

MS monitoring of CNL's (formerly AECL) mine-by experiment - locations



Microseismic Geomechanics: Increased understanding; reduced risk

- InSite™ Lite is the free version of Itasca Consulting Ltd.'s InSite Seismic Processing software suite, provided with limited functionality and features.
- The examples shown here are taken from ICL and its partners projects.
- InSite's proprietary project (*.pcf) files contain all the configuration, event information and links to waveforms necessary to run a project in InSite. Double-clicking on the .pcf project file launches the InSite software application.
- The InSite project waveform data (*.esf) files include the results from the data processing. These files are imported for the project (.pcf file) through the data import management tool in InSite. Please note that not all of the available example projects are provided with example waveform data.
- For information on the operation of the InSite software, please refer to the product help files.
- For information on purchasing the full version of the InSite software, please contact us at support@itasca.co.uk

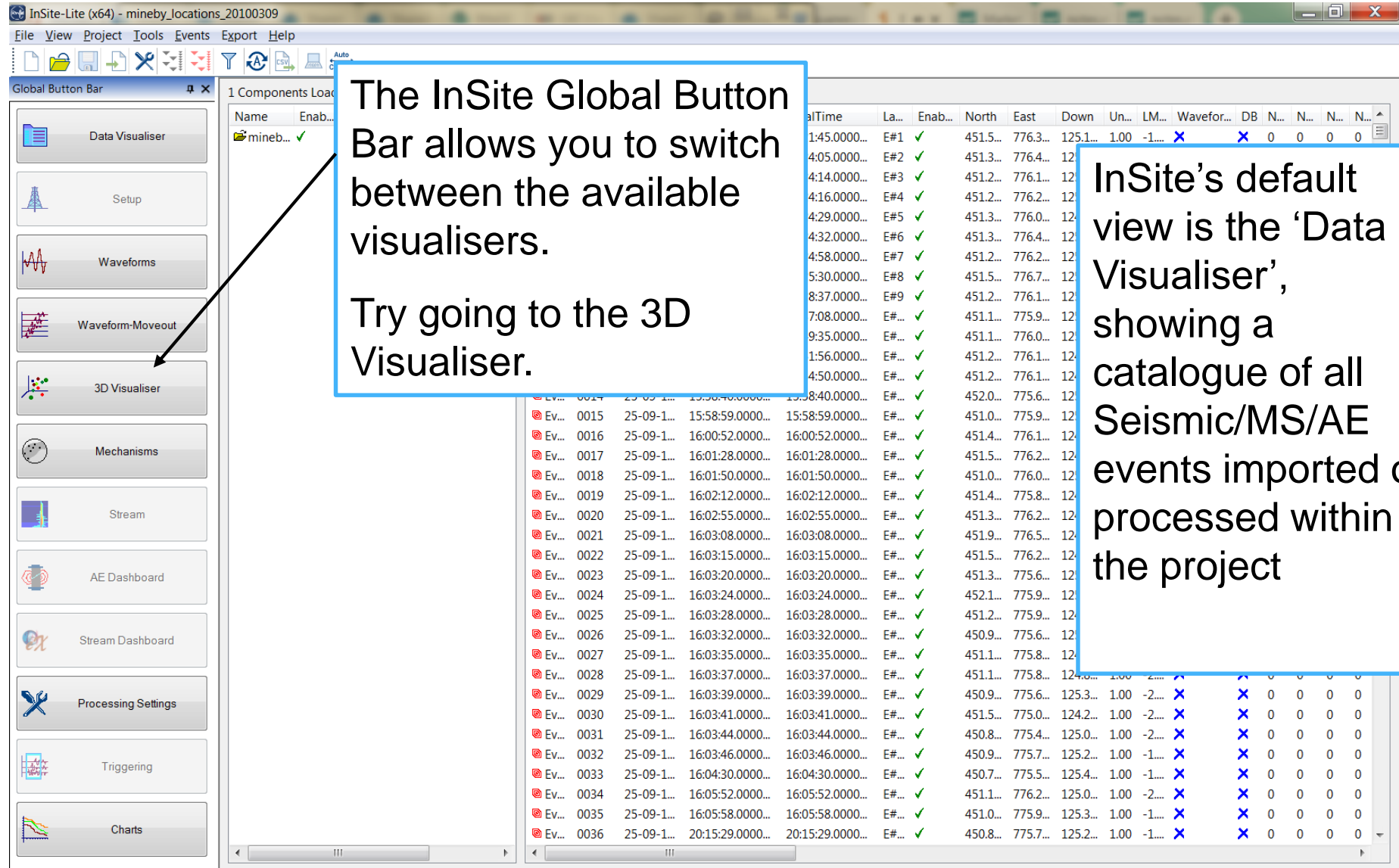
- These two examples use Microseismic data recorded following the excavation of the Mine-by gallery at CNL's (formerly AECL) Underground Research Laboratory.
- Mineby_Waveforms includes MS waveform data recorded using 16 triaxial receivers surrounding the excavated volume.
- The example allows having an overview of the Waveform visualiser and the different views (event, instrument, channel)
- The following slides give you some options to try in the software.

