

**EVALUATION OF THE CONTINGENT OIL RESOURCES  
OF  
JAMES BAY RESOURCES LIMITED  
IN OGEDEH FIELD, NIGERIA  
(As of June 30, 2012)**



**Worldwide *Petroleum* Consultants**

Copies: James Bay Resources Limited (3 copies)  
Sproule International Limited (1 copy)  
Electronic (3 copies)

Project No.: 4337.70707

Prepared For: James Bay Resources Limited

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## Introduction

This report was prepared by Sproule International Limited ("Sproule") at the request of Mr. Stephen Shefsky, President and Chief Executive Officer, James Bay Resources Limited (hereinafter referred to as "the Company"). The effective date of this report is June 30, 2012, and it consists of an evaluation of the contingent oil resources associated with the Company's interests in the Ogedeh Field, in Nigeria.

This report was prepared during the months of July and August 2012 for the purpose of evaluating the Company's contingent oil resources according to the Canadian Oil and Gas Evaluation Handbook (COGEH) reserve and resource definitions that are consistent with the standards of National Instrument 51-101. This report was prepared for the Company's corporate purposes.

This report is contained in one volume, comprised of the following sections: Introduction, Summary, Discussion and Appendices. The Introduction includes a summary of evaluation standards and procedures and pertinent author certificates; the Summary includes high-level summaries of the evaluation; and the Discussion includes general commentaries pertaining to the evaluation of the contingent oil resources as well as the detailed description and evaluation of the Ogedeh Field. Reserves definitions, product price forecasts, abbreviations, units, and conversion factors are included in Appendices A, B and C. Economic sensitivity results for a 0 percent Petroleum Profit Tax (PPT) case have been included as Appendix D.

### Field Operations

In the preparation of this evaluation, a field inspection of the properties was not performed by Sproule. The relevant engineering data were made available by the Company or obtained from public sources and the non-confidential files at Sproule. No material information regarding the resource evaluation would have been obtained by an on-site visit.

## Historical Data, Interests and Burdens

1. All well data, development plans, capital and operating costs budgets, pricing information and other data that were obtained from the Company or from public sources were accepted as represented, without any further investigation by Sproule.
2. Property descriptions and details of interests held, as supplied by the Company, were accepted as represented. No investigation was made into either the legal titles held or any operating agreements in place relating to the subject properties.
3. Lessor and overriding royalties and other burdens were obtained from the Company. No further investigation was undertaken by Sproule.

## Disclaimer

This report has been prepared by Sproule using current geological and engineering knowledge, techniques and computer software. It has been prepared within the Code of Ethics of the Association of Professional Engineers and Geoscientists of Alberta (APEGA). This report adheres in all material aspects to the “best practices” recommended in the COGE Handbook, which are in accordance with principles and definitions established by the Calgary Chapter of the Society of Petroleum Evaluation Engineers. The COGE Handbook is incorporated by reference in National Instrument 51-101.

Sproule reserves the right to review all calculations made, referred to or included in this report and to revise the estimates as a result of erroneous data supplied by the Company or information that exists but was not made available to us, which becomes known subsequent to the preparation of this report.

## Evaluation Procedures

1. The Company provided Sproule with capital and operating costs budgets and development plans to determine certain economic parameters.
2. The forecasts of product prices used in this evaluation were based on Sproule’s June 30, 2012 price forecasts. Further discussion is included in Appendix B.

3. Well abandonment and disconnect costs were included in this report for wells which have contingent resources assigned. No allowances for reclamation or salvage values were made. No provision for abandonment or decommissioning of platforms, facilities or pipelines has been included in this evaluation.
4. The principal legislation governing the operation of marginal fields in Nigeria was provided by the Company and has been considered in this report. There are no outstanding tax pools.

## Evaluation Results

1. The accuracy of resource estimates and associated economic analysis is, in part, a function of the quality and quantity of available data and of engineering and geological interpretation and judgment. Given the data provided at the time this report was prepared, the estimates presented herein are considered reasonable. However, they should be accepted with the understanding that reservoir and financial performance subsequent to the date of the estimates may necessitate revision. These revisions may be material.
2. The net present values of the resources presented in this report simply represent discounted future cash flow values at several discount rates. Though net present values form an integral part of fair market value estimations, without consideration for other economic criteria, they are not to be construed as Sproule's opinion of fair market value.
3. The dollar values presented throughout the report are in United States dollars, unless otherwise stated.
4. Due to rounding, certain totals may not be consistent from one presentation to the next.

## BOE Cautionary Statement

BOEs (or McfGEs or other applicable units of equivalency) may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 Mcf:1 bbl (or an McfGE conversion ratio of 1 bbl:6 Mcf) is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead.



## Forward-Looking Statements

This report may contain forward-looking statements including expectations of future production revenues and capital expenditures. Information concerning reserves may also be deemed to be forward-looking as estimates involve the implied assessment that the reserves described can be profitably produced in the future. These statements are based on current expectations that involve a number of risks and uncertainties, which could cause actual results to differ from those anticipated. These risks include, but are not limited to: the underlying risks of the oil and gas industry (i.e., corporate commitment, regulatory approval, operational risks in development, exploration and production); potential delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainty of reserves estimations; the uncertainty of estimates and projections relating to production; costs and expenses; health, safety and environmental factors; commodity prices; and exchange rate fluctuation.

## Exclusivity

This report has been prepared for the exclusive use of James Bay Resources Limited. It may not be reproduced, distributed, or made available to any other company or person, regulatory body, or organization without the knowledge and written consent of Sproule, and without the complete contents of the report being made available to that party.

## Certification

### Report Preparation

This report entitled, "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in the Ogedeh Field, Nigeria (As of June 30, 2012)," was prepared by the following Sproule personnel:

Original Signed by Mages W. Bastawross, B.Sc.

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Maged W. Bastawross, B.Sc.(Honours)  
Project Leader;  
Petroleum Evaluator  
05 / 09 /2012 dd/mm/yr

Original Signed by Greg D. Robinson, P.Eng.

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Greg D. Robinson, P. Eng.  
Vice-President and Director  
05 / 09 /2012 dd/mm/yr

Original Signed by Suryanarayana Karri, P.Geoph.

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Suryanarayana Karri, P.Geoph.  
Senior Petrophysicist, Supervisor,  
Geoscience and Partner  
05 / 09 /2012 dd/mm/yr

Original Signed by Barrie F. Jose, P.Geoph.  
on behalf of Douglas J. Carsted, P.Geol.

---

Douglas J. Carsted, P.Geol.  
Vice-President, Geoscience and Director  
05 / 09 /2012 dd/mm/yr

## Sproule Executive Endorsement

This report has been reviewed and endorsed by the following Executive of Sproule:

Original Signed by Barrie F. Jose, P.Geoph.

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Barrie F. Jose, P.Geoph.  
Vice-President, Geosciences and Partner  
05 / 09 /2012 dd/mm/yr

## Permit to Practice

Sproule International Limited is a member of the Association of Professional Engineers, and Geoscientists of Alberta and our permit number is PO6151.

## Certificate

### Magued Wilson Bastawross, B.Sc. (Honours)

I, Magued Wilson Bastawross, B.Sc., Petroleum Evaluator of Sproule, 900, 140 Fourth Ave. SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
  - a. B.Sc. Petroleum Engineering (1998), Cairo University, Cairo, Egypt
2. I am a member of the following professional organizations:
  - a. Society of Petroleum Engineers (SPE)
3. My contribution to the report entitled "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of June 30, 2012)" is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.
4. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of James Bay Resources Limited.

Original Signed by Magued Wilson Bastawross, B.Sc.

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Magued Wilson Bastawross, B.Sc.

## Certificate

**Greg D. Robinson, B.Sc., P.Eng.**

I, Greg D. Robinson, Vice-President and Director of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degree:
  - a. B.Sc. Civil Engineering (1978) University of Manitoba, Winnipeg MB, Canada
2. I am a registered professional:
  - a. Professional Engineer (P.Eng.) Province of Alberta, Canada
3. I am a member of the following professional organizations:
  - a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - b. Society of Petroleum Engineers (SPE)
  - c. Society of Petroleum Evaluation Engineers (SPEE)
4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.
5. My contribution to the report entitled "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of June 30, 2012)" is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of James Bay Resources Limited.

Original Signed by Greg D. Robinson, P.Eng.

\_\_\_\_\_  
Greg D. Robinson, P.Eng.

## Certificate

### Suryanarayana Karri, M.Sc., P.Geoph.

I, Suryanarayana Karri, Supervisor, Geoscience, Senior Petrophysicist and Partner of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
  - a. M.Sc. Engineering Physics and Instrumentation (1983), Osmania University, Hyderabad, India
2. I am a registered professional:
  - a. Professional Geophysicist (P.Geoph.), Province of Alberta, Canada
3. I am a member of the following professional organizations:
  - a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - b. Society of Petroleum Engineers (SPE)
  - c. The Society of Petrophysicists and Well Log Analysts (SPWLA)
  - d. Canadian Well Logging Society (CWLS)
4. My contribution to the report entitled "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of June 30, 2012)" is based on my engineering knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.
5. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of James Bay Resources Limited.

Original Signed by Suryanarayana Karri, P.Geoph.

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Suryanarayana Karri, P.Geoph.

## Certificate

### Douglas J. Carsted, B.Sc., P.Geol.

I, Douglas J. Carsted, Vice-President, Geoscience, and Director of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
  - a. B.Sc. (Honours) Geology (1982) University of Manitoba, Winnipeg MB, Canada
  - b. B.Sc. Chemistry (1979) University of Winnipeg, Winnipeg MB, Canada
2. I am a registered professional:
  - a. Professional Geologist (P.Geol.) Province of Alberta, Canada
3. I am a member of the following professional organizations:
  - a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - b. Canadian Society of Petroleum Geologists (CSPG)
  - c. American Association of Petroleum Geologists (AAPG)
  - d. Society of Petroleum Engineers (SPE)
  - e. Canadian Well Logging Society (CWLS)
  - f. Indonesian Petroleum Association, Professional Division (IPA)
4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.
5. My contribution to the report entitled "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of June 30, 2012)" is based on my geological knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of James Bay Resources Limited.

Original Signed by Douglas J. Carsted, P.Geol.

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Douglas J. Carsted, P.Geol.

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### Barrie F. Jose, M.Sc., P.Geoph.

I, Barrie F. Jose, Vice-President, Geosciences and Partner of Sproule, 900, 140 Fourth Ave SW, Calgary, Alberta, declare the following:

1. I hold the following degrees:
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  - b. B.Sc. (Honours) Geological Science with Physics (1977) Queens University, Kingston, ON, Canada
2. I am a registered professional:
  - a. Professional Geophysicist (P.Geoph.) Province of Alberta, Canada
3. I am a member of the following professional organizations:
  - a. Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  - b. Canadian Society of Exploration Geophysicists (CSEG)
  - c. Society of Exploration Geophysicists (SEG)
  - d. Canadian Society of Petroleum Geologists (CSPG)
  - e. American Association of Petroleum Geologists (AAPG)
  - f. Petroleum Exploration Society of Great Britain (PESGB)
  - g. European Association of Geoscientists and Engineers (EAGE)
  - h. Indonesian Petroleum Association, Professional Division (IPA)
4. I am a qualified reserves evaluator and reserves auditor as defined in National Instrument 51-101.
5. My contribution to the report entitled "Evaluation of the Contingent Oil Resources of James Bay Resources Limited in Ogedeh Field, Nigeria (As of June 30, 2012)" is based on my geophysical knowledge and the data provided to me by the Company, from public sources, and from the non-confidential files of Sproule. I did not undertake a field inspection of the properties.
6. I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the above-named report or in the securities of James Bay Resources Limited.

Original Signed by Barrie F. Jose, P.Geoph.

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Barrie F. Jose, P.Geoph.



## Summary

Table S-1 summarizes our evaluation after income taxes, and Table S-1A summarizes our evaluation before income taxes, of the contingent oil resources associated with the James Bay Resources Limited interests in the Ogedeh Field of Nigeria, as of June 30, 2012. The Company's interests are located in Block OML 90. A map showing the location of the Company's property is included as Figure S-1.

The resources definitions and ownership classification used in this evaluation are in accordance with Canadian Oil and Gas Evaluation Handbook (COGEH) resources definitions and evaluation practices and procedures, which is compliant with National Instrument 51-101.

For contingent resources, the risk component relating to the likelihood that an accumulation will be commercially developed is referred to as the "chance of development". The volumes and values presented in this report have not been risked for chance of development.

Well Ogedeh 1 was drilled in 1993, targeting the Agbada Formation. Well logs indicated the existence of hydrocarbons; however the well has not been tested, and it was suspended due to mechanical problems.

Confirmation of commercial productivity of an accumulation by production or a formation test is required for classification of reserves as proved. In the absence of production or formation testing, probable and/or possible reserves may be assigned to an accumulation on the basis of well logs and/or core analysis that indicates that the zone is hydrocarbon bearing and is analogous to other reservoirs in the immediate area that have demonstrated commercial productivity by actual production or formation testing (after COGEH). Due to the unavailability of analogues, the volumes were assigned as contingent resources.

Although the B1 sand shows a gas bearing zone over oil, no gas volumes were assigned due to the limited information available and the lack of gas market.

The price forecasts that formed the basis for the revenue projections in the evaluation were based on Sproule's June 30, 2012 pricing model. Table S-2 presents a summary of selected forecasts.

The net present values of the reserves are presented in thousands of United States dollars and are based on annual projections of net revenue, which were discounted at various rates. These rates are 5, 10, 15 and 20 percent and undiscounted.

Operating and capital costs were escalated to the dates incurred at 2.0 percent per year.

Summary forecasts of production and net revenue for the various resource categories are presented in Tables S-3 through S-3B.

Well abandonment and disconnect costs were included in this report for wells which have resource volumes assigned. No allowances for reclamation or salvage values were made. No provision for abandonment or decommissioning of platforms, facilities or pipelines has been included in this evaluation.

There are no outstanding tax pools to be considered for the Company's interests under the marginal field program in Nigeria.

After the completion of the report, the Company informed us of a fee of 10 cents/bbl on production, which is payable to Bicta Energy up to \$US 1.0 million. A sensitivity calculation was done for the P10 case which showed a before tax NPV (at 15% discount rate) of M\$US 217,359 compared to the M\$US 217,657 without the fee. This difference is considered to be immaterial; and our report was not revised to include this fee.

**Summary of the Evaluation of the Contingent Oil Resources (Unrisked)  
and Net Present Values of the Ogedeh Field, Nigeria  
(As of June 30, 2012)**

	Discovered Original Oil In Place Mbbl	Contingent Oil Resources (Unrisked)			Net Present Values				
		Mbbl			After Nigerian Income Taxes (MUS\$)				
		Original	Company Gross Oil <sup>1</sup> Resources	Company Net Oil <sup>2</sup> Resources	At 0%	At 5.0%	At 10.0%	At 15%	At 20%
<b>Ogedeh Field (Block OML 90)</b>									
<b>Economic</b>									
C2 (P50)	24,600	6,599	3,209	3,047	57,793	50,596	44,547	39,441	35,104
C2 + C3 (P10)	40,800	11,589	5,562	5,279	104,730	88,930	76,624	66,838	58,911
<b>Sub-Economic</b>									
C2 (P50)	- <sup>3</sup>	251	118	112	no values assigned (sub-economic)				
C2 + C3 (P10)	- <sup>3</sup>	411	193	184	no values assigned (sub-economic)				
<b>Total</b>									
C2 (P50)	24,600	6,850	3,327	3,159	57,793	50,596	44,547	39,441	35,104
C2 + C3 (P10)	40,800	12,000	5,755	5,463	104,730	88,930	76,624	66,838	58,911

**Notes:**

Values may not balance due to rounding

- 1) - Company working interest volumes before deducting royalties and burden
- 2) - Company net economic volumes after deducting royalties and burden
- 3) - Included in economic oil in place

Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent resources have an associated chance of development (economic, regulatory, market and facility, corporate commitment or political risks). These estimates have not been risked for the chance of development. There is no certainty that any portion of the contingent resources will be developed or, if developed, there is no certainty as to either the timing of such development or whether it will be commercially viable to produce any portion of the resources.

**Summary of the Evaluation of the Contingent Oil Resources (Unrisked)  
and Net Present Values of the Ogedeh Field, Nigeria  
(As of June 30, 2012)**

	Discovered Original Oil In Place Mbbl	Contingent Oil Resources (Unrisked)			Net Present Values				
		Mbbl			Before Nigerian Income Taxes (MUS\$)				
		Original	Company Gross Oil <sup>1</sup> Resources	Company Net Oil <sup>2</sup> Resources	At 0%	At 5.0%	At 10.0%	At 15%	At 20%
<b>Ogedeh Field (Block OML 90)</b>									
<b>Economic</b>									
C2 (P50)	24,600	6,599	3,209	3,047	209,692	176,288	150,504	130,174	113,847
C2 + C3 (P10)	40,800	11,589	5,562	5,279	417,666	324,947	262,255	217,657	184,601
<b>Sub-Economic</b>									
C2 (P50)	- <sup>3</sup>	251	118	112	no values assigned (sub-economic)				
C2 + C3 (P10)	- <sup>3</sup>	411	193	184	no values assigned (sub-economic)				
<b>Total</b>									
C2 (P50)	24,600	6,850	3,327	3,159	209,692	176,288	150,504	130,174	113,847
C2 + C3 (P10)	40,800	12,000	5,755	5,463	417,666	324,947	262,255	217,657	184,601

**Notes:**

Values may not balance due to rounding

- 1) - Company working interest volumes before deducting royalties and burden
- 2) - Company net economic volumes after deducting royalties and burden
- 3) - Included in economic oil in place

Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent resources have an associated chance of development (economic, regulatory, market and facility, corporate commitment or political risks). These estimates have not been risked for the chance of development. There is no certainty that any portion of the contingent resources will be developed or, if developed, there is no certainty as to either the timing of such development or whether it will be commercially viable to produce any portion of the resources.

