

ExxonMobil Canada Properties

Sable Offshore Energy Project

2013 Canada-Nova Scotia Benefits Report



Submitted to the

Canada-Nova Scotia Offshore Petroleum Board

March 31, 2014

**Cover Photo – Point Tupper Fractionation Plant and Railcar Loading Facilities
Point Tupper, Nova Scotia**

Executive Summary.....	3
1.0 Introduction	4
2.0 Project Update	5
3.0 Economic Impacts	9
4.0 Diversity and Inclusion	14
5.0 Capacity Development	16
6.0 Research and Development Initiatives	20
7.0 Community Education and Participation.....	24
APPENDICES.....	28

List of Tables

Table 1 – Supply Community Services	7
Table 2 - 2013 Expenditures	9
Table 3 - Cumulative Expenditures	9
Table 4 - 2013 Person Hours	10
Table 5 - Person Hours - Cumulative	11
Table 6 - Year End Headcount.....	11
Table 7 - Residency of New Hires	12
Table 8 - Co-op Work Placements.....	13
Table 9 - Traditionally Under-represented Groups	14
Table 10 - Training and Education Expenditures	16
Table 11 - Training and Education Expenditures – Cumulative	16
Table 12 - Research and Development Initiatives Historical	20

Appendices

- Appendix 1 - 2013 Sable Project Person Hours
- Appendix 2 - 2013 Research and Development Investments

Executive Summary

The 2013 Canada - Nova Scotia Benefits Report for the Sable Offshore Energy Project (SOEP) is submitted to the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) by ExxonMobil Canada Properties (EMCP) as operator. The 2013 report is submitted in accordance with the CNSOPB requirement listed in Section 2.6 (Page 56) of the CNSOPB Benefits Plan Decision Report for SOEP. The scope of the 2013 report includes SOEP offshore and onshore activities for the period January 1, 2013 to December 31, 2013.

The total SOEP related expenditures in Nova Scotia during the report period were \$168.8 million or 54.0% of the overall project expenditures for the year. EMCP and the Sable Project owners continued to support initiatives aimed at developing and sustaining the natural gas industry in Nova Scotia.

This report provides information on the cumulative SOEP expenditures since project sanction in 1998. The cumulative expenditures in Nova Scotia over this period total \$2,585.2 million or 39.1% of the overall project expenditures.

Expenditures and initiatives were carried out in areas of community support, education and training, research and development, technology transfer and support of diversity and inclusion programs.

1.0 Introduction

The 2013 SOEP Canada-Nova Scotia Benefits Report is submitted to the CNSOPB as required by Section 2.6 (Page 56) of the SOEP Benefits Plan Decision Report issued in 1997. The report includes economic impact data arising from producing operations conducted in 2013 as well as cumulative data compiled since project sanction in 1998. The following SOEP facilities were operated by EMCP in 2013 and are included in the scope of this report:

Offshore Facilities

- Thebaud Central Processing Platform
- Venture Platform
- North Triumph Platform
- Alma Platform
- South Venture
- Export and Inter-field Pipelines

Onshore Facilities

- Goldboro Gas Plant
- Point Tupper Fractionation Plant
- Interconnecting NGL Pipeline



Thebaud Central Processing Platform

2.0 Project Update

Continued Safe Operations

Onshore and offshore producing operations were once again conducted in a safe manner during 2013. There were no lost time injuries (LTI) for employees or contractors during 2013 – marking more than 12 years for the offshore workforce and more than 10 years for the onshore workforce since the last LTI.

The workforce of ExxonMobil Canada was recently recognized for best-in-class safety performance within ExxonMobil's global organization. In Nova Scotia, the workforce supporting the Sable Offshore Energy Project chose to celebrate this recognition through a corporate donation to local charitable organizations. Four worthy causes were selected by the workforce to receive donations of \$2500 each. At an August reception in Halifax, Derrick Macneil, of ExxonMobil Canada, presented donations to representatives from each of the organizations.



Pictured from left, are: Joyce Nifort, Make Make-a-Wish Foundation of Atlantic Provinces Canada; Ellen Townshend and Peter Mallette, Prostate Cancer Canada Atlantic; Derrick Macneil; Christeen Moore, IWK Health Centre Foundation; and Dianne Swinemer, Feed Nova Scotia.

The offshore workforce was recognized by EMCP for completing three years without a recordable injury. This group of workers decided to donate the funds set aside for this recognition to four charitable organizations in Nova Scotia - Feed Nova Scotia, Big Brothers Big Sisters Nova Scotia Foundation, Mental Health Foundation of Nova Scotia, and the Royal Canadian Legion Poppy Fund – Clementsport.

EMCP and the contractor Technip Canada Ltd completed an offshore diving program at the Venture and South Venture fields during November and December 2013. The work was completed accident free and with no spills to the environment.

