# PART 2

# **DeGolyer and MacNaughton Canada Limited**

Competent Persons Report on the Godin, Harper, Muskwa and Portage Properties owned by the Company in Alberta, Canada as at 30 November 2011 DEGOLYER AND MACNAUGHTON CANADA LIMITED 311 SIXTH AVENUE S.W., SUITE 1430 ENERGY PLAZA EAST TOWER CALGARY, ALBERTA, CANADA, T2P 3H2

# COMPETENT PERSON'S REPORT as of 30 NOVEMBER 2011 on the GODIN, HARPER, MUSKWA, and PORTAGE PROPERTIES owned by SUNSHINE OILSANDS LTD. in ALBERTA, CANADA

DeGolyer and MacNaughton Canada Limited

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# DEGOLYER AND MACNAUGHTON CANADA LIMITED

311 Sixth Avenue S.W., Suite 1430 Energy Plaza East Tower CALGARY, ALBERTA, CANADA, T2P 3H2

20 February 2012

The Directors Sunshine Oilsands Ltd. 1020, 903 – 8<sup>th</sup> Avenue SW Calgary, Alberta T2P 0P7

BOCI Asia Limited 26/F, Bank of China Tower 1 Garden Road, Central Hong Kong

Deutsche Bank AG, Hong Kong Branch 52/F, International Commerce Centre 1 Austin Road West, Kowloon Hong Kong

Morgan Stanley Asia Limited 46/F, International Commerce Centre 1 Austin Road West, Kowloon Hong Kong

# Re: Competent Person's Report of the Heavy Oil and Bitumen Assets owned by Sunshine Oilsands Ltd. on the Godin, Harper, Muskwa, and Portage Properties – Effective 30 November 2011

Dear Sir:

Pursuant to the request of Sunshine Oilsands Ltd. (the Company), we have prepared an independent evaluation, as of 30 November 2011, of the extent of the proved, probable, and possible heavy oil reserves and the values of the proved, proved-plus-probable, and proved-plus-probable-plus-possible heavy oil reserves attributable to the Company's interest. In addition, we have independently prepared estimates of the volumes of contingent and prospective resources and the corresponding potential values of the contingent resources.

DeGolyer and MacNaughton Canada Limited (D&M) has undertaken the overall responsibility for preparing this report. The assets evaluated include the Godin, Harper, Muskwa, and Portage properties. In reviewing the Portage property, it was identified that no reserves and contingent resources could be assigned at this time. Estimates of proved, probable, and possible reserves and contingent and DeGolyer and MacNaughton Canada Limited

prospective resources presented in this report have been prepared in accordance with the Petroleum Resources Management System (PRMS) approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers, and as modified by Chapter 18 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (Listing Rules), subject to the waiver granted to the Company from Rule 18.33(6) of the Listing Rules. The PRMS standard, as modified by Chapter 18 of the Listing Rules, is an approved reporting standard under which Mineral Companies (as defined by the Listing Rules) must disclose information on their petroleum reserves and resources under the Listing Rules. A corresponding set of reserves and resources assessments were prepared titled:

- Appraisal Report as of November 30, 2011 on the Muskwa Property owned by Sunshine Oilsands Ltd. in Alberta, Canada PRMS,
- Report as of November 30, 2011 on the Contingent Resources attributable to Certain Bitumen Accumulations for Sunshine Oilsands Ltd. Alberta, Canada PRMS Case,
- Report as of November 30, 2011 on the Prospective Resources attributable to Certain Bitumen Accumulations for Sunshine Oilsands Ltd. in Harper, Alberta, Canada PRMS, and
- Report as of November 30, 2011 on the Prospective Resources attributable to the Certain Bitumen Prospects owned by Sunshine Oilsands Ltd. in Muskwa and Portage, Alberta, Canada PRMS.

In those reports and their attached appendices, more detailed information on the properties can be found.

This report was prepared for the purpose of valuing the Company's assets for inclusion in the Company's Prospectus in connection with its proposed Global Offering and Listing on the Hong Kong Stock Exchange.

Reserves estimated in this report are expressed as gross, company gross, and company net reserves. Gross reserves are defined as the total estimated petroleum to be produced after 30 November 2011, from the properties evaluated herein. Company gross reserves are defined as the Company's working interest reserves (operating or non-operating) before deduction of royalties and without including any royalty interests of the Company. Company net reserves are defined as the

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Company's working interest reserves (operating and non-operating) after deduction of royalty obligations.

The contingent resources in this report are expressed as gross pool, gross working-interest, and net working-interest contingent resources. Gross contingent resources are defined as the total estimated petroleum that is potentially recoverable after 30 November 2011 from known accumulations. Gross workinginterest contingent resources are defined as that portion of the gross pool contingent resources attributable to the Company's working interests (operating or nonoperating) before deduction of royalty obligations in the property evaluated. Net working-interest contingent resources are defined as the gross working-interest contingent resources (operating or non-operating) after deductions of royalty obligations.

The accumulations are located in Alberta, Canada. Prices and costs were provided by the Company or were estimated by D&M. Monetary values in this report are expressed in Canadian dollars.

Working interests were provided by the Company and are believed to be true as provided. The duration of primary terms and renewal terms for each concession and licence were also provided by the Company. Information obtained for the fields included well completion reports, test results, well-bore logs, core analysis, production history for all developed locations, lease and concession surveys, maps of geophysical and geological interpretation, plant and facilities descriptions, financial data applicable to field operations, historical revenue, historical capital expenditures, abandonment cost estimates, and a description of development activities and expected results as provided by the Company.

To comply with Section 4.2 of PRMS, resources estimates may be prepared using either deterministic or probabilistic methods. A deterministic estimate is a single discrete scenario within a range of outcomes that could be derived by probabilistic analysis. This evaluation used deterministic methodology.

This report uses forecast prices and costs as a base case.

A detailed explanation of the future price and cost assumptions is included under the Valuation of Reserves and Potential Valuation of Resources headings of this report. Operating expenses and capital costs estimated herein are based on current costs as provided by the Company and/or estimated by D&M. Future costs

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were adjusted as necessary to reflect changes in production rates or operating conditions.

In this report, certain information has been provided on the fields evaluated herein. To the extent of our knowledge, there are no special factors that would affect the production business of the Company's assets that would require additional information for the proper appraisal of these fields.

Values for reserves and potential value for contingent resources in this report are expressed in terms of future gross revenue, future net revenue, and net present value (NPV). The future gross revenue is defined as that revenue to be realised by the Company from the sale of the net reserves and net resources. Future net revenue is defined as the future gross revenue less direct operating expenses, capital costs, and taxes. Direct operating expenses include field operating expenses and estimated expenses of direct supervision. Net present value is defined as future net revenue discounted at a specified arbitrary discount rate compounded monthly over the expected period of realisation. In this report, net present values are estimated using discount rates of 5, 8, 10, 12, and 15 percent. In our opinion, net present value should not be construed to represent what a willing buyer and a willing seller would agree is the value of the properties.

In this evaluation, all plants and facilities are evaluated as integral to the reserve and resource income and have no separately generated income stream. Therefore, no economic evaluation of plant and facility income is prepared in this report.

Estimates of petroleum reserves, contingent and prospective resources, future net revenue and potential future net revenue should be regarded only as estimates that may change as further production history and additional information become available. Not only are such reserves, contingent and prospective resources, and revenue estimates based on that information which is currently available, but such estimates are also subject to the uncertainties inherent in the application of judgmental factors in interpreting such information. Future net revenue has not been determined for prospective resources in this report.

In the preparation of this report, D&M relied upon information furnished by the Company with respect to the property interests to be evaluated, production from such properties, current costs of operation and development with an estimated inflation for future years, current prices with as estimate for escalation for future

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years for production, agreements relating to current and future operations and sales of production, terms of permits, and various other information and data that were accepted as represented. Although D&M has not had independent verification, the information used in this report appears reasonable. The Company's technical staff involved with the assessment and implementation of development of the petroleum assets have demonstrated that they adhere to the generally accepted practices of the petroleum industry. The staff members appear to be experienced and technically competent in their fields of expertise. No representatives of D&M carried out any facility and onsite inspections as all of the data necessary for our evaluation is related to subsurface interpretation and economic analysis. All of this data is delivered to us digitally. This interpretation would not be enhanced by an onsite inspection. The valuation of tangible personal property, plants, and equipment has not been performed and is not contained in this report. D&M is not aware of any social or environmental issues that could impact the value of the evaluated properties.

Any discrepancies in any table in this report between the total shown and the sum of the amounts listed are due to rounding.

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# **EXECUTIVE SUMMARY**

The four properties presented in this report are all located in Northern Alberta. The reserve volumes and values are all assigned to the Muskwa property in an area currently producing heavy oil without thermal stimulation. All of the contingent resources cases are based on the expectation of future thermal development in Godin, Harper, and Muskwa, specifically cyclic steam stimulation, and the production of bitumen.

A detailed explanation of the future price and cost assumptions for both reserve and resource cases are included under the Valuation of Reserves and the Valuation of Contingent Resources headings of this report. Values in the following sections are expressed in thousands of Canadian dollars (M\$):

#### Reserves

Estimates of proved, proved-plus-probable, and proved-plus-probable-pluspossible heavy oil reserves, as of 30 November 2011, attributable to working interests owned by the Company in the various fields evaluated herein are presented below, expressed in thousands of barrels (Mbbl):

	Forecast Prices and Costs Case Reserves Summary						
	Company Gro	ss Reserves	Company Net Reserves				
	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Heavy Oil (Mbbl)	Sales Gas (MMcf)			
Proved	2,408	0	2,226	0			
Proved plus Probable	5,488	0	4,917	0			
Proved plus Probable plus Possible	8,760	0	7,619	0			

Note: Probable and possible reserves have not been adjusted for risk.

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Estimates of future net revenue and net present value, using discount rates of 5, 8, 10, 12, and 15 percent to be derived from the proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves, as of 30 November 2011, of the properties evaluated herein are presented as follows for the forecast prices and costs case:

		Forecast Prices and Costs Case Valuation of Reserves Summary								
		unted								
	Future Net Revenue (M\$)	at 5 Percent (M\$)	at 8 Percent (M\$)	at 10 Percent (M\$)	at 12 Percent (M\$)	at 15 Percent (M\$)				
Proved										
Forecast Case	50,614	43,652	39,995	37,746	35,636	32,707				
Tax	12,737	11,571	10,922	10,512	10,120	9,566				
After Tax	37,877	32,081	29,073	27,235	25,516	23,140				
Proved plus Pro	bable									
Forecast Case	86,021	69,489	61,122	56,093	51,457	45,164				
Tax	21,939	19,885	18,681	17,908	17,163	16,104				
After Tax	64,083	49,604	42,441	38,185	34,294	29,060				
Proved plus Pro	bable plus Possib	le								
Forecast Case	106,221	80,199	68,137	61,212	55,034	46,948				
Tax	26,325	23,660	21,933	20,808	19,724	18,194				
After Tax	79,897	56,539	46,204	40,405	35,310	28,754				

1. Values attributable to probable and possible reserves have not been adjusted for risk.

2. Numbers may not add exactly due to rounding.

# Technical parameters for reserves are summarized in the table below:

Technical Parameters - Proved Plus Probable Case Reserves										
	Data Area	Reservoir	Extraction	Net Pay	Estimated Permeability			Oil in Place	Technical Recovery	Technically Recoverable Oil
Area Name	(Ac)	$Depth\left(m ight)$	Technology	(m)	(mD)	Phie	Sw	(Mbbl)	Factor	in Place (Mbbl)
Muskwa	2,560	396	Cold Production	6.1	1100-4500	0.30	0.38	86,337	7.0%	6,044

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#### **Contingent Resources**

Estimates of Low, Best, and High contingent bitumen resources as of 30 November 2011, attributable to working interests owned by the Company in the various fields evaluated herein are listed below, expressed in thousands of barrels (Mbbl):

	Cor Fo	Contingent Resources Summary Forecast Prices and Costs Case						
	Gross Workin	ng-Interest	Net Workin	Net Working-Interest				
	Bitumen (Mbbl)	Sales Gas (MMcf)	Bitumen (Mbbl)	Sales Gas (MMcf)				
Low	270,431	0	232,214	0				
Best	744,290	0	633,226	0				
High	1,423,025	0	1,159,416	0				

Note: Resources have not been adjusted for risk.

