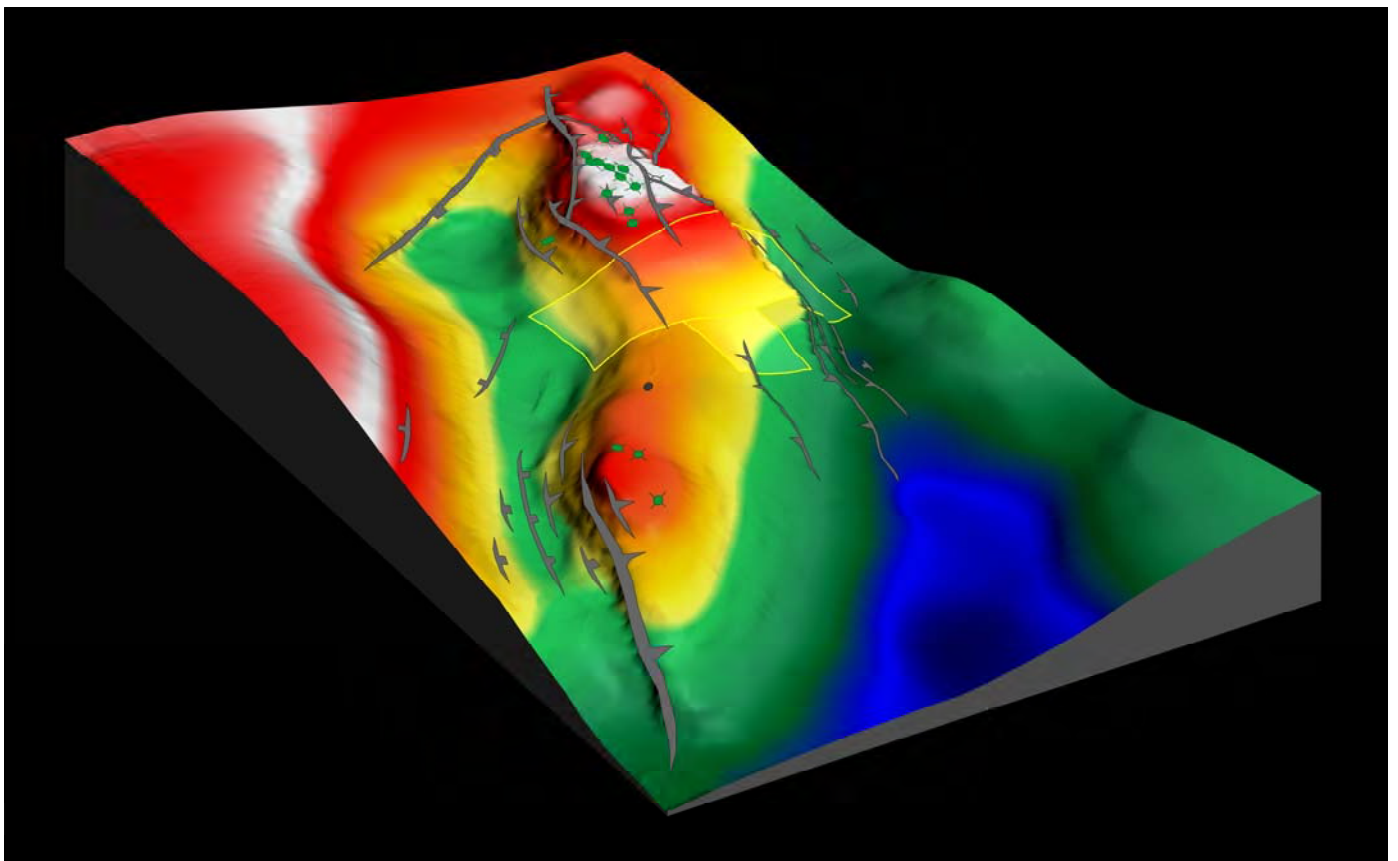


**NORTHERN LIGHTS ROYALTIES, LP  
LIMITED PARTNERSHIP INTERESTS**

**KITCHEN LIGHTS LEASE AREA  
COOK INLET, ALASKA**



**EXHIBIT C TO CONFIDENTIAL PRIVATE PLACEMENT MEMORANDUM  
Northern Lights Royalties, L.P.**

**Limited Partnership Interests**

**AN OIL AND GAS ROYALTY INTEREST INVESTMENT OPPORTUNITY**

**KITCHEN LIGHTS LEASE AREA  
NORTH COOK INLET STRUCTURE  
COOK INLET, ALASKA**

**OFFERED BY:**

**PRO AK, LLC  
660 W SOUTHLAKE BLVD. SUITE 200  
SOUTHLAKE, TEXAS 76092**

**September 23, 2015**

Each person to whom these documents are delivered agrees, by acceptance of these documents, that all information contained within is confidential in nature. By accepting delivery recipient agrees that they will not divulge, disseminate or otherwise distribute in any fashion the contents of these documents to any third-party, except any professional retained by recipient to evaluate the merits of the proposal, without written permission of the managing partner; and further, agrees to inform any such professional retained by recipient of the confidential nature of these documents. Recipient also agrees to destroy these materials in the event they elect not to participate in the partnership.

## PARTNERSHIP INTEREST FACT SHEET

ISSUER OR THE OFFERING:	Northern Lights Royalties, L.P. A Texas Limited Partnership
GENERAL PARTNER:	Pro AK, LLC A Texas Limited Liability Company
PROJECT:	Kitchen Lights Lease Area Cook Inlet, Alaska
MINIMUM CAPITAL CONTRIBUTION:	\$ 25,000.00
PARTNERSHIP INTEREST PER \$25,000.00 CONTRIBUTION:	approximately 0.1417% of the outstanding partnership interests
ANTICIPATED CAPITALIZATION:	\$15,000,000.00 (We may increase the offering to \$20,000,000 in our discretion and purchase additional overriding royalty interests in the same leases.)

The Partnership will acquire up to 2.656248% of the Overriding Royalty Interest (ORI)  
in six leases in the North Block of the Kitchen Lights Lease Area.

General Partner (Pro AK, LLC)	Partnership Interests 15%
Limited Partners	<u>85%</u>
TOTAL	100%

	<u>Minimum Contribution</u>	<u>Total Cost</u>
Limited Partners Investment	\$25,000	\$15,000,000.00

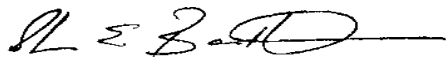
## KITCHEN LIGHTS LEASE AREA INTRODUCTION

Pro AK, LLC ("Pro AK") is pleased to announce the formation of the Northern Lights Royalties, LP to acquire an overriding royalty interest in the Kitchen Lights Lease Area contained within the Kitchen Lights Unit (KLU) that pertains to the six specified leases within the William Cobb & Assoc. **Certified Reserve Evaluation (CRE)**, as contained on pages 35 to 49 below. Based on the sensitivity evaluation provided by Cobb & Associates (see page 36 below), the discounted present worth of future income values of 4.45% are listed below. **The Partnership will acquire up to 2.656248% overriding royalty interest.**

Case	Estimated Net Sales Volumes		Present Value at 10% Discount Factor		
	Oil, MMBO	Gas, BCF	\$100/BO, \$MM	\$80/BO, \$MM	\$60/BO, \$MM
Probable	4.31	1.82	105	85	64
Probable plus Possible	7.87	3.33	198	157	119
Probable plus Possible plus Resource	13.4	5.68	332	268	203

### Volume and Present Value Estimates for a 4.45% ORRI

The Kitchen Lights Lease Area within the northern block of the Kitchen Lights Unit (KLU) is located in central part of the Upper Cook Inlet Basin, Alaska and is surrounded by giant and super-giant oil and gas fields which, to date, have produced in excess of one billion barrels of oil and several trillion cubic feet of natural gas, primarily from the Miocene Tyonek Deep Sands and the Oligocene Hemlock Sands. The Kitchen Lights Area is comprised of six leases in the Cook Inlet Basin, covering an area of 15,930 acres.



Shawn E. Bartholomae  
CEO

# KITCHEN LIGHTS LEASE AREA

## GEOLOGICAL REVIEW

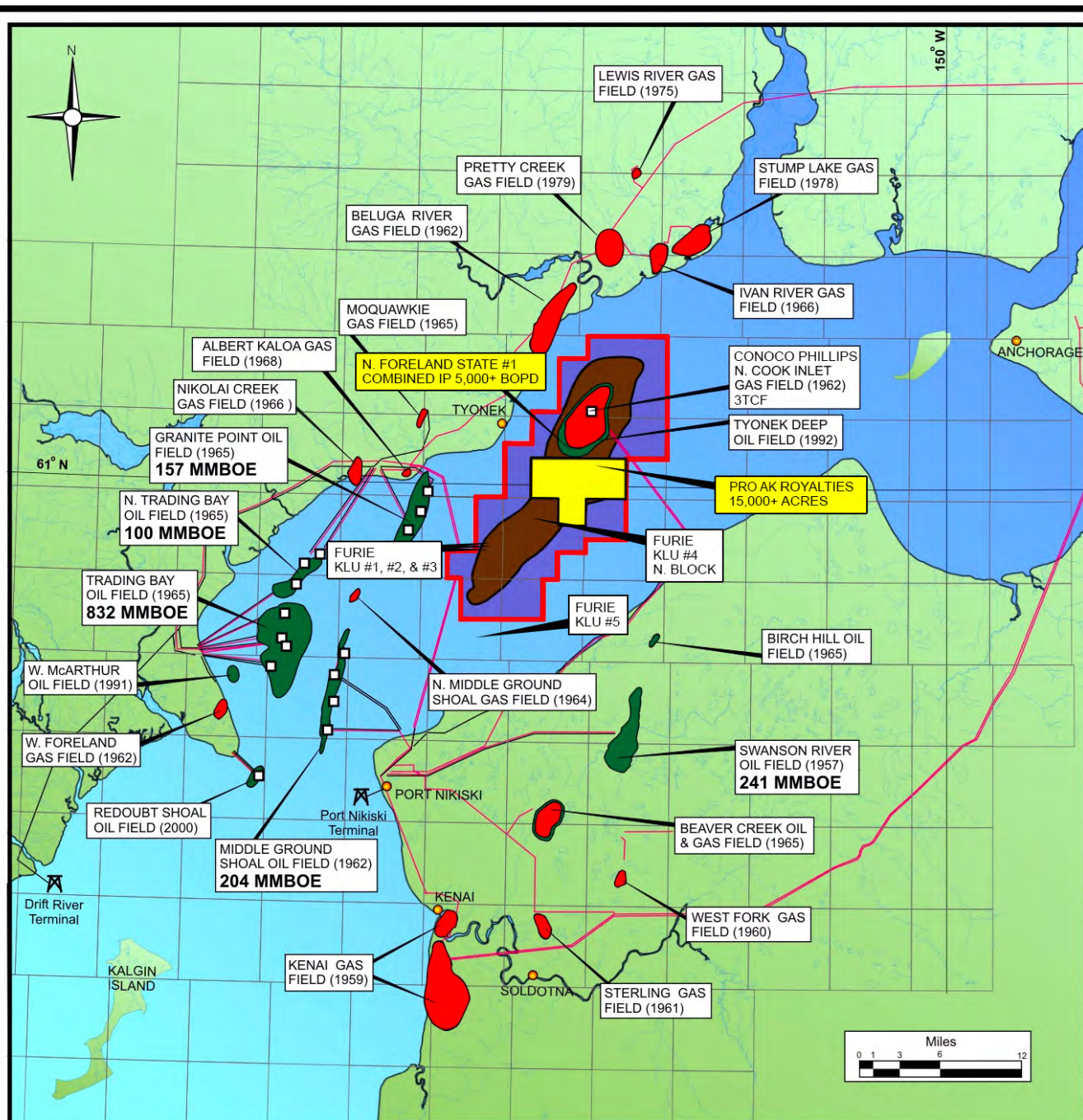
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### HIGHLIGHTS

The Kitchen Lights Lease Area within the northern block of the Kitchen Lights Unit (KLU) is located in central part of the Upper Cook Inlet Basin, Alaska. The Cook Inlet Basin is oil and gas rich, having produced to-date, in excess of 1.3 BBO and 6 TCFG, primarily from sands of Miocene (Beluga and Tyonek) and Oligocene (Hemlock) age. The Kitchen Lights Area is surrounded by giant and super-giant oil and gas fields (see **Figure 1**) and is located immediately adjacent to the deep synclinal area of the Cook Inlet Basin (“source kitchen”) where significant volumes of oil and gas have been discovered and extracted.

The Kitchen Lights acreage is located on the North Block (highlighted in yellow on **Figure 1**). This area is located on the central portion of a large northeast-southwest trending faulted anticline at Tyonek Deep and Hemlock levels, known as the North Cook Inlet Structure. The anticline is approximately 23 miles in length, 3 to 6 miles in width and is characterized by very pronounced, steep-sided domes at each end. The ideal hydrocarbon trapping mechanism is both structural and stratigraphic in nature, relying on a combination of dip and fault closure and the stratigraphic thinning and pinch-out of the reservoir formations in a north-easterly direction. This combination structural-stratigraphic trap is very similar in form, and the principal reservoirs contained therein are essentially identical in character and age, to those encountered in other producing fields in this part of the basin. The northern dome of the North Cook Inlet Structure is presently being produced by ConocoPhillips and has yielded over 3 TCF of gas to date and is still producing at significant rates with no scientific end in sight. Interestingly, the deeper Tyonek Deep Formation is undeveloped in the area and there is very strong technical support for a significant extension of this prolific producing formation into the Kitchen Lights Area which is positioned directly south of the North Foreland State #1 well, which tested oil and gas at very high rates from multiple intervals in the Tyonek Deep and Hemlock Formations (see **Figure 3**).

The very significant oil and gas potential of the North Cook Inlet Structure has already been confirmed by numerous wells drilled on this prominent geological feature. The principal reservoir objectives occur at depths of 11,000’ to 16,500’ and frequently contain multiple pay intervals. A total of seventeen wells have been drilled to a sufficient depth to penetrate the Tyonek Deep reservoirs on the North Cook Inlet Structure and five of these were drilled deep enough to penetrate the Hemlock reservoirs. Fifteen of the seventeen Tyonek Deep well penetrations calculated productive based on a comprehensive petrophysical analysis of the well logs carried out by William M. Cobb & Associates, Inc. and eight of these wells tested oil at initial rates of up to 3,600 BOPD per zone. Notably, the North Foreland State #1 well, which was drilled by ARCO is located a mere 2,700’ N of the Kitchen Lights lease acreage. This particular well was tested at a combined rate of over **5,000 BOPD** from both the Upper and Lower Tyonek Deep channel sands. In addition to this, the Hemlock Formation is over 250’ thick in this well and calculated productive in several different intervals, and the first sand in this sequence was tested in over **560 BOPD** (see **Figure 7**). Importantly, none of the delineation wells drilled by ARCO on this structure were ever placed on line and produced, and all of the oil and gas discovered in the Tyonek Deep and Hemlock Formations within this structure still remains undeveloped.



## Pro AK, LLC

### COOK INLET BASIN, ALASKA KITCHEN LIGHTS LEASE AREA

### COOK INLET OIL & GAS FIELDS LOCATION MAP

FIGURE 1



## **BASIN EXPLORATION HISTORY**

Over the past 40 years, the Cook Inlet Basin has gone from a relatively unexplored basin, to a mature petroleum province that has produced over **1.3 BBO** and **6 TCFG**. However, almost all of the oil discovered in the basin to date has been found in only one play type. From an exploration perspective, the Cook Inlet Basin still offers tremendous potential for the discovery of significant additional oil and gas reserves particularly within prominent features like the North Cook Inlet Structure that has not yet been developed in the Tyonek Deep and Hemlock Formations. The U.S. Geological Survey carried out an assessment of the remaining hydrocarbon potential of the Cook Inlet Basin in 1996. The study concluded that only a very small percentage of the total resource potential of the basin had been discovered to date. Statistically, a further 23 oil fields remain to be discovered in the basin, with an average recoverable reserve potential of around **646 MMBO per field**. Another study published by the American Association of Petroleum Geologists indicated that another **2-3 BBO** remain to be discovered in the Cook Inlet Basin. These independent assessments of the basin's resource potential strongly support the concept that this basin is relatively under explored.

Exploration for oil in the Cook Inlet area began in the 1800's. Oil was reported seeping along the west side of Cook Inlet, in the vicinity of the Iniskin Peninsula, by the Russians as early as 1853. Drilling continued sporadically in the first half of the century with little success. The end of World War II brought increased settlement to the Kenai Peninsula and the development of a road system. This stimulated further exploration interest in this area of the basin.

In 1955, Richfield Oil Corporation ("Richfield") began exploration on the Kenai Peninsula in the Swanson River area. Oil was discovered on July 23, 1957, at a depth of around 11,000 feet in the Hemlock Formation. The initial discovery well tested oil at a rate of approximately 900 BOPD. Shortly after the Swanson River discovery, Standard Oil Company of California and Richfield formed a joint venture to explore for oil. Additional wells were drilled in the Swanson River area and more leases were taken on both sides of Cook Inlet. Several other oil companies moved in to participate in drilling activities on the Kenai Peninsula. In 1959, annual crude oil production was around 187 MBO and the state's competitive leasing process was instituted. In 1960, following further development of the Swanson River and Soldotna Creek Units, production rose to around 600 MBO per year. Production from the basin peaked at around 83 MMBO per year in 1970, and thereafter declined to around 12 MMBO per year in 2001. Most of the larger oil fields were discovered and put on production by the late 1960's and are still producing today.

In 1962, Pan American Petroleum Corporation ("Pan Am") discovered the first offshore oil in Cook Inlet. This led to an extensive phase of offshore exploration throughout the Cook Inlet Basin in the 1960's and early 1970's, resulting in the installation of 16 offshore production platforms and a big increase in development drilling. Since the 1970's no new offshore fields were developed and only one additional platform was installed, in 1986, to accelerate production of existing gas reserves in the McArthur River field. **Figure 3** is a chart showing the drilling and production history for the Cook Inlet Basin over time since the beginning of exploration in the 1950's to the present day. In the 1970's, and especially the 1980's, most of the major oil companies operating in the Cook Inlet were also exploring or developing the huge North Slope oil fields. Consequently, the Cook Inlet Basin was not given sufficient attention by the oil companies when it came to exploration budgets, which resulted in a significant decline in exploration in the Cook Inlet Basin as a whole.

## Historical Timeline

- 1958** First discovery of natural gas reserves in Cook Inlet
- 1962 – 1993** Five drillings by Shell, ConocoPhillips and ARCO with proof of several oil and gas deposits in and around the Kitchen Lights Unit (KLU), particularly in the Corsair Block
- 1964** First oil platform set up in Cook Inlet by Shell
- 1968** After discovery of Prudhoe Bay oilfield (largest US oil deposit) drilling in Cook Inlet slows considerably, leaving most of it unexplored.
- 1994** Gross natural gas production in Cook Inlet with an annual output of around 311 billion cubic feet at its peak
- 1999** Escopeta Oil Co., LLC (from 09/2011: Furie Operating Alaska, LLC = 100% subsidiary of DOGAG) acquires drilling rights for six areas in Cook Inlet in a tender process.
- 2001** Shawn Bartholomae owner of Saddleback Resources wins State of Alaska bid on leases within the Kitchen Lights lease Area. Escopeta Oil acquires more drilling rights for eight additional sections in Cook Inlet.
- 2004** Escopeta Oil acquires two exploration rights in Cook Inlet.
- 2006** Escopeta Oil acquires one additional drilling right in Cook Inlet.
- 2007** State of Alaska gives Escopeta Oil approval to form a single unit called "Kitchen"; as a result also an extension of duration of drilling rights.
- 2009** Escopeta Oil acquires more drilling rights and concessions from other oil and gas exploration companies in the upper Cook Inlet.
- 2009** Escopeta Oil receives permission to establish Kitchen Lights Unit, now comprising 337 square miles, the largest drilling unit within the Cook Inlet.
- 2010** Acquisition of Escopeta Oil Co., LLC by Cornucopia Oil & Gas Company, LLC to Furie Operating Alaska brings "Spartan 151", the first new drilling platform since 1993 to Cook Inlet.
- 2011** Escopeta's Cook Inlet Discovery (Furie Petroleum) claims **“Could Be a Historic Find”** Public announcement stating reserves as much as 3.5 Trillion Cubic Feet of Gas.



