NORTHERN LIGHTS ROYALTIES III, LP

LIMITED PARTNERSHIP INTERESTS

KITCHEN LIGHTS LEASE AREA
COOK INLET, ALASKA

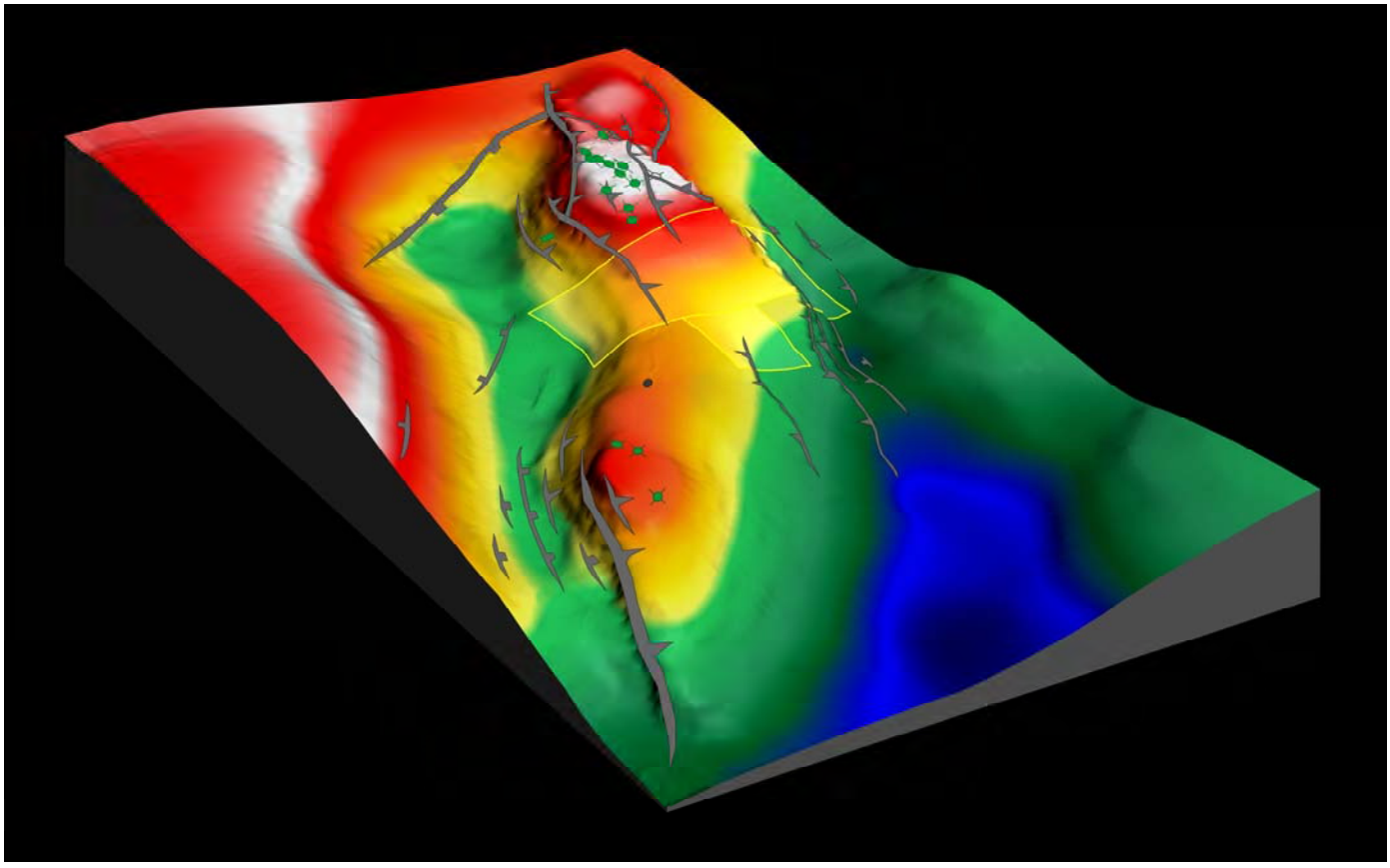


EXHIBIT C TO CONFIDENTIAL PRIVATE PLACEMENT MEMORANDUM
Northern Lights Royalties III, L.P.

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 21, 2017

PARTNERSHIP INTEREST FACT SHEET

ISSUER OR THE OFFERING:	Northern Lights Royalties III, 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 0.3602% of the outstanding partnership interests
ANTICIPATED CAPITALIZATION:	$5,900,000 (We may increase the offering to $8,850,000 in our discretion and purchase additional overriding royalty interests in the same leases.)

The Partnership will acquire up to 0.5% of the Overriding Royalty Interest (ORI) in six leases in the North Block of the Kitchen Lights Lease Area.

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

	Minimum Contribution	Total Cost
Limited Partners Investment	$25,000	$5,900,000.00

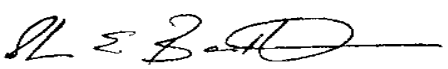
KITCHEN LIGHTS LEASE AREA
INTRODUCTION

Pro AK, LLC ("Pro AK") is pleased to announce the formation of the NORTHERN LIGHTS ROYALTIES III, 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 June 9, 2015 William Cobb & Assoc. **Official Reserve Evaluation (ORE),** 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 0.75% overriding royalty interest.**

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

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

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.

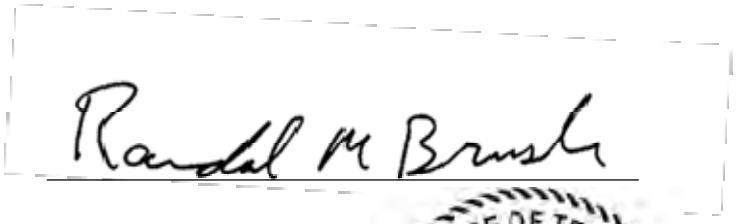
Volume and Present Value Estimates for a 4.45% ORRI

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

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.