Estimates of potential future net revenue and potential present worth, using discount rates of 5, 8, 10, 12, and 15 percent of the future net resources to be derived from the Low, Best, and High cases of contingent resources, as of 30 November 2011, of the properties evaluated herein are presented as follows for the forecast prices:

	Forecast Frees and costs case valuation of contingent nesources Summary								
		Potential Net Present Value Discounted							
	Future Net Revenue (M\$)	at 5 Percent (M\$)	at 8 Percent (M\$)	at 10 Percent (M\$)	at 12 Percent (M\$)	at 15 Percent (M\$)			
Low									
Forecast Case	5,831,223	972,559	327,266	136,462	29,185	(54, 845)			
Tax	1,464,300	318,078	141,269	85,310	52,286	24,678			
After Tax	4,366,923	654,481	185,996	51,152	(23,101)	(79,523)			
Best									
Forecast Case	15,998,009	3,503,404	1,389,601	721,913	282,412	(77,563)			
Tax	4,016,200	1,109,982	532,613	$374,\!547$	242,098	298,052			
After Tax	11,981,809	2,393,422	856,988	347,366	40,314	(375,615)			
High									
Forecast Case	42,000,326	9,670,383	4,182,363	2,505,170	1,319,681	414,056			
Tax	10,649,900	2,797,349	1,276,271	935,343	565,822	348,941			
After Tax	31,350,426	6,873,034	2,906,091	1,569,827	753,859	65,114			

Forecast Prices and Costs Cose Valuation of Contingent Passuras Summary

1. Values attributable to resources have not been adjusted for risk.

2. Numbers may not add exactly due to rounding.

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Potential values for each property are found in the Potential Valuation of Reserves and the Valuation of Resources sections of this report.

Taxes in this report are applicable only to the properties evaluated and will be different when aggregated with properties evaluated by GLJ Petroleum Consultants Ltd.

Technical parameters for contingent resources are summarized in the tables below:

Area Name	Data Area (Ac)	Reservoir Depth (m)	Extraction Technology	Net Pay	Estimated Permeability (mD)	Phie	Sw	Bitumen in Place (Mbbl)	Technical Recovery Factor	Technically Recoverable Oil in Place (Mbbl)	Cumulative Steam Oil Ratio
Godin Muskwa	8,954 23,517	426-440 361-476	Horizontal CSS Horizontal CSS	10.8 5.9	770-1370 1100-4500	0.28 0.30	0.29	348,271 611,733	45.3% 42.5%	157,801 260,274	7.0 6.4
Harper	$22,\!439$	344-410	Horizontal CSS	11.3	300-1600	0.31	0.46	1,014,454	16.7%	169,048	6.8

Technical Parameters	Best C	ase Contingent	Resources
1 common 1 ar ameters	Desi U	ase commigent	nesources

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#### **GEOLOGICAL DISCUSSION**

The four properties outlined in this report, Harper, Godin, Muskwa, and Portage, are located in northern Alberta. The primary zone of interest in all properties is the Wabiskaw Formation. The marine sandstones of the Wabiskaw Formation are Lower Cretaceous in age and are overlain by the marine shales of the Clearwater Formation and unconformably overlay the Devonian-aged Grosmont and Ireton Carbonates. The Wabiskaw consists of a series of upwards coarsening sediments ranging from bay sediments (shales) through lower, middle, and upper clean shoreface sands. The deposition of the Wabiskaw sands is somewhat controlled by the Pre-Cretaceous unconformity surface with thicker Wabiskaw sections present in Pre-Cretaceous lows.



The above figure is a stratigraphic chart for the oilsand and heavy oil deposits of Western Canada. Units using "ABC" terminology are all informal terms used by the petroleum industry. The lower, middle, and upper subdivisions of the McMurray Formation are also informal terms.

# Godin and Muskwa

The Muskwa area is located in Townships 83 to 89 and Ranges 24W4 to 2W5, approximately 60 miles west of Fort McMurray. The Godin area is contiguous to southwest Muskwa, located in Townships 82 and 83, Range 2W5. This area produces oil and gas from the Clearwater, Wabiskaw, McMurray, Wabamun, and Nisku Formations.

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The Wabiskaw Formation in the Godin and Muskwa areas consists of a single coarsening upward sequence. The net pay was determined using a mass oil cut-off of four percent and a resistivity cut-off of 10 ohm meters. The net pay map includes any gas caps and water legs found in the wells. The Wabiskaw net pay ranges from eight meters on the eastern and southern edges of the Company's lands decreasing to zero meters towards the north and west. Wabiskaw Structure maps are also included in this report's appendix entitled "Property Discussion".

The following table contains the Low, Best, and High estimated geological parameters and the predicted performances of the Godin and Muskwa contingent resource areas. The following tables also include reference to technically recoverable quantities which are those quantities that are forecast to be recoverable using current technology. A portion of these quantities may be truncated due to economic conditions when evaluated as reserves:

		Godi	n and Musk	wa Geolog	gical Paran	neters		
	Godir	n and Muskwa I	low Case Cor	tingent Re	sources - Ho	rizontal Cycl	ic Steam	
Area Name	Data Area (Ac)	Avg Thickness (m)	Phie	Sw	Bitumen in Place (Mbbl)	Technical Recovery Factor	Technically Recoverable Oil in Place (Mbbl)	Cumulative Steam Oil Ratio
Total Godin	8,414	10.8	0.3	0.3	335,840	35.7%	119,951	7.8
North East	0				-	0.0%	-	6.4
Dev. Area	4,078	6.8	0.3	0.3	138,965	34.1%	47,387	6.4
24-084-01W5	5,054	6.6	0.3	0.4	134,460	38.5%	51,767	6.4
04-084-01W5	1,776	7.0	0.3	0.5	46,331	35.7%	16,540	6.4
South-West	2,340	7.4	0.3	0.3	84,846	41.0%	34,787	6.4
Total Muskwa	13,248				404,602	37.2%	150,481	
Total	21,662				740,441	36.5%	270,432	
	Godir	n and Muskwa E	Best Case Cor	tingent Re	sources - Ho	rizontal Cycl	ic Steam	
		Ave			Bitumen	Technical	Technically	Cumulative
	Data	Thickness			in Place	Recovery	Recoverable Oil	Steam Oil
Area Name	Area (Ac)	(m)	Phie	Sw	(Mbbl)	Factor	in Place (Mbbl)	Ratio
Total Godin	8.954	10.8	0.3	0.3	348.271	45.3%	157,801	7.0
North East	5,721	4.5	0.3	0.4	114.832	44.0%	50.526	6.4
Dev. Area	5,636	6.1	0.3	0.3	176.064	38.5%	67,785	6.4
24-084-01W5	7.187	6.0	0.3	0.4	173.283	43.1%	74,685	6.4
04-084-01W5	2,265	6.5	0.3	0.5	54,580	41.5%	22,651	6.4
South-West	2,708	7.0	0.3	0.3	92,973	48.0%	44,627	6.4
Total Muskwa	23,517				611,733	42.5%	260,274	
Total	32,471				960,004	43.5%	418,075	
	Godin	and Muskwa H	ligh Case Coi	ntingent Re	sources - Ho	orizontal Cycl	lic Steam	
					<b>D</b>		<b>m</b> 1 · 11	a 1.1
	<b>D</b> /	Avg			Bitumen	Technical	Technically	Cumulative
	Data	Thickness		~	in Place	Recovery	Recoverable Oil	Steam Oil
Area Name	Area (Ac)	(m)	Phie	Sw	(Mbbl)	Factor	in Place (Mbbl)	Ratio
Total Godin	9,643	10.4	0.3	0.3	378,477	<b>54.0</b> %	204,377	6.4
North East	6,273	4.4	0.3	0.4	123,562	57.0%	70,430	6.4
Dev. Area	7,993	5.4	0.3	0.3	220,440	52.6%	115,951	6.4
24-084-01W5	9,172	8.3	0.3	0.5	227,551	60.0%	136,531	6.4
04-084-01W5	3,682	9.9	0.3	0.5	103,568	62.0%	64,212	6.4
South-West	3,261	6.4	0.3	0.3	102,443	54.0%	55,319	6.4
Total Muskwa	30,381				777,564	<b>56.9</b> %	442,444	
Total	40,024				1,156,041	56.0%	646,821	

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#### <u>Harper</u>

The Harper area is located in Townships 95 to 102, Ranges 20 to 24W4, approximately 100 miles northwest of Fort McMurray. This area produces oil and gas from the Wabiskaw, McMurray and Grosmont Formations. Sunshine drilled seven exploration wells in the property between January 31, 2011 and February 23, 2011. This was used in conjunction with 22 other pre-existing Wabiskaw wells in the area to map the resource, 15 of which were on the Company land. The zone of interest is the Wabiskaw Formation. Sunshine retains the rights of exploration and development for these areas under existing oilsand leases. It has a 100 percent working interest in the property.

In the Harper area, the Wabiskaw Formation consists of one or two cycles of coarsening upward sequences, referred to as Cycle 1 and Cycle 2. The net bitumen pay in these cycles was combined and mapped, as detailed in this report's appendix entitled "Property Discussion". The net pay was determined using a mass oil cut-off of four percent and a resistivity cut-off of 10 ohm meters. The combined Wabiskaw net pay ranges from 12 meters on the eastern edge of the Company's lands decreasing to zero meters towards the west. Wabiskaw Structure and Isopach maps are also included in this report's appendix entitled "Property Discussion".

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The following table contains the Low, Best, and High estimated geological parameters and the predicted performances of the Harper contingent resource area:

			Harper Ge	ological P	arameters			
	1	Harper Low (	Case Continge	nt Resource	es - Horizont	al Cyclic Ste	am	
Area Name	Data Area (Ac)	Avg Thicknes s (m)	Porosity	Sw	Bitumen in Place (Mbbl)	Technical Recovery Factor	Technically Recoverable Oil in Place (Mbbl)	Cumulative Steam Oil Ratio
Di l l	1100 (10)					10.00	(110,01)	
Block A	1,148	10.1	0.3	0.5	48,631	16.2%	7,899	9.9
Block B	985	10.1	0.3	0.4	40,133	16.5%	6,626	10.2
BIOCK D	7,840	11.8	0.3	0.5	388,879	16.7%	64,947	10.4
Block E	8,969	11.0	0.3	0.4	384,033	21.6%	83,124	9.7
Total Harper	3,901 <b>22,439</b>	11.4	0.3	0.5	152,778 1,014,454	4.2% 16.7%	6,452 <b>169,048</b>	22.4 11.9
-								
	]	Harper Best	Case Continge	nt Resource	es - Horizont	al Cyclic Ste	am Technically	
		Aug			Bitumon	Technical	Recoverable	Cumulativa
	Data	Thicknes			in Place	Recovery	Oil in Place	Steam Oil
Area Name	Area (Ac)	s (m)	Porosity	Sw	(Mbbl)	Factor	(Mbbl)	Ratio
Block A	1.148	10.1	0.3	0.5	48.631	22.7%	11.021	7.1
Block B	985	10.1	0.3	0.4	40,133	24.4%	9,809	6.8
Block D	7.840	11.8	0.3	0.5	388.879	26.2%	101,919	6.6
Block E	8,565	11.0	0.3	0.4	384,033	46.8%	179,863	6.2
Block G	3,901	11.4	0.3	0.5	152,778	20.2%	30,931	8.7
Total Harper	22,439	11.3	0.3	0.5	1,014,454	32.9%	333,543	6.8
	ī	Jarpor High	Case Continge	nt Resource	- Horizon	tal Cuelie Sta	am	
	1	larper mgn	Case Continge	int nesourc	- 110112011	tai Oyene Bre	Technically	
	Data	Avg Thicknes			Bitumen in Place	Technical Recoverv	Recoverable Oil in Place	Cumulative Steam Oil
Area Name	Area (Ac)	s (m)	Porosity	Sw	(Mbbl)	Factor	(Mbbl)	Ratio
Block A	5,861	9.7	0.3	0.5	236.896	49.2%	116.537	5.4
Block B	5.849	9.4	0.3	0.4	222.066	49.9%	110.704	4.9
Block D	7,840	11.8	0.3	0.5	388,879	50.5%	196,369	4.5
Block E	11,760	10.7	0.3	0.4	514,344	55.3%	284,191	4.3
Block G	3,901	11.4	0.3	0.5	152,778	47.3%	72,325	4.9
Total Harper	35,211				1,514,964	51.5%	780,125	

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# Portage

The Portage Area is located in Townships 76 to 79, Ranges 17 to 21W4, approximately 80 miles southwest of Fort McMurray. This area produces oil and gas from the Grand Rapids, Wabiskaw, McMurray, and Nisku Formations. Four new wells were drilled in this area. The zone of interest is the Wabiskaw Formation.

The marine sandstones of the Wabiskaw Formation are Lower Cretaceous in age and are overlain by the marine shales of the Clearwater Formation and unconformably overlay the Devonian aged Nisku and Grosmont Carbonates. The Wabiskaw consists of a series of upwards coarsening sediments ranging from bay sediments (shales) through lower, middle and upper clean shoreface sands. The deposition of the Wabiskaw sands is somewhat controlled by the Pre-Cretaceous unconformity surface with thicker Wabiskaw sections present in Pre-Cretaceous lows.