# Escopeta Oil Jack-Up Rig Makes Major Cook Inlet Gas Find

November 04, 2011 | By Chris Klint | KTUU.com

ANCHORAGE, Alaska — An Escopeta Oil jack-up drilling rig has been in Cook Inlet for only three months, but company officials announced Friday that it has discovered about 3.5 trillion cubic feet of natural gas -- an amount they say could be the inlet's largest energy discovery in 25 years.

According to a statement from the company, a single well drilled by the Spartan 151 rig reached a depth of 8,805 feet in the inlet's Kitchen Lights Unit Oct. 28, discovering 46.7 billion cubic feet of natural gas. The jack-up rig is the first to explore the inlet in at least two decades.

Officials credited the role of state tax incentives in Escopeta's decision to explore in Cook Inlet, including Senate Bill 309 sponsored by Sen. Tom Wagoner of Kenai. The bill, passed by the Legislature and signed into law by Gov. Sean Parnell this summer, offers up to \$25 million in tax credits to the first company to drill the inlet's Jurassic Formation -- an area Escopeta plans to reach next year, after suspending winter drilling due to seasonal restrictions.

"Escopeta is very excited by the results of this well, especially since we are only halfway down to the planned total depth," Bruce Webb, Escopeta's vice president of governmental and regulatory affairs, said in the statement. "We still have to drill through the Tyonek gas formations, and then into the Sunfish and Hemlock oil formations, on our way to the Jurassic."

The jack-up rig was transported from Texas and arrived at the inlet in early August. Shortly after the trip, Escopeta was assessed a \$15 million federal fine by U.S. Customs and Border Protection for violating the Jones Act by using a foreign-flagged vessel to bring the rig to Alaska.

Escopeta says the huge find from only the first of five planned wells is enough to commence planning and engineering for commercial gas production. This year's results have prompted the company to consider an accelerated natural gas development scenario, which could produce new gas deliveries from the inlet as early as 2013.

## **2012**

Furie finishes the drilling of the Cook Inlet Kitchen Lights Unit No.1 to total depth, completes the drilling of the KLU No.2 Well thereby fulfilling its 2012 obligation to the State of Alaska



Vol. 17, No. 14 - Week of April 01, 2012

Kitchen Lights Extended to Jan. 2016 - DOG grants unit extension

<http://www.petroleumnews.com/pntruncate/27185921.shtml>

## **2013 – January**

Furie seeks permit for new production platform.



By BRIAN SMITH, Peninsula Clarion Published: 2012.12.17 09:30 AM

<http://www.alaskajournal.com/Alaska-Journal-of-Commerce/December-Issue-3-2012/Furie-seeks-permit-for-new-platform/>

## **May**

Two jack-up rigs now back at work drilling in Cook Inlet



TIM BRADNER Published: 2013.05.23 11:05 AM

The KLU #3 being drilled by Furie Operating has reached its planned depth of 10,400 feet and is making plans to do a natural gas production, a state official said.

<http://www.alaskajournal.com/Alaska-Journal-of-Commerce/May-Issue-4-2013/Companies-drill-ahead-on-Cook-Inlet-projects/>



Anchorage, Alaska (Platts)--16 May 2013 417 pm EDT/2017 GMT

Independent Furie Operating completes drilling on Cook Inlet test

<http://www.platts.com/latest-news/natural-gas/AnchorageAlaska/Independent-Furie-Operating-completes-drilling-21046163>

## MOST SUCCESSFUL WELL IN ALASKA TO DATE



Third well with potential to be the most successful well in the entire Cook Inlet – Assumptions on the natural gas deposits and daily production likely exceeded by far

In the region of the Cook Inlet, a rumour has spread like wildfire: the US subsidiary of Deutsche Oel & Gas has possibly completed the most successful natural gas well in the entire Cook Inlet, Alaska with its third well (KLU#3) in Kitchen Lights Unit.

The target depth of around 10,500 feet (corresponds to approx. 3,000 metres) was reached last week after drilling time of only 14 days, significantly fewer days than planned, during which time four exceptionally large natural gas development zones were found.

The specialists of the US subsidiary were already optimistic about the development of the third well based on the results of the first two wells in the direct vicinity. However, following initial evaluations of the reported shaft measurements and the soil and gas tests, experts now believe that both the presumed natural gas reserves and the expected daily production will by far exceed all expectations.

The prevailing pressure in each of the four development zones is so high that each zone now has to be tested separately. This extraordinarily high level of pressure and the associated high daily production levels expected in particular could make KLU#3 one of the largest, if not the largest natural gas production wells of the entire Cook Inlet.

As of mid-June, flow tests lasting several weeks will be conducted to obtain more detailed information on the expected daily production and to determine more precise information on the available natural gas reserves. After the tests have been completed the "expected reserves" will become "tested and confirmed natural gas reserves". The results of the flow tests will be available in mid-July.

## June



Preliminary decision to approve Furie Operating Alaska's application for Air Quality Control Minor Permit for the Spartan 151 Jack-up Drilling Rig, Kitchen Lights Unit Exploration Well #4 Relocation

<http://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=168300>

## July

The Spartan 151 is presently being positioned over the Relocation KLU #4 and drilling will proceed any day now. The DNR has amended the required drilling commitment with Furie Operating allowing the KLU #4 to reach only 7000' at a minimum depth this year, total depth may be achieved the following year if needed. Ice moving into the inlet limits drilling with a jack up to only several months a year. Once a production platform has been set drilling may proceed throughout the year.



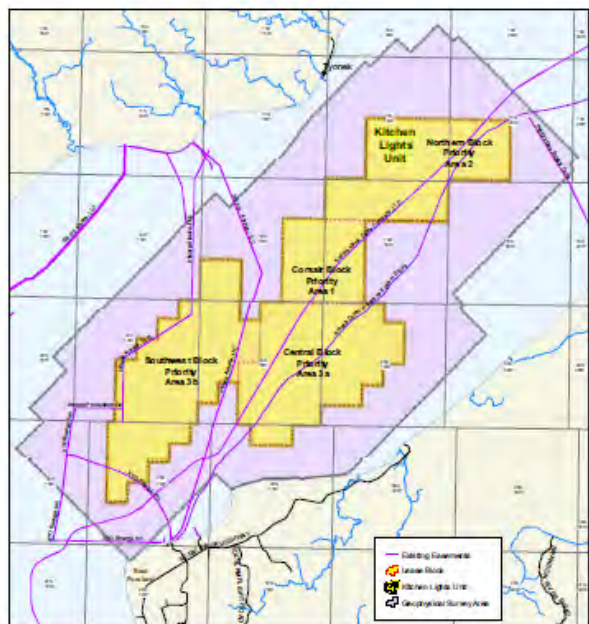
## **FOURTH DRILLING KLU#4 WILL PROBABLY BE ONE OF THE DEEPEST IN THE WHOLE COOK INLET**

In the late summer of 2011 the US subsidiary of Deutsche Oel & Gas, Furie Operating Alaska, drilled the first well in the Kitchen Lights Unit. The Spartan 151 platform was brought expressly from the Gulf of Mexico to Cook Inlet - around Cape Horn - this is an outstanding technical and logistical achievement. The first drilling (KLU#1) was completed successfully in May 2012. The second trial drilling (KLU#2) began in August 2012 and was already completed in October 2012 successfully. After only 14 days at the end of May 2013, the third drilling (KLU#3) reached its target depth of 10,500 ft (corresponds to approx. 3,000 meters). The fourth drilling (KLU#4) started in August 2013, several weeks earlier than planned. With a target depth of about 15,000 ft (corresponds to around 4,500 meters), the fourth drilling will likely be one of the deepest in the whole Cook Inlet.



Furie applies for seismic survey permit. Wants to conduct offshore 3-D survey in Kitchen Lights unit in Alaska's Cook Inlet to better characterize subsurface geology

PETROLEUM NEWS • WEEK OF JULY 28, 2013



• EXPLORATION & PRODUCTION

## Furie applies for seismic survey permit

*Wants to conduct offshore 3-D survey in Kitchen Lights unit in Alaska's Cook Inlet to better characterize subsurface geology*

**2014**

**March**

Furie Operating Alaska has filed a plan of operations with the Alaska Department of Natural Resources for the company's Kitchen Lights unit, offshore in Cook Inlet. The plan envisions the installation of a gas production platform, the Kitchen Lights unit Platform A, in the waters of the inlet, about 10 miles north of Boulder Point, near Nikiski on the Kenai Peninsula, as well as the laying of twin gas pipelines from the platform to an onshore gas processing plant.

Platform installation, the laying of the pipelines and the construction of the onshore facilities will take place in parallel, between April and October 2014, Furie says. The company says that it anticipates first gas flowing from Kitchen Lights into the Kenai Peninsula gas pipeline system in the third or fourth quarter of the year.

<http://www.petroleumnews.com/pnfriends/85938699.shtml>

## **June**



Vol. 19, No. 24 Week of June 15, 2014

Furie's Cook Inlet development may begin to realize a long-held vision. With Furie Operating Alaska's new offshore gas production platform on its way from Texas to Cook Inlet, speculation over just how much undeveloped hydrocarbon resource may lie beneath the waters of the inlet continues unabated.

<http://www.petroleumnews.com/pnfriends/812451787.shtml>

## **July**



Vol. 19, No. 27 Week of July 06, 2014

Furie obtains Kitchen Lights no. 5 permit as gas field development proceeds

<http://www.petroleumnews.com/pntruncate/535552501.shtml>

## **September**



By KAYLEE OSOWSKI September 15, 2014 - 9:56pm

Furie's monopod platform arrives in Cook Inlet

<http://peninsulaclarion.com/news/2014-09-15/furies-monopod-platform-is-in-state>

## **November**

Furie submits new plan of development with state of Alaska.  
State approves submitted plan.

## **2015**

## **March**



Vol. 20, No. 12, Week of March 22, 2015

Furie resumes construction on platform in Corsair blocks. Submits new plan of exploration to state of Alaska. State approves.

Furie plans for future in Kitchen Lights.

<http://www.petroleumnews.com/pnfriends/824123642.shtml>





Published videos Alaska's Cook Inlet Kitchen Lights

**Sept. 10<sup>th</sup> 2015**

[Deutsche Oel & Gas Onshore Gas Processing Facility](#)

**Sept. 3<sup>rd</sup> 2015**

[Deutsche Oel & Gas Pipeline Hydro Test](#)

**Aug 6<sup>th</sup> 2015**

[Deutsche Oel & Gas Production Platform Installation](#)

**July 7<sup>th</sup> 2015**

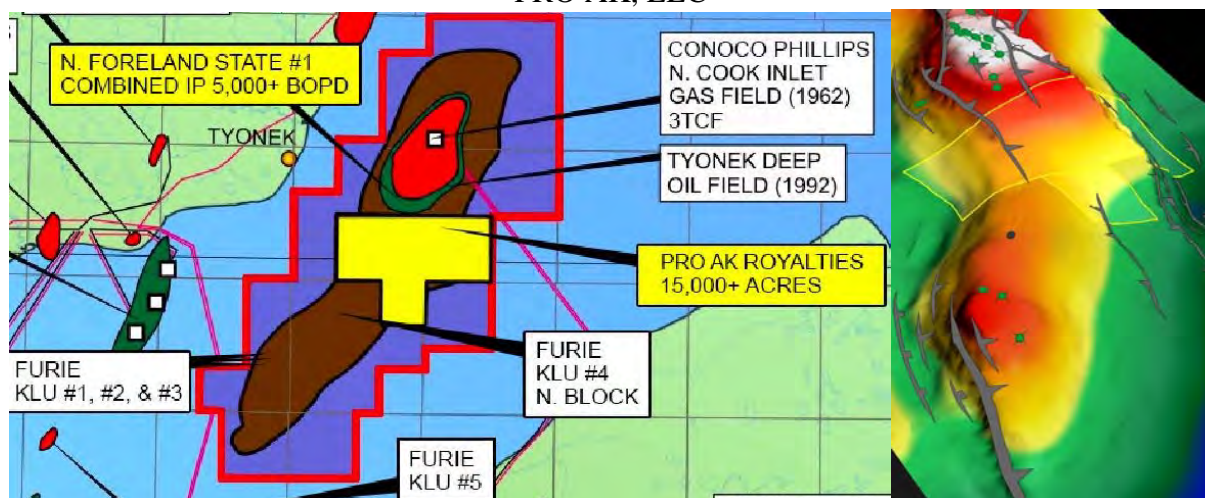
[Deutsche Oel & Gas Monopod Installation](#)

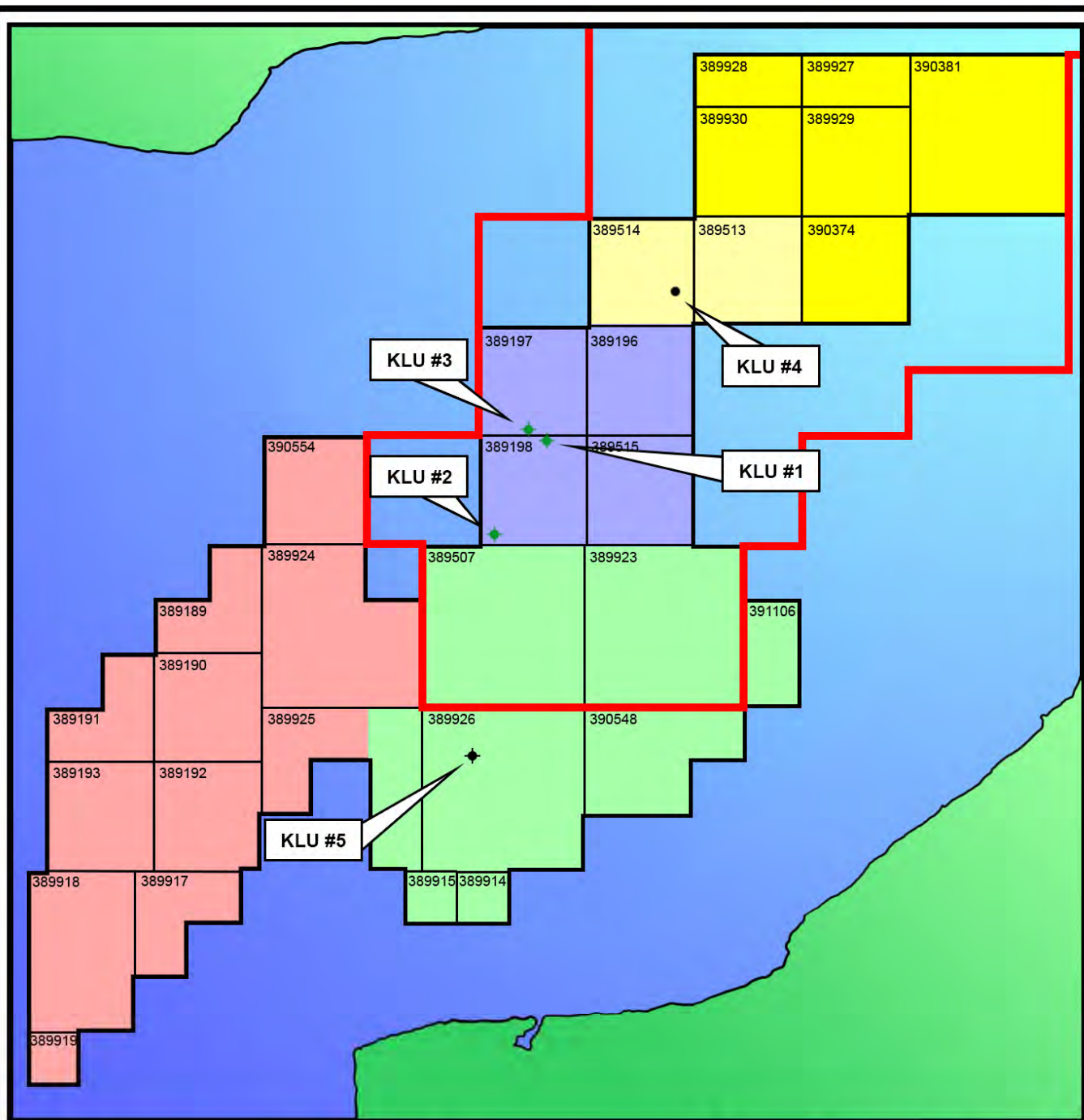
**May 27<sup>th</sup> 2015**

[Deutsche Oel & Gas Pipeline Kitchen Lights Unit](#)

**April 11<sup>th</sup> 2015**

[Deutsche Oel & Gas KLU3 Success](#)





KITCHEN LIGHTS LEASE AREA  
WITH ADL NUMBER



OTHER THIRD PARTY HELD LEASES



KITCHEN LIGHTS UNIT AREA



KITCHEN LIGHTS STRUCTURE AREA



NORTH BLOCK



CORSAIR BLOCK



CENTRAL BLOCK



SOUTHWEST BLOCK

**Pro AK, LLC**

COOK INLET BASIN, ALASKA

**KITCHEN LIGHTS  
LEASE AREA**

**LEASE LOCATION MAP**

**FIGURE 2**

## **NORTH COOK INLET STRUCTURE EXPLORATION HISTORY**

Exploration activity on the North Cook Inlet Structure was curtailed significantly in the 1970's and 1980's, post discovery of the oil fields on the North Slope of Alaska, and was only rekindled in the 1990's. In 1992, ARCO drilled a significant discovery on the southern flank of North Cook Inlet Structure northern dome. The **ARCO North Foreland State #1** well was tested at a combined initial rate of **5,560 BOPD** from three separate intervals in the Tyonek Deep and Hemlock Formations. In 1995, Phillips Petroleum Corporation ("Phillips") and ARCO reached an agreement allowing Phillips to conduct delineation drilling on the northern dome of North Cook Inlet Structure. Several successful Tyonek Deep delineation wells were drilled on this part of the structure in the late 1990's and the discovered oil pool was named the Tyonek Deep oil field. Unofficial reserve estimates reported to the State of Alaska indicate that approximately **700 MMBO** can be developed in the Tyonek Deep interval from wells drilled from and tied back to the ConocoPhillips operated Tyonek gas platform. At the present time it is anticipated that this part of the Tyonek Deep oil field will only be developed upon cessation of commercial gas production from the currently installed platform. However, there is strong technical support for a significant extension of this undeveloped oil field into the Kitchen Lights Lease Area and the successful completion of the delineation drilling program that is presently underway by Furie Operating on the Northern Block, thereby accelerating plans for the installation of a production platform to capture the oil and gas reserves in the Kitchen Lights Lease Area.