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

Exhibit 1: KLU Blocks (from KLU Plan of Operations

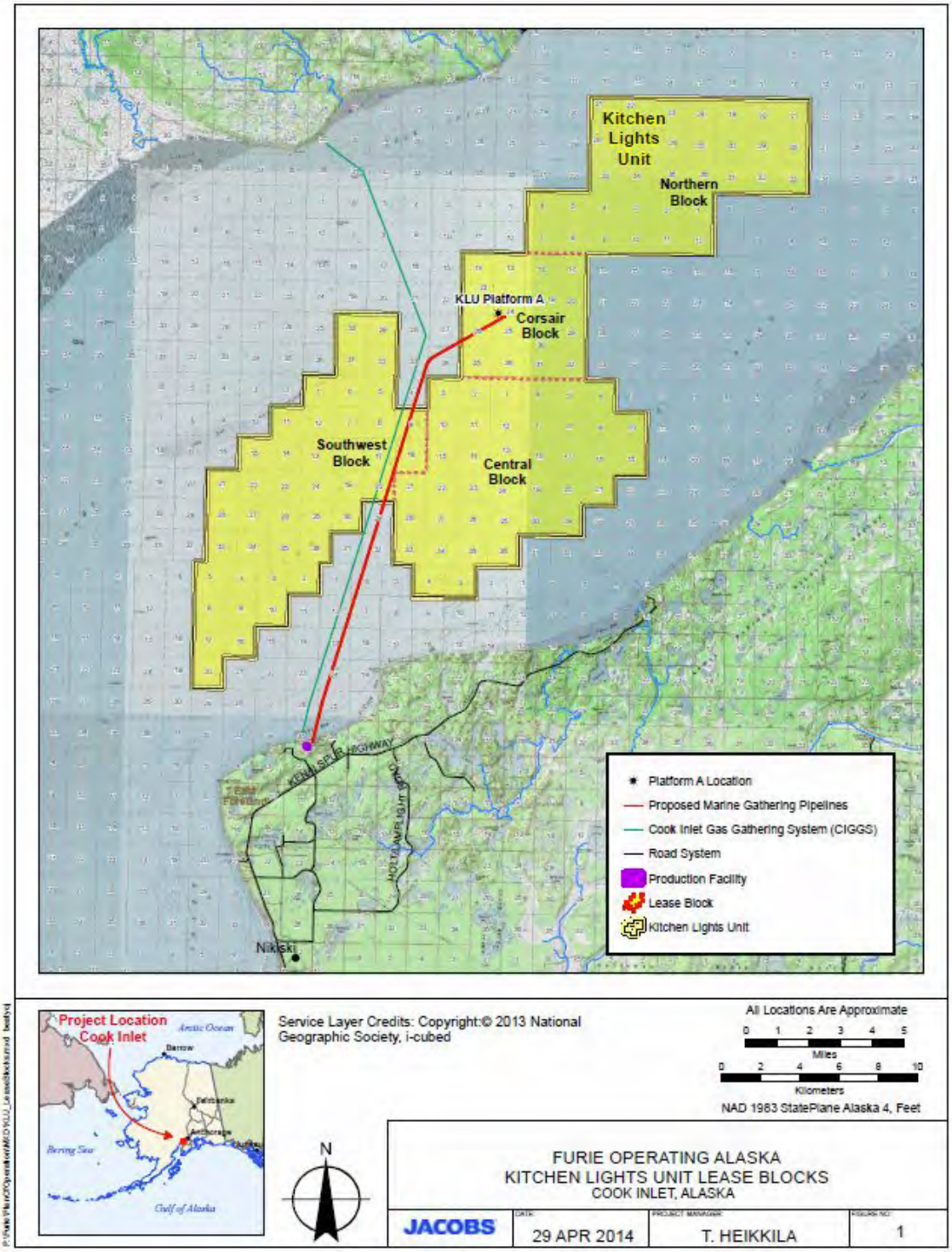


Exhibit 2: Tracts, Assumed Platform 1 and 2 Locations

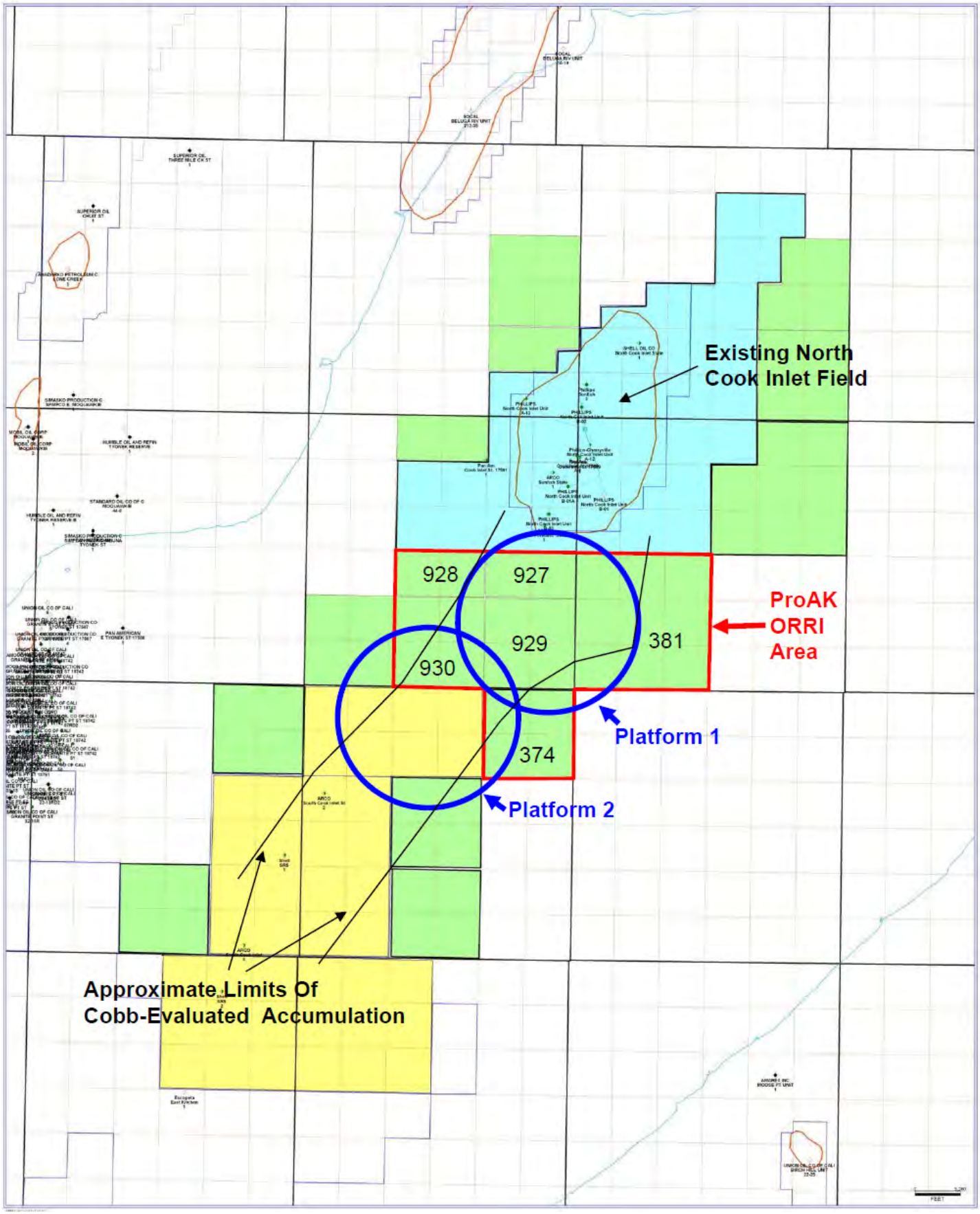
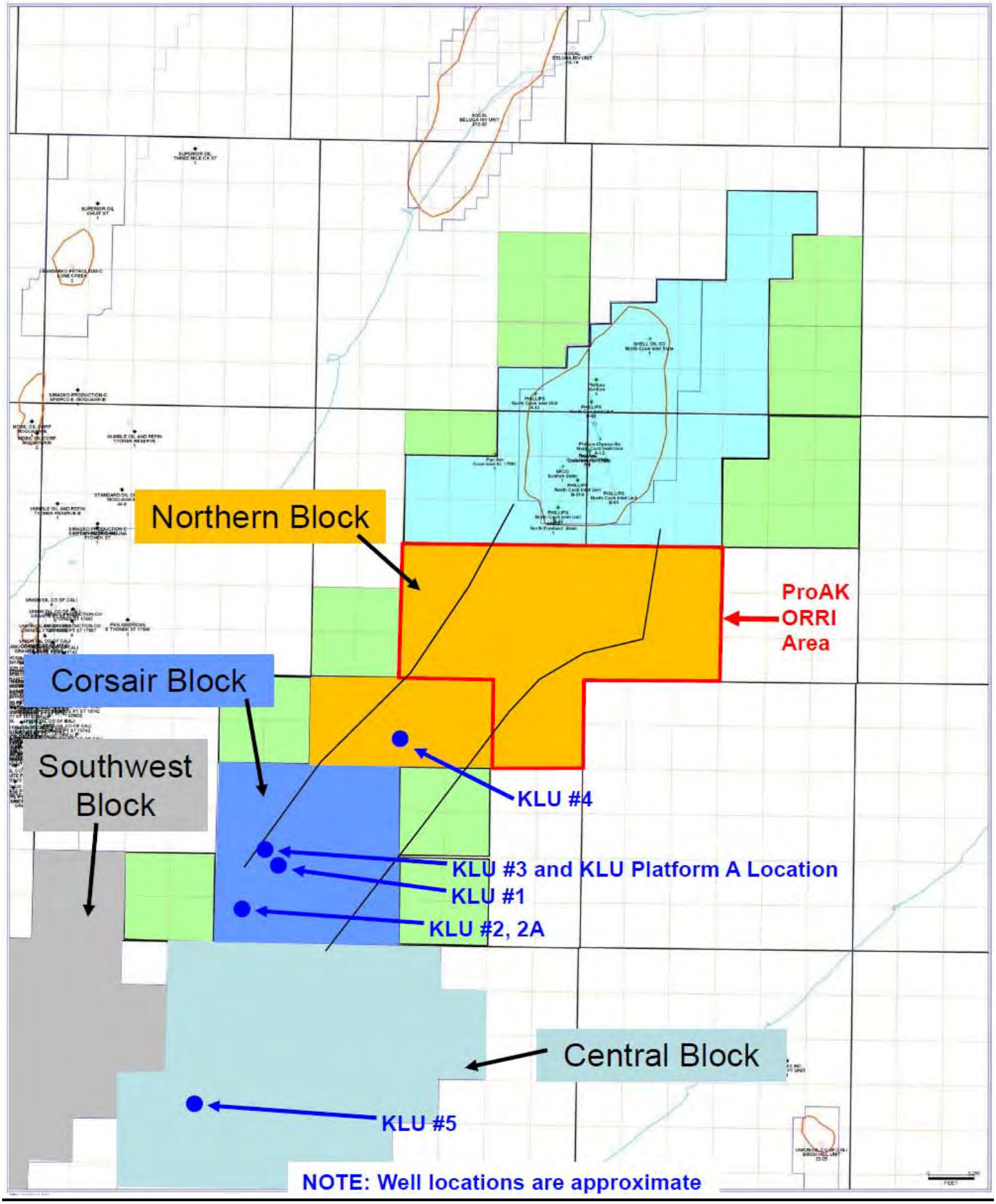


Exhibit 3: Prodigy ORRI Area Relative to KLU Blocks, Wells



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 ---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	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

NET EQUIV. MBBLS 4616.061 (6.6% GAS)
NET EQUIV. MMCF 27696.365 (93.4% OIL)
INITIAL W.I., % 0.000
INITIAL OIL R.I., % 4.450
INITIAL GAS R.I., % 4.450
INITIAL NGL R.I., % 4.450
% OIL REVENUE 95.9
% GAS REVENUE 4.1
% NGL REVENUE 0.0

DBS FILE : CLASSIC
INPUT SETTINGS: ROLLFORWARD
SCENARIO : RI_ADJ
UNDISC. PAYOUT, YRS.: 0.00
DISC. PAYOUT, YRS.: 0.00
UNDISC. NET/INVEST,$/$: 0.0
DISC. NET/INVEST,$/$: 0.0
LIFE, YRS. : 34.50
RATE OF RETURN, %: 100.00

P.W. %	P.W., M$
5.00	123412.382
7.00	93916.304
9.00	72784.687
10.00	64464.730
12.00	51117.070
15.00	36952.507
20.00	22635.564
50.00	2524.845
75.00	673.952
100.00	230.093

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 ---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	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. MBBLS	14371.649 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	86229.898 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	95.9	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	4.1	LIFE, YRS. :	35.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	386491.031
7.00	294970.281
9.00	229327.937
10.00	203456.968
12.00	161907.078
15.00	117722.867
20.00	72889.085
50.00	8830.513
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 ---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	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

NET EQUIV. MBBLS	4616.061 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	27696.365 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	96.9	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	3.1	LIFE, YRS. :	34.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	162622.609
7.00	123696.148
9.00	95825.750
10.00	84857.296
12.00	67267.015
15.00	48609.886
20.00	29764.027
50.00	3317.340
75.00	885.355
100.00	302.248

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 ---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	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

NET EQUIV. MBBLS	8423.119 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	50538.715 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	96.9	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	3.1	LIFE, YRS. :	35.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	298488.718
7.00	227698.281
9.00	176956.078
10.00	156966.109
12.00	124872.937
15.00	90762.781
20.00	56173.210
50.00	6799.977
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 ---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	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

NET EQUIV. MBBLS	14371.649 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	86229.898 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	96.9	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	3.1	LIFE, YRS. :	35.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	509285.843
7.00	388502.187
9.00	301925.062
10.00	267817.875
12.00	213060.031
15.00	154860.796
20.00	95843.570
50.00	11602.219
75.00	3355.483
100.00	1244.058

