



## ILONA DVORAK PROCESSING GEOPHYSICIST

**LOCATION:** Asia (Brunei)

**TECHNICAL EXPERIENCE:** 13 years

BP, PGS, VeritasDGC, others

### ***Profile:***

- Geophysicist specializing in seismic data processing, interpretation, quantitative seismic analysis and complex imaging technology.
- 13 years industry experience working for both Operators and Geophysical contractors in Geoscientist and Geophysicist roles.
- Diverse experience in the seismic cycle, from processing delivery, interpretation and prospect generation, reservoir characterization, quantitative seismic analysis and pore pressure seismic analysis studies.
- Interpretation experience from onshore UK and Europe mature exploration plays for both Carbonate and Classic reservoirs.
- Expertise in shallow marine ocean bottom, deep water towed streamer, desert and non-desert onshore processing projects.
- Specialist in Full Waveform Inversion velocity modeling and complex imaging using algorithms such as Reverse Time Migration and Specular Beam Migration codes.

### ***Professional Experience:***

**Geophysicist, BP Exploration Operating Co Ltd, Sunbury-On-Thames, UK:**

**1st June 2011 to 10th February 2015**

My position as Geophysicist in BP's Advanced Seismic Imaging group involved providing technical support to BP's Azerbaijan, Angola business regions and the Africa Exploration group. This included the technical quality control and project management of vendor processing projects, running internal technical limit processing projects, AVO processing and analysis of fluid and lithology volumes for reservoir characterization purposes and the development of junior staff within the Advanced Imaging group.

A significant aspect of this position is the deployment of new complex imaging technology developed by BP's R and D team to the Azerbaijan and Angola regions. This includes technology such as TTI anisotropy FWI algorithms, specular beam and Wave equation Pre stack depth migration algorithms.

The projects, which I have delivered in this position, include:

**Technical limit OBC and Towed Streamer Processing for the Azeri-Chirag-Gunashli fields, Azerbaijan: Jan 2013-Dec 2013**

The objective of this project was an investigation into the existing Seismic portfolio over the ACG complex to evaluate the resolution limit of the data and make recommendations on future acquisition and processing design activity. This consisted of a full data quality evaluation, internally reprocessing towed streamer and OBC datasets and implementing internal R and D codes on PZ summation and aliasing compensation Kirchhoff migration codes. The results of this project have been integrated into the seismic strategy for the fields to guide the next acquisition and processing program to facilitate the reservoirs development.



### **TTI FWI Imaging QAQC Project Leader Raven MAZ field, Nile Delta: Mar 2013-Dec 2013**

The objective of this project was to improve the pre Messinian imaging of the Raven field reservoir via constructing detailed velocity and anisotropy models using a TTI FWI algorithm. This project was conducted with a contractor (WesternGeco) and I was responsible for the technical delivery of this project. This required close collaboration with the contractors R and D team in Houston and BP's R and D support group in Sunbury and Houston.

### **High Resolution shallow Hazard QAQC Project Leader Azeri-Chirag-Gunashli fields, Azerbaijan: June 2012-Dec 2012**

I was responsible for the delivery of the contractor processing of a high resolution towed streamer dataset acquired in 2012 over the ACG field. This survey was acquired to guide the shallow hazard mapping and overburden imaging on the field to facilitate the on-going drilling program. This project required significant QAQC effort to ensure suitable products were delivered which met the well guidance program objectives.

### **TTI FWI Deployment, Azeri-Chirag-Gunashli fields, Azerbaijan: Jan 2012-Dec 2012**

The objective of this project was to improve the seismic imaging of the OBC surveys acquired over the ACG field reservoirs via constructing detailed velocity and anisotropy models using a TTI FWI algorithm. This project was the first deployment of BP's TTI FWI algorithm. I was responsible delivering this project using BP's internal software and the Houston based, High Performance Computer cluster.

### **Processing and Seismic Analysis Projects: June 2011 - present**

I was responsible for the internal processing and seismic analysis of a number of projects to support the Africa Exploration group, including datasets from the East and West Offshore equatorial basins.

This included support for the Namibia exploration team in terms of re processing datasets to optimize the AVO signature, generating AI GI volumes and collaborating on the reservoir characterization study. I also provided technical support on seismic pore pressure studies for a number of wells within the African asset and exploration teams and was made course leader for teaching pore pressure analysis using seismic data within BP.

In addition to these activities I have also been involved in the development of junior staff. This has consisted of mentoring roles during technical projects and teaching courses on the use of seismic techniques for pore pressure prediction and marine seismic processing.

### **Project Leader with PGS Exploration, based in Weybridge, Surrey, UK: 6th April 2010 to 1<sup>st</sup> May 2011**

Petroleum Geo-Services provides a broad range of Geophysical services to the Oil and Gas Industry, including data acquisition, processing/imaging and reservoir analysis interpretation. My role was a Project leader within the PGS's Depth Imaging team. I was accountable for the management of assigned projects and ensuring they were delivered within schedule. My day to day activities included managing the project and junior staff to produce an optimum, cost effective product for the client within an agreed time frame. This involved designing test sequences to solve processing/imaging issues and managing the processing of the data through PGS's computing hardware.



