



Oil Gas and Salt Resource Trust
(Oil Gas and Salt Resource Library)

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Oil, Gas and Salt Resources Trust

(Oil, Gas and Salt Resources Library)

2018 Business Plan

Prepared by:

Ontario Oil, Gas and Salt Resources Corporation

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Oil, Gas and Salt Resources Trust

MISSION AND OBJECTIVES

MISSION

The Oil, Gas and Salt Resources Trust is a non-profit organization established by the Oil, Gas and Salt Resources Act of Ontario to provide information management relating to oil, natural gas and salt resources; funding of research, surveys; laboratory facilities; and operations relating to oil and natural gas exploration, production and storage in geological formations, and salt solution mining.

OBJECTIVES

The Oil, Gas and Salt Resources Trust's mandate includes maintaining and improving access to information relating to oil, natural gas and salt resources to developing programs to improve client access to information, develop new data products, and generating new revenue to sustain operations.

The Oil, Gas and Salt Resources Trust manages the Oil, Gas and Salt Resources Library, a resource centre for oil and natural gas exploration, salt solution mining, and subsurface storage and fluid disposal in Ontario.

The Oil, Gas and Salt Resources Library provides services to companies and individuals involved in oil and natural gas exploration, production and storage in geological formations, the disposal of oil field fluid in geological formations, and solution mining as well as the general public, universities, government ministries and agencies, companies providing geotechnical, geothermal and groundwater services, and other clients. The services provided are on a cost recovery basis.

The Oil, Gas and Salt Resources Library provides its clients in these resource industries with access to some of the important data they need with a view to enabling them to conduct their business in the most orderly, safe and efficient way possible. It also provides public access to this data at reasonable cost.

1.0 Introduction

The Oil, Gas and Salt Resources Trust (Trust) 2018 Business Plan was prepared to fulfill the mandate of the “Trust Agreement” between the Province of Ontario and the Ontario Oil, Gas & Salt Resources Corporation, an entity established by the Ontario Petroleum Institute Inc. (OPI).

2.0 Executive Summary

The 2018 Business Plan identifies both the long-term strategy and short-term action plans undertaken by the Trust in operating the Oil, Gas and Salt Resources Library (Library) as a resource centre for the Ontario petroleum¹ industry that includes oil and natural gas, hydrocarbon storage, and salt/solution mining industries.

The Library is a self-sustaining organization that generates the majority of its revenues from the Ontario petroleum industry oil and natural gas exploration and production industry

In 2018, the Library will continue to promote its expertise and services to achieve financial sustainability. The Library will continue to work closely with the MNRF supporting where it can the projects that provide both financial benefit as well as the progressive development of Ontario’s natural resources.

¹ Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface that can be separated into fractions including natural gas, gasoline, naphtha, kerosene, fuel and lubricating oils, paraffin wax, and asphalt and is used as raw material for a wide variety of derivative products)

3.0 The Oil, Gas and Salt Resources Trust

The Ontario Ministry of Natural Resources formed the Oil, Gas and Salt Resources Trust and Forestry pursuant to amendments made to the Oil, Gas and Salt Resources Act in 1997. A Trust Agreement signed on February 16, 1998 with the “Original Trustee”, the Ontario Oil, Gas and Salt Resources Corporation, an entity established by the Ontario Petroleum Institute Inc. The OPI is the sole shareholder of the Ontario Oil Gas and Salt Resources Corporation. The Executive of the OPI are the directors and officers of the Corporation and the Managing Director of the Trust is the Executive Director of OPI.

The Trust Agreement transferred responsibility for the operation of the core and cuttings storage area, public well files, client service area and reference Library to the Trust including payment of all reasonable costs and expenses of the Library.

Requirements for a Trust Advisory Committee (TAC) exist within the Trust Agreement. The TAC is comprised of four representatives from the oil and natural gas exploration and production industry, and one representative from each of the natural gas storage, hydrocarbon cavern storage, and salt solution mining industry. The TAC meets regularly to advise on Trust policy, operations and budget.