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

RESERVES AND ECONOMICS

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	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 ---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	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

NET EQUIV. MBBLS	8423.119 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	50538.715 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	97.5	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	2.5	LIFE, YRS. :	35.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	370457.843
7.00	282516.687
9.00	219504.734
10.00	194687.578
12.00	154853.312
15.00	112529.070
20.00	69626.656
50.00	8424.453
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

NET EQUIV. MBBLS	14371.649 (6.6% GAS)	DBS FILE :	CLASSIC
NET EQUIV. MMCF	86229.898 (93.4% OIL)	INPUT SETTINGS:	ROLLFORWARD
INITIAL W.I., %	0.000	SCENARIO :	RI_ADJ
INITIAL OIL R.I., %	4.450	UNDISC. PAYOUT, YRS.:	0.00
INITIAL GAS R.I., %	4.450	DISC. PAYOUT, YRS.:	0.00
INITIAL NGL R.I., %	4.450	UNDISC. NET/INVEST,$/$:	0.0
% OIL REVENUE	97.5	DISC. NET/INVEST,$/$:	0.0
% GAS REVENUE	2.5	LIFE, YRS. :	35.50
% NGL REVENUE	0.0	RATE OF RETURN, %:	100.00

P.W. %	P.W., M$
5.00	632080.625
7.00	482034.093
9.00	374522.187
10.00	332178.812
12.00	264213.000
15.00	191998.750
20.00	118798.031
50.00	14373.925
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

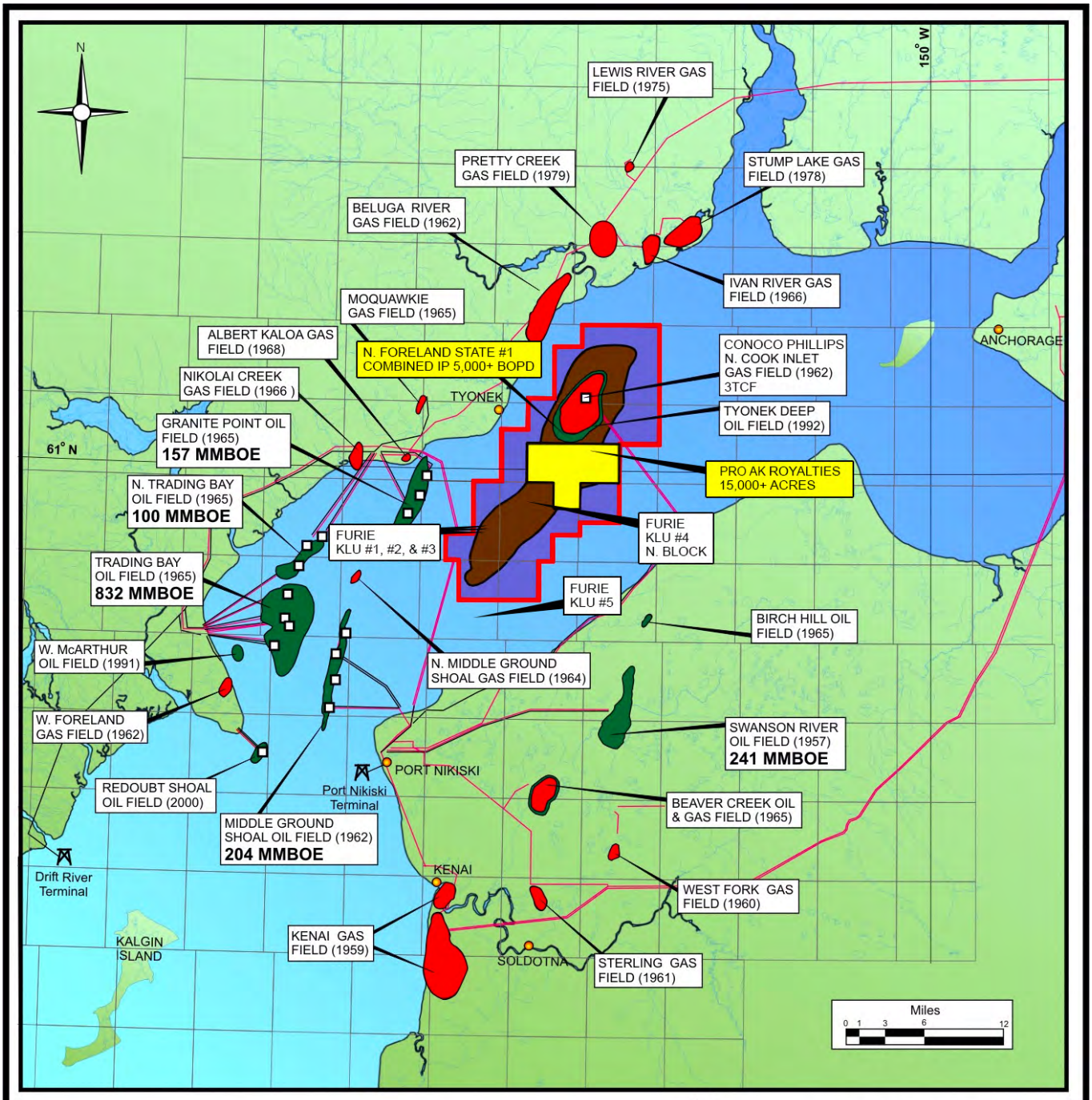
KITCHEN LIGHTS LEASE AREA
GEOLOGICAL REVIEW

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.



KITCHEN LIGHTS LEASE AREA

KITCHEN LIGHTS STRUCTURE AREA

OUTLINE OF THE NORTH COOK INLET STRUCTURE

CITY / TOWN

PLATFORM

GAS PIPELINE

OIL PIPELINE

GAS FIELD

OIL FIELD

OIL TERMINAL

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.

2 KTUU.COM

November 07, 2011|By Ted Land | Channel 2 News
http://articles.ktuu.com/2011-11-07/gas-discovery_30371791

2 KTUU.COM

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

Petroleum news 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.

ALASKA Journal of Commerce 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

ALASKA Journal of Commerce 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/

PLATTS McGRAW HILL FINANCIAL 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

DEUTSCHE OEL & GAS AG

MOST SUCCESFULL 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 subsi- diary 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 excepti- onally 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 presu- med 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 produc- tion 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 confir- med 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

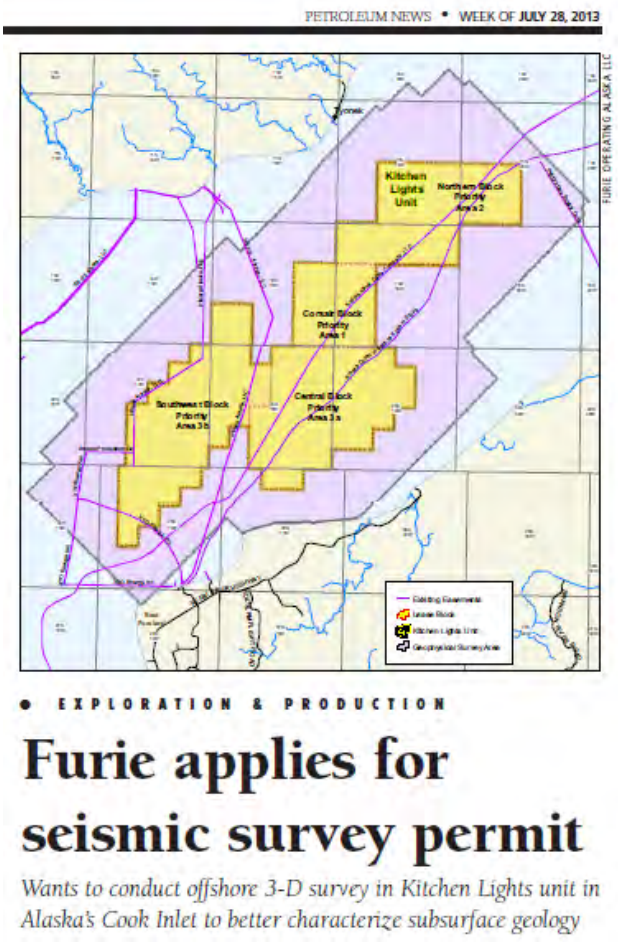
The Spartan 151 is presently being positioned over the Relocation KLU #4 and drilling will proceed any day now. The DNR has amended the required drilling commitment with Furie Operating allowing the KLU #4 to reach only 7000' at a minimum depth this year, total depth may be achieved the following year 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.

DEUTSCHE OEL & GAS AG

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



2014

March

Vol. 19, No. 10 Week of March 09, 2014

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

2016

May

Vol. 21, No. 21, Week of May 22, 2016

http://www.petroleumnews.com/pnfriends/227070168.shtml

Furie planning major exploration effort

With Kitchen Lights in production, company is covering its leasehold

July

Anchorage, Alaska (Platts)—11 July 2016

Alaska independent plans deep Cook Inlet oil test

The company plans to reenter its KLU-4 exploration well, which has discovered gas, and drill deeper to test a potential oil prospect that has been identified

http://www.platts.com/latest-news/oil/anchorage-alaska/alaska-independent-plans-deep-cook-inlet-oil-21944030

September

Vol. 21, No. 37, Week of September 11, 2016

During the week of Sept. 11 Furie Operating Alaska expects to start the drilling of the KLU A-1 development well in its Kitchen Lights gas field, Bruce Webb, Furie senior vice president, told Petroleum News in a Sept. 6 email. Currently the company is hooking up the wellhead of the KLU A-2 well that it drilled and completed this summer. The company must complete flow testing of the A-2 well before starting the drilling of the A-1 well, Webb explained. Furie is using the Randolf Yost jack-up rig, stationed at the Julius R gas production platform, to conduct the drilling.