The strong safety and environmental performance can be attributed to the successful implementation of the Operations Integrity Management System. This system has the active support and participation of the EMCP employees and contractors here in Nova Scotia and has been instrumental in building and sustaining a safety culture.

Safety initiatives that included safety focused training, workshops to share lessons learned, hazard recognition programs, looking out for others and recognizing results continued throughout 2013.

Emergency Response and Coordinating with Community Based Responders

On June 1st 2013 EMCP conducted an emergency response exercise in conjunction with local area responders along the 8" Natural Gas Liquids (NGL) pipeline that links the Goldboro Gas Plant and the Point Tupper Fractionation Plant. The local area RCMP, fire departments, Emergency Health Services and Emergency Measures Organizations all participated in the exercise. The exercise objectives included testing or SOEP emergency response plans and testing of various internal and external communication links.



Exercise Participants During Briefing Meeting

Supply Community – Services Supporting Sable Operations

During 2013 the local supply industry provided many critical support services that are used by both offshore and onshore Sable operations. Table 1 below lists examples of these services and the areas of the SOEP operations that have been supported.

Table 1 – Supply Community Services

Support Services Provided by the Supply Community	
<p><u>Operations</u></p> <ul style="list-style-type: none"> - Aviation services - Supply vessels and Marine crews - Catering personnel - Logistics and stevedoring - Staffing services - Laboratory testing and analysis 	<p><u>Business Services</u></p> <ul style="list-style-type: none"> - Communications services - Customs clearance and brokerage - Courier services - Staffing services - On-land transportation services - Warehousing - Office materials and support
<p><u>Maintenance</u></p> <ul style="list-style-type: none"> - Skilled Trades and services such as welding, mechanical fabrication, electrical, instrumentation, insulation and general labour - Painting and Fabric maintenance - Fabrication services - Maintenance materials and consumables - Valve and equipment services - Equipment and tool rentals - Scaffolding services - Diving services and support vessels 	<p><u>Engineering and Technical</u></p> <ul style="list-style-type: none"> - Technical support staff and engineering design services - Equipment inspection services - Data analysis - ROV inspection services and personnel - Survey services - Certification of facility design, maintenance and integrity

Support Services Provided by the Supply Community	
<u>Safety, Health and Environment</u> <ul style="list-style-type: none">- Safety advisory services- Safety equipment- Safety training services- Environmental monitoring and testing services- Medical personnel and associated services- Weather monitoring and forecasting- Sea state monitoring – waves and currents	<u>Well Services</u> <ul style="list-style-type: none">- Equipment rentals and consumables- Staffing services- Logistics

3.0 Economic Impact

The 2013 and cumulative economic impact data for the SOEP is presented in this section. The cumulative data covers the period from project sanction in 1998 through year-end 2013. The project expenditures have been classified in one of three categories listed below based on the *Canadian General Standards Board Method*, which has been adopted by the CNSOPB for local benefits reporting purposes.

- *Nova Scotia*,
- *Other Canadian* or
- *Foreign*

Three other economic impact indicators - person hours of work, headcount and new hires are also included in this section.

In preparing the 2013 report EMCP reviewed information provided by SOEP vendors, the scope of work for the vendor and the guidance available from the Canadian General Standards Board (CGSB) reporting guidelines. Data quality assurance methods used in the preparation of previous Benefits Reports were applied in the preparation of the 2013 report.

Project Expenditures

The total project expenditures and percentages in each of the three categories noted above for 2013 and cumulatively (1998 – 2013) are provided in Tables 1 and 2 below:

Table 2 – 2013 Expenditures (\$ millions)

	Nova Scotia	Other Canadian	Foreign	Total
Total Expenditures	91.2	33.3	44.3	168.8
% of Total	54.0%	19.7%	26.3%	100%

Table 3 – Cumulative Expenditures (1998 – 2013) (\$ millions)

	Nova Scotia	Other Canadian	Foreign	Total
December 31, 2009	2,235.0	1,011.2	2,733.4	5,979.6
% of Total	37.4%	16.9%	45.7%	100%

December 31, 2010	2,341.6	1,048.5	2,765.5	6,155.6
% of Total	38.1%	17.0%	44.9%	100.0%

December 31, 2011	2,416.4	1,081.9	2,800.6	6,298.9
% of Total	38.4%	17.2%	44.4%	100%

December 31, 2012	2,494.0	1,121.5	2,830.0	6,445.5
% of Total	38.7%	17.4%	43.9%	100%

December 31, 2013	2,585.2	1,154.7	2,874.5	6,614.4
% of Total	39.1%	17.5%	43.4%	100%

Project Employment

Person Hours of Work

Person hours of work are categorized as 'Nova Scotia', 'Other Canadian' or 'Foreign' based on the residency of the person performing the work. In 2013 a total of 655 thousand person hours were conducted for SOEP activities. The Nova Scotia component was 594 thousand hours or 90.8% of the total. This represents 297 full-time equivalent positions in Nova Scotia during 2013.