3.1 The Structure of the Trust Agreement:

Ontario Ministry of Natural Resources and Forestry	Trustee (Ontario Oil, Gas & Salt Resources Corporation with Directors and officers comprised of the Ontario Petroleum Institute Inc.) Oil, Gas and Salt Resources Library ↓ Managing Director ↓ Manager ↓ Staff and Contractors	Trust Advisory Committee
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3.2 Ontario Oil, Gas & Salt Resources Corporation

(Directors and officers comprised of the Ontario Petroleum Institute Inc.)

President, Dale Holland, First Vice-President, Jim McIntosh, Second Vice-President, Denis Marcus, Treasurer, Charlie Fairbank, Secretary, Frank Kuri.

3.3 Trust Advisory Committee

The Trust Advisory Committee is a seven-person committee comprised of four representatives from the oil and natural gas exploration and production industry, and one representative from each of the natural gas storage industry, the hydrocarbon cavern storage industry, and the salt solution mining industry, appointed by the Ontario Oil, Gas & Salt Resources Corporation.

Oil and Natural Gas Exploration and Production:

Dale Norman, Land Manager, Elexco Ltd. -
Mike Dorland, Consulting Geologist
Terry Carter, Consulting Geologist
Scott Lewis, Geologist, Clearbeach Resources Inc.

Natural Gas Storage:

Shelie Cascadden, Senior Geologist, Union Gas

Hydrocarbon Cavern Storage:

Dean Edwardson, General Manager, Sarnia-Lambton Environmental Association

Salt Solution Mining:

Stephen Whan P.Eng, Panroom Superintendent – Windsor Facility
K+S Windsor Salt Ltd.

Ontario Ministry of Natural Resources (non-voting observer)

Lee Fortner

The chairperson of the Trust Advisory Committee is Dale Norman.

3.4 Oil, Gas and Salt Resources Library Team

Hugh Moran, Managing Director
Jordan Clark, Manager
Liz Sutherland, Geographic Information Systems/Database Technician
Matt Dupont, Media and Information Technician
Maia Somers, Project Geologist/clerk

4.0 Industry Summary

Ontario's petroleum and salt solution mining industries include the following activities:

- (i) oil exploration and production;
- (ii) natural gas exploration and production;
- (iii) natural gas underground storage;
- (iv) salt solution mining; and
- (v) hydrocarbon underground storage associated with the petrochemical refining industry

These activities provide Ontario consumers with the following:

- (i) storage of natural gas imported to Ontario from sources in Saskatchewan, Alberta, British Columbia, Pennsylvania and Ohio by pipeline and held in reserve to supplement times of peak demand. This becomes very important with the switch from coal to natural gas generation of electricity;
- (ii) table salt and industrial salt – Ontario is a net exporter of salt produced from salt solution mining;
- (iii) underground storage caverns of product necessary for Ontario's petrochemical and refining industry;
- (iv) a small percentage of Ontario's demand for oil and related products; and
- (v) a small percentage of Ontario's demand for natural gas

An estimate of the oil and natural gas industry's contribution to the Ontario economy:

- (i) approximately 1,000 plus people directly employed in exploration, production, storage and salt solution mining in Ontario;
- (ii) industry assets = \$650 million;
- (iii) personal total taxable income = \$55 million;
- (iv) services and goods purchased by the industry = \$90 million;
- (v) lease payments and royalties paid to land owners and the crown = \$10.4 million; and
- (vi) municipal taxes = >\$4 million per year.

The value of production and storage in Ontario in 2016:

- (i) 1,163 wells produced 56,867 m³ (357,693 barrels) of oil = \$19 million
- (ii) 1,152 wells produced 155,311 m³ (5.5 billion ft³) of natural gas = \$20 million;
- (iii) 7,875 million m³ (278 billion ft³) of natural gas storage capacity = \$1 billion (estimate) in value;
- (iii) 3.5 million m³ of hydrocarbon storage capacity = ± \$1 billion in value; and
- (iv) Solution Salt Value – no data available.