In the Portage area, the Wabiskaw Formation consists of a thin of coarsening upward sequence. The net pay was determined using a mass oil cut-off of 4 percent. The Wabiskaw net pay ranges from three meters on the western edge of company lands decreasing to zero meters towards the south and east. Wabiskaw Structure and Isopach maps are also included in this report's appendix entitled "Property Discussion".

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#### **ENGINEERING DISCUSSION**

The Company's assets evaluated in this report consist of heavy oil reserves and bitumen resources located in northern Alberta, Canada. The operating area of the properties is approximately 710,000 acres. The Company has a 100 percent working interests in all of these properties.

Only one of the properties, Muskwa, was producing as of 30 November 2011. In this property, heavy oil is produced without thermal stimulation from 22 horizontal oil wells, of which 20 are on production, located on three pads. These wells came on production between March 2010 and June 2011.

The Muskwa property also has a volume of bitumen assigned as contingent resources based on the expectation of thermal stimulation in the area. Contingent resources are also evaluated in the Godin and Harper areas. Prospective resources are evaluated in the Harper area.

The appendix to this report, entitled "Property Discussion", contains a discussion on each property and also includes a property index map and geological interpretation maps.

The following table contains the gross area and company working interest of each of the Company's properties:

<u>Property</u>	<u>Gross Area</u> ( <u>Hectares)</u>	<u>Company</u> <u>Interest (%)</u>
Godin	3,892	100.0
Harper	183,253	100.0
Muskwa	100,732	100.0
Portage	71,405	100.0
TOTAL	359,283	100.0

The Company will be responsible for plugging and abandoning and decommissioning costs when wells cease to be capable of commercial production. This cost is estimated to be two percent of the total capital spent on the properties.

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Royalty is payable for both heavy oil and bitumen at a sliding rate. This is discussed further in the Valuation of Reserves and the Valuation of Contingent Resources headings of this report and in the report's appendix.

We know of no factors that might affect value perception for these assets.

# Godin and Muskwa

All of the reserves estimated for the Company by D&M are found in the Muskwa property. The Muskwa property was evaluated for proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves. In the preparation of this report, in the reserves cases, gross production to 30 November 2011 was deducted from gross ultimate recovery to arrive at the estimates of gross reserves. Data available from wells drilled on the appraised properties to 30 November 2011 are included herein. The development status represents the status applicable on 30 November 2011.

The Muskwa and Godin properties were evaluated for contingent and prospective resources. For the resource cases, the Muskwa property was subdivided into five areas: north-east Muskwa, Muskwa Development Area, 24-084-01W5, 04-084-01W5, and south-west Muskwa. Of these, south-west Muskwa had only prospective resources assigned on which economics were not evaluated and it is not included in this report.

A cross-section through the southern three wells of the pad located at 10-05-085-25W4 was used to characterise the reservoir for the Muskwa property and well 03-04-083-02W5 was used for the Godin property. CMG STARS (thermal simulation application) was then used to simulate steam and fluid flows in each reservoir with horizontal cyclic steam wells. Some key reservoir parameters include relative permeability as obtained from CMG and the Company. Operation conditions vary over a steam temperature range of 255 to 315 degrees Celsius (°C) and steam quality range of 0.6 to 0.8. Rock and fluid properties were determined through log interpretation and information provided by the Company where available. Viscosities were provided for wells throughout the field and where viscosities were not available, viscosities were estimated based on the nearest offset measurements and regional trends in the area.

The type curves generated by the two dimensional STARS models were then adjusted upward or downward by a conformance factor to account for differences

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between the models' recoverable reserves and expected actual recoverable reserves in specific locations within the evaluation area. The conformance factors used were varied for the Low, Best, and High cases. These factors adjusted the bitumen production and steam injection requirements but maintain the steam oil ratios derived from the respective model.

The recovery factors after adjustments vary from 34.1 percent in the Low case, 38.5 and 44.0 percent for the Best case, and 52.6 and 62.0 percent for the High case.

Contingent resources volumes were assigned to a nine-section area around existing wells, further restricted by the Company's lease boundaries and minimum thickness of exploitable sand as detailed in this report's appendix entitled "Property Discussion".

# <u>Harper</u>

The Harper property was subdivided into seven areas, Area A through Area G, as detailed in this report's appendix entitled "Property Discussion". Low, Best, and High contingent and prospective resources were assigned in each of these areas.

CMG STARS was used to simulate steam and fluid flows in reservoirs with horizontal cyclic steam wells. Rock and fluid properties were provided by the Company where available. Where not available, properties from analogous formations were used. Four wells were simulated, including:

- AA-06-34-097-22W4
- AA-09-04-099-21W4
- AA-07-33-100-20 W4
- AA-10-09-102-20 W4

These wells were selected because they have modern log suites and are geographically distributed across the Company's land. Some key reservoir parameters include relative permeability as obtained from CMG and the Company, petrophysical properties as determined by D&M and analogue reservoirs as identified by the Company. Operation conditions vary over a steam temperature range of 255°C to 315°C and steam quality range of 0.6 to 0.8. Steam injection volume control varies from well to well, while the depth of the well ranges from the bottom of the reservoir to the upper middle level of the pay zones. Each well used a

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viscosity determined from a fluid analysis from that well, but for well AA-10-09-102-20W4 a viscosity analysis from the well 09-04-099-21W4 was used because no viscosity data was available for that well.

The type curves generated by the two dimensional STARS models were then reduced by conformance factors to account for differences between the models and expected performance. The conformance factors used were 0.65, 0.75, and 0.85 for the Low, Best, and High recoveries, respectively. These factors reduce the bitumen production and steam injection requirements but maintain the steam oil ratios derived from the model.

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#### **DEFINITION OF RESERVES**

The proved, probable, and possible reserves presented in this report have been prepared in accordance with the PRMS approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers. The petroleum reserves are defined as follows:

Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered, recoverable, commercial, and remaining (as of the evaluation date) based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status.

*Proved Reserves* – Proved Reserves are those quantities of petroleum which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90-percent probability that the quantities actually recovered will equal or exceed the estimate.

Unproved Reserves – Unproved Reserves are based on geoscience and/or engineering data similar to that used in estimates of Proved Reserves, but technical or other uncertainties preclude such reserves being classified as Proved. Unproved Reserves may be further categorized as Probable Reserves and Possible Reserves.

*Probable Reserves* – Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will DeGolyer and MacNaughton Canada Limited

be greater than or less than the sum of the estimated Provedplus-probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50-percent probability that the actual quantities recovered will equal or exceed the 2P estimate.

*Possible Reserves* – Possible Reserves are those additional reserves which analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved-plusprobable plus Possible Reserves (3P), which is equivalent to the high estimate scenario. In this context, when probabilistic methods are used, there should be at least a 10-percent probability that the actual quantities recovered will equal or exceed the 3P estimate.

*Reserves Status Categories* – Reserves status categories define the development and producing status of wells and reservoirs.

Developed Producing Reserves – Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Improved recovery reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing Reserves – Developed Non-Producing Reserves include shut-in and behind-pipe Reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future recompletion prior to the start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well. 20

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Undeveloped Reserves – Undeveloped Reserves are quantities expected to be recovered through future investments: (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g. when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

The extent to which probable and possible reserves ultimately may be recategorized as proved reserves is dependent upon future drilling, testing, and well performance. The degree of risk to be applied in evaluating probable and possible reserves is influenced by economic and technological factors as well as the time element. Probable and possible reserves in this report have not been adjusted in consideration of these additional risks to make them comparable to proved reserves.

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#### **DEFINITION of CONTINGENT RESOURCES**

Petroleum resources included in this report are classified as contingent resources and have been prepared in accordance with the PRMS approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers. Because of the lack of commerciality or sufficient development drilling, the contingent resources estimated herein cannot be classified as reserves. The petroleum resources are classified as follows:

*Contingent Resources* – Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable due to one or more contingencies.

Based on assumptions regarding future conditions and their impact on ultimate economic viability, projects currently classified as Contingent Resources may be broadly divided into three economic status groups:

> Marginal Contingent Resources – Those quantities associated with technically feasible projects that are either currently economic or projected to be economic under reasonably forecasted improvements in commercial conditions but are not committed for development because of one or more contingencies.

> Sub-Marginal Contingent Resources – Those quantities associated with discoveries for which analysis indicates that technically feasible development projects would not be economic and/or other contingencies would not be satisfied under current or reasonably forecasted improvements in commercial conditions. These projects nonetheless should be retained in the inventory of discovered resources pending unforeseen major changes in commercial conditions.

> Undetermined Contingent Resources – Where evaluations are incomplete such that it is premature to clearly define ultimate

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chance of commerciality, it is acceptable to note that project economic status is "undetermined."

The estimation of resources quantities for an accumulation is subject to both technical and commercial uncertainties and, in general, may be quoted as a range. The range of uncertainty reflects a reasonable range of estimated potentially recoverable volumes. In all cases, the range of uncertainty is dependent on the amount and quality of both technical and commercial data that are available and may change as more data become available.

1C (Low), 2C (Best), and 3C (High) Estimates – Estimates of petroleum resources in this report are expressed using the terms low estimate, best estimate, and high estimate to reflect the range of uncertainty.

For deterministic estimates of petroleum resources, a range of values is selected for each parameter in the volumetric calculation. This range encompasses a conservative value, or Low case, a Best case value, and a High case value, which represents an upside case for the accumulation. The selection of these values is based on data available in the basin and within the prospective assessment area. The values may be supported by statistical distributions or may be the best judgment of the evaluator.

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# **DEFINITION of PROSPECTIVE RESOURCES**

Petroleum resources included in this report are classified as prospective resources and have been prepared in accordance with the PRMS approval in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers. Because of the lack of commerciality or sufficient development drilling, the prospective resources estimated herein cannot be classified as contingent resources or reserves. The petroleum resources are classified as follows:

*Prospective Resources* – Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects.

The estimation of resource quantities for a prospect is subject to both technical and commercial uncertainties and, in general, may be quoted as a range. The range of uncertainty reflects a reasonable range of estimated potentially recoverable quantities. In all cases, the range of uncertainty is dependent on the amount and quality of both technical and commercial data that are available and may change as more data becomes available.

*Low, Best, High, and Mean Estimates* – Estimates of petroleum resources in this report are expressed using the terms low estimate, best estimate, high estimate, and mean estimate to reflect the range of uncertainty.

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### VALUATION OF THE PETROLEUM ASSETS

It should be noted that the Economic Evaluation range does not constitute an estimate of "fair market value" of the fields or a value in considering an 'arm'slength' transaction between a willing buyer/willing seller as other factors may be involved. These factors may include the cost of financing, overall perception of geologic risk, projection of long term behaviour of wells and reservoir fluids, the presence of unwanted by-products, political risk, and marketability of production among other factors.

The assessment represented in this report was conducted within the context of D&M's understanding of the effects of petroleum legislation, taxation, and other regulations that currently pertain to the various properties.

The competent person responsible for this report expresses no opinion as to the legal rights of the Company to explore and/or mine the relevant resources and reserves.

The Competent Person's Report is, and will remain, an independent opinion despite certain information used in its preparation having been provided by the Company.

It should be understood that any evaluation, particularly one involving future petroleum developments, may be subject to significant variations over short periods of time as new information becomes available and perceptions change.

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#### ESTIMATION OF RESERVES AND RESOURCES

The Company owns interests in all of the four fields evaluated herein. These interests are as follows:

Property Inter	rests Evaluated
Country	Working Interest
Field	<b>Currently Owned</b>
	(percent)
Canada	
Muskwa	100.0
Harper	100.0
Godin	100.0
Portage	100.0
Weighted Average Total	100.0

Estimates of reserves and resources were prepared by the use of standard geological and engineering methods generally accepted by the petroleum industry, as described in the PRMS approved in March 2007. The method or combination of methods utilised in the analysis of each reservoir was tempered by experience with similar reservoirs, stage of development, quality, and completeness of basic data, and production history.

Where applicable, the volumetric method was used to determine the original oil in place. Estimates were made by using various types of logs, core analyses, and other available data. Formation tops, gross thickness, and representative values for net pay thickness, porosity, and interstitial fluid saturations were used to prepare structural maps to delineate each reservoir and isopachous maps to determine reservoir volumes.

Estimates of ultimate recovery were obtained by applying recovery efficiency factors to the original quantities of petroleum in place. These factors were based on consideration of the type of energy inherent in the reservoir, analysis of the fluid and rock properties, the structural position of the properties, and the production history, all in conjunction with CMG STARS numerical modelling and analytical modelling as previously outlined in the Engineering Discussion. In some instances, comparisons were made with similar producing reservoirs in the area where more comprehensive data was available.

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In certain cases where the previously named methods could not be used, reserves were estimated by analogy with similar reservoirs where more comprehensive data were available.

