subsurface AI

Enhancements and Fixed Defects in SubsurfaceAI 2024.1

April 2024

1: Multi-Scale Shared Database

Enhancement: 2-D SEGY importing and exporting enhancements

Enhancement: 3-D SEGY exporting UI layout enhancements

Enhancement: Be able to search template in general properties page of selecting template

G4288 (Enhancement): Add option to create new well top attribute column in well top spreadsheet

G4190 (Enhancement): Be able to create new well on base map

G4139 (Enhancement): Support changing domain type for 2-D seismic volume and 2-D horizon

G4100 (Enhancement): Add "Sort by Name" to 2-D survey

G3992 (Enhancement): Support 2-D seismic data spectral blueing, colored inversion, and extract wavelet

G3986 (Enhancement): Support 2-D seismic data export to SEGY

G3579 (Enhancement): Add delete RBM in well section window to delete log

G3401 (Enhancement): Add option to export longitude and latitude when exporting GeoTiff and Shape file

G3152 (Enhancement): Add option to sort wells by visibility on tree view

G1395 (Enhancement): Auto generated a well filter group when importing wells in OWX or Photon ASCII format

G3427 (Broken): Horizon names are not read when importing multiple horizons in one file

G3186 (Broken): UWI is wrong when importing well header

G4398: Some imported colormaps are damaged right after reversing

G4385: Importing 3-D horizons is not working if selecting "Horizon Names" column

G4379: 2-D horizon export invalid value issue

G4366: Change "Remove project" to only remove the project from recent project list, but not deleting file in the disk

G4298: Rewrite .zxy file header information when editing general information of seismic volume

G4286: The well path of a well created from RBM from Well folder cannot be edited

G4277: Add three templates "Near offset", "Middle offset" and "Far offset partial stack amplitude" under "Post stack amplitude" template folder

G4217: Setting invalid value in well log las import does not work

G4196: Not able to read correct sample interval for some SEGY file when importing

G4176: Use comma delimiter only for files have an extension of .csv

G4133: Well log import should take user's change on input unit as priority and support PU as another unit of porosity

G4114: Program crashes when re-sampling 3-D data volume without zxy file

G4089: Generating AI volume from a label should not let users select model and volume because they are determined

G4062: Importing large seismic data (~150GB) is very slow in calculating valid traces

G4032: Fault tree structure with folder created is not stable and not consistent with the 3-D window visualization

G4004: The truncated seismic volume cannot be imported to the same survey as the original seismic volume

G3999: 3-D SEG-Y file importing: histogram is wrong after changing data format to another and change it back

G3973: Reorganize fault data tree: Remove "Fault Folder" node and add two top level folders "Fault Stick Folder" and "Fault Point Set Folder"

G3959: Wiggle display is empty at the first time in 3-D SEGY importing

G3958: Spectrum display is wrong in 2-D seismic importing UI

G3957: Wiggle is displayed randomly in 2-D seismic importing data format dialog

G3956: Add warning message "2-D Seg-Y files only can be imported into a 2-D survey" when importing 2-D seismic if the current tree node is not a 2-D survey or null

G3954: Wiggle display for 2-D seismic section looks wrong as the importing domain type and Z range of 2-D seismic data are wrong

G3952: Support selecting 2-D survey when importing 2-D seismic navigation data

G3949: Number of valid traces on attribute seismic grid is wrong if its inline or crossline is different from the root volume

G3944: Add an option to keep value when exporting SEGY to 16-bit Integer format

G3919: Not able to load 2-D SEGY correctly if the sampling rate is float and less than 1

G3917: Add option to load 2-D SEGY to existing 2-D surveys

G3901: Improve well filter (well log group) properties page

G3900: Core image is missing after moving the project location

G3885: Program sometimes crashes when moving a log out of a well group track in window manager

G3866: Exported las file contains two invalid values

G3848: Culture data's shape and color are lost after importing using DXF format

G3820: Importing well path should match well by UWI if well name does not match with file name

G3817: Exporting well data has problem if the well name contains special symbol (e.g., /)

G3815: Importing multiple culture data files and the "Ok for All" button only works for the first file