The annual value of oil and natural gas sector to the Ontario is about \$5 billion.

5.0 Oil, Gas and Salt Resources Library – A Resource Centre

5.1 Resources

The Oil, Gas and Salt Resources Library can trace its origin to the late 1800's, when the Geological Survey of Canada (GSC) solicited voluntary submissions of drill cuttings and core from oil and gas wells drilled in Ontario and other parts of the country. This informal collection evolved into the establishment of a core and drill cuttings sample processing, storage and study facility in Ottawa. In 1950, a similar facility in Calgary was established which housed all drill cuttings samples from Western Canada. In 1971, the Ontario cores and drill cuttings samples were collected and sent to the new Petroleum Resource Laboratory in London, Ontario that was owned and operated by the Ontario Ministry of Natural Resources

The Library houses resources and data available for study including:

- (i) drill cuttings samples from over 13,100 wells;
- (ii) cores from over 1,027 wells;
- (iii) file information on approximately 27,000 wells including geophysical logs, formations tops, well history and construction;
- (iv) oil/gas/water zones, initial completion results;
- (v) core analyses,
- (vi) oil/gas/water analyses; and
- (vii) an extensive collection of reference books, periodicals and reprints on the subsurface geology of oil, gas, salt and subsurface storage resources of Ontario.

Maintaining a fully digital and accessible record of the Ontario petroleum industry remained the primary concern of the trust in 2016. This project completed approximately 500,000 scans of well plugging and other technical reports now available on-line. Library members can now begin their study of Ontario's petroleum resources regardless of their current geographic location, as all documents and maps are now accessible to any member with an Internet connection.

The Ontario Petroleum Data System data entry project is complete with a total count of approximately 27,000 wells on record. The ongoing "Data Integrity" phase has further enhanced data accuracy and remains as an ongoing effort. New efforts to improve and maintain data quality are undertaken each year by the Library and between the Library and industry partners. In 2016, approximately 80,000 geological picks graded by the MNRF and the Geologic Survey of Canada (GSC) as part of a quality assurance program. Work on the geology portion of the database is likely to continue with GSC from 2017 through 2018.

Newly digitized and quality assured data is put in to service each year in the form of new map products. The annual Pools and Pipelines Maps sums up the total cumulative production numbers for all pools producing natural gas and crude oil in Ontario. A geographical component of this project produced a new layer of updated pool boundaries and published in the Oil and Gas Pools and Pipelines Map of Southern Ontario. For 2018, it will mark a new round of advertisers for the map and new advertising opportunities will be available to emphasize the digital reality of mapping. Ads will now be display on the heavily trafficked on-line version known as *PxTools* and on the Library website.

5.2 Services

The Library attracts industry participants wanting to view data files relating to wells drilled in Ontario (i.e., well cards, production information, plugging information, etc.), core and drill cutting samples for wells drilled in Ontario, maps of well locations, and open file reports on the industry. Clients can review materials in the Library, and if relevant, take copies of the data files for studying outside of the Library.

An *ArcGIS* workstation is available for client use and is equipped with the MNRF proprietary *PetroGIS* software for performing spatial queries on the digital petroleum well database and with *Surfer 9* digital gridding and contouring software for subsurface geological mapping. The Library also provides a drill cutting sample service and a core cutting service. A full time technician with expert training in GIS software is available to fill all client requests.

The Library also operates a dynamic website (www.ogsrlibrary.com) that contains all relevant data from the Ontario government electronic database, from hard copy records held in the Library, and from special electronic databases created by the Library. Member access includes individual well history complete with geology, analysis, geophysical logs, production, plugging and stimulation. The data is available to view in electronic format and all of the original documents are accessible as scans.