<b>Table S-2</b> <b>Summary of Selected Price Forecasts</b> <b>and Inflation Rate Assumptions</b> <b>(Effective June 30, 2012)</b>			
Year	WTI Cushing <sup>a</sup> Oklahoma (\$US/bbl)	Nigeria Bonny Light <sup>b</sup> (\$US/bbl)	Inflation Rate <sup>c</sup> (%/Yr)
<b>Historical</b>			
2007	72.27	74.15	2.0
2008	99.59	101.37	1.1
2009	61.63	62.74	2.0
2010	79.43	80.76	1.2
2011	95.00	113.10	1.5
<b>Forecast</b>			
2012	86.39	103.48	2.0
2013	87.61	101.25	2.0
2014	86.67	97.97	2.0
2015	91.61	101.76	2.0
2016	99.37	109.72	2.0
2017	101.35	111.91	2.0
2018	103.38	114.15	2.0
2019	105.45	116.43	2.0
2020	107.56	118.76	2.0
2021	109.71	121.14	2.0
2022	111.90	123.56	2.0
Escalation rate of 2.0% thereafter			

## Notes:

- a. 40 degrees API, 0.4% sulphur
- b. 36.7 degrees API, 0.33% sulphur
- c. Inflation rates for forecasting costs

**Economic Summary**  
**Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table S-3

**Company Description**

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	45.47	0.00	100.00	47.78
Company (% of Contr)	47.90	0.00	100.00	47.78
Partner (% of Contr)	0.00	0.00	0.00	0.00
Contr	94.92	0.00	100.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2032/10			

**Company Economic Indicators**

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	417,666	104,730	8.15	1.26
	5.0	324,947	88,930	6.86	1.42
	10.0	262,255	76,624	5.86	1.42
	15.0	217,657	66,838	5.09	1.37
	20.0	184,601	58,911	4.49	1.30
	25.0	159,272	52,384	4.01	1.22
	AT ROR (%)	487.82		Contr Take (%)	15.33
	AT Payout (yrs)	0.75		NOC Take (%)	0.00
	F&D (\$US/BOE)	8.59		Gov't Take (%)	84.67

**Company Economics (per Unit)**

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	589,534	100.00	111.67
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	105,519	17.90	19.99
Tariffs	0	0.00	0.00
Prod & Asset Taxes	13,502	2.29	2.56
Capital Costs	51,248	8.69	9.71
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	417,666	70.85	79.11
Less Income Tax	312,936	53.08	59.27
After Tax Cash Flow	104,730	10.98	12.26

**Company Prod and Investments**

		Project	Company Gross	Company Net
Oil	(MSTB)	11,589	5,562	5,279
Gas	(MMSCF)	0	0	0
NGL	(MSTB)	0	0	0
Tax	(MSTB)	-	0	0
Total	(MBOE)	11,589	5,562	5,279
Acquisition	(M\$US)	-	-	0
Exploration	(M\$US)	0	0	0
Development	(M\$US)	45,355	45,355	45,355
Abandonment	(M\$US)	5,893	5,893	5,893
Total	(M\$US)	51,248	51,248	51,248

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	347	229	-13,307	0	-13,307
2013(12)	82,745	6,047	32,640	173	1,308	691	233	41,653	32,500	9,152
2014(12)	80,893	4,401	0	194	1,528	135	238	74,398	46,948	27,449
2015(12)	65,829	4,489	0	161	1,225	138	243	59,575	37,202	22,372
2016(12)	56,713	4,579	0	141	1,040	141	247	50,565	31,306	19,259
2017(12)	46,595	4,670	0	119	836	144	252	40,573	25,331	15,242
2018(12)	38,877	4,764	0	103	680	147	257	32,926	27,987	4,939
2019(12)	32,800	4,859	0	85	556	149	263	26,887	22,854	4,033
2020(12)	28,027	4,956	0	75	459	152	268	22,117	18,799	3,318
2021(12)	24,019	5,055	0	67	377	156	273	18,092	15,378	2,714
2022(12)	20,808	5,156	0	60	310	159	279	14,844	12,617	2,227
2023(12)	18,155	5,259	0	55	255	162	284	12,140	10,319	1,821
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	589,534	105,519	45,355	1,599	9,403	4,099	5,893	417,666	312,936	104,730

**Economic Summary**  
**Ogedeh Field, Nigeria - C2: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table S-3A

**Company Description**

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	46.10	0.00	100.00	48.62
Company (% of Contr)	48.56	0.00	100.00	48.62
Partner (% of Contr)	89.40	0.00	0.00	0.00
Contr	94.95	0.00	100.00	100.00
NOC	0.00	0.00	0.00	0.00

Model	Nigeria R/T (2000)James Bay
Global Params	SIL as of June 30, 2012
Escalation Date	2012/07
Discount Date	2012/07
Economic Limit	2023/10

**Company Economic Indicators**

Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
0	209,692	57,793	4.13	0.79
5.0	176,288	50,596	3.68	0.80
10.0	150,504	44,547	3.30	0.78
15.0	130,174	39,441	2.99	0.75
20.0	113,847	35,104	2.72	0.72
25.0	100,521	31,397	2.48	0.68

AT ROR (%)	260.09	Contr Take (%)	20.07
AT Payout (yrs)	0.83	NOC Take (%)	0.00
F&D (\$US/BOE)	14.89	Gov't Take (%)	79.93

**Company Economics (per Unit)**

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	322,338	100.00	105.80
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	53,406	16.57	17.53
Tariffs	0	0.00	0.00
Prod & Asset Taxes	7,652	2.37	2.51
Capital Costs	50,720	15.73	16.65
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	209,692	65.05	68.82
Less Income Tax	151,898	47.12	49.85
After Tax Cash Flow	57,793	12.43	13.15

**Company Prod and Investments**

	Project	Company Gross	Company Net
Oil (MSTB)	6,599	3,209	3,047
Gas (MMSCF)	0	0	0
NGL (MSTB)	0	0	0
Tax (MSTB)	-	0	0
Total (MBOE)	6,599	3,209	3,047

	Project	Contr	Company
Acquisition (M\$US)	-	-	0
Exploration (M\$US)	0	0	0
Development (M\$US)	45,355	45,355	45,355
Abandonment (M\$US)	5,365	5,365	5,365
Total (M\$US)	50,720	50,720	50,720

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	352	400	-13,483	0	-13,483
2013(12)	72,352	6,094	32,640	152	1,087	719	408	31,253	25,663	5,590
2014(12)	64,574	4,401	0	158	1,200	138	416	58,262	36,339	21,923
2015(12)	48,006	4,489	0	122	866	141	424	41,964	25,623	16,341
2016(12)	37,681	4,579	0	100	658	143	433	31,769	18,947	12,821
2017(12)	28,179	4,670	0	79	466	146	442	22,376	13,366	9,009
2018(12)	21,378	4,764	0	65	328	149	450	15,622	13,279	2,343
2019(12)	16,375	4,859	0	50	226	152	459	10,628	9,034	1,594
2020(12)	11,957	4,956	0	40	136	155	469	6,201	5,271	930
2021(12)	9,403	5,055	0	35	82	158	478	3,594	3,055	539
2022(12)	7,432	5,156	0	31	41	162	488	1,554	1,321	233
2023(12)	5,001	4,383	0	23	8	138	497	-49	0	-49
Total	322,338	53,406	45,355	869	5,098	2,554	5,365	209,692	151,898	57,793

**Economic Summary**  
**Ogedeh Field, Nigeria - C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table S-3B

**Company Description**

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	44.72	0.00	0.00	46.96
Company (% of Contr)	47.13	0.00	0.00	46.96
Partner (% of Contr)	-104.69	0.00	0.00	0.00
Contr	94.89	0.00	0.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2032/10			

**Company Economic Indicators**

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	207,974	46,937	393.55	46.65
	5.0	148,659	38,335	-318.56	-61.98
	10.0	111,751	32,077	-142.70	-35.86
	15.0	87,483	27,398	-103.12	-30.38
	20.0	70,754	23,807	-85.91	-28.24
	25.0	58,751	20,987	-76.24	-27.15
	AT ROR (%)	>800.00		Contr Take (%)	10.09
	AT Payout (yrs)	0.00		NOC Take (%)	0.00
	F&D (\$US/BOE)	0.00		Gov't Take (%)	89.91

**Company Economics (per Unit)**

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	267,196	100.00	119.68
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	52,113	19.50	23.34
Tariffs	0	0.00	0.00
Prod & Asset Taxes	5,851	2.19	2.62
Capital Costs	528	0.20	0.24
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	207,974	77.84	93.15
Less Income Tax	161,037	60.27	72.13
After Tax Cash Flow	46,937	9.23	11.04

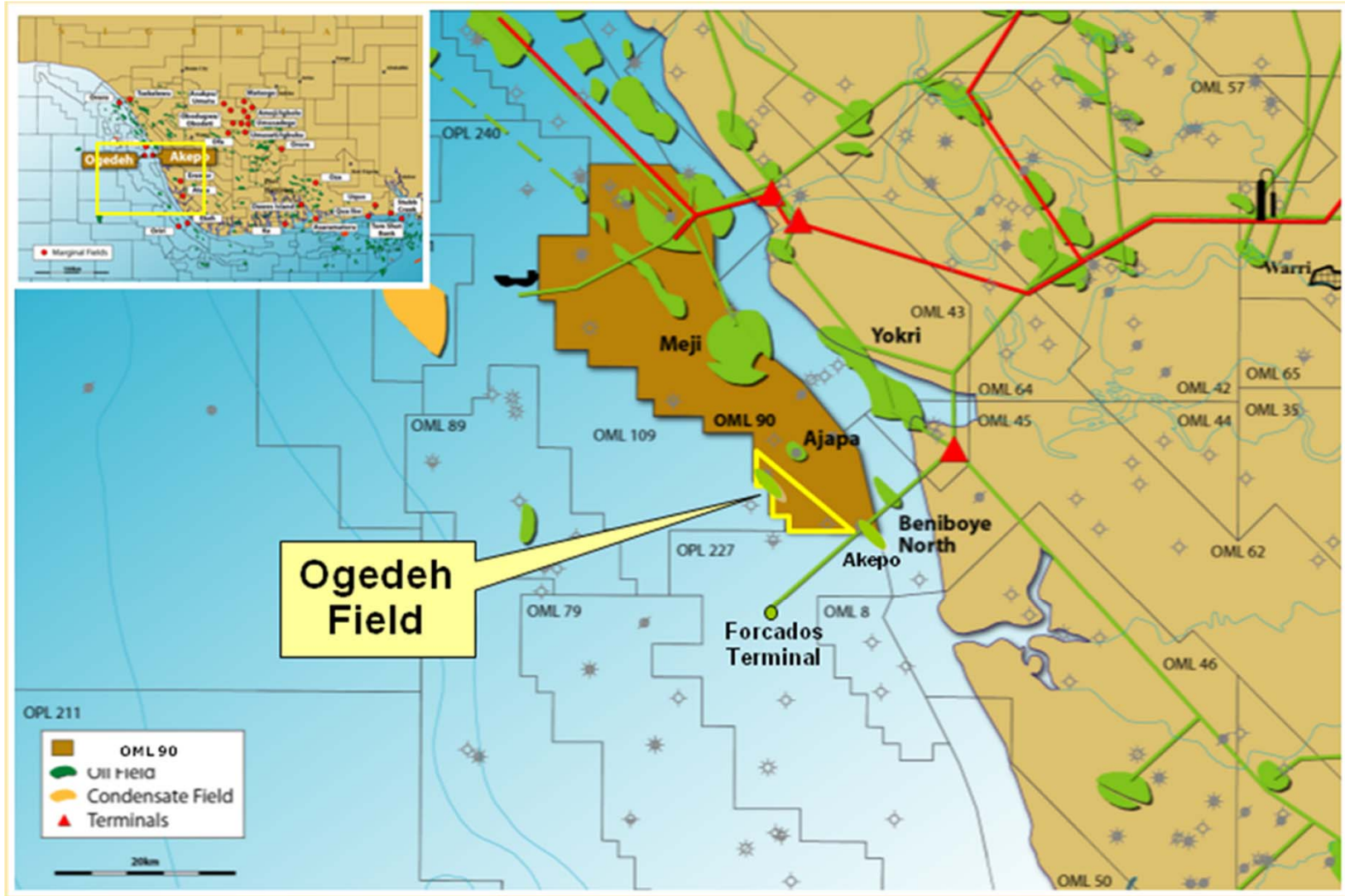
**Company Prod and Investments**

		Project	Company Gross	Company Net
Oil	(MSTB)	4,991	2,353	2,233
Gas	(MMSCF)	0	0	0
NGL	(MSTB)	0	0	0
Tax	(MSTB)	-	0	0
Total	(MBOE)	4,991	2,353	2,233
		Project	Contr	Company
Acquisition	(M\$US)	-	-	0
Exploration	(M\$US)	0	0	0
Development	(M\$US)	0	0	0
Abandonment	(M\$US)	528	528	528
Total	(M\$US)	528	528	528

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	-5	-171	176	0	176
2013(12)	10,393	-46	0	21	221	-27	-175	10,399	6,838	3,562
2014(12)	16,319	0	0	36	328	-3	-178	16,136	10,609	5,527
2015(12)	17,823	0	0	39	358	-3	-182	17,611	11,579	6,032
2016(12)	19,032	0	0	42	382	-3	-186	18,796	12,358	6,438
2017(12)	18,416	0	0	40	370	-3	-189	18,198	11,965	6,233
2018(12)	17,499	0	0	38	352	-3	-193	17,305	14,709	2,596
2019(12)	16,425	0	0	36	330	-3	-197	16,258	13,820	2,439
2020(12)	16,071	0	0	35	323	-3	-201	15,916	13,528	2,387
2021(12)	14,616	0	0	32	294	-3	-205	14,498	12,323	2,175
2022(12)	13,376	0	0	29	269	-3	-209	13,290	11,296	1,993
2023(12)	13,154	877	0	31	248	23	-213	12,188	10,319	1,870
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	267,196	52,113	0	730	4,306	1,545	528	207,974	161,037	46,937





LOCATION MAP OF OGEDEH FIELD, NIGER DELTA, NIGERIA

## Discussion

### 1.0 General

The Ogedeh Field is located in approximately 40 feet of water in the extreme southwestern corner of NNPC (Nigerian National Petroleum Corporation) Block OML 90 (Oil Mining Lease) in the western Niger Delta basin.

The field is bounded to the north by the Efon Field, to the northeast by the Ajapa Field (discovered in 1984), to the southeast by the Akepo Field (discovered in 1993) and to the east by Nigerian Agip Oil Company's (NAOC) Beniboye Field. A location map is provided as Figure 1.

The Ogedeh Field was discovered by Chevron in 1993 by the drilling of the Ogedeh 1 well, in shallow water offshore OML 90. Hydrocarbon were found in both the B and D sands of the Agbada Formation. However, the well encountered mechanical problems and has not been tested. Well Ogedeh-2 was drilled in 1994, in a separate fault block, about 9 km southeast of Ogedeh-1. The Ogedeh-2 well was dry.

In 2004, 100 percent of the field was awarded to Bicta Energy & Management Systems Limited during the federal government discretionary bid round of 2003. Then, Bicta assigned 47 percent of the participating interest to D&H Energy Nigeria Limited through a joint operating agreement made in 2012. D&H Energy Nigeria Limited is a wholly owned subsidiary of James Bay Energy Nigeria LLC, which is wholly owned by James Bay Resources Limited. As a result, the Company currently owns a 47 percent interest in the Ogedeh Field. The remaining interests are held by Bicta Energy & Management Systems Limited.

### 2.0 Geoscience

The Ogedeh Field structure is mapped at shallow levels (e.g., the thin "A" gas sands over oil) as small, narrow, elongated and asymmetrical northwest-southeast trending anticlines, located downthrown to similarly trending normal growth faults.

At intermediate and deeper levels (e.g., the oil and gas "B" and "D" sands), the structure has evolved into up-dipping closures against the downthrown side of the normal growth faults.

The field is dissected into small, narrow and semi-parallel fault blocks by a system of northwest-southeast trending normal growth faults which also control the hydrocarbon accumulations.

The Ogedeh 1 discovery well was drilled in 1993 by Chevron Nigeria Limited as a directional hole, almost parallel to the fault planes within one of the many fault blocks in the field. The well encountered 50 feet TVD oil in five sands, 26 feet TVD gas in two sands and 37 feet TVD unknown hydrocarbons in one sand. The Ogedeh 1 discovery well was prematurely suspended due to safety considerations at about 10,000 feet MD, while drilling through a sequence of high pressured reservoir sands with mudlog hydrocarbon “shows” and experiencing some mechanical problems.

The Ogedeh 2 well was drilled in 1994 on a different structure and fault block about 8 km southeast of the discovery 1 well and was water wet at all its objective levels.