G3810: Not able to correctly load SEGY file exported from Kingdom

G3721: Be able to overwrite existing well logs with the updated version of well log

G3673: The template/ log match should not be reset if all has been set but users accidently click "OK" rather than "OK for All" during multiple las file import

G3672: Add "not contain" condition in well group (filter) when using well name to filter wells

G3671: Be able to export multiple horizons to multiple files at one time

G3657: Let user choose whether to import las file when the well is not matched with any existing well in the project

G3656: Photon ASCII well file import incorrectly handle comma within quotation marks

G3645: Other info is wiped out when editing depth of well formation/ top

G3602: The results are wrong if batch importing las files that have different unit in depth

G3596: First horizon name is not right when importing multiple horizon files

G3588: Large number of las files cannot be imported at one time

G3583: Add UI to let user choose what to export when exporting well data for multiple wells

G3575: Digitizing well does not work if the project does not have seismic volume

G3570: Well type list needs to be sorted when editing well type in Well Manager

G3569: Add warning message if user not selecting wells when assigning wells to well folder in Well Manager

G3567: Uncheck "ignore consecutive" option for csv file in import UI

G3563: Well logs cannot be imported in batch if the depth name is not consistent

G3554: Imported core image cannot be displayed on well section if the original core image file was deleted even though the image is already imported and saved

G3546: Program is easy to crash when close the exporting SEGY UI when exporting SEGY file

G3543: GTC cube file creation has problem for the facies volume with facies ID more than 255

G3512: Improve UI of importing owx file: Add Merge to existing well tops UI layout

G3504: Wells with the same name/ UWI are duplicated if importing in OWX format when those wells already exist in the project

G3497: Exported SEGY has spikes that do not exist in the original volume

G3424: Vp and Vs log's unit cannot be converted correctly when importing

G3415: Change column name "Well Top" to "Well Top Name" when importing well top

G3376: Property template is not correctly selected when importing common ASCII format well log data

G3327: Be able to search template in search functions for objects in the project

G3316: Add a column in horizon spreadsheet to show matched well tops

G3290: Well log alias name replicates when importing different well log format using ASCII and las

G3242: Support Inline/ Crossline scaler in 3-D seismic data importing

G3184: The upscaled facies log and facies proportional curve should be consistent with the original facies log

G3175: Show x, y, z correctly for the wells in training data well filter

G3126: Well path in Photon ASCII format is loaded incorrectly

G3111: Default property template is not correctly selected in well log import

G3087: Well tops import causes crash for depth volume because the last row is empty data

G3057: Calibrated TVD and TWT should be consistent with the original file after importing velocity curve if not changing anything

G3014: Program crashes in RBM when there is only 3-D seismic node but no 3-D seismic volume object

G3011: Have trouble matching wells in well log import

G3005: Change icon image for upscaled well log and data analysis

G2387: Be able to handle both time and depth domain in the same survey

G1351: Be able to import the polygon file exported from subsurfaceAI

2: Integrated Visualization

Enhancement: Improvement of visualizing 2-D seismic line on seismic section (add scroll bar changing between different 2-D seismic lines)

G4180 (Enhancement): Add/ modify RMB options for selecting 2-D lines on a basemap to display in section view

G3833 (Enhancement): Add rectangular shape option for drawing well top in 3-D window and be able to edit the width and height of the rectangle

G3613 (Enhancement): Highlight well from tree view in well section window

G3572 (Enhancement): Add option to select template and log alias to display well logs in well section window

G2972 (Enhancement): Show regression line and correlation coefficient in cross plot in data analysis window

G4237 (Broken): Fault intersection point on basemap does not work

G3883 (Broken): Seismic display mode "variable intensity + variable area" is not working properly for newly created seismic section window

G3575 (Broken): Editing transparent curve for sub volume should not change inline/ crossline to transparent

G3489 (Broken): Logarithm display of X and Y axis in cross plot is not working

G3365 (Broken): Geobody cannot be displayed in seismic section window

G3343 (Broken): Overlaying culture data on surface in 3-D window is not working

G3127 (Broken): Checking well tops to display it in windows is not working

G2999 (Broken): Disabling Anti-aliasing does not work

G4439: Township numbers from shape file do not display on basemap

G4397: Seismic attribute in fault surface should share the same color map and display range with the seismic volume