The Library website posts all basic digital petroleum well data for all of the counties in Ontario for complimentary downloading (well location and historical data). A set of enhanced and value-added subsurface data for all counties is available for purchase. The website receives regular updates of verified county data and digital data products. The Library staff utilizes this digital data for plotting specialized maps that combine different data types including well locations, bedrock geology, bedrock topography, oil and gas pools, and digital elevation models for Ontario as well as incorporating results from data queries and filters.

All drill cores and rock chip samples from the Ontario petroleum industry submitted to the Library are processed, catalogued, and stored on-site. Over 12,000 wells with drill samples and 1100 drill cores are in the Library warehouse. This unique catalogue of raw scientific material is available for viewing and analysis by clients, industry members, consultants, governments, academics, or members of the public. A laboratory is available at the facility for client use and stocked with basic chemicals and equipment for this purpose. Remote users of the Library can request high-resolution core photography and Library staff can take samples at their request. In most cases, cores at the Library may be samples and those samples removed from the Library of analysis. In the case of material removal, a small amount of material must always be retained and the results of the analysis must be added to the Library archives for publication after an agreed upon period.

The Production Module for the Library's well database now incorporates all 80,000-production forms scanned. The forms posted on the website are available for viewing at no charge by the public. This module also contains digitized monthly production data for all wells completed between 1992 and 2016. Annual production reports by well are available from 1967 to 1991. Prior to 1967 production is recorded on a geographic basis dating back to 1897. The Library has over 8 million rows of digital production data available for query and download by individual and corporate members.

5.3 Ongoing Initiatives

5.3.1 Digital Access to all Oil, Gas and Salt Resources Act (OGSRA) Well Records

All the public well file documents stored at the Library are scanned and available on-line to members, thanks to an initial project with MNRF. On-line and hard copy sets of OGSRA well records are constantly maintained and being made accessible to the public by the Library.

5.3.2 Custom Datasets for Industry Partners

The Library has worked closely with MNRF, OGS, and GSC to create custom data products for their use. In 2018 the Library will continue to use its one of a kind collection of drill cuttings, rock cores, and geophysics to provide value to our government clients.

5.3.2 High Resolution Core and Rock Cutting Photography

Newly purchased equipment has enabled the Library to take high-resolution core photos thanks to a generous sponsorship by Charlie Fairbank. Core photography is now a service available to all Library clients on a per core box basis. In addition, a new microscope with digital camera has been acquired to bring the same convenience to the viewing of rock cutting samples. These samples are required to be collected from every well drilled in Ontario and the Library currently archives approximately one million vials of sample. This allows clients to get more work done off-site, preview cores and cuttings before traveling to the lab for viewing, and create images and diagrams for reports and presentations.

5.3.3 Quality Assurance of Geology Database

Geologic data from the OGSRA well geology database has become a critical input to models created by various government agencies. The Library has been working with the Geological Survey of Canada, Ontario Geological Survey, and Ontario Ministry of Natural Resources and Forestry to ensure the highest quality of data is available for modelling. Previous modelling efforts have highlighted errors in the geological data. Geologists working at the Library correct the data and distribute it to current and future modelers.

5.3.4 Annual Pools and Pipelines Map

Following the submission of annual reports, the Library does a review of pool production and boundaries. Slight changes made to the pools shape layer as required and the results, along with the recent year's production statistics published on a hard copy map. The *Pools and Pipelines* map also features ads by sponsors, which are up for renewal in 2018. Sponsors of the 2018 – 2018 maps will also receive on-line advertising on the Library website and inside the Library's *PxTools* overlay for *Google Earth* that is heavily trafficked by industry.

5.3.5 Formatted Reports

Environmental consultants, building contractors, real estate agents, and landowners may occasionally require detailed OGSRA well services on a one-off basis. To meet this demand the

Library is preparing a detailed report template for a procedural well search that can be ordered for a specific property. As urban areas continue to expand into areas that may have held historic oil fields bringing a simple but detailed search solution to new customers will become increasingly important.

