

Job Class Profile: Petroleum Geophysics Consultant**Pay Level: CG-42 Point Band: 994-1037**

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	7	6	2	5	7	6	6	2	3	
Points	327	100	13	24	210	130	124	43	32	1003

JOB SUMMARY

The Petroleum Geophysics Consultant functions as a provincial consultant monitoring petroleum operations and providing expert policy advice and consultation to the provincial government on matters related to seismic stratigraphy, structure and overall habitat of hydrocarbons in the offshore and onshore energy resource area.

Key and Periodic Activities

- Conducts geophysical mapping of oil and gas fields and prospects; conducts regional geophysical studies; carries out original geoscience research in regard to the Province's petroleum potential.
- Conducts specialized and/or comprehensive geological investigations of stratigraphy, sedimentology and the overall hydrocarbon habitat in the province's energy resources areas. Collects, interprets and analyzes geological/geophysical data, particularly seismic data, but also geochemistry, reservoir engineering, economics, etc.
- Prepares written reports, including confidential government documents, press releases, non-confidential publications and technical papers.
- Delivers oral presentations to promote petroleum exploration and development within the province's onshore and offshore areas.
- Manages a database and the release of data on the expiry of its confidential status.
- Participates in the authorization of exploration and development activities, particularly in the onshore area.
- Reviews and assesses funding applications of geoscience related projects and makes recommendations on same.
- Reviews drilling proposals and advises on matters pertaining to the geological prognosis.
- Provides technical advice and consultation to the Department on matters related to seismic stratigraphy, structure, and the overall habitat of hydrocarbons in the energy resource areas in consultation with the Manager of Petroleum Geoscience (Geophysics).
- Supervises geological consultants retained for specialized expertise.
- Participates in the development of oil and gas policy and legislation. Participates in the assessment of hydrocarbon resources and estimation of resources in discoveries; represents government at meetings and public forums concerning petroleum exploration, development and production, geophysics and resource assessment.

SKILL

Knowledge
<p>General and Specific Knowledge:</p> <ul style="list-style-type: none"> — Petroleum geophysics, 2-D and 3-D seismic interpretation on a workstation. — Relevant Legislation and Regulations — Newfoundland geology and petroleum geoscience theories, practices and technology <p>Formal Education and/or Certification(s):</p> <ul style="list-style-type: none"> — Minimum: Undergraduate Science Degree with major course work in Petroleum Geophysics and Registration as P.Geo with the APEGNL. <p>Years of Experience:</p> <ul style="list-style-type: none"> — Minimum: 4-5 years <p>Competencies:</p> <ul style="list-style-type: none"> — Written and verbal communication skills — Geophysical mapping — Conduct analysis
Interpersonal Skills
<ul style="list-style-type: none"> — A range of interpersonal skills are used to: listen to information from other people (from divisional staff members on day to day projects or other issues); ask questions to get information (when meeting with exploration and seismic service companies); provide routine information & direction to others; provide technical advice or counseling to others and communicate complex information and direction to others (interpreting seismic data to other people); promoting services and provincial resources and make formal presentations to groups of people (promote the Province's hydrocarbon potential and petroleum related services of NL government at various conferences). — Communications occur with employees within the immediate work area and department, other departments and outside the organization, including Supervisor/Manager, technical staff of petroleum exploration and development companies and other oil and gas industry representatives. — Most significant contacts are: technical staff of petroleum exploration and development companies; employees in the immediate work area and Division; other employees in the Department to provide geophysical science advice and information related to petroleum geology.

EFFORT

Physical Effort
<ul style="list-style-type: none"> — The demands of the job do not result in considerable fatigue, requiring periods of rest. — Lifting or moving objects 10 - 25 lbs occurs occasionally when preparing booths and materials for conferences and examining core logs. — Standing, walking and driving are required on an occasional basis when attending meetings and delivering presentations. — The use of fine finger/precision work is constantly required when utilizing a computer and

mouse to develop spreadsheets, review seismic graphics and data, produce maps and geophysical graphics.