It's a good idea to ...

...run through the “SKB Prototype” demo presentation first as this gives a more thorough overview of the Location Visualiser.

... run through the “TSX Cluster” demo presentation first as this gives a more thorough overview of the Waveform Visualiser.

Navigation: Data Visualiser

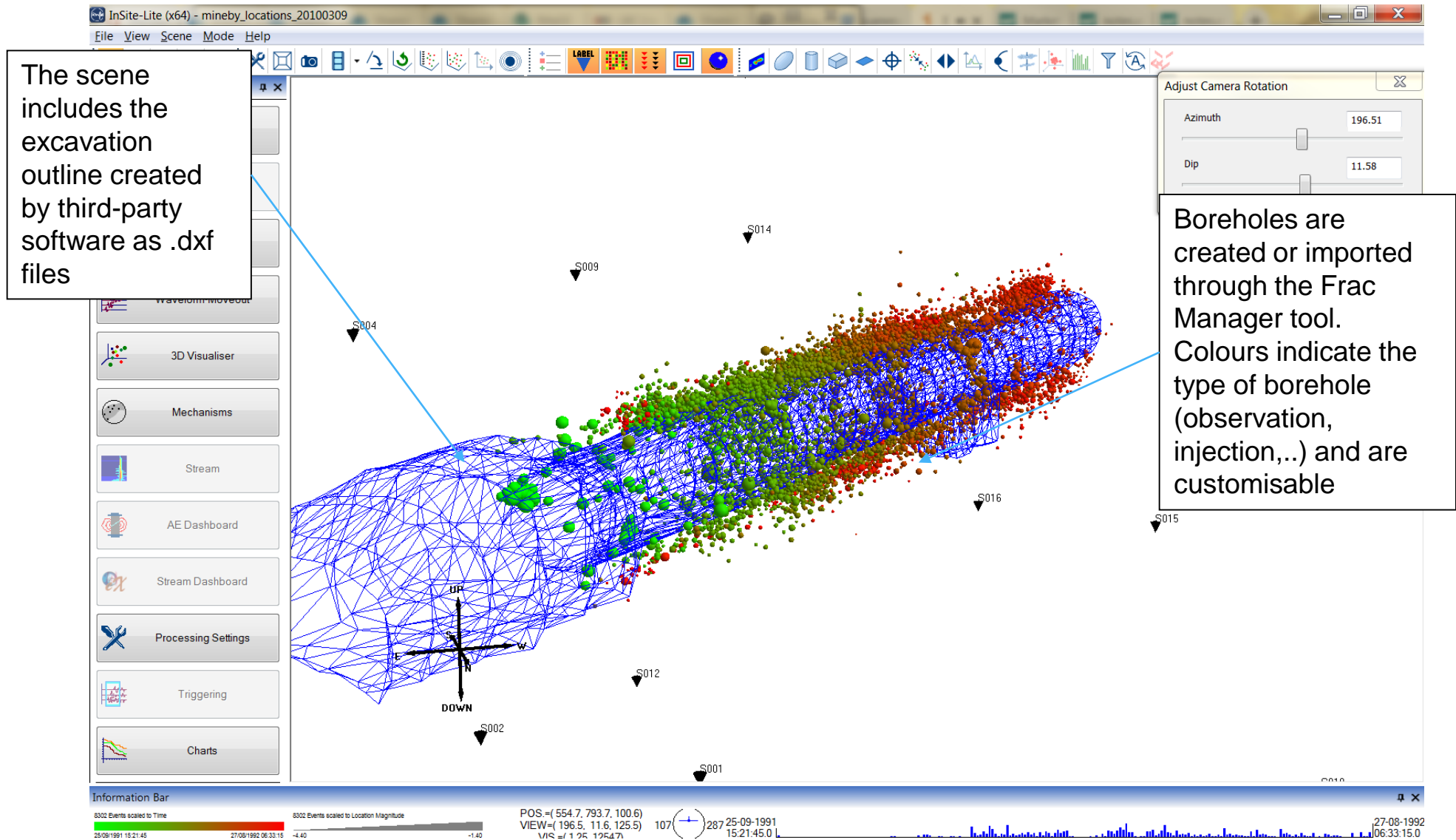


The InSite Global Button Bar allows you to switch between the available visualisers.

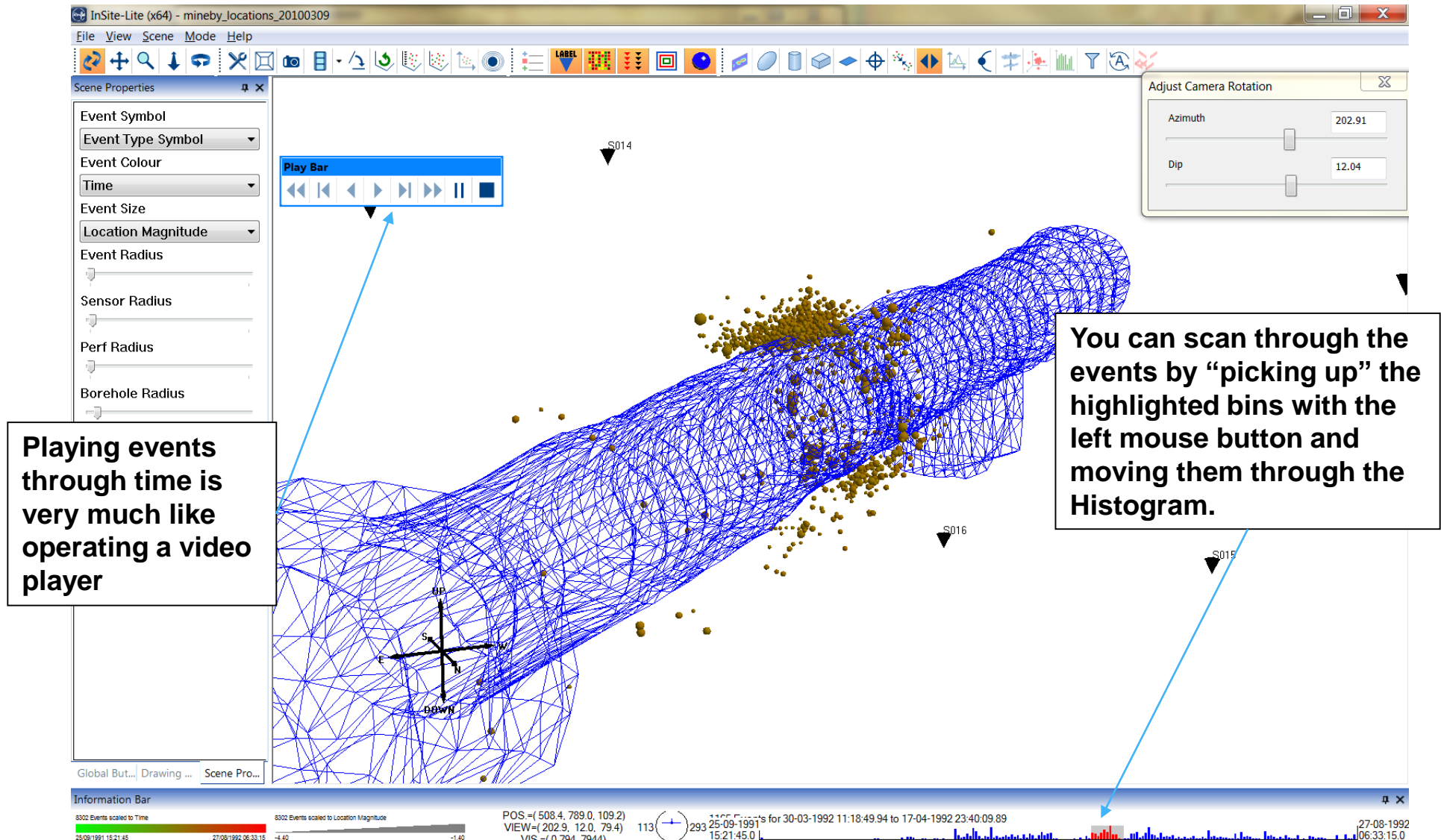
Try going to the 3D Visualiser.