Tables 4 and 5 below include the 2013 data on person hours of work in the three categories for 2013 and the cumulative total for the period 1998 – 2013. Data on person hours by major vendor is included in Appendix 1.

**Table 4 – 2013 Person Hours
(Thousands of Person Hours)**

	Nova Scotia	Other Canadian	Foreign	Total
Person Hours of Employment	594.9	52.0	8.6	655.5
Percent of Total	90.8%	7.9%	1.3%	100.0%

Table 5 – Person Hours - Cumulative
(Millions of Person Hours)

Cumulative as of December 31	Nova Scotia	Other Canadian	Foreign	Totals
1998 - 2009	19.92	3.30	9.29	32.51
% of Total	61.27%	10.16%	28.57%	100
2010	20.69	3.37	9.29	33.35
% of Total	62.03%	10.10%	27.87%	100
2011	21.23	3.40	9.29	33.92
% of Total	62.59%	10.02%	27.39%	100
2012	21.84	3.44	9.30	34.58
% of Total	63.16%	9.95%	26.89%	100
2013	22.43	3.50	9.31	35.24
% of Total	63.67%	9.91%	26.42%	100.00%

Year End Headcount

The year-end head count is a measure the number of people on shift and scheduled to work on the Sable project at a fixed point each year (December 31st). It differs from the full-time equivalent data reported under the person hours measure because it represents a point in time as opposed to all employment activity over the full year. The data is sourced from the EMCP work sites and reports provided by the project's major contractors. The Project year end headcount was 287 on December 31, 2013.

Table 6 – Year End Headcount

Year End	Activity in Nova Scotia	Activity in the Rest of Canada	Total Project Activity
2006	697	33	893
2007	411	27	438
2008	336	22	363
2009	320	11	342
2010	218	0	225
2011	212	1	218
2012	251	9	260
2013	265	13	287

Residency of New Hires

The total number of new hires reported for the Sable Project and its major contractors during 2013 was 95. The table below shows the historic distribution of the Residency of New Hires for the Sable Project.

Table 7 – Residency of New Hires

Year	Nova Scotia	Other Canadian	Foreign	Total
2006	577	100	326	1003
2007	99	17	54	170
2008	89	8	0	97
2009	392	30	4	426
2010	29	3	0	32
2011	39	0	0	39
2012	47	11	4	62
2013	74	16	5	95

Co-op Student Employment

Co-op and work placement programs have been supported by EMCP and our contractors Sable Project sanction. These initiatives continued in 2013 with four students placed at EMCP or contractor's offices in Nova Scotia. The total expenditure for the co-op student program in 2013 was \$61,900.

This long standing initiative has provided almost six hundred individual placements since 1998. The meaningful assignments that are a part of this program enhance the individual's education and provide benefits to the business activities.

The 2013 program provided work opportunities for students of varied engineering disciplines. Students pursuing engineering degrees worked with mentors and gained hands on experience with day-to-day operational and business challenges. The students learned about EMCP's and our contractors' safety, business and engineering practices, as well as computer applications. The students focused on supporting on-going operations, projects and reporting and analysis activities.

Information on the co-op program expenditures is provided in the table below.

Table 8 – Co-Op Work Placements

Year	Number of Placements	Cumulative Placements	Investment	Cumulative Investment
2006	47	511	\$444,120	\$4,480,710
2007	20	531	\$286,387	\$4,767,097
2008	18	549	\$310,240	\$5,077,337
2009	21	570	\$252,400	\$5,329,737
2010	7	577	\$100,360	\$5,430,097
2011	7	584	\$93,694	\$5,523,791
2012	8	592	\$165,400	\$5,689,191
2013	4	596	\$61,900	\$5,751,091

4.0 Diversity and Inclusion

EMCP, the Sable Project owners and the project's major contractors support the development of a diverse and inclusive workplace. Table 9 below includes data from 2013 and previous years on the four designated groups identified in employment equity legislation. These groups are:

- Aboriginal Peoples
- Visible minorities
- Women
- Persons with disabilities

The table provides data collected from EMCP and the SOEP contractors along with a historical indication of individuals who identified themselves as members of one or more designated groups since 2001. Those categories in which the representation is five individuals or less are marked by an asterisk to protect the privacy of individual respondents. Information regarding gender representation is gathered from existing Human Resources records. Representation of other designated groups is based on voluntary self-identification data gathered through a confidential survey employee. The information is collected and recorded on employee files in the company's human resources database, accessible only by select designated HR staff.