http://www.petroleumnews.com/pnads/120933695.shtml

October

Vol. 21, No. 40, Week of October 02, 2016

Resources Energy Inc. progresses plan to ship Cook Inlet natural gas to Japan

http://www.petroleumnews.com/pnads/13128241.shtml

DEUTSCHE OEL & GAS AG

Published videos Alaska's Cook Inlet Kitchen Lights

Sept. 10th 2015
Deutsche Oel & Gas Onshore Gas Processing Facility

Sept. 3rd 2015
Deutsche Oel & Gas Pipeline Hydro Test

Aug 6th 2015
Deutsche Oel & Gas Production Platform Installation

July 7th 2015
Deutsche Oel & Gas Monopod Installation

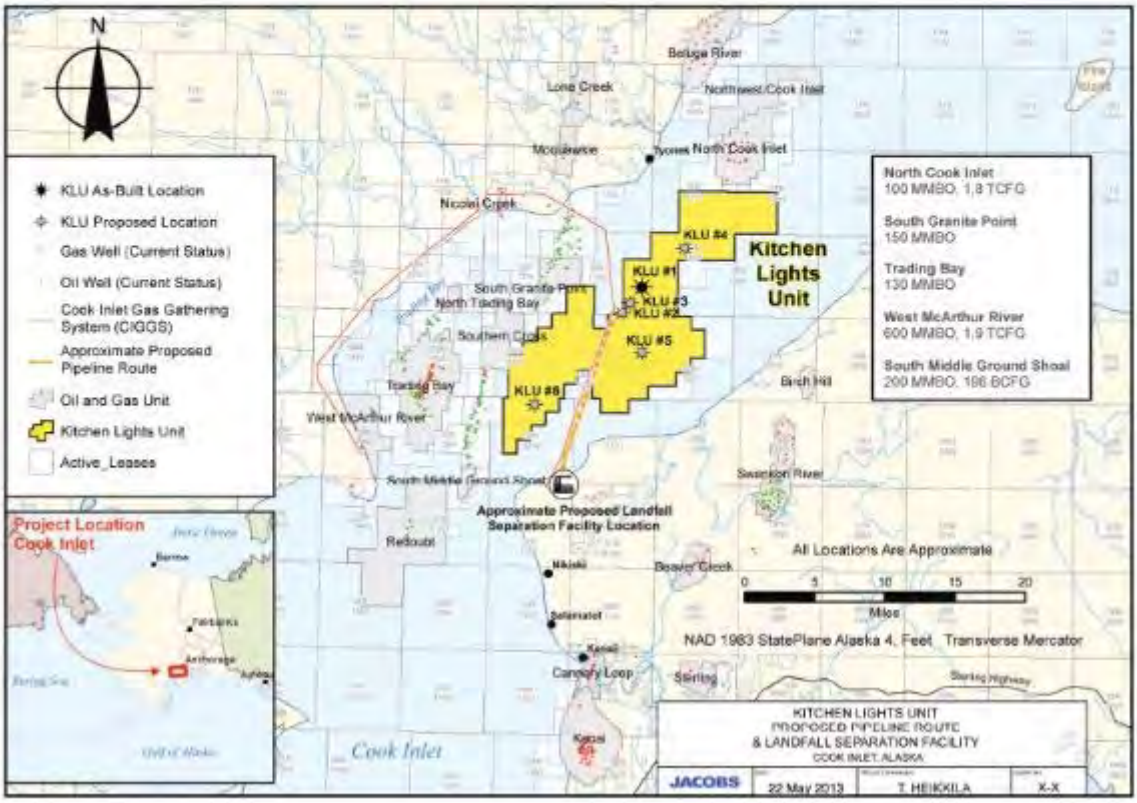
May 27th 2015
Deutsche Oel & Gas Pipeline Kitchen Lights Unit

April 11th 2015
Deutsche Oel & Gas KLU3 Success

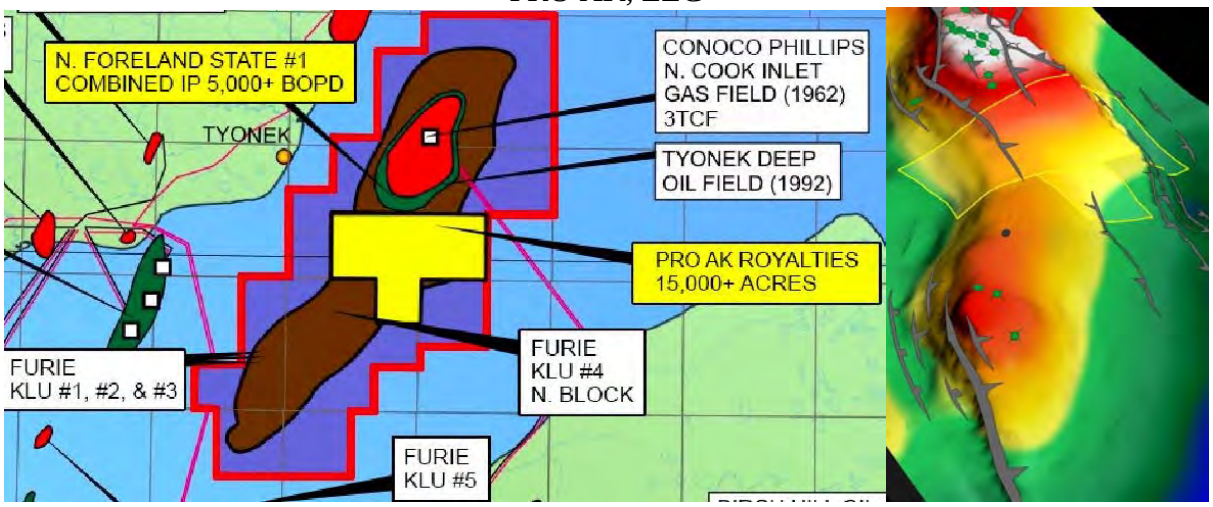
DEUTSCHE OEL & GAS AG

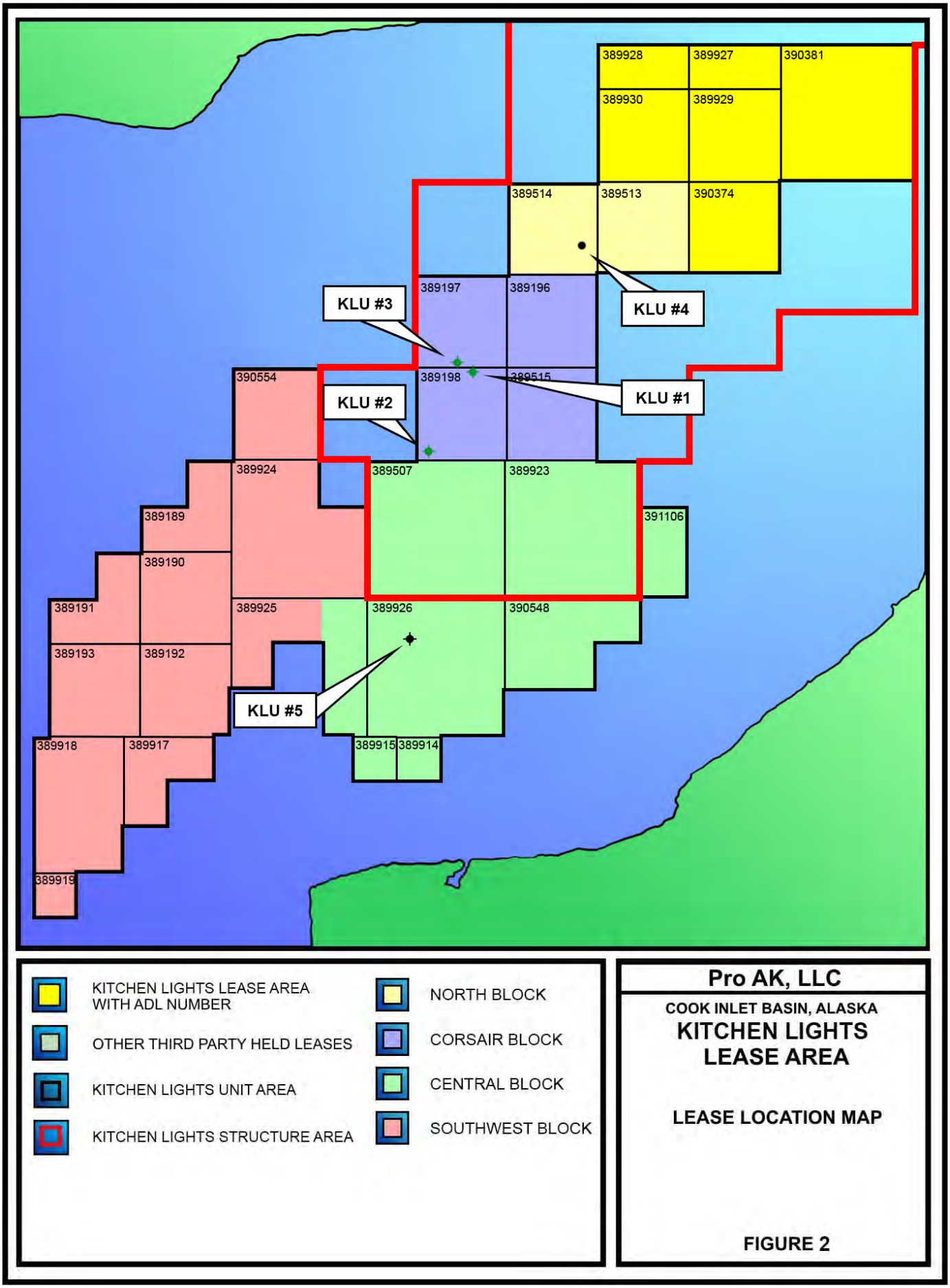
THE KITCHEN LIGHTS UNIT – THE DEVELOPMENT REGION OF DEUTSCHE OEL & GAS AG

The Kitchen Lights Unit development region of Deutsche Oel & Gas AG,covering 83,300 acres (approx. 337 square kilometers), is the largest development region in Cook Inlet.



