

Hampson-Russell
A CGGVeritas Company

Release Notes - Software Release CE8/R2

(Last Revision: March 12, 2008)

Software Release Date: February 5, 2008

List of Products:

| Product Name: | Features supplied for version CE8/R2: | | | Comments: |
|---------------|---------------------------------------|--------------------|------|--|
| AFI | afi | | | Must also have AVO. |
| AVO | avo | geoview pro3d | elog | |
| eLog | elog | geoview | | |
| EMERGE | emerge | geoview | elog | |
| GLI3D | gli3d | | | |
| ISMap | ismap | Geoview | | |
| Pro4D | pro4d | geoview | | |
| ProMC | promc | geoview | | |
| STRATA | strata | geoview bstrata | elog | |
| GeoView | geoview | seisloader | | Please read a disclaimer notice below. |
| | | view3d | | Please read a disclaimer notice below. |

| | Licenses Supplied with Products | | | | | | | | | | | | | | |
|----------------|---------------------------------|----------|--------------|-----------|-------------|--------------|------------|--------------|------------|------------|------------|------------|-----------------|-------------|-------------|
| Product Name: | afi 3.00 | avo 7.00 | bstrata 7.00 | elog 5.00 | emerge 5.00 | geoview 5.00 | gli3d 8.00 | glipick 8.00 | ismap 6.00 | pro3d 7.00 | pro4d 3.00 | promc 2.00 | seisloader 1.00 | strata 7.00 | view3d 1.00 |
| AFI | + | | | | | | | | | | | | | | |
| AVO | | + | | + | | + | | | | + | | | + | | + |
| AVO modeling | | + | | + | | + | | | | | | | + | | + |
| AVO processing | | | | | | + | | | | + | | | + | | + |
| eLog | | | | + | | + | | | | | | | | | |
| EMERGE | | | | + | + | + | | | | | | | + | | + |
| GLI3D | | | | | | | + | + | | | | | | | |
| ISMap | | | | | | + | | | + | | | | + | | + |
| Pro4D | | | | | | + | | | | | + | | + | | + |
| ProMC | | | | | | + | | | | | | + | + | | + |
| STRATA | | | + | + | | + | | | | | | | + | + | + |

List of New Features and Enhancements:

Summary

This is a patch release, containing rigorous bug fixes, some enhancements and an expansion of the online help.

The Ten Most Important Features:

1. View3D can now run on Windows 64 bit and Linux 32 bit.
2. The AVO Gradient Analysis plot has been expanded and improved.
3. Interval velocity summary tables in Well Explorer.
4. Automatic Log Profiling utility for curves in Well Explorer.
5. Two-color fill options for log curve displays. You can highlight cross-overs or thresholds.
6. Cross plot display parameters and regressions can now be saved.
7. Multiple edited versions of the same log can be plotted on the same cross plot.
8. There are major additions and improvements to importing OpenWorks data.
9. STRATA models can be copied to a SeisWorks project.
10. EMERGE now remembers the last display parameters for application plots.

Details

GeoView

1. We added text annotation for culture data. (#2272)
2. You can generate an interval velocity summary table. (#2024)
3. We added a Automatic Log Profiling Utility to the Curve View. (#2302)
4. You can open an Xterm window on UNIX or Linux through GeoView for file management tasks. (#2337)
5. You can use the Well Filter to remove multiple selected logs from multiple wells. (#2355)
6. We added a warning if the surface is not set but the KB is. (#2113)
7. You can use the universal naming convention (e.g. \\dev\home\user) to access the well log database. (#2280)
8. We added improvements to the ASCII export well format, including the log measurement datum. (#2345)

See also the Third party data connections section below for OpenWorks and GeoFrame well, log and tops handling and improvements.

eLog

9. We fixed an error in picking horizons in the converted uniform domain. The seismic domain is now used for horizon picking. (#2173)

10. We added a dual color fill option for curve plotting, so you can use different color fills for the right and left side of a curve. (#2329)
11. The coloring of correlated p-wave curves is now consistent with the other applications. (#2359)
12. We added the ability to correlate with 3 ms. and 6 ms. seismic data. (#2295)
13. The change thickness option now keeps the time-depth curve when necessary. (#2339)
14. We corrected the change thickness option in log editing when the edited zone did not fall exactly on a log sample. (#2367)
15. We fixed the composite trace extraction from a depth volume for a deviated well. (#2390)