Table 9 – Traditionally Under-represented Groups

Year	Aboriginal Peoples	Visible Minorities	Women	Persons with Disabilities
2001	32	46	405	14
2002	81	145	370	14
2003	23	77	390	24
2004	7	80	412	14
2005	8	49	332	6
2006	9	36	235	*
2007	*	13	83	*
2008	*	9	61	*
2009	6	11	60	*
2010	7	7	55	*
2011	*	8	45	*
2012	6	7	56	*
2013	5	5	40	*

The Indigenous Women in Community Leadership (IWCL) program provides First Nation, Métis and Inuit leaders the opportunity to develop their leadership skills and experience so they can promote community development from within. The program was established at The Coady International Institute of Antigonish and has been supported by the ExxonMobil Foundation and the Imperial Oil Foundation since 2010.

The program has three components over the course of four months:

- A three-week course at the Coady International Institute, which includes training in Project Management, Aboriginal History, Leadership, Asset-Based Community Development, Positive Interpersonal Engagement Strategies and Proposal Writing.
- A three-month work placement which is identified and negotiated by the participant with the approval of the IWCL program manager.
- One week and a half at the Coady International Institute, which includes a two day course in Public Speaking and an opportunity for participants to reflect on their placement and the overall program; to present their community project placement results, and to graduate.

The Coady Institute website (www.coady.stfx.ca/) includes a number of case studies that have been completed by participants in the IWCL program. Two case studies by Gabrielle Donnelly are focused on the Membertou First Nation. The first “... explores the process of Membertou’s transformation from a welfare reserve completely dependent on federal funding to one of Cape Breton’s economic bright spots.” A second “... illustrates how innovative approaches to education can be securely tethered to the richness of the past, providing a platform for children’s well-being and educational achievement. Further, the case demonstrates how what is missing in one generation is often abundant in another, and how two worldviews can be held simultaneously. It offers an example of how a community can move forward while cultivating the wisdom of tradition within contemporary realities.”

5.0 Capacity Development

Capacity development initiatives including focused oil and gas related training, supplier development and technology transfer continued during 2013. Additional information on these initiatives is provided below.

Training and Education

Training and education expenditures for 2013 are included in the table below. These expenditures were aimed at developing or maintaining oil and gas industry relevant skills and include expenditures by EMCP and major contractors.

Table 10 – Training and Education Expenditures

(Including Co-op/Work Placement Programs, Community Training and Education Investments)	
Description of Training	2013 Total
Internal Training	\$208,596
Major Contractor Training	\$313,214
Co-op Programs	\$61,900
2013 Total	\$583,710

The cumulative project expenditures on Training and Education, including 2013 data, totals \$49 million. The cumulative data is presented in the table below.

Table 11 – Training and Education Expenditures - Cumulative

(Including Co-op/Work Placement Programs, Community Training and Education Investments)		
Year	Investment	Cumulative
2007	\$1,405,177	\$40,901,911
2008	\$1,515,871	\$42,417,782
2009	\$3,393,881	\$45,811,663
2010	\$1,234,541	\$47,046,204
2011	\$687,403	\$47,733,607
2012	\$680,987	\$48,414,594
2013	\$583,710	\$48,998,304

In addition to direct training and education activities undertaken by EMCP and our major contractors, EMCP and the Sable owners supported a number of other initiatives that assist and/or recognize the existing education and training infrastructure in Nova Scotia.

Techsploration

Techsploration is a joint initiative of the NS Community College, Women in Trades and Technologies (WITT) National Network, and the Nova Scotia Department of Education - Apprenticeship Division. The purpose is to promote careers for women in trades and technology occupations. It has been sponsored by EMCP and the Sable owners, and some of the Sable project contractor / suppliers since 1998.

The goal of Techsploration is to increase the number of women working in science, trades, technical and technology related occupations by assisting young women from diverse backgrounds to explore a wide range of career options in these fields.

Techsploration uses a combination of career research, role models and workshops to expose young women to a variety of career options in trades and technologies. The program is being delivered through the schools with the full involvement of the participants' teachers. A team of ninth grade women is chosen from each participating school. Each team is assigned a high-demand trade or technology career to research with the assistance of a role model who is employed in that career. The teams then create interactive presentations that are shared with the other participants, allowing them to learn about a number of career options.

Techsploration Day is an annual event when Techsploration students and their role models gather together for activities and deliver presentations on their researched careers choices. The young women also attend activity workshops planned and conducted by their role models. The workshops are designed to garner attention and interest, and to highlight the skills required for specific jobs.

It is not just the young women participating in Techsploration Day who benefit from this program. The participants bring the knowledge they acquire back to their classes; "Techsploration Goes to School." Students who have not been selected will have the opportunity to see the participants' presentation, learn about the Career Research Model and meet the role models. This element is beneficial not only to the young women who did not participate directly in the program, but will also benefit the young men in the class who will learn about the career from a positive female role model.

Exposure to positive female role models working in trades and technology occupations will benefit everyone involved. The young women participating will get hands-on experience in the skills and knowledge necessary for a number of different career options. Through a series of interactive presentations, workshops, and projects the

young women will be exposed to careers that they might not otherwise select without the influence of a positive female role model.

Black & McDonald was one of the major contractors involved in the construction work at Sable and this firm continues to support Sable operations through ABM their joint venture with AMEC.

