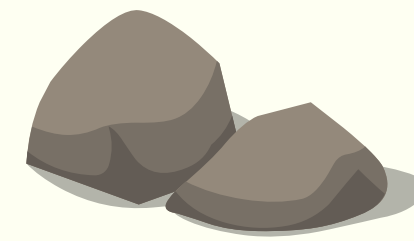


Exploration Geophysicist



Background

Exploration geophysics: a field of applied physical methods (e.g., seismic, gravitational, magnetic) at the Earth's surface, to measure the physical properties of the subsurface and detect economically useful geological deposits.

For my second work term, I work as a geophysicist at Abitibi Geophysics Inc., a geophysical service provider and consulting company, focusing on ground and borehole applications.



Geophysical consulting typically involves:



Gathering preliminary data

Post processing and visualization



Solution and presentation

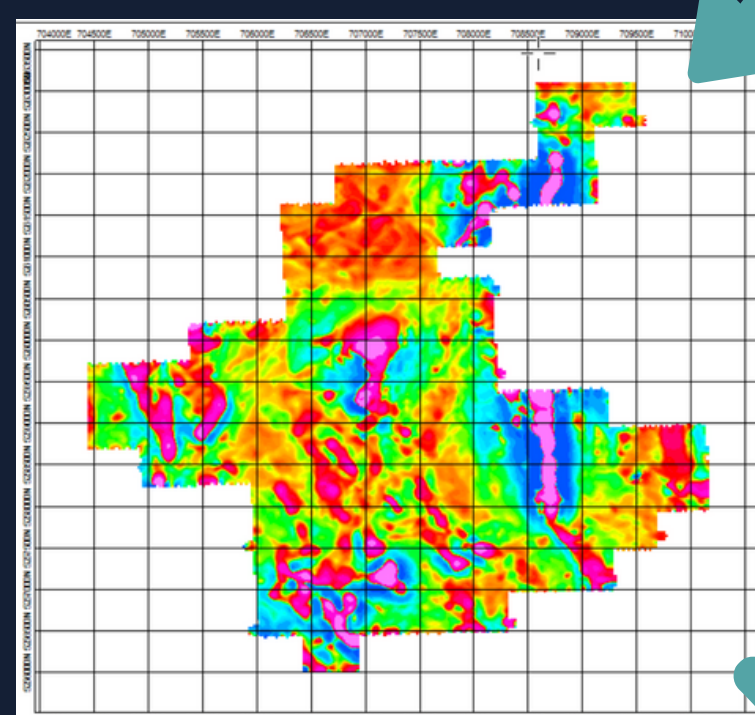


Duties

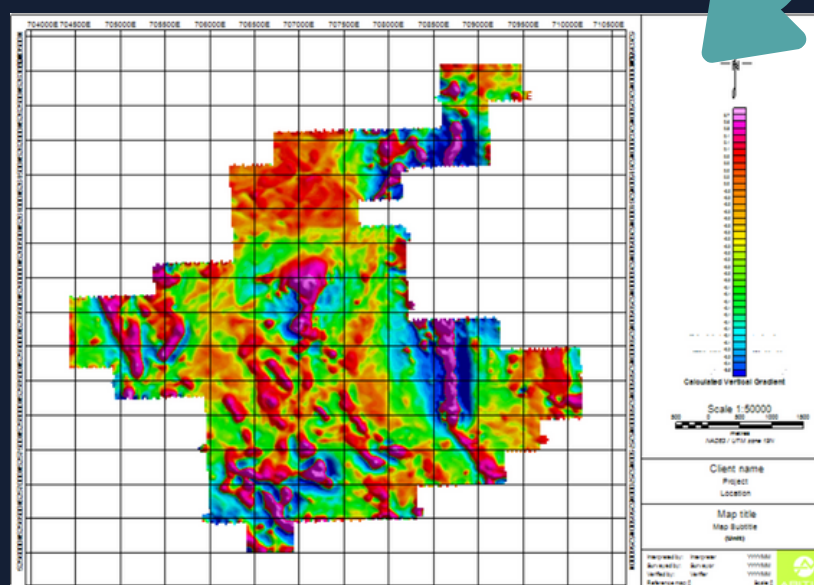
My primary duty involves analyzing preliminary data and optimizing for data visualization, which projects a series of numerical data associated specific coordinates into maps. The particular software I work with is Geosoft Oasis Montaj.