G4354: Change description of activate color in Project Properties page for well path editing

G4291: Reflection curve from synthetics is plotted incorrectly on seismic section window

G4243: Not able to edit interval for animation of depth slices for depth volume

G4224: Fault folder cannot be toggle on if all faults are in depth

G4174: Facies visibility in sub volume rendering does not work

G4157: Do not check "Interpolation" in the well digitizing mode

G4154: Some default line thickness is too thin

G4153: Time slice is incorrectly displayed on seismic section window if the seismic is flatten on a horizon

G4143: Copied well does not display on the seismic section in time

G4085: Visualizing cross sections with seismic data on it in 3-D window causes crash

G4068: The font is too big for the horizon name displayed on seismic section

G4048: Sometimes overlaying strata-grid attributes on base map is not working

G4031: The color map is not linear change for map displayed on base map

G3984: Visualization windows "Full Screen" does not work in the multi-document interface mode

G3976: Add visualization settings to control visualization properties of 2-D seismic line in 3-D window

G3972: "Apply to All" for the fault mesh properties in 3-D window does not work correctly

G3931: 2-D seismic line rendering problems

G3853: Changing seismic section trace scale causes crash if the same inline are displaying on two seismic sections with different sample rate seismic volume

G3836: Add an RBM option to clear all the objects displayed in the current 3-D, seismic section, or base map window

G3816: Seismic section window overlaid with facies volume has a shift

G3774: Dash lines appear when displaying surface map with transparency

G3773: Fault surface rendering is wrong in 3-D window

G3735: Well visibility under well top's well filter is handled incorrectly

G3697: Add white pattern to represent no pattern for facies in facies log color map

G3691: Add justify (left or right) option to control the horizon name displayed on seismic section

G3683: Make a well invisible in well section window resets the view

G3640: Not able to change thickness of the line that represents well top on seismic section window

G3639: Well log transparency outside of min/max is incorrectly handled

G3635: Horizon intersection in 3-D view should be exact and not connected with a line

G3619: Wells without T-D cannot be displayed on seismic section and 3-D window (time) even with velocity model applied

G3604: Strata-grid (depth) generated from well tops cannot be displayed on seismic section (depth)

G3598: "Apply to all" on facies log's visualization should only apply to the same log alias

G3592: Show MD value in the status bar at cursor for the wells displayed in seismic section window

G3591: Highlight visualization properties for well group filter does not work and "Apply to All" icons should be removed for well group filter

G3584: The vertical increment of vertical axis shows wrong properties and cannot be edited as a property of seismic section window

G3578: Only show well top names on Depth track but not on each log track in well section window

G3571: Sometimes program crashes when moving the well track left for core plug data in well section window

G3544: Program crashes when rendering the 3-D seismic volume after facies filtering in 3-D window

G3490: Log's value does not show up at the cursor on well track if the logs are displayed at the right of the well group track in well section window

G3474: Use well's depth control to limit well logs display in 3-D window

G3449: Color on strata-grid slice is dimmer than those on time slice

G3428: Extracted attribute grid is clipped when the strata-grid's top exceeds the volume survey

G3378: Revise the default visualization settings of DT training data in well section window

G3372: The data display range of reservoir properties realization should be consistent with its color map in well section window

G3346: Facies proportion curve of upscaled facies log on strata-grid or interval cannot be displayed in well section window

G3336: Facies log shown in well section window should not show red line

G3323: Change the default point size to large for 2-D cross plot because it is too small in 4K screen

G3304: Unchecking training data on the tree view does not update immediately in the 3-D window

G3231: Axis name and unit are wrong in T-D window if switching to interval or average velocity

G3188: Logarithmic scale display for training data does not work

G3154: Be able to visualize upscaled facies log's "Facies Proportional Curves" in well section window

G3122: Well logs do not display on seismic section window when selecting them from well log group

G3115: The default color map needs to be reversed when overlaying structural attributes on seismic volume