Stratigraphically, the field has good alternating sequences of paralic, clean reservoir sands and marine shales in the objective Agbada Formation, which is ideal for commercial hydrocarbon generation, migration and entrapment in the Niger Delta basin.

## **2.1 Data Control**

A Petrel project with 3D seismic data was provided. Seismic time picks for B1, B3 and D4; depth grids for B1, B3 and D4; fault sticks; fault polygons in depth; and a time-depth relationship table were provided. The well data provided included well header and various logs of the Ogedeh-1 well in las format. The location coordinates for the Ogedeh 1 and 2 wells, Ogedeh concession coordinates and reports of all the previous work done in the field were also provided.

## **2.2 Seismic Audit**

The seismic data audit includes the verification of the defined structural framework of the field and an audit of structure maps to determine the extent of the hydrocarbon-bearing reservoir sands in the field.

The 3D seismic data provided in Schlumberger’s Petrel software was quality controlled. The seismic data quality is generally good.

The B1, B3 and D4 time horizons provided in Petrel were coarse gridded. These horizons were finely gridded. Sproule considered the fault sticks and fault polygons provided to be reasonable.

The three time horizons were converted to depth using the time-depth relationship provided.

The oil tops and bases for the three horizons were generated using the tops information from the Ogedeh-1 well. In the case of the B1 sand, the GOC surface also was generated. The P90 and P1 (spill point) areas were created. Using these prospective area boundaries, gross rock volumes were calculated.

### 2.3 Petrophysics

Sproule conducted an independent petrophysical analysis of the B1, B2 and D4 sands using the PRIZM module in Geographix software. The objective of the analysis was to estimate the effective porosity and water saturation for the Ogedeh 1 well, having open-hole log data to estimate the original oil in place. This well is deviated; however, the deviation survey data are not available. Conventional openhole logs are recorded covering the B sand package. The underlying D sand package has only the LWD GR and resistivity logs.

The B sands were evaluated using all available logs. The volume of shale ( $V_{sh}$ ) was computed as the minimum of two indicators: gamma ray and neutron-density combination. The apparent porosity was calculated using the average of the neutron and density porosity values. The effective porosity (PHIE) was calculated by correcting the apparent porosity for the estimated volume of shale within the formation. For the D sands, porosity logs were not available. The effective porosity was estimated from the gamma ray log to provide an approximate mean porosity value. For both sand packages, a value of 0.15 ohm-meters at 75°F was used for formation water resistivity ( $R_w$ ). The water saturation ( $S_w$ ) was calculated using the modified Simandoux equation, with values of  $a$ ,  $m$  and  $n$  set to 1, 2 and 2, respectively. The net pay was computed using the cutoff values PHIE > 10 percent,  $V_{sh}$  < 50 percent and  $S_w$  < 50 percent. The well log interpretation results are illustrated in Figures 2, 3 and 4 for the B1, B2 and D4 sands, respectively.

### 3.0 Fluid Properties

No PVT data were available for the discovery well Ogedeh 1. The oil properties were estimated based on standard correlations, in addition to certain regional case studies for different fields located in the Niger Delta basin. The following tables summarize the oil properties used in this evaluation for both the B and D4 sands of the Agbada Formation.

#### Estimated Oil Properties of the Agbada B Sands

Oil gravity at standard conditions	40 deg API
Reservoir temperature	160 deg F
Initial reservoir pressure	2,400 psia
Reference Depth	5,665 ft-TVD
Initial formation volume factor	1.363 rb/stb
Oil viscosity at initial reservoir conditions	0.413 cp
Initial solution gas-oil ratio	688 scf/bbl
Saturation pressure	2,375 psia
Formation volume factor at saturation pressure	1.362 rb/stb
Oil viscosity at saturation pressure	0.409 cp

#### Estimated Oil Properties of the Agbada D4 Sand

Oil gravity at standard conditions	40 deg API
Reservoir temperature	292 deg F
Initial reservoir pressure	3,875 psia
Reference Depth	8,837 ft-TVD
Initial formation volume factor	1.502 rb/stb
Oil viscosity at initial reservoir conditions	0.201 cp
Initial solution gas-oil ratio	688 scf/bbl
Saturation pressure	3,105 psia
Formation volume factor at saturation pressure	1.510 rb/stb
Oil viscosity at saturation pressure	0.190 cp

## 4.0 Resource Volumes and Production Forecasts

The oil resources in the Ogedeh Field, Block OML 90, were estimated probabilistically. The gross rock volumes were calculated within Petrel. Reservoir rock and fluid property data were obtained from available well logs, PVT correlations and published information, either from the pool in question or from a similar reservoir producing from the same zone.

Recovery factors were selected from the results of analytical reservoir analyses. Forecasts of cash flows were prepared by forecasting annual production from the resources, production taxes, product prices and costs. Annual production was forecast taking into account the conceptual development plans proposed by the Company.

Table 1 presents the results of the probabilistic analysis. Table 2 presents a summary of the recoverable contingent oil resources, both economic and sub-economic volumes. Detailed forecasts of production and net revenue for the various resource categories are presented in Tables 3, 3-A and 3-B.

## 5.0 Pricing

Sproule's oil price forecast in effect on June 30, 2012 for Nigeria Bonny Light formed the basis for the prices used in our evaluation of the Ogedeh oil resource volumes, as presented in Table S-2.

The Ogedeh crude is expected to be sweet with a gravity of approximately 40° API, and no quality adjustment was applied to the Nigeria Bonny Light crude oil price forecast. Transportation costs were included in the operating costs.

## 6.0 Operating and Capital Costs

The Company has supplied us with capital and operating cost budgets. The Company plans to re-enter the suspended well Ogedeh-1 and perform an extended well test for six months. Production tests incorporated with pressure measurements may confirm the potential commerciality of the hydrocarbons from the Agbada Formation. The anticipated cost for the re-entry, testing up to three separate zones and a dual completion is estimated at approximately \$US 12.7 million.

Once the well test is completed, and if the resource assessment is confirmed with these production tests, the potential well resources will be completed and developed through the existing wellbore. The Company then plans to drill two offsetting appraisal wells in order to drain the remaining recoverable oil volumes from both the B and D sands of the Agbada Formation. The expected cost to drill and complete a new well is estimated at approximately \$US 16.0 million.

The fixed operating costs for transporting the oil using Beniboye neighboring facilities were provided at \$US 9.0 million per year.

Well abandonment and disconnect costs of \$US 1.6 million per well (or 10 percent of the drilling cost of a new well) were used in the economic input, as provided by the Company. No allowances for reclamation or salvage values were made.

These costs were escalated to the dates incurred at 2.0 percent per year.

## 7.0 Taxes and Royalties

The tax and royalty terms used in this evaluation were provided by the Company and are as follows:

Marginal field royalties were calculated incrementally based on the following tranches:

Equal or less than (bopd)	Royalty
5,000	2.5%
10,000	7.5%
15,000	12.5%
25,000	18.5%

The overriding royalties paid to the farmer are calculated incrementally based on the following tranches:

Equal or less than (bopd)	ORI
2,000	2.5%
5,000	3.0%
10,000	5.5%
15,000	7.5%

Nigerian Export Supervision Scheme (NESS) fees of 0.2 percent were applied against the Company net revenue. A Central Bank of Nigeria (CBN) commission of 0.25 percent was applied against the marginal field royalty. Import duties of 7 percent were applied against facility capital expenditures. A Niger Delta Development Commission (NDDC) fee was applied at 3 percent of operating and capital expenditures. An education tax of 2 percent was applied against assessable profits.

Petroleum Profit Tax was applied at a rate of 65.75 percent for the first five years of production, and at a rate of 85 percent thereafter. Tangible drilling costs are assumed to be 33 percent of the drilling capital expenditures, with the remainder designated as intangible. A Petroleum Investment Allowance (PIA) of 10 percent was applied to all qualifying tangible capital expenditures. All tangible expenditures are depreciated based on five-year straight line depreciation, though the depreciation is only 19 percent in the fifth year, as per Nigerian law. All other costs were expensed.



**Table 1**  
**Volumetric Reservoir Data and Estimates of Contingent Oil Resources**  
**Ogedeh Field, Niger Delta, Nigeria**  
**(As of June 30, 2012)**

**Agbada Formation**

**Probabilistic Input Distributions, B1-Sandstone**

	P90	P50	P10	Distribution Type
GRV, acre*ft	5,620	12,600	28,400	Log Normal
Net to Gross Ratio, fraction	0.85	0.90	0.95	Normal
Porosity, %	26	29	32	Normal
Oil Saturation, %	69	76	84	Normal
Oil FVF, RB/STB	1.16	1.31	1.37	Stretched Beta
Oil Recovery Factor, %	15.0	27.5	40.0	Normal

**Probabilistic Input Distributions, B2-Sandstone**

	P90	P50	P10	Distribution Type
GRV, acre*ft	814	1,330	2,170	Log Normal
Net to Gross Ratio, fraction	0.85	0.90	0.95	Normal
Porosity, %	22	24	26	Normal
Oil Saturation, %	59	65	72	Normal
Oil FVF, RB/STB	1.16	1.31	1.37	Stretched Beta
Oil Recovery Factor, %	20.0	30.0	40.0	Normal

**Probabilistic Input Distributions, D4-Sandstone**

	P90	P50	P10	Distribution Type
GRV, acre*ft	7,490	8,240	9,070	Log Normal
Net to Gross Ratio, fraction	0.85	0.90	0.95	Normal
Porosity, %	24	27	30	Normal
Oil Saturation, %	75	83	91	Normal
Oil FVF, RB/STB	1.26	1.47	1.61	Stretched Beta
Oil Recovery Factor, %	20.0	30.0	40.0	Normal

**Total, Agbada Formation, OOIP, Contingent Oil Resource Volumes <sup>1)</sup>**

	OOIP, Mbbbls	Contingent Oil Resource Volumes <sup>1)</sup> , Mbbbls	Contingent Oil Resource Volumes <sup>1)</sup> Company WI, Mbbbls
C2 (P50)	24,600	6,850	3,327
C2 + C3 (P10)	40,800	12,000	5,755

1) Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or lack of markets. Contingent resources have an associated chance of development (economic, regulatory, market and facility, corporate commitment or political risks). These estimates have not been risked for the chance of development. There is no certainty as to either the timing of such development or whether it will be commercially viable to produce any portion of the resources.

**Table 2**  
**Ogedeh Field, Niger Delta, Nigeria**  
**Estimates of Contingent Oil Resources (Unrisked) and Net Present Values**  
**(As of June 30, 2012)**

Contingent Oil Resources (Unrisked)													
Category	Discovered Original Oil In Place (Mbbbls)	Recovery Factor <sup>1</sup> (%)	Original Recoverable Oil <sup>1</sup> (Mbbbls)	Cumulative Production to June 30, 2012 (Mbbbls)	Gross Remaining Oil Resources <sup>1</sup> (Mbbbls)	Royalties and Burden (%)	Contract Gross Oil <sup>1</sup> Resources (Mbbbls)	Working Interest Net Oil <sup>1</sup> Resources (Mbbbls)	Net Present Values Before Nigerian Income Taxes (M\$US)				
									0%	5%	10%	15%	20%
C2 (P50)	24,600	27	6,599	-	6,599	5	6,266	3,047	209,692	176,288	150,504	130,174	113,847
C2 + C3 (P10)	40,800	28	11,589	-	11,589	5	11,000	5,279	417,666	324,947	262,255	217,657	184,601

**Notes:**

Values may not balance due to rounding

1) - Adjusted for economic cut-off

Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or lack of markets. Contingent resources have an associated chance of development (economic, regulatory, market and facility, corporate commitment or political risks). These estimates have not been risked for the chance of development. There is no certainty as to either the timing of such development or whether it will be commercially viable to produce any portion of the resources.



**Economic Summary**  
**Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3

Company Description					Company Economic Indicators				
	Net Revenue	Net Expl	Net Dev	Net Opex	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
Company (% of Total)	45.47	0.00	100.00	47.78	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
Company (% of Contr)	47.90	0.00	100.00	47.78	0	417,666	104,730	8.15	1.26
Partner (% of Contr)	0.00	0.00	0.00	0.00	5.0	324,947	88,930	6.86	1.42
Contr	94.92	0.00	100.00	100.00	10.0	262,255	76,624	5.86	1.42
NOC	0.00	0.00	0.00	0.00	15.0	217,657	66,838	5.09	1.37
					20.0	184,601	58,911	4.49	1.30
Model	Nigeria R/T (2000)James Bay				25.0	159,272	52,384	4.01	1.22
Global Params	SIL as of June 30, 2012								
Escalation Date	2012/07				AT ROR (%)	487.82		Contr Take (%)	15.33
Discount Date	2012/07				AT Payout (yrs)	0.75		NOC Take (%)	0.00
Economic Limit	2032/10				F&D (\$US/BOE)	8.59		Gov't Take (%)	84.67

Company Economics (per Unit)				Company Prod and Investments				
	(M\$US)	(%)	(\$US/BOE)			Project	Company Gross	Company Net
Net Revenue	589,534	100.00	111.67	Oil	(MSTB)	11,589	5,562	5,279
Less:				Gas	(MMSCF)	0	0	0
Bonuses & Fees	0	0.00	0.00	NGL	(MSTB)	0	0	0
Operating Costs	105,519	17.90	19.99	Tax	(MSTB)	-	0	0
Tariffs	0	0.00	0.00	Total	(MBOE)	11,589	5,562	5,279
Prod & Asset Taxes	13,502	2.29	2.56					
Capital Costs	51,248	8.69	9.71	Acquisition	(M\$US)	-	-	0
Plus: Other Income/Expense	0	0.00	0.00	Exploration	(M\$US)	0	0	0
Before Tax Cash Flow	417,666	70.85	79.11	Development	(M\$US)	45,355	45,355	45,355
Less Income Tax	312,936	53.08	59.27	Abandonment	(M\$US)	5,893	5,893	5,893
After Tax Cash Flow	104,730	10.98	12.26	Total	(M\$US)	51,248	51,248	51,248

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	347	229	-13,307	0	-13,307
2013(12)	82,745	6,047	32,640	173	1,308	691	233	41,653	32,500	9,152
2014(12)	80,893	4,401	0	194	1,528	135	238	74,398	46,948	27,449
2015(12)	65,829	4,489	0	161	1,225	138	243	59,575	37,202	22,372
2016(12)	56,713	4,579	0	141	1,040	141	247	50,565	31,306	19,259
2017(12)	46,595	4,670	0	119	836	144	252	40,573	25,331	15,242
2018(12)	38,877	4,764	0	103	680	147	257	32,926	27,987	4,939
2019(12)	32,800	4,859	0	85	556	149	263	26,887	22,854	4,033
2020(12)	28,027	4,956	0	75	459	152	268	22,117	18,799	3,318
2021(12)	24,019	5,055	0	67	377	156	273	18,092	15,378	2,714
2022(12)	20,808	5,156	0	60	310	159	279	14,844	12,617	2,227
2023(12)	18,155	5,259	0	55	255	162	284	12,140	10,319	1,821
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	589,534	105,519	45,355	1,599	9,403	4,099	5,893	417,666	312,936	104,730

**Production Detail**  
**Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3

**Prod Detail 1**

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp WI Oil Volume	Comp Net Volume Oil	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	2	4,351	1,588	862	817	101.25	0	0	0	0	0	0.00
2014(12)	3	5,082	1,855	872	826	97.97	0	0	0	0	0	0.00
2015(12)	3	3,975	1,451	682	647	101.76	0	0	0	0	0	0.00
2016(12)	3	3,164	1,158	544	517	109.72	0	0	0	0	0	0.00
2017(12)	3	2,555	932	438	416	111.91	0	0	0	0	0	0.00
2018(12)	3	2,090	763	359	341	114.15	0	0	0	0	0	0.00
2019(12)	3	1,729	631	297	282	116.43	0	0	0	0	0	0.00
2020(12)	3	1,444	529	248	236	118.76	0	0	0	0	0	0.00
2021(12)	3	1,217	444	209	198	121.14	0	0	0	0	0	0.00
2022(12)	3	1,033	377	177	168	123.56	0	0	0	0	0	0.00
2023(12)	3	884	323	152	144	126.03	0	0	0	0	0	0.00
2024(12)	3	761	279	131	124	128.55	0	0	0	0	0	0.00
2025(12)	3	659	241	113	107	131.12	0	0	0	0	0	0.00
2026(12)	3	574	209	98	94	133.74	0	0	0	0	0	0.00
2027(12)	3	502	183	86	82	136.42	0	0	0	0	0	0.00
2028(12)	3	442	162	76	72	139.15	0	0	0	0	0	0.00
2029(12)	3	390	142	67	64	141.93	0	0	0	0	0	0.00
2030(12)	3	346	126	59	56	144.77	0	0	0	0	0	0.00
2031(12)	3	308	112	53	50	147.66	0	0	0	0	0	0.00
2032(12)	3	277	85	40	38	150.62	0	0	0	0	0	0.00
Total	---	---	11,589	5,562	5,279	---	---	---	0	0	0	0.00