The Black & MacDonald engagement with Techsploration was recently acknowledged through featured sponsor article on the Techsploration website (www.techsploration.ca). Black & McDonald employees volunteer with Techsploration every year as committee members, as guest speakers, and as role models.

A company dedicated to achieving a diverse workforce, Black & McDonald, its management and staff know the statistics and benefits and actively recruit women, and people from different backgrounds to fill the wide variety of trade careers available at their workplace.

Each year since Black & McDonald became a Techsploration sponsor, female employees have volunteered to be role models and have a Techsploration team visit their workplace and training facilities. Role models from Black & McDonald have included women working in careers such as project management, electricians, and heating, ventilation and air conditioning (HVAC) technicians. Each year, the young women on the Techsploration team have the opportunity to try out each of these trades as well as participate in other activities on-site including welding and pipefitting.

Technology Transfer and Local Supplier Capacity

Local engineering, consulting, construction and service related firms have been the principle beneficiaries of this transfer as these local firms have enhanced their in-house expertise and knowledge and in turn enhanced their businesses.

Local firms continue to benefit from the knowledge collected and are actively seeking opportunities to apply these skills at the local, regional and national level. The estimated cumulative value of the technology transfer exceeds \$31 million.

Technology and knowledge transfer have helped with the establishment of safety cultures that extend beyond the Sable project work to other aspects of the vendors work. Sable project vendors have applied the "nobody gets hurt" philosophy to their work throughout the region. The Sable safety culture and lessons learned from contractor safety workshops has helped the vendors reduce accident rates, improve their overall business performance and improve their competitiveness as they seek to obtain work in the oil and gas sector and other business sectors.

EM&I Stantec, the Sable Project inspection contractor, continued work on a project aimed at finding and applying more efficient and cost effective methods for equipment inspections. Two new technologies - Digital Radiography (Digi-Rad) and Backscatter Computed Tomography (BCT) have been applied to varying degrees at the Sable Project onshore and offshore facilities.

Information on the BCT technology and how it was evaluated during 2013 is provided in the Research and Development section of this report. The development and application of new technologies supports the development of local expertise and supports the on-going operation of oil and gas facilities through improved efficiency and reduced operating costs.

International Oil and Gas Training from Cape Breton University

The 2012 Canada Nova Scotia Benefits Report included information on a training program offered at Cape Breton University (CBU) for 73 ExxonMobil trainees from Papua New Guinea (PNG).

The training was part of a 12-month Advanced Skills Training Program led by LearnCorp International (LCI). LCI (a private sector company wholly owned by the Cape Breton University Foundation) works with international clients to identify their training needs and then engages the appropriate mix of partners to provide training solutions. LCI has an on-going multi-year contract with ExxonMobil Global Services to train African, Russian, and Italian nationals in select disciplines associated with the Petroleum industry. LearnCorp has partnered with Cape Breton University and the Nova Scotia Community College to address ExxonMobil's training needs.

Class time and hands-on training used the combined state-of-the-art energy industry labs and training facilities at CBU and the Nova Scotia Community College-Marconi (NSCC) campuses.

In early 2013 the PNG trainees returned home to work on the third phase of their training - facility specific training at PNG Liquefied Natural Gas (LNG) facilities. The training at CBU included advanced studies in math and sciences as well as the development of many life skills such as public speaking, time management, first aid, leadership and, more importantly, safety on and off the job.

Upon returning to PNG, some of the trainees shared their feedback on the training and the overall experience at CBU with their fellow employees in newsletter for the PNG LNG project. The trainees spoke of the acceptance by the university community and the broader community. They spoke of the opportunity to engage with and learn about a number of other cultures through the enrolment of other trainees in similar programs and their first experience of winter.

6.0 Research and Development Initiatives

Condition 4 of the SOEP Benefits Plan Decision Report requires a research and development (R&D) plan be approved by the CNSOPB. Under the current approved R&D plan, EMCP and the Sable owners have committed to expenditures in Nova Scotia of at least \$375,000 per year and an aggregate of \$3,000,000 over the five-year period of 2013 – 2017.

In addition to the initiatives considered to be R&D under the terms of the five-year plan, the Sable owners and the contracting community continued to support broader R&D activities in Nova Scotia during 2013.

The 2013 R&D activities amounted to \$506 thousand and the cumulative R&D expenditures by the owners and contractors since project sanction in 1998 exceeds \$29.2 million.

Please see the table below for historic research and development initiatives reported.