5.3.6 Seismic Surveys and Shot Lines

Each year the Library uses reports from operators to update a geographic database of seismic survey locations. This database appears online through the Library's PxTools product for *Google Earth* and the raw data is available directly from the Library. Going forward the Library will be looking to enhance its database of seismic survey locations with links to vendors and actual data if it should present itself.

5.3.7 Log Digitizing

TGI research provided budget for hardware/software to scan and digitize hard-copy geophysical well logs, and some funding for personnel to acquire select project logs. Staff have been trained on digital acquisition, and can digitize logs upon client request. A fee for this work is charged. There is a continuous review of current digital data pricing. There are on-going requests to ensure that digital log submissions are part of the next Operating Standards update

5.3.8 Digital Data Publishing

The Library will continue to work, in partnership with the MNRF to build, maintain and market a digital database of geological and engineering information on wells drilled in Ontario. The Library will be the data vendor for information on Ontario oil, gas, and salt and storage resources, based on the Data Resale Agreement with MNRF. New data is constantly being uncovered and added to the library catalogue. This effort has highlighted the need for a wide format scanning device that would allow the Library to engage in more data capture internally and as a service.

5.3.9 Digital Archiving of Geophysical Log

A major undertaking in 2012 was the digital log archiving that produced over 20,000 geophysical log scans from paper records and became the ultimate backup and an on-line resource. Maintenance of this catalogue continues with newly received logs added weekly. Enhancements for 2018 include more conversion of scanned raster logs into true digital vector form. The first step in this process will be to create smarter raster's in 2018 and record more details about each log using an on-line portal. This will immediately create better search and raster products.

5.3.10 Petroleum Production Digitizing

The MNRF provided funding to create a full digital backup of all annual reports, including production documents, and create a searchable database of petroleum production. In all, 80,000 records were scanned and about 500,000 months of production were entered into the database by Library staff using a custom build on-line digitizing portal. The operator can now query and aggregate the information on production, formation, location and on other criteria on a per well basis instantaneously. After verifying the submitted reports, the scanned records and the database are updated.

Current Activity:

- MNRF has an operational database of all licensed wells in Ontario within the Ontario Petroleum Data System (OPDS). All new wells and well information, with the exception of production information, entered into OPDS. The OGSRL, in conjunction with MNRF, has populated the database with old well information and files.
- Sale of value-added subsurface data from OPDS by the Library in 2003 will continue through 2018. Data consists of geological formation tops, logging records, and oil/gas/water interval records.
- A data sharing agreement signed between the MNRF Information Access Section and the Ontario Oil, Gas and Salt Resources Trust. The agreement allows corporate members of the Library to use MNRF Digital Base Maps.
- Improvements to the lab space include more supplies available to clients and more services, including high-resolution core photography.
- The Library is updating geographic co-ordinates for a number of wells populating the well location metadata record for well location accuracy, and performing quality assurance checks and corrections for oil, gas, and water interval records in the MNRF OGSRA well database.
- Well production history is one of the most sought-after items by Library users. The Library has produced a digital dataset of well production history and has posted the data on its website for use by members. This project funded in part by the MNRF.
- In conjunction with GSC, another major review of geology data will run in 2018 and continue to 2018. The final product will be high resolution, high accurate, maps of Ontario's key subsurface layers.

6.0 Marketing

In 2018, the Trust will promote Ontario oil and natural gas exploration and production and market the Library as a resource centre and provider of member and client services. The emphasis will be on business development and promotion.

These activities will support generating Library sources of non-fixed revenue from five strategic areas:

- **Projects**
- **Membership**
- **Data sales**
- **Conferences**
- **Publications**
- **Data & Mapping Services**

6.1 Business Development

The Library's business development activity will target additional project work, sales of information and data, new memberships, publications, and direct support of client activity through data enhancement services.

