



LABORATORY SERVICES



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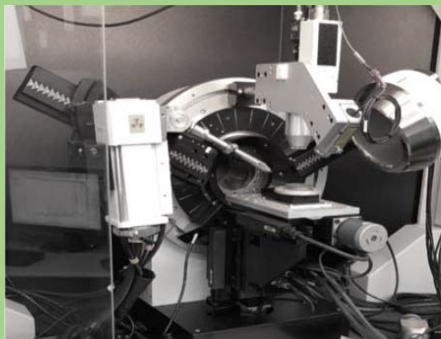
Measurements are performed by qualified technical personnel using state of the art equipment and software.

Laboratory Equipment and Services

Service includes:

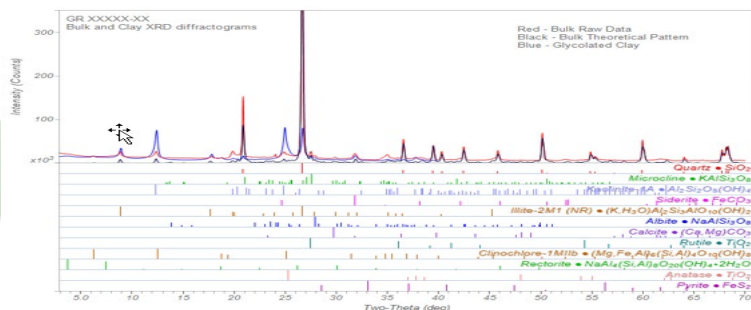
- X-Ray Diffraction
- X-Ray Fluorescence
- Scanning Electron Microscope
- Thin Section Studies
- Petrology and Mineralogy Studies
- Grain Size Analysis

X-RAY DIFFRACTION

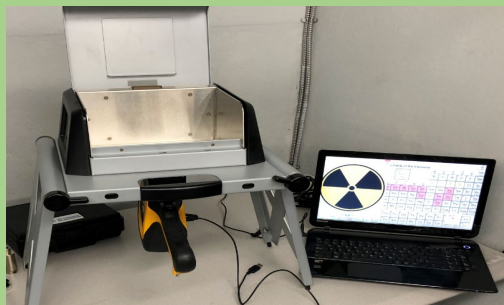


Bruker D8 Discover with GADDs

The instrument uses a Vantec 500 2D detector to collect a large amount of data simultaneously. Multi-position sample changer, high speed data capture, grazing incidence capabilities, large omega, phi & XYZ sample stages, multiple X-ray tube sources to improve the speed of data collection and offer a variety of applications.

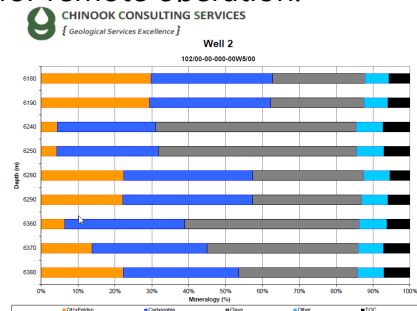


X-RAY FLUORESCENCE



Olympus Delta

ED-XRF, Elemental geochemical data to characterize and correlate sedimentary stratigraphy. Portable and deployable for remote operation.

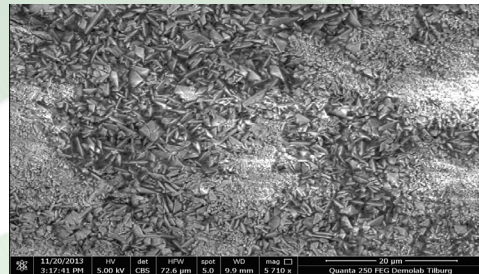


SEM

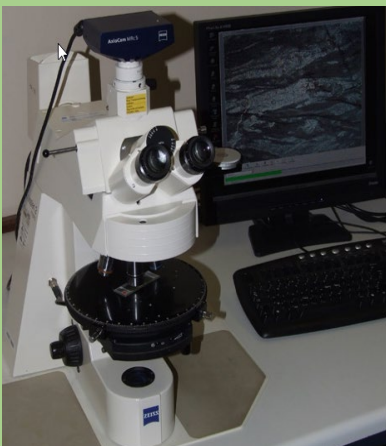


Quanta 250 FEG

Variable-pressure/environmental field emission scanning electron microscope. This microscope allows for examination of electrically conductive and non-conductive samples with high resolution (down to about 1 nm) over a wide range of magnifications (~ 20x - 1,000,000x). Sample examination and experiments can be performed under high vacuum conditions, or under low vacuum with pressures up to 4000 Pa in a variety of gaseous environments, including air, water vapour, nitrogen, helium, and various oxidizing and reducing atmospheres.



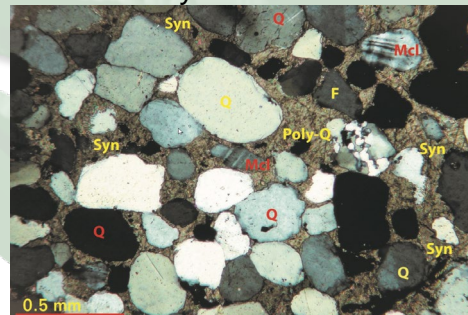
PETROGRAPHY



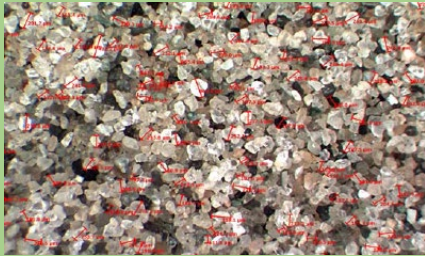
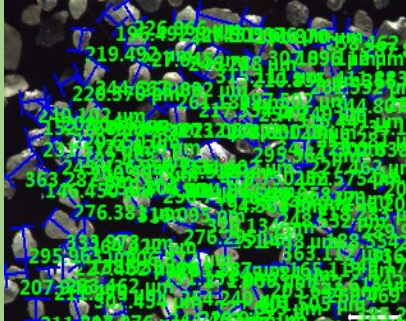
Zeiss Axioskop 40, 5mp, Ziess Stemi 2000-C, ADSM302 Digital Microscope

High resolution optical microscopes with image capture capabilities.