### **Geoscientist with Celtique Energie Petroleum Ltd: 7th January 2008 – 26th February 2010**

Celtique Energie is a London based company with exploration licenses for onshore blocks located in European and North African basins. Celtique Energie's business model is to evaluate and develop drilling prospects in mature exploration areas. My position as a geoscientist required a large degree of responsibility and multi-tasking. I was responsible for the interpretation and prospect generation/maturation for the companies onshore blocks (including the Jura region of France, the Zechstein area of Poland and the Weald basin in the UK) and interpreting well data to identify prospect leads. The interpretation program targeted plays in the Triassic sands of the Weald basin, the Zechstein Carbonate and clastic Rotliegendes reservoirs in Poland. I performed seismic and well log interpretation studies on available datasets to guide the management of licenses in these areas. In addition to seismic interpretation this role also involved regular visits to data rooms to advise on purchasing products for the company's prospect portfolio. I was also responsible for the delivery, via contractor management and technical QC, of the Seismic reprocessing of the companies' full portfolio of datasets

### **Geophysicist, VeritasDGC Ltd : 7th September 2005-30th September 2007**

VeritasDGC Ltd, now CGG, is a leading provider of integrated geophysical information and services to the petroleum industry. I worked in the land-processing department of the EAME (Europe, Africa and Middle East) division, based in Crawley, UK. My role was to process onshore 3D seismic datasets from raw shot through to a final deliverable product using Veritas's in house software.

The projects I worked on included the PSTM processing of the Kuwaiti Great Burgan field dataset, processing an OBC dataset from Kazakhstan (Caspian Sea) and a PSDM imaging project of an onshore German dataset.

My OBC experience with Veritas included processing a 2D OBC dataset from Kazakhstan and a 3D-4C marine OBC dataset from Azerbaijan (the Azeri-Chirag-Gunashi complex). I also processed an onshore dataset from the Unterweser area, Germany through a PSDM imaging sequence utilizing tomographic velocity modeling.

These projects utilized advanced processing algorithms and imaging technology; including PZ summation, Noise Attenuation, refraction tomography for near surface static corrections, PSTM and PSDM using curved ray Kirchhoff operators and tomographic velocity modeling. This position provided me with an extensive, practical knowledge of processing geophysics in the petroleum industry. I also gained excellent organization skills through managing projects and valuable communication skills through ensuring a high degree of client satisfaction.

### **Seismic Processing Engineer, Geofizyka Torun Ltd, Torun, Poland: July 2003-August 2005**

This position involved processing land 2D and 3D seismic datasets from raw shot through to a final deliverable product. The clients for these projects included Sonatrach Algeria, POGC Poland, FX Energy and RWE Germany. I was involved in the development of 3C processing technology on a land 2D dataset for POGC (The Polish National Oil Company).

Notable projects that I worked on in this position include:

#### ***11 June 2004- 8 September 2004, 2 November 2004 - 28 January 2005. Seismic Processing Engineer for Cairn Energy, Chennai, India***

Contract Seismic processor for Cairn Energy working on the Mangala field 3D project in India. The position involved working in a small team and required client interaction/consultation on a daily basis. This was a rewarding project providing me with processing experience on a dataset from a challenging desert environment.



**Specialist in Geophysics with 'INOVA' Technical Innovations Centre Ltd, Lubin, Poland:  
July 2002-July 2003**

I worked in the seismological department on the characterization of fault movement from the analysis of micro seismic datasets from the Cuprum Mine in Lubin.

***Education:***

**1997-2002 MSc Eng in Geophysics  
The Staszic University of Mining and Metallurgy, Krakow, Poland**

This 3 year undergraduate and further 2 year MSc course provided training in all aspects of applied geophysics, including data acquisition, processing and interpretation. Key subjects in the course syllabus included: Seismic processing and interpretation, integrated Well-logging interpretation, Seismology, Reservoir Geophysics, Advanced Methods of Gravity and Magnetic Field interpretation, Hydrocarbon Geology, Structural Geology, Geological Mapping, Sedimentology and plate Tectonics.

MSc dissertation completed in the field of Seismic Hazard Analysis Methods:  
'The bias associated with the non-parametric estimation of the maximum magnitude attribute from Monte Carlo simulations'.

***Computing/Software skills:***

Programming experience in C++ and Matlab. Experienced in various seismic processing and interpretation software, such as Landmarks Seispace and Promax software, BP's internal imaging system DDS, Kingdom suite, Landmarks Openworks toolkit: Powerview, Geoprobe and Seisworks software, Tango (Veritas proprietary processing software) and Focus (Paradigm's processing package). Experienced Unix operating system user. Experienced user of Microsoft applications.

***Interests and achievements:***

My main interests are travelling, film and literature. I have travelled in Europe, Australia, New Zealand and Asia. I enjoy studying languages; I speak Polish (native speaker), Russian, English and Spanish (Business Entry Level). I am a member of the SEG, EAGE and PESGB societies.

***REFERENCES AVAILABLE ON REQUEST.***