



IDENTIFICATION

Department	Position Title	
Industry, Tourism and Investment	Geomatics Analyst	
Position Number	Community	Division/Region
63-14368	Inuvik	Mineral and Energy Regulatory Division

PURPOSE OF THE POSITION

The Geomatics Analyst is responsible for the development and implementation of Geographic Information System (GIS) related projects, performing geospatial analysis, and providing decision support, recommendations and assistance to the Regulatory Division.

The Geomatics Analyst also has a matrix reporting relationship to the Northwest Territories (NWT) Centre for Geomatics, within the Information System Shared Service Office (ISSS), Department of Finance, and participates in corporate activities including collaboration on initiatives to improve the results of the Geomatics community of practice within the Government of the Northwest Territories (GNWT). This includes participation in processes that support overall management of the geospatial sector, such as results reporting and the implementation and maintenance of GNWT Geospatial standards and practices to support data management, publishing, discovery, sharing, and integration. This also includes collaborating with ISSS and other key partners on activities and initiatives that contribute to and enhance Geomatics as a professional discipline within the GNWT, such as training, coaching and presenting on various aspects of geospatial services, technology and processes.

The incumbent carries out this work within the context of GNWT and federal legislation, regulations and policies in a manner that directly supports the achievement of the mandate and priorities of the Department of Industry, Tourism and Investment (ITI) and the broader GNWT.

SCOPE

The Geomatics Analyst is located in Inuvik and reports to the Manager, Data and Information. The Geomatics Analyst is responsible for the development and implementation of GIS projects for the Regulatory Division and ITI and supports GNWT-wide GIS projects more broadly through the position's collaboration with ISSS. The Analyst operates in a complex multijurisdictional environment that includes Indigenous governments with self-government authorities, federal regulators, interdepartmental GNWT partners, and private industry. The



position ensures information systems and data practices remain compliant with multiple statutes, agreements, and regulatory frameworks.

The Department of ITI is mandated to carry out the development, implementation, and monitoring of programs and services to promote and support the growth of the NWT economy, prosperity, and socio-economic development. ITI programming strives to create a positive climate for industry that will attract investment capital, stimulate economic growth, support sustainability, and support growth in new business and job opportunities and benefits for Northerners.

Mineral and energy development is a foundational contributor to the NWT economy and socio-economic well-being. It is essential to ensure that it is responsibly regulated and managed to ensure that northerners receive maximum benefits from the sector while negative impacts are minimized and effectively mitigated.

The Regulatory Division is responsible for ensuring the effective, transparent, and accountable implementation of the NWT's resource development regulatory framework related to subsurface land interests and tenure and compliance with the *Mineral Resources Act* (MRA), *Oil and Gas Operations Act* (OGOA), and *Petroleum Resources Act* (PRA) and associated Regulations.

The Geomatics Analyst supports the issuance and management of rights for oil and gas development by developing and implementing GIS projects, providing geospatial decision support, and developing GIS products, including digital databases, hardcopy maps, graphics products, and digital backups. Associated with this is the responsibility of handling different projects with many different data sources. The Analyst is experienced and creative in the manipulation of digital data to allow its importation into the divisions and other geographic or non-geographic related database systems. The incumbent also acts as Deputy Registrar for oil and gas rights issuance and administration in the NWT.

The Geomatics Analyst works closely with colleagues within the Division, Information Systems Shared Services (ISSS), Technology Service Centre (TSC), and vendors, as well as with ITI Divisions such as Mineral and Energy Royalties and Beneficiation (MERB), the Northwest Territories Geological Survey (NTGS), and the Mineral and Energy Strategy Division (MESD).

The Geomatics Analyst determines when issues should be escalated to a higher level and monitors their own work competently within limited deadlines and according to relevant standards and procedures. The incumbent has significant latitude and a high level of accountability and is expected to be able to work within best practices, functional precedents, and broadly defined policy objectives. The ability to build and maintain relationships and work in a collaborative manner with colleagues across the GNWT is essential to ensure success. This role is accountable for delivering its mandate effectively in order to sustain the Department's reputation, reinforce public trust, and contribute to a strong and stable resource development sector in the NWT.



RESPONSIBILITIES

1. Prepares, develops, and implements GIS projects and products to support the management of land rights associated with petroleum and mineral exploration and development.