The reserves estimates presented herein were based on consideration of monthly production data through July 2011. Other data available, including geological data, well-test results, pressures, and core data through to 30 November 2011, were used to prepare estimates for this report. Where applicable, estimated cumulative production, as of 30 November 2011, was deducted from the gross ultimate recovery to determine the estimated gross reserves.

Reserves estimated in this report are supported by details of drilling results through July 2011, analyses of available geological data, well-test results, pressures, available core data, and production performance. This report takes into account all relevant information supplied to D&M by the Company.

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#### Reserves

Estimated gross proved, probable, and possible heavy oil reserves, as of 30 November 2011, of the Muskwa field are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

				Gross R Forecast P	eserves Sumn rices and Cost	nary ts Case				
		Proved		Prov	Proved + Probable			Proved + Probable + Possible		
<b>Country</b> Field	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	
Canada										
Muskwa	2,408	-	2,408	5,488	-	5,488	8,760	-	8,760	
Harper	-	-	-	-	-	-	-	-	-	
Godin	-	-	-	-	-	-	-	-	-	
Portage										
Total	2,408	-	2,408	5,488	-	5,488	8,760	-	8,760	

Notes:

1. Probable and possible reserves have not been adjusted for risk.

2. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel.

Estimated company gross proved, probable, and possible heavy oil reserves of the Company, as of 30 November 2011, of the Muskwa field are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

				Company Gro Forecast P	oss Reserves S rices and Cos	Summary ts Case			
		Proved		Prov	ed + Probable	e	Proved + I	Probable + Po	ssible
<b>Country</b> Field	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)
Canada									
Muskwa	2,408	-	2,408	5,488	-	5,488	8,760	-	8,760
Harper		-	-	-	-	-	-	-	-
Godin		-	-	-	-	-	-	-	-
Portage									
Total	2,408	-	2,408	5,488	-	5,488	8,760	-	8,760

Notes:

1. Probable and possible reserves have not been adjusted for risk.

2. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel.

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Estimated company net proved, probable, and possible heavy oil reserves of the Company, as of 30 November 2011, of the Muskwa field are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

				Company Ne Forecast P	et Reserves Su rices and Cost	mmary s Case			
		Proved		Prov	ed + Probable		Proved + I	Probable + Pos	ssible
Country Field	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Total (Mboe)
Canada									
Muskwa	2,226	-	2,226	4,917	-	4,917	7,619	-	7,619
Harper	-	-	-	-	-	-	-	-	-
Godin	-	-	-	-	-	-	-	-	-
Portage									
Total	2,226	-	2,226	4,917		4,917	7,619		7,619

Notes:

1. Probable and possible reserves have not been adjusted for risk.

2. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel.

Production forecasts of the company net reserves, as of 30 November 2011, were prepared for the Muskwa field. The table below presents these forecasts for the first 25 years in thousands of barrels (Mbbl), for proved, probable, and possible reserves:

		Forecast Prices and Costs Case									
	Prov	ved	Proved + 1	Probable	Proved + Proba	ble + Possible					
Year	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Heavy Oil (Mbbl)	Sales Gas (MMcf)	Heavy Oil (Mbbl)	Sales Gas (MMcf)					
2011	23	-	23	-	23	-					
2012	507	-	788	-	765	-					
2013	490	-	898	-	879	-					
2014	396	-	861	-	866	-					
2015	286	-	756	-	777	-					
2016	205	-	572	-	659	-					
2017	122	-	436	-	778	-					
2018	95	-	283	-	797	-					
2019	37	-	192	-	799	-					
2020	32	-	90	-	482	-					
2021	18	-	17	-	320	-					
2022	16	-	-	-	173	-					
2023	-	-	-	-	22	-					
2024	-	-	-	-	16	-					
2025	-	-	-	-	7	-					
EMAINDER	-	-	-	-	258	-					

Company Net Reserves - Production Forecast Through 2025

Note: Probable and possible reserves have not been adjusted for risk.

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# Contingent Resources

Estimated gross pool economically recoverable contingent resources for the Low, Best, and High cases, as of 30 November 2011, of the fields evaluated herein are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

	Gross Pool Contingent Resources Summary Forecast Prices and Costs Case											
		Low Best High						High				
<b>Country</b> Field	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)			
Canada												
Muskwa	150,481	-	150,481	260,274	-	260,274	438,523	-	438,523			
Godin	119,950	-	119,950	157,801	-	157,801	204,377	-	204,377			
Harper	-	-	-	326,215	-	326,215	780,125	-	780,125			
Total	270,431		270,431	744,290	-	744,290	1,423,025	-	1,423,025			

Notes:

1. Resources have not been adjusted for risk.

2. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel.

3. Numbers may not add exactly due to rounding.

Estimated gross working-interest contingent resources for the Low, Best, and High cases, as of 30 November 2011, of the fields evaluated herein are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

		Gross Working-Interest Contingent Resource Summary Forecast Prices and Costs Case											
		Low			Best			High					
<b>Country</b> Field	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)				
Canada													
Muskwa	150,481	-	150,481	260,274	-	260,274	438,523	-	438,523				
Godin	119,950	-	119,950	157,801	-	157,801	204,377	-	204,377				
Harper	-	-	-	326,215	-	326,215	780,125	-	780,125				
Total	270,431	-	270,431	744,290	-	744,290	1,423,025	-	1,423,025				
Notes:													

1. Resources have not been adjusted for risk.

2. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel.

3. Numbers may not add exactly due to rounding.

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Estimated net working-interest contingent resources for the Low, Best, and High cases, as of 30 November 2011, of the fields evaluated herein are summarised below in thousands of barrels (Mbbl) for the Forecast Prices and Costs case:

			Net V	Vorking-Inter	est Contingent	Resources St	ummary			
		Low		Foreca	Forecast Prices and Costs Case Best			High		
Country Field	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	Bitumen (Mbbl)	Sales Gas (MMcf)	Total (Mboe)	
Canada										
Muskwa	129,887	-	129,887	224,038	-	224,038	367,299	-	367,299	
Godin	102,327	-	102,327	131,556	-	131,556	166,971	-	166,971	
Harper	-	-	-	277,632	-	277,632	625,146	-	625, 146	
Portage										
Total	232,214	-	232,214	633,226	-	633,226	1,159,416	-	1,159,416	

Notes

Resources have not been adjusted for risk. 1. Gas is converted to barrels of oil equivalent using a factor of 5,800 cubic feet per barrel. Numbers may not add exactly due to rounding. 9

3.

Production forecasts of the net working-interest contingent resources, as of 30 November 2011, were prepared for the Godin, Muskwa, and Harper fields. The Portage field has no forecast production. The table below presents these forecasts for the first 25 years in thousands of barrels (Mbbl) for the Low, Best, and High cases:

			Forecast Prices	and Costs Case		
	Lo	W	Be	st	Hig	gh
Year	Bitumen (Mbbl)	Sales Gas (MMcf)	Bitumen (Mbbl)	Sales Gas (MMcf)	Bitumen (Mbbl)	Sales Gas (MMcf)
2011	-	-	-	-	-	
2012	-	-	-	-	-	
2013	-	-	-	-	-	
2014	-	-	-	-	-	
2015	-	-	-	-	-	
2016	-	-	-	-	-	
2017	-	-	2,996	-	3,526	
2018	1,051	-	6,829	-	7,938	
2019	2,647	-	12,352	-	16,018	
2020	4,091	-	15,472	-	$20,\!548$	
2021	4,137	-	17,399	-	23,359	
2022	4,137	-	$18,\!554$	-	25,166	
2023	4,137	-	19,693	-	27,275	
2024	3,998	-	20,037	-	28,873	
2025	3,826	-	20,350	-	30,969	
2026	3,778	-	20,505	-	32,001	
2027	3,778	-	20,603	-	32,837	
2028	3,778	-	20,603	-	32,595	
2029	3,778	-	20,603	-	32,808	
2030	3,778	-	20,603	-	32,593	
2031	3,778	-	20,603	-	32,593	
2032	3,778	-	20,603	-	32,593	
2033	3,778	-	20,603	-	32,593	
2034	3,765	-	20,603	-	32,593	
2035	3,764	-	20,603	-	32,593	

Net Working-Interest Contingent Resources - Production Forecast Through 2035

1. Resources have not been adjusted for risk.

 $\mathbf{2}$ . Numbers may not add exactly due to rounding.

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#### VALUATION of RESERVES

Revenue values in this report have been prepared using initial prices and costs and future price and cost assumptions specified by the Company. A Forecast Price Case was evaluated using future prices that vary from current prices as well as escalations in operating expenses and capital and abandonment costs. Reserves estimates herein are based on the Forecast Price Case assumptions.

In this report, values for proved, proved-plus-probable, and proved-plusprobable-plus-possible reserves are based on projections of estimated future production and revenue prepared for this property. Probable and possible reserves involve substantially higher risks than proved reserves.

#### <u>Forecast Price Case</u>

The following assumptions were used in estimating future net revenue in the Forecast Price Case:

# Prices

Heavy oil prices used in this report were based on the DeGolyer and MacNaughton Canada Limited price forecast. These prices were forecast into the future and are contained in Table A of this report. These prices have been adjusted for transportation differentials and quality in the property based on our experience with similar operations.

#### **Operating** Expenses

Operating expenses and operating-expense forecasts have been determined by DeGolyer and MacNaughton Canada Limited based on data provided by the Company and our experience with similar operations. In certain situations, future expenses, either higher or lower than current expenses, may have been used because of anticipated changes in operating conditions. Escalation has been applied to operating expenses to account for inflation.

# Abandonment Costs

Gross abandonment costs were estimated for each property. These costs were projected to occur in the last year of economic
DeGolyer and MacNaughton Canada Limited

production of each reserves entity and for wells where proved, probable, or possible reserves have been assigned the abandonment timing was assumed to be two years after the effective date of this report.

# Capital Costs

Future capital costs were estimated using current capital cost forecasts provided by the Company. Where necessary, these costs were scaled and adjusted to fit the scenario being evaluated. Escalation has been applied to capital costs to account for inflation.

# **Royalties**

The property evaluated herein is subject to various applicable Canadian royalties. A detailed discussion on these royalty regimes is contained in this report.

#### Taxes

The property evaluated herein is subject to federal and provincial taxation which are discussed in this report.

The following three tables contain the proved, probable, possible future net revenue and net present value of the Muskwa property:

	Summary of Future Net Revenue - Proved Reserves							
	Forecast Prices and Costs Case Future Net Present Value Discounted							
<b>Country</b> Field	Net Revenue (M\$)	at 5 Percent (M\$)	at 8 Percent (M\$)	at 10 Percent (M\$)	at 12 Percent (M\$)	at 15 Percent (M\$)		
Canada	(1(2ψ)	(1124)	(1124)	(1124)	(2)24)	(1124)		
Muskwa	50,614	43,652	39,995	37,746	35,636	32,707		
Harper	-	-	-	-	-	-		
Godin	-	-	-	-	-	-		
Portage								
Total Pre-Tax	50,614	43,652	39,995	37,746	35,636	32,707		
Corporation Tax	12,737	11,571	10,922	10,512	10,120	9,566		
Total After Tax	37,877	32,081	29,073	27,234	25,516	23,141		

#### DeGolyer and MacNaughton Canada Limited

Summary of Future Net Revenue - Proved-plus-Probable Reserves Forecast Prices and Costs Case

	For cease in costs case							
	Future		Net Pres	ent Value Dis	scounted			
Country	Net Revenue	at 5 Percent	at 8 Percent	at 10 Percent	at 12 Percent	at 15 Percent		
Field	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	(M\$)		
Canada								
Muskwa	86,021	69,489	61,122	56,093	51,457	45,164		
Harper	-	-	-	-	-	-		
Godin	-	-	-	-	-	-		
Portage						-		
Total Pre-Tax	86,021	69,489	61,122	56,093	51,457	45,164		
Corporation Tax	21,939	19,885	18,681	17,908	17,163	16,104		
Total After Tax	64,082	49,604	42,441	38,185	34,294	29,060		

 ${\bf Summary \ of \ Future \ Net \ Revenue \ - \ Proved-plus-Probable-plus-Possible \ Reserves}$ 

		Forecast Prices and Costs Case							
		Net Present Value Discounted							
Country	Future Net Revenue	at 5 Percent	at 8 Percent	at 10 Percent	at 12 Percent	at 15 Percent			
Field	(111\$)	(M\$)	(M\$)	(M\$)	(M\$)	(141\$)			
Canada									
Muskwa	106,221	80,199	68,137	61,212	55,034	46,948			
Harper	-	-	-	-	-	-			
Godin	-	-	-	-	-	-			
Portage									
Total Pre-Tax	106,221	80,199	68,137	61,212	55,034	46,948			
Corporation Tax	26,325	23,660	21,933	20,808	19,724	18,194			
Total After Tax	79,896	56,539	46,204	40,404	35,310	28,754			

The proved-plus-probable-plus-possible future net revenue is an arithmetic sum of multiple estimates of revenue, which statistical principles indicate may be misleading as to value that may actually be returned in this summation. Attention should be given to the estimates of individual classes of reserves and their probability of occurrence as described in the Classification of Reserves section of this report.