G3080: Production data on deviated wells is displayed incorrectly on base map

G2996: Overlay properties RBM does not show when right clicking on seismic section

G2943: Show 1-D PDF but not Normal Distribution Curve as the default in data analysis window

G2002: Add a way to hide intersection 2-D lines of 2-D survey in seismic section window (in 2-D line's properties page)

3: Well Log Data Analysis

G3096 (Enhancement): Add Vp and Vs to the elastic calculator

G4391: Program crashes if selecting "All" when doing log normalization (STD)

G4240: Well log normalization is not working correctly if using depth control

G3920: Add option to control (select) wells when cross plotting upscaled well logs and attributes

G3870: Program crashes when saving cube grid to classification object from 3-D cross plot of well logs

G3589: Do not check any filter options by default in the well log filtering UI

G3580: Recorded calculation parameters are wrong when selecting logs based on log alias to do unsupervised facies classification

G3370: Elastic modulus calculator should ignore other logs' valid range when calculating Vp and Vs if the depth range is none

G3359: Remove back slash from the name of well log neural network results

G3553: Program crashes when copying core plug to well log and then cross plot the logs

G3320: Editing value for conditions does not work in rule-based log classification

G3319: Change default facies template to "default facies" for rule-based log classification

G3255: Some wells are not recognized in well log elastic modulus calculator

G3164: Not able to select well logs in rule-based classification if starting from a well filter group

G3158: Remove redundant well filter UI in 2-D well log cross plot

G3130: Cross plot of core plug set is empty

G3097: Band pass filtered well log has anomalies if the original log has invalid value

G3067: Invalid value should be considered when calculating statistics in data analysis

G3050: Depth range is not recorded for well log facies classification

4: Geologic Correlation of Well Logs

G3590 (Enhancement): Edit well tops: sort well top list in drop down box when editing well tops in well section window & add "Edit well tops" RBM to click an existing well top to edit

5: Formation Property Modeling & Prediction

G4285: Well tops disappear in the UI when selecting well group restriction in surface creation
G4263: Polygon and well group restriction should only use the wells within the polygon and well group for surface creation

6: Near Wellbore Modeling and Upscaling

G4318: SBED property modeling periodical component does not work when multi-thread
G4307: 3-D simulation variogram vertical range does not work properly and edit the unit of vertical range
G3577: Generated synthetic core plug should be constrained by the model depth
G3560: Not able to import saturation file and it keeps giving warning
G3364: REV analysis results should have at least 4 decimals
G3177: The unit of dx or dy is wrong for SBED property grid
G2779: Be able to edit fracture parameters in the fracture plane spreadsheet

7: Basic Seismic Interpretation Workflow

G4122, G4225, G4227 (Enhancement): Improve 2-D seismic synthetic generation, seismic well tie and support horizon and top match
G4045 (Enhancement): Improve horizon tracking on 2-D seismic data
G4023 (Enhancement): Enhance "Build 2-D grid" on 2-D horizons
G3576 (Enhancement): Be able to create velocity model without seismic data
G3503 (Enhancement): Add option to flatten 2-D seismic line on 2-D horizon
G3286 (Broken): Match top and horizon to build velocity model does not work for certain project (show empty list)
G2993 (Broken): Editing by tracking path for horizon is not available after clicking 2-D extension

G4395: Horizon picking is not working if snap is None and amplitude limit is used
G4356: Program crashes when converting depth horizon created from well tops to time
G4158: Do not record Z value when digitizing a line or polyline on base map when there is a surface displayed and digitized line should always be visible
G4140: The horizons converted from horizon label is not showing up in the pull-down selection bar when digitizing horizons in a newly-opened seismic section window
G4122: Horizon and well top match does not work for 2-D synthetics and seismic well tie
G4119: Statistics of a tracked horizon are wrong and the horizon cannot be displayed on inline section window (depth volume)

G4087: Seismic volume loaded in very old version still uses its own datum but not survey datum in time-depth conversion

G4067: Horizon picking mode is always on when displaying 2-D seismic line on seismic section

G4052: 3-D horizon tracking is extremely slow when the data volume has LDM file and no ZXY file