### **Leases**

Kitchen Lights Area, which comprises six undeveloped leases covering an area of 15,930 acres in the Upper Cook Inlet Basin. (see **Figure 2**)

**Table 1 below summarizes Kitchen Lights gross and net acreage position in the Cook Inlet.**

<b>TABLE 1. ACREAGE SUMMARY KITCHEN LIGHTS AREA</b>			
<b>Lease ADL Number</b>	<b>Block Number</b>	<b>Gross Acres</b>	<b>Net Acres</b>
ADL-389927	425	1,280.0	1,280.0
ADL-389928	426	1,280.0	1,280.0
ADL-389929	428	2,560.0	2,560.0
ADL-389930	429	2,560.0	2,560.0
ADL-390374	345	2,560.0	2,560.0
ADL-390381	420	5,690.0	5,690.0
Total Acres		15,930.0	15,930.0



## SUPPORTING GEOLOGICAL DATA

The present day structural configuration of the North Cook Inlet Structure has been defined using a combination of 2-D seismic data and sub-surface well control. Formation tops for the key prospective horizons were identified from well logs in 17 deep wells drilled on the North Cook Inlet Structure and synthetic seismograms were generated in eight wells to assist in identification of the reflectors on the seismic data.

A total of 17 wells have been drilled to a sufficient depth to penetrate the potential reservoirs of Tyonek Deep interval. **Figure 3** is a depth structure map at near top Tyonek Deep Sunfish Sands level. This map was used to define the extent of the potentially productive areas associated with the Tyonek Deep Sunfish Sands and Channel Sands which were both ascribed the area that lies within the -15,200' depth contour at near top Sunfish Sands. The potentially productive area associated with these sands is affected by intense faulting and thinning and pinch-out of the sands under the northern dome of the North Cook Inlet Structure which has experienced a much more complex geological history in comparison to the central saddle area and southern dome. The northern dome of the structure represents a paleo-high that formed a prominent topographic high throughout late Mesozoic and Tertiary times and non-deposition of some sand units in the Tyonek Deep interval occurred in places. In addition, the presence of some structurally high and apparently wet Tyonek Deep sand intervals under the northern dome of the structure implied that some of the traps were breached by late re-activation of the fault systems in this area. This is supported by the presence of relatively high residual oil saturations measured in cores and observed in mud log samples, suggesting that oil was once present in these sands. The leases are located south of the area that experienced the complex geological history under the northern dome of the North Cook Inlet Structure and the breaching of fault seals is not anticipated in any of the Kitchen Lights leases. This concept is supported by the fact that the ARCO North Foreland St. #1 which was successfully tested in the Tyonek Deep Sunfish Sands and Channel Sands is located just 2,700' N of the Kitchen Lights leases.

**Figure 4** is a formation evaluation log illustrating the log characteristics of the main potentially productive intervals in the Tyonek Deep Sunfish Sands in the ARCO North Foreland St. #1 well. The gross Tyonek Deep Sunfish interval is around 554' thick in this well and the calculated net pay is approximately 100' thick. The reservoir interval has a calculated average porosity of around 14% and an average water saturation of around 37%. The first sand in this sequence at a depth of around 12,652' was tested at an initial rate of **1,400 BOPD** (44.2° API gravity) and **1,088 MCFGPD** naturally without stimulation.

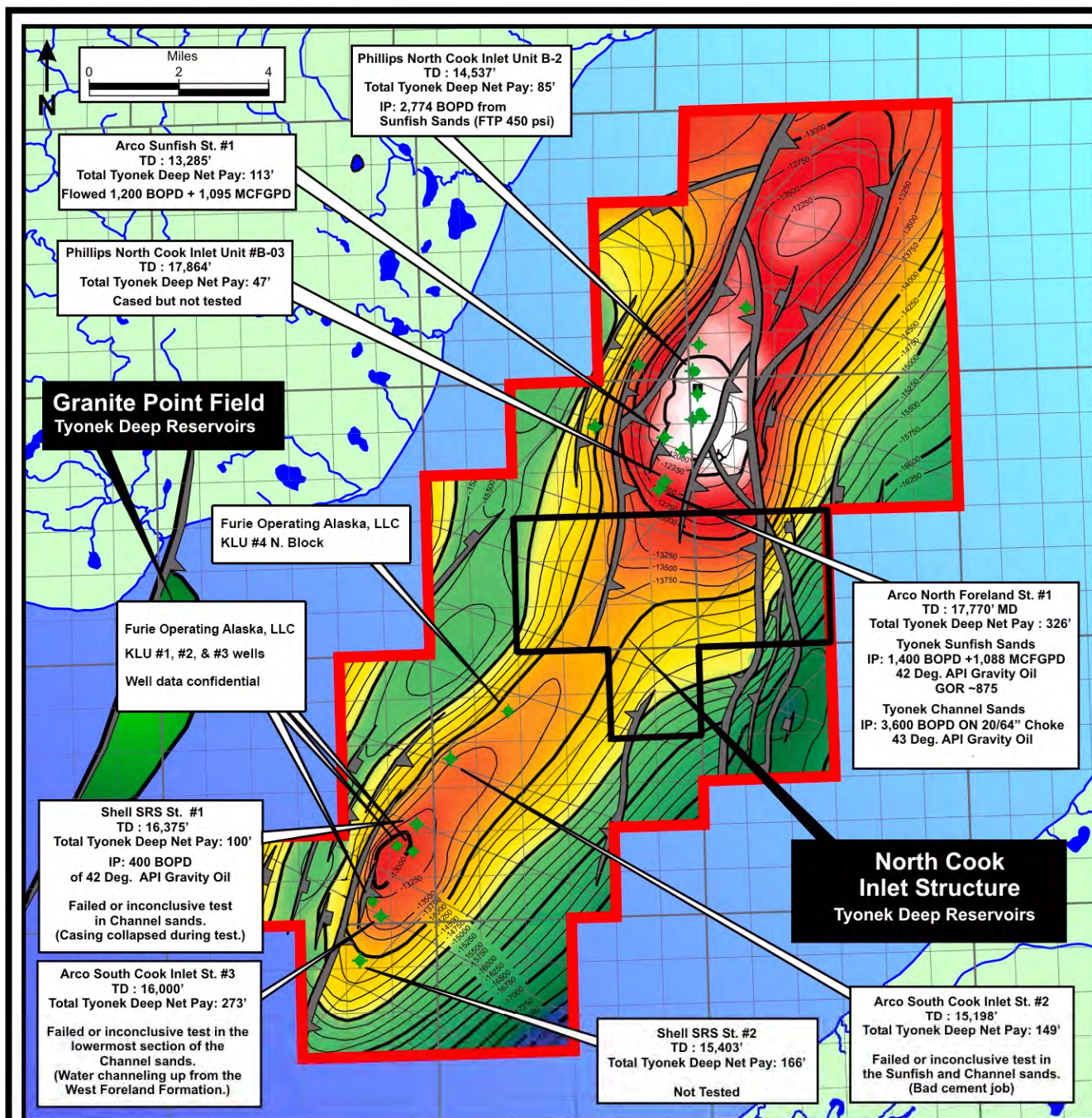
The Tyonek Deep Channel Sands show over 200' of net pay over much of the central core leases in the Kitchen Lights Area, situated on the southern flank of the northern dome of the North Cook Inlet Structure. **Figure 5** is a formation evaluation log illustrating the log characteristics of the main potentially productive intervals in the Tyonek Deep Channel Sands in the ARCO North Foreland St. #1 well. The gross Tyonek Deep Channel Sands interval is around 1,684' thick in this well and the calculated net pay is approximately 226' thick. The reservoir interval has a calculated average porosity of around 15% and an average water saturation of around 43%. The first sand in this sequence at a depth of around 13,200' was tested at an initial rate of **3,600 BOPD** (43° API gravity oil) with 9% base sediment and water. The very low true resistivity readings observed in the interval that was drill stem tested in this well (3 to 10 ohm's) are typical of the productive Tyonek Deep Channel Sands elsewhere on the North Cook Inlet Structure.

**Figure 6** is a depth structure map at near top Hemlock Sands level. This map was prepared by subtracting the combined isopach of the Hemlock and West Foreland intervals, derived from well data, from the calculated depth structure at near top Mesozoic level. This map was used to define the extent of the potentially productive area associated with the Hemlock Sands which was ascribed the area that lies within the -16,500' depth contour at near top Hemlock Sands. The potentially productive area associated with these sands is, like the Tyonek Deep Formation, affected by intense faulting and thinning and pinch-out of the sands under the northern dome of the North Cook Inlet Structure. The potentially productive area is less extensive than the potentially productive areas associated with the Tyonek Deep reservoirs and faulting at this level is more intense. Whilst it was not possible to map the reservoir sequences within the Hemlock interval from the seismic data, it was possible to clearly observe thickening of the combined Hemlock-North Foreland interval in a southerly direction away from the northern dome of the North Cook Inlet Structure.

**Figure 7** is a formation evaluation log illustrating the log characteristics of the main potentially productive intervals in the Hemlock Sands in the ARCO North Foreland St. #1 well. The gross Hemlock Sands interval is approximately 250' thick in this well and the calculated net pay is approximately 40' thick. The reservoir interval has a calculated average porosity of approximately 11% and an average water saturation of around 40%. The first sand in this sequence at a depth of around 14,870' was tested at an initial rate of **560 BOPD** (39° API gravity) with trace water.

In summary, the very significant oil and gas potential of the North Cook Inlet Structure has already been confirmed by numerous wells drilled on this prominent geological feature. The principal reservoir objectives occur at depths of 11,000' to 16,500' and frequently contain multiple pay intervals. A total of 17 wells have been drilled to depths sufficient to penetrate the Tyonek Deep reservoirs on the North Cook Inlet Structure and five of these were drilled deep enough to penetrate the Hemlock reservoirs. Fifteen of the 17 Tyonek Deep well penetrations calculated productive based on a comprehensive petrophysical analysis of the well logs and eight of these wells tested oil at initial rates of up to 3,600 BOPD per zone. All five of the Hemlock well penetrations calculated productive based on the comprehensive petrophysical analysis of the well logs and one of these wells tested oil at initial rates of up to 560 BOPD.





### North Cook Inlet Structure Tyonek Deep Reservoirs

- Structure Size: 3 to 6 Miles wide X 23 Miles Long (100 Sq. Mile Area)
- Combination Structural-Stratigraphic Trap With up to 3,500' of Vertical Relief

### Granite Point Field Tyonek Deep Reservoirs

- Structure Size: 1.5 miles Wide X 6 Miles long (9 Sq. Mile Area)
- 1,500' Hydrocarbon Column
- 3 Platform Development with 37 Active Producers & 23 Active Injectors
- Peak Production: 48,000 BOPD & 33 MMCFGPD in 1968
- Cum Production to Date: 137 MMBO 122 BCFG 157 MMBOE

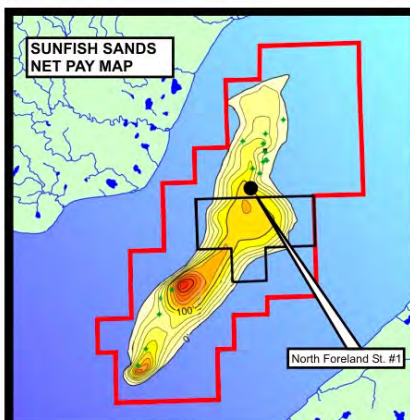
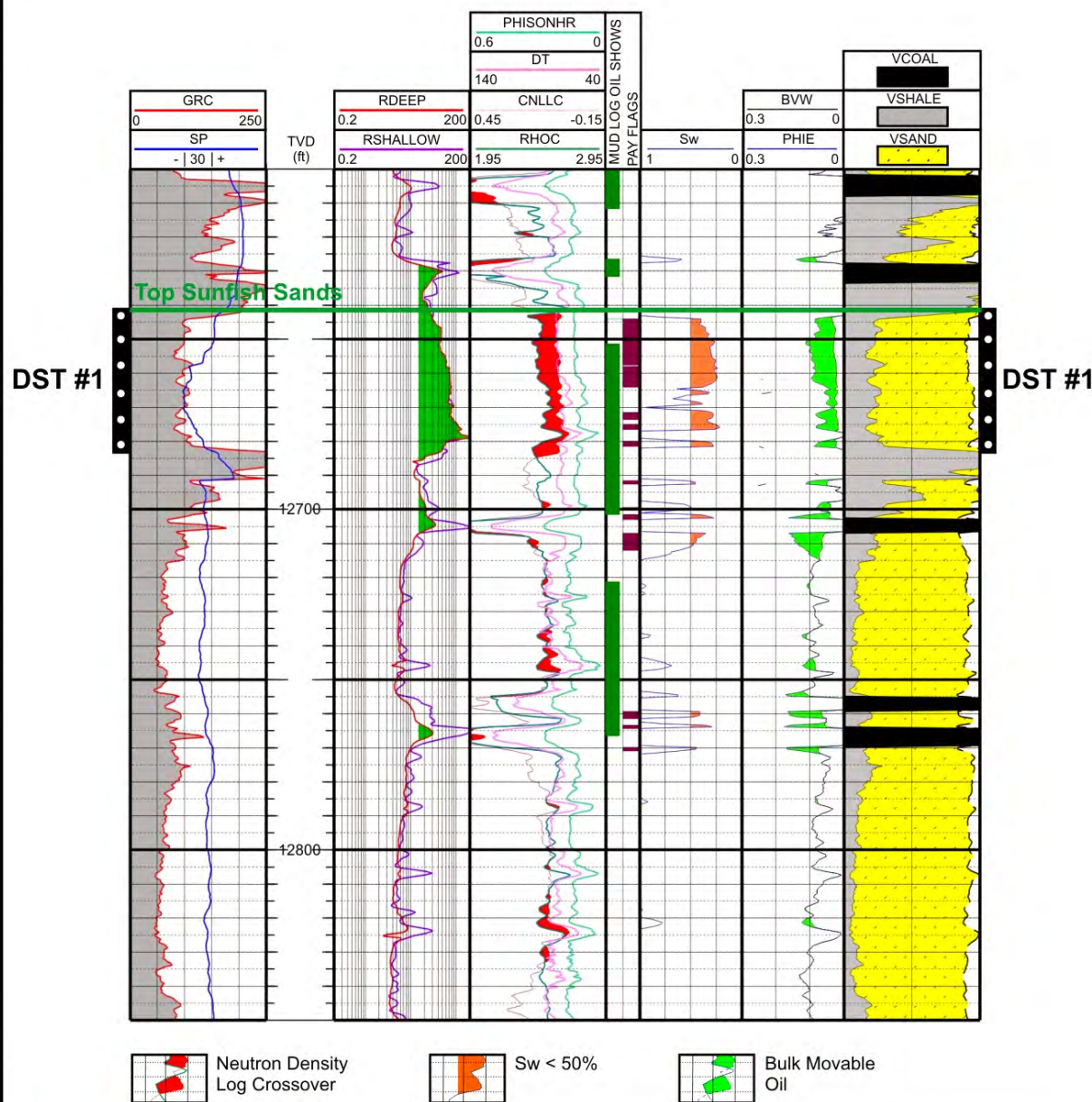
### Pro AK, LLC

#### COOK INLET BASIN, ALASKA KITCHEN LIGHTS LEASE AREA

#### TOP TYONEK DEEP SUNFISH SAND DEPTH MAP

FIGURE 3





**DST #1: 12,652-12,692' MD**  
 IP: 1,400 BOPD & 1,088 MCFGPD  
 44.2 deg. API gravity oil

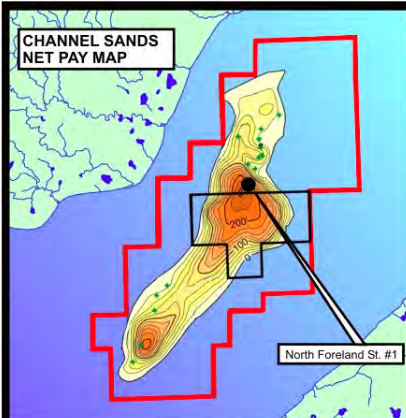
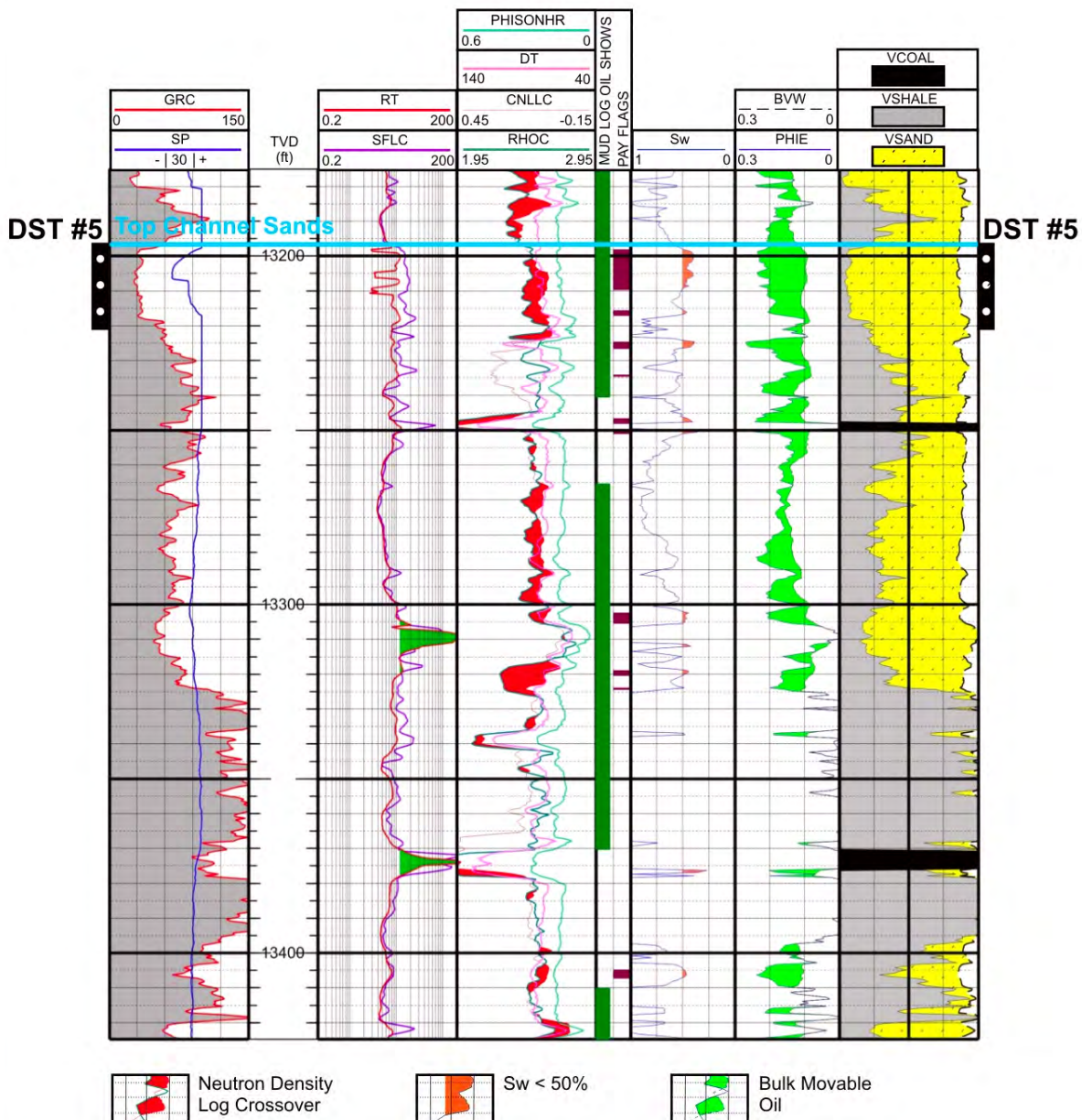
The Sunfish gross interval in the North Foreland St. #1 well is 554' thick, with approximately 100' of net pay. The reservoir interval has an average Ø of around 14% and an average Sw of around 37%.

