

## PORTFOLIO

**J. BRIAN HENRY, B.Sc. Eng., M.Sc.  
Consulting Geophysicist**

**Objective:** To provide integrated consulting services to clients exploring for hydrocarbons

### Services Offered

Design, manage and interpret exploration programs utilizing **remote sensing, gravity, magnetic, electro-magnetics** and 2D or 3D **seismic**

Integrated interpretations of satellite imagery, digital elevation models, gravity, magnetics magneto-tellurics, electro-magnetics and seismic

Seismic interpretation on **Kingdom3 workstation**

Gravity and magnetic interpretation and modeling on consultant owned **GM-SYS software**

Satellite imagery interpretation using consultant's **ER-Mapper and ArcView**

QC seismic, land and air gravity, aero-magnetics

Design and acquire near surface data for **static control**

Interpretation of refraction data, shallow and crustal

Structural and stratigraphic interpretation for field development

Evaluate exploration acreage for purchase, exploration or farm-in

Create farm-out proposals for presentation to customers

### Geographic Experience

Canada, United States, Argentina, Trinidad, Columbia, Cuba, North Sea, Kazakhstan, Turkey, Jordan, Israel, Saudi Arabia, Yemen, Pakistan, India, Nepal, Myanmar, Indonesia, Malaysia, Viet Nam, Papua New Guinea, Mozambique, Madagascar, Niger, Angola, Sudan, Egypt, Tunisia, Libya

### Career Summary

Brian worked for the first 12 years of his career in the mining and engineering geophysics industry where he became familiar with all of the mining and near surface geophysical techniques. He then entered the petroleum industry where he integrated gravity and magnetics methods into seismic interpretations. He has worked in many Middle East and Far East countries and is capable of evaluating prospects, designing and managing exploration programs, QCing seismic, magnetic and gravity programs and integrating the results to delineate drilling locations.

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### Work History

Please see attached.

“The most successful people I’ve seen in the industry are people that can do a lot of things really well. They may not be experts in everything, but they have good knowledge across a broad base”

Dr. R. Sarg, 6 October, 2005 addressing students at U of Texas

## **Work History**

### **2007, Geophysical Consulting**

Evaluate customer geophysical applications for stock market filing on projects in Canada, Tunisia  
Detail seismic interpretation of a pinnacle reef in Alberta  
Made an advisor to Pemberton Energy Ltd.  
Interpreting seismic from Peace River Arch

### **2006, Dana Petroleum, Geophysicist, Aberdeen**

Interpreted seismic data from offshore Angola and North Sea

### **2000-2005, Saudi Aramco, Gravity and Magnetics Division, Alternative Methods Geophysicist**

Quality control field acquisition of 120,000 line kilometers of air-gravity  
Advised international oil companies working in the country  
Provided structural input from gravity, magnetics, satellite imagery, digital elevation models to field development problems  
Initiated use of satellite imagery for exploration and exploitation  
Responsible for the quality control of world's largest aeromagnetics and magnetic gradient survey of 1,700,000 line kilometers  
Developed technique of determining statics from gravity in area covered with sand  
Initiated a 13, 000 station gravity survey to determine the deep and near surface structure surrounding a gas discovery  
Evaluated the Sander Geophysics airborne gravity system  
Acted as field quality control for the acquisition of ground gravity collected on a seismic survey  
Interpreted the gravity database and integrated the satellite imagery, digital elevation, gravity, magnetics in an interpretation of the tectonic history of the Eastern Saudi Arabian Plate  
Assisted prospect generators in the interpretation of the gravity and magnetics as it applied to their plays  
Served as internal expert on electro-magnetics, magneto-tellurics, downhole frequency induced polarization  
Acted as mentor to young Saudis in methods of integration and play generation

### **Torca Geophysical Consultants, 1992-2000**

#### **Summary of Projects**

##### **Block 43 Yemen**

Evaluation of Gravity and Magnetics Field Test Program  
Evaluated the efficacy of gravity and magnetics for defining depth to basement.

##### **Libya Field Evaluation**

Interpreted the seismic from a proposed oil field and as well as the delineation seismic from the remainder of the block.

### **Quebec/Newfoundland**

Seismic interpretation of 700 kms marine data from Strait of Belle Isle. Integration of seismic refraction, seabed morphology, gravity and magnetics into a tectonic framework.

### **India Field Study**

Interpreted seismic data for the purpose of evaluating a potential gas field.

### **Saskatchewan Gravity Projects**

Designed gravity surveys and interpreted the resulting data for the location of petroleum and mining exploration.

### **Block 43 Yemen, Seismic and Gravity**

Interpreted 900 kms of seismic and modelled gravity response for depth to basement calculations. Recommended a gravity survey of the block prior to shooting seismic.

### **Block 3 Yemen, Seismic and Gravity Review**

Reviewed seismic and gravity for the block and recommended to move the proposed drill location to be drilled on a gravity high.

### **North West Territories Gravity Modelling**

Modelled the gravity response to match the Bouguer profile over a proposed ore body.

### **Project Leader, Chiang Mai Basin Study, Thailand**

Responsible for the design, acquisition and interpretation of aeromagnetic, gravity, refraction and reflection seismic for the Chiang Mai Basin. Also responsible for the satellite and airphoto interpretation of the basin.

### **Potential Fields, Madagascar**

Modeled gravity and magnetic response for intrusives.

### **Co-ordinating Geophysicist, Turkey**

Responsible for the interpretation of 15,000 km of seismic data as well as the interpretation of gravity data.

### **Interpreting Geophysicist, Yemen**

Interpreted seismic for structural plays. Reprocessed data and interpreted refraction statics for exploration purposes.