**Prod Detail 2**

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	1,588	862	817	101.25	160,785
2014(12)	0	0	0	0	0.00	1,855	872	826	97.97	181,710
2015(12)	0	0	0	0	0.00	1,451	682	647	101.76	147,624
2016(12)	0	0	0	0	0.00	1,158	544	517	109.72	127,053
2017(12)	0	0	0	0	0.00	932	438	416	111.91	104,356
2018(12)	0	0	0	0	0.00	763	359	341	114.15	87,070
2019(12)	0	0	0	0	0.00	631	297	282	116.43	73,459
2020(12)	0	0	0	0	0.00	529	248	236	118.76	62,771
2021(12)	0	0	0	0	0.00	444	209	198	121.14	53,795
2022(12)	0	0	0	0	0.00	377	177	168	123.56	46,603
2023(12)	0	0	0	0	0.00	323	152	144	126.03	40,660
2024(12)	0	0	0	0	0.00	279	131	124	128.55	35,810
2025(12)	0	0	0	0	0.00	241	113	107	131.12	31,543
2026(12)	0	0	0	0	0.00	209	98	94	133.74	28,017
2027(12)	0	0	0	0	0.00	183	86	82	136.42	25,010
2028(12)	0	0	0	0	0.00	162	76	72	139.15	22,495
2029(12)	0	0	0	0	0.00	142	67	64	141.93	20,205
2030(12)	0	0	0	0	0.00	126	59	56	144.77	18,274
2031(12)	0	0	0	0	0.00	112	53	50	147.66	16,589
2032(12)	0	0	0	0	0.00	85	40	38	150.62	12,746
Total	---	0	0	0	0.00	11,589	5,562	5,279	---	1,296,576

**Revenue & Burden Detail**  
**Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3

**Revenue & Burden Detail1**

Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	16	0	0	0	16
2013(12)	160,785	2	4,020	3	4,269	8,288	152,496	16	0	146	10	326
2014(12)	181,710	3	4,682	3	4,915	9,597	172,113	17	0	165	12	364
2015(12)	147,624	2	3,691	3	3,871	7,562	140,062	17	0	134	9	297
2016(12)	127,053	2	3,176	3	3,210	6,387	120,666	17	0	116	8	257
2017(12)	104,356	2	2,609	2	2,609	5,218	99,138	18	0	95	7	213
2018(12)	87,070	2	2,177	2	2,177	4,353	82,716	18	0	79	5	179
2019(12)	73,459	2	1,836	2	1,836	3,673	69,786	14	0	67	5	151
2020(12)	62,771	2	1,569	2	1,569	3,139	59,633	14	0	57	4	130
2021(12)	53,795	2	1,345	2	1,345	2,690	51,105	14	0	49	3	112
2022(12)	46,603	2	1,165	2	1,165	2,330	44,273	15	0	43	3	98
2023(12)	40,660	2	1,017	2	1,017	2,033	38,627	15	0	37	3	87
2024(12)	35,810	2	895	2	895	1,791	34,020	15	0	33	2	77
2025(12)	31,543	2	789	2	789	1,577	29,966	16	0	29	2	69
2026(12)	28,017	2	700	2	700	1,401	26,616	16	0	26	2	62
2027(12)	25,010	2	625	2	625	1,251	23,760	16	0	23	2	57
2028(12)	22,495	2	562	2	562	1,125	21,371	16	0	21	1	52
2029(12)	20,205	2	505	2	505	1,010	19,195	17	0	18	1	48
2030(12)	18,274	2	457	2	457	914	17,360	17	0	17	1	44
2031(12)	16,589	2	415	2	415	829	15,760	17	0	15	1	41
2032(12)	12,746	2	319	2	319	637	12,109	15	0	12	1	32
<b>Total</b>	<b>1,296,576</b>	<b>---</b>	<b>32,554</b>	<b>---</b>	<b>33,250</b>	<b>65,804</b>	<b>1,230,771</b>	<b>336</b>	<b>0</b>	<b>1,182</b>	<b>81</b>	<b>2,712</b>

**Revenue & Burden Detail2**

Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	347	12,715	0	9,587	420	9,950
2013(12)	9,180	691	32,640	1,308	25,095	1,077	33,315
2014(12)	9,364	135	0	1,528	3,231	0	9,489
2015(12)	9,551	138	0	1,225	3,236	0	9,248
2016(12)	9,742	141	0	1,040	3,199	0	9,100
2017(12)	9,937	144	0	836	2,299	0	8,068
2018(12)	10,135	147	0	680	257	0	5,950
2019(12)	10,338	149	0	556	263	0	5,913
2020(12)	10,545	152	0	459	268	0	5,911
2021(12)	10,756	156	0	377	273	0	5,927
2022(12)	10,971	159	0	310	279	0	5,964
2023(12)	11,190	162	0	255	284	0	6,015
2024(12)	11,414	165	0	210	290	0	6,079
2025(12)	11,642	168	0	169	296	0	6,152
2026(12)	11,875	172	0	136	302	0	6,234
2027(12)	12,113	175	0	107	308	0	6,323
2028(12)	12,355	179	0	82	314	0	6,419
2029(12)	12,602	182	0	59	320	0	6,521
2030(12)	12,854	186	0	39	326	0	6,628
2031(12)	13,111	190	0	22	333	0	6,740
2032(12)	11,145	162	0	6	489	0	5,922
<b>Total</b>	<b>220,821</b>	<b>4,099</b>	<b>45,355</b>	<b>9,403</b>	<b>51,248</b>	<b>1,497</b>	<b>171,868</b>

**Economic Summary**  
**Ogedeh Field, Nigeria - C2: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3-A

**Company Description**

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	46.10	0.00	100.00	48.62
Company (% of Contr)	48.56	0.00	100.00	48.62
Partner (% of Contr)	89.40	0.00	0.00	0.00
Contr	94.95	0.00	100.00	100.00
NOC	0.00	0.00	0.00	0.00

Model	Nigeria R/T (2000)James Bay
Global Params	SIL as of June 30, 2012
Escalation Date	2012/07
Discount Date	2012/07
Economic Limit	2023/10

**Company Economic Indicators**

Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
0	209,692	57,793	4.13	0.79
5.0	176,288	50,596	3.68	0.80
10.0	150,504	44,547	3.30	0.78
15.0	130,174	39,441	2.99	0.75
20.0	113,847	35,104	2.72	0.72
25.0	100,521	31,397	2.48	0.68

AT ROR (%)	260.09	Contr Take (%)	20.07
AT Payout (yrs)	0.83	NOC Take (%)	0.00
F&D (\$US/BOE)	14.89	Gov't Take (%)	79.93

**Company Economics (per Unit)**

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	322,338	100.00	105.80
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	53,406	16.57	17.53
Tariffs	0	0.00	0.00
Prod & Asset Taxes	7,652	2.37	2.51
Capital Costs	50,720	15.73	16.65
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	209,692	65.05	68.82
Less Income Tax	151,898	47.12	49.85
After Tax Cash Flow	57,793	12.43	13.15

**Company Prod and Investments**

	Project	Company Gross	Company Net
Oil (MSTB)	6,599	3,209	3,047
Gas (MMSCF)	0	0	0
NGL (MSTB)	0	0	0
Tax (MSTB)	-	0	0
Total (MBOE)	6,599	3,209	3,047

	Project	Contr	Company
Acquisition (M\$US)	-	-	0
Exploration (M\$US)	0	0	0
Development (M\$US)	45,355	45,355	45,355
Abandonment (M\$US)	5,365	5,365	5,365
Total (M\$US)	50,720	50,720	50,720

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	352	400	-13,483	0	-13,483
2013(12)	72,352	6,094	32,640	152	1,087	719	408	31,253	25,663	5,590
2014(12)	64,574	4,401	0	158	1,200	138	416	58,262	36,339	21,923
2015(12)	48,006	4,489	0	122	866	141	424	41,964	25,623	16,341
2016(12)	37,681	4,579	0	100	658	143	433	31,769	18,947	12,821
2017(12)	28,179	4,670	0	79	466	146	442	22,376	13,366	9,009
2018(12)	21,378	4,764	0	65	328	149	450	15,622	13,279	2,343
2019(12)	16,375	4,859	0	50	226	152	459	10,628	9,034	1,594
2020(12)	11,957	4,956	0	40	136	155	469	6,201	5,271	930
2021(12)	9,403	5,055	0	35	82	158	478	3,594	3,055	539
2022(12)	7,432	5,156	0	31	41	162	488	1,554	1,321	233
2023(12)	5,001	4,383	0	23	8	138	497	-49	0	-49
Total	322,338	53,406	45,355	869	5,098	2,554	5,365	209,692	151,898	57,793

**Production Detail**  
**Ogedeh Field, Nigeria - C2: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3-A

**Prod Detail 1**

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp Oil Volume	Comp Net Oil Volume	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	2	3,763	1,374	753	715	101.25	0	0	0	0	0	0.00
2014(12)	3	4,050	1,478	695	659	97.97	0	0	0	0	0	0.00
2015(12)	3	2,895	1,057	497	472	101.76	0	0	0	0	0	0.00
2016(12)	3	2,102	769	362	343	109.72	0	0	0	0	0	0.00
2017(12)	3	1,545	564	265	252	111.91	0	0	0	0	0	0.00
2018(12)	3	1,149	419	197	187	114.15	0	0	0	0	0	0.00
2019(12)	3	863	315	148	141	116.43	0	0	0	0	0	0.00
2020(12)	3	616	225	106	101	118.76	0	0	0	0	0	0.00
2021(12)	3	476	174	82	78	121.14	0	0	0	0	0	0.00
2022(12)	3	369	135	63	60	123.56	0	0	0	0	0	0.00
2023(12)	3	292	89	42	40	126.03	0	0	0	0	0	0.00
Total	---	---	6,599	3,209	3,047	---	---	---	0	0	0	0.00

**Prod Detail 2**

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	1,374	753	715	101.25	139,065
2014(12)	0	0	0	0	0.00	1,478	695	659	97.97	144,820
2015(12)	0	0	0	0	0.00	1,057	497	472	101.76	107,516
2016(12)	0	0	0	0	0.00	769	362	343	109.72	84,393
2017(12)	0	0	0	0	0.00	564	265	252	111.91	63,111
2018(12)	0	0	0	0	0.00	419	197	187	114.15	47,879
2019(12)	0	0	0	0	0.00	315	148	141	116.43	36,673
2020(12)	0	0	0	0	0.00	225	106	101	118.76	26,779
2021(12)	0	0	0	0	0.00	174	82	78	121.14	21,060
2022(12)	0	0	0	0	0.00	135	63	60	123.56	16,644
2023(12)	0	0	0	0	0.00	89	42	40	126.03	11,201
Total	---	0	0	0	0.00	6,599	3,209	3,047	---	699,141

**Revenue & Burden Detail**  
**Ogedeh Field, Nigeria - C2: Contingent (unrisked)**

Table 3-A

*(Real values)*  
*Pioneer Option at 0% PPT*

**Revenue & Burden Detail1**

Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	16	0	0	0	16
2013(12)	139,065	2	3,477	3	3,617	7,094	131,971	16	0	127	9	283
2014(12)	144,820	2	3,620	3	3,808	7,428	137,391	17	0	132	9	292
2015(12)	107,516	2	2,688	2	2,688	5,376	102,141	17	0	98	7	219
2016(12)	84,393	2	2,110	2	2,110	4,220	80,173	17	0	77	5	174
2017(12)	63,111	2	1,578	2	1,578	3,156	59,956	18	0	58	4	132
2018(12)	47,879	2	1,197	2	1,197	2,394	45,485	18	0	44	3	102
2019(12)	36,673	2	917	2	917	1,834	34,840	14	0	33	2	78
2020(12)	26,779	2	669	2	669	1,339	25,440	14	0	24	2	59
2021(12)	21,060	2	526	2	526	1,053	20,007	14	0	19	1	48
2022(12)	16,644	2	416	2	416	832	15,812	15	0	15	1	40
2023(12)	11,201	2	280	2	280	560	10,641	12	0	10	1	28
<b>Total</b>	<b>699,141</b>	<b>---</b>	<b>17,479</b>	<b>---</b>	<b>17,806</b>	<b>35,285</b>	<b>663,856</b>	<b>188</b>	<b>0</b>	<b>637</b>	<b>44</b>	<b>1,471</b>

**Revenue & Burden Detail2**

Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	352	12,715	0	9,758	420	10,126
2013(12)	9,180	719	32,640	1,087	25,270	1,077	33,321
2014(12)	9,364	138	0	1,200	3,410	0	9,306
2015(12)	9,551	141	0	866	3,418	0	9,036
2016(12)	9,742	143	0	658	3,384	0	8,864
2017(12)	9,937	146	0	466	2,488	0	7,850
2018(12)	10,135	149	0	328	450	0	5,756
2019(12)	10,338	152	0	226	459	0	5,746
2020(12)	10,545	155	0	136	469	0	5,756
2021(12)	10,756	158	0	82	478	0	5,809
2022(12)	10,971	162	0	41	488	0	5,877
2023(12)	9,325	138	0	8	647	0	5,199
<b>Total</b>	<b>109,844</b>	<b>2,554</b>	<b>45,355</b>	<b>5,098</b>	<b>50,720</b>	<b>1,497</b>	<b>112,646</b>



**Economic Summary**  
**Ogedeh Field, Nigeria - C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3-B

**Company Description**

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	44.72	0.00	0.00	46.96
Company (% of Contr)	47.13	0.00	0.00	46.96
Partner (% of Contr)	-104.69	0.00	0.00	0.00
Contr	94.89	0.00	0.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2032/10			

**Company Economic Indicators**

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	207,974	46,937	393.55	46.65
	5.0	148,659	38,335	-318.56	-61.98
	10.0	111,751	32,077	-142.70	-35.86
	15.0	87,483	27,398	-103.12	-30.38
	20.0	70,754	23,807	-85.91	-28.24
	25.0	58,751	20,987	-76.24	-27.15
	AT ROR (%)	>800.00		Contr Take (%)	10.09
	AT Payout (yrs)	0.00		NOC Take (%)	0.00
	F&D (\$US/BOE)	0.00		Gov't Take (%)	89.91

**Company Economics (per Unit)**

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	267,196	100.00	119.68
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	52,113	19.50	23.34
Tariffs	0	0.00	0.00
Prod & Asset Taxes	5,851	2.19	2.62
Capital Costs	528	0.20	0.24
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	207,974	77.84	93.15
Less Income Tax	161,037	60.27	72.13
After Tax Cash Flow	46,937	9.23	11.04

**Company Prod and Investments**

		Project	Company Gross	Company Net
Oil	(MSTB)	4,991	2,353	2,233
Gas	(MMSCF)	0	0	0
NGL	(MSTB)	0	0	0
Tax	(MSTB)	-	0	0
Total	(MBOE)	4,991	2,353	2,233
		Project	Contr	Company
Acquisition	(M\$US)	-	-	0
Exploration	(M\$US)	0	0	0
Development	(M\$US)	0	0	0
Abandonment	(M\$US)	528	528	528
Total	(M\$US)	528	528	528

**Company Cash Flow**

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	-5	-171	176	0	176
2013(12)	10,393	-46	0	21	221	-27	-175	10,399	6,838	3,562
2014(12)	16,319	0	0	36	328	-3	-178	16,136	10,609	5,527
2015(12)	17,823	0	0	39	358	-3	-182	17,611	11,579	6,032
2016(12)	19,032	0	0	42	382	-3	-186	18,796	12,358	6,438
2017(12)	18,416	0	0	40	370	-3	-189	18,198	11,965	6,233
2018(12)	17,499	0	0	38	352	-3	-193	17,305	14,709	2,596
2019(12)	16,425	0	0	36	330	-3	-197	16,258	13,820	2,439
2020(12)	16,071	0	0	35	323	-3	-201	15,916	13,528	2,387
2021(12)	14,616	0	0	32	294	-3	-205	14,498	12,323	2,175
2022(12)	13,376	0	0	29	269	-3	-209	13,290	11,296	1,993
2023(12)	13,154	877	0	31	248	23	-213	12,188	10,319	1,870
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	267,196	52,113	0	730	4,306	1,545	528	207,974	161,037	46,937

**Production Detail**  
**Ogedeh Field, Nigeria - C3: Contingent (unrisked)**  
*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs*

Table 3-B

**Prod Detail 1**

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp WI Oil Volume	Comp Net Volume Oil	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	0	588	215	109	103	101.25	0	0	0	0	0	0.00
2014(12)	0	1,032	377	177	167	97.97	0	0	0	0	0	0.00
2015(12)	0	1,080	394	185	175	101.76	0	0	0	0	0	0.00
2016(12)	0	1,062	389	183	173	109.72	0	0	0	0	0	0.00
2017(12)	0	1,010	369	173	165	111.91	0	0	0	0	0	0.00
2018(12)	0	941	343	161	153	114.15	0	0	0	0	0	0.00
2019(12)	0	866	316	148	141	116.43	0	0	0	0	0	0.00
2020(12)	0	828	303	142	135	118.76	0	0	0	0	0	0.00
2021(12)	0	740	270	127	121	121.14	0	0	0	0	0	0.00
2022(12)	0	664	242	114	108	123.56	0	0	0	0	0	0.00
2023(12)	1	640	234	110	104	126.03	0	0	0	0	0	0.00
2024(12)	3	761	279	131	124	128.55	0	0	0	0	0	0.00
2025(12)	3	659	241	113	107	131.12	0	0	0	0	0	0.00
2026(12)	3	574	209	98	94	133.74	0	0	0	0	0	0.00
2027(12)	3	502	183	86	82	136.42	0	0	0	0	0	0.00
2028(12)	3	442	162	76	72	139.15	0	0	0	0	0	0.00
2029(12)	3	390	142	67	64	141.93	0	0	0	0	0	0.00
2030(12)	3	346	126	59	56	144.77	0	0	0	0	0	0.00
2031(12)	3	308	112	53	50	147.66	0	0	0	0	0	0.00
2032(12)	3	277	85	40	38	150.62	0	0	0	0	0	0.00
Total	---	---	4,991	2,353	2,233	---	---	---	0	0	0	0.00