Future producing rates estimated for this report were based on information provided by the Company or on actual rates considering the most recent production figures available. Production forecasts and revenue values were estimated for proved developed producing, total proved developed, total proved, proved-plus-probable, and proved-plus-probable-plus-possible reserves.

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**GLJ Forecast Price Case** 

Economics were also generated using the October 1, 2011 GLJ price forecast for oil, bitumen, and natural gas.

The future net revenue and net present value for the proved, proved-plusprobable, and proved-plus-probable-plus-possible reserves are provided in the tables below:

	Summary of Future Net Revenue - Proved Reserves							
	GLJ Forecast Prices and Costs Case							
	Future		Net Pres	ent Value Di	scounted			
Country	Net	at 5	at 8	at 10	at 12	at 15		
•	Revenue	Percent	Percent	Percent	Percent	Percent		
Field	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M\$</b> )	( <b>M\$</b> )	( <b>M</b> \$)	( <b>M\$</b> )		
Canada								
Muskwa	40,313	34,619	31,602	29,738	27,982	25,534		
Harper	-	-	-	-	-	-		
Godin	-	-	-	-	-	-		
Portage								
Total Pre-Tax	40,313	34,619	31,602	29,738	27,982	25,534		
Corporation Tax	10,197	9,351	8,862	8,549	8,246	7,814		
Total After Tax	30,116	25,268	22,740	21,189	19,736	17,720		

Summary of Future Net Revenue - Proved-plus-Probable Reserves GLJ Forecast Prices and Costs Case

	Future Net Present Value Discounted							
Country	Net	at 5	at 8	at 10	at 12	at 15		
	Revenue	Percent	Percent	Percent	Percent	Percent		
Field	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M\$</b> )	( <b>M</b> \$)		
Canada								
Muskwa	62,021	49,041	42,440	38,461	34,785	29,784		
Harper	-	-	-	-	-	-		
Godin	-	-	-	-	-	-		
Portage						-		
Total Pre-Tax	62,021	49,041	42,440	38,461	34,785	29,784		
Corporation Tax	15,967	14,852	14,107	13,606	13,108	12,381		
Total After Tax	46,054	34,189	28,333	24,855	21,677	17,403		

Summary	of Future Net Revenue - Proved-plus-Probable-plus-Possible Reserves
	GLJ Forecast Prices and Costs Case

	Net Present Value Discounted								
Country	Future Net	at 5	at 8	at 10	at 12	at 15			
	Revenue	Percent	Percent	Percent	Percent	Percent			
Field	(M\$)	( <b>M</b> \$)	( <b>M</b> \$)	(M\$)	(M\$)	(M\$)			
Canada									
Muskwa	63,919	47,705	39,990	35,494	31,438	26,061			
Harper	-	-	-	-	-	-			
Godin	-	-	-	-	-	-			
Portage						-			
Total Pre-Tax	63,919	47,705	39,990	35,494	31,438	26,061			
Corporation Tax	15,754	15,618	15,003	14,497	13,952	13,110			
Total After Tax	48,165	32,087	24,987	20,997	17,486	12,951			

**APPENDIX IV** 

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#### **POTENTIAL VALUATION of CONTINGENT RESOURCES**

Potential revenue values in this report have been prepared using initial prices and costs estimates provided by the Company and estimated by D&M. The assumptions used are not consistent with the rules and regulations promulgated by the United States Securities and Exchange Commission or statements promulgated by the Financial Accounting Standards Board. Accordingly, contingent resources volumes and potential revenues should not be used or relied upon to meet the requirements thereof.

In this report, values for Low, Best, and High contingent resources are based on projections of estimated future production and potential revenue prepared for these properties.

Forecast Price Case

The following assumptions were used in estimating potential future net revenue in the Forecast Price Case:

Prices

Bitumen prices used in this report were based on the DeGolyer and MacNaughton Canada Limited forecast prices as of 30 November 2011. These prices were forecast into the future and are contained in Table A of this report. These prices have been adjusted for transportation differentials and quality in the properties based on information provided by the Company and our experience with similar operations.

#### **Operating** Expenses

Operating expenses and operating-expense forecasts have been determined by DeGolyer and MacNaughton Canada Limited based on information provided by the Company and our experience with similar operations. In the contingent resource evaluations, the variable operating expense for bitumen was estimated based on \$0.50 Canadian per barrel for bitumen processing and \$4.44 per barrel for water processing. Fixed operating expenses were estimated to be \$10,000 per well per

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month. The amount of gas needed was estimated to be 0.4 Mcf per barrel of steam generated. This evaluation is based on produced oil from these fields being trucked to the terminal; hence, gathering expense is not considered in this evaluation at this time.

#### Capital Costs

Future capital costs were estimated using current capital cost forecasts provided by the Company. Where necessary, these costs were scaled and adjusted to fit the scenario being evaluated. An escalation of 2 percent per year has been applied to capital costs to account for inflation for capital costs in all cases. Drilling and completion costs are estimated to be the same for all contingent resources evaluations. \$2,750,000 was estimated to drill and complete each well, including pads and piping costs.

For contingent resource cases in Godin and Muskwa, initial plant costs were estimated to be \$33,618 per barrel per day of capacity, equally spread out over 4 years. For contingent resource cases in Harper, initial plant costs were estimated to be \$29,400 per barrel per day of capacity, equally spread out over 4 years. In all resource cases with economics, sustaining capital was taken to be 5 percent of initial capital for each year of operation. Exploration wells are forecast at a cost of \$450,000 each in Muskwa and Godin and \$425,000 each in Harper. Eight exploration wells have been forecast for each hectare of development in all economic cases.

#### *Royalties*

The royalty rate for all cases with economics is per the Alberta Royalty Framework for bitumen.

#### Taxes

The properties evaluated herein are subject to federal and provincial taxation which have been discussed in this report.

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# Abandonment Costs

In this report the abandonment liability was taken to be 2 percent of the total capital spent, applied in the last year of production, for all properties and cases.

# Potential Revenue

#### Potential Future Company Gross Revenue

Potential future company gross revenue is defined as the Company's working interest revenue (operating or nonoperating) before deduction of royalties and without including any royalty interests of the Company.

#### Potential Future Company Net Revenue

Potential future company net revenue is defined as the Company's working interest revenue (operating or nonoperating) after deduction of royalty obligations in the properties evaluated.

## Potential Net Present Value

Potential net present value is defined as the Company's potential future net revenue discounted at 10 percent.

The following three tables contain the Low, Best, and High future net revenue and net present values of the Company's four properties:

	Summary of Future Net Revenue - Low Case Contingent Resources							
	Forecast Prices and Costs Case							
	Future		Net Pre	sent Value Disc	ounted			
Country	Net	at 5	at 8	at 10	at 12	at 15		
	Revenue	Percent	Percent	Percent	Percent	Percent		
Field	(M\$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	(M\$)	( <b>M\$</b> )		
Canada								
Muskwa	3,041,499	467,777	139,938	45,959	(5,698)	(45, 130)		
Godin	2,789,724	504,782	187,328	$90,\!503$	34,882	(9,715)		
Harper	-	-	-	-	-	-		
Portage	-		-			-		
Total Pre-Tax	5,831,223	972,559	327,266	136,462	29,185	(54,845)		
Corporation Tax	1,464,300	318,078	141,269	85,310	52,286	24,678		
Total After Tax	4,366,923	654,481	185,996	51,152	(23,101)	(79,523)		

Country	Sumn	Summary of Future Net Revenue - Best Case Contingent Resources Forecast Prices and Costs Case						
			Net Pre	sent Value Disc	ounted			
	Future Net	at 5	at 8	at 10 Percent	at 12 Percent	at 15		
	Revenue	Percent	Percent			Percent		
Field	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)	( <b>M</b> \$)		
Canada								
Muskwa	5,890,415	904,249	270,167	89,696	(7,030)	(76,259)		
Godin	4,372,598	758,635	282,015	141,648	62,882	923		
Harper	5,734,995	1,840,520	837,419	490,569	226,560	(2,226)		
Portage		_	-	-		-		
Total Pre-Tax	15,998,009	3,503,404	1,389,601	721,913	282,412	(77,563)		
Corporation Tax	4,016,200	1,109,982	532,613	374,547	242,098	298,052		
Total After Tax	11,981,809	2,393,422	856,988	347,366	40,314	(375,615)		

#### Summary of Future Net Revenue - High Case Contingent Resources Forecast Prices and Costs Case

	i orceast i nees and costs case							
Country	Net Present Value Discounted							
	<b>Future Net</b>	at 5	at 8	at 10	at 12	at 15		
	Revenue	Percent	Percent	Percent	Percent	Percent		
Field	(M\$)	(M\$)	(M\$)	(M\$)	(M\$)	( <b>M</b> \$)		
Canada								
Muskwa	12,928,029	1,884,343	602,008	$257,\!111$	79,476	(43, 218)		
Godin	7,337,256	995,396	353,642	180,295	85,792	11,837		
Harper	21,735,041	6,790,645	3,226,712	2,067,764	1,154,413	445,437		
Portage					-	-		
Total Pre-Tax	42,000,326	9,670,383	4,182,363	2,505,170	1,319,681	414,056		
Corporation Tax	10,649,900	2,797,349	1,276,271	935,343	565,822	348,941		
Total After Tax	31,350,426	6,873,034	2,906,091	1,569,827	753,859	65,114		

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**GLJ Forecast Price Case** 

Economics were also generated using the October 1, 2011 GLJ price forecast for oil, bitumen, and natural gas.

The future net revenue and net present value for the Low, Best, and High cases are provided in the tables below:

	Summary of Future Net Revenue - Low Case Contingent Resources GLJ Forecast Prices and Costs Case						
	Future		Net Pres	sent Value Disc	counted		
Country	Net	at 5	at 8 Percent	at 10 Percent	at 12	at 15	
	Revenue	Percent			Percent	Percent	
Field	(M\$)	(M\$)	(M\$)	(M\$)	(M\$)	( <b>M</b> \$)	
Canada							
Muskwa	2,570,351	367,268	91,398	13,631	(28,386)	(59,506)	
Godin	2,412,711	422,900	148,145	64,694	16,985	(20, 877)	
Harper	-	-	-	-	-	-	
Portage		-				-	
Total Pre-Tax	4,983,062	790,168	239,544	78,326	(11,402)	(80,384)	
Corporation Tax	1,252,700	272,544	119,367	70,795	42,153	18,303	
Total After Tax	3,730,362	517,624	120,177	7,531	(53,555)	(98,686)	

# Summary of Future Net Revenue - Best Case Contingent Resources

GLJ Forecast Prices and Costs Case

			Net Pre	sent Value Disc	counted			
Country	Future Net	at 5 at 8	at 8	at 10	at 12	at 15		
	Revenue	Percent	Percent	Percent	Percent	Percent		
Field	( <b>M</b> \$)	(M\$)	( <b>M</b> \$)	( <b>M</b> \$)	(M\$)	(M\$)		
Canada								
Muskwa	5,090,747	734,320	188,273	35,593	(44,482)	(99,329)		
Godin	3,885,546	658,796	235,872	111,864	42,576	(11,502)		
Harper	4,933,481	$1,\!526,\!150$	654,743	349,101	127,157	(73,900)		
Portage				-	-	-		
Total Pre-Tax	13,909,774	2,919,266	1,078,888	496,558	125,251	(184,730)		
Corporation Tax	3,495,600	964,216	461,796	318,261	208,094	109,051		
Total After Tax	10,414,174	1,955,050	617,092	178,296	(82,843)	(293,781)		

#### Summary of Future Net Revenue - High Case Contingent Resources GLJ Forecast Prices and Costs Case

GLO	rorec	asi 1	nees	anu	COSIS	Case	

			Net Present Value Discounted					
<b>Country</b> Field	Future Net Revenue (M\$)	at 5 Percent (M\$)	at 8 Percent (M\$)	at 10 Percent (M\$)	at 12 Percent (M\$)	at 15 Percent (M\$)		
Canada								
Muskwa	11,502,642	1,627,936	489,014	186,171	32,449	(70,721)		
Godin	6,639,364	886,660	307,101	150,820	65,767	(497)		
Harper	20,002,616	6,171,164	2,884,096	1,810,764	978,698	323,853		
Portage	-	-	-	-	-	-		
Total Pre-Tax	38,144,622	8,685,761	3,680,212	2,147,755	1,076,914	252,635		
Corporation Tax	9,664,300	2,818,310	1,387,939	1,034,427	668,136	417,960		
Total After Tax	28,480,322	5,867,451	2,292,272	1,113,328	408,778	(165, 325)		

**APPENDIX IV** 

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#### **PROSPECTIVE RESOURCES**

The evaluation of prospective resources has been undertaken through the preparation of several reports. The estimates of prospective resource quantities is summarized below in two parts. The total resources are identified as the Petroleum Initially In Place (PIIP) and the second part is that portion of the Discovered and Undiscovered PIIP that is expected to be recovered.