The geographical markets are Ontario, Alberta, and the mid-western and northeastern USA. In Ontario, users are usually the operator of oil, gas, solution mining, natural gas storage, oil field fluid disposal or petroleum storage wells in the province of Ontario, or a consultant providing services to these operators. Outside of Ontario, potential clients are resource exploration companies considering new locations for investment or activity.

The Library will continue to look for opportunities to sell data and information (see Appendix 1), primary assets that the Library has to offer current and potential clients. Various sectors of the economy – energy, telecommunications, construction – responding to market conditions and regulations, specifically environmental compliance, may require resources offered by the Library.

Potential project work opportunities will essentially come from the Ontario Ministry of Natural Resources and Forestry, Ontario Geological Survey, Geological Survey of Canada, and member companies and individuals.

The primary market for membership is the oil and gas sector, hydrocarbon storage and salt solution mining companies that fall under the jurisdiction of the MNRF. Academics and researchers form an important secondary membership market. Of 140 companies that are assessed well license fees, approximately 30 are Library members. In 2018 the Library will target companies that operate wells licensed under the Oil, Gas and Salt Resources Act but do not have a Library membership, as well as companies and individuals from across the industry.

The other membership potential is with any sector that does subsurface work in Ontario. This includes government ministries and agencies, companies providing geotechnical, geothermal and groundwater services, academic researchers, and the public.

6.2 Promotion

The Library's promotional activity is focusing on exhibiting at conferences to obtain exposure to key sectors that represent revenue opportunities for exploration membership, projects and data sales.

The Library, in conjunction with the OPI, will develop an exhibit presentation that will feature, to the highest possible level, the benefits that demonstrate the value of each organization.

The list of potential conferences in 2018 will include:

- North American Prospect Expo, Houston, Texas, February 2018
- Prospectors & Developers Association of Canada International Conference March, 2018 Toronto, Ontario
- Michigan Petroleum Conference, Traverse City, Michigan, April 2018
- 2018 GeoConvention (Canadian Society of Petroleum Geologists) May, 2018 Calgary, Alberta
- Ontario Petroleum Institute Conference and Trade Show, May 2018, London, Ontario
- 2018 International plowing Match and Rural Expo, September, 2018 Pain Court, Ontario

These conferences as well as others offer potential opportunities for the Library to collaborate with other organizations, the OPI and MNRF, for example, to maximize its exposure.

7.0 Budget

7.1 Revenue

The Trust has fixed and non-fixed revenue.

Fixed revenue comes from well license fees collected annually through Ontario Regulation 245/97 that obligates producers to pay a yearly production based fee assessed by the MNRF. Fixed revenue is projected to decline by 3% in 2018.

The non-fixed revenue comes from memberships and data sales and is expected to remain similar to 2017.

Special Project revenue for 2017 was more than \$200,000, an amount substantially greater than the budgeted amount of \$97,000 and all of which derived from projects for the MNRF, GSC, and OGS. The Library is projecting special project revenue of \$130,000 in 2018.

The 2018 Library fee schedule attached as Appendix 1,

7.2 Expenses

The Library's expenses for 2018 will be dramatically affected by the MNRF assuming the rent on April 1, 2018, an approximate \$60,000/year.

Staffing costs are expected to rise in 2018 as a response to the higher base-load of work brought about by special projects and the need to retain staff for longer periods of time.

Special project costs will again depend on staffing requirements.

The Library expects to post a surplus in 2018.

8.0 A Sustainable Future

The Oil, Gas and Salt Resources Trust have successfully supported the oil and natural gas industry, hydrocarbon storage, and the salt/solution mining industries in and outside of Ontario.

The Trust has built-up an estimated contingency reserve of \$440,000 to ensure it has operational stability. For the Library to have a sustainable future it will require continued attention on balancing its revenue and expenses.