### **Interpreting Geophysicist, Indonesia**

Interpreted 15,000 Kms marine seismic for reef and transgressive sands.

### **Interpreting Geophysicist, Argentina**

Interpreted 25,000 Kms seismic with the purpose of mapping the extent of the basin and development of pinchout plays.

### **Acquisition Supervision, Yemen**

Supervised the acquisition of seismic data. Designed refraction program. Performed infield QC of processing.

## 1983 - 1992 Petro-Canada, Geophysical Specialist

### Project Geophysicist for SE Asia Group

Interpreted refraction from **Yemen** as well as collaborated on interpretation of the seismic and gravity data. Well penetrated basement as predicted from gravity.

Integrated marine seismic and gravity data from **Papua New Guinea** as part of a drilling post mortem. By analysing the gravity data, I demonstrated that the target formation was of the density of a semi-consolidated sand, not a carbonate as expected in the drilling prognosis. Utilized the gravity and seismic to find two sub-thrust plays which had drape as the trap.

Interpreted seismic data from the Bannu block in **Pakistan**, a region of thrust tectonics.

Integrated gravity, seismic and magnetic data from offshore **Vietnam**. A very large horst was predicted from seismic but by integrating the gravity and magnetics, the horst was not a possible interpretation for the strong reflectors. Subsequent drilling demonstrated that the horst did not exist.

Integrated gravity, seismic and magnetic data for a block in **Myanmar**. Utilized a dedicated Landmark workstation to interpret the very complex strike-slip tectonics. The interpretation indicated the presence of hydrothermally altered rock on the block which was subsequently proven by two drill holes.

### Project Geophysicist, PCIAC, Asia and the Pacific.

Lead a three year exploration program in **Jordan** where I designed the parameters and line layout for a two year vibroseis acquisition program.

Reprocessed 6000 kms of old data and 2600 kms of new seismic data. Interpreted the data on a team of three geophysicists and two geologists.

Lead a similar project in **Nepal**, except this program was portable dynamite and gravity and involved the interpretation of seismic and gravity. Both the projects, totalling \$75,000,000.00, were on time and within budget.

### Geophysical Supervisor, Northwest Territories.

Lead the acquisition, processing and interpretation for three field seasons. Each field season saw at least eight crews in the field acquiring a total of 6000 kms per season. Drilled into sands in the **Maxhamish** area. Interpreted reef plays in **Trout River, Cameron Hills**. Explored for reefs in the Norman Wells area.

### Geophysicist, Central Region.

Developed plays in the Leduc, Mississippian, Cardium, Ostracod and Belly River. Conducted seismic inversion on the Ostracod and Belly River plays. Recommended a Leduc pinnacle which later tested 1200 BOPD by Texaco.

## 1982 - 1983 Getty Oil Canada, Geophysicist

Interpreted the **Shaunavon** in western Saskatchewan and the **Mississippian** and **Winnipegosis** of eastern Saskatchewan.

**1980 - 1982 Dynamar Energy, Chief Geophysicist**

Evaluated plays and made recommendations for drilling on prospects in **Kansas**, Oklahoma and Texas.

**1979 - 1980 Gulf Canada Resources, Geophysical Engineer**

Developed high resolution marine seismic methods for the location of aggregate in the Beaufort

**1975 – 1977, 1978 - 1979 Kenting Exploration Services Limited**

Designed , conducted , processed, interpreted and wrote reports for mining, pre-engineering studies and high resolution marine seismic projects. Acquired data for rig site evaluations and pipeline locations. Interpreted the data and wrote reports for client.

**1978, Shell Minerals, Geophysicist**

Developed seismic and geochemical methods for detecting uranium.

**1973 - 1975 Hunttec 70 Limited, Chief Geophysicist**

Conducted marine seismic surveys in Canadian Arctic, Great Lakes.

**1971 - 1973 Canada Centre for Inland Waters, Research Scientist**

Mapped distribution of water bottom sediments in the Great Lakes and interior lakes of British Columbia in support of environment studies.

**1970 -1971 Queen's University**

M Sc. Program. Thesis in seismic refraction methods.

**1969 - 1970 Hunttec Limited, Geophysicist**

Marine seismic surveys and mining surveys in Canada , **British Guyana** and **Venezuela**.

## **EDUCATION**

B.Sc. - Engineering Geology, Geophysics Minor , Queen's University, 1969

M.Sc. - Geophysics , Queen's University, 1972

Management Certificate, 1985, University of Calgary

Visual Basic Programmers Course, 1995

## **PROFESSIONAL AFFILIATIONS**

Society of Exploration Geophysicists

American Association of Petroleum Geologists

Alberta Professional Engineers, Geologists and Geophysicists of Alberta

Canadian Society of Exploration Geophysicists

Canadian Society of Petroleum Geologists

European Association Engineers and Geoscientists  
Petroleum Exploration Society of Great Britain  
COMPUTER PROGRAMS/HARDWARE OWNED BY Consultant

Two Seismic Micro Technology Kingdom-3 2D/3D Seismic workstations  
ER-Mapper  
Arc-View  
Map Info  
Geocad by Digi-Rule  
1D Synthetics by Digi-Rule  
Surfer/Grapher/Didger by Golden Software  
GM-SYS by Northwest Geophysical  
VARSA CN by MR-DPTS  
Matlab

### **Computer Capability**

**Geoquest** Workstation  
**Landmark** Workstation  
**Kingdom-3** 2D and 3D interpretive workstation,  
**GM-SYS** gravity and magnetics interpretation program  
**Matlab** for analysis of seismic, gravity, magnetics, remote sensing  
**ER-Mapper** for potential fields, satellite imagery, air photos  
**Geosoft Oasis Montage** for potential fields  
**MapInfo** for map making and presentation  
**ArcView9** for GIS