#### Summary of Petroleum Initially In Place, Reserves and Resources

	Summary of Petroleum Initially in Place								
	Discovered			Undiscovered			Total		
<b>Country</b> Field - Classification	Low (MMbbl)	Best (MMbbl)	High (MMbbl)	Low (MMbbl)	Best (MMbbl)	High (MMbbl)	Low (MMbbl)	Best (MMbbl)	High (MMbbl)
Canada									
Godin - Contingent Resource	336	348	378	-	-	-	336	348	378
Harper - Contingent Resource	1,014	1,014	1,515	-	-	-	1,014	1,014	1,515
Harper - Prospective Resource	-	-	-	4,567	4,567	5,997	4,567	4,567	5,997
Muskwa - Reserves	47	86	120	-	-	-	47	86	120
Muskwa - Contingent Resource	405	612	778	-	-	-	405	612	778
Muskwa - Prospective Resource	-	-	-	422	522	714	422	522	714
Portage - Prospective Resource		-		381	445	592	381	445	592
Total	1,802	2,061	2,791	5,371	5,534	7,303	7,172	7,595	10,094

Notes:

1. Resources have not been adjusted for risk.

2. Numbers may not add exactly due to rounding.

A summary of potentially recoverable prospective resources by property is contained in the table below:

	Gross Working-Interest Prospective Resources				
<b>Country</b> Field	Low (MMbbl)	Best (MMbbl)	High (MMbbl)		
Canada					
Godin	-	-	-		
Harper	805	1,586	3,113		
Muskwa	105	156	286		
Portage	76	122	237		
Total	986	1,865	3,635		

Notes:

1. Resources have not been adjusted for risk.

2. Numbers may not add exactly due to rounding.

3. Company's Working-Interest 100 percent.

Technical parameters for prospective resources are summarized in the tables below:

Area Name	Data Area (Ac)	Reservoir Depth (m)	Net Pay (m)	Phie	Sw	Bitumen in Place (Mbbl)
Harper Mukwa	122,339 58,984	409-535 361-476	11.4 1.9	0.31 0.30	0.46 0.36	4,567,314 521,574
Portage	113,743	344-410	1.2	0.25	0.47	966,433

Technical Parameters - Best Case Prospective Reso	ources (Not Evaluated)
rechine un	areco (rior Litaration)

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# **BUSINESS of the COMPANY**

Sunshine Oilsands Ltd. is a Calgary, Alberta based company established in 2007 for the purpose of exploring and developing Alberta oil sand accumulations. The Company holds approximately 1.1 million acres of oil sand leases in the Athabasca Oil Sands Area of Alberta. The Company's exploration to date has included some conventional heavy oil plus bitumen in the Cretaceous sandstones and in the Devonian Carbonates.

It is the Company's strategy to explore the large lease hold areas with low density drilling and 2D seismic to identify the principal trends of the accumulations. The Company has then increased the drilling density in certain areas to more clearly delineate the accumulations and to rank the accumulations by quality and prospectivity.

Name	Age	Present Position & Office	Position Held Since	Years Experience in Industry
Mr. John Empey Zahary	50	President & Chief Executive Officer	20 December 2011	25
Mr. John Stanley Kowal	49	Strategic Adviser	20 December 2011	14
Mr. Douglas Stewart Brown	54	Chief Operating Officer	6 October 2008	26
Mr. Thomas Kenneth Rouse	55	Chief Financial Officer & Vice President, Finance	22 August 2008	20
Mr. David Owen Sealock	52	Executive Vice President, Corporate Operations	13 June 2008	24
Mr. Tonino Sabelli	56	Senior Vice President, Operations	16 December 2011	34
Dr. Songbo Cong	49	Vice President, Facilities Engineering	9 January 2008	20
Mr. Daniel Joseph Dugas	53	Vice President, Field Operations	1 March 2008	28
Mr. Jason James Hancheruk	38	Vice President, Land Regulatory Affairs	27 May 2011	9
Mr. Albert Norman Stark	45	Controller	1 February 2009	18

The following table contains the responsibilities and experience levels of senior management personnel:

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To date, the Company has drilled approximately 200 wells to explore and delineate the deposits. While some cold heavy oil production has been developed in the Muskwa area, the future development of the discovered bitumen will necessitate the inclusion of thermal processes for the recovery of bitumen. None of the deposits are found at a depth that would be shallow enough to exploit using surface mining technology. The focus on development using horizontal wells that are completed as single horizontal cyclic steam wells (CSS) or as horizontal pairs of wells using Steam assisted Gravity Drainage methods (SAGD). The thinner sands are expected to be exploited using horizontal CSS while the thicker sands are forecast to be economically developed using SAGD well-pairs.

The Company's lease holding includes bitumen accumulations in the Devonian Carbonates which are under evaluation for development using a combination of SAGD and CSS processes.

The combination of development opportunities on the Company's lands may result in four or more separate projects having a total production capability exceeding 150,000 barrels of bitumen per day. The resource quantity may be sufficient to sustain such a rate for 50 years or more.

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#### FUTURE DEVELOPMENT EXPENSE SUMMARY

#### **Reserves**

Estimated company gross future development expense for the proved, probable, possible reserves as of 30 November 2011 are summarised as follows expressed in thousands of Canadian dollars (M\$):

	Company Gross Reserves Future Development Expenses Through 2025 Forecast Prices and Costs Case				
	Proved	Proved + Probable	Proved + Probable + Possible		
Year	( <b>M\$</b> )	( <b>M</b> \$)	( <b>M\$</b> )		
2011	12,150	12,150	12,150		
2012	9,231	42,891	42,891		
2013	-	8,583	8,583		
2014	-	8,755	8,755		
2015	-	8,930	17,860		
2016	-	-	-		
2017	-	-	18,582		
2018	-	-	18,953		
2019	-	-	19,332		
2020	-	-	-		
2021	-	-	-		
2022	-	-	-		
2023	-	-	-		
2024	-	-	-		
2025	-	-	10,886		
REMAINDER	-	-	-		

Note: Probable and possible reserves have not been adjusted for risk.

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#### Contingent Resources

Estimated gross working-interest future development expense for the Low, Best, and High case contingent resources as of 30 November 2011 are summarised as follows expressed in millions of Canadian dollars (MM\$):

	Forecast Prices and Costs Case				
Year	Low (MM\$)	Best (MM\$)	High (MM\$)		
2011	-	-	-		
2012	-	-	-		
2013	-	154	241		
2014	111	278	369		
2015	113	376	553		
2016	119	387	567		
2017	121	411	624		
2018	72	369	578		
2019	73	378	614		
2020	75	385	653		
2021	76	391	667		
2022	78	399	681		
2023	79	409	701		
2024	81	417	699		
2025	83	426	688		
2026	84	434	702		
2027	86	443	688		
2028	88	452	702		
2029	89	461	716		
2030	91	470	730		
2031	93	480	745		
2032	95	489	760		
2033	97	499	775		
2034	95	509	790		
2035	97	519	806		
REMAINDER	8,567	15,506	25,409		

Gross Working-Interest Contingent Resources Future Development Expenses Through 2035 Forecast Prices and Costs Case

Note: Probable and possible resources have not been adjusted for risk.

DeGolyer and MacNaughton Canada Limited

#### **FUTURE OPERATING EXPENSE SUMMARY**

#### **Reserves**

Estimated company gross future operating expenses for the proved, probable, possible reserves as of 30 November 2011 are summarised as follows expressed in thousands of Canadian dollars (M\$):

Company Gross Reserves								
	Future Reserves Operating Expenses Through 2025							
	Fore	Forecast Prices and Costs						
	Proved	Proved + Probable	Proved + Probable + Possible					
Year	( <b>M\$</b> )	( <b>M\$</b> )	( <b>M\$</b> )					
2011	672	672	672					
2012	11,325	16,767	16,770					
2013	11,479	19,809	19,861					
2014	10,527	20,585	20,883					
2015	8,976	19,899	20,719					
2016	8,127	19,534	22,351					
2017	5,526	17,838	24,202					
2018	5,248	$13,\!179$	26,580					
2019	2,003	10,150	27,963					
2020	1,967	5,395	19,121					
2021	1,141	1,126	14,666					
2022	1,136	-	10,380					
2023	-	-	1,265					
2024	-	-	1,177					
2025	-	-	188					
REMAINDER	-	-	11,363					

Note: Probable and possible reserves have not been adjusted for risk.

DeGolyer and MacNaughton Canada Limited

#### Contingent Resources

Estimated gross working-interest future operating expenses for the interests in the Low, Best, and High case contingent resources as of 30 November 2011 are summarised as follows expressed in millions of Canadian dollars (MM\$):

	Future Operating Expenses Through 2035						
	Forecast Prices and Costs						
	Low	Best	High				
Year	( <b>MM</b> \$)	(MM\$)	(MM\$)				
2011	-	-	-				
2012	-	-	-				
2013	-	-	-				
2014	-	-	-				
2015	-	-	-				
2016	-	-	-				
2017	-	60	69				
2018	36	159	177				
2019	82	295	343				
2020	116	373	442				
2021	121	445	551				
2022	125	489	624				
2023	127	534	718				
2024	130	553	778				
2025	132	574	854				
2026	135	590	904				
2027	138	605	953				
2028	140	617	989				
2029	143	630	1,021				
2030	146	642	1,042				
2031	149	655	1,063				
2032	152	668	1,084				
2033	155	682	1,106				
2034	158	695	1,128				
2035	161	709	1,151				
REMAINDER	9,519	18,244	33,240				

Gross Working-Interest Contingent Resources Future Operating Expenses Through 2035

Note: Probable and possible resources have not been adjusted for risk.

DeGolyer and MacNaughton Canada Limited

## **ADDITIONAL POTENTIAL**

The Company has represented that certain fields, accumulations and prospects have been identified as having petroleum volumes in excess of those estimated herein as reserves and resources. These volumes potentially contained therein are not addressed in this report.

The Company has represented that upon completion of the primary term of any current exploration and/or production licence, it intends to secure an extension or additional licence for any accumulation or discovered prospect. Also, the Company intends to proceed with development and operation of any discovered prospect. Based on these representations, we have included reserves and resources evaluation for a period beyond the expiration of the current licences.

DeGolyer and MacNaughton Canada Limited

#### **SENSITIVITIES**

In compliance with the Listing Rules, a series of sensitivity analyses have been prepared for each of the Reserves and Contingent Resources summaries. For this analysis the Base Cases have been defined as the Proved-plus-probable Reserves Case and the Best Case Contingent Resources all discounted at 10%/year. The base case Present Value of Future Net Revenues are sensitised for:

- 1. West Texas Intermediate Price +/- U.S.\$5.00
- 2. West Texas Intermediate Price +/- U.S.\$10.00
- 3. Field Price Adjustment +/- 1%
- 4. Heavy-Light Differential +/- 2%
- 5. Foreign Exchange +/- \$.01 U.S.\$/C\$
- 6. Capital Expenditure +/- 5%
- 7. Operating Expenses +/- 5%
- 8. Timing Sensitivity +/- 1 Year
- 9. NYMEX Gas price +/- 1U.S. \$/mcf

The following tables detail the variance in value, discounted at 10%, and the calculated percent change in Net Present Value of Future Revenues expressed in millions of Canadian dollars (MM\$):

	WTI Sensitivity +/- U.S.\$5.00					
	Before 7	Tax NPV	10% Discounting	Difference		
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%		
Reserves						
$Base\ Case\ (Proved + Probable)$	86.0	56.1	0.0	0.0%		
+\$5 WTI	108.4	75.2	19.1	34.1%		
-\$5 WTI	63.9	37.1	-19.0	-33.8%		
Contingent Resources						
Base Case (Best)	15998.0	721.9	0.0	0.0%		
+\$5 WTI	18095.9	816.6	94.7	13.1%		
-\$5 WTI	10564.1	476.7	-245.2	-34.0%		

DeGolyer and MacNaughton Cana	ida Limited	WTI Sensitivity	y +/- U.S.\$10.00					
	Before 7	Tax NPV	10% Discounting Difference					
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%				
Reserves								
Base Case (Proved + Probable)	86.0	56.1	0.0	0.0%				
+\$10 WTI	131.1	94.5	38.4	68.4%				
-\$10 WTI	30.8	10.8	-45.3	-80.7%				
Contingent Resources								
Base Case (Best)	15998.0	721.9	0.0	0.0%				
+\$10 WTI	27047.5	1220.5	498.6	69.1%				
-\$10 WTI	8233.1	371.5	-350.4	-48.5%				

Note: Values for probable reserves and resources have not been risk adjusted to make them comparable to values for proved reserves.

