_OBMT, C2_OBMT, OBRA _2– D_2, C1_OBMT_2, C2_OBMT_2	Dual OBMI	Dual OBMI Image	Image	Wireline – Dual OBMI
OSDD Channel	WE Name	Description	Type	Tool

AWBK	UBI_Amplitude_Image	UBI Amplitude Image	Image	Wireline – UBI
XRBK	UBI_Hole_Centered_Radius_Ima ge	UBI Hole Centered Radius Image	Image	Wireline – UBI
Dh	RAB_Inversion_Caliper	RAB Inversion caliper	Caliper	LWD – RAB
ICAL	Integrated_Caliper (ICAL)	Integrated Caliper	Caliper	LWD – RAB & ADN
SOIM	Ultrasonic_Standoff_Caliper (SOIM)	Ultrasonic Standoff Caliper Image	Caliper	LWD – ADN
UOIM	Ultrasonic_Standoff_Caliper (UOIM)	Average Ultrasonic Standoff Caliper Image, Sectors	Caliper	LWD – ADN
DCRA	Density_16Sector_Radii_Caliper (DCRA)	Density 16-Sectors Radii Caliper	Caliper	LWD – ADN
DCAV	Average_Density_Caliper (DCAV)	Average Density Caliper	Caliper	LWD – ADN
ADIA	Average_Borehole_Diameter (ADIA)	Average Borehole Diameter	Caliper	LWD – ADN
VERD	Vertical_Caliper (VERD)	Vertical Caliper	Caliper	LWD – ADN
HORD	Horizontal_Caliper (HORD)	Horizontal Caliper	Caliper	LWD – ADN
NCAL	Neutron_Caliper (NCAL)	Neutron Caliper	Caliper	LWD – ADN
DCHO	Horizontal_Density_Caliper (DCHO)	Horizontal Density Caliper	Caliper	LWD – ADN
DCVE	Vertical_Density_Caliper (DCVE)	Vertical Density Caliper	Caliper	LWD – ADN
OSDD Channel	WE Name	Description	Type	Tool
ADIA_ADN_RT	Average_Borehole_Diameter	Average Borehole Diameter Realtime	Caliper	LWD – ADN

	Realtime (ADIA_ADN_RT)			
C1, C2	2-Arm Caliper (FMI, FMS4)	2-Arm Caliper C1, C2	Caliper	FMI & FMS4
C1_OBMT, C2_OBMT	2-Arm Caliper (OBMI)	2-Arm Caliper C1_OBMT, C2_OBMT	Caliper	OBMI
XRBK	UBI Radius	UBI Radius	Caliper	Wireline – UBI
OSDD Channel	WE Name	Description	Type	Tool
GRIQ_FILT	GRIQ_FILT	GR Image from Quadrants, filtered	Image	LWD - ADN
USOI_FILT	USOI_FILT	Ultrasonic Borehole Image, 16 sectors	Image	LWD - ADN
USOI	USOI	Ultrasonic Standoff Image, 16 sector	Image	LWD - ADN