Seismic Survey Visibility in Remote Oil Sands Terrain

Eagle Canada and Geoforce in Partnership

In northern Alberta, seismic work runs on a narrow winter window. When the ground freezes, crews deploy snowmobiles, generators, UTVs, and various light and heavy duty trucks across forested oil sands terrain, deploying nodule sensors along engineered project lines to collect subsurface data for major energy producers.

With hundreds of devices tracking field equipment, they've partnered with Geoforce since 2021 to operate in this harsh environment. But as projects scaled, they needed more than asset dots on a map they needed their seismic grid integrated directly into the platform.

Outgrowing Static Maps

Every seismic project begins with private GIS survey data defining receiver and source points across large remote areas. That data is client-specific and constantly evolving.

Previously, those survey files lived outside the tracking system. Supervisors had to reference static layouts separately from live equipment movement, making it harder to quickly measure field execution against the planned operation.

Eagle Canada needed a single operational view where survey design and live field activity existed together.

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End to End Operational Visibility

- Hundreds of active asset trackers supporting winter field operations across remote norther Alberta
- Snowmobiles, generators, UTVs, and various light and heavy duty trucks tracked in one operational view
- Custom GIS survey overlays securely layered inside the Geoforce platform
- Near real-time operational oversight across crews running seismic lines in forested, infrastructure-limited terrain

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The Challenge

Coordinating Crews Across Custom Survey Grids
Eagle Canada deploys large field crews across northern Alberta during peak winter season, when frozen ground allows access to remote oil sands terrain. Snowmobiles, UTVs, and light-duty trucks move along engineered seismic project lines to place receivers and source points. Supervisors previously had to reference static GIS files separately from live asset tracking because survey overlays were not integrated into the platform. This made it difficult to quickly measure field execution against the planned operation.

Challenges: separate static survey maps, limited alignment between crew location and grid layout, cross-referencing systems, reduced real-time operational clarity.

Needs: secure GIS overlay capability, live asset visibility layered over engineered survey projects, centralized operational map, clearer coordination across remote field deployments, and allows field supervisory teams to track and monitor safety of individuals working alone to help manage sensitive land areas, provide real time directions for on-site crews.

The Solution

Built for Winter Field Operations
Seismic work in northern Alberta requires coordination long before crews enter the field. Equipment staging, crew routing, inspection readiness, and deployment planning must be established months in advance to make the most of the frozen-ground window when projects can move forward.

Eagle Canada selected the Geoforce platform to centralize those workflows into a single operational system. Geoforce provides real-time asset visibility, movement history, geofencing, alerts, inspections, and analytics within one environment, allowing supervisors to manage equipment deployment, monitor utilization, and maintain readiness across multiple projects simultaneously.

Assets can be grouped by project or work zone, filtered by status, and monitored through dashboards designed to surface location activity, utilization trends, maintenance schedules, and operational alerts. Field leadership gains near real-time awareness of how equipment is moving across seismic lines while historical reporting helps identify patterns that inform planning for future seasons.

Mobile access extends that visibility beyond the office, allowing supervisors to monitor crews, respond to alerts, and review asset status directly from the field.

For Eagle Canada, Geoforce became more than a tracking tool. It became the operational map connecting planning, execution, and year-over-year improvement.

“This isn’t just about tracking equipment. It’s about running a more coordinated operation. Having our survey data integrated with live asset visibility helps us execute projects more efficiently and with greater confidence.”