- Prepares draft and final maps for mineral and oil and gas exploration and development, including Expressions of Interest and Calls for Bids processes.
- Publishes Expressions of Interest and Calls for Bids maps on the Department's website.
- Maps coordinates for nominated parcels as part of quality control efforts.
- Posts text and maps for winning bids on the website.
- Updates disposition maps, digital files, GIS data, and metadata in various formats on the website(s) and the public registry in response to the issuance of exploration licences.
- Creates digital databases, hardcopy maps, graphics products, and digital backups for the management of subsurface land interests and rights associated with mineral and energy exploration and development.
- Works with developers and provides technical maintenance and updates to systems to meet future troubleshooting and feature updates.
- Assists with the creation of drilling maps and updating maps to reflect drilled wells, termination of title.
- Updates maps, digital files and the on-line registry in response to Significant Discovery Declarations and Significant Discovery Licenses.
- Creates maps for Commercial Discovery Declarations and Production Licenses as part of quality control efforts.
- Updates maps, digital files, and the online registry in response to Commercial Discovery Declarations and Production Licenses.
- Updates maps, digital files, and online registries in response to the consolidation, transfer, assignment, or amendment of any mineral or energy interests.
- Creates project-specific GIS study areas to import, store, and manipulate data.
- Inputs and manipulates data to or from a GIS image analysis system and other database management systems.
- Performs spatial analysis and queries using SQL in GIS software applications.
- Performs feature analysis and extract, image analysis and classification in remote sensing software programs when necessary.
- Creates and runs geoprocessing models in GIS and remote sensing applications or other automated model based or scripting environments.
- Designs communications tools, preparing and printing map-based products, graphics and posters (e.g. paper maps, reports, annual reports, documents, banners etc., and correspondence) for use by the department, other agencies and the public.
- Documents procedures involved in projects and related datasets, ensuring and noting backup locations.



2. Provides geomatics expert technical advice and supports decision-making.

- Responds to departmental staff requests for geomatics assistance and advice.
- Consults with Regulatory staff to establish and define project conditions, requirements and action plans.
- Provides recommendations and advice on resource development informatics and geomatics projects.
- Provides technical geomatics advice, recommendations, and assistance.
- Conveys technical issues to management and develops and recommends solutions.
- Translates digital data into requested formats and GIS products.
- Locates and restores digital data.
- Digitizes and manipulates data and data sets.
- Plots, prints, produces, copies, cuts, and laminates maps.
- Provides direction and assistance to other Data and Information Technology staff.
- Carries out coaching and delivers training on the use of technical software, including GIS and databases, and on interpretation and analysis of geomatics data.
- Manages, conducts, and coordinates geospatial analysis and research.
- Provides interpretation and advice related to geomatics data and reports.
- Performs numerical and statistical calculations using spreadsheet or other software programs.
- Carries out on-screen digitization of geospatial data for the Department, other agencies, and private enterprises.
- Keeps up to date through professional self-directed training on a regular basis in computer hardware and software technologies related to geomatics, database systems, computer networks, and high-quality graphic design and publishing.
- Attends conferences and workshops and professional development training in the geomatics field related to the position.

3. Supports the implementation and administration of oil and gas and mineral interests.

- Acts as Deputy Registrar for oil and gas rights issuance and administration, including performing data entry, carrying out queries on various companies and interests, generating database reports, entering legal land descriptions, providing information to companies holding oil and gas and mineral interests in the territory, government colleagues, and the public.
- Assists in the entry and maintenance of oil and gas registry records and information in tenure and interest database.

4. Administers and assists with non-GIS divisional, departmental, and other projects.

- Initiates and completes, upon the Manager's request and direction, projects as they arise.
- Assists departmental staff, other organizations, and private industry with requests.
- Creates and updates digital databases for the division.



- Performs encrypted backups of the Division's GIS data to backup critical mineral and energy rights and tenure information.
- Performs various procurement activities with the assistance of Procurement Shared Services and ISSS and oversees sole source contracts for computer hardware, software, geomatics and other goods and services needed by the Division.
- Ensures GIS supplies are maintained by placing and tracing orders.
- Supports efficient and accurate records retention for the Division.

WORKING CONDITIONS

Physical Demands

The incumbent is required to lift heavy items such as computers, monitors, office equipment, 44-inch-wide plotter and laminator rolls (up to 30 lbs.), and display cases.