PRO AK, LLC




389928
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389196
KLU #3
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389198
389515
KLU #2
KLU #1
389924
389507
389923
389189
391106
389190
389191
389925
389926
390548
389193
389192
KLU #5
389918
389917
389915
389914
389919
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 Cool 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.

TABLE 1. ACREAGE SUMMARY
KITCHEN LIGHTS AREA

Lease ADL Number	Block Number	Gross Acres	Net Acres
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.

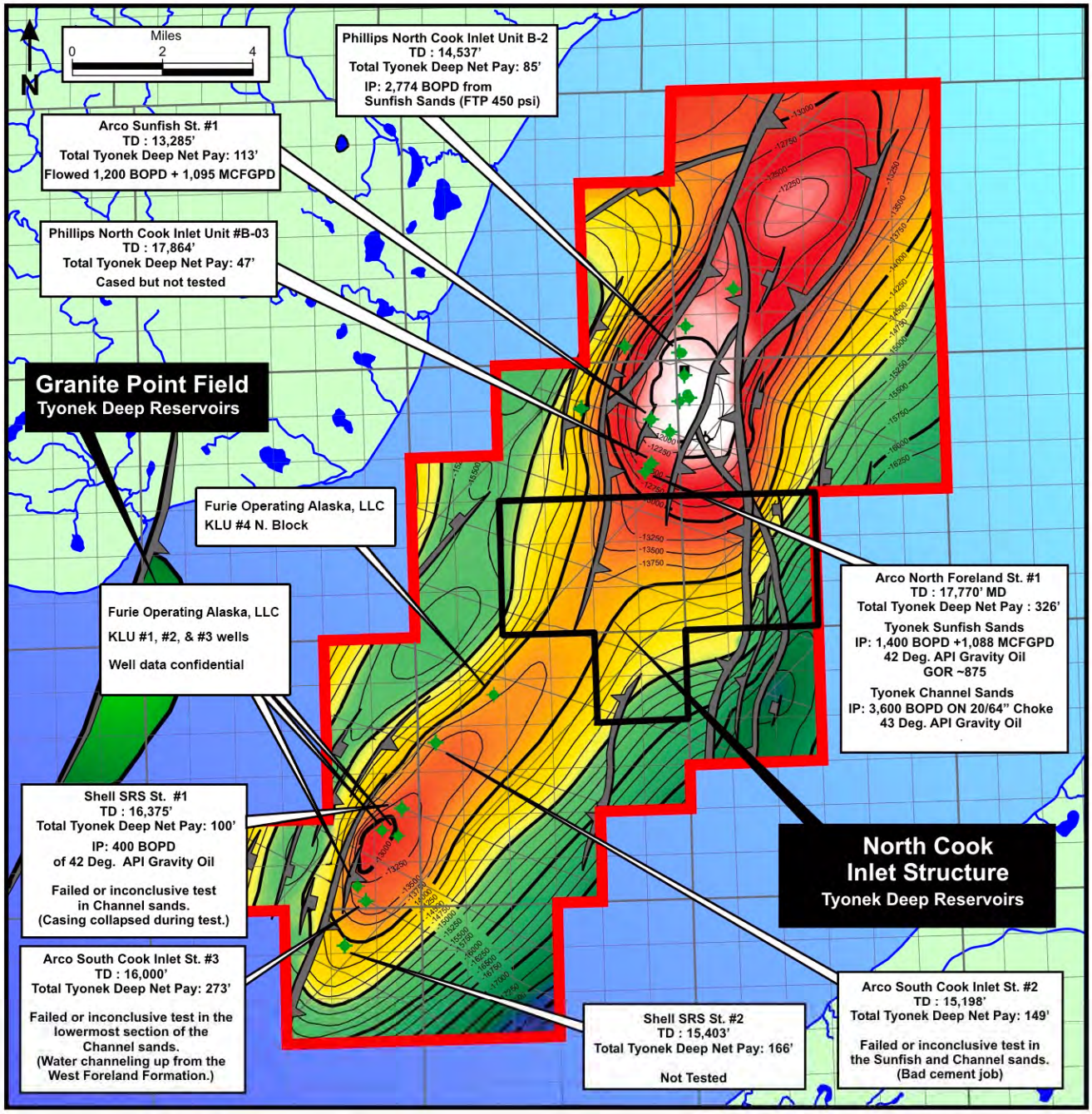
Figure 4 is a formation evaluation log illustrating the log characteristics of the main potentially productive intervals in the Tyonek Deep Sunfish Sands in the ARCO North Foreland St. #1 well. The gross Tyonek Deep Sunfish interval is around 554' thick in this well and the calculated net pay is approximately 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^{o} 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^{o} 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^{o} 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

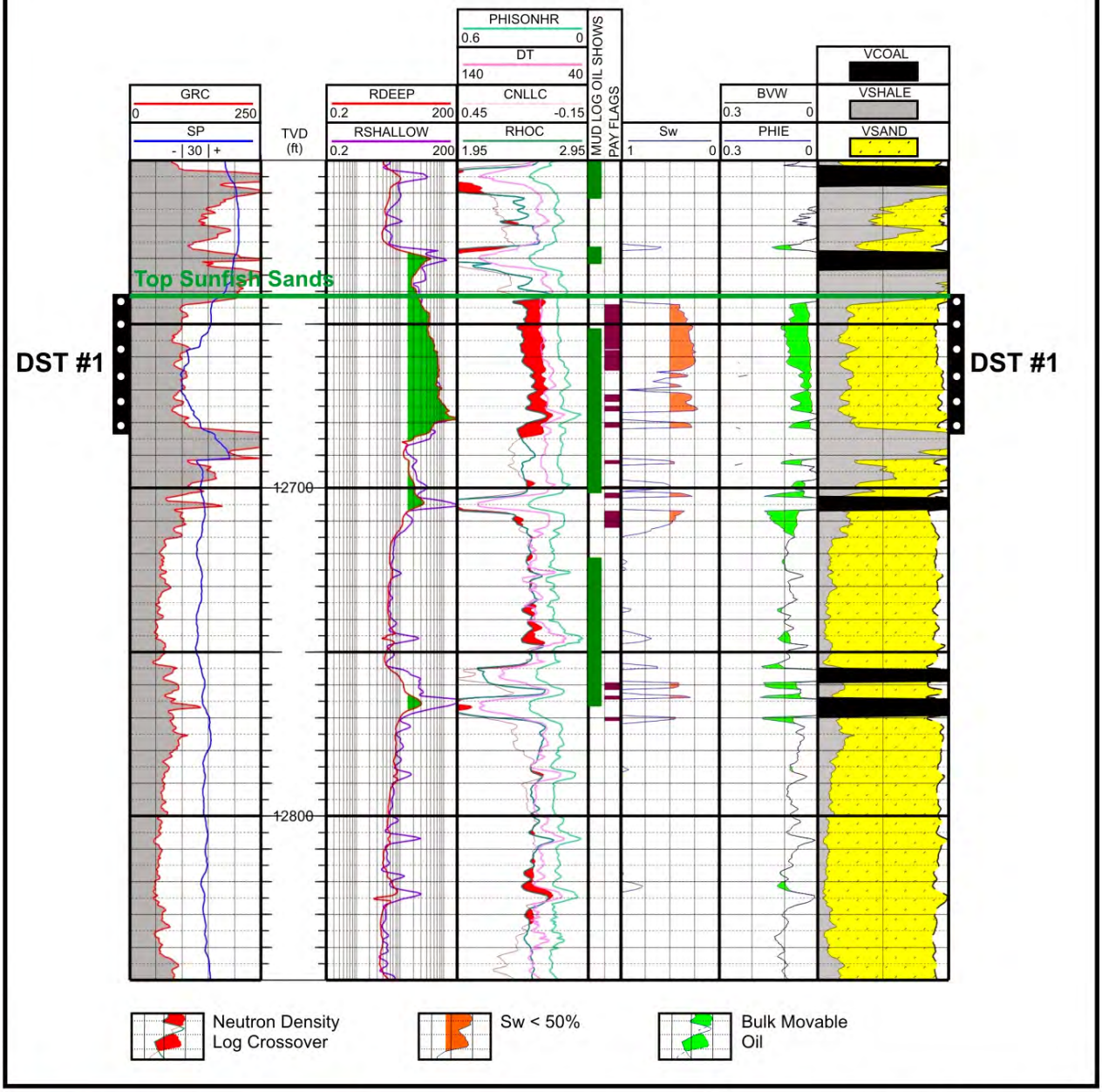
Pro AK, LLC

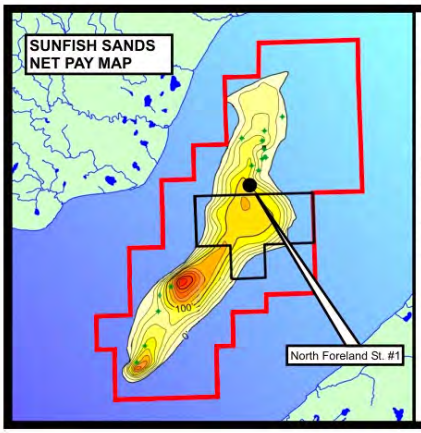
COOK INLET BASIN, ALASKA

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%.