**Prod Detail 2**

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	215	109	103	101.25	21,720
2014(12)	0	0	0	0	0.00	377	177	167	97.97	36,891
2015(12)	0	0	0	0	0.00	394	185	175	101.76	40,108
2016(12)	0	0	0	0	0.00	389	183	173	109.72	42,660
2017(12)	0	0	0	0	0.00	369	173	165	111.91	41,245
2018(12)	0	0	0	0	0.00	343	161	153	114.15	39,191
2019(12)	0	0	0	0	0.00	316	148	141	116.43	36,786
2020(12)	0	0	0	0	0.00	303	142	135	118.76	35,992
2021(12)	0	0	0	0	0.00	270	127	121	121.14	32,735
2022(12)	0	0	0	0	0.00	242	114	108	123.56	29,958
2023(12)	0	0	0	0	0.00	234	110	104	126.03	29,460
2024(12)	0	0	0	0	0.00	279	131	124	128.55	35,810
2025(12)	0	0	0	0	0.00	241	113	107	131.12	31,543
2026(12)	0	0	0	0	0.00	209	98	94	133.74	28,017
2027(12)	0	0	0	0	0.00	183	86	82	136.42	25,010
2028(12)	0	0	0	0	0.00	162	76	72	139.15	22,495
2029(12)	0	0	0	0	0.00	142	67	64	141.93	20,205
2030(12)	0	0	0	0	0.00	126	59	56	144.77	18,274
2031(12)	0	0	0	0	0.00	112	53	50	147.66	16,589
2032(12)	0	0	0	0	0.00	85	40	38	150.62	12,746
Total	---	0	0	0	0.00	4,991	2,353	2,233	---	597,435

**Revenue & Burden Detail**  
**Ogedeh Field, Nigeria - C3: Contingent (unrisked)**

Table 3-B

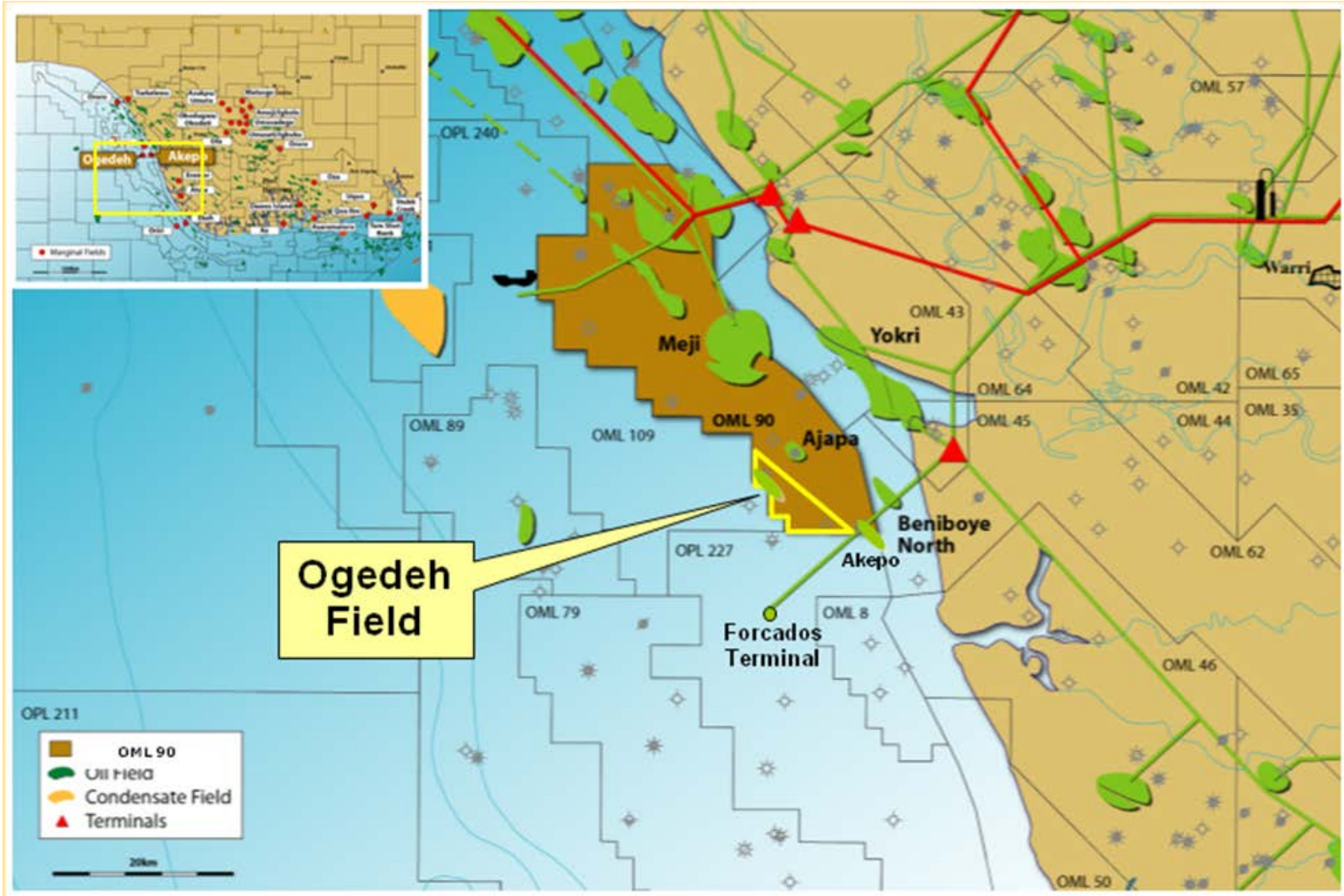
*(Real values)*  
*Pioneer Option at 0% PPT*

**Revenue & Burden Detail1**

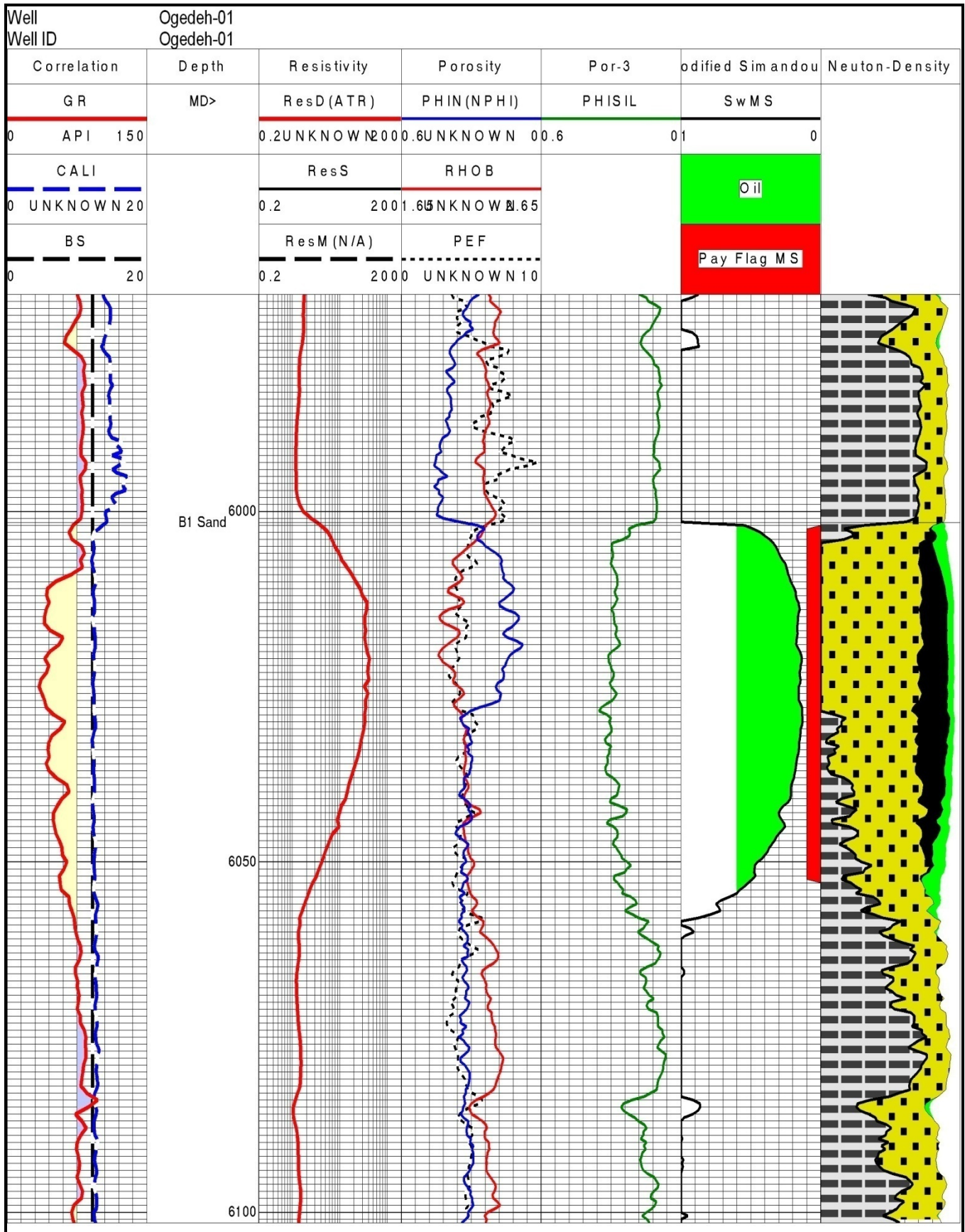
Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	0	0	0	0	0
2013(12)	21,720	2	543	3	652	1,195	20,525	0	0	20	1	42
2014(12)	36,891	3	1,062	3	1,107	2,169	34,722	0	0	33	3	72
2015(12)	40,108	2	1,003	3	1,183	2,186	37,922	0	0	36	3	78
2016(12)	42,660	2	1,066	3	1,101	2,167	40,493	0	0	39	3	84
2017(12)	41,245	2	1,031	2	1,031	2,062	39,183	0	0	38	3	81
2018(12)	39,191	2	980	2	980	1,960	37,231	0	0	36	2	77
2019(12)	36,786	2	920	2	920	1,839	34,947	0	0	34	2	72
2020(12)	35,992	2	900	2	900	1,800	34,193	0	0	33	2	71
2021(12)	32,735	2	818	2	818	1,637	31,098	0	0	30	2	64
2022(12)	29,958	2	749	2	749	1,498	28,461	0	0	27	2	59
2023(12)	29,460	2	736	2	736	1,473	27,987	2	0	27	2	59
2024(12)	35,810	2	895	2	895	1,791	34,020	15	0	33	2	77
2025(12)	31,543	2	789	2	789	1,577	29,966	16	0	29	2	69
2026(12)	28,017	2	700	2	700	1,401	26,616	16	0	26	2	62
2027(12)	25,010	2	625	2	625	1,251	23,760	16	0	23	2	57
2028(12)	22,495	2	562	2	562	1,125	21,371	16	0	21	1	52
2029(12)	20,205	2	505	2	505	1,010	19,195	17	0	18	1	48
2030(12)	18,274	2	457	2	457	914	17,360	17	0	17	1	44
2031(12)	16,589	2	415	2	415	829	15,760	17	0	15	1	41
2032(12)	12,746	2	319	2	319	637	12,109	15	0	12	1	32
Total	597,435	---	15,076	---	15,444	30,519	566,915	148	0	544	38	1,241

**Revenue & Burden Detail2**

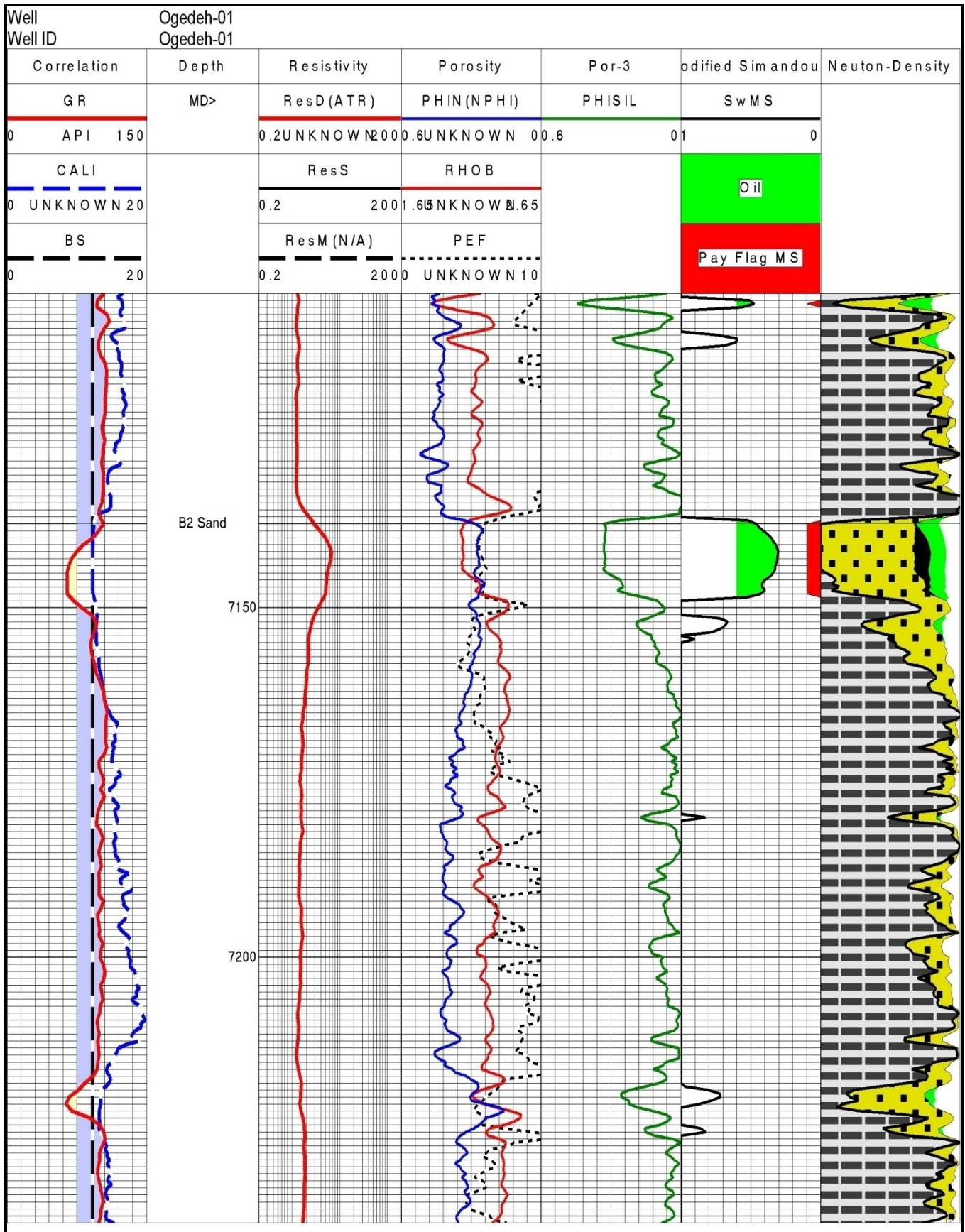
Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	-5	0	0	-171	0	-176
2013(12)	0	-27	0	221	-175	0	-7
2014(12)	0	-3	0	328	-178	0	183
2015(12)	0	-3	0	358	-182	0	213
2016(12)	0	-3	0	382	-186	0	236
2017(12)	0	-3	0	370	-189	0	218
2018(12)	0	-3	0	352	-193	0	194
2019(12)	0	-3	0	330	-197	0	167
2020(12)	0	-3	0	323	-201	0	155
2021(12)	0	-3	0	294	-205	0	118
2022(12)	0	-3	0	269	-209	0	87
2023(12)	1,865	23	0	248	-363	0	816
2024(12)	11,414	165	0	210	290	0	6,079
2025(12)	11,642	168	0	169	296	0	6,152
2026(12)	11,875	172	0	136	302	0	6,234
2027(12)	12,113	175	0	107	308	0	6,323
2028(12)	12,355	179	0	82	314	0	6,419
2029(12)	12,602	182	0	59	320	0	6,521
2030(12)	12,854	186	0	39	326	0	6,628
2031(12)	13,111	190	0	22	333	0	6,740
2032(12)	11,145	162	0	6	489	0	5,922
Total	110,977	1,545	0	4,306	528	0	59,222