Environmental Conditions

The incumbent is required to use the cutter as part of the creation of maps, banners, and posters.

Sensory Demands

The incumbent must be able to differentiate accurately between colours and create compositions of data that are differentiated with discernible and aesthetically agreeable colour combinations. For efficient GIS digitization, the incumbent is required to be able to differentiate between tones (hearing).

Mental Demands

No unusual demands. Occasional travel for professional training may be required.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge of GIS, remote sensing, geography, cartographic design and graphic design principals for effective communication of thematic content.
- Knowledge of GIS and remote sensing analysis principles, including computer modelling and automation within those environments.
- Knowledge of at least one of the following Geographic Information Systems and related software applications: Esri, MapInfo, Caris, Manifold, QGIS, SDE.
- Knowledge of Extraction Translate Load (ETL) software: FME.
- Knowledge of one or more of the following scripting environments: python, java, iron python, VB Script.
- Knowledge of Basic Unix operating system.



- Knowledge of on-screen and table digitizing systems and knowledge of computer graphics design software.
- Knowledge of Relational Database Management Systems (RDMS), at least one of the following: MS Access, MS SQL Server, Oracle, Postgre SQL, MySQL Lite.
- Knowledge of the hardware and software requirements of high-performance GIS, remote sensing and graphics workstations, RAID systems, and backup software systems.
- Knowledge of at least one of the following remote Sensing Software applications: ERDAS Imagine, Envi, PCI Geomatica.
- Knowledge of Professional OCR Software.
- Knowledge of database theory, design principles, modeling, and administration.
- Knowledge of metadata standards and data management.
- Knowledge of principles and practices of project management to plan, organize and coordinate the activities of a project team that includes contractors, related to information technology and information management systems.
- Knowledge of the software development lifecycle, as well as the various methodologies including predictive (plan-driven) approaches or adaptive (iterative/agile).
- Knowledge of records management and information management principles, including statistical information, documents and technical reports, and physical specimens.
- Knowledge of legislation, regulations and policies that pertain to the management of mineral and energy surface and subsurface rights.
- Knowledge of information management applications.
- Knowledge of MS Office operating systems and software (Word, Excel, PowerPoint, Teams, Outlook, Access), Adobe Acrobat Pro, and appropriate use of the internet.
- Problem-solving skills to synthesize and interpret complex information, identify cross divisional and departmental linkages, and assess risk and opportunity.
- Organizational, prioritization and planning skills to meet deadlines and manage a workload that includes multiple assignments with potentially conflicting and changing priorities.
- Research and analytical skills.
- Writing, presentation, and public speaking skills are needed when providing training to employees on various information technology and information management applications.
- Verbal and written skills to be able to convey complex technical issues to a non-technical audience.
- Project management, organizational, and time management skills.
- Ability to work independently without supervision and take initiative.
- Ability to acquire knowledge of departmental mandate, goals and objectives, priorities and strategies.
- Ability to manipulate and retrieve data from automated systems and various application software and spreadsheet applications.
- Ability to handle and safeguard complex, sensitive, and confidential information with integrity, judgement, discretion, and professionalism.



- Ability to read and comprehend two dimensional, three dimensional spatial and graphical information such as maps.
- Ability to demonstrate and promote initiative and resourcefulness to manage projects.
- Ability to build and maintain excellent working relationships with colleagues.
- Ability to work effectively with team members from a variety of backgrounds and cultures.
- Understanding of the impacts of colonization and institutional and structural racism and biases on society, in particular Indigenous people who make up more than half the NWT population.
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:

Completion of a bachelor's degree in GIS, computer science, information management systems or a related field and three (3) years of directly relevant experience in GIS, remote sensing, cartography, database support, information management, information technology, or software implementation, administration, or project management.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

Position Security (check one)

- No criminal records check required
- Position of Trust – criminal records check required
- Highly sensitive position – requires verification of identity and a criminal records check

French language (check one if applicable)

- French required (must identify required level below)
Level required for this Designated Position is:
ORAL EXPRESSION AND COMPREHENSION
Basic (B) Intermediate (I) Advanced (A)
READING COMPREHENSION:
Basic (B) Intermediate (I) Advanced (A)
WRITING SKILLS:
Basic (B) Intermediate (I) Advanced (A)
- French preferred

Indigenous language: Select language



Required

Preferred