Fluid Replacement Modeling (FRM)

16. We resolved the risk of confusion between fraction and percentage for the saturation parameters. (#2270)
17. We changed the FRM default from brine+oil to brine+gas. (#2336)

AFI

18. The AFI program now checks for negative porosities when using a normal distribution, so stochastic variables cannot be generated outside of physical bounds. (#1749)

AVO

AVO Analysis and Processing:

19. We fixed a graphic display issue in AVO Offset Scaling when the start and end offsets are not the full range. (#2360)
20. We improved the Gradient Analysis window and the event selections process. The plot scale, range, A/B/C or R_p/R_s values and the name of the gathers volume are now in the Gradient Analysis plot. (#343, #2236, #2237 and #2371)
21. We added the velocity unit for the V_p and V_s outputs from the AVO Attribute Volume Processing option. (#1926)
22. We widened the AVO Attribute Map "Map Name" entry box for long horizon names. (#1781)
23. AVO now gets the amplitude values from the color volume if the wiggles are not visible in AVO Pick Analysis. (#2172)
24. We corrected the Depth Domain Incident Angle display in the Seismic View when the seismic data does not start from a depth of zero.
25. We corrected the volume calculation for AVO attributes in the Depth Domain.
26. We moved the "Angle Gather as Input" toggle to the first page in the AVO Attributes volume calculation where it was needed more.
27. We corrected or improved more depth domain AVO processing options. We have implemented this feature in the Pick Analysis curve display, the AVO Gradient Analysis window, the AVO Gradient Map, AVO Attributes Volume processing, Angle Gather, and also the Common Angle Gather and Range Limited options of the Stack function. We will continue to expand the use of depth domain seismic in other AVO processing options and features. (#2370)

See also the General section below for seismic data handling and other general improvements.

AVO Modeling:

28. The size of the zone of interest will not now increase when the analysis window boundary of a wedge model does not fall exactly on a sample. That problem sometimes occurred with sparsely sampled logs. (#2366)
29. We made the seismic AVO Picks Display viewable for picks of seismic data generated from wedge modeling. (#1942)

See also eLog section above for more log curves related editing and FRM.

EMERGE

30. We added 3 ms. and 6 ms. sample rate options for time domains when reading wells from the database. (#2231)
31. EMERGE now remembers the previous display parameters in the Emerge application plots. (#2391)
32. We corrected a problem of incorrect resampling in Log to Log prediction. (#2394)
33. The target log type now defaults to P-wave. (#2116)

See also the General section below for seismic data handling and other general improvements.

GLI3D

34. The offset plot is now correct when you have mislabeled and duplicated station numbers for 2D marine geometry.
35. We corrected problems with the SEG-Y Tomo output on Linux.
36. We now allow multiple formats for the static report, when available. (#2301)

ISMap

37. We have added opacity controls in ISMap-EMERGE for the Base Map.
38. You can create a table to enhance stability and shorten run-time in the Attribute Correlations option in ISMap-EMERGE.
39. We enhanced the Exhaustive Search in ISMap-EMERGE to limit the search to a selected set of combinations.
40. There is now improved monitoring and control of the Exhaustive Search process in ISMap-EMERGE.

41. We have added options to calculate new maps using either the PNN or RBF Neural Network algorithms.
42. We added new windows and training, validation and error plots for ISMap-EMERGE.
43. NULL values are correctly handled in Attribute Correlation. (#2356)
44. Cross validation now picks up the right wells even if there are wells outside the seismic or if wells have been deleted. (#2103)

Pro4D

45. We improved the powerful 4D Inversion window for normalizing and inverting seismic data, analyzing attributes, creating analysis maps, classifying waveforms. This inversion incorporates low frequency model updates, derived from time delay information, to the low frequency model for monitor seismic surveys.
46. We made improvements to the EMERGE functions to identify and use transforms for auto-calibration in Pro4D.
47. We added a robust bandwidth matching process so you can create and apply shaping filters to equalize the wavelets in multiple surveys to a reference wavelet you can define.

See eLog above for some items related to well log editing and FRM. See also the General section below for seismic data handling and other general improvements.