G4037: Converting multiple fault points to fault sticks at one time causes crash

G3950: Fault projections on vertical section interfere with active fault interpretation

G3902: Add warning message when generating synthetics if horizon-well tie is not enabled

G3865: The error message is not clear if a velocity strata-grid without upscaled interval velocity is selected when creating velocity model

G3682: Lef track and Right track should reflect whether the section is flipped or not

G3667: Selecting horizon from section window to pick/ edit horizon is not working

G3661: All the wells show up on seismic section window once activating velocity model regardless of the defined distance

G3646: Sort horizon list when selecting a horizon to edit in seismic section window

G3628: Add an option to deactivate velocity volume

G3626: Define better default settings to constrain the range when converting volume to depth from time

G3623: Record all parameters used in horizon tracking

G3622: "Thinning Volume" cannot be selected to constrain horizon tracking

G3379: Program crashes when switching the 2D seismic line after picking the faults when the faults are still active

G3356: T-D curve resampling ignores the 3rd decimal in sampling rate

G3342: Using top and horizon tie causes crash in building velocity model

G3317: Add a RBM option to clear top-horizon match

G3315: The initial list of horizons should be empty when building velocity strata grid from Tools menu

G3311: Velocity model is not correct if using well top-horizon tie when the velocity strata-grid is created using polygon

G3058: Interpolated surface has problem if checking clipping parameters

G3038: The depth horizon converted from time has anomalies even the velocity model is correct

G3034: Program hangs or crashes when generating synthetics in a multi-survey project

8: AI for Seismic Interpretation

G4202 (Enhancement): Add training options parameters of each time training for trained models

G4201 (Enhancement): Include parameters for advanced users to modify for training and prediction options

G4182 (Enhancement): Add UI to provide options when importing AI model

G3726 (Enhancement): Convert section data predicted from horizon model to label

G3650 (Broken): GPU memory is not released even when the main software is closed

G4386: The error message is misleading when exporting an imported AI model to onnx

G4355: Converting fault sticks digitized on arbitrary section to AI label does not work

G4322: Program crashes when simultaneously calculating 3-D AI fault probability on the same AI server

G4300: The invalid value of AI horizon prediction should be displayed in transparent

G4268: Add an option for temporary AI model path on AI server UI

G4205: Need better tooltips to clarify additional output parameters such as Apply Transfer Learning

G4203: Comments added to AI model should be consistent throughout the project

G4140: Horizons converted from horizon labels does not show up in pull-down toolbar of horizon tracking in newly opened window

G4127: Extracted horizons from AI predicted sequence (depth domain) has wrong histogram and color map min/ max

G4086: Training horizon labels crashes when the top and bottom Z set in AI options don't cover all the horizons

G4075: AI horizon label's RBM "Highlight on tree view", "Invisible", etc. in seismic section window are not working in AI fault digitizer mode

G4072: Digitizing fault labels and undo/ redo are slow for large seismic section

G4071: Digitized fault label is not right if the end point is outside of the seismic section

G4067: Not able to digitize certain facies label on seismic section when moving section location in top-level windows interface

G4015: Add RBM "Set active horizon" for horizon AI label

G4000: Multiple issues in horizon labeling, horizon label and sequence volume display and conversion from sequence volume to horizon labels

G3997: Add an option to adjust top and bottom shift of horizon label for training and prediction options

G3985: Add set active AI label RBM and corresponding icon on data tree

G3981: Support AI training and prediction for volume with one dimension less than 255 pixel

G3975: Copy Z values of a horizon to its truncated horizon in digitizing horizon label

G3965: Sometimes few sequences are missing when predicting AI horizon

G3964: Two-seed tracking in digitizing AI horizon label in depth domain does not work as expected

G3828: The progress bar lasts long when closing the project without connecting to AI server

G3825: Generating AI interpretation volume does not work if no visualization window is open

G3798: Horizon picked from sequence volume has a shift

G3797: Extracting horizons by seed from sequence volume causes crash if the middle trace used for seed point is invalid

G3770: Training sub volume with the labels converted from original volume causes crashes

G3763: Horizon labelling preview is wrong for trough

G3751: Resolve the problem when deleting horizon label on one seismic section with other seismic sections intersected