Table 12 – Research and Development Initiatives Historical

Year	Investment	Cumulative
1995	\$121,500	\$121,500
1996	\$146,000	\$267,500
1997	\$3,888,373	\$4,155,873
1998	\$5,758,207	\$9,914,080
1999	\$2,813,428	\$12,727,508
2000	\$4,690,139	\$17,417,647
2001	\$2,564,786	\$19,982,433
2002	\$2,068,169	\$22,050,602
2003	\$666,385	\$22,716,987
2004	\$277,000	\$22,993,987
2005	\$628,127	\$23,622,114
2006	\$458,113	\$24,080,227
2007	\$782,333	\$24,862,560
2008	\$925,881	\$25,788,441
2009	\$931,600	\$26,720,041
2010	\$627,600	\$27,347,641
2011	\$613,600	\$27,961,241
2012	\$766,466	\$28,727,707
2013	\$506,000	\$29,233,707

Examples of Supported R&D Initiatives

Supporting Geoscience Research at Nova Scotia Universities

In 2013 EMCP and the Sable owners continued with a program started in 2012 to provide support for geological and geoscience research at Dalhousie University. During 2012 the Sable owners provided researchers with access to a comprehensive set of seismic data that was collected in the offshore Nova Scotia Sable sub-basin. The combination of the financial commitment and access to the seismic data will provide practical tools and research opportunities for local student researchers.

Activities supported by the geological and geoscience research grant included a petroleum systems overview and field trips to Joggins, Point Pleasant Park, Rainy Cove, Cheverie and Cambridge Cove, NS. The field trips were sponsored by Shell, one of the Sable Project owners and included second, third and fourth year students. They were focused on the theme of Wilson cycles and petroleum systems. Students also presented research papers at a conference in Antigonish.

A number of research projects and themes were advanced during the year as well, including:

- Carbonate margin to delta transitions: Stratigraphy of the Jurassic carbonate platform and Sable delta
- Reservoir Quality and Architectural Elements of Mesozoic Rift Basin Sediments, Scotian Margin
- Development of an Integrated GIS Database
- Reservoir Characterization
- Hydraulic Fracturing, Unconventional Hydrocarbon Systems and Carbon Capture & Storage
- Sequence Stratigraphy of the Banquereau Formation
- Multi-Scale Permeability Modeling of the Cretaceous Mississauga Formation
- Overpressure Conditions in the Scotian Basin
- Hydrocarbon Potential of the Sable Delta Producing Reservoirs
- Production of a Source Rock Atlas and Geochemistry of the Scotian Margin
- Reservoir Architecture of Meanderbelt Systems and Vegetation Density in the Carboniferous using Lidar Imagery and Ground Penetrating Radar
- Penobscot Seismic Attribute Study

Pengrowth Nova Scotia Energy Scholarship Programs

The Pengrowth Nova Scotia Energy Scholarship Programs provides financial support through the Energy Scholarship and Innovation Grant Program. These programs provide resources to ensure the success of future oil and gas industry leaders.

Established in March 2005, the \$3 million program is a partnership between Pengrowth Corporation, one of the Sable Project owners and the Province of Nova Scotia, through contributions of \$2 million and \$1 million respectively. Since its inception, the scholarship has provided more than \$1million to over 150 students in the form of university and trade scholarships and innovation grants at the Masters level of university studies. The program consists of the following components:

– **Pengrowth - Nova Scotia Petroleum Innovation Grant Program**

Up to four Pengrowth-Nova Scotia Petroleum Innovation Grants can be awarded each year. The research grants, valued at \$15,000 over two years, are awarded to Nova Scotia students pursuing energy-related studies at the master's degree level.

The 2013 recipient of the Innovation Grant is Andrea Christians. Andrea is pursuing a Master of Science degree in Earth Science at Dalhousie University. She graduated with a Bachelor of Science (Honours) majoring in Geology from Saint Mary's University in 2012. The focus of her Master's thesis is to study the impact of salt tectonics on the surrounding sediments in the Scotian slope.

Emma Poirier, of Cheticamp, a master's student in Applied Science at Saint Mary's University, is one of two 2012 recipients. Ms. Poirier is studying tidal energy in the Bay of Fundy and how it creates and affects sediment in the water.

Nicholas Dourado, of Calgary, a master's student in Physical Oceanography at Dalhousie University, is a second 2012 recipient. His research is focused using sonar technology to understand how ice in the Minas Passage could be a risk to tidal energy equipment.

– **Pengrowth - Nova Scotia Energy Scholarship Program**

Up to 12 renewable scholarships, valued at \$10,000 each (\$2,500 per year over four years), are awarded annually to students pursuing energy related studies at a university. The program also offers up to ten non-renewable \$2,500 scholarships for first-year students pursuing energy related trades and technology programs at the Nova Scotia Community College.

Twenty-two Nova Scotia students were chosen to receive the Pengrowth-Nova Scotia Energy Scholarship in 2013. Twelve received university scholarships worth as much as

\$10,000 each, \$2,500 renewable over four years, based on a combination of extracurricular activities and academic performance. Ten received \$2,500 non-renewable scholarships at the Nova Scotia Community College.