InSite's default view is the 'Data Visualiser', showing a catalogue of all Seismic/MS/AE events imported or processed within the project

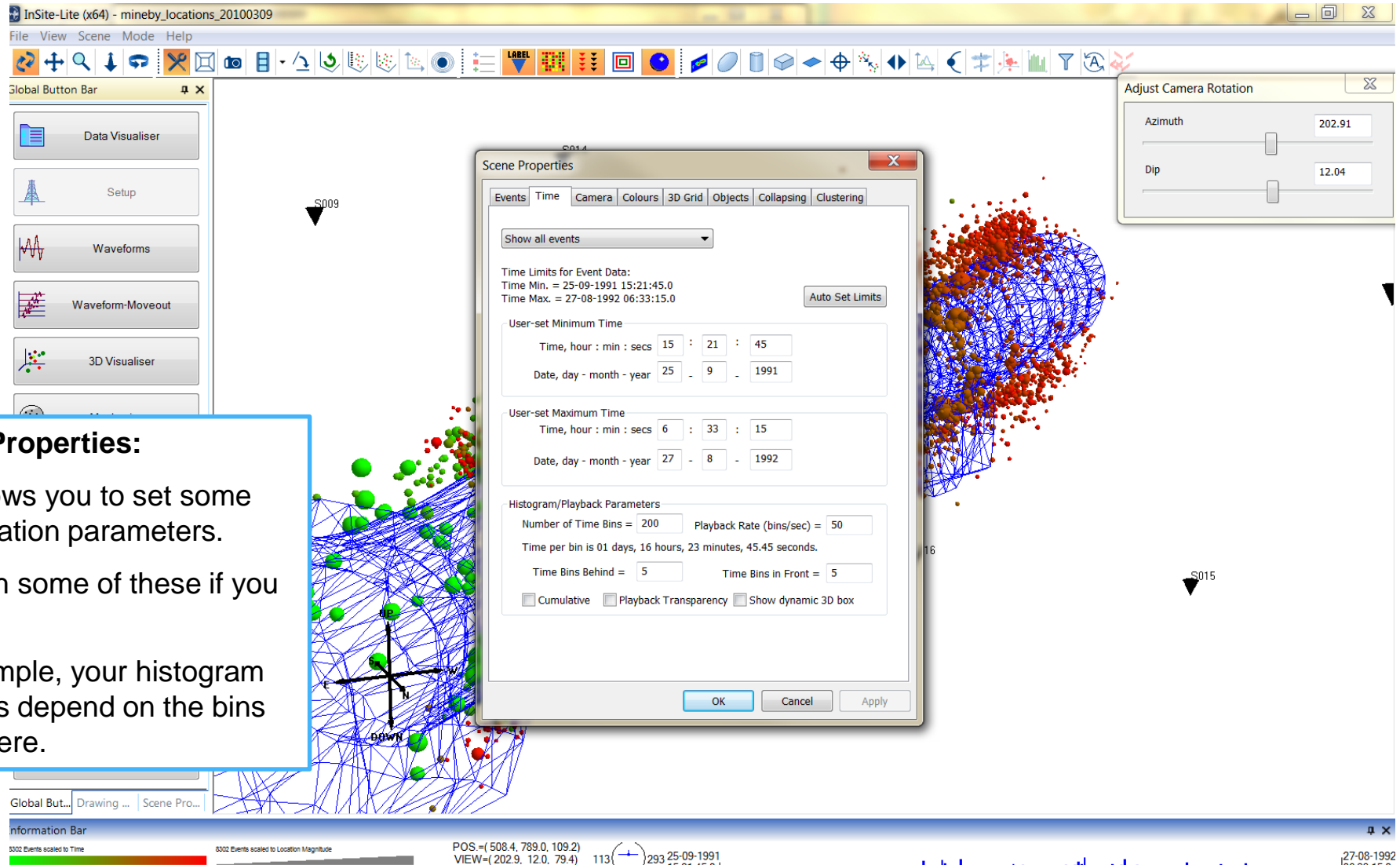
Time	La...	Enab...	North	East	Down	Un...	LM...	Wavefor...	DB	N...	N...	N...	N...			
1:45.0000...	E#1	✓	451.5...	776.3...	125.1...	1.00	-1...	×	×	0	0	0	0			
4:05.0000...	E#2	✓	451.3...	776.4...	12...											
4:14.0000...	E#3	✓	451.2...	776.1...	12...											
4:16.0000...	E#4	✓	451.2...	776.2...	12...											
4:29.0000...	E#5	✓	451.3...	776.0...	12...											
4:32.0000...	E#6	✓	451.3...	776.4...	12...											
4:58.0000...	E#7	✓	451.2...	776.2...	12...											
5:30.0000...	E#8	✓	451.5...	776.7...	12...											
8:37.0000...	E#9	✓	451.2...	776.1...	12...											
7:08.0000...	E#...	✓	451.1...	775.9...	12...											
9:35.0000...	E#...	✓	451.1...	776.0...	12...											
1:56.0000...	E#...	✓	451.2...	776.1...	12...											
4:50.0000...	E#...	✓	451.2...	776.1...	12...											
15:38:40.0000...	E#...	✓	452.0...	775.6...	12...											
Ev... 0014	25-09-1...	15:58:59.0000...	15:58:59.0000...	E#...	✓	451.0...	775.9...	12...								
Ev... 0015	25-09-1...	16:00:52.0000...	16:00:52.0000...	E#...	✓	451.4...	776.1...	12...								
Ev... 0016	25-09-1...	16:01:28.0000...	16:01:28.0000...	E#...	✓	451.5...	776.2...	12...								
Ev... 0017	25-09-1...	16:01:50.0000...	16:01:50.0000...	E#...	✓	451.0...	776.0...	12...								
Ev... 0018	25-09-1...	16:02:12.0000...	16:02:12.0000...	E#...	✓	451.4...	775.8...	12...								
Ev... 0019	25-09-1...	16:02:55.0000...	16:02:55.0000...	E#...	✓	451.3...	776.2...	12...								