G3742: The fault probability volume predicted from interactive AI interpretation shows discontinuous fault lines on arbitrary section after thinning

G3741: The window size settings window for horizon label editor still retains even if the main horizon label editor is closed

G3736: Deleting 3-D arbitrary sections and 2-D seismic line should also the AI labels and predictions on the sections and gives warning before doing it

G3666: Ignore the label when one of horizons is invalid on a section in the conversion from horizons to label

G3655: Be able to convert a labelled horizon to a regular horizon

G3651: The default max width in digitizing horizon labels window settings is too small

G3611: Support training models in different GPUs from different users at the same time

G3586: Different users' GPU server needs manually checked for training and prediction when there are multiple GPU servers in the AI server

G3508: Half of the horizon labels are lost after exporting and importing to a different volume when the crossline number is greater than inline number

G3507: AI training crashes if the GTC cube file is not generated

G3506: Copying label and paste to a new volume calculated using volume calculator does not work

G3496: Sometimes data I/O error occurs when saving project

G3234: The number of training label sections is not updated after deleting label sections

G3215: Be able to edit the names of the horizons to be extracted from the seismic sequence volume

G3212: Set invalid value instead of zero when predicting 3-D AI horizon volume

G2997: Training RGT label converted from horizon crashes

G2930: The size of labeled sections is limited by 32-bit integer

9: Volume Interpretation and Visualization

G3990 (Enhancement): Support RGB color blending and co-rendering on 2-D seismic data

G4282: Converting tracked fault points to fault stick does not work in depth domain if the depth volume has positive depth value

G4239: Top and bottom horizon control do not work in manually fault point plane tracking

G4051: The histogram and min/ max of color map are not correct for a new 3-D horizon tracked on seismic section

G4040: Extracting wavelet from a time volume gives warning that the range of seismic volume is too small

G4037: Program crashes when converting multiple fault points auto-tracked by seed points to fault sticks

G4010: Not able to display normally when switching sections after changing the thinning volume property type to fault likelihood or fault probability

G3542: Geobody picking is not working on facies volume with more than 256 facies

10: Seismic Attribute Calculation and Interpretive Processing

Enhancement: Support attribute calculation and image filtering, resample and calculator for 2-D seismic data

G4136 (Enhancement): Add thinning workflow to strata-grid attributes

G4262: "Retain Amplitude" option in "Image Thinning…" or seismic volume thinning does not work

G4058: Not able to cancel Gaussian filtering process for 3-D seismic data

G3977: Horizons' relative depth relationship is not correct when building strata-grid

G3960: "gmfaultmodel" is duplicated when back and forth checking pages in fault probability calculation

G3809: Program crashes immediately when calculating similarity attributes if all 3 options are selected at the same time

G3669: PCA filtering shows wrong results on depth volume data

G3662: Anisotropic diffusion filtering on depth volume causes crash

G3495: PCA filtering results show artifacts sometimes when there are gaps in the shallow part

G3267: Add unit to template name in elastic modulus calculation interface

G3266: Set right scale in seismic volume elastic modulus calculation interface

G3253: AVO attributes are wrong if using the angles remembered by AS and calculate it without clicking on the angles

G3226: Change the icons for calculated seismic attributes and extracted strata-grid attributes to the property's template icon on the tree view

G3111: Default color map of calculated semblance is wrong

G3041: The green slope line drawn on frequency map is at wrong position if the interval is created using polygon constrain

11: Seismic Attribute Analysis

G4214 (Enhancement): Add range filtering panel in properties page of seismic volume cross plot

G4035 (Enhancement): Be able to extract 2-D seismic attributes to 2-D horizon

G3998 (Enhancement): 2-D seismic data workflow: build 2-D strata-grid and extract seismic attributes

G3996 (Enhancement): 2-D seismic data workflow: build 2-D interval and extract seismic attributes

G3103 (Enhancement): AVO cross plot small improvements in usability and visualization

G3109 (Broken): Extracting wavelet volume does not work

G3065 (Broken): Range locking does not work for strata-grid slices

G4390: Cross plot of seismic volume shows invalid value

G4329: Inline and crossline ranges specified for cross plots are not retained in the Calculation Parameters options in certain case