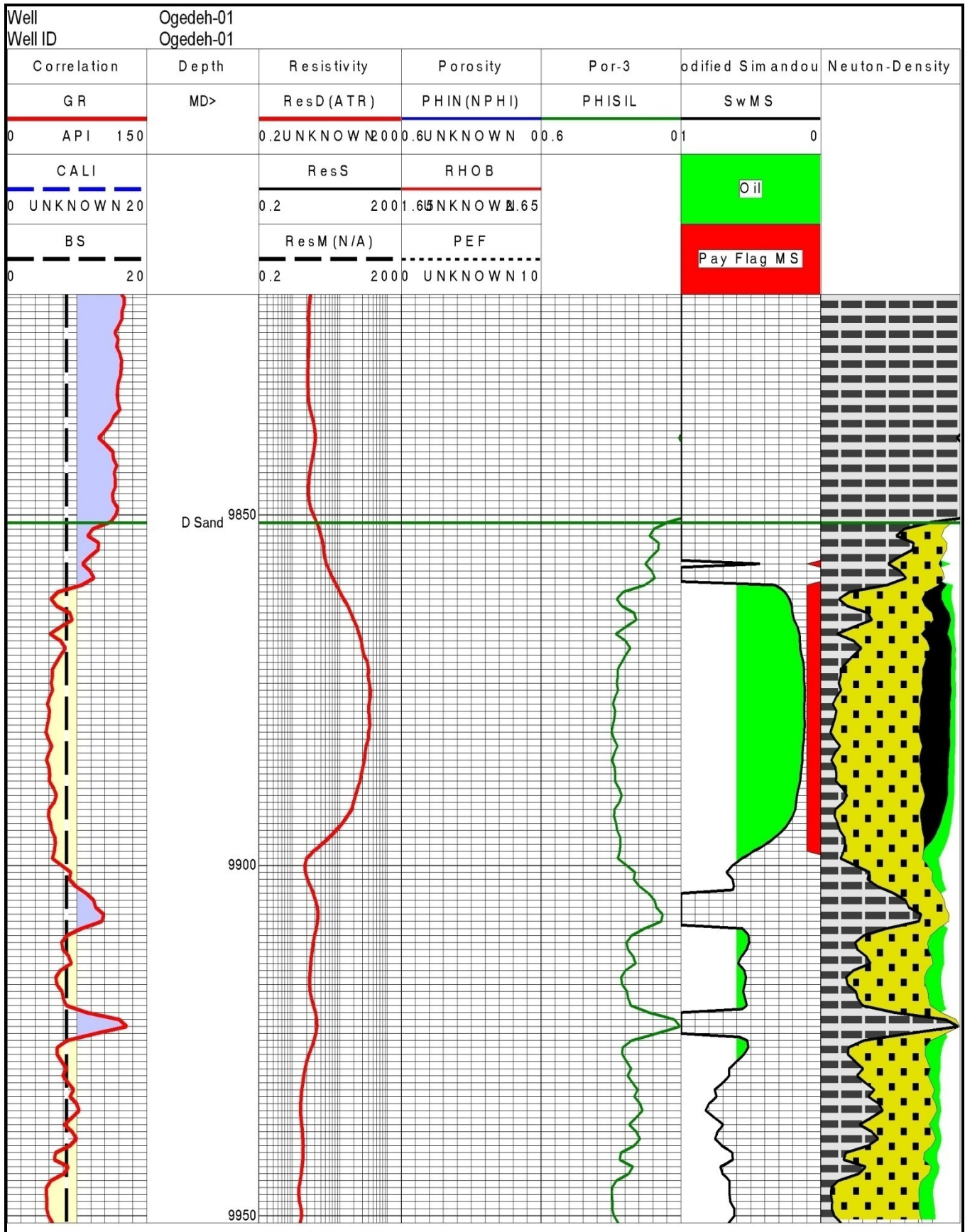
Ogedeh Field Location Map



Ogedeh-01 Well Log Interpretation of Agbada B1 Sand



Ogedeh-01 Well Log Interpretation of Agbada B2 Sand



Ogedeh-01 Well Log Interpretation of Agbada D4 Sand

## APPENDIX A

### RESOURCE DEFINITIONS



## Appendix A — Resource Definitions

This discussion has been excerpted from Sections 5.2 and 5.3 of the Canadian Oil and Gas Evaluation Handbook, Second Edition, September 1, 2007.

The following definitions relate to the subdivisions in the SPE-PRMS resources classification framework and use the primary nomenclature and concepts contained in the 2007 SPE-PRMS, with direct excerpts shown in italics.

***Total Petroleum Initially-In-Place (PIIP)*** is that quantity of petroleum that is estimated to exist originally in naturally occurring accumulations. It includes that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations, prior to production, plus those estimated quantities in accumulations yet to be discovered (equivalent to “total resources”).

***Discovered Petroleum Initially-In-Place*** (equivalent to discovered resources) is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production. The recoverable portion of discovered petroleum initially in place includes production, reserves, and contingent resources; the remainder is unrecoverable.

***Production*** is the cumulative quantity of petroleum that has been recovered at a given date.

**Reserves** are estimated remaining quantities of oil and natural gas and related substances anticipated to be recoverable from known accumulations, as of a given date, based on the analysis of drilling, geological, geophysical, and engineering data; the use of established technology; and specified economic conditions, which are generally accepted as being reasonable. Reserves are further classified according to the level of certainty associated with the estimates and may be subclassified based on development and production status.

***Contingent Resources*** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more

contingencies. Contingencies may include factors such as economic, legal, environmental, political, and regulatory matters, or a lack of markets. It is also appropriate to classify as contingent resources the estimated discovered recoverable quantities associated with a project in the early evaluation stage. *Contingent Resources are further classified in accordance with the level of certainty associated with the estimates and may be subclassified based on project maturity and/or characterized by their economic status.*

**Unrecoverable** is that portion of Discovered or Undiscovered PIIP quantities which is estimated, as of a given date, not to be recoverable by future development projects. A portion of these quantities may become recoverable in the future as commercial circumstances change or technological developments occur; the remaining portion may never be recovered due to the physical/chemical constraints represented by subsurface interaction of fluids and reservoir rocks.

**Undiscovered Petroleum Initially-In-Place** (equivalent to undiscovered resources) is that quantity of petroleum that is estimated, on a given date, to be contained in accumulations yet to be discovered. The recoverable portion of undiscovered petroleum initially in place is referred to as “prospective resources,” the remainder as “unrecoverable.”

**Prospective Resources** are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be subclassified based on project maturity.

## Resource Categories

Due to the high uncertainty in estimating resources, evaluations of these assets require some type of probabilistic methodology. When evaluating resources, in particular, contingent and prospective resources, the following mutually exclusive categories are recommended:

- **Low Estimate:** This is considered to be a conservative estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term reflects a P<sub>90</sub> confidence level.

- **Best Estimate:** This is considered to be the best estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term is a measure of central tendency of the uncertainty distribution (most likely/mode, P<sub>50</sub>/median, or arithmetic average/mean).
- **High Estimate:** This is considered to be an optimistic estimate of the quantity that will actually be recovered from the accumulation. If probabilistic methods are used, this term reflects a P<sub>10</sub> confidence level.

**For Contingent Resources**, the general cumulative terms low/best/high estimates are denoted as 1C/2C/3C respectively. For Prospective Resources, the general cumulative terms low/best/high estimates still apply. No specific terms are defined for incremental quantities within Contingent and Prospective Resources.

**Company Gross Contingent Resources** are the Company's working interest share of the contingent resources, before deduction of any royalties.

**Company Net Contingent Resources** are the gross contingent resources of the properties in which the Company has an interest, less all royalties and interests owned by others.

**Fair Market Value** is defined as the price at which a purchaser seeking an economic and commercial return on investment would be willing to buy, and a vendor would be willing to sell, where neither is under compulsion to buy or sell and both are competent and have reasonable knowledge of the facts.

## **APPENDIX B**

**PRICES (AS OF JUNE 30, 2012)**

## Appendix B — Prices (As of June 30, 2012)

Sproule's short-term outlook for oil prices adopts the NYMEX futures market for the forecast period ending **June 30, 2015**. The forecast used in this evaluation was derived as of **June 30, 2012**, and reflects the arithmetic average of the futures market at the close of trading each day, for the month prior to the Termination of Trading date for a **July** contract. The oil price forecasts are based on the NYMEX Division light, sweet (low-sulphur) crude oil futures contract, which specifies the West Texas Intermediate crude as a deliverable.

The NYMEX oil futures prices are the foundation of Sproule's energy pricing models in the early years. This data is combined with Sproule's assumptions respecting long-term prices, inflation rates, and exchange rates. The following paragraphs briefly describe some of the key considerations included in Sproule's long-term outlook for oil price forecasts.

### Oil Prices

In the long term, the price of oil will be governed by supply and demand, and the degree that OPEC is able to manage supply will be a major determinant in establishing oil prices for the next 10 years. A strong demand for crude oil, instability in the Middle East, and the increasing cost of exploration and development has served to increase the price of crude oil throughout the world. In recognition of these factors, Sproule's long-term WTI forecast has been set at **\$90.00 US** per barrel (2012 dollars).

The oil price forecasts set out in Table S-2 are based on a forecast of prices for West Texas Intermediate crude at Cushing, Oklahoma. The price of this marker crude is expected to directly reflect world oil prices over the forecast period. The Nigeria Bonny Light prices were forecast based on historical pricing relationships to WTI. The actual wellhead price of oil will vary with the quality of the crude and the cost of the transportation from the wellhead to the trading hub.

## APPENDIX C

### ABBREVIATIONS, UNITS AND CONVERSION FACTORS

## Appendix C — Abbreviations, Units and Conversion Factors

This appendix contains a list of abbreviations found in Sproule reports, a table comparing Imperial and Metric units, and conversion tables used to prepare this report.

### Abbreviations

AFE	authority for expenditure
AOF	absolute open flow
APO	after pay out
B <sub>g</sub>	gas formation volume factor
B <sub>o</sub>	oil formation volume factor
bopd	barrels of oil per day
bfpd	barrels of fluid per day
BPO	before pay out
BS&W	basic sediment and water
BTU	British thermal unit
bwpd	barrels of water per day
CF	casing flange
CGR	condensate gas ratio
D&A	dry and abandoned
DCQ	daily contract quantity
DSU	drilling spacing unit
DST	drill stem test
EOR	enhanced oil recovery
EPSA	exploration and production sharing agreement
FVF	formation volume factor
GOR	gas-oil ratio
GORR	gross overriding royalty
GWC	gas-water-contact
HCPV	hydrocarbon pore volume
ID	inside diameter
IOR	improved oil recovery
IPR	inflow performance relationship
IRR	internal rate of return
k	permeability
KB	kelly bushing
LKH	lowest known hydrocarbons
LNG	liquefied natural gas

LPG	liquefied petroleum gas
md	millidarcies
MDT	modular formation dynamics tester
MPR	maximum permissive rate
MRL	maximum rate limitation
NGL	natural gas liquids
NORR	net overriding royalty
NPI	net profits interest
NPV	net present value
OD	outside diameter
OGIP	original gas in place
OOIP	original oil in place
ORRI	overriding royalty interest
OWC	oil-water-contact
P1	proved
P2	probable
P3	possible
P&NG	petroleum and natural gas
PI	productivity index
ppm	parts per million
PSU	production spacing unit
PSA	production sharing agreement
PSC	production sharing contract
PVT	pressure-volume-temperature
RFT	repeat formation tester
RT	rotary table
SCAL	special core analysis
SS	subsea
TVD	true vertical depth
WGR	water gas ratio
WI	working interest
WOR	water oil ratio
2D	two-dimensional
3D	three-dimensional
4D	four-dimensional
1P	proved
2P	proved plus probable
3P	proved plus probable plus possible
°API	degrees API (American Petroleum Institute)



## Imperial and Metric Units

Imperial Units			Metric Units	
M (10 <sup>3</sup> )	one thousand	<b>Prefixes</b>	k (10 <sup>3</sup> )	one thousand
MM (10 <sup>6</sup> )	Million		M (10 <sup>6</sup> )	million
B (10 <sup>9</sup> )	one billion		T (10 <sup>12</sup> )	one trillion
T (10 <sup>12</sup> )	one trillion		E (10 <sup>18</sup> )	one trillion
			G (10 <sup>9</sup> )	one milliard
in.	Inches	<b>Length</b>	cm	centimetres
ft	Feet		m	metres
mi	Mile		km	kilometres
ft <sup>2</sup>	square feet	<b>Area</b>	m <sup>2</sup>	square metres
ac	Acres		ha	hectares
cf or ft <sup>3</sup>	cubic feet	<b>Volume</b>	m <sup>3</sup>	cubic metres
scf	Standard cubic feet		L	litres
gal	Gallons			
Mcf	Thousand cubic feet			
Mcfpd	Thousand cubic feet per day			
MMcf	million cubic feet			
MMcfpd	million cubic feet per day			
Bcf	billion cubic feet (10 <sup>9</sup> )			
bbl	Barrels		m <sup>3</sup>	cubic metre
Mbbl	Thousand barrels			
stb	stock tank barrel		stm <sup>3</sup>	stock tank cubic metres
bbl/d	barrels per day		m <sup>3</sup> /d	cubic metre per day
bbl/mo	barrels per month			
Btu	British thermal units	<b>Energy</b>	J	joules
			MJ/m <sup>3</sup>	megajoules per cubic metre (10 <sup>6</sup> )
			TJ/d	terajoule per day (10 <sup>12</sup> )
oz	ounce	<b>Mass</b>	g	gram
lb	pounds		kg	kilograms
ton	ton		t	tonne
lt	long tons			
Mlt	thousand long tons			
psi	pounds per square inch	<b>Pressure</b>	Pa	pascals
psia	pounds per square inch absolute		kPa	kilopascals (10 <sup>3</sup> )
psig	pounds per square inch gauge			
°F	degrees Fahrenheit	<b>Temperature</b>	°C	degrees Celsius
°R	degrees Rankine		K	Kelvin
M\$	thousand dollars	<b>Dollars</b>	k\$	thousand dollars

**Imperial and Metric Units (Cont'd)**

Imperial Units		Time	Metric Units	
sec	second		s	second
min	minute	min	minute	
hr	hour	h	hour	
day	day	d	day	
wk	week		week	
mo	month		month	
yr	year	a	annum	

## Conversion Tables

Conversion Factors — Metric to Imperial		
cubic metres (m <sup>3</sup> ) (@ 15°C)	x 6.29010	= barrels (bbl) (@ 60°F), water
m <sup>3</sup> (@ 15°C)	x 6.3300	= bbl (@ 60°F), Ethane
m <sup>3</sup> (@ 15°C)	x 6.30001	= bbl (@ 60°F), Propane
m <sup>3</sup> (@ 15°C)	x 6.29683	= bbl (@ 60°F), Butanes
m <sup>3</sup> (@ 15°C)	x 6.29287	= bbl (@ 60°F), oil, Pentanes Plus
m <sup>3</sup> (@ 101.325 kPaa, 15°C)	x 0.0354937	= thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)
1,000 cubic metres (10 <sup>3</sup> m <sup>3</sup> ) (@ 101.325 kPaa, 15°C)	x 35.49373	= Mcf (@ 14.65 psia, 60°F)
hectares (ha)	x 2.4710541	= acres
1,000 square metres (10 <sup>3</sup> m <sup>2</sup> )	x 0.2471054	= acres
10,000 cubic metres (ha·m)	x 8.107133	= acre feet (ac-ft)
m <sup>3</sup> /10 <sup>3</sup> m <sup>3</sup> (@ 101.325 kPaa, 15° C)	x 0.0437809	= Mcf/Ac.ft. (@ 14.65 psia, 60°F)
joules (j)	x 0.000948213	= Btu
megajoules per cubic metre (MJ/m <sup>3</sup> ) (@ 101.325 kPaa, 15°C)	x 26.714952	= British thermal units per standard cubic foot (Btu/scf) (@ 14.65 psia, 60°F)
dollars per gigajoule (\$/GJ)	x 1.054615	= \$/Mcf (1,000 Btu gas)
metres (m)	x 3.28084	= feet (ft)
kilometres (km)	x 0.6213712	= miles (mi)
dollars per 1,000 cubic metres (\$/10 <sup>3</sup> m <sup>3</sup> )	x 0.0288951	= dollars per thousand cubic feet (\$/Mcf) (@ 15.025 psia) B.C.
(\$/10 <sup>3</sup> m <sup>3</sup> )	x 0.02817399	= \$/Mcf (@ 14.65 psia) Alta.
dollars per cubic metre (\$/m <sup>3</sup> )	x 0.158910	= dollars per barrel (\$/bbl)
gas/oil ratio (GOR) (m <sup>3</sup> /m <sup>3</sup> )	x 5.640309	= GOR (scf/bbl)
kilowatts (kW)	x 1.341022	= horsepower
kilopascals (kPa)	x 0.145038	= psi
tonnes (t)	x 0.9842064	= long tons (LT)
kilograms (kg)	x 2.204624	= pounds (lb)
litres (L)	x 0.2199692	= gallons (Imperial)
litres (L)	x 0.264172	= gallons (U.S.)
cubic metres per million cubic metres (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> ) (C <sub>3</sub> )	x 0.177496	= barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia)
m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> (C <sub>4</sub> )	x 0.1774069	= bbl/MMcf (@ 14.65 psia)
m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> (C <sub>5+</sub> )	x 0.1772953	= bbl/MMcf (@ 14.65 psia)
tonnes per million cubic metres (t/10 <sup>6</sup> m <sup>3</sup> ) (sulphur)	x 0.0277290	= LT/MMcf (@ 14.65 psia)
millilitres per cubic meter (mL/m <sup>3</sup> ) (C <sub>5+</sub> )	x 0.0061974	= gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf)
(mL/m <sup>3</sup> ) (C <sub>5+</sub> )	x 0.0074428	= gallons (U.S.) per thousand cubic feet (gal (U.S.)/Mcf)
Kelvin (K)	x 1.8	= degrees Rankine (°R)
millipascal seconds (mPa·s)	x 1.0	= centipoise