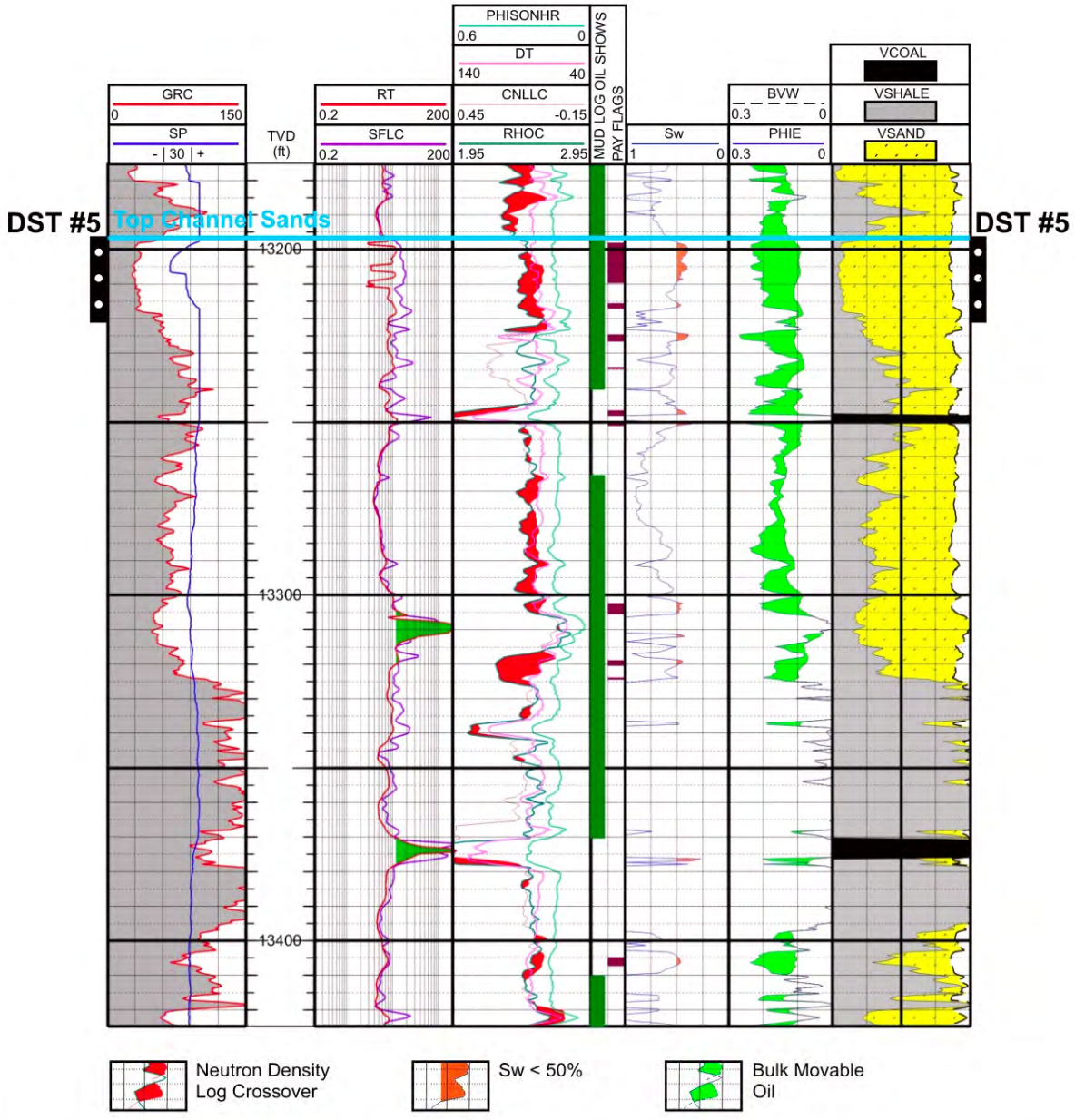
Pro AK, LLC

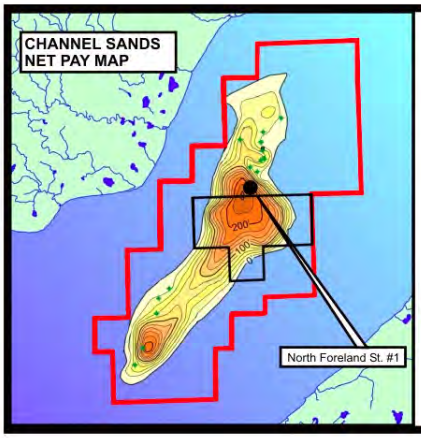
COOK INLET BASIN, ALASKA

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 Ø 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.