	Field Price Sensitivity +/- 1%												
	Before 7	Tax NPV	10% Discounting	ng Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%									
Reserves													
$Base\ Case\ (Proved + Probable)$	86.0	56.1	0.0	0.0%									
+1% Differential	90.3	59.7	3.6	6.4%									
-1% Differential	81.9	52.5	-3.6	-6.3%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+1% Differential	17121.1	772.6	50.7	7.0%									
-1% Differential	14823.5	668.9	-53.0	-7.3%									

Note: Values for probable reserves and resources have not been risk adjusted to make them comparable to values for proved reserves.

	Heavy-Light Differential Sensitivity +/- $2\%$												
	Before 7	Tax NPV	10% Discounting	Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	- 2% ng Difference % 0.0% 12.8% -12.8%									
Reserves													
Base Case (Proved + Probable)	86.0	56.1	0.0	0.0%									
+2% Differential	94.4	63.3	7.2	12.8%									
-2% Differential	77.7	48.9	-7.2	-12.8%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+2% Differential	22803.4	1029.0	307.1	42.5%									
-2% Differential	13729.9	619.6	-102.3	-14.2%									

### DeGolyer and MacNaughton Canada Limited

	Foreign Exchange +/- \$.01 U.S.\$/C\$												
	Before 7	Tax NPV	10% Discounting	Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%									
Reserves													
Base Case (Proved + Probable)	86.0	56.1	0.0	0.0%									
+\$.01 US\$/C\$	78.4	45.3	-10.8	-19.3%									
-\$.01 US\$/C\$	93.8	67.1	11.0	19.7%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+\$.01 US\$/C\$	15267.6	689.0	-32.9	-4.6%									
-\$.01 US\$/C\$	16696.7	753.4	31.5	4.4%									

Note: Values for probable reserves and resources have not been risk adjusted to make them comparable to values for proved reserves.

	Capital Expenditure Sensitivity +/- 5%												
	Before 7	Tax NPV	10% Discounting	Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%									
Reserves													
Base Case (Proved + Probable)	86.0	56.1	0.0	0.0%									
+5% Capital Expenditures	73.0	32.9	-23.2	-41.3%									
-5% Capital Expenditures	97.8	77.5	21.4	38.2%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+5% Capital Expenditures	14722.3	664.3	-57.6	-8.0%									
-5% Capital Expenditures	17211.5	776.7	54.8	7.6%									

Note: Values for probable reserves and resources have not been risk adjusted to make them comparable to values for proved reserves.

	Operating Expenses Sensitivity +/- 5%												
	Before 7	Tax NPV	10% Discounting	Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	0.0% -47.8% 48.2%									
Reserves													
$Base\ Case\ (Proved + Probable)$	86.0	56.1	0.0	0.0%									
+5% Operating Expenditures	66.4	29.3	-26.8	-47.8%									
-5% Operating Expenditures	106.0	83.2	27.1	48.2%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+5% Operating Expenditures	15188.8	685.4	-36.5	-5.1%									
-5% Operating Expenditures	16803.9	758.3	36.4	5.0%									

### DeGolyer and MacNaughton Canada Limited

	Timing Sensitivity +/- 1 Year												
	Before 7	Tax NPV	10% Discounting	g Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%									
Reserves													
$Base\ Case\ (Proved + Probable)$	86.0	56.1	0.0	0.0%									
+1 Year Timing	81.8	40.8	-15.3	-27.3%									
-1 Year Timing	83.5	52.0	-4.1	-7.3%									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+1 Year Timing	16228.3	732.3	10.4	1.4%									
-1 Year Timing	15558.3	702.1	-19.8	-2.7%									

Note: Values for probable reserves and resources have not been risk adjusted to make them comparable to values for proved reserves.

	Nymex Sensitivity +/- 1U.S. \$/mcf												
	Before 7	Tax NPV	10% Discounting	g Difference									
	Undiscounted (MM\$)	At 10 Percent (MM\$)	( <b>MM</b> \$)	%									
Reserves													
Base Case (Proved + Probable)	86.0	56.1	0.0	0.0%									
+\$1 Nymex (1)	NA	NA	NA	NA									
-\$1 Nymex (1)	NA	NA	NA	NA									
Contingent Resources													
Base Case (Best)	15998.0	721.9	0.0	0.0%									
+\$1 Nymex	12715.0	573.8	-148.1	-20.5%									
-\$1 Nymex	19170.5	865.1	143.2	19.8%									

(1) Sensitivity not applicable as fuel is a negligible cost in the primary depletion case.

DeGolyer and MacNaughton Canada Limited

#### **INDEMNIFICATION of the COMPETENT PERSON**

D&M has entered into an agreement with the Company, which indemnifies D&M for misstatements arising from the reliance upon data or interpretation provided by the Company or access to information as provided by the Company. D&M is not indemnified for acts of fraud performed by its management or staff.

#### SOCIAL and ENVIRONMENTAL FACTORS

D&M is unaware of any social and environmental factors affecting the development of the reserves and resources identified in the report.

Professional Qualifications DeGolyer and MacNaughton Canada Limited is an Alberta Corporation with offices at 311 – 6th Avenue S.W., Suite 1430, Calgary, Alberta T2P 3H2, Canada. The firm is a subsidiary of DeGolyer and MacNaughton which has been providing petroleum consulting services throughout the world since 1936. The firm's professional engineers, geologists, geophysicists, petrophysicists, and economists are engaged in the independent appraisal of oil and gas properties, evaluation of hydrocarbon and other mineral prospects, basin evaluations, comprehensive field studies, equity studies, and studies of supply and economics related to the energy industry. Except for the provision of professional services on a fee basis, DeGolyer and MacNaughton Canada Limited has no commercial arrangement with the Company. We operate under the Permit to Practice #05568 in the province of Alberta.

We are independent of the Company, its directors, senior management, and advisers, in compliance with Rule 18.22 of the Listing Rules.

The evaluation has been supervised by Mr. Colin P. Outtrim. Mr. Outtrim, President, with DeGolyer and MacNaughton Canada Limited, a Registered Professional Engineer in the Provinces of Alberta and British Columbia, Canada, has 38 years of oil and gas industry experience and 34 years of applicable evaluation experience.

Submitted,

"DeGolyer and MacNaughton"

DeGOLYER and MacNAUGHTON CANADA LIMITED

SIGNED: 20 February 2012

"Colin P. Outtrim"

Colin P. Outtrim, P.Eng.

# PERMIT TO PRACTICE DeGolyer and MacNaughton Canada Limited Signature \_\_\_\_\_ "Colin P. Outtrim"\_\_\_ Date 20 February 2012

Date \_\_\_\_\_20 February 2012\_\_\_\_\_ **PERMIT NUMBER: P 5568** The Association of Professional Engineers, Geologists and Geophysicists of Alberta

## **CERTIFICATE of QUALIFICATION**

I, Colin P. Outtrim, Professional Engineer, of 1430, 311 Sixth Avenue S.W., Calgary, Alberta, Canada hereby certify:

- 1. I am an employee of DeGolyer and MacNaughton Canada Limited, which prepared an appraisal report of certain Pakistani oil and gas properties of the Company. The effective date of this evaluation is 30 November 2011.
- 2. I am independent of the Company, its directors, senior management, and advisers, in compliance with Rule 18.22 of Listing Rules.
- 3. I attended the University of British Columbia and I graduated with a Bachelor of Applied Science Degree in Geological Engineering in 1973; I am a Registered Professional Engineer in the Provinces of Alberta and British Columbia and that I have in excess of thirty-eight years experience in the Petroleum Industry of which thirty-four years experience are in the conduct of evaluation and engineering studies relating to worldwide oil and gas fields. I am is a member of the Society of Petroleum Engineers and a member of the United Nations Framework Classification Committee for Petroleum Reserves and Resources. I am qualified as a Competent Person and as a Competent Evaluator in compliance with Chapter 18 of the Listing Rules.
- 4. A personal field inspection of the properties was not made; however, such an inspection was not considered necessary in view of the information available from public information and records, the files of the Company, and the appropriate provincial regulatory authorities.

SIGNED: 20 February 2012

"Colin P. Outtrim"

Colin P. Outtrim, P.Eng. President DeGolyer and MacNaughton Canada Limited

# ABBREVIATIONS

The following abbreviations may be used in various places throughout the report:

ac	acres
ac-ft	acre-feet
AOF	absolute open flow
APO	after payout
ARTC	Alberta Royalty Tax Credit
bbl	barrel
Bcf	billion cubic feet
BOE	barrel of oil equivalent
BOPD	barrels of oil per day
BPO	before payout
Bbl	barrels
bbl/af	barrels per acre-foot
bbl/d	barrels per day
Btu/cf	British thermal unit per cubic foot
BWPD	barrels of water per day
°C	degrees Celsius
cf/bbl	cubic feet per barrel
E3M3	thousand cubic meters (computer output)
E6M3	million cubic meters (computer output)
ft	feet
°F	degrees Fahrenheit
FH	freehold
FNR	future net revenue
FR	future revenue
GCA	gas cost allowance
GJ/E3M3	gigajoules per thousand cubic meters (computer
	output)
GOR	gas-oil ratio
GORR	gross overriding royalty
ha	hectares
°K	degrees Kelvin
kPa	kilopascals
LT	long tons
m	meter

# ABBREVIATIONS

(continued)

m3	cubic meters
M3	cubic meters (computer output)
M3/d	cubic meter per day (computer output)
Mm3	thousands of cubic meters
Mbbl	thousands of barrels
M\$	thousand dollars
MM\$	million dollars
Mcf	thousand cubic feet
MMcf	million cubic feet
Mcf/af	thousand cubic feet per acre-foot
Mcf/d	thousand cubic feet per day
Mstb	thousand stock tank barrels
NCI	net carried interest
NGL	natural gas liquids
NPI	net profits interest
NPV	net present value
PIIP	Petroleum Initially In Place
OBIP	Original Bitumen-in-Place
P&NG	Petroleum and natural gas
psia	pounds per square inch absolute
psig	pounds per square inch gauge
°R	degrees Rankine
rb/stb	reservoir barrels/stock tank barrel
STB	stock tank barrel (computer output)
VOL	volume
WI	working interest
WOR	water-oil ratio