**Pro AK, LLC**

**COOK INLET BASIN, ALASKA  
 KITCHEN LIGHTS  
 LEASE AREA**

**NORTH FORELAND ST. #1  
 FORMATION EVALUATION LOG  
 TYONEK DEEP  
 SUNFISH INTERVAL**

**FIGURE 4**



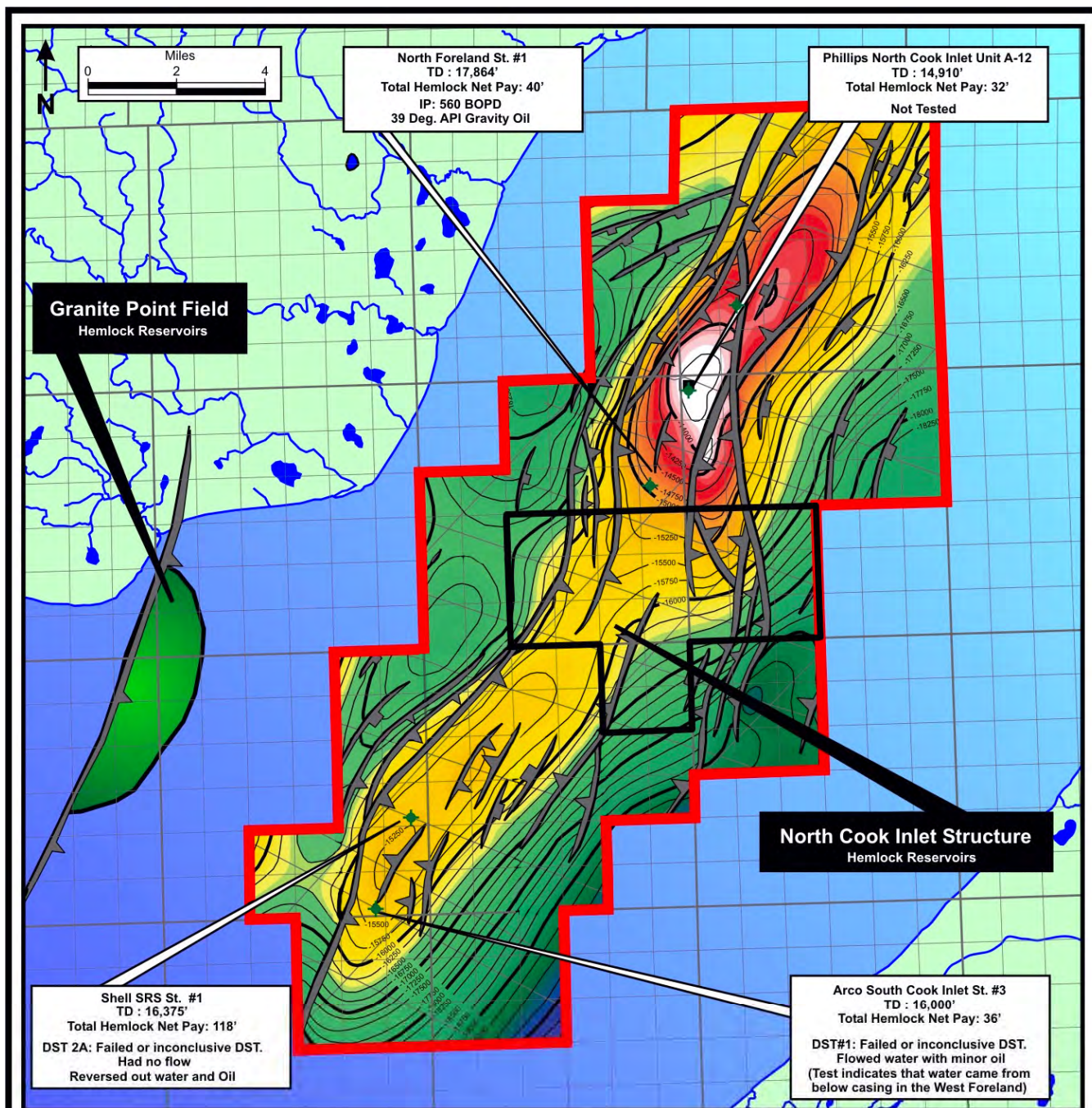
**DST #5:** 13,206-13,230' MD  
 IP: 3,600 BOPD on 20/64" Choke  
 43 deg. API gravity oil

The Channel gross interval in the North Foreland St. #1 well is 1,684' thick with approximately 226' of net pay. The reservoir interval has an average  $\phi$  of around 15%, and an average Sw of around 43%. The zone tested in DST #5 is the first sand encountered in the top of the Channel interval.

**Pro AK, LLC**  
 COOK INLET BASIN, ALASKA  
**KITCHEN LIGHTS LEASE AREA**  
**NORTH FORELAND ST. #1 FORMATION EVALUATION LOG**  
**TYONEK DEEP CHANNEL INTERVAL**

**FIGURE 5**





### North Cook Inlet Structure Hemlock Reservoirs

- Structure Size: 3 - 6 Miles wide X 23 Miles Long (100 Sq. Mile Area)
- Combination Structural-Stratigraphic Trap with up to 3,000' of Vertical Relief

### Granite Point Field Hemlock Reservoirs

- Structure Size: 1.5 miles Wide X 6 Miles long (9 Sq. Mile Area)
- Tyonek Deep Developed First
- Cum Production: 2 MMBO
- 2 Active Producers
- Peak Production: 1,789 BOPD in 1992

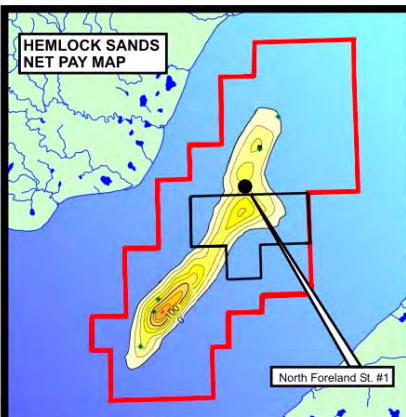
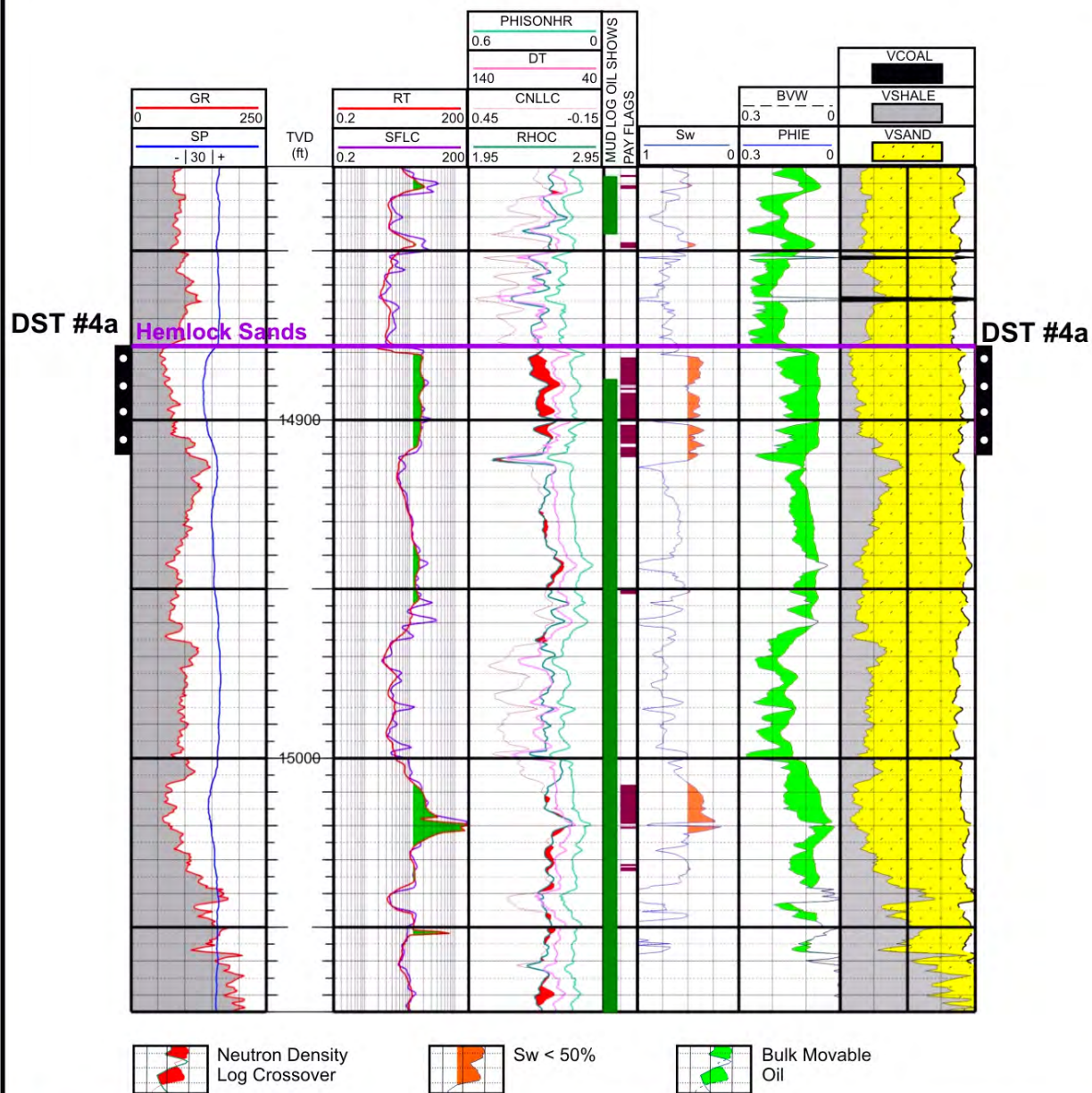
### Pro AK, LLC

#### COOK INLET BASIN, ALASKA KITCHEN LIGHTS LEASE AREA

#### TOP HEMLOCK SANDS DEPTH STRUCTURE MAP

FIGURE 6





**DST #4a:** 14,890-15,100' MD  
 IP: 560 BOPD + Trace water  
 39 deg. API gravity oil

The Hemlock gross interval in the North Foreland St. #1 well is 250' thick with approximately 40' of net pay. The reservoir interval has an average Ø of around 11% and an average Sw of around 40%.

**Pro AK, LLC**  
**COOK INLET BASIN, ALASKA**  
**KITCHEN LIGHTS**  
**LEASE AREA**  
**NORTH FORELAND ST. #1**  
**FORMATION EVALUATION LOG**  
**HEMLOCK INTERVAL**

**FIGURE 7**

## Reserves Methodology

Cobb & Associates has prepared a probabilistic evaluation of the reserves and resource volumes attributable to the net overriding royalty interest in the Kitchen Lights Area. The reserves and resource volumes were estimated using a Monte Carlo-based probabilistic model. Gross reservoir volume, net pay thickness, porosity, oil saturation, recovery factor and oil formation volume factor were input values used to generate distributions of both OOIP and recoverable oil. The governing equation used to calculate the recoverable oil volumes is as follows:

$$\text{Recoverable Oil Volume} = \frac{\text{Area} * \text{Net Pay} * [\text{Porosity} * \text{Oil Saturation}] * \text{Recovery Factor}}{\text{Oil Formation Volume Factor}}$$

Each variable is defined as follows:

- Area – This is the hydrocarbon-bearing area for each zone and each lease. The Tyonek Deep Sunfish and Channel Sands were assigned potentially productive areas of equivalent extent based on structural and stratigraphic spill levels estimated from the near top Tyonek Deep Sunfish Sands depth map and those for the Hemlock Sands were estimated using similar criteria from the near top Hemlock Sands depth map. Minimum, most likely, and maximum values were estimated for each zone and lease and used as inputs to triangular distributions in the Monte Carlo evaluation.
- Net Pay – Net pay values were mapped for each zone based on a detailed petrophysical evaluation of all available logs. Again, minimum, most likely, and maximum values were estimated for each zone and lease and used as inputs to triangular distributions in the Monte Carlo evaluation.
- Porosity \* Oil Saturation – Porosity and oil saturation were combined in this variable because of the close relationship between the two. When porosity is low, oil saturation is also expected to be low, resulting from high water saturation. Conversely, high values of porosity will be expected to be accompanied by high oil saturations. Therefore, the minimum, most likely, and maximum porosity values were multiplied by the minimum, most likely, and maximum oil saturation estimates from the log analysis, with the resulting values used as input to the triangular distribution for the Monte Carlo analysis.
- Recovery Factor – Finally, the fraction of recoverable hydrocarbon was estimated. The recovery factor variable captures both the uncertainty in recovery from rocks connected to the wellbores and the uncertainty in the continuity of the reservoir. The oil-bearing sands are vertically distributed over a large interval, suggesting that some sands may be laterally discontinuous. For this reason, a triangular distribution with wide range of recovery factors was used. The minimum value (10%) corresponds to the case of low continuity, with most recovery coming from primary depletion. The most likely value (25%) corresponds to the case of moderate continuity, with both waterflood and primary depletion contributing to recovery, while the maximum value (40%) corresponds to the case of high continuity, with waterflood displacement occurring in a majority of the reservoir.

Oil Formation Volume Factor – The reservoir volume of oil was then converted to a surface (stock tank barrel) volume of oil using an average value from tests of 1.5 reservoir barrels of oil per stock tank barrel of oil. The input values for each zone and each lease are summarized in Table 2, 3 and 4.

Using the input values for the variables in the governing equation, the Monte Carlo simulations generated distributions of both OOIP and recoverable oil by zone and by lease. Recoverable oil was only counted if the estimated recovery per well exceeded 500 MBO, a reasonable estimate of the minimum drilling target required in the Cook Inlet. The individual distributions for each zone and lease were then arithmetically summed to create an OOIP distribution and a recoverable oil distribution for the area of overriding royalty interest.



**TABLE 2. PROBABILISTIC ANALYSIS INPUTS  
TYONEK DEEP SUNFISH SANDS**

Parameters		Area (Acres)			Phi * So (%)			Net Pay (ft)	
Lease	Max.	Likely	Min.	Max.	Likely	Min.	Max.	Likely	Min.
ADL-389927	1,280	1,280	1,280	11.7%	8.2%	3.4%	100	90	80
ADL-389928	1,048	758	318	11.7%	8.2%	3.4%	90	50	10
ADL-389929	2,560	2,560	2,245	11.7%	8.2%	3.4%	100	80	60
ADL-389930	2,414	2,103	1,436	11.7%	8.2%	3.4%	90	50	10
ADL-390374	1,759	1,254	340	11.7%	8.2%	3.4%	70	45	10
ADL-390381	2,613	2,600	2,069	11.7%	8.2%	3.4%	90	50	20

**TABLE 3. PROBABILISTIC ANALYSIS INPUTS  
TYONEK DEEP CHANNEL SANDS**

Parameters		Area (Acres)			Phi * So (%)			Net Pay (ft)	
Lease	Max.	Likely	Min.	Max.	Likely	Min.	Max.	Likely	Min.
ADL-389927	1,280	1,280	1,280	9.8%	8.3%	4.9%	220	200	180
ADL-389928	1,048	758	318	9.8%	8.3%	4.9%	180	100	20
ADL-389929	2,560	2,560	2,245	9.8%	8.3%	4.9%	200	160	100
ADL-389930	2,414	2,103	1,436	9.8%	8.3%	4.9%	180	100	20
ADL-390374	1,759	1,254	340	9.8%	8.3%	4.9%	140	80	20
ADL-390381	2,613	2,600	2,069	9.8%	8.3%	4.9%	180	100	40

**TABLE 4. PROBABILISTIC ANALYSIS INPUTS  
HEMLOCK SANDS**

Parameters		Area (Acres)			Phi * So (%)			Net Pay (ft)	
Lease	Max.	Likely	Min.	Max.	Likely	Min.	Max.	Likely	Min.
ADL-389927	1,280	1,280	0	8.3%	6.5%	6.0%	35	25	15
ADL-389928	525	296	0	8.3%	6.5%	6.0%	25	15	5
ADL-389929	2,495	1,151	0	8.3%	6.5%	6.0%	35	25	15
ADL-389930	2,050	1,449	0	8.3%	6.5%	6.0%	35	20	5
ADL-390374	506	0	0	8.3%	6.5%	6.0%	15	10	5
ADL-390381	1,859	1,161	257	8.3%	6.5%	6.0%	35	20	5

## **Reserves Classification**

The recoverable volumes were categorized as to their reserves status, based on the most recent Society of Petroleum Engineers/World Petroleum Council (SPE/WPC) “Petroleum Reserves Definitions” and “**Petroleum Resources Classification**”, which are included in the Appendix. The recoverable volumes having a greater than 90 percent chance of occurring (the P<sub>90</sub> volume) were classified as **Probable Reserves**, in accordance with the SPE/WPC criteria that “Probable Reserves” may include (1) reserves anticipated to be proved by normal step-out drilling”. Oil-productive tests exist immediately offset to the Kitchen Lights Area. The P<sub>50</sub> volumes were classified as “**Probable plus Possible Reserves**”, because the additional volumes will depend on confirmation that economically recoverable oil exists throughout the Kitchen Lights Lease acreage. The P<sub>10</sub> recoverable volumes were classified as “**Probable plus Possible plus Resource**”, because the additional volumes will depend on a number of the uncertainties (such as area, oil saturation, and porosity) turning out to be favorable.

Delineation of the Kitchen Lights Area acreage will greatly reduce the uncertainty in recoverable volumes, and, if successful, will likely move significant volumes of oil currently classified as **Probable Undeveloped Reserves** to the **Proved Undeveloped Reserves** category. Specifically, once logs and production tests from one or more delineation wells confirm the presence of economically recoverable hydrocarbons within the Kitchen Lights Area the corresponding reserves associated with each delineation well and subsequent offset wells would be reclassified as **Proved Undeveloped** thus increasing the certainty and value of reserves as defined within the **Certified Reserve Evaluation (CRE)** that specifically targets the lease overriding royalty interest of the Kitchen Lights Area.

## Acreage Reserves

Cobb & Associates has prepared a reserve evaluation of the Kitchen Lights Area for the Tyonek Deep and Hemlock Sands. Based on this evaluation, dated September 22, 2004, there are approximately **301.6 MMBO** and **127.46 BCFG** of reserves and resource potential attributable to the overriding royalty interest within the Kitchen Lights Area. The potentially recoverable oil and gas volumes and net cash flows attributable to Kitchen Lights interests have been re-stated by Cobb & Associates in July 2013.

The Kitchen Lights Area of development is shown in **Figure 8**. The development area comprises 6 leases of overriding royalty interest (ADL-389927, ADL-389928, ADL-389929, ADL-389930, ADL-390381 and ADL-390374).

Recoverable oil per producer was estimated for the Kitchen Lights Area based on the 230 acres per producer well density observed at Granite Point (a producing field from the same zones located 6 to 10 miles west of Kitchen Lights Area, although only a fraction of the size of the North Cook Inlet Structure it has produced over **156 MMBO** to-date. The estimated OOIP and potentially recoverable oil volumes associated with each development area and each reservoir are summarized in Tables 5, 6, 7 and 8.