9.0 Priorities 2018

- Promote increased Ontario oil and natural gas exploration, drilling and production.
- Market the Library as a resource centre for the oil and natural gas, groundwater, hydrocarbon and salt/solution mining industries in a continued effort to increase membership, project contracts, and client services. Look for multi-year research opportunities with existing partners to bring stability to the annual special projects budget.
- Expanding traditional client base by offering existing services to new client groups interested in subsurface exploration and offering new services that attract new members or users of the Library.
- GIS services and products - provide the most up-to-date data available and develop a broad selection of products based on an expanding database of subsurface sources to offer members and clients. GIS and database building is an essential part of being able to offer clients the data they require to advance their business interests. This includes maintaining GIS systems and staff with expertise to operate those systems and respond efficiently to client requests.
- Client access to information - provides members and clients with ease of access – onsite and on-line – to the store of information housed in the Library. Refreshing the Library website with a responsive template, more app-like functionality, and better organization will greatly improve the client experience. Explore use of traditional web based generation and sale of reports and data along with emerging blockchain and tangle technology for micro data sale transactions.



Appendix I

2018 Fees - Oil, Gas and Salt Resources Library

Membership Fees:

Annual fee – corporate	\$1,925/year
Annual fee – individual	\$660/year
Unlimited Geophysical Viewing	\$500

User Fees:

	Member	Non-Member
Use of Core & Cuttings Room	No fee	\$20/hour Plus setup charge
Use of File & OGSRL Research Room	No fee	\$10/hour
Copying		
Standard copying charge (self-serve photocopy, custom staff e-mail, and pdf)	25¢/copy	50¢/copy
Geophysical log copying on paper bond	\$4.75/m	\$6.50/m
Plotting	\$25	\$25
Research and Data Retrieval		
General Research/Retrieval by OGSRL Staff : (1-hour minimum)	\$30/hour	\$45/hour
Digital Data Research/Retrieval by OGSRL Staff: (1-hour minimum)	\$55/hour	\$80/hour
Digital Products and Services		
Ontario Digital Base Maps (GIS) <i>GIS (shape file) coverage of Southern Ontario.</i>	No fee	Not Available

Digital Surface Data (DBF) FREE at www.ogsrlibrary.com

Well location and historical information for over 26,000 well records.

Digital Subsurface Data (DBF)	\$4,000	\$6,900
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Data Maintenance Updates	\$300	\$300
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Digital tables with oil, natural gas, water, casing, logging and geological formation intervals.

Geophysical Logs

\$10.00/image (TIFF)

\$15.00/smart raster (depth calibrated TIFF)

\$20.00/LAS curve

Core Photos: \$10/box

Maps

Pool & Pipelines of Southwestern Ontario \$60/map

Oil and gas pools, underground storage and major pipelines map at 1:400,000

(The pools and pipeline map will be updated and available for purchase on a yearly basis)

Well Location Maps:

E-size plot	\$50
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D-size plot	\$25
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Over 26,000 well locations plus roads, rivers and other culture.

Spacing Orders

Free PDF at www.ogsrlibrary.com

E-size plot - \$50.00

Sample Processing Fees - New Wells

Cuttings Bagged and Unwashed	\$3.90 per bag
	Minimum one bag per three metres or one bag per six metres in a horizontal segment.

Cuttings Washed and Vialled	\$2.60 per vial
	Minimum one vial per three metres or one vial per six metres in a horizontal segment.