Petrographic descriptions: Primary lithology, main constituents grain size, sphericity, cementation (type and degree), accessory minerals, trace fossils and biogenetic constituents, porosity type, porosity estimates, permeability estimates (Sneider/Archie classification), fluorescence and fluorescent cut description, fracture quantification, pyrite quantification, clay content quantification, identification of fractures and faults. Various magnifications and lighting to display opaque's, bedding and sedimentary structures.



GRAIN SIZE ANALYSIS



Stacked Sieves

Stacked Sieves method for grain size distributions is used in the field and in the laboratory.

Deliverables include

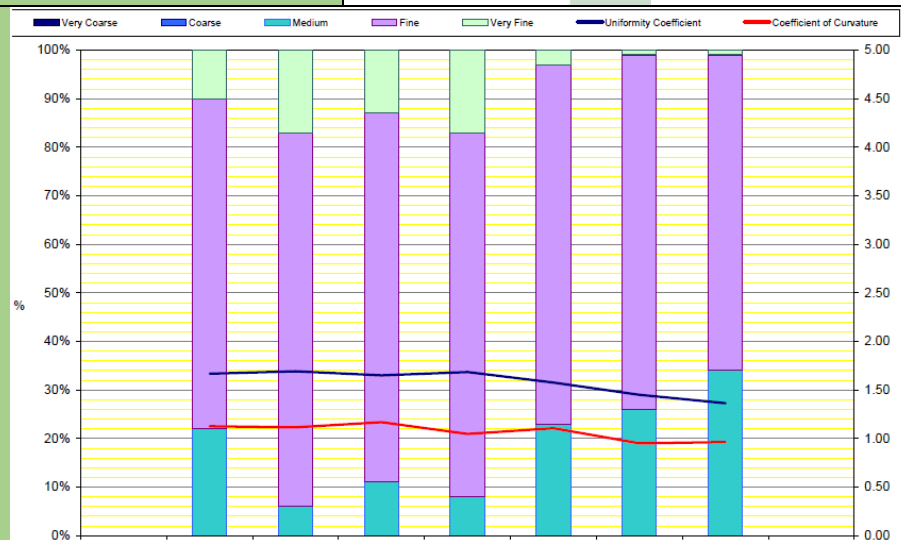
- Grain size distribution (Very coarse to very fine)
- Uniformity coefficient calculation
- Grain size charts

Petrographic method

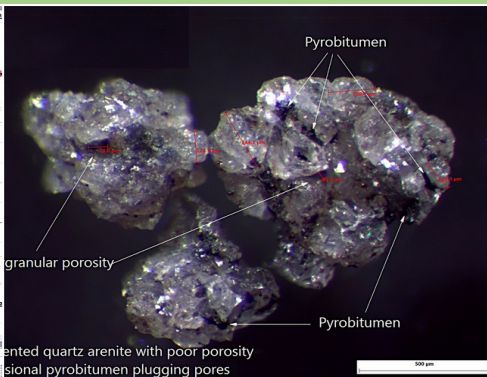
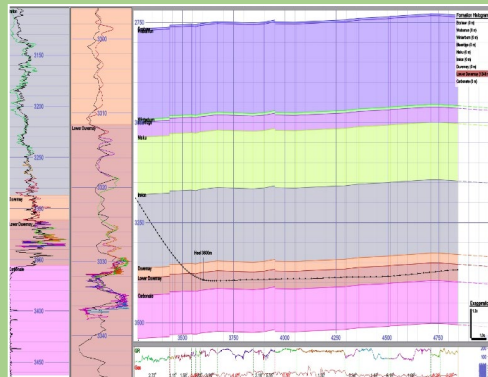
Hundreds of measurements are performed on each sample using calibrated microscopy.

Deliverables include

- Grain size distribution (
- Standard deviation/Variance/Skew
- Uniformity coefficient calculation
- Grain size analysis and statistics
- Distribution and antilithic charts



CHINOOK SERVICES



Wellsite Geology

- Petrographic analysis of drill cuttings
- Porosity/Permeability estimation
- Directional and wireline supervision
- Mudlogging

SAGD and Oil Sands Delineation Services

Remote Geosteering

- Monitoring of drilling, MWD, Mud gas
- Assessment of stratigraphic location
- Optimal placement of wellpath
- Reporting

Reservoir Evaluation

- Basin Analytics
- Reservoir Evaluation
- Prospect Generation

Petrographic studies

- Petrography striplogs
- Petrographic features
- Reservoir evaluation
- Digital photography
- Digital data exports

Field and Laboratory Geochemistry

- XRF Analysis and Quantitative interpretation
- XRD Analysis
- SEM
- GCMS
(Gas Chromatography Mass Spectrometry)

Drilling and Completions

- Drilling Engineering and Operations
- Drilling Performance Optimization
- Abandonment Studies
- Manpower Services

International Operations

- Project Management
- Geoscience projects
- Drilling and completion projects
- Safety and compliance