## Conversion Tables (Cont'd)

Conversion Factors — Imperial to Metric		
barrels (bbl) (@ 60°F)	x 0.15898	= cubic metres (m <sup>3</sup> ) (@ 15°C), water
bbl (@ 60°F)	x 0.15798	= m <sup>3</sup> (@ 15°C), Ethane
bbl (@ 60°F)	x 0.15873	= m <sup>3</sup> (@ 15°C), Propane
bbl (@ 60°F)	x 0.15881	= m <sup>3</sup> (@ 15°C), Butanes
bbl (@ 60°F)	x 0.15891	= m <sup>3</sup> (@ 15°C), oil, Pentanes Plus
thousands of cubic feet (Mcf) (@ 14.65 psia, 60°F)	x 28.17399	= m <sup>3</sup> (@ 101.325 kPaa, 15°C)
Mcf (@ 14.65 psia, 60°F)	x .02817399	= 1,000 cubic metres (10 <sup>3</sup> m <sup>3</sup> ) (@ 101.325 kPaa, 15°C)
acres	x 0.4046856	= hectares (ha)
acres	x 4.046856	= 1,000 square metres (10 <sup>3</sup> m <sup>2</sup> )
acre feet (ac-ft)	x 0.123348	= 10,000 cubic metres (10 <sup>4</sup> m <sup>3</sup> ) (ha·m)
Mcf/ac-ft (@ 14.65 psia, 60°F)	x 22.841028	= 10 <sup>3</sup> m <sup>3</sup> /m <sup>3</sup> (@ 101.325 kPaa, 15°C)
Btu	x 1054.615	= joules (J)
British thermal units per standard cubic foot (Btu/Scf) (@ 14.65 psia, 60°F)	x .03743222	= megajoules per cubic metre (MJ/m <sup>3</sup> ) (@ 101.325 kPaa, 15°C)
\$/Mcf (1,000 Btu gas)	x 0.9482133	= dollars per gigajoule (\$/GJ)
\$/Mcf (@ 14.65 psia, 60°F) Alta.	x 35.49373	= \$/10 <sup>3</sup> m <sup>3</sup> (@ 101.325 kPaa, 15°C)
\$/Mcf (@ 15.025 psia, 60°F), B.C.	x 34.607860	= \$/10 <sup>3</sup> m <sup>3</sup> (@ 101.325 kPaa, 15°C)
feet (ft)	x 0.3048	= metres (m)
miles (mi)	x 1.609344	= kilometres (km)
\$/bbl	x 6.29287	= \$/m <sup>3</sup> (average for 30°-50° API)
GOR (scf/bbl)	x 0.177295	= gas/oil ratio (GOR) (m <sup>3</sup> /m <sup>3</sup> )
horsepower	x 0.7456999	= kilowatts (kW)
psi	x 6.894757	= kilopascals (kPa)
long tons (LT)	x 1.016047	= tonnes (t)
pounds (lb)	x 0.453592	= kilograms (kg)
gallons (Imperial)	x 4.54609	= litres (L) (.001 m <sup>3</sup> )
gallons (U.S.)	x 3.785412	= litres (L) (.001 m <sup>3</sup> )
barrels per million cubic feet (bbl/MMcf) (@ 14.65 psia) (C <sub>3</sub> )	x 5.6339198	= cubic metres per million cubic metres (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
bbl/MMcf (C <sub>4</sub> )	x 5.6367593	= (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
bbl/MMcf (C <sub>5+</sub> )	x 5.6403087	= (m <sup>3</sup> /10 <sup>6</sup> m <sup>3</sup> )
LT/MMcf (sulphur)	x 36.063298	= tonnes per million cubic metres (t/10 <sup>6</sup> m <sup>3</sup> )
gallons (Imperial) per thousand cubic feet (gal (Imp)/Mcf) (C <sub>5+</sub> )	x 161.3577	= millilitres per cubic meter (mL/m <sup>3</sup> )
gallons (U.S.) per thousand cubic feet (gal (U.S.)/Mcf) (C <sub>5+</sub> )	x 134.3584	= (mL/m <sup>3</sup> )
degrees Rankine (°R)	x 0.555556	= Kelvin (K)
centipoises	x 1.0	= millipascal seconds (mPa·s)

## APPENDIX D

### **Economic Sensitivity Results for a 0% PPT (Petroleum Profit Tax) During the First Five Years**

# Economic Summary

## Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Company Description

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	45.47	0.00	100.00	47.78
Company (% of Contr)	47.90	0.00	100.00	47.78
Partner (% of Contr)	0.00	0.00	0.00	0.00
Contr	94.92	0.00	100.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2032/10			

### Company Economic Indicators

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	417,666	278,018	8.15	4.82
	5.0	324,947	237,162	6.86	4.71
	10.0	262,255	204,837	5.86	4.43
	15.0	217,657	178,838	5.09	4.12
	20.0	184,601	157,614	4.49	3.82
	25.0	159,272	140,060	4.01	3.54
AT ROR (%)		>800.00		Contr Take (%)	54.63
AT Payout (yrs)		0.75		NOC Take (%)	0.00
F&D (\$US/BOE)		8.59		Gov't Take (%)	45.37

### Company Economics (per Unit)

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	589,534	100.00	111.67
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	105,519	17.90	19.99
Tariffs	0	0.00	0.00
Prod & Asset Taxes	13,502	2.29	2.56
Capital Costs	51,248	8.69	9.71
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	417,666	70.85	79.11
Less Income Tax	139,648	23.69	26.45
After Tax Cash Flow	278,018	41.89	46.78

### Company Prod and Investments

	Project	Company Gross	Company Net
Oil (MSTB)	11,589	5,562	5,279
Gas (MMSCF)	0	0	0
NGL (MSTB)	0	0	0
Tax (MSTB)	-	0	0
Total (MBOE)	11,589	5,562	5,279
Acquisition (M\$US)	-	-	0
Exploration (M\$US)	0	0	0
Development (M\$US)	45,355	45,355	45,355
Abandonment (M\$US)	5,893	5,893	5,893
Total (M\$US)	51,248	51,248	51,248

### Company Cash Flow

Date	Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	347	229	-13,307	0	-13,307
2013(12)	82,745	6,047	32,640	173	1,308	691	233	41,653	0	41,653
2014(12)	80,893	4,401	0	194	1,528	135	238	74,398	0	74,398
2015(12)	65,829	4,489	0	161	1,225	138	243	59,575	0	59,575
2016(12)	56,713	4,579	0	141	1,040	141	247	50,565	0	50,565
2017(12)	46,595	4,670	0	119	836	144	252	40,573	0	40,573
2018(12)	38,877	4,764	0	103	680	147	257	32,926	27,987	4,939
2019(12)	32,800	4,859	0	85	556	149	263	26,887	22,854	4,033
2020(12)	28,027	4,956	0	75	459	152	268	22,117	18,799	3,318
2021(12)	24,019	5,055	0	67	377	156	273	18,092	15,378	2,714
2022(12)	20,808	5,156	0	60	310	159	279	14,844	12,617	2,227
2023(12)	18,155	5,259	0	55	255	162	284	12,140	10,319	1,821
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	589,534	105,519	45,355	1,599	9,403	4,099	5,893	417,666	139,648	278,018

# Production Detail

## Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Prod Detail 1

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp WI Oil Volume	Comp Net Volume Oil	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	2	4,351	1,588	862	817	101.25	0	0	0	0	0	0.00
2014(12)	3	5,082	1,855	872	826	97.97	0	0	0	0	0	0.00
2015(12)	3	3,975	1,451	682	647	101.76	0	0	0	0	0	0.00
2016(12)	3	3,164	1,158	544	517	109.72	0	0	0	0	0	0.00
2017(12)	3	2,555	932	438	416	111.91	0	0	0	0	0	0.00
2018(12)	3	2,090	763	359	341	114.15	0	0	0	0	0	0.00
2019(12)	3	1,729	631	297	282	116.43	0	0	0	0	0	0.00
2020(12)	3	1,444	529	248	236	118.76	0	0	0	0	0	0.00
2021(12)	3	1,217	444	209	198	121.14	0	0	0	0	0	0.00
2022(12)	3	1,033	377	177	168	123.56	0	0	0	0	0	0.00
2023(12)	3	884	323	152	144	126.03	0	0	0	0	0	0.00
2024(12)	3	761	279	131	124	128.55	0	0	0	0	0	0.00
2025(12)	3	659	241	113	107	131.12	0	0	0	0	0	0.00
2026(12)	3	574	209	98	94	133.74	0	0	0	0	0	0.00
2027(12)	3	502	183	86	82	136.42	0	0	0	0	0	0.00
2028(12)	3	442	162	76	72	139.15	0	0	0	0	0	0.00
2029(12)	3	390	142	67	64	141.93	0	0	0	0	0	0.00
2030(12)	3	346	126	59	56	144.77	0	0	0	0	0	0.00
2031(12)	3	308	112	53	50	147.66	0	0	0	0	0	0.00
2032(12)	3	277	85	40	38	150.62	0	0	0	0	0	0.00
Total	---	---	11,589	5,562	5,279	---	---	---	0	0	0	0.00

### Prod Detail 2

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	1,588	862	817	101.25	160,785
2014(12)	0	0	0	0	0.00	1,855	872	826	97.97	181,710
2015(12)	0	0	0	0	0.00	1,451	682	647	101.76	147,624
2016(12)	0	0	0	0	0.00	1,158	544	517	109.72	127,053
2017(12)	0	0	0	0	0.00	932	438	416	111.91	104,356
2018(12)	0	0	0	0	0.00	763	359	341	114.15	87,070
2019(12)	0	0	0	0	0.00	631	297	282	116.43	73,459
2020(12)	0	0	0	0	0.00	529	248	236	118.76	62,771
2021(12)	0	0	0	0	0.00	444	209	198	121.14	53,795
2022(12)	0	0	0	0	0.00	377	177	168	123.56	46,603
2023(12)	0	0	0	0	0.00	323	152	144	126.03	40,660
2024(12)	0	0	0	0	0.00	279	131	124	128.55	35,810
2025(12)	0	0	0	0	0.00	241	113	107	131.12	31,543
2026(12)	0	0	0	0	0.00	209	98	94	133.74	28,017
2027(12)	0	0	0	0	0.00	183	86	82	136.42	25,010
2028(12)	0	0	0	0	0.00	162	76	72	139.15	22,495
2029(12)	0	0	0	0	0.00	142	67	64	141.93	20,205
2030(12)	0	0	0	0	0.00	126	59	56	144.77	18,274
2031(12)	0	0	0	0	0.00	112	53	50	147.66	16,589
2032(12)	0	0	0	0	0.00	85	40	38	150.62	12,746
Total	---	0	0	0	0.00	11,589	5,562	5,279	---	1,296,576

# Revenue & Burden Detail

## Ogedeh Field, Nigeria - C2+C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Revenue & Burden Detail1

Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	16	0	0	0	16
2013(12)	160,785	2	4,020	3	4,269	8,288	152,496	16	0	146	10	326
2014(12)	181,710	3	4,682	3	4,915	9,597	172,113	17	0	165	12	364
2015(12)	147,624	2	3,691	3	3,871	7,562	140,062	17	0	134	9	297
2016(12)	127,053	2	3,176	3	3,210	6,387	120,666	17	0	116	8	257
2017(12)	104,356	2	2,609	2	2,609	5,218	99,138	18	0	95	7	213
2018(12)	87,070	2	2,177	2	2,177	4,353	82,716	18	0	79	5	179
2019(12)	73,459	2	1,836	2	1,836	3,673	69,786	14	0	67	5	151
2020(12)	62,771	2	1,569	2	1,569	3,139	59,633	14	0	57	4	130
2021(12)	53,795	2	1,345	2	1,345	2,690	51,105	14	0	49	3	112
2022(12)	46,603	2	1,165	2	1,165	2,330	44,273	15	0	43	3	98
2023(12)	40,660	2	1,017	2	1,017	2,033	38,627	15	0	37	3	87
2024(12)	35,810	2	895	2	895	1,791	34,020	15	0	33	2	77
2025(12)	31,543	2	789	2	789	1,577	29,966	16	0	29	2	69
2026(12)	28,017	2	700	2	700	1,401	26,616	16	0	26	2	62
2027(12)	25,010	2	625	2	625	1,251	23,760	16	0	23	2	57
2028(12)	22,495	2	562	2	562	1,125	21,371	16	0	21	1	52
2029(12)	20,205	2	505	2	505	1,010	19,195	17	0	18	1	48
2030(12)	18,274	2	457	2	457	914	17,360	17	0	17	1	44
2031(12)	16,589	2	415	2	415	829	15,760	17	0	15	1	41
2032(12)	12,746	2	319	2	319	637	12,109	15	0	12	1	32
Total	1,296,576	---	32,554	---	33,250	65,804	1,230,771	336	0	1,182	81	2,712

### Revenue & Burden Detail2

Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	347	12,715	0	9,587	420	9,950
2013(12)	9,180	691	32,640	1,308	25,095	1,077	33,315
2014(12)	9,364	135	0	1,528	3,231	0	9,489
2015(12)	9,551	138	0	1,225	3,236	0	9,248
2016(12)	9,742	141	0	1,040	3,199	0	9,100
2017(12)	9,937	144	0	836	2,299	0	8,068
2018(12)	10,135	147	0	680	257	0	5,950
2019(12)	10,338	149	0	556	263	0	5,913
2020(12)	10,545	152	0	459	268	0	5,911
2021(12)	10,756	156	0	377	273	0	5,927
2022(12)	10,971	159	0	310	279	0	5,964
2023(12)	11,190	162	0	255	284	0	6,015
2024(12)	11,414	165	0	210	290	0	6,079
2025(12)	11,642	168	0	169	296	0	6,152
2026(12)	11,875	172	0	136	302	0	6,234
2027(12)	12,113	175	0	107	308	0	6,323
2028(12)	12,355	179	0	82	314	0	6,419
2029(12)	12,602	182	0	59	320	0	6,521
2030(12)	12,854	186	0	39	326	0	6,628
2031(12)	13,111	190	0	22	333	0	6,740
2032(12)	11,145	162	0	6	489	0	5,922
Total	220,821	4,099	45,355	9,403	51,248	1,497	171,868



# Economic Summary

## Ogedeh Field, Nigeria - C2: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Company Description

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	46.10	0.00	100.00	48.62
Company (% of Contr)	48.56	0.00	100.00	48.62
Partner (% of Contr)	0.00	0.00	0.00	0.00
Contr	94.95	0.00	100.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2023/10			

### Company Economic Indicators

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	209,692	177,732	4.13	3.36
	5.0	176,288	154,067	3.68	3.15
	10.0	150,504	134,747	3.30	2.93
	15.0	130,174	118,801	2.99	2.73
	20.0	113,847	105,506	2.72	2.53
	25.0	100,521	94,314	2.48	2.36
AT ROR (%)		597.29		Contr Take (%)	74.69
AT Payout (yrs)		0.83		NOC Take (%)	0.00
F&D (\$US/BOE)		14.89		Gov't Take (%)	25.31

### Company Economics (per Unit)

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	322,338	100.00	105.80
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	53,406	16.57	17.53
Tariffs	0	0.00	0.00
Prod & Asset Taxes	7,652	2.37	2.51
Capital Costs	50,720	15.73	16.65
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	209,692	65.05	68.82
Less Income Tax	31,960	9.91	10.49
After Tax Cash Flow	177,732	52.93	56.00

### Company Prod and Investments

	Project	Company Gross	Company Net
Oil (MSTB)	6,599	3,209	3,047
Gas (MMSCF)	0	0	0
NGL (MSTB)	0	0	0
Tax (MSTB)	-	0	0
Total (MBOE)	6,599	3,209	3,047
Acquisition (M\$US)	-	-	0
Exploration (M\$US)	0	0	0
Development (M\$US)	45,355	45,355	45,355
Abandonment (M\$US)	5,365	5,365	5,365
Total (M\$US)	50,720	50,720	50,720

### Company Cash Flow

Date	WI Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	12,715	16	0	352	400	-13,483	0	-13,483
2013(12)	72,352	6,094	32,640	152	1,087	719	408	31,253	0	31,253
2014(12)	64,574	4,401	0	158	1,200	138	416	58,262	0	58,262
2015(12)	48,006	4,489	0	122	866	141	424	41,964	0	41,964
2016(12)	37,681	4,579	0	100	658	143	433	31,769	0	31,769
2017(12)	28,179	4,670	0	79	466	146	442	22,376	0	22,376
2018(12)	21,378	4,764	0	65	328	149	450	15,622	13,279	2,343
2019(12)	16,375	4,859	0	50	226	152	459	10,628	9,034	1,594
2020(12)	11,957	4,956	0	40	136	155	469	6,201	5,271	930
2021(12)	9,403	5,055	0	35	82	158	478	3,594	3,055	539
2022(12)	7,432	5,156	0	31	41	162	488	1,554	1,321	233
2023(12)	5,001	4,383	0	23	8	138	497	-49	0	-49
Total	322,338	53,406	45,355	869	5,098	2,554	5,365	209,692	31,960	177,732