**TABLE 5. OOIP AND RECOVERABLE OIL VOLUMES  
TYONEK DEEP SANDS AND HEMLOCK SANDS (ALL RESERVOIRS)**

Development Area	Gross OOIP (MBO)			Gross Recoverable Oil (MBO)		
Lease Area	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
ADL-389927	115,962	156,077	190,654	22,899	36,054	55,575
ADL-389928	20,450	41,268	71,299	2,965	9,722	18,202
ADL-389929	171,430	238,567	310,697	34,331	56,288	87,631
ADL-389930	65,688	123,629	194,174	13,402	28,138	52,042
ADL-390374	24,459	50,814	89,012	3,652	12,072	22,935
ADL-390381	96,069	156,179	239,205	19,655	35,165	65,117
<b>All Areas</b>	<b>P<sub>90</sub> Case</b>	<b>P<sub>50</sub> Case</b>	<b>P<sub>10</sub> Case</b>	<b>P<sub>90</sub> Case</b>	<b>P<sub>50</sub> Case</b>	<b>P<sub>10</sub> Case</b>
Total	494,058	766,534	1,095,041	96,904	177,439	301,509

**Note:** Totals may not exactly match due to rounding.

**TABLE 6. OOIP AND RECOVERABLE OIL VOLUMES  
TYONEK DEEP SUNFISH SANDS**

Development Area	Gross OOIP (MBO)			Gross Recoverable Oil (MBO)		
Lease Area	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
ADL-389927	32,092	46,660	59,797	6,969	11,366	16,827
ADL-389928	6,233	12,874	23,200	0	3,160	6,116
ADL-389929	52,989	77,898	104,182	11,688	18,723	28,583
ADL-389930	19,870	38,496	61,813	4,375	9,410	16,363
ADL-390374	8,133	17,214	30,788	0	4,112	7,982
ADL-390381	29,173	49,172	77,749	6,320	11,603	21,310
All Areas	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
Total	148,490	242,314	357,529	29,352	58,374	97,181

Note: Totals may not exactly match due to rounding.

**TABLE 7. OOIP AND RECOVERABLE OIL VOLUMES  
TYONEK DEEP CHANNEL SANDS**

Development Area	Gross OOIP (MBO)			Gross Recoverable Oil (MBO)		
Lease Area	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
ADL-389927	80,361	101,640	118,980	15,930	24,688	35,495
ADL-389928	13,561	26,952	45,640	2,965	6,561	12,086
ADL-389929	113,948	150,485	188,934	22,643	36,848	54,437
ADL-389930	42,698	77,405	118,238	9,026	18,728	32,039
ADL-390374	16,237	33,090	56,959	3,652	7,960	14,953
ADL-390381	63,255	99,508	148,487	13,335	23,562	40,399
All Areas	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
Total	330,060	489,080	677,238	67,551	118,347	189,409

Note: Totals may not exactly match due to rounding.

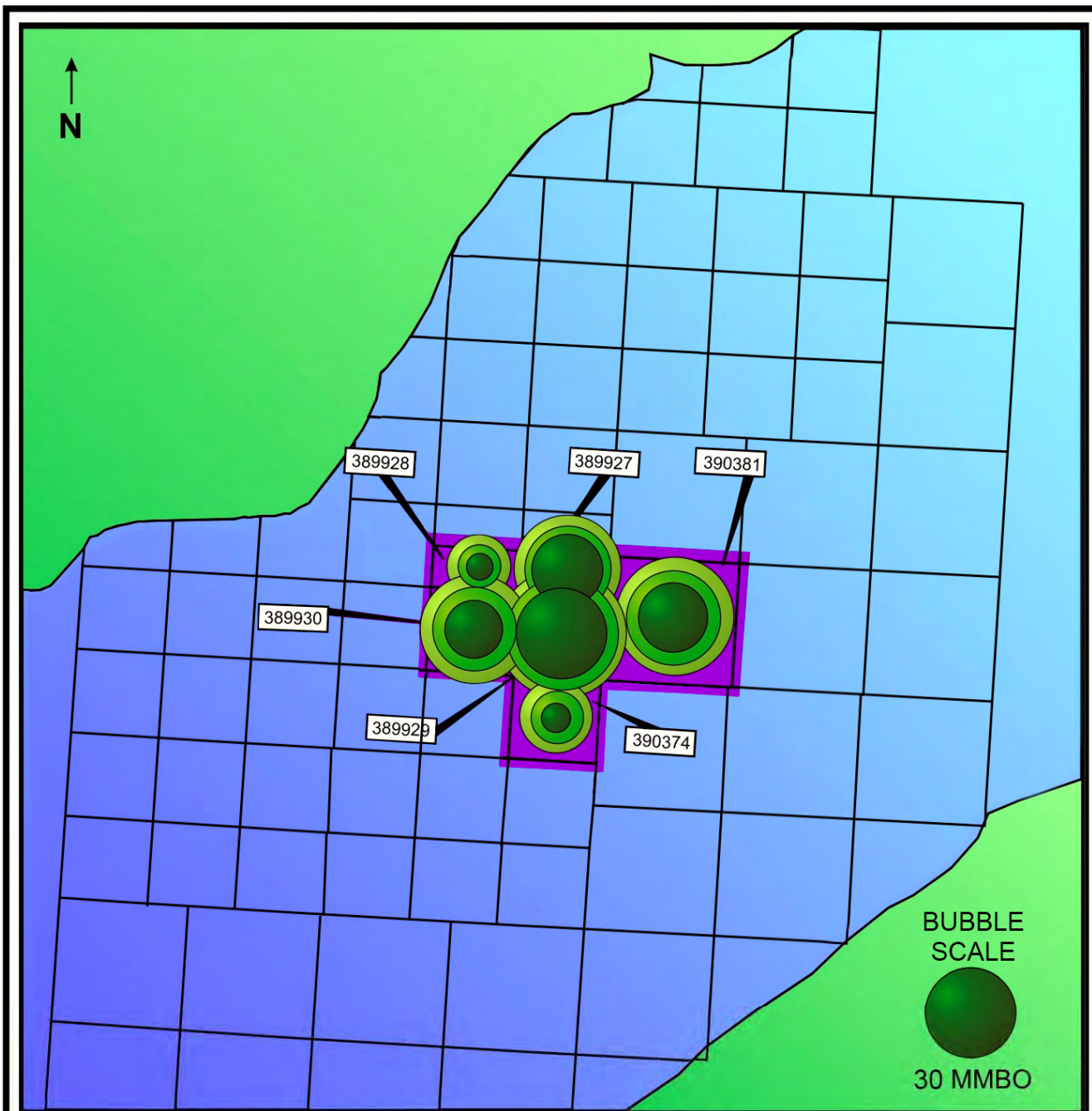
**TABLE 8. OOIP AND RECOVERABLE OIL VOLUMES  
HEMLOCK SANDS**





Development Area	Gross OOIP (MBO)			Gross Recoverable Oil (MBO)		
	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case	P <sub>90</sub> Case	P <sub>50</sub> Case	P <sub>10</sub> Case
<b>Northern Area</b>						
ADL-389927	3,509	7,777	11,877	0	0	3,253
ADL-389928	657	1,443	2,458	0	0	0
ADL-389929	4,493	10,184	17,582	0	718	4,611
ADL-389930	3,121	7,729	14,122	0	0	3,641
ADL-390374	89	510	1,265	0	0	0
ADL-390381	3,641	7,499	12,969	0	0	3,409
<b>All Areas</b>						
Total	15,510	35,142	60,273	0	718	14,914

Note: Totals may not exactly match due to rounding.

A minimum recoverable oil volume threshold per well was applied to the calculated OOIP figures. Only those potentially recoverable oil volumes in excess of 500 MBO per well were included in the gross recoverable oil volumes. **Figure 8** is a bubble map showing the distribution of recoverable oil volumes by category and lease for the acreage within the Kitchen Lights Area. Figures 9, 10 and 11 are pie charts showing a more detailed distribution of recoverable oil volumes by category and lease. These figure illustrate that in all cases the overwhelming majority (>90%) of the potentially recoverable oil volumes attributable to the acreage within the Kitchen Lights Area are located on the North Block within the Central Development Area.

It is estimated that the leases and overriding royalty interest contain approximately 30% of the oil volumes that may be potentially recovered from the Tyonek Deep and Hemlock Sands in the North Cook Inlet Structure as a whole. Significant oil volumes are also expected to be recovered from ConocoPhillips' and Furie Alaska, LLC acreage, located at the northern and southern ends of this structure. The range in oil volumes that may be recovered from the Tyonek Deep and Hemlock reservoirs for the entire North Cook Inlet Structure are estimated to be in the region of 250 MMBO (P<sub>90</sub> case) to 900 MMBO (P<sub>10</sub> case).

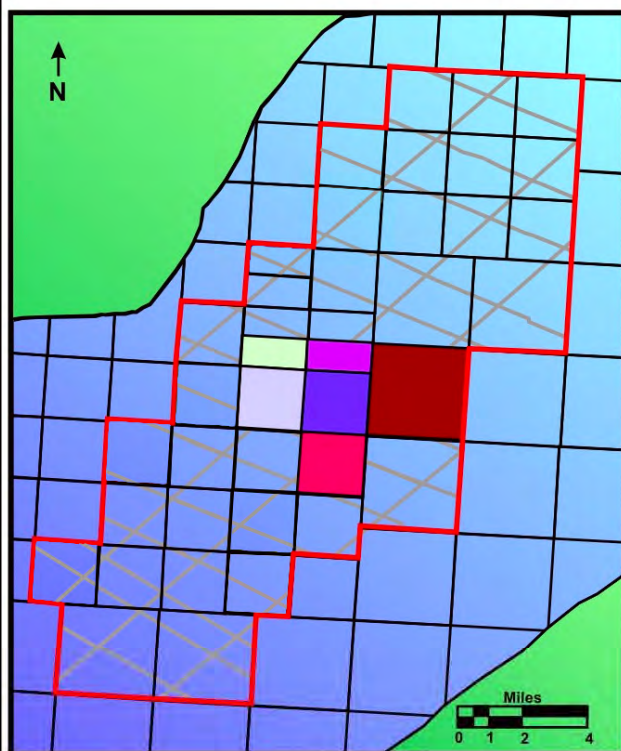
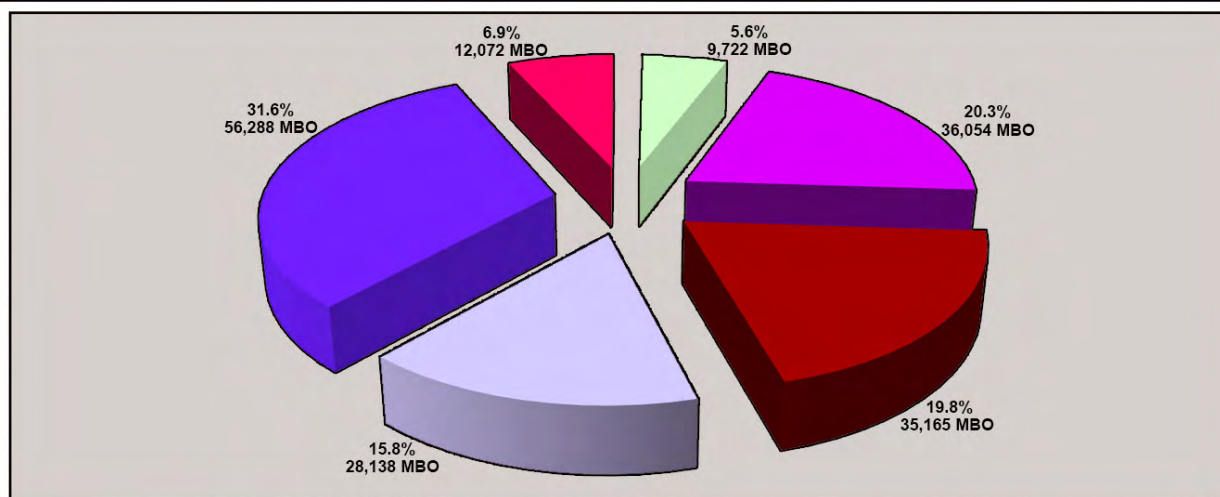


-  PRO AK LEASE AREA
-  P<sub>90</sub> CASE BUBBLES
-  P<sub>50</sub> CASE BUBBLES
-  P<sub>10</sub> CASE BUBBLES




**Pro AK, LLC**  
 COOK INLET BASIN, ALASKA  
**KITCHEN LIGHTS  
 LEASE AREA**  
 DISTRIBUTION OF  
 RECOVERABLE OIL VOLUMES  
 BUBBLE MAP

**FIGURE 8**





ADL-389928	9,722 MBO	5.6%
ADL-389927	36,054 MBO	20.3%
ADL-390381	35,165 MBO	19.8%
ADL-389930	28,138 MBO	15.8%
ADL-389929	56,288 MBO	31.6%
ADL-390374	12,072 MBO	6.9%

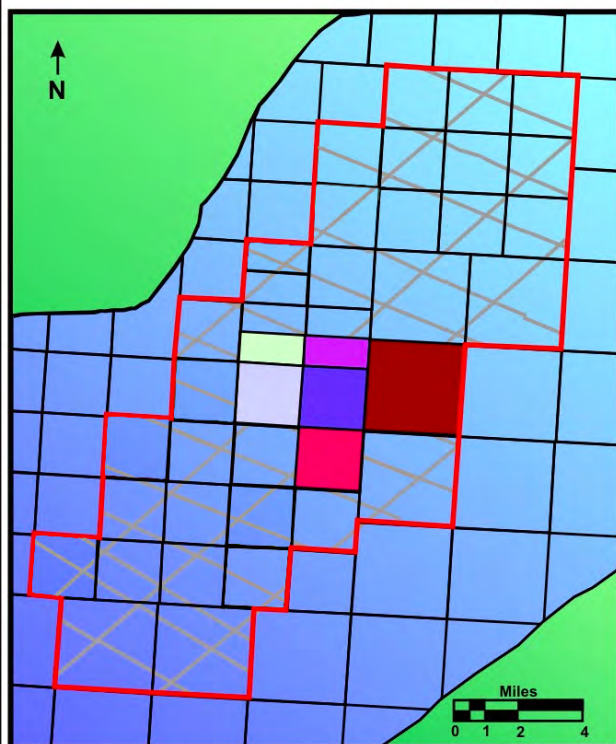
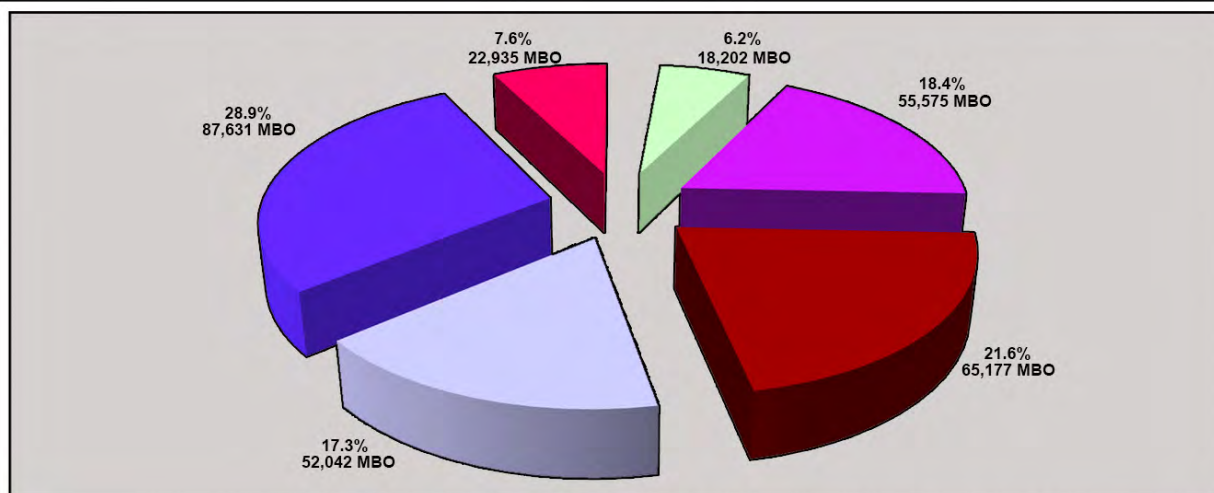
-  COLOR CODED NORTHERN LIGHTS LEASES
-  NORTHERN LIGHTS PROJECT GEOGRAPHIC AREA
-  SEISMIC

**Pro AK, LLC**  
**COOK INLET BASIN, ALASKA**  
**KITCHEN LIGHTS**  
**LEASE AREA**

**DISTRIBUTION OF**  
**RECOVERABLE OIL VOLUMES**  
**BY LEASE PIE CHART**

**P<sub>50</sub> CASE**

**FIGURE 10**



ADL-389928	18,202 MBO	6.2%
ADL-389927	55,575 MBO	18.4%
ADL-390381	65,177 MBO	21.6%
ADL-389930	52,042 MBO	17.3%
ADL-389929	87,631 MBO	28.9%
ADL-390374	22,935 MBO	7.6%



COLOR CODED NORTHERN LIGHTS  
LEASES

NORTHERN LIGHTS PROJECT  
GEOGRAPHIC AREA

SEISMIC

## Pro AK, LLC

COOK INLET BASIN, ALASKA  
**KITCHEN LIGHTS  
LEASE AREA**

DISTRIBUTION OF  
RECOVERABLE OIL VOLUMES  
BY LEASE PIE CHART

**P<sub>10</sub> CASE**

FIGURE 11

# WILLIAM M. COBB & ASSOCIATES, INC.

Worldwide Petroleum Consultants

June 9, 2015

Pro AK, LLC  
660 W. Southlake Boulevard, Suite 200  
Southlake, Texas 76092

## **Re: Kitchen Lights Project Royalty Value Estimate**

As requested, William M. Cobb & Associates, Inc. (Cobb & Associates) has prepared for ProAK, LLC (Pro AK) estimates of the value of Prodigy's 4.45 percent overriding royalty interest (ORRI) in several leases contained within the Kitchen Lights Unit (KLU) in the Cook Inlet of Alaska. This evaluation is based on the Cobb & Associates September 22, 2004 "Reserve Evaluation of the Northern Lights Project (Kitchen lights) Located in Cook Inlet of Alaska" probabilistic evaluation of the reserves and resource volumes and values for several of the Prodigy leases (the 2004 Report).

The changes to the 2004 Report include adjusting the project timing to be consistent with currently-publicized exploration and development plans for the KLU, and the restriction of the evaluation to the "Central Area" leases from the 2004 Report, which includes the leases in the KLU in which Prodigy maintains an ORRI. Before-tax values were calculated with the use of an appropriate range of flat wellhead oil and gas prices.

**EVALUATION STIPULATIONS** – The values presented in this report result from the evaluation of reserves and resources for the interest of Prodigy in certain oil properties located the Cook Inlet, Alaska. The evaluation is based on data supplied by Prodigy and on public statements by the operator, Furie Operating Alaska, LLC. Cobb & Associates has not independently confirmed Prodigy's title to the subject interests. The results presented in this report are based on engineering and geological judgment, and as such, are estimates. There are uncertainties in the analysis of the available data. The estimated recoverable volumes may or may not, in fact, be recovered. Recoverable volumes and economic values may increase or decrease as a result of future operations, or as the result of unforeseen geological conditions. Therefore, these results are not warranted or guaranteed as to their accuracy, but represent opinions based on the interpretation of technical data.

**DEVELOPMENT TIMING** – The KLU is made up of four blocks, as shown in Exhibit 1. The operator has committed to the State of Alaska to explore and develop those blocks, consistent with a mutually-agreed Plan of Exploration regarding the four blocks (revised and agreed as of March 10, 2015), and a Plan of Development regarding the gas production platform and associated facilities being installed this year on the Corsair block (revised and agreed as of December 22, 2014). The operator's ongoing activities to meet the requirements of these two plans is consistent with continued progress toward developing the subject leases which are wholly contained on the Northern block, as shown on Exhibits 2 and 3. Specifically, the KLU #4 well was drilled and suspended on the Northern block in 2013,

followed by further activity in 2014 without public disclosure of results. In contrast, the operator disclosed in the Plan of Development that the KLU #5 well was drilled in the Central block 2014 and found to be a dry hole.