ProMC

48. We improved the velocity modeling procedure as used in domain conversion and the initial model for Joint PP and PS inversion.
49. We added a new Joint inversion for PP and PS data. This model based inversion incorporates seismic data from the different wave modes and also low frequency model updates from the horizon matching process.

See also the General section below for seismic data handling and see eLog above for items related to well log editing and improved FRM.

STRATA

50. We added upper and lower impedance constraints in post-stack model-based inversion. (#2207)
51. The “Not Use” (seismic volumes) flag is now correctly used in all circumstances for Simultaneous Inversion. (#1755)
52. We added horizon information for the model into the inversion history. (#2324)
53. You can run Inversion Analysis on seismic data with a negative start time. (#2354)
54. STRATA checks the data type of the seismic volume to verify that it can be used in Inversion Analysis. (#2358)
55. STRATA ensures that you know which well database is used by Inversion Analysis. (#2219)
56. Batch inversion now generates the seismic output in the same order as the interactive inversion. (#1974)

See also the *General* section below for seismic data handling and other general improvements, and see *eLog* above for some items related to well log editing.

GENERAL

CGM Hardcopy

57. We added a write permission check of the directory where the CGM file is created, and improved the wording of any associated error message. (#1699)

Data Slice, Base Map, Horizons

58. The software now contours negative amplitudes (i.e. troughs) correctly. (#2349)
59. We added smoother options to the Regrid dialog for data slices. (#2210)
60. You can smooth contour lines. (#1897)
61. You can automatically remove extraneous contours outside of the survey area. (#2148)
62. You can toggle the 2D line annotation on or off for multiple 2D data. (#2138)
63. We added a new, one-click option to create a constant time or a reference horizon to use as a reference for auto-picking. (#546)

Installation

Cross Plot

64. The software saves and restores cross plot display parameters. (#2145)
65. You can control the order of plotting the data in the well log cross plot. (#2256)
66. You can now cross plot multiple logs of the same type. (#2341)
67. The software uses the line increments in the memory estimation. (#1332)
68. Drop-down menus on the plot lets you quickly change what is plotted.

Fault Handling

69. We corrected a problem importing a landmark format fault file. (#2217)

Licensing

70. You can now use a dongle driver for license handling on Windows Vista platforms. (#2014)
71. Newer platforms may require the FlexNET license manager which replaces the older FlexLM license manager. (#2375)

Seismic and SEGY File Handling

72. You can now load multiple SEGY volumes with different file name extensions without getting data gaps. (#2022)
73. Projects now load correctly after SEGY and related information files have been moved. (#2333)
74. The Copy function can now create an IEEE output. (#2374)

Time-Velocity Table

- 75. The table displays the correct number of points at the last velocity control point. (#2143)
- 76. The table now linearly interpolates samples within a control point, instead of using a blocky method.

Trace Plotting

- 77. Trace plotting provides on-the-fly unit conversion for the inserted log (e.g. English to metric, or fraction to percentage). (#2313)
- 78. We added a generalized ASCII color key import and export option. (#2267)
- 79. Plotting defaults to high resolution in seismic plotting. (#2328)
- 80. For cross plot zone colors, plotting uses only the blocky lowest resolution mode with no interpolation between traces. (#2385)
- 81. We assigned accelerator keys to the split view toggle (Alt-S), the panner toggle (Alt-A) and the eyeball button (Alt-E).

Trace Processing

- 82. We corrected the lack of output for a range-limited, offset stack. (#2230)
- 83. The Copy process outputs the correct SEG-Y, IEEE-format header values. (#2352 and #2353)
- 84. The concatenate utility option does not need an extra AVO license. (#2201)

Wavelet

- 85. Wavelet import can handle non-printing characters. (#1274)

Third party data connections

Well Exchange / OpenWorks

- 86. We added a new tab in the Import dialog to handle log versions and runs from OpenWorks. (#2009)
- 87. We added a Well Mapping tab.
- 88. GeoView now shows the well source correctly as from "OpenWorks". (#411)
- 89. The software detects messages from OpenWorks that indicate changes of the measurement system, OpenWorks project, interpreter and default well list. (#569)
- 90. The software can correct for missing deviation geometry from some OpenWorks wells. (#1412)
- 91. We implemented the new well list filter in the Import dialog, with improvements and fixes to the Import dialog, including the ability to easily see all the well lists. (#1907, #2286, #2287, #2309)
- 92. We improved the loading and updating of the default log and unit mapping tables. (#2216)
- 93. You can export time-depth curves back to OpenWorks without the associated p-wave curves. (#2268)
- 94. You can now import a new well into GeoView even if a well with the same name but different UWI already exists. (#2284)