Concentration

- **Visual concentration** is required on a regular basis for the computer related aspects of the work environment; preparing and reviewing Excel spread sheets and databases, constructing graphics such as stratigraphic and seismic cross-sections and geological maps requiring exact precision for placement of lines, lettering, etc; when examining massive amounts of data from seismic work, etc; interpreting well logs, and when reading geoscientific articles and geological maps.
- **Auditory concentration** is required for handling telephone enquiries and conversations with staff and clients.
- Examples of **repetition requiring alertness** are: entering data into spreadsheets; examining seismic datasets and graphics; creating graphics.
- **Time pressures and deadlines** are experienced occasionally. **Interruptions** are typically caused by phone calls, co-workers and staff seeking information and travel.
- **Exact results and precision** is required when creating stratigraphic cross-sections and graphic diagrams; reading and interpreting geophysical data; entering and manipulating geophysical data in databases and spreadsheets.

Complexity

- Tasks and activities are varied ranging from well defined to different and unrelated and can be quite technical and complex. Some challenges/problems/issues have obvious solutions which can be addressed by following procedures and/or guidelines as work is performed within defined and standard work processes, however, some issues may be encountered for which there are no or limited guidelines or procedures; may be unique; and/or have policy significance.
- A typical challenge is identifying petroleum bearing zones from seismic data interpretation and original research to determine prospective zones for exploration.
- Collects, interprets and analyzes geological/geophysical data, particularly seismic data, but also geochemistry, reservoir engineering and economics.
- Required to keep abreast of trends and developments in petroleum exploration techniques, to review reports and data and provide expert advice. Participates in reviewing legislation and guidelines and making recommendations to senior officials of the department.
- Reference material available includes manuals, guidelines, policies, procedures acts and regulations, advisors, etc.

RESPONSIBILITY

Accountability and Decision-Making

- Work is performed with considerable initiative and professional independence under general supervision with work reviewed for adherence to policy and attainment of objectives.
- Some discretion is exercised within predetermined limits and procedures regarding the dissemination of non-confidential petroleum related geoscientific information relating to the overall promotion of the onshore and offshore petroleum regions of the province.

- Discretion and judgement is required when exercising professional independence reviewing geoscientific data and information from research and as submitted by exploration companies; providing interpretation of data and making recommendations to senior management and disseminating information to the general public.
- A high degree of professional independent discretion and judgment is exercised when interpreting seismic data in order to assess geological formations for hydrocarbon potential.
- Provides expert technical advice and consultation to senior officials of the department.

Impact

- Impacts are felt internally within the immediate work area and department as well as externally with clients and stakeholders and/or stakeholder representatives.
- Resources affected include equipment, processes and systems, information, finances, facilities, material resources, human resources, health and safety and corporate image.
- Assessment of geophysical data is used in part for promotion of onshore and offshore petroleum resources of the province. Data must be current and accurate. This will impact slightly on the material resources of the province and more importantly, on the human resources (i.e. project completion times, number of staff working on project, etc.).
- The consequences of a mistake or error can have an extreme impact. If technical interpretations are in error it could result in companies bidding for lands or could lead to individuals, etc. buying shares in companies that have exploration permits in those areas. Companies or individuals could end up spending their money on incorrect data supplied by government.

Development and Leadership of Others

- Not responsible for the supervision of staff.
- Development and leadership activities include providing on-the-job advice/guidance and acting as technical mentor to new and existing employees.

WORKING CONDITIONS

Environmental Working Conditions

- Work is performed largely in an office environment with typical adverse environmental conditions such as glare from a computer.
- The likelihood of injury or illness is limited.
- Occasionally travelling is required to conduct a field visit in which case safety precautions and protective equipment are required as some undesirable environmental conditions may exist.