With respect to the activities that could affect the Northern block, this latest KLU Plan of Exploration requires the operator in 2015 to either “complete acquisition of 3D seismic data over the entire KLU through licensing or other means or, alternatively, drill an exploration well in an undrilled exploration block.” Based on the results of that effort, combined with all other information, the operator committed to then either drill one or more exploration or delineation wells in an exploration blocks, or to sanction a development project in one of those blocks.

Based on the timing of these obligations, and assuming successful exploration results in the Northern block of the KLU, the “Probable” case represents a one-platform development with production beginning in 2021. The remaining two cases include a one-year earlier startup for the first platform (2020), along with second platform beginning production two years later, in 2022. The third case includes additional production from both platforms. These three cases capture the key project uncertainties: the outcome of the exploration drilling program (the amount of oil and gas in place), and the development timing and pace chosen by the operator.

**OIL AND GAS PRICES** – Given the large changes in oil prices over the last year, a set of sensitivities were run to oil price. First, the base project economics (operator economics) were reviewed and found to be economic at the lowest assumed oil price. Next, royalty interest owner economics were run at three fixed wellhead prices: \$60 per barrel, \$80 per barrel, and \$100 per barrel. The gas price was fixed at \$6.00 per MCF, the average of the last four quarters’ “Prevailing Value for Cook Inlet Gas”, as published by the state. Gas price was not varied because gas value is less than five percent of the total revenue stream.

**EVALUATION RESULTS** – An as-of date of July 1, 2015 was used. The discounted present worth of future income values shown below, and in other portions of this report, are not intended to necessarily represent an estimate of fair market value. Details may not add to totals due to rounding. The various categories of reserves have been combined in certain tables of this report for convenience and/or illustrative purposes. It should be recognized that different levels of risk and uncertainty are associated with each of these reserve categories; however, the reserves and revenues presented in this report have not been adjusted for risk. Detailed cash flows for the three cases and three price forecasts are contained in Exhibits 4a through 4i.

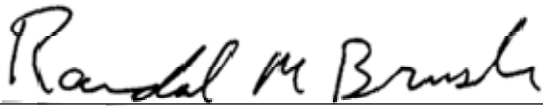
#### **Volume and Present Value Estimates for a 4.45% ORRI**

<b>Case</b>	<b>Estimated Net Sales Volumes</b>		<b>Present Value at 10% Discount Factor</b>		
	<b>Oil, MMBO</b>	<b>Gas, BCF</b>	<b>\$100/BO, \$MM</b>	<b>\$80/BO, \$MM</b>	<b>\$60/BO, \$MM</b>
<b>Probable</b>	<b>4.31</b>	<b>1.82</b>	<b>105</b>	<b>85</b>	<b>64</b>
<b>Probable plus Possible</b>	<b>7.87</b>	<b>3.33</b>	<b>198</b>	<b>157</b>	<b>119</b>
<b>Probable plus Possible plus Resource</b>	<b>13.4</b>	<b>5.68</b>	<b>332</b>	<b>268</b>	<b>203</b>

William M. Cobb & Associates, Inc. appreciates this opportunity to be of service. Please contact us with any questions or comments regarding this report.

Sincerely,

WILLIAM M. COBB & ASSOCIATES, INC.

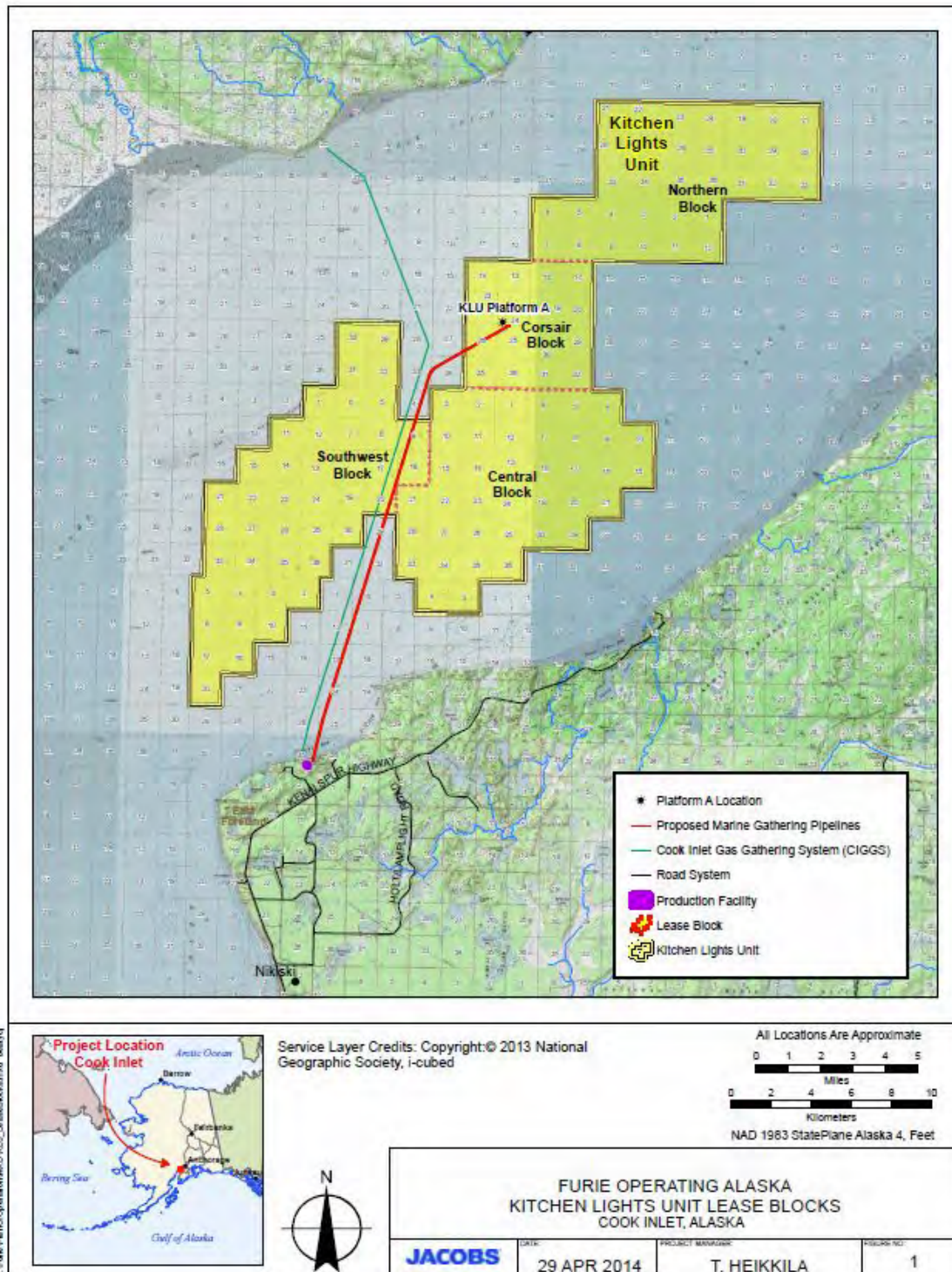
A handwritten signature in black ink that reads "Randal M. Brush". The signature is written in a cursive style and is positioned above a solid horizontal line. The entire signature and line are enclosed within a dashed rectangular border.

**Randal M. Brush, P.E.**  
**Senior Vice President**

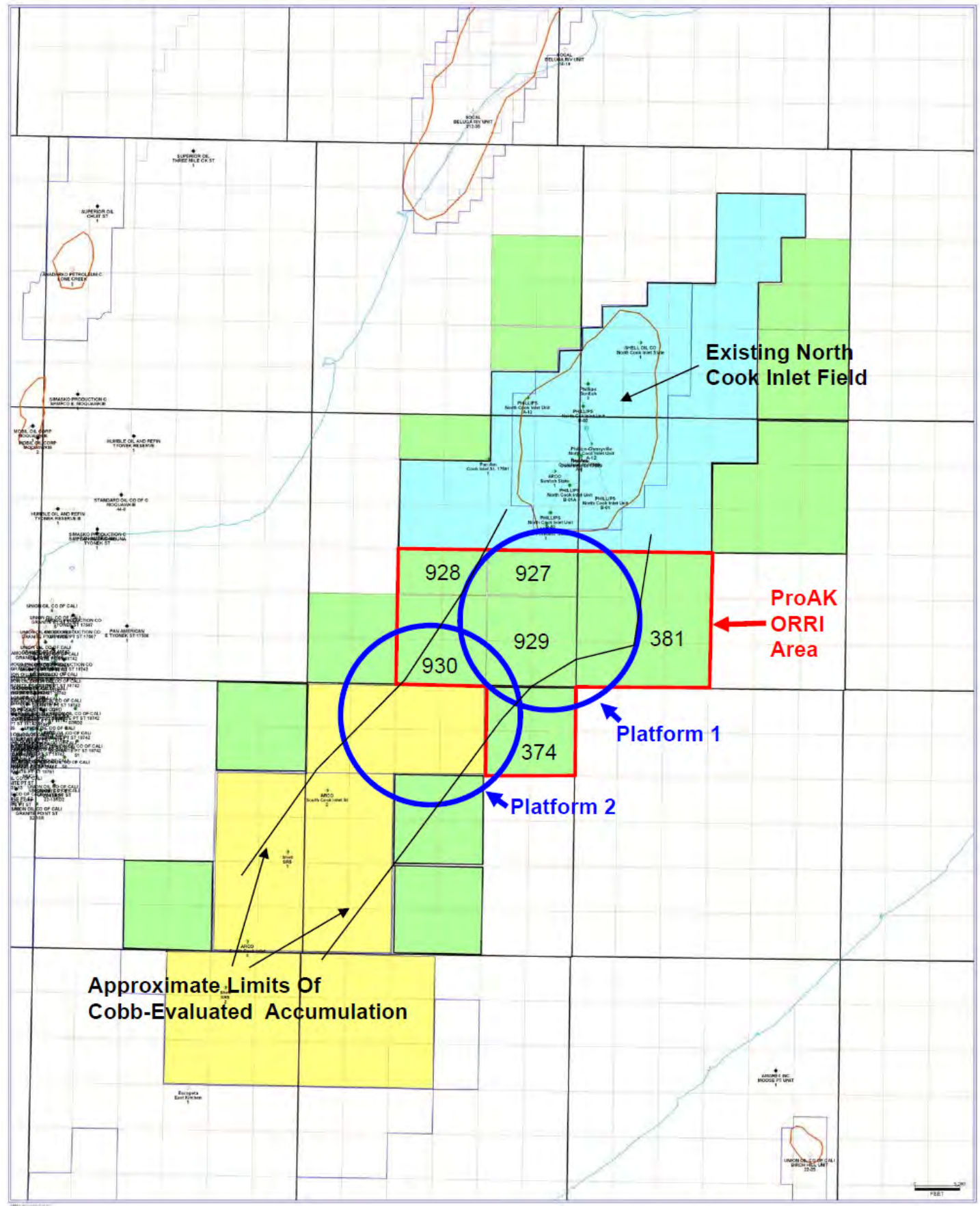




# Exhibit 1: KLU Blocks (from KLU Plan of Operations)

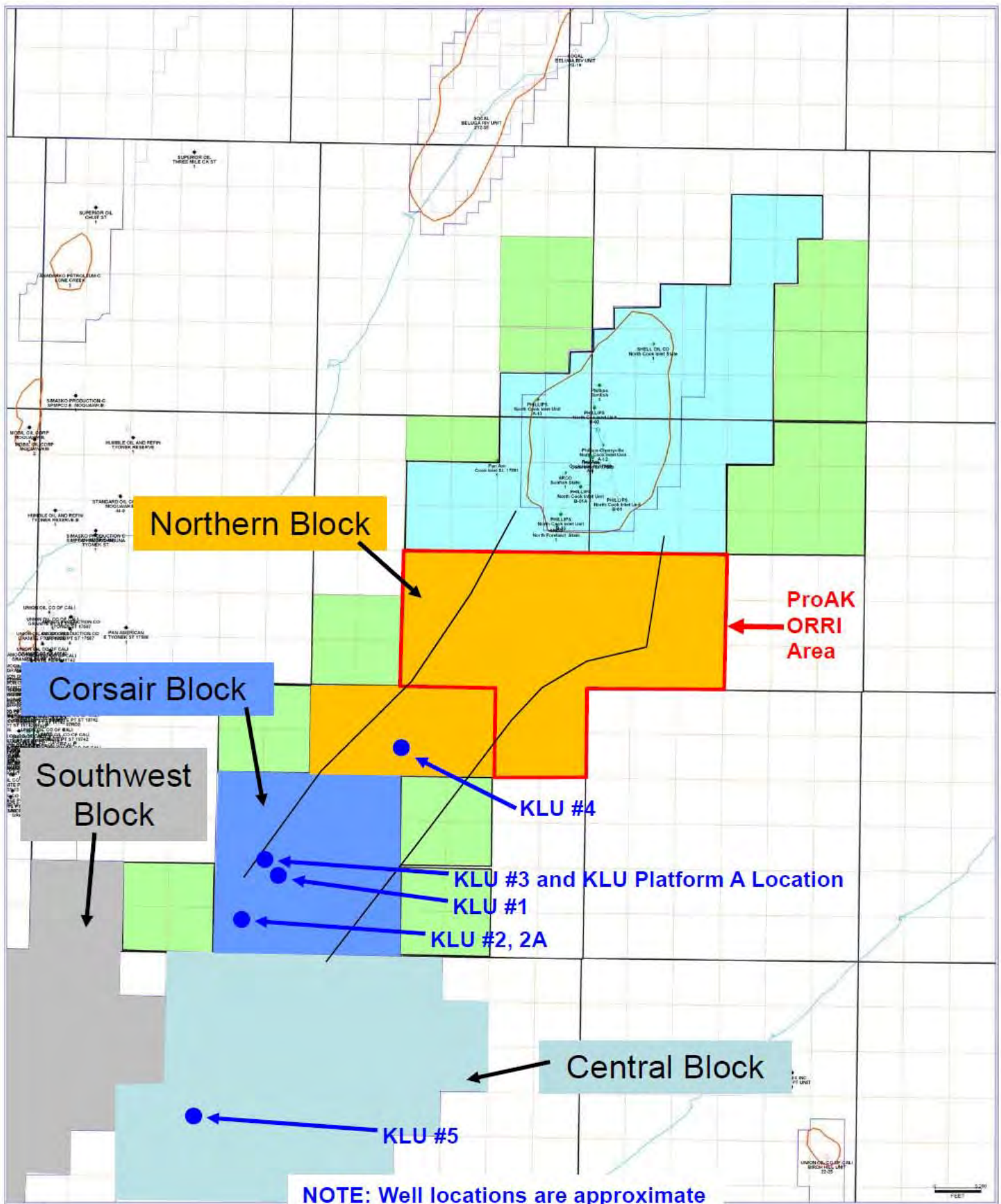


## Exhibit 2: Tracts, Assumed Platform 1 and 2 Locations





## Exhibit 3: Prodigy ORRI Area Relative to KLU Blocks, Wells



KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE  
 \$60.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 13:18:54

EXHIBIT 4a

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION -----MMBLS-----	8/8 GAS PRODUCTION -----MMCF-----	8/8 NGL PRODUCTION -----MMBLS-----	NET OIL/CND PRODUCTION -----MMBLS-----	NET GAS PRODUCTION -----MMCF-----	NET NGL PRODUCTION -----MMBLS-----	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2021	538.314	341.733	0.000	23.955	15.207	0.000	60.00	6.00	0.00	1528.541
12-2022	3907.894	2480.815	0.000	173.901	110.396	0.000	60.00	6.00	0.00	11096.454
12-2023	5415.206	3437.688	0.000	240.977	152.977	0.000	60.00	6.00	0.00	15376.463
12-2024	4406.070	2758.764	0.000	196.070	122.765	0.000	60.00	6.00	0.00	12500.797
12-2025	5024.646	3097.535	0.000	223.597	137.840	0.000	60.00	6.00	0.00	14242.847
12-2026	6057.210	3668.685	0.000	269.546	163.256	0.000	60.00	6.00	0.00	17152.285
12-2027	6802.146	4037.256	0.000	302.696	179.658	0.000	60.00	6.00	0.00	19239.682
12-2028	5919.764	3432.054	0.000	263.429	152.726	0.000	60.00	6.00	0.00	16722.123
12-2029	4720.767	2662.656	0.000	210.074	118.488	0.000	60.00	6.00	0.00	13315.372
S TOT	42792.016	25917.186	0.000	1904.245	1153.315	0.000	60.00	6.00	0.00	121174.578
AFTER	54111.445	15052.191	0.000	2407.959	669.822	0.000	60.00	6.00	0.00	148496.484
TOTAL	96903.453	40969.375	0.000	4312.205	1823.137	0.000	60.00	6.00	0.00	269671.031
--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2021	1437.298	91.243	0.000	0.000	0.000	0.000	1528.541	1528.541	863.146	
12-2022	10434.076	662.378	0.000	0.000	0.000	0.000	11096.454	12624.995	6559.521	
12-2023	14458.599	917.863	0.000	0.000	0.000	0.000	15376.463	28001.457	13735.450	
12-2024	11764.211	736.590	0.000	0.000	0.000	0.000	12500.797	40502.258	19039.000	
12-2025	13415.805	827.042	0.000	0.000	0.000	0.000	14242.847	54745.105	24532.297	
12-2026	16172.749	979.539	0.000	0.000	0.000	0.000	17152.285	71897.391	30546.328	
12-2027	18161.734	1077.947	0.000	0.000	0.000	0.000	19239.682	91137.070	36678.988	
12-2028	15805.767	916.358	0.000	0.000	0.000	0.000	16722.123	107859.203	41524.613	
12-2029	12604.443	710.929	0.000	0.000	0.000	0.000	13315.372	121174.578	45032.285	
S TOT	114254.680	6919.888	0.000	0.000	0.000	0.000	121174.578	121174.578	45032.285	
AFTER	144477.562	4018.934	0.000	0.000	0.000	0.000	148496.484	269671.094	64464.723	
TOTAL	258732.250	10938.822	0.000	0.000	0.000	0.000	269671.031	269671.094	64464.723	
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000							
ULTIMATE OIL (MBBL)	96903.477	ULTIMATE GAS (MMCF)	40969.371							

					P.W. %	P.W., M\$
NET EQUIV. MMBLS	4616.061	( 6.6% GAS)	DBS FILE	: CLASSIC	5.00	123412.382
NET EQUIV. MMCF	27696.365	( 93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD	7.00	93916.304
INITIAL W.I., %	0.000		SCENARIO	: RI ADJ	9.00	72784.687
INITIAL OIL R.I., %	4.450		UNDISC. PAYOUT, YRS.:	0.00	10.00	64464.730
INITIAL GAS R.I., %	4.450		DISC. PAYOUT, YRS.:	0.00	12.00	51117.070
INITIAL NGL R.I., %	4.450		UNDISC. NET/INVEST,\$/\$:	0.0	15.00	36952.507
% OIL REVENUE	95.9		DISC. NET/INVEST,\$/\$:	0.0	20.00	22635.564
% GAS REVENUE	4.1		LIFE, YRS.	: 34.50	50.00	2524.845
% NGL REVENUE	0.0		RATE OF RETURN, %:	100.00	75.00	673.952
					100.00	230.093

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT

KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE + POSSIBLE  
 \$60.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 14:33:18