Well Exchange / GeoFrame

- 95. We upgraded to GeoFrame 4.3 for importing and exporting wells, log curves and tops. (#1723)
- 96. You can import dublicately-named wells from GeoFrame 4.3. (#2253)

OpenSpirit

- 97. We upgraded to the OpenSpirit 2.9 data connection to import and export 3D seismic and horizons, which uses the new generic, client-side licensing scheme with OpenSpirit. (#1673)

SeisWorks

- 98. SeisWorks can correct geometry errors for some SEG-Y to SeisWorks seismic volume output. Subsets of a seismic volume can now be copied into the SeisWorks project, even if the geometry did not match exactly (e.g. copying a smaller volume). (#1694)
- 99. You can copy a STRATA model to a SeisWorks project. (#1136)
- 100. The software reads long horizon names from SeisWorks correctly. (#1386)
- 101. The software uses NULL values correctly when importing horizons from SeisWorks. (#2259)
- 102. We sped up the creation of an arbitrary line with SeisWorks data. (#1464)

SeisLoader

- 103. We now have a plug-in option for trace mixing and super gathers.
- 104. A Windows 64-bit version is available.

View3D

- 105. The automatic Z-scaler has been improved so the cube fits better on the screen.
- 106. You can output the common VoxelGeo 3D visualization format from View3D.
- 107. View3D now also runs on two new platforms: Windows 64-bit and Linux 32-bit.
- 108. The Alt + left mouse button function has been corrected. (#2175)

Hampson-Russell Assistant

- 109. We have revised and expanded the Theory section and added more diagrams.
- 110. We have improved and updated the Procedural sections.
- 111. We have expanded the Index to make searching easier and faster, with almost 900 entries.

FTP Download

The software installation images can be found at our ftp sites. Please visit <http://www.cgiveritas.com/hampson-russell> for instructions and details.

CD and Package Labels

| <i>Platform</i> | <i>Version</i> | <i>Date Label</i> |
|---------------------|----------------|-------------------|
| SUN / Sparc Solaris | CE8/R2 | March 10, 2008 |
| SGI / IRIX | CE8/R2 | March 10, 2008 |
| LINUX / Red Hat | CE8/R2 | March 10, 2008 |
| PC / Windows | CE8/R2 | March 10, 2008 |

Supported Operating Systems:

1. SUN, Sparc Solaris 8, 9 and 10.
2. SGI, IRIX 6.5x (6.5.12m, 6.5.19f).
3. LINUX 32-bit, RedHat 9.0, Enterprise WS3/ES3/AS3, Enterprise WS4/ES4/AS4.
4. LINUX 64-bit, RedHat Enterprise WS4/ES4/AS4, SuSE 9.2.
5. Windows 2000, XP, Vista

Note: Some modules are not available for some platforms. See the Compilation Dates table below, visit our web site <http://www.cggveritas.com/hampson-russell>, or contact our support staff for more details.

Compilation Dates

| <i>Executable/Module</i> | <i>Solaris</i> | <i>IRIX</i> | <i>Linux</i> | <i>Windows</i> |
|------------------------------------|----------------|---------------|--------------|----------------|
| AFI | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| Autocal(32-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 1, 2008 | Jan 31, 2008 |
| Autocal(64-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 19, 2008 | Jan 31, 2008 |
| Backgroundservices (32-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 19, 2008 | Jan 31, 2008 |
| Backgroundservices (64-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 19, 2008 | Jan 31, 2008 |
| AVO | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| eLog | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| EMERGE | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| GeoView(32-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 1, 2008 | Jan 30, 2008 |
| GeoView (64-bit) | Feb 1, 2008 | Not Available | Feb 1, 2008 | Jan 30, 2008 |
| logdialog | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| GLI3D | Jan 7, 2008 | Jan 7, 2008 | Feb 19, 2008 | Not Available |
| ISMap | Dec 17, 2007 | Dec 12, 2007 | Feb 22, 2008 | Dec 11, 2007 |
| ismapEmerge(32-bit) | Dec 17, 2007 | Dec 17, 2007 | Feb 1, 2007 | Dec 12, 2007 |
| ismapEmerge(64-bit) | Dec 17, 2007 | Not Available | Feb 1, 2008 | Jan 2, 2008 |