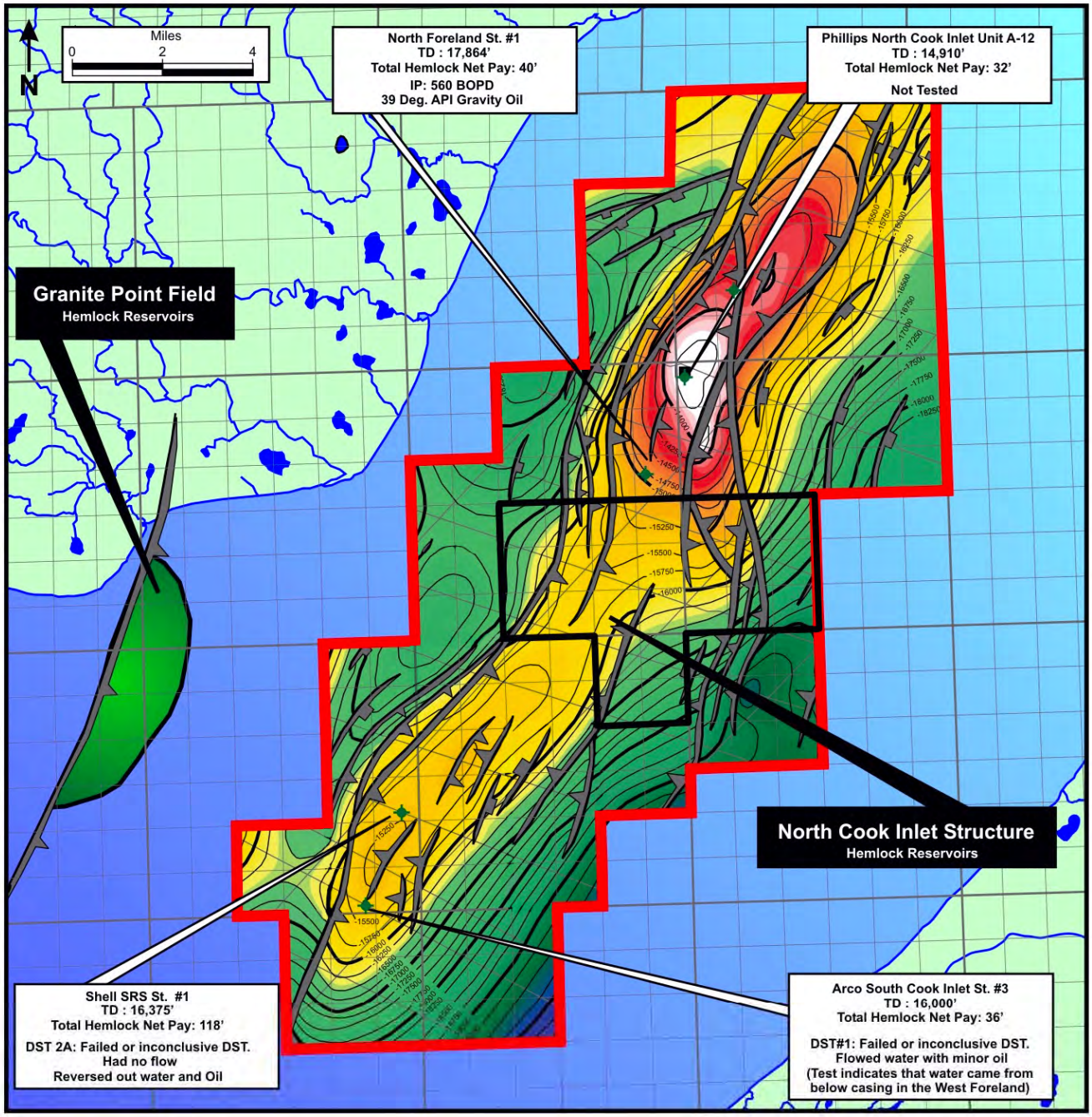
Pro AK, LLC

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

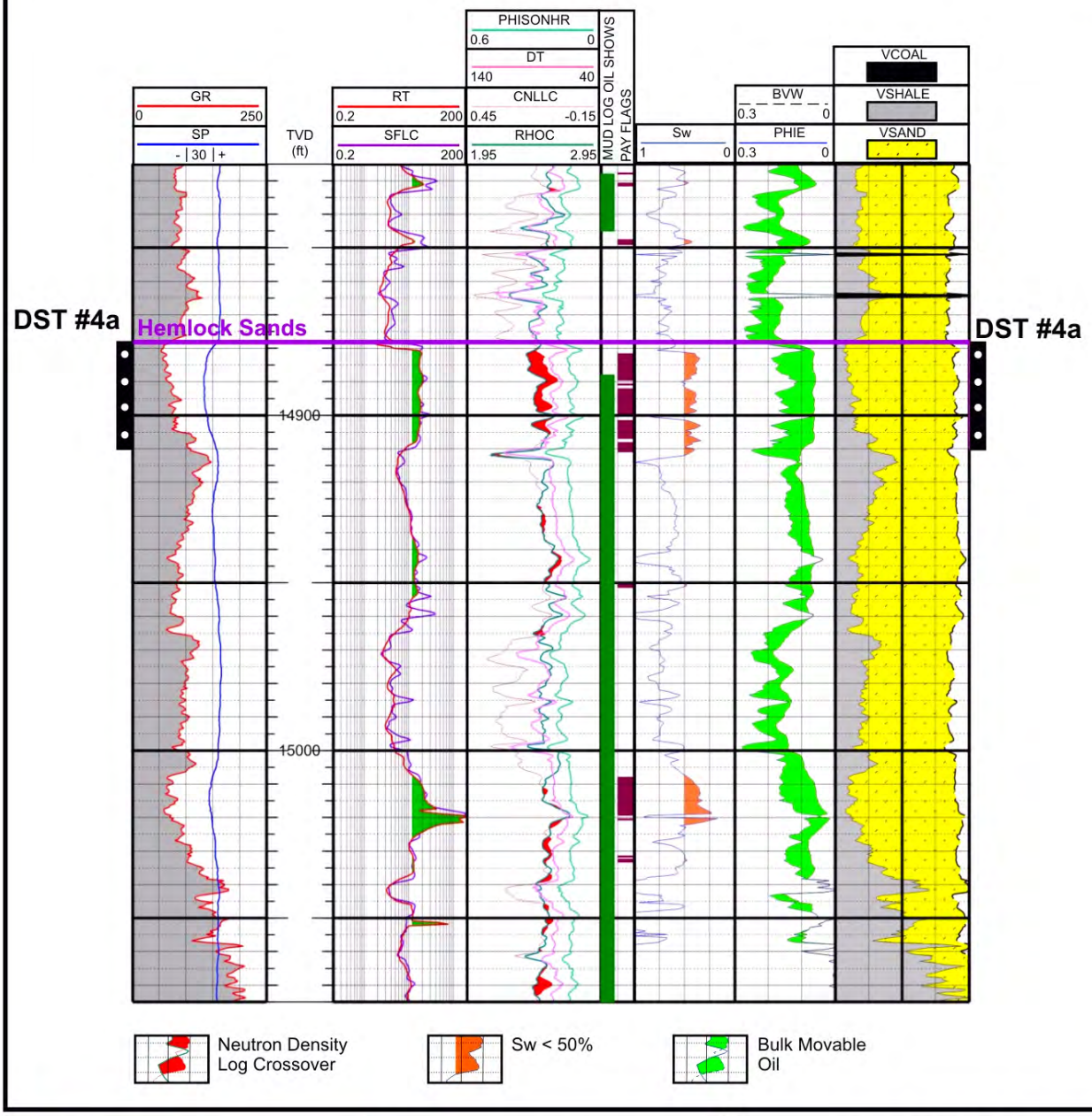
Pro AK, LLC

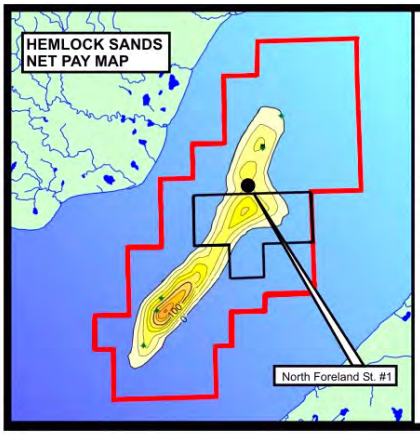
COOK INLET BASIN, ALASKA

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:

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

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_{90} 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_{50}** 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_{10}** 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. Kitchen Lights Area, and once a commitment to development is made, the corresponding reserves (as calculated with the consideration of the well test results, logs, and all other data, such as 3D seismic data, available at that time) 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 **Official Reserve Evaluation (ORE)** 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_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} 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**
All Areas	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**
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_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} 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_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} 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_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} 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_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**
Total	**330,060**	**489,080**	**677,238**	**67,551**	**118,347**	**189,409**

Note: Totals may not exactly match due to rounding.

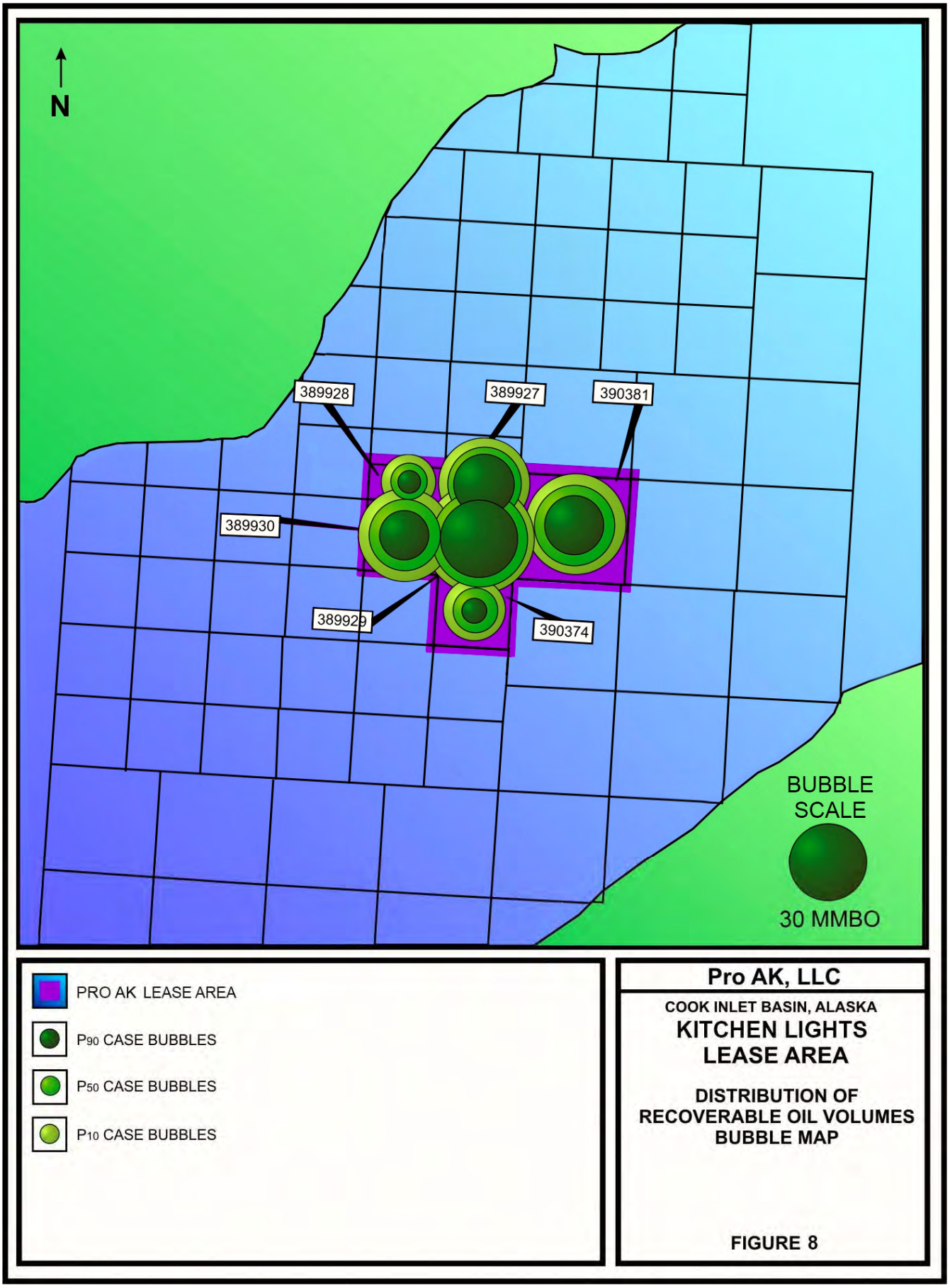
TABLE 8. OOIP AND RECOVERABLE OIL VOLUMES
HEMLOCK SANDS

Development Area	Gross OOIP (MBO)			Gross Recoverable Oil (MBO)		
Northern Area	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**
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**
All Areas	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**	**P_{90} Case**	**P_{50} Case**	**P_{10} Case**
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_{90} case) to 900 MMBO (P_{10} case).