EXHIBIT 4b

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION ----- ---MBBLS---	8/8 GAS PRODUCTION ----- ---MMCF---	8/8 NGL PRODUCTION ----- ---MBBLS---	NET OIL/CND PRODUCTION ----- ---MBBLS---	NET GAS PRODUCTION ----- ---MMCF---	NET NGL PRODUCTION ----- ---MBBLS---	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE ----- ---M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	538.314	341.733	0.000	23.955	15.207	0.000	60.00	6.00	0.00	1528.541
12-2021	3907.894	2480.815	0.000	173.901	110.396	0.000	60.00	6.00	0.00	11096.454
12-2022	5859.176	3719.530	0.000	260.733	165.519	0.000	60.00	6.00	0.00	16637.113
12-2023	7629.076	4804.797	0.000	339.494	213.813	0.000	60.00	6.00	0.00	21652.512
12-2024	9490.794	5932.742	0.000	422.340	264.007	0.000	60.00	6.00	0.00	26924.469
12-2025	9691.083	5943.954	0.000	431.253	264.506	0.000	60.00	6.00	0.00	27462.223
12-2026	10946.184	6591.924	0.000	487.105	293.341	0.000	60.00	6.00	0.00	30986.359
12-2027	10915.400	6457.773	0.000	485.735	287.371	0.000	60.00	6.00	0.00	30868.340
12-2028	10330.784	5992.353	0.000	459.720	266.660	0.000	60.00	6.00	0.00	29183.148
12-2029	9145.216	5157.607	0.000	406.962	229.514	0.000	60.00	6.00	0.00	25794.809
S TOT	78453.922	47423.227	0.000	3491.199	2110.333	0.000	60.00	6.00	0.00	222133.984
AFTER	98369.930	27335.324	0.000	4377.462	1216.422	0.000	60.00	6.00	0.00	269946.281
TOTAL	176823.844	74758.555	0.000	7868.662	3326.756	0.000	60.00	6.00	0.00	492080.250
--END-- MO-YEAR	NET OIL/CND REVENUE ----- ---M\$-----	NET GAS REVENUE ----- ---M\$-----	NET NGL REVENUE ----- ---M\$-----	NET ADVAL & PROD. TAXES ----- ---M\$-----	DIRECT OPER EXPENSE ----- ---M\$-----	CAPITAL INVESTMENT ----- ---M\$-----	FUTURE NET CASHFLOW ----- ---M\$-----	CUMULATIVE CASHFLOW ----- ---M\$-----	10.0% CUM DISC CF ----- ---M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	1437.298	91.243	0.000	0.000	0.000	0.000	1528.541	1528.541	949.460	
12-2021	10434.076	662.378	0.000	0.000	0.000	0.000	11096.454	12624.995	7215.473	
12-2022	15643.999	993.115	0.000	0.000	0.000	0.000	16637.113	29262.107	15756.151	
12-2023	20369.635	1282.881	0.000	0.000	0.000	0.000	21652.512	50914.621	25861.004	
12-2024	25340.422	1584.042	0.000	0.000	0.000	0.000	26924.469	77839.086	37283.895	
12-2025	25875.188	1587.036	0.000	0.000	0.000	0.000	27462.223	105301.312	47875.754	
12-2026	29226.314	1760.044	0.000	0.000	0.000	0.000	30986.359	136287.688	58740.359	
12-2027	29144.115	1724.225	0.000	0.000	0.000	0.000	30868.340	167156.016	68579.664	
12-2028	27583.189	1599.958	0.000	0.000	0.000	0.000	29183.148	196339.172	77036.156	
12-2029	24417.729	1377.081	0.000	0.000	0.000	0.000	25794.809	222133.984	83831.289	
S TOT	209471.969	12662.001	0.000	0.000	0.000	0.000	222133.984	222133.984	83831.289	
AFTER	262647.719	7298.532	0.000	0.000	0.000	0.000	269946.281	492080.188	119244.664	
TOTAL	472119.688	19960.531	0.000	0.000	0.000	0.000	492080.250	492080.188	119244.664	
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000							
ULTIMATE OIL (MBBL)	176823.828	ULTIMATE GAS (MMCF)	74758.562							
								P.W. %	P.W., M\$	
								-----	-----	
NET EQUIV. MBBLS	8423.119	( 6.6% GAS)		DBS FILE	: CLASSIC			5.00	226519.578	
NET EQUIV. MMCF	50538.715	( 93.4% OIL)		INPUT SETTINGS:	ROLLFORWARD			7.00	172879.937	
INITIAL W.I., %	0.000			SCENARIO	: RI ADJ			9.00	134407.421	
INITIAL OIL R.I., %	4.450			UNDISC. PAYOUT, YRS.:	0.00			10.00	119244.656	
INITIAL GAS R.I., %	4.450			DISC. PAYOUT, YRS.:	0.00			12.00	94892.562	
INITIAL NGL R.I., %	4.450			UNDISC. NET/INVEST,\$/\$:	0.0			15.00	68996.507	
% OIL REVENUE	95.9			DISC. NET/INVEST,\$/\$:	0.0			20.00	42719.765	
% GAS REVENUE	4.1			LIFE, YRS.	: 35.50			50.00	5175.500	
% NGL REVENUE	0.0			RATE OF RETURN, %:	100.00			75.00	1497.038	
								100.00	555.070	

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT



KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE + POSSIBLE + RESOURCES  
 \$60.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 14:33:18

EXHIBIT 4c

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION -----MMBLS----	8/8 GAS PRODUCTION -----MMCF----	8/8 NGL PRODUCTION -----MMBLS----	NET OIL/CND PRODUCTION -----MMBLS----	NET GAS PRODUCTION -----MMCF----	NET NGL PRODUCTION -----MMBLS----	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	918.479	583.070	0.000	40.872	25.947	0.000	60.00	6.00	0.00	2608.019
12-2021	6667.706	4232.802	0.000	296.713	188.360	0.000	60.00	6.00	0.00	18932.932
12-2022	9997.012	6346.317	0.000	444.867	282.411	0.000	60.00	6.00	0.00	28386.490
12-2023	13016.844	8198.014	0.000	579.250	364.812	0.000	60.00	6.00	0.00	36943.836
12-2024	16193.334	10122.529	0.000	720.603	450.453	0.000	60.00	6.00	0.00	45938.910
12-2025	16535.070	10141.659	0.000	735.810	451.304	0.000	60.00	6.00	0.00	46856.449
12-2026	18676.539	11247.237	0.000	831.106	500.502	0.000	60.00	6.00	0.00	52869.379
12-2027	18624.018	11018.346	0.000	828.769	490.316	0.000	60.00	6.00	0.00	52668.023
12-2028	17626.535	10224.239	0.000	784.381	454.979	0.000	60.00	6.00	0.00	49792.719
12-2029	15603.706	8799.986	0.000	694.365	391.599	0.000	60.00	6.00	0.00	44011.480
S TOT	133859.250	80914.203	0.000	5956.736	3600.681	0.000	60.00	6.00	0.00	379008.219
AFTER	167840.203	46639.945	0.000	7468.889	2075.477	0.000	60.00	6.00	0.00	460586.188
TOTAL	301699.469	127554.141	0.000	13425.625	5676.159	0.000	60.00	6.00	0.00	839594.375
--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	2452.339	155.680	0.000	0.000	0.000	0.000	2608.019	2608.019	1619.983	
12-2021	17802.777	1130.158	0.000	0.000	0.000	0.000	18932.932	21540.951	12311.146	
12-2022	26692.023	1694.466	0.000	0.000	0.000	0.000	28386.490	49927.441	26883.379	
12-2023	34754.969	2188.870	0.000	0.000	0.000	0.000	36943.836	86871.281	44124.430	
12-2024	43236.195	2702.716	0.000	0.000	0.000	0.000	45938.910	132810.188	63614.332	
12-2025	44148.633	2707.823	0.000	0.000	0.000	0.000	46856.449	179666.641	81686.312	
12-2026	49866.367	3003.012	0.000	0.000	0.000	0.000	52869.379	232536.016	100223.664	
12-2027	49726.129	2941.898	0.000	0.000	0.000	0.000	52668.023	285204.031	117011.625	
12-2028	47062.852	2729.871	0.000	0.000	0.000	0.000	49792.719	334996.750	131440.219	
12-2029	41661.887	2349.596	0.000	0.000	0.000	0.000	44011.480	379008.219	143034.172	
S TOT	357404.156	21604.090	0.000	0.000	0.000	0.000	379008.219	379008.219	143034.172	
AFTER	448133.312	12452.862	0.000	0.000	0.000	0.000	460586.188	839594.250	203456.953	
TOTAL	805537.500	34056.953	0.000	0.000	0.000	0.000	839594.375	839594.250	203456.953	
CUMULATIVE OIL (MBBL)		0.000	CUMULATIVE GAS (MMF)		0.000					
ULTIMATE OIL (MBBL)	301699.500	ULTIMATE GAS (MMCF)		127554.141						
NET EQUIV. MMBLS		14371.649	( 6.6% GAS)	DBS FILE : CLASSIC		P.W. %		P.W., M\$		
NET EQUIV. MMCF		86229.898	( 93.4% OIL)	INPUT SETTINGS: ROLLFORWARD		5.00		386491.031		
INITIAL W.I., %		0.000	SCENARIO : RI_ADJ		9.00		229327.937			
INITIAL OIL R.I., %		4.450	UNDISC. PAYOUT, YRS.: 0.00		10.00		203456.968			
INITIAL GAS R.I., %		4.450	DISC. PAYOUT, YRS.: 0.00		12.00		161907.078			
INITIAL NGL R.I., %		4.450	UNDISC. NET/INVEST,\$/\$: 0.0		15.00		117722.867			
% OIL REVENUE		95.9	DISC. NET/INVEST,\$/\$: 0.0		20.00		72889.085			
% GAS REVENUE		4.1	LIFE, YRS. : 35.50		50.00		8830.513			
% NGL REVENUE		0.0	RATE OF RETURN, %: 100.00		75.00		2554.268			
					100.00		947.069			

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT



KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE  
 \$80.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 13:21:57

EXHIBIT 4d

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION -----MMBLS-----	8/8 GAS PRODUCTION -----MMCF-----	8/8 NGL PRODUCTION -----MMBLS-----	NET OIL/CND PRODUCTION -----MMBLS-----	NET GAS PRODUCTION -----MMCF-----	NET NGL PRODUCTION -----MMBLS-----	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2021	538.314	341.733	0.000	23.955	15.207	0.000	80.00	6.00	0.00	2007.641
12-2022	3907.894	2480.815	0.000	173.901	110.396	0.000	80.00	6.00	0.00	14574.480
12-2023	5415.206	3437.688	0.000	240.977	152.977	0.000	80.00	6.00	0.00	20195.998
12-2024	4406.070	2758.764	0.000	196.070	122.765	0.000	80.00	6.00	0.00	16422.203
12-2025	5024.646	3097.535	0.000	223.597	137.840	0.000	80.00	6.00	0.00	18714.779
12-2026	6057.210	3668.685	0.000	269.546	163.256	0.000	80.00	6.00	0.00	22543.201
12-2027	6802.146	4037.256	0.000	302.696	179.658	0.000	80.00	6.00	0.00	25293.594
12-2028	5919.764	3432.054	0.000	263.429	152.726	0.000	80.00	6.00	0.00	21990.719
12-2029	4720.767	2662.656	0.000	210.074	118.488	0.000	80.00	6.00	0.00	17516.855
S TOT	42792.016	25917.186	0.000	1904.245	1153.315	0.000	80.00	6.00	0.00	159259.453
AFTER	54111.445	15052.191	0.000	2407.959	669.822	0.000	80.00	6.00	0.00	196655.688
TOTAL	96903.453	40969.375	0.000	4312.205	1823.137	0.000	80.00	6.00	0.00	355915.125
--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2021	1916.397	91.243	0.000	0.000	0.000	0.000	2007.641	2007.641	1133.687	
12-2022	13912.103	662.378	0.000	0.000	0.000	0.000	14574.480	16582.119	8615.510	
12-2023	19278.135	917.863	0.000	0.000	0.000	0.000	20195.998	36778.121	18040.633	
12-2024	15685.611	736.590	0.000	0.000	0.000	0.000	16422.203	53200.324	25007.865	
12-2025	17887.738	827.042	0.000	0.000	0.000	0.000	18714.779	71915.102	32225.934	
12-2026	21563.666	979.539	0.000	0.000	0.000	0.000	22543.201	94458.305	40130.160	
12-2027	24215.643	1077.947	0.000	0.000	0.000	0.000	25293.594	119751.898	48192.504	
12-2028	21074.354	916.358	0.000	0.000	0.000	0.000	21990.719	141742.609	54564.824	
12-2029	16805.926	710.929	0.000	0.000	0.000	0.000	17516.855	159259.453	59179.293	
S TOT	152339.562	6919.888	0.000	0.000	0.000	0.000	159259.453	159259.453	59179.293	
AFTER	192636.750	4018.934	0.000	0.000	0.000	0.000	196655.688	355915.125	84857.297	
TOTAL	344976.312	10938.822	0.000	0.000	0.000	0.000	355915.125	355915.125	84857.297	
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000							
ULTIMATE OIL (MBBL)	96903.477	ULTIMATE GAS (MMCF)	40969.371							
								P.W. %	P.W., M\$	
								-----	-----	
NET EQUIV. MMBLS	4616.061	( 6.6% GAS)		DBS FILE	: CLASSIC			5.00	162622.609	
NET EQUIV. MMCF	27696.365	( 93.4% OIL)		INPUT SETTINGS:	ROLLFORWARD			7.00	123696.148	
INITIAL W.I., %	0.000			SCENARIO	: RI_ADJ			9.00	95825.750	
INITIAL OIL R.I., %	4.450			UNDISC. PAYOUT, YRS.:	0.00			10.00	84857.296	
INITIAL GAS R.I., %	4.450			DISC. PAYOUT, YRS.:	0.00			12.00	67267.015	
INITIAL NGL R.I., %	4.450			UNDISC. NET/INVEST,\$/\$:	0.0			15.00	48609.886	
% OIL REVENUE	96.9			DISC. NET/INVEST,\$/\$:	0.0			20.00	29764.027	
% GAS REVENUE	3.1			LIFE, YRS.	: 34.50			50.00	3317.340	
% NGL REVENUE	0.0			RATE OF RETURN, %:	100.00			75.00	885.355	
								100.00	302.248	

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT

KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE + POSSIBLE  
 \$80.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 14:35:36

EXHIBIT 4e

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION -----MMBLS----	8/8 GAS PRODUCTION -----MMCF----	8/8 NGL PRODUCTION -----MMBLS----	NET OIL/CND PRODUCTION -----MMBLS----	NET GAS PRODUCTION -----MMCF----	NET NGL PRODUCTION -----MMBLS----	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	538.314	341.733	0.000	23.955	15.207	0.000	80.00	6.00	0.00	2007.641
12-2021	3907.894	2480.815	0.000	173.901	110.396	0.000	80.00	6.00	0.00	14574.480
12-2022	5859.176	3719.530	0.000	260.733	165.519	0.000	80.00	6.00	0.00	21851.783
12-2023	7629.076	4804.797	0.000	339.494	213.813	0.000	80.00	6.00	0.00	28442.393
12-2024	9490.794	5932.742	0.000	422.340	264.007	0.000	80.00	6.00	0.00	35371.273
12-2025	9691.083	5943.954	0.000	431.253	264.506	0.000	80.00	6.00	0.00	36087.289
12-2026	10946.184	6591.924	0.000	487.105	293.341	0.000	80.00	6.00	0.00	40728.465
12-2027	10915.400	6457.773	0.000	485.735	287.371	0.000	80.00	6.00	0.00	40583.051
12-2028	10330.784	5992.353	0.000	459.720	266.660	0.000	80.00	6.00	0.00	38377.543
12-2029	9145.216	5157.607	0.000	406.962	229.514	0.000	80.00	6.00	0.00	33934.047
S TOT	78453.922	47423.227	0.000	3491.199	2110.333	0.000	80.00	6.00	0.00	291957.938
AFTER	98369.930	27335.324	0.000	4377.462	1216.422	0.000	80.00	6.00	0.00	357495.438
TOTAL	176823.844	74758.555	0.000	7868.662	3326.756	0.000	80.00	6.00	0.00	649453.375
--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	1916.397	91.243	0.000	0.000	0.000	0.000	2007.641	2007.641	1247.055	
12-2021	13912.103	662.378	0.000	0.000	0.000	0.000	14574.480	16582.119	9477.061	
12-2022	20858.668	993.115	0.000	0.000	0.000	0.000	21851.783	38433.902	20694.693	
12-2023	27159.508	1282.881	0.000	0.000	0.000	0.000	28442.393	66876.297	33968.266	
12-2024	33787.230	1584.042	0.000	0.000	0.000	0.000	35371.273	102247.570	48974.773	
12-2025	34500.254	1587.036	0.000	0.000	0.000	0.000	36087.289	138334.844	62893.211	
12-2026	38968.414	1760.044	0.000	0.000	0.000	0.000	40728.465	179063.312	77173.648	
12-2027	38858.820	1724.225	0.000	0.000	0.000	0.000	40583.051	219646.375	90109.523	
12-2028	36777.590	1599.958	0.000	0.000	0.000	0.000	38377.543	258023.906	101230.305	
12-2029	32556.971	1377.081	0.000	0.000	0.000	0.000	33934.047	291957.938	110169.555	
S TOT	279295.938	12662.001	0.000	0.000	0.000	0.000	291957.938	291957.938	110169.555	
AFTER	350196.906	7298.532	0.000	0.000	0.000	0.000	357495.438	649453.438	156966.125	
TOTAL	629492.875	19960.531	0.000	0.000	0.000	0.000	649453.375	649453.438	156966.125	
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000							
ULTIMATE OIL (MBBL)	176823.828	ULTIMATE GAS (MMCF)	74758.562							
								P.W. %	P.W., M\$	
NET EQUIV. MMBLS	8423.119	( 6.6% GAS)		DBS FILE : CLASSIC			5.00	298488.718		
NET EQUIV. MMCF	50538.715	( 93.4% OIL)		INPUT SETTINGS: ROLLFORWARD			7.00	227698.281		
INITIAL W.I., %	0.000			SCENARIO : RI_ADJ			9.00	176956.078		
INITIAL OIL R.I., %	4.450			UNDISC. PAYOUT, YRS.: 0.00			10.00	156966.109		
INITIAL GAS R.I., %	4.450			DISC. PAYOUT, YRS.: 0.00			12.00	124872.937		
INITIAL NGL R.I., %	4.450			UNDISC. NET/INVEST,\$/\$: 0.0			15.00	90762.781		
% OIL REVENUE	96.9			DISC. NET/INVEST,\$/\$: 0.0			20.00	56173.210		
% GAS REVENUE	3.1			LIFE, YRS. : 35.50			50.00	6799.977		
% NGL REVENUE	0.0			RATE OF RETURN, %: 100.00			75.00	1966.624		
							100.00	729.133		

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT

KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE + POSSIBLE + RESOURCES  
 \$80.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 14:35:36