Ev... 0020	25-09-1...	16:03:08.0000...	16:03:08.0000...	E#...	✓	451.9...	776.5...	12...								
Ev... 0021	25-09-1...	16:03:15.0000...	16:03:15.0000...	E#...	✓	451.5...	776.2...	12...								
Ev... 0022	25-09-1...	16:03:20.0000...	16:03:20.0000...	E#...	✓	451.3...	775.6...	12...								
Ev... 0023	25-09-1...	16:03:24.0000...	16:03:24.0000...	E#...	✓	452.1...	775.9...	12...								
Ev... 0024	25-09-1...	16:03:28.0000...	16:03:28.0000...	E#...	✓	451.2...	775.9...	12...								
Ev... 0025	25-09-1...	16:03:32.0000...	16:03:32.0000...	E#...	✓	450.9...	775.6...	12...								
Ev... 0026	25-09-1...	16:03:35.0000...	16:03:35.0000...	E#...	✓	451.1...	775.8...	12...								
Ev... 0027	25-09-1...	16:03:37.0000...	16:03:37.0000...	E#...	✓	451.1...	775.8...	124.0...	1.00	-2...	×	×	0	0	0	0
Ev... 0028	25-09-1...	16:03:39.0000...	16:03:39.0000...	E#...	✓	450.9...	775.6...	125.3...	1.00	-2...	×	×	0	0	0	0
Ev... 0029	25-09-1...	16:03:41.0000...	16:03:41.0000...	E#...	✓	451.5...	775.0...	124.2...	1.00	-2...	×	×	0	0	0	0
Ev... 0030	25-09-1...	16:03:44.0000...	16:03:44.0000...	E#...	✓	450.8...	775.4...	125.0...	1.00	-2...	×	×	0	0	0	0
Ev... 0031	25-09-1...	16:03:46.0000...	16:03:46.0000...	E#...	✓	450.9...	775.7...	125.2...	1.00	-1...	×	×	0	0	0	0
Ev... 0032	25-09-1...	16:04:30.0000...	16:04:30.0000...	E#...	✓	450.7...	775.5...	125.4...	1.00	-1...	×	×	0	0	0	0
Ev... 0033	25-09-1...	16:05:52.0000...	16:05:52.0000...	E#...	✓	451.1...	776.2...	125.0...	1.00	-2...	×	×	0	0	0	0
Ev... 0034	25-09-1...	16:05:58.0000...	16:05:58.0000...	E#...	✓	451.0...	775.9...	125.3...	1.00	-1...	×	×	0	0	0	0
Ev... 0035	25-09-1...	20:15:29.0000...	20:15:29.0000...	E#...	✓	450.8...	775.7...	125.2...	1.00	-1...	×	×	0	0	0	0



