Shell Canada

Calgary, Canada

Key Facts:

Industry: Oil and Gas

Problem: Non-technical users need access to consolidated data.
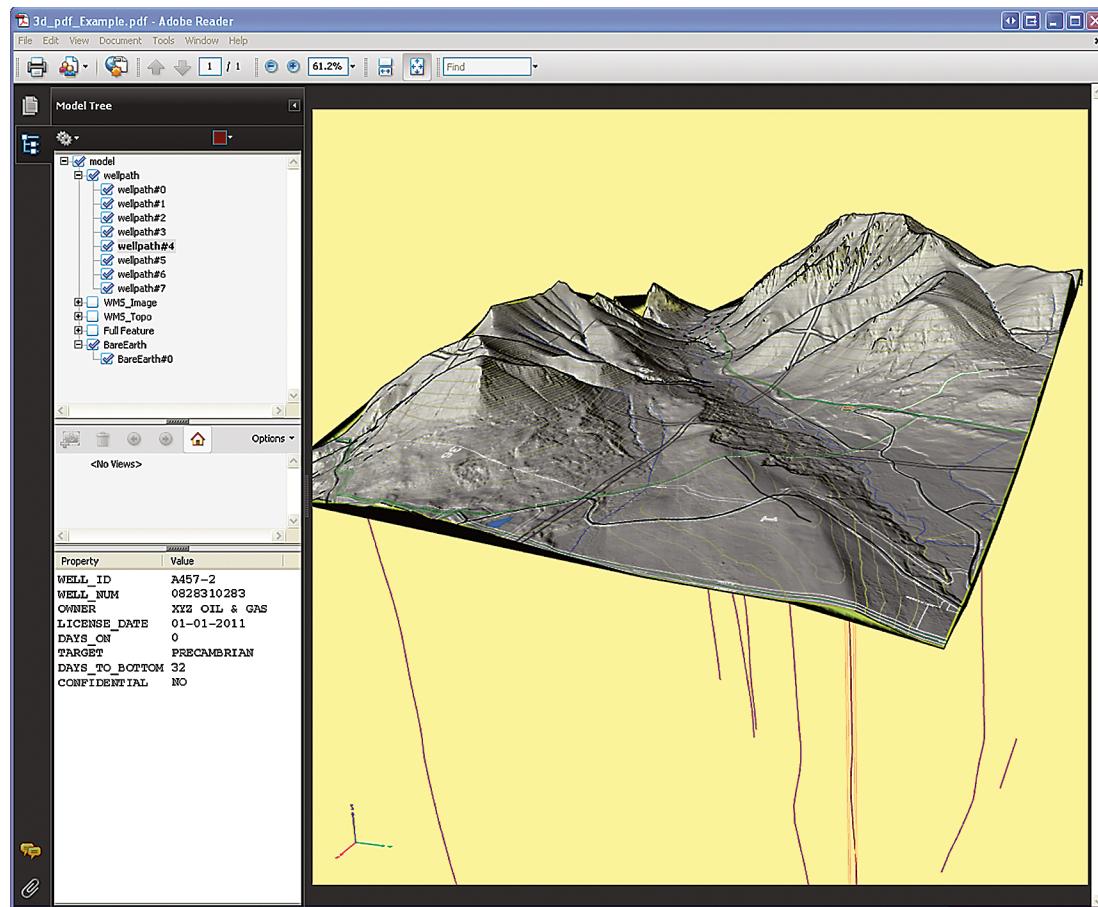
Solutions: FME® Server

3D PDF to the Rescue!

What happens when you expose a talented group of GIS professionals to FME Server? Well, in the case of the GIS & Geo-Information group at **Shell Canada**, they mysteriously develop superhuman abilities to create new and compelling ways for end users to visualize complex information.

Oil and Gas exploration and production is perhaps one of the most spatial data-intensive industries there is. Every step of the process, from finding the resources to drilling the well to producing the resource to sending it downstream through a pipeline, is dependent on spatial information. Multi-million dollar decisions are constantly based on

scientific interpretation and positional data. Major oil companies like Shell Canada have specialists in all of these areas, and each group has their own set of requirements, high-powered specialized software tools, and extensive datasets.

The task set in front of **Cameron Watson**, Supervisor, GIS & Geo-Information, was to find a way to consolidate this information and present it – on demand – to multiple stakeholders on a project, many of whom are non-technical, and most of whom don't have access to the GIS or geoscience software applications that Shell's various technical personnel use.

"3D PDF is the perfect way for us to distribute this information. Users simply view it in the familiar Acrobat Reader®, and we still can provide them with the depth of information they need. With 3D, they can truly visualize a location, the impact of surrounding terrain and assets, and also see what's going on underground."

– Cameron Watson, Supervisor, GIS & Geo-Information

The 3D PDF is viewed in Acrobat, with interactive viewing tools and attribute querying.

The solution? The elegant simplicity of 3D PDF, with the power of FME Server behind the scenes. Cameron's department had been receiving requests for this consolidated view of information for some time – and when FME added the ability to apply textures to 3D surfaces in 2010, it was time to jump in and deploy.

For end users, it's simple – they just draw a box on a webmap interface of the area of interest they would like to see. This AOI is sent to FME Server, which then retrieves the data content from ArcSDE™, including well bores with attributes, LiDAR-derived digital elevation models, aerial imagery, topo maps, contours, wellsite surveys, well spots, pipelines, hydrography, roads, and other related surface information. The source data is a combination of raster and vector, 2D, and 3D.

With source data assembled, FME prepares for it viewing – draping imagery and vector data over DEM's, styling the various datasets, and creating 3D vectors of each wellbore in the area. The user is presented with the end-result – a fully self-contained PDF that they can view as they wish – and the 3D PDF controls let them zoom, pan, and rotate the view as they like. The PDF also contains attributes on the well bores – the user just clicks on the item of interest to see the details.

"3D PDF is the perfect way for us to distribute this information," says Cameron. "Users simply view it in the familiar Acrobat Reader®, and we still can provide them with the depth of information they need. With 3D, they can truly visualize a location, the impact of surrounding terrain and assets, and also see what's going on underground."

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