# Production Detail

## Ogedeh Field, Nigeria - C2: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Prod Detail 1

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp WI Oil Volume	Comp Net Volume Oil	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	2	3,763	1,374	753	715	101.25	0	0	0	0	0	0.00
2014(12)	3	4,050	1,478	695	659	97.97	0	0	0	0	0	0.00
2015(12)	3	2,895	1,057	497	472	101.76	0	0	0	0	0	0.00
2016(12)	3	2,102	769	362	343	109.72	0	0	0	0	0	0.00
2017(12)	3	1,545	564	265	252	111.91	0	0	0	0	0	0.00
2018(12)	3	1,149	419	197	187	114.15	0	0	0	0	0	0.00
2019(12)	3	863	315	148	141	116.43	0	0	0	0	0	0.00
2020(12)	3	616	225	106	101	118.76	0	0	0	0	0	0.00
2021(12)	3	476	174	82	78	121.14	0	0	0	0	0	0.00
2022(12)	3	369	135	63	60	123.56	0	0	0	0	0	0.00
2023(12)	3	292	89	42	40	126.03	0	0	0	0	0	0.00
Total	---	---	6,599	3,209	3,047	---	---	---	0	0	0	0.00

### Prod Detail 2

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	1,374	753	715	101.25	139,065
2014(12)	0	0	0	0	0.00	1,478	695	659	97.97	144,820
2015(12)	0	0	0	0	0.00	1,057	497	472	101.76	107,516
2016(12)	0	0	0	0	0.00	769	362	343	109.72	84,393
2017(12)	0	0	0	0	0.00	564	265	252	111.91	63,111
2018(12)	0	0	0	0	0.00	419	197	187	114.15	47,879
2019(12)	0	0	0	0	0.00	315	148	141	116.43	36,673
2020(12)	0	0	0	0	0.00	225	106	101	118.76	26,779
2021(12)	0	0	0	0	0.00	174	82	78	121.14	21,060
2022(12)	0	0	0	0	0.00	135	63	60	123.56	16,644
2023(12)	0	0	0	0	0.00	89	42	40	126.03	11,201
Total	---	0	0	0	0.00	6,599	3,209	3,047	---	699,141

# Revenue & Burden Detail

## Ogedeh Field, Nigeria - C2: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Revenue & Burden Detail1

Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	16	0	0	0	16
2013(12)	139,065	2	3,477	3	3,617	7,094	131,971	16	0	127	9	283
2014(12)	144,820	2	3,620	3	3,808	7,428	137,391	17	0	132	9	292
2015(12)	107,516	2	2,688	2	2,688	5,376	102,141	17	0	98	7	219
2016(12)	84,393	2	2,110	2	2,110	4,220	80,173	17	0	77	5	174
2017(12)	63,111	2	1,578	2	1,578	3,156	59,956	18	0	58	4	132
2018(12)	47,879	2	1,197	2	1,197	2,394	45,485	18	0	44	3	102
2019(12)	36,673	2	917	2	917	1,834	34,840	14	0	33	2	78
2020(12)	26,779	2	669	2	669	1,339	25,440	14	0	24	2	59
2021(12)	21,060	2	526	2	526	1,053	20,007	14	0	19	1	48
2022(12)	16,644	2	416	2	416	832	15,812	15	0	15	1	40
2023(12)	11,201	2	280	2	280	560	10,641	12	0	10	1	28
<b>Total</b>	<b>699,141</b>	<b>---</b>	<b>17,479</b>	<b>---</b>	<b>17,806</b>	<b>35,285</b>	<b>663,856</b>	<b>188</b>	<b>0</b>	<b>637</b>	<b>44</b>	<b>1,471</b>

### Revenue & Burden Detail2

Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	352	12,715	0	9,758	420	10,126
2013(12)	9,180	719	32,640	1,087	25,270	1,077	33,321
2014(12)	9,364	138	0	1,200	3,410	0	9,306
2015(12)	9,551	141	0	866	3,418	0	9,036
2016(12)	9,742	143	0	658	3,384	0	8,864
2017(12)	9,937	146	0	466	2,488	0	7,850
2018(12)	10,135	149	0	328	450	0	5,756
2019(12)	10,338	152	0	226	459	0	5,746
2020(12)	10,545	155	0	136	469	0	5,756
2021(12)	10,756	158	0	82	478	0	5,809
2022(12)	10,971	162	0	41	488	0	5,877
2023(12)	9,325	138	0	8	647	0	5,199
<b>Total</b>	<b>109,844</b>	<b>2,554</b>	<b>45,355</b>	<b>5,098</b>	<b>50,720</b>	<b>1,497</b>	<b>112,646</b>

# Economic Summary

## Ogedeh Field, Nigeria - C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June, 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Company Description

	Net Revenue	Net Expl	Net Dev	Net Opex
Company (% of Total)	44.72	0.00	0.00	46.96
Company (% of Contr)	47.13	0.00	0.00	46.96
Partner (% of Contr)	0.00	0.00	0.00	0.00
Contr	94.89	0.00	0.00	100.00
NOC	0.00	0.00	0.00	0.00
Model	Nigeria R/T (2000)James Bay			
Global Params	SIL as of June 30, 2012			
Escalation Date	2012/07			
Discount Date	2012/07			
Economic Limit	2032/10			

### Company Economic Indicators

	Disc. Rate	BT NPV	AT NPV	BT PIR	AT PIR
	(%)	(M\$US)	(M\$US)	(fraction)	(fraction)
	0	207,974	100,286	393.55	144.47
	5.0	148,659	83,095	-318.56	-154.91
	10.0	111,751	70,090	-142.70	-82.88
	15.0	87,483	60,036	-103.12	-67.65
	20.0	70,754	52,108	-85.91	-61.51
	25.0	58,751	45,746	-76.24	-58.26
AT ROR (%)		>800.00		Contr Take (%)	32.40
AT Payout (yrs)		0.00		NOC Take (%)	0.00
F&D (\$US/BOE)		0.00		Gov't Take (%)	67.60

### Company Economics (per Unit)

	(M\$US)	(%)	(\$US/BOE)
Net Revenue	267,196	100.00	119.68
Less:			
Bonuses & Fees	0	0.00	0.00
Operating Costs	52,113	19.50	23.34
Tariffs	0	0.00	0.00
Prod & Asset Taxes	5,851	2.19	2.62
Capital Costs	528	0.20	0.24
Plus: Other Income/Expense	0	0.00	0.00
Before Tax Cash Flow	207,974	77.84	93.15
Less Income Tax	107,688	40.30	48.23
After Tax Cash Flow	100,286	28.57	34.20

### Company Prod and Investments

	Project	Company Gross	Company Net
Oil (MSTB)	4,991	2,353	2,233
Gas (MMSCF)	0	0	0
NGL (MSTB)	0	0	0
Tax (MSTB)	-	0	0
Total (MBOE)	4,991	2,353	2,233
Acquisition (M\$US)	-	-	0
Exploration (M\$US)	0	0	0
Development (M\$US)	0	0	0
Abandonment (M\$US)	528	528	528
Total (M\$US)	528	528	528

### Company Cash Flow

Date	Comp Net Revenue Total	Total Operating Costs	Capital	Gov't Duties & Fees	Education Tax	NDDC Levy	Aband	BTCF	PPT	ATCF
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	-5	-171	176	0	176
2013(12)	10,393	-46	0	21	221	-27	-175	10,399	0	10,399
2014(12)	16,319	0	0	36	328	-3	-178	16,136	0	16,136
2015(12)	17,823	0	0	39	358	-3	-182	17,611	0	17,611
2016(12)	19,032	0	0	42	382	-3	-186	18,796	0	18,796
2017(12)	18,416	0	0	40	370	-3	-189	18,198	0	18,198
2018(12)	17,499	0	0	38	352	-3	-193	17,305	14,709	2,596
2019(12)	16,425	0	0	36	330	-3	-197	16,258	13,820	2,439
2020(12)	16,071	0	0	35	323	-3	-201	15,916	13,528	2,387
2021(12)	14,616	0	0	32	294	-3	-205	14,498	12,323	2,175
2022(12)	13,376	0	0	29	269	-3	-209	13,290	11,296	1,993
2023(12)	13,154	877	0	31	248	23	-213	12,188	10,319	1,870
2024(12)	15,989	5,365	0	50	210	165	290	9,910	8,423	1,486
2025(12)	14,084	5,472	0	46	169	168	296	7,932	6,742	1,190
2026(12)	12,509	5,581	0	43	136	172	302	6,276	5,335	941
2027(12)	11,167	5,693	0	41	107	175	308	4,844	4,118	727
2028(12)	10,044	5,807	0	38	82	179	314	3,625	3,081	544
2029(12)	9,022	5,923	0	36	59	182	320	2,501	2,126	375
2030(12)	8,159	6,041	0	35	39	186	326	1,531	1,301	230
2031(12)	7,407	6,162	0	34	22	190	333	667	567	100
2032(12)	5,691	5,238	0	27	6	162	340	-82	0	-82
Total	267,196	52,113	0	730	4,306	1,545	528	207,974	107,688	100,286

# Production Detail

## Ogedeh Field, Nigeria - C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June, 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Prod Detail 1

Date	# of Oil Wells	Project Oil Rate	Project Oil Volume	Comp WI Oil Volume	Comp Net Volume Oil	Oil Price	# of Gas Wells	Project Gas Rate	Project Gas Volume	Comp Gross Gas Volume	Comp Gas Volume	Gas Price
		Bbl/d	MSTB	MSTB	MSTB	\$/Bbl		mcf/d	MMSCF	MMSCF	MMSCF	\$/mcf
2012(12)	0	0	0	0	0	0.00	0	0	0	0	0	0.00
2013(12)	0	588	215	109	103	101.25	0	0	0	0	0	0.00
2014(12)	0	1,032	377	177	167	97.97	0	0	0	0	0	0.00
2015(12)	0	1,080	394	185	175	101.76	0	0	0	0	0	0.00
2016(12)	0	1,062	389	183	173	109.72	0	0	0	0	0	0.00
2017(12)	0	1,010	369	173	165	111.91	0	0	0	0	0	0.00
2018(12)	0	941	343	161	153	114.15	0	0	0	0	0	0.00
2019(12)	0	866	316	148	141	116.43	0	0	0	0	0	0.00
2020(12)	0	828	303	142	135	118.76	0	0	0	0	0	0.00
2021(12)	0	740	270	127	121	121.14	0	0	0	0	0	0.00
2022(12)	0	664	242	114	108	123.56	0	0	0	0	0	0.00
2023(12)	1	640	234	110	104	126.03	0	0	0	0	0	0.00
2024(12)	3	761	279	131	124	128.55	0	0	0	0	0	0.00
2025(12)	3	659	241	113	107	131.12	0	0	0	0	0	0.00
2026(12)	3	574	209	98	94	133.74	0	0	0	0	0	0.00
2027(12)	3	502	183	86	82	136.42	0	0	0	0	0	0.00
2028(12)	3	442	162	76	72	139.15	0	0	0	0	0	0.00
2029(12)	3	390	142	67	64	141.93	0	0	0	0	0	0.00
2030(12)	3	346	126	59	56	144.77	0	0	0	0	0	0.00
2031(12)	3	308	112	53	50	147.66	0	0	0	0	0	0.00
2032(12)	3	277	85	40	38	150.62	0	0	0	0	0	0.00
Total	---	---	4,991	2,353	2,233	---	---	---	0	0	0	0.00

### Prod Detail 2

Date	Project NGL Rate	Project NGL Volume	Comp Gross Reserves NGL	Comp Net NGL Volume	NGL Price	Project BOE Volume	Comp Gross BOE Volume	Comp Net BOE Volume	Blended BOE Price	Total Project Revenue
	Bbl/d	MSTB	MSTB	MSTB	\$/Bbl	MBOE	MSTB	MBOE	\$/BOE	M\$US
2012(12)	0	0	0	0	0.00	0	0	0	0.00	0
2013(12)	0	0	0	0	0.00	215	109	103	101.25	21,720
2014(12)	0	0	0	0	0.00	377	177	167	97.97	36,891
2015(12)	0	0	0	0	0.00	394	185	175	101.76	40,108
2016(12)	0	0	0	0	0.00	389	183	173	109.72	42,660
2017(12)	0	0	0	0	0.00	369	173	165	111.91	41,245
2018(12)	0	0	0	0	0.00	343	161	153	114.15	39,191
2019(12)	0	0	0	0	0.00	316	148	141	116.43	36,786
2020(12)	0	0	0	0	0.00	303	142	135	118.76	35,992
2021(12)	0	0	0	0	0.00	270	127	121	121.14	32,735
2022(12)	0	0	0	0	0.00	242	114	108	123.56	29,958
2023(12)	0	0	0	0	0.00	234	110	104	126.03	29,460
2024(12)	0	0	0	0	0.00	279	131	124	128.55	35,810
2025(12)	0	0	0	0	0.00	241	113	107	131.12	31,543
2026(12)	0	0	0	0	0.00	209	98	94	133.74	28,017
2027(12)	0	0	0	0	0.00	183	86	82	136.42	25,010
2028(12)	0	0	0	0	0.00	162	76	72	139.15	22,495
2029(12)	0	0	0	0	0.00	142	67	64	141.93	20,205
2030(12)	0	0	0	0	0.00	126	59	56	144.77	18,274
2031(12)	0	0	0	0	0.00	112	53	50	147.66	16,589
2032(12)	0	0	0	0	0.00	85	40	38	150.62	12,746
Total	---	0	0	0	0.00	4,991	2,353	2,233	---	597,435

# Revenue & Burden Detail

## Ogedeh Field, Nigeria - C3: Contingent (unrisked)

*Prod'n Start: 2013/01, As Of: June, 30, 2012. Escalated Prices and Costs  
pioneer status option 0% PPT*

### Revenue & Burden Detail1

Date	Total Revenue	Marginal Fields Royalty Rate	Marginal Field Royalty	ORR Rate	Over-riding Royalty	Total Oil Royalty	Total Contr Revenue	Surface Rental	Import Duties	NESS Fee	CBN Commision	Total Gov't Duties & Fees
	M\$US	%	M\$US	%	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US	M\$US
2012(12)	0	0	0	0	0	0	0	0	0	0	0	0
2013(12)	21,720	2	543	3	652	1,195	20,525	0	0	20	1	42
2014(12)	36,891	3	1,062	3	1,107	2,169	34,722	0	0	33	3	72
2015(12)	40,108	2	1,003	3	1,183	2,186	37,922	0	0	36	3	78
2016(12)	42,660	2	1,066	3	1,101	2,167	40,493	0	0	39	3	84
2017(12)	41,245	2	1,031	2	1,031	2,062	39,183	0	0	38	3	81
2018(12)	39,191	2	980	2	980	1,960	37,231	0	0	36	2	77
2019(12)	36,786	2	920	2	920	1,839	34,947	0	0	34	2	72
2020(12)	35,992	2	900	2	900	1,800	34,193	0	0	33	2	71
2021(12)	32,735	2	818	2	818	1,637	31,098	0	0	30	2	64
2022(12)	29,958	2	749	2	749	1,498	28,461	0	0	27	2	59
2023(12)	29,460	2	736	2	736	1,473	27,987	2	0	27	2	59
2024(12)	35,810	2	895	2	895	1,791	34,020	15	0	33	2	77
2025(12)	31,543	2	789	2	789	1,577	29,966	16	0	29	2	69
2026(12)	28,017	2	700	2	700	1,401	26,616	16	0	26	2	62
2027(12)	25,010	2	625	2	625	1,251	23,760	16	0	23	2	57
2028(12)	22,495	2	562	2	562	1,125	21,371	16	0	21	1	52
2029(12)	20,205	2	505	2	505	1,010	19,195	17	0	18	1	48
2030(12)	18,274	2	457	2	457	914	17,360	17	0	17	1	44
2031(12)	16,589	2	415	2	415	829	15,760	17	0	15	1	41
2032(12)	12,746	2	319	2	319	637	12,109	15	0	12	1	32
Total	597,435	---	15,076	---	15,444	30,519	566,915	148	0	544	38	1,241

### Revenue & Burden Detail2

Date	Total Operating Costs	NDDC Levy Total	Capital	Education Tax	Amortization	PIA	Total PPT Deduct
	M\$US	M\$US		M\$US	M\$US	M\$US	M\$US
2012(12)	0	-5	0	0	-171	0	-176
2013(12)	0	-27	0	221	-175	0	-7
2014(12)	0	-3	0	328	-178	0	183
2015(12)	0	-3	0	358	-182	0	213
2016(12)	0	-3	0	382	-186	0	236
2017(12)	0	-3	0	370	-189	0	218
2018(12)	0	-3	0	352	-193	0	194
2019(12)	0	-3	0	330	-197	0	167
2020(12)	0	-3	0	323	-201	0	155
2021(12)	0	-3	0	294	-205	0	118
2022(12)	0	-3	0	269	-209	0	87
2023(12)	1,865	23	0	248	-363	0	816
2024(12)	11,414	165	0	210	290	0	6,079
2025(12)	11,642	168	0	169	296	0	6,152
2026(12)	11,875	172	0	136	302	0	6,234
2027(12)	12,113	175	0	107	308	0	6,323
2028(12)	12,355	179	0	82	314	0	6,419
2029(12)	12,602	182	0	59	320	0	6,521
2030(12)	12,854	186	0	39	326	0	6,628
2031(12)	13,111	190	0	22	333	0	6,740
2032(12)	11,145	162	0	6	489	0	5,922
Total	110,977	1,545	0	4,306	528	0	59,222