3D Visualiser II: Playing events in time



3D Visualiser III: Scene properties



Scene Properties:

This allows you to set some configuration parameters.

Play with some of these if you like.

For example, your histogram functions depend on the bins set up here.

Scene Properties Dialog Box Details:

- Events** (selected tab)
- Show all events (dropdown)
- Time Limits for Event Data:
 - Time Min. = 25-09-1991 15:21:45.0
 - Time Max. = 27-08-1992 06:33:15.0
 - Auto Set Limits (button)
- User-set Minimum Time:
 - Time, hour : min : secs 15 : 21 : 45
 - Date, day - month - year 25 - 9 - 1991
- User-set Maximum Time:
 - Time, hour : min : secs 6 : 33 : 15
 - Date, day - month - year 27 - 8 - 1992
- Histogram/Playback Parameters:
 - Number of Time Bins = 200 Playback Rate (bins/sec) = 50
 - Time per bin is 01 days, 16 hours, 23 minutes, 45.45 seconds.
 - Time Bins Behind = 5 Time Bins in Front = 5
 - ☐ Cumulative ☐ Playback Transparency ☐ Show dynamic 3D box
- Buttons: OK, Cancel, Apply

Information Bar:

5302 Events scaled to Time 5302 Events scaled to Location Magnitude POS=(508.4, 789.0, 109.2) VIEW=(202.9, 12.0, 79.4) 113(+)293 25-09-1991 27-08-1992