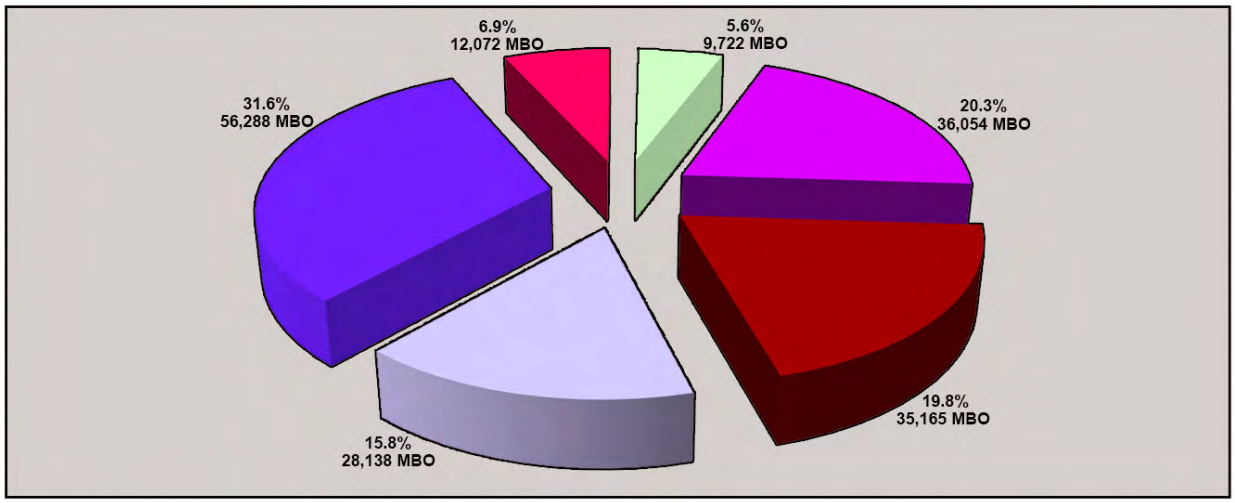
Pro AK, LLC

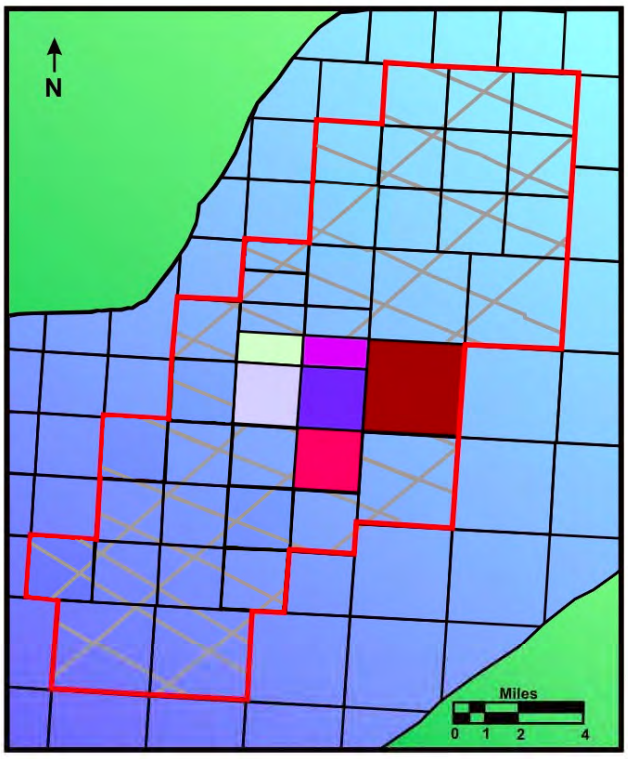
COOK INLET BASIN, ALASKA

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

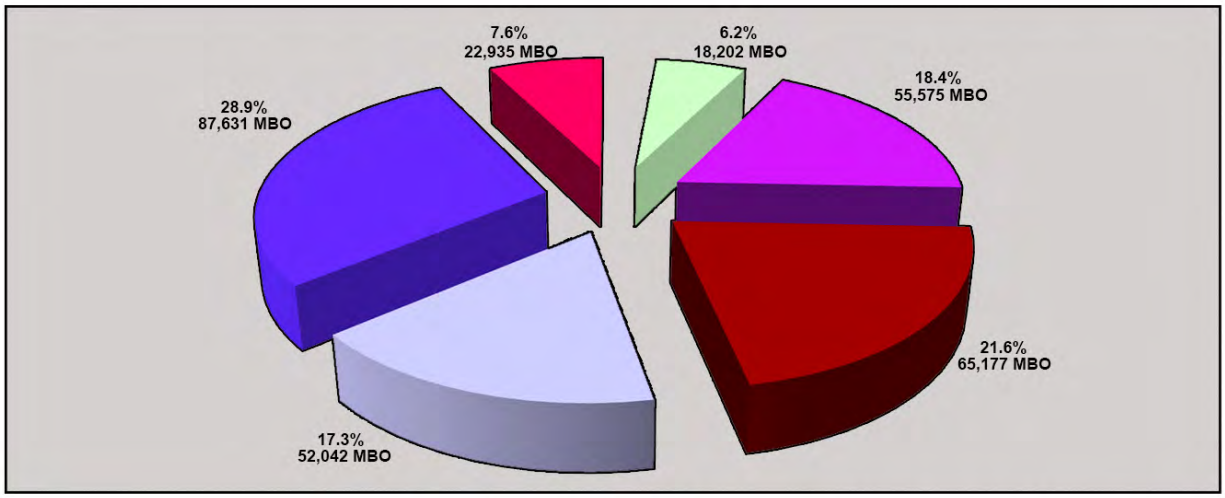
COOK INLET BASIN, ALASKA

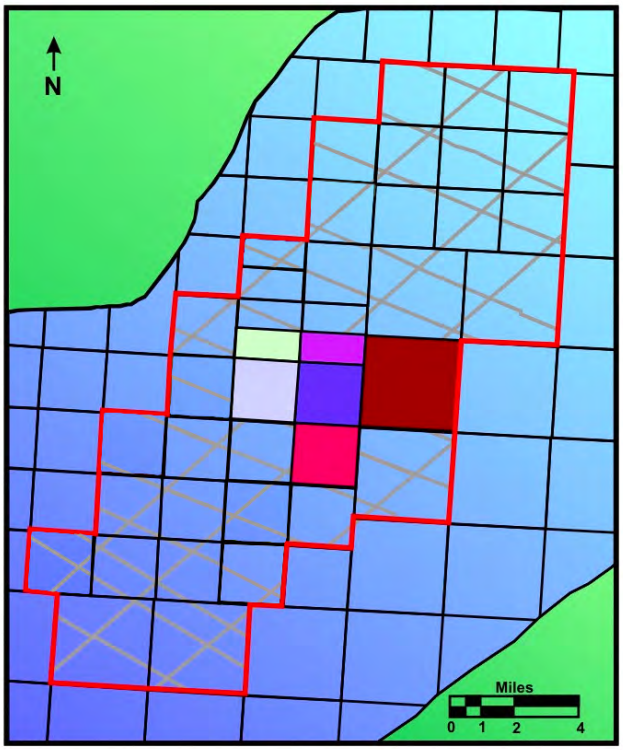
KITCHEN LIGHTS LEASE AREA

DISTRIBUTION OF RECOVERABLE OIL VOLUMES BY LEASE PIE CHART

P_{50} 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_{10} CASE

FIGURE 11

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Natural Resources
DIVISION OF OIL AND GAS
550 W. 7th Avenue Suite 1100
Anchorage, Alaska 99501-3560
Main: 907.269.8800
Fax: 907.269.8939

May 20, 2016

Ms. Kristina Neptun
Project Manager
Jacobs Engineering Group, Inc.
4300 B. Street, Suite 600
Anchorage, Alaska 99503

RE: LOCI 16-001, Furie Operating Alaska, LLC, Kitchen Lights Unit, Exploration Project Unit Plan of Operations Decision

Dear Ms. Neptun:

I. INTRODUCTION

On January 27, 2016 Furie Operating Alaska, LLC (Furie) submitted a request to the Division of Oil and Gas (Division) for approval of a Unit Plan of Operations (Plan) to continue oil and gas exploration activities in the Kitchen Lights Unit (KLU). The KLU covers approximately 130 square miles in Cook Inlet. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for Furie to carry out KLU Exploration. Any further exploration is subject to further review and approval by the Department of Natural Resources (DNR).

II. SCOPE OF DECISION

The DNR Commissioner has delegated authority for approval of Unit Plan of Operations activities to the Division under Department Order: 003 in accordance with Alaska Statute (AS) 38.05 and 11 Alaska Administrative Code (AAC) 83.346. As set forth below, the Division has evaluated the proposed Plan to determine if sufficient information as required by 11 AAC 83.346 is provided. The Division has also considered that criteria set forth in 11 AAC 83.303. In approving a Plan, the Division may require amendments that it determines are necessary to protect the State's interests (11 AAC 83.346(e)).

This decision is authorizing the unit operator, Furie, to continue oil and gas exploration activities in the KLU in the Cook Inlet, South Central Alaska as conditioned by this decision. The submitted Plan includes mobilizing a jack-up rig to the Cook Inlet and drilling up to nine new exploration wells and one well re-entry at a rate of up to two wells per year beginning in 2016 and ending in 2021. This decision authorizes the activities in the submitted plan but withholds approval to commence operations on certain wells as described below.

The Division reviewed the Plan and is approving Furie to commence activities on the following wells: KLU 4, and two wells outside the Corsair block, KLU 9 and 12.

Furie discussed development wells previously approved by LOCI 13-003 in this plan; development wells previously approved under LOCI 13-003 are not subject to this approval. Further approval is not required unless those activities fall outside the scope of LOCI 13-003.

In addition to the wells discussed above, Furie proposes to drill 7 more exploration wells: the KLU Osprey, Deep Jurassic, KLU 6, 7, 8, 10, and 11 in the KLU by October, 2021. Prior to commencing any operations on the remaining exploration wells listed in this paragraph, Furie is required, annually, to obtain Division approval via a letter of non-objection. The Division will consider and evaluate drilling progress, operations, compliance and other relevant information compared with the original plan when considering the issuance of a letter of non-objection.

The approvals necessary for Furie to complete the activities proposed in their Plan application, beginning with this Plan approval are listed below with proposed dates based off the project schedule Furie identified in the Plan application:

Approval:	Activities:	Request Date:	
Plan approval	KLU 4, 9, 12	1/27/16	Initial approval
Letter of Non-Objection	KLU Osprey, Deep Jurassic	1/1/18*	Annual review
Letter of Non-Objection	KLU 10, 11	1/1/19*	Annual review
Letter of Non-Objection	KLU 6, 8	1/1/20*	Annual review
Letter of Non-Objection	KLU 7	1/1/21*	Annual review

* Letters of non-objection are contingent on the Division's overall evaluation of the project. Furie is encouraged to request the annual letter of non-objection, early, allowing sufficient time for any review process the Division may require for the proposed activities; particularly if they are outside the scope of the original Plan application.

[.] Annual reviews and subsequent letters of non-objection enable the Division to effectively monitor and evaluate the Plan over the proposed multi-year schedule. The Division has weighed the operational and contractual needs of the applicant with the multi-year, multi well, exploration drilling Plan and finds this approval and the letters of non-objection necessary to protect the State's interest.

This decision is not authorizing winter storage of the rig. This decision is not authorizing development wells previously authorized by LOCI 13-003. This decision does not approve Furie to commence operations on the following exploration wells without the required letter of non-objection from the Division: KLU Osprey, Deep Jurassic, KLU 6, 7, 8, 10, 11.

III. LAND STATUS

The KLU is comprised of state lands.

A. Division's Leased Lands: This section refers to Division managed oil and gas leases regardless of ownership of overlying surface lands.

Oil and Gas Lease: Alaska Division of Lands (ADL) 389514
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.

Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the United Cook Inlet Drift Association (UCIDA) to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#4) & Jack-up Rig	S, 010N, 010W, 8	60.97191N, 151.07608W

Oil and Gas Lease: ADL 389924
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#6) & Jack-up Rig	S, 009N, 011W, 17	60.87005N, 151.26767W
Wellbore (KLU#8) & Jack-up Rig	S, 009N, 011W, 18	60.86667N, 151.30780W

Oil and Gas Lease: ADL 389929
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#9) & Jack-up Rig	S, 009N, 011W, 25	61.01361N, 150.98000W

Oil and Gas Lease: ADL 389514
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#12) & Jack-up Rig	S, 010N, 010W, 7	60.96715N, 151.10787W

Oil and Gas Lease: ADL 389193
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#7) & Jack-up Rig	S, 009N, 012W, 34	60.82499N, 151.37530W

Oil and Gas Lease: ADL 389507
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU#10) & Jack-up Rig	S, 009N, 011W, 2	60.90374N, 151.18310W
Wellbore (KLU#11) & Jack-up Rig	S, 