G4074: Program crashes when converting discrete strata-grid attribute predicted from neural network to data volume

G4028: Program sometimes crashes when converting strata-grid attributes to volume using default parameters

G4027: Strata-grid attributes calculated from calculator is saved in wrong tree node

G3928: Invalid value is not handled when extracting seismic volume attribute to strata-grid attribute

G3922: Creating geobodies on resampled seismic volume generates wrong results

G3918: The recorded detection threshold values of seismic volume geobody tracking are wrong

G3898: Support transparency for visualizing highlighted polygon area on seismic section from cross plot of strata-grid attributes

G3896: Program crashes when the top and bottom horizons are reversely selected in cross plot of seismic volume attributes

G3814: Facies number is wrong when converting geobody to facies volume

G3457: Show frequency value on status bar for frequency gather in seismic section window

G3387: Warning "the memory is not enough" shows up when extracting large volume data to strata-grid

G3357: Show volume name in the error message when doing waveform correlation

G3331: Add unit to the property on axis of cross plot

G3160: Overlapped cross plot is put in a separate folder on tree list in cross plot window

G3151: Cross plot axis does not update if changing the attribute in cross plot properties page

G3066: Cross plot created in 8.6 or earlier 9.0 loses color when opened in 9.0

G2857: 2-D axis setting should not change when changing Color/ Symbol/ Facies component in cross plot

12: Machine Learning for Integrating Well Data and Seismic Attributes

Enhancement: Change correlation coefficient to coefficient of determination for evaluating machine learning model performance

G3007 (Enhancement): Be able to upscale multiple well logs (continuous or discrete) for the training data (reservoir grid, horizon, interval, strata-grid)

G4188: Use "Build Machine Learning Models…" in all corresponding RBM commands

G4013: Predicting property grid from machine learning model using many wells and seismic attributes causes crash

G4012: Program is easy to crash in performance analysis when there are more attributes and wells participated in neural network training

G3744: Editing min/max value limit when predicting properties or production grid does not work

G3704: Deep learning model prediction crashes if smooth filtering or facies filtering turned on

G3442: Program crashes if switching to SHAP plot on stepwise regression in performance window

G3403: Add "depth" to the name of training fata if it was created in depth domain

G3390: Add option to choose to work on time or depth when doing deep learning if the strata-grid has been converted to depth from time

G3230: Do not merge attribute by default when displaying SHAP plots

G3229: Limitation is not working and there is no smooth option when predicting grid from multi-realization neural networks

G3102: Input attributes list is missing in calculation parameters page of predicted property grid from multiple realizations' neural network

G3101: Property grid predicted from multiple realizations of neural network does not have correlation coefficient in its tree node name

G3093: Multiple realizations of neural network prediction always predict every realization even only one is selected

G3091: Program crashes if aborting neural network training and prediction on strata-grid

G3088: Use new icon image for all neural network or deep learning model

G3051: The order of training, validation and testing is not consistent when creating neural network for well logs

G3029: Number of validation fail is missing

G3018: The predicted property range does not match with the training data used in deep learning

G3015: Add an option to show the maximum category number for SHAP value importance plot

G3002: Calculating Shapley value crashes in well facies log deep learning modeling

G3001: Testing well selection in option "By Wells Manually" is missing in neural network model building interface

G2906: Program crashes when predicting property volume from multi-realization neural networks on strata-grid

13: Geostatistics for Integrating Well Data and Seismic Attributes

G3107: Icons for upscaled well log tree node should be consistent with the original log's template

14: Production Prediction and Sweet Spot Mapping

G3471 (Broken): Near wellbore strata-grid volume for production is not correctly generated

G4025: The extracted near wellbore seismic attributes in different radius are messed up

G3518: The initial heights are all zero in near well bore volume generation UI

G3493: Unit of width and height for generating near wellbore volume should be consistent with the seismic domain and unit

G3418: Predicting production potential takes very long time and does not show real time progress

G3417: Reorder RBM of neural network for production workflow

G3395: Wrong warning shows up when calculating NCA weight in production workflow

G3368: Program crashes when running neural network to do production prediction for certain project