- Clint McBride

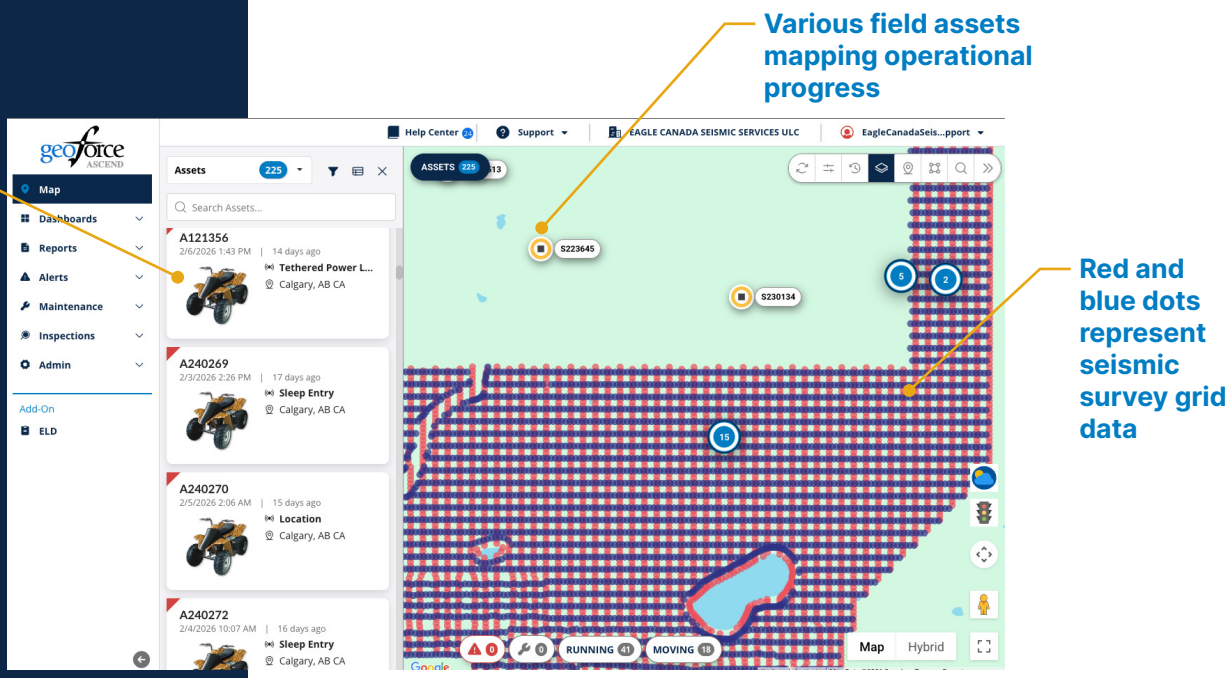
Vice President

Rugged Devices Built for Oil Sands Terrain

To support field operations, Eagle Canada paired the Geoforce platform with rugged tracking hardware matched to each asset type. Geoforce equipment trackers were installed on snowmobiles, UTVs, and generators operating directly along seismic lines, providing frequent reporting during operation and store-and-forward communication when assets move beyond cellular coverage. Built with sealed IP68 enclosures and designed for operation in temperatures as low as −40°C, the devices withstand snow, moisture, vibration, and prolonged exposure common during winter deployments.

Pickup trucks supporting crew transport and logistics were equipped with Geoforce vehicle trackers, enabling plug-and-play installation alongside advanced vehicle diagnostics and driver behavior monitoring. Designed to tolerate vibration, thermal shock, and extended cold-weather operation, the devices maintain consistent visibility across long travel distances between staging areas and remote work zones.

Together, rugged hardware and connected software ensure crews, support equipment, and power assets remain visible throughout demanding winter operations.



Custom GIS Overlays

With the release of custom GIS overlay functionality in the Geoforce platform, Eagle Canada became an early adopter. The team worked with Geoforce to securely upload their proprietary survey data into the platform. The overlay is private and visible only to their organization.

Now, supervisors can view all of the following in single operational interface:

- Engineered seismic lines
- Receiver and source points
- Snowmobiles, UTVs, vibes, and trucks
- Live and historical movement trails

By integrating custom GIS overlays into Geoforce, Eagle Canada strengthened coordination during peak winter deployments.

Supervisors now manage crews from one unified map instead of toggling between static layouts and tracking screens. Field alignment with survey is visible in near real-time, improving oversight across remote oil sands projects.

The result is clearer operational control during the most time-sensitive season of the year.

“Before, we were cross-referencing survey files with tracking data. Now it’s all in one view. We can see our crews working directly along receiver and source lines, which makes oversight much more precise.”

- Robert Dietz

Fleet Manager

www.geoforce.com
888.574.3878