Core Processing Fee

Delivered, not to specification	\$45/meter
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Delivered, to Library specification	\$15/meter
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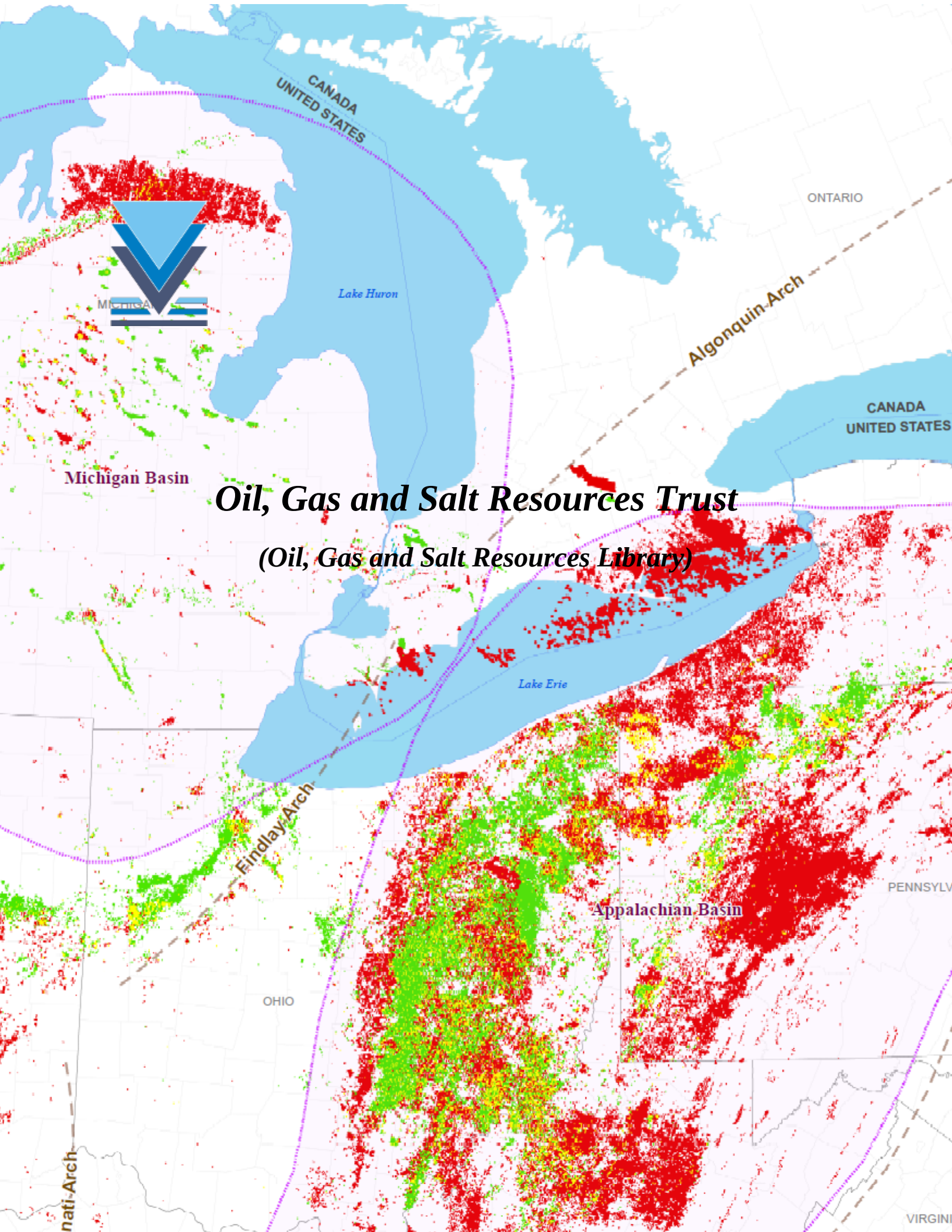
Miscellaneous

Exclusive use of Core & Cuttings Room - \$300.00/day

Shipping & Handling - \$10 plus postage

Shipping & Handling applies to all products not picked up at the OGSRL

All fees are subject to applicable taxes.



Michigan Basin

Oil, Gas and Salt Resources Trust

(Oil, Gas and Salt Resources Library)

Appalachian Basin

OHIO

PENNSYLVANIA

VIRGINIA