G3150: Data Analysis on production data only works on the first 6 attributes

G3121: Several inconsistencies occur in production prediction

15: Microseismic Data Analytics & Integration

G4314: Error of wrong date format shows up after loading microseismic events even though it is correctly loaded

G3430: Extracted event density shows wrong values at the bottom of the strata-grid

G3429: Specifying the top and bottom Z of microseimic survey when creating 3-D microseismic volume does not work

G3044 (Enhancement): Support overlay function for 4-D microseismic volumes across different surveys in 4-D microseismic window

G3526: Add color bar legend for microseismic points

G3520: Base map window does not handle invalid microseismic value

G3519: Program crashes when deleting completion data if they are displayed in completion data window

G3055: Program crashes when generating 4-D microseismic volumes

16: Static Reservoir Modeling

G4018 (Broken): Converting realization to a new model crashes

G3470 (Broken): Defining stratigraphic architecture does not work

G3402 (Broken): Facies name and color in the facies grid should be consistent with the lithofacies set in reservoir model scenario

G4036: It gives warning "Does not have property grid generated" if checking "Normal Score Transform" in property modeling

G3884: Hide or grey out "Realizations" parameter when creating strata-grid properties volume using kriging

G3845: Export upscaled properties to eclipse grid problems: Be able to check the properties and edit the keywords for different properties

G3840: Sometimes deleting RS model causes program hang

G3834: Upscaled to coarse grid results Kxx, Kyy, Kzz grids have very low perm value which doesn't make sense

G3768: Generic units disappear when switching to different section in seismic section window

G3488: Creating reservoir grid from general channel surface causes crash

G3484: The results are incorrect when converting reservoir grid to seismic volume if changing incline and crossline spacing to smaller value

G3482: Converted model from scenario realization does not keep the right facies name

G3480: The copied scenario is not the same as the original and copying scenario causes wrong color in default rock type templates

G3476: The reservoir sub grid dialog cannot be closed

G3468: Add upscaling RBM to P10, 050, P90 statistics results

G3465: Logarithmic display of upscaled permeability and permeability grids on well section is wrong

G3461: Neural networks build on reservoir grid results are different even using the same attributes and same seed number

G3460: Invalid value in extracted seismic attributes on reservoir model causes problem in SHAP plots

G3435: No results are generated after volumetric uncertainty analysis
G3180: Show permeability grid using rainbow color map and logarithmic scale in default
G3165: Standard deviation is wrong in data analysis of training data on reservoir grid
G3153: Well data in the spreadsheet of training data is not correctly listed

Others

G4076: Typo: spelling error in progress bar of predicting property grid from machine learning model
G3924: Typo: "continous" should be "continuous" in color map properties page
G3886: Rename "Template" to "Property Template" and "Alias" to "Curves"
G3876: Some tab windows are missing if creating new project without exiting the previous project
G3869: Units box background color should be white not grey when creating new project
G3823: Create parametric surface UI and grid spacing related problems
G3802: Typo: Change "Predition" to "Prediction"
G3793: Rename "random section" to "arbitrary section"
G3738: Windows are not restored to the correct place when having multiple window sessions
G3676: The horizon attribute calculated from horizon calculator is randomly put under a horizon node on tree view
G3668: Well log calculator has a 10k depth limit
G3663: Show comments of a well in well information window
G3574: Set better default window layout for non multi-document UI view
G3545: Change "thinning" template to discrete
G3492: Typo: "vetical well" should be "vertical well" on extract near wellbore attributes
G3426: P-Impedance default unit is wrong in template
G3420: Add more popular well log templates: NMR, TOC, BIOT, etc.
G3206: Typo: Color map "Impendance" should be "Impedance"
G3194: The repaint function in data analysis window does not have real effects so it was removed
G3075: Typo: Rename "Calculation Parameter" to "Calculation Parameters"
G3061: Typo: T-D curve names are misspelled as "Veclocity" and it should be "Velocity"
G3060: Typo: Utilities – "Calulate" should be Utilities – "Calculate"
G3059: Typo: "structual attributes" should be "structural attributes"