EXHIBIT 4f

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION ---MMBLS---	8/8 GAS PRODUCTION ---MMCF---	8/8 NGL PRODUCTION ---MMBLS---	NET OIL/CND PRODUCTION ---MMBLS---	NET GAS PRODUCTION ---MMCF---	NET NGL PRODUCTION ---MMBLS---	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	918.479	583.070	0.000	40.872	25.947	0.000	80.00	6.00	0.00	3425.466
12-2021	6667.706	4232.802	0.000	296.713	188.360	0.000	80.00	6.00	0.00	24867.191
12-2022	9997.012	6346.317	0.000	444.867	282.411	0.000	80.00	6.00	0.00	37283.828
12-2023	13016.844	8198.014	0.000	579.250	364.812	0.000	80.00	6.00	0.00	48528.832
12-2024	16193.334	10122.529	0.000	720.603	450.453	0.000	80.00	6.00	0.00	60350.984
12-2025	16535.070	10141.659	0.000	735.810	451.304	0.000	80.00	6.00	0.00	61572.664
12-2026	18676.539	11247.237	0.000	831.106	500.502	0.000	80.00	6.00	0.00	69491.484
12-2027	18624.018	11018.346	0.000	828.769	490.316	0.000	80.00	6.00	0.00	69243.398
12-2028	17626.535	10224.239	0.000	784.381	454.979	0.000	80.00	6.00	0.00	65480.336
12-2029	15603.706	8799.986	0.000	694.365	391.599	0.000	80.00	6.00	0.00	57898.781
S TOT	133859.250	80914.203	0.000	5956.736	3600.681	0.000	80.00	6.00	0.00	498142.938
AFTER	167840.203	46639.945	0.000	7468.889	2075.477	0.000	80.00	6.00	0.00	609963.875
TOTAL	301699.469	127554.141	0.000	13425.625	5676.159	0.000	80.00	6.00	0.00	1108106.875

--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2020	3269.785	155.680	0.000	0.000	0.000	0.000	3425.466	3425.466	2127.744
12-2021	23737.033	1130.158	0.000	0.000	0.000	0.000	24867.191	28292.658	16169.900
12-2022	35589.359	1694.466	0.000	0.000	0.000	0.000	37283.828	65576.484	35309.594
12-2023	46339.961	2188.870	0.000	0.000	0.000	0.000	48528.832	114105.320	57957.152
12-2024	57648.266	2702.716	0.000	0.000	0.000	0.000	60350.984	174456.297	83561.477
12-2025	58864.844	2707.823	0.000	0.000	0.000	0.000	61572.664	236028.953	107309.328
12-2026	66488.484	3003.012	0.000	0.000	0.000	0.000	69491.484	305520.438	131674.828
12-2027	66301.492	2941.898	0.000	0.000	0.000	0.000	69243.398	374763.844	153746.188
12-2028	62750.473	2729.871	0.000	0.000	0.000	0.000	65480.336	440244.156	172720.641
12-2029	55549.184	2349.596	0.000	0.000	0.000	0.000	57898.781	498142.938	187972.922
S TOT	476538.906	21604.090	0.000	0.000	0.000	0.000	498142.938	498142.938	187972.922
AFTER	597511.125	12452.862	0.000	0.000	0.000	0.000	609963.875	1108107.000	267817.906
TOTAL	1074050.000	34056.953	0.000	0.000	0.000	0.000	1108106.875	1108107.000	267817.906

CUMULATIVE OIL (MBBL) 0.000 CUMULATIVE GAS (MMF) 0.000  
 ULTIMATE OIL (MBBL) 301699.500 ULTIMATE GAS (MMCF) 127554.141

					P.W. %	P.W., M\$
NET EQUIV. MBBLS	14371.649	( 6.6% GAS)	DBS FILE : CLASSIC		5.00	509285.843
NET EQUIV. MMCF	86229.898	( 93.4% OIL)	INPUT SETTINGS: ROLLFORWARD		7.00	388502.187
INITIAL W.I., %	0.000		SCENARIO : RI_ADJ		9.00	301925.062
INITIAL OIL R.I., %	4.450		UNDISC. PAYOUT, YRS.: 0.00		10.00	267817.875
INITIAL GAS R.I., %	4.450		DISC. PAYOUT, YRS.: 0.00		12.00	213060.031
INITIAL NGL R.I., %	4.450		UNDISC. NET/INVEST, \$/\$: 0.0		15.00	154860.796
% OIL REVENUE	96.9		DISC. NET/INVEST, \$/\$: 0.0		20.00	95843.570
% GAS REVENUE	3.1		LIFE, YRS. : 35.50		50.00	11602.219
% NGL REVENUE	0.0		RATE OF RETURN, %: 100.00		75.00	3355.483
					100.00	1244.058

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT



KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE  
 \$100.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 13:26:42

EXHIBIT 4g

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION ---MMBLS---	8/8 GAS PRODUCTION ---MMCF---	8/8 NGL PRODUCTION ---MBBLS---	NET OIL/CND PRODUCTION ---MMBLS---	NET GAS PRODUCTION ---MMCF---	NET NGL PRODUCTION ---MBBLS---	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2021	538.314	341.733	0.000	23.955	15.207	0.000	100.00	6.00	0.00	2486.740
12-2022	3907.894	2480.815	0.000	173.901	110.396	0.000	100.00	6.00	0.00	18052.508
12-2023	5415.206	3437.688	0.000	240.977	152.977	0.000	100.00	6.00	0.00	25015.529
12-2024	4406.070	2758.764	0.000	196.070	122.765	0.000	100.00	6.00	0.00	20343.602
12-2025	5024.646	3097.535	0.000	223.597	137.840	0.000	100.00	6.00	0.00	23186.715
12-2026	6057.210	3668.685	0.000	269.546	163.256	0.000	100.00	6.00	0.00	27934.127
12-2027	6802.146	4037.256	0.000	302.696	179.658	0.000	100.00	6.00	0.00	31347.504
12-2028	5919.764	3432.054	0.000	263.429	152.726	0.000	100.00	6.00	0.00	27259.305
12-2029	4720.767	2662.656	0.000	210.074	118.488	0.000	100.00	6.00	0.00	21718.342
S TOT	42792.016	25917.186	0.000	1904.245	1153.315	0.000	100.00	6.00	0.00	197344.359
AFTER	54111.445	15052.191	0.000	2407.959	669.822	0.000	100.00	6.00	0.00	244814.891
TOTAL	96903.453	40969.375	0.000	4312.205	1823.137	0.000	100.00	6.00	0.00	442159.219
--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----	
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-2021	2395.497	91.243	0.000	0.000	0.000	0.000	2486.740	2486.740	1404.227	
12-2022	17390.127	662.378	0.000	0.000	0.000	0.000	18052.508	20539.248	10671.498	
12-2023	24097.664	917.863	0.000	0.000	0.000	0.000	25015.529	45554.777	22345.812	
12-2024	19607.016	736.590	0.000	0.000	0.000	0.000	20343.602	65898.375	30976.729	
12-2025	22359.672	827.042	0.000	0.000	0.000	0.000	23186.715	89085.086	39919.566	
12-2026	26954.586	979.539	0.000	0.000	0.000	0.000	27934.127	117019.219	49713.984	
12-2027	30269.561	1077.947	0.000	0.000	0.000	0.000	31347.504	148366.719	59706.016	
12-2028	26342.949	916.358	0.000	0.000	0.000	0.000	27259.305	175626.016	67605.031	
12-2029	21007.408	710.929	0.000	0.000	0.000	0.000	21718.342	197344.359	73326.297	
S TOT	190424.469	6919.888	0.000	0.000	0.000	0.000	197344.359	197344.359	73326.297	
AFTER	240795.922	4018.934	0.000	0.000	0.000	0.000	244814.891	442159.219	105249.867	
TOTAL	431220.375	10938.822	0.000	0.000	0.000	0.000	442159.219	442159.219	105249.867	
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000							
ULTIMATE OIL (MBBL)	96903.477	ULTIMATE GAS (MMCF)	40969.371							

				P.W. %	P.W., M\$
NET EQUIV. MBBLS	4616.061	( 6.6% GAS)	DBS FILE : CLASSIC	5.00	201832.828
NET EQUIV. MMCF	27696.365	( 93.4% OIL)	INPUT SETTINGS: ROLLFORWARD	7.00	153476.000
INITIAL W.I., %	0.000		SCENARIO : RI ADJ	9.00	118866.820
INITIAL OIL R.I., %	4.450		UNDISC. PAYOUT, YRS.: 0.00	10.00	105249.867
INITIAL GAS R.I., %	4.450		DISC. PAYOUT, YRS.: 0.00	12.00	83416.953
INITIAL NGL R.I., %	4.450		UNDISC. NET/INVEST,\$/\$: 0.0	15.00	60267.269
% OIL REVENUE	97.5		DISC. NET/INVEST,\$/\$: 0.0	20.00	36892.496
% GAS REVENUE	2.5		LIFE, YRS. : 34.50	50.00	4109.834
% NGL REVENUE	0.0		RATE OF RETURN, %: 100.00	75.00	1096.759
				100.00	374.402

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT

KITCHEN LIGHTS UNIT  
COOK INLET, AK  
ROYALTY INTEREST  
PROBABLE + POSSIBLE  
\$100.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
TIME : 14:27:33

EXHIBIT 4h

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION ---MMBLS---	8/8 GAS PRODUCTION ---MMCF---	8/8 NGL PRODUCTION ---MMBLS---	NET OIL/CND PRODUCTION ---MMBLS---	NET GAS PRODUCTION ---MMCF---	NET NGL PRODUCTION ---MMBLS---	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	538.314	341.733	0.000	23.955	15.207	0.000	100.00	6.00	0.00	2486.740
12-2021	3907.894	2480.815	0.000	173.901	110.396	0.000	100.00	6.00	0.00	18052.508
12-2022	5859.176	3719.530	0.000	260.733	165.519	0.000	100.00	6.00	0.00	27066.447
12-2023	7629.076	4804.797	0.000	339.494	213.813	0.000	100.00	6.00	0.00	35232.266
12-2024	9490.794	5932.742	0.000	422.340	264.007	0.000	100.00	6.00	0.00	43818.074
12-2025	9691.083	5943.954	0.000	431.253	264.506	0.000	100.00	6.00	0.00	44712.355
12-2026	10946.184	6591.924	0.000	487.105	293.341	0.000	100.00	6.00	0.00	50470.566
12-2027	10915.400	6457.773	0.000	485.735	287.371	0.000	100.00	6.00	0.00	50297.754
12-2028	10330.784	5992.353	0.000	459.720	266.660	0.000	100.00	6.00	0.00	47571.953
12-2029	9145.216	5157.607	0.000	406.962	229.514	0.000	100.00	6.00	0.00	42073.297
S TOT	78453.922	47423.227	0.000	3491.199	2110.333	0.000	100.00	6.00	0.00	361781.938
AFTER	98369.930	27335.324	0.000	4377.462	1216.422	0.000	100.00	6.00	0.00	445044.719
TOTAL	176823.844	74758.555	0.000	7868.662	3326.756	0.000	100.00	6.00	0.00	806826.625

--END-- MO-YEAR	NET OIL/CND REVENUE -----M\$-----	NET GAS REVENUE -----M\$-----	NET NGL REVENUE -----M\$-----	NET ADVAL & PROD. TAXES -----M\$-----	DIRECT OPER EXPENSE -----M\$-----	CAPITAL INVESTMENT -----M\$-----	FUTURE NET CASHFLOW -----M\$-----	CUMULATIVE CASHFLOW -----M\$-----	10.0% CUM DISC CF -----M\$-----
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2020	2395.497	91.243	0.000	0.000	0.000	0.000	2486.740	2486.740	1544.650
12-2021	17390.127	662.378	0.000	0.000	0.000	0.000	18052.508	20539.248	11738.648
12-2022	26073.330	993.115	0.000	0.000	0.000	0.000	27066.447	47605.695	25633.234
12-2023	33949.387	1282.881	0.000	0.000	0.000	0.000	35232.266	82837.961	42075.523
12-2024	42234.031	1584.042	0.000	0.000	0.000	0.000	43818.074	126656.031	60665.648
12-2025	43125.320	1587.036	0.000	0.000	0.000	0.000	44712.355	171368.391	77910.672
12-2026	48710.527	1760.044	0.000	0.000	0.000	0.000	50470.566	221838.938	95606.945
12-2027	48573.535	1724.225	0.000	0.000	0.000	0.000	50297.754	272136.719	111639.375
12-2028	45971.992	1599.958	0.000	0.000	0.000	0.000	47571.953	319708.688	125424.445
12-2029	40696.215	1377.081	0.000	0.000	0.000	0.000	42073.297	361781.938	136507.828
S TOT	349119.969	12662.001	0.000	0.000	0.000	0.000	361781.938	361781.938	136507.828
AFTER	437746.219	7298.532	0.000	0.000	0.000	0.000	445044.719	806826.562	194687.531
TOTAL	786866.188	19960.531	0.000	0.000	0.000	0.000	806826.625	806826.562	194687.531

CUMULATIVE OIL (MBBL) 0.000 CUMULATIVE GAS (MMF) 0.000  
ULTIMATE OIL (MBBL) 176823.828 ULTIMATE GAS (MMCF) 74758.562

				P.W. %	P.W., M\$
NET EQUIV. MMBLS	8423.119	( 6.6% GAS)	DBS FILE : CLASSIC	5.00	370457.843
NET EQUIV. MMCF	50538.715	( 93.4% OIL)	INPUT SETTINGS: ROLLFORWARD	7.00	282516.687
INITIAL W.I., %	0.000		SCENARIO : RI ADJ	9.00	219504.734
INITIAL OIL R.I., %	4.450		UNDISC. PAYOUT, YRS.: 0.00	10.00	194687.578
INITIAL GAS R.I., %	4.450		DISC. PAYOUT, YRS.: 0.00	12.00	154853.312
INITIAL NGL R.I., %	4.450		UNDISC. NET/INVEST,\$/\$: 0.0	15.00	112529.070
% OIL REVENUE	97.5		DISC. NET/INVEST,\$/\$: 0.0	20.00	69626.656
% GAS REVENUE	2.5		LIFE, YRS. : 35.50	50.00	8424.453
% NGL REVENUE	0.0		RATE OF RETURN, %: 100.00	75.00	2436.210
				100.00	903.196

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT

KITCHEN LIGHTS UNIT  
 COOK INLET, AK  
 ROYALTY INTEREST  
 PROBABLE + POSSIBLE + RESOURCES  
 \$100.00/Bbl, \$6.00/Mcf

DATE : 06/01/2015  
 TIME : 14:27:33

EXHIBIT 4i

R E S E R V E S A N D E C O N O M I C S

EFFECTIVE DATE: 07/2015

--END-- MO-YEAR	8/8 OIL/CND PRODUCTION ----- ----- ---MBBLS---	8/8 GAS PRODUCTION ----- ----- ---MMCF---	8/8 NGL PRODUCTION ----- ----- ---MBBLS---	NET OIL/CND PRODUCTION ----- ----- ---MBBLS---	NET GAS PRODUCTION ----- ----- ---MMCF---	NET NGL PRODUCTION ----- ----- ---MBBLS---	OIL PRICE \$/BBL	GAS PRICE \$/MCF	NGL PRICE \$/BBL	TOTAL NET REVENUE ----- ----- ---M\$---
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000
12-2020	918.479	583.070	0.000	40.872	25.947	0.000	100.00	6.00	0.00	4242.912
12-2021	6667.706	4232.802	0.000	296.713	188.360	0.000	100.00	6.00	0.00	30801.449
12-2022	9997.012	6346.317	0.000	444.867	282.411	0.000	100.00	6.00	0.00	46181.168
12-2023	13016.844	8198.014	0.000	579.250	364.812	0.000	100.00	6.00	0.00	60113.824
12-2024	16193.334	10122.529	0.000	720.603	450.453	0.000	100.00	6.00	0.00	74763.039
12-2025	16535.070	10141.659	0.000	735.810	451.304	0.000	100.00	6.00	0.00	76288.875
12-2026	18676.539	11247.237	0.000	831.106	500.502	0.000	100.00	6.00	0.00	86113.625
12-2027	18624.018	11018.346	0.000	828.769	490.316	0.000	100.00	6.00	0.00	85818.773
12-2028	17626.535	10224.239	0.000	784.381	454.979	0.000	100.00	6.00	0.00	81167.953
12-2029	15603.706	8799.986	0.000	694.365	391.599	0.000	100.00	6.00	0.00	71786.078
S TOT	133859.250	80914.203	0.000	5956.736	3600.681	0.000	100.00	6.00	0.00	617277.688
AFTER	167840.203	46639.945	0.000	7468.889	2075.477	0.000	100.00	6.00	0.00	759341.688
TOTAL	301699.469	127554.141	0.000	13425.625	5676.159	0.000	100.00	6.00	0.00	1376619.375

--END-- MO-YEAR	NET OIL/CND REVENUE ----- ----- ---M\$---	NET GAS REVENUE ----- ----- ---M\$---	NET NGL REVENUE ----- ----- ---M\$---	NET ADVAL & PROD. TAXES ----- ----- ---M\$---	DIRECT OPER EXPENSE ----- ----- ---M\$---	CAPITAL INVESTMENT ----- ----- ---M\$---	FUTURE NET CASHFLOW ----- ----- ---M\$---	CUMULATIVE CASHFLOW ----- ----- ---M\$---	10.0% CUM DISC CF ----- ----- ---M\$---
12-2015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-2020	4087.231	155.680	0.000	0.000	0.000	0.000	4242.912	4242.912	2635.504
12-2021	29671.295	1130.158	0.000	0.000	0.000	0.000	30801.449	35044.359	20028.652
12-2022	44486.703	1694.466	0.000	0.000	0.000	0.000	46181.168	81225.531	43735.801
12-2023	57924.953	2188.870	0.000	0.000	0.000	0.000	60113.824	141339.359	71789.875
12-2024	72060.336	2702.716	0.000	0.000	0.000	0.000	74763.039	216102.406	103508.617
12-2025	73581.047	2707.823	0.000	0.000	0.000	0.000	76288.875	292391.250	132932.344
12-2026	83110.609	3003.012	0.000	0.000	0.000	0.000	86113.625	378504.906	163125.969
12-2027	82876.883	2941.898	0.000	0.000	0.000	0.000	85818.773	464323.688	190480.750
12-2028	78438.078	2729.871	0.000	0.000	0.000	0.000	81167.953	545491.625	214001.062
12-2029	69436.477	2349.596	0.000	0.000	0.000	0.000	71786.078	617277.688	232911.688
S TOT	595673.625	21604.090	0.000	0.000	0.000	0.000	617277.688	617277.688	232911.688
AFTER	746888.875	12452.862	0.000	0.000	0.000	0.000	759341.688	1376619.375	332178.812
TOTAL	1342562.500	34056.953	0.000	0.000	0.000	0.000	1376619.375	1376619.375	332178.812
CUMULATIVE OIL (MBBL)	0.000	CUMULATIVE GAS (MMF)	0.000						
ULTIMATE OIL (MBBL)	301699.500	ULTIMATE GAS (MMCF)	127554.141						

					P.W. %	P.W., M\$
NET EQUIV. MBBLS	14371.649	( 6.6% GAS)	DBS FILE	: CLASSIC	5.00	632080.625
NET EQUIV. MMCF	86229.898	( 93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD	7.00	482034.093
INITIAL W.I., %	0.000		SCENARIO	: RI_ADJ	9.00	374522.187
INITIAL OIL R.I., %	4.450		UNDISC. PAYOUT, YRS.:	0.00	10.00	332178.812
INITIAL GAS R.I., %	4.450		DISC. PAYOUT, YRS.:	0.00	12.00	264213.000
INITIAL NGL R.I., %	4.450		UNDISC. NET/INVEST,\$/\$:	0.0	15.00	191998.750
% OIL REVENUE	97.5		DISC. NET/INVEST,\$/\$:	0.0	20.00	118798.031
% GAS REVENUE	2.5		LIFE, YRS.	: 35.50	50.00	14373.925
% NGL REVENUE	0.0		RATE OF RETURN, %:	100.00	75.00	4156.698
					100.00	1541.046

THIS FORECAST IS SUBJECT TO SPECIFIC CONDITIONS AS SET FORTH IN THE WILLIAM M. COBB & ASSOCIATES, INC. REPORT