Continued Application of New Technologies in Offshore Oil and Gas

During 2012 EMCP and the Sable owners funded studies aimed at applying new technologies to offshore oil and gas assets. This work focused on the evaluation of Backscatter Computed Tomography (BCT) as a tool to inspect equipment while in operation. BCT brings the diagnostic capability of medical Computed Tomography (CT or CAT scan) to the management of offshore oil and gas assets and can provide information not available with current inspection techniques. BCT enables the inspection of multi-layered assets without disassembly. This capability decreases shut-down scope, increases up-time, and reduces the need for confined space entry.

The goal of this project is Inversa Systems Ltd. and EM&I Stantec Ltd., to fully evaluate Inversa's current INSIGHT™ system and to identify capability gaps for the in-service inspection of offshore insulated vessels. This work extends a proof of concept feasibility study conducted in partnership with Petroleum Research Atlantic Canada (PRAC), EM&I Stantec and Inversa at the Goldboro natural gas processing plant in September 2010.

Results of a second offshore trial conducted in November 2013 are currently being evaluated. EMCP will review this trial and determine if further research and field trials are to be scheduled in 2014. With the continued support of the Sable owners and the technology owners, continual improvement will extend the applicability the technology to additional asset types within the offshore environment.

Sable Island Research – Beached Bird Surveys

During 2013 EMCP and the Sable owners continued funding of a long term research project carried out on Sable Island where regular surveys were conducted to gather data on beached birds. The data, which has been collected for a number of years, is an effort to monitor trends in the number and rates of oiling in beached seabirds. Specimens were collected in order to identify possible oil types contributing to any observed oiled birds.

Overall the objectives are:

- To monitor trends in oiling rate in beached seabird corpses over the long term; and
- To generically identify oil types found on seabird feathers and in pelagic tar.

7.0 Community Education and Participation

EMCP, its employees and many of the Sable Project major contractors have a history of supporting the communities in which we live and work. Wherever we operate, we try to strengthen local communities by donating time, talent or money to many organizations that provide much-needed services or enhance the culture of the our community.

Some of the highlights from our 2013 activities are noted below.

United Way

The United Way provides support for services in many of the Nova Scotia communities in which we operate or our employees and contractors live. During 2013 EMCP and Imperial Oil employees continued to support the United Way through direct giving, payroll deduction and volunteering their time to the many charitable organizations that function under the United Way umbrella. Participation and overall giving remains at a high level.

Safety Recognition – Supporting the Community

The following organizations were supported in 2013 through the donation of funds set aside for safety recognition (information on the background recognition is included in Section 1 of this report):

- Make Make-a-Wish Foundation of Atlantic Provinces Canada;
- Prostate Cancer Canada Atlantic;
- IWK Health Centre Foundation;
- Feed Nova Scotia;
- Big Brothers Big Sisters Nova Scotia Foundation;
- Mental Health Foundation of Nova Scotia; and
- Royal Canadian Legion Poppy Fund – Clementsport.

Volunteer Involvement Program (VIP)

EMCP also encourages employees to contribute to their communities through the Volunteer Involvement Program (VIP). Through this program, employees may be able to avail of funding for an eligible organization with which they have volunteered at least 20 hours.

Volunteer service, activities and projects should be consistent with the company's pledge to be a good corporate citizen and support important societal goals including education, health and human services, and the environment.

Junior Achievement – Nova Scotia

Junior Achievement (JA) first established a presence in Nova Scotia in 1969 with the generous support of the Halifax Board of Trade. Their mandate is to provide youth across the province with opportunities to learn about business and entrepreneurship. Volunteers from the business community deliver the programs through a variety of classroom activities, discussions, and exercises that simulate real world business practices.

In Nova Scotia, JA delivers four programs for students from grades 6 through 12:

- Our Business World,
- Dollars With Sense,
- Economics for Success, and
- Company Program

The programs allow young people to develop creative approaches to new ideas, and new learning experiences. In the 2012-13 school year, 14,300 students participated in JA Programs, an increase of 1000 students from the previous year. There were also 1000 volunteers from the business community that assisted in delivering the programs.

Nova Scotia Kiwanis Music Festival

The Nova Scotia Kiwanis Music Festival was launched in 1935 by a committee of dedicated music educators and supporters who wished to provide the young artists of our community with the opportunity to pursue their craft at a broader level. For many years, the festival was primarily a project of the Kiwanis Clubs of the Halifax Regional Municipality. In more recent years, however, the event has enjoyed unparalleled success and has grown to involve thousands of participants per year and spreading out to encompass a dozen separate venues.

Through a combination of stage and adjudication opportunities, the Nova Scotia Kiwanis Music Festival gives participants extraordinary possibilities for performing, learning, and sharing this musical experience with an unrivalled group of national artists and educators.

Bursaries

Qualifying students graduating from seven high schools in Guysborough, Inverness, Antigonish and Richmond counties were awarded bursaries funded by the Sable Project owners. These bursaries assist with the cost of postsecondary education. A total of 24 bursaries were awarded under this program in 2013.