L2	X	Y	Z	CVG
0.0	284565.00	5322215.00	*	54945.68
1.0	284565.00	5322220.00	*	54944.56
2.0	284565.00	5322225.00	*	54943.52
3.0	284565.00	5322230.00	*	54942.56
4.0	284565.00	5322235.00	*	54941.69
5.0	284565.00	5322240.00	*	54940.92
6.0	284565.00	5322245.00	*	54940.24
7.0	284565.00	5322250.00	*	54939.68
8.0	284565.00	5322255.00	*	54939.23
9.0	284565.00	5322260.00	*	54938.89
10.0	284565.00	5322265.00	*	54938.66
11.0	284565.00	5322270.00	*	54938.50
12.0	284565.00	5322275.00	*	54938.41
13.0	284565.00	5322280.00	*	54938.35

Sample: Calculated Vertical Gradients from a line magnetic survey



Each sample data point is projected onto a map. Sometimes further processing needs to be performed.

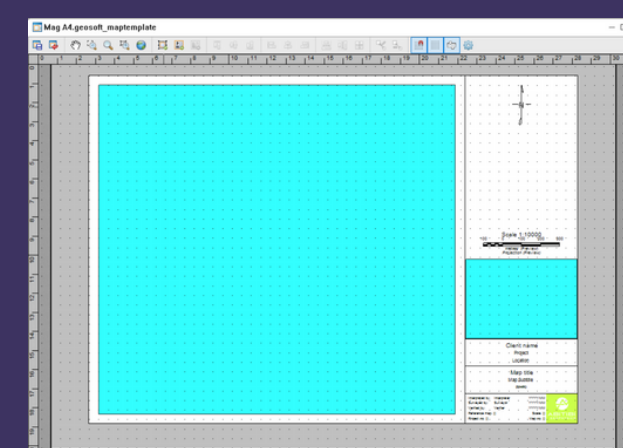


Sample figure for final delivery or presentation. It includes client, company and field information.

I also helped with updating older geophysical projects that use obsolete modules.

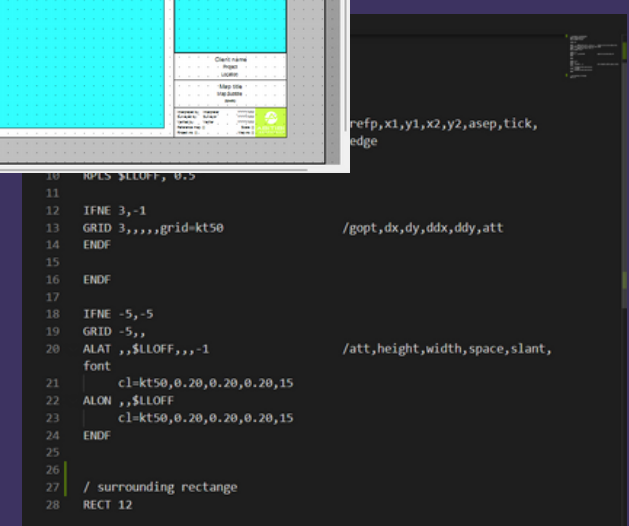
Automation

Manually, data visualization is tedious, especially with multiple maps at one test site. Templates and control files can be used to automate and standardize numerous map making processes with a variety of page layouts. The aim of my project is to reduce unnecessary as many user inputs as possible.



Templates

Control files



As for project management, the entire project is sequentially managed by Git and store as a Github repository with update logs and documentation, so that others can maintain the project easily.

Things I Learned

- Documenting your work is a good habit, both for yourself and your colleagues, and can save potentially many hours wasted by others on re-learning.
- Stay humble! The industry is quite different from what we have learned from school. It might take a while to adjust to a new environment.
- Communication is key, but sometimes you should give some space to others, especially when they are busy.
- Geophysics is a rapidly evolving field. We must keep up with new discoveries and technologies to stay competitive in the field.