TNT	SATE	JUHUR	RICE	NOT/	10.47	9.50	0.71	9.95	8.67	9.36	9.46	<b>55.66</b>	4.84	4.34	09.01	5.00	00.00	3.00	5.00	5.70	6.41	7.14	(7.89	8.64	9.42	0.20	1.01		
م بر	2	ANES SU	US F	3BL \$	1-	.88	44 4	.36 3	.75 3	.92 1	.43 3	3.01 36	.51 4	.35 5	.99 10	22 22	L.17 3	5.60 3	.71 3	9.87 3	2.06 3	1.30 3	3.59 3	3.92 3	.30 3	3.73 4	3.20 4		
	NTON	ANE PENT	CE PL	BL \$/f	53 42	59 40	30 44	21 54	37 70	44 75	16 78	31 106	76 68	74 84	92 101	16 102	30 104	35 105	20 107	78 109	40 112	114	73 116	44 118	19 121	97 123	79 126		
	EDMC	ANE BUT/	CE PRI	3L \$/B	39 29.	33 26.	39 34.0	78 41.3	33 50.3	02 59.4	58 62.	13 77.:	36 50.	37 64.	73.9	13 75.	28 76.0	12 77.0	36 79.3	33 80.	92 82.4	24 84.0	58 85.	95 87.4	35 89.	78 90.9	24 92.		
ε	5	VE PROP.	E PRIG	L \$/BE	30.3	20.6	31.8	34.7	42.C	44.0	49.5	58.1	37.3	45.8	52.7	3 60.1	4 61.2	4 62.1	2 63.3	4 64.6	7 65.5	1 67.2	68.5	2 69.5	8 71.3	6 72.7	5 74.2		
£	×	S ETHAN	PRIC	f \$/BB	8 NA	S NA	H NA	NA	NA	NA	AN	NA	S NA	8 NA	H NA	14.0	3 16.34	18.6	5 21.13	21.5	21.9	22.4	22.86	23.3	23.78	1 24.20	7. 24.7		
	EST SAS	IT GAS	ш	f \$/Mc	6.13	3.96	. 6.54	6.71	8.52	6.91	6.51	8.11	4.08	4.03	3.74	3.14	3.68	4.20	4.75	5.30	6.00	6.20	6.40	6.61	6.82	. 7.04	7.27		
U d	E CANW	- FLAN	GAT	\$/Mc	6.16	3.85	6.27	6.40	8.17	6.20	6.22	7.85	3.84	3.65	3.23	2.93	3.43	3.92	4.43	4.94	5.60	5.78	5.97	6.16	6.36	6.57	6.78		
	LANTGATI	DR SPOT		\$/Mcf	5.52	4.08	6.67	6.56	8.77	6.54	6.47	8.17	3.99	4.00	3.70	3.17	3.68	4.19	4.71	5.24	5.77	5.96	6.16	6.36	6.56	6.77	6.99		
	ALBERTA P	AGGREGATO		\$/Mcf	5.21	3.77	5.98	6.30	8.44	6.54	6.28	8.03	3.86	3.67	3.44	3.12	3.63	4.14	4.66	5.19	5.77	5.96	6.16	6.36	6.56	6.77	6.99	ifter	
		AECO /	Border	Cdn\$/Mcf			,	,	,		,			,	3.80	3.41	3.93	4.44	4.97	5.50	6.04	6.23	6.43	6.64	6.85	7.07	7.29	ar therea	
	NYMEX	Henry Hub	Reference	US\$/Mcf	4.10	3.34	5.49	6.16	8.98	7.01	7.13	9.30	4.16	4.38	4.11	3.80	4.34	4.87	5.41	5.94	6.48	6.67	6.87	7.08	7.29	7.51	7.74	% per ye	
	DILBIT	@ 30% F	Indensate F	\$/bbl	,			,			52.49	85.13	58.69	75.87	72.94	80.53	81.07	81.17	82.79	84.45	86.13	87.86	89.61	91.41	93.23	95.10	97.00	ces at 2.0	
		9 API (	ant Gate Co	\$/bbl							3.48	0.98	7.50 !	2.19	0.46	4.95	4.90	4.48	5.77 8	37.08	8.42 8	9.79 8	1.19	2.61	4.06	5.55	7.06	roduct pri	
	UMEN BI	API	peline Pla	/BBL							6.72	4.58 7	0.27 4	7.21 6	4.29 6	8.98	9.44 6	9.52 (	0.91 6	2.33 (	3.78 6	5.25 (	6.76 7	8.30 7	9.86	1.46 7	3.09	gas and p	
~~~	IL BIT	API §	DISTY PI	3BL \$	62	25	02	97	26	77	27 3	61 7.	20 5	79 5	9 06	.85 6	57 6	9 60	03 7	55 7.	10 7	68 7	30 7	94 7	62 7	34 8	08 8	alate oil,	
ц Н Х		ы 12	STY HAR	L \$/{	9 17	8 27	6 27	9 29	6 34	0 42	0 44	5 75	4 55	5 61	9 65	8 67	2 70	2 73	8 76	7 77	62 6	5 80	4 82	7 83	4 85	4 87	8 89	esc	
НЕАЛ	OIL	25 AF	HARDIS	\$/BB	25.0	31.6	33.0	38.0	45.6	51.9	54.0	84.2	59.9	68.1	76.5	82.1	82.7:	82.8	84.4	86.1	87.8	89.6	91.4	93.2	95.1	97.0	98.9		
MUE	OIL	PRICE	D2S2	\$/BBL	39.48	40.11	43.52	53.06	69.28	73.36	76.87	103.28	66.21	77.63	94.81	100.22	102.13	103.53	105.60	107.71	109.87	112.06	114.30	116.59	118.92	121.30	123.73		
	Saudi	Arabian	Medium	\$US/BBL	22.60	22.10	25.19	31.87	46.46	57.97	66.78	92.09	57.80	76.33	106.14	102.37	102.08	101.32	100.61	99.95	101.98	104.06	106.18	108.34	110.54	112.79	115.08		
	Saudi	Arabian	Light	\$US/BBL	23.11	22.51	26.05	33.09	49.29	60.29	68.47	95.17	58.98	77.83	108.33	104.17	103.88	103.12	102.41	101.75	103.78	105.86	107.98	110.14	112.34	114.59	116.88		
			Brent	\$US/BBL	24.61	24.94	28.93	38.35	55.15	66.16	72.46	98.64	61.87	80.05	111.14	109.50	108.28	106.60	104.96	103.37	105.44	107.55	109.70	111.89	114.13	116.41	118.74		
		ITW	SUSHING	US/BBL :	25.82	26.04	30.99	41.39	56.48	36.02	72.19	99.90	31.68	79.50	94.86	97.50	99.96	01.96	04.00	06.08	08.20	10.36	12.57	14.82	17.12	19.46	21.85		
		ITW	NESC @(	IS/BBL \$				,						,	94.86	97.50	98.00	98.00	98.00	98.00 1	98.00 1	98.00	98.00	98.00	98.00 1	98.00 1	98.00		
		IANGE	dn \$ U	USD \$L	346	337	716	170	326	382	336	944	380	971	015	968	974	980	980	980	980	980	980	980	980	980	980		
	ΓD	S EXCH	ION 1C	x =	0.6	0.6	0.7	0.7	0.0	0.8	0.0	0.0	0.8	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 <sup>.0</sup>	0.0		
	OIL FIE	COST	INFLAT.	R %	1 2.4	2 2.4	3 2.5	4 1.7	5 2.0	5 1.9	7 2.0	8 2.1	9 0.8	0 1.6	ct. 2.1	st. 0.0	2 2.0	3 2.0	4 2.0	5 2.0	5 2.0	7 2.0	8 2.0	9 2.0	0 2.0	1 2.0	2 2.0	3+ 2.0	
				YEA	200.	200	200;	200	200	200	200	2008	200	201(	2011 11 mo Ac	2011 1 mo Et	201	201;	201	201	201t	201	2018	2015	202(	202	202	2020	

Table A

DEGOLYER AND MACNAUGHTON CANADA LIMITED PRICE FORECAST EFFECTIVE DATE 30-Nov-2011

# INDEX

## FIGURES

Figure 1 – Property Index Map



# **PROPERTY DISCUSSION**

#### **GODIN and MUSKWA DISCUSSION**

The exploration of the Cretaceous-aged oilsands of Alberta began early in the twentieth century with surface mining where overburden was thin as compared with the total thickness of the oilsand. Today, many very large mining operations are extracting over one million barrels of bitumen per day. Through the second half of the last century, thousands of core-hole penetrations have been made in the areas where overburden exceeds 100 meters. Through varied technical feasibility studies, bitumen has been extracted in-situ without the direct movement of the reservoir matrix (principally sand).

Many techniques have been experimented with in order to thermally, chemically, or by solution flooding mobilize the bitumen and produce it to the surface through well-bores. The most successful and cost effective processes developed to date all use heat that is delivered to the reservoir, either by injection of steam, or through a combination of methods using heat and solvents.

Approximately 80 projects of various sizes are in operation or have been attempted in the last 50 years.

Additional exploitation technology is being applied to the underlying Permian, Mississippian, and Devonian sediments. Commercial development remains small at this time.

The Muskwa area is located in Townships 83 to 89 and Range 24W4 to 2W5, approximately 60 miles west of Fort McMurray. This area produces oil and gas from the Clearwater, Wabiskaw, McMurray, Wabamun, and Nisku Formations. The zone of interest is the Wabiskaw Formation. The Company retains the rights of exploration and development for these areas under existing oilsand leases and Mining Rights.

The Godin area is contiguous to southwest Muskwa, located in Townships 82 and 83 and Range 2W5.

#### Wabiskaw Formation

The marine sandstones of the Wabiskaw Formation are Lower Cretaceous in age and are overlain by the marine shales of the Clearwater Formation and unconformably overlay the Devonian-aged Wabamun Carbonates. The Wabiskaw consists of a series of upwards coarsening sediments ranging from bay sediment

shales through lower, middle, and upper clean shoreface sands. The deposition of the Wabiskaw sands is somewhat controlled by the Pre-Cretaceous unconformity surface (Figure 5 for Godin and Figure 4 for Muskwa) with thicker Wabiskaw sections present in Pre-Cretaceous lows.

In the Godin and Muskwa areas, the Wabiskaw Formation consists of a single coarsening upward sequence. The net pay was determined using a mass oil cut-off of four percent and a resistivity cut-off of 10 ohm meters. The net pay map (Figure 3 for Godin and Figure 3 for Muskwa) includes any gas caps and water legs found in the wells. The Wabiskaw net pay ranges from eight meters on the eastern and southern edges of the Company's lands decreasing to zero meters towards the north and west. Wabiskaw Structure maps are also included as Figure 2 for Godin and Figure 2 for Muskwa.

The Muskwa area has produced heavy oil without the use of thermal stimulation since mid-2010. There are 22 wells currently producing heavy oil from three pads in the area, all of which were drilled between March 2010 and June 2011. Future cold production is expected from 19 pads containing 152 wells to be placed on production during the period from 2011 to 2015 in the vicinity of the current development producing wells, none of which were drilled as of 30 November 2011. Four of these pads were classified as proved undeveloped, seven as probable undeveloped and eight as possible undeveloped.

The Company has produced no oil or bitumen from the Godin property to date. No cold production is anticipated from this property and no reserves have been assigned.

In addition to cold flow production of heavy oil in Muskwa, D&M has assigned contingent bitumen resources that could potentially be recoverable through the use of cyclic steam stimulation in both Muskwa and Godin.

Contingent resources assigned to the two properties were broken into regular contingent resources and marginal contingent resources. Regular contingent resources were those areas without 1.5 miles of a successful well and in areas where continuous bitumen pay of greater than 10 metres defines the Low and Best cases and 8 metres or greater thickness in the High case. Marginal contingent resources were those areas with bitumen pay as thin as 3, 4, and 5 metres for the High, Best, and Low cases, respectively. These areas were not considered economic if required to support the development of a plant independently, but did produce positive NPVs if

allowed to use existing processing plants after regular contingent resource production reaches completion.

# **GODIN FIGURES**










# **MUSKWA FIGURES**









### **HARPER DISCUSSION**

The Harper Area is located in Townships 95 to 102 and Ranges 20 to 24W4, approximately 100 miles northwest of Fort McMurray. This area produces oil and gas from the Wabiskaw, McMurray, and Grosmont Formations. Seven wells were drilled in this area during 2010 and 2011. The zone of interest is the Wabiskaw Formation. The Company retains the rights of exploration and development for these areas under existing oilsand leases.

## Wabiskaw Formation

The marine sandstones of the Wabiskaw Formation are Lower Cretaceous in age and are overlain by the marine shales of the Clearwater Formation and unconformably overlay the Devonian-aged Grosmont and Ireton Carbonates. The Wabiskaw consists of a series of upwards coarsening sediments ranging from bay sediments (shales) through lower, middle and upper clean shoreface sands. The deposition of the Wabiskaw sands is somewhat controlled by the Pre-Cretaceous unconformity surface (Figure 7) with thicker Wabiskaw sections present in Pre-Cretaceous lows.

In the Harper area, the Wabiskaw Formation consists of one or two cycles of coarsening upward sequences, referred to as Cycle 1 and Cycle 2. The net bitumen pay in these cycles was combined and mapped (Figures 4, 5, and 6). The net pay was determined using a mass oil cut-off of 4 percent and a resistivity cut-off of 10 ohm-m. The combined Wabiskaw net pay ranges from 12 meters on the eastern edge of the Company's lands decreasing to 0 meters towards the west. Wabiskaw Structure and Isopach maps are also included as Figures 2 and 3, respectively.

The Company has not produced oil or bitumen from the property to date. Contingent and prospective resources were assigned on the understanding that the Company would develop the area using cyclic steam stimulation. This is contingent on the filing and approval of appropriate documents with the Alberta government and procurement of sufficient capital to develop and operate the field.

In this evaluation the property was divided into seven areas; each area was assigned a processing plant sized in accordance with the area's expected production capacity. Start dates for each area were staged in two-year intervals from largest to smallest, starting in 2017. In the contingent resource case, two of the properties were not economic and were therefore removed from the economic summation. In the prospective case, all areas were economic.

# HARPER FIGURES















#### PORTAGE DISCUSSION

The Portage Area is located in Townships 76 to 79 and Ranges 17 to 21W4, approximately 80 miles southwest of Fort McMurray as illustrated in Figure 1. This area produces oil and gas from the Grand Rapids, Wabiskaw, McMurray, and Nisku Formations. Four new wells were drilled in this area. The zone of interest is the Wabiskaw Formation.

### Wabiskaw Formation

The marine sandstones of the Wabiskaw Formation are Lower Cretaceous in age and are overlain by the marine shales of the Clearwater Formation and unconformably overlay the Devonian aged Nisku and Grosmont Carbonates. The Wabiskaw consists of a series of upwards coarsening sediments ranging from bay sediments (shales) through lower, middle, and upper clean shoreface sands. The deposition of the Wabiskaw sands is somewhat controlled by the Pre-Cretaceous unconformity surface (Figure 4) with thicker Wabiskaw sections present in Pre-Cretaceous lows.

In the Portage area, the Wabiskaw Formation consists of a thin of coarsening upward sequence. The net pay was determined using a mass oil cut-off of 4 percent. The Wabiskaw net pay ranges from three meters on the western edge of company lands decreasing to zero meters towards the south and east (Figure 3). A Wabiskaw Structure map is also included as Figure 2.

# **PORTAGE FIGURES**