The Discovery Centre

The Discovery Centre is located in downtown Halifax and offers three floors of interactive fun and education through permanent and temporary exhibits, HD movies, live science shows and many special events and outreach activities. The centre is a resource for families looking to spend quality time with their children, or for schools and groups looking to provide a quality educational opportunity for their students or members. EMCP is a supporting partner of the Discovery Centre.

The Stan Rogers Folk Festival

EMCP and the Sable owners have provided sponsorship support to the Stan Rogers Folk Festival (or Stanfest) which was held in July in Canso. The three-day festival brings upwards of 10,000 people to Canso to enjoy world renowned folk artists in a picturesque setting. Stanfest was established to honour the legacy of Stan Rogers – an artist that managed to influence a whole generation of performers, while contributing to the emerging popularity of East Coast Music. Stan was a frequent visitor to Canso and Guysborough County. These visits inspired Stan to write songs like The Jeannie C., Guysborough Train and Fogarty's Cove - and they also earned Stan a place in the local folklore of the town and the region.

Phoenix Youth Programs

EMCP continues to support the programs carried out by Phoenix House and Phoenix Youth. This is a non-profit, community based organization located in Halifax that offers at-risk and homeless youth ages 12 to 24 the opportunity to break the cycle of homelessness and find a better path. The services are free of charge to any youth who reaches out. Phoenix House offers a wide range of programs and services including: prevention, crisis assistance, emergency and long-term shelter, employment and learning assistance, counseling, parent support, food, laundry, medical support and more.

Neptune Theatre

EMCP and the Imperial Oil Foundation continued to support Neptune Theatre in 2013. Neptune Theatre is Atlantic Canada's largest professional regional theatre. The theatre is also home to a year-round Theatre School which runs classes, camps and workshops for theatre enthusiasts of all ages. Neptune Theatre School also coordinates elite training programs, such as the Youth Performance Company, the Pre-Professional Training program, the Musical Theatre Foundation Program and the Young Actors Company, which give aspiring local actors an opportunity to work with and learn from this region's top artistic talent.

Granville Green Outdoor Concert

EMCP and the Sable owners continued to support a series of free Sunday concerts held throughout the summer in Port Hawkesbury. Each summer regional and national artists visit Port Hawkesbury to share in this unique musical opportunity. The outdoor concerts provide a stage for local musicians and continue to attract both tourists and local fans.

Festival Antigonish

The Sable Project has been a supporter of Festival Antigonish since the late 1990's. The Festival has become a place where Nova Scotia artists can create dynamic new works and gain valuable experience performing in works produced to the highest artistic and technical standards. Some of Nova Scotia's finest playwrights, directors and performers have originated new works and honed their performance and directing skills at Festival Antigonish.

Mulgrave Road Theatre

The Sable Project continued to support the Mulgrave Road theatre in 2013. As a professional touring theatre, Mulgrave Road has enabled a wide audience to experience acclaimed works by some of Atlantic Canada's most respected playwrights. Over 10 productions have toured outside of the Maritimes to destinations such as Ottawa, Toronto, Vancouver, Winnipeg, Edmonton, Ireland, Australia and New Zealand. Local performances are held at the Guysborough Masonic Hall, at the Mulgrave Road Theatre Centre, and at Guysborough's 300-seat performance space, Chedabucto Place Performance Centre. Mulgrave Road Theatre has also made a commitment to reaching out to young performers.

APPENDICES

Appendix 1 – 2013 Sable Project Person Hours 29

Appendix 2 - 2013 Research and Development Initiatives 30

Appendix 1
Sable Project Person Hours 2013
EMCP and Major Contractors

	NS	OC	FOR	TOTAL
ABB	1,561	158	0	1,719
AMEC	153,860	0	0	153,860
CBCL	1,419	0	0	1,419
Cougar Helicopters	12,954	5,466	0	18,420
EM&I	42,475	808	8,167	51,450
ExxonMobil Canada (Sable Project)	194,688	0	0	194,688
Helly Hansen	2,718	0	0	2,718
Lloyd's Register	2,863	874	417	4,154
Newalta	2,864	0	0	2,864
Reliance Offshore	22,995	0	0	22,995
Secunda	141,045	28,451	0	169,496
SGS	15,414	96	0	15,510
Technip	0	16,132	72	16,204
TOTAL	594,855	51,985	8,656	655,497

Appendix 2

2013 Research and Development Initiatives

Recipient	Program Description	Investor
Dalhousie University	Geoscience Research	Sable Owners
EM&I Stantec	Backscatter Computed Tomography (BCT)	Sable Owners
Nova Scotia Students	The Pengrowth - Nova Scotia Scholarships	Pengrowth
Nova Scotia University Students	The Pengrowth-Nova Scotia Innovation Grant	Pengrowth
Zoe Lucas	Beached Bird Survey	Sable Owners