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|---|----------------------------|---------------|----------------------------|--------------------|
| bit) | | | | |
| Pro4D | Jan 30, 2008 | Jan 30, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| ProMC | Feb 1, 2008 | Jan 31, 2008 | Jan 31, 2008 | Jan 31, 2008 |
| SeisLoader(32-bit) | Feb 1, 2008 | Feb 1, 2008 | Feb 1, 2008 | Jan 31, 2008 |
| SeisLoader(64-bit) | Feb 1, 2008 | Not Available | Feb 1, 2008 | Jan 31, 2008 |
| STRATA | Jan 30, 2008 | Feb 1, 2008 | Feb 22, 2008 | Jan 30, 2008 |
| strataBatch(32-bit) | Jan 30, 2008 | Jan 30, 2008 | Jan 30, 2008 | Jan 30, 2008 |
| strataBatch(64-bit) | Jan 30, 2008 | Not Available | Jan 30, 2008 | March 6, 2008 |
| View3D (32-bit) | Not Available | Not Available | Feb 1, 2008 | Jan 30, 2008 |
| View3D (64-bit) | Feb 1, 2008 | Not Available | Feb 1, 2008 | Jan 30, 2008 |
| swsv (SeisWorks) Emerald City R2003.12 | Dec 10, 2007 | Dec 11, 2007 | Dec 11, 2007 | Not Available |
| WLEx (OpenWorks Emerald City R2003.12) | Nov 19, 2007 | Jan 4, 2008 | Nov 19, 2007 | Not Available |
| WLEx (GeoFrame 3.8.1) | Oct. 24, 2004 | Not Available | Not Available | Not Available |
| WLEx (GeoFrame 4.0.2) | Feb. 1, 2006 | Not Available | Not Available | Not Available |
| WLEx (GeoFrame 4.04) | Feb. 1, 2006 | Not Available | Not Available | Not Available |
| WLEX (GeoFrame 4.2) | Feb. 1, 2006 | Not Available | Nov 19, 2007 | Not Available |
| WLEX (GeoFrame 4.3) | Sep 7, 2008 | Not Available | Nov 19, 2007 | Not Available |
| OpenSpirit Version Supported | 2.5, 2.6, 2.7, 2.9, 3.0 | Not Available | 2.5, 2.6, 2.7, 2.9, 3.0 | 2.6, 2.7, 2.9, 3.0 |
| OpenSpirit Version Compiled (Hampson-Russell client side) | 2.9 | Not Available | 2.9 | 2.9 |
| FLEXlm 32-bit applications | 8.1b | 8.1b | 9.5.0 | 8.1b |
| FLEXlm 64-bit applications | 9.5.0 | Not Available | 9.5.0 | FLEXnet 11.4.0 |
| FLEXnet License Manager (Hamp-Russ, and lmgrd package) | 11.4.0 | FLEXlm 8.1b | 11.4.0 | 11.4.0 |
| | Solaris | IRIX | Linux | Windows |
| Adobe (Acrobat) Reader is no longer included. If you need Adobe Acrobat, please see your IT | | | | |

department. Our help system is no longer in pdf format, but our tutorial guides are still in that format.

Disclaimer for SeisLoader and View3D:

SeisLoader is one of the many new features added to the Hampson-Russell suite of software for the CE8 releases. However, we specifically limit the licensing of SeisLoader to the CE8 releases only, due to the nature of this product. Although we think you will find SeisLoader to be an excellent addition to our product line, with its simplified data loading, viewing, and ease of interpretation, SeisLoader is currently a prototype for the new seismic interpretation interface for all of our products.

We hope that you will use, enjoy and provide feedback on the interface over the coming months, and provide us with the information to refine the design and incorporate your ideas. The new seismic interpretation interface will be incorporated into our main product lines and SeisLoader as a stand-alone utility will then be removed in the CE9 release.

Similarly, View3D is a visualization tool which will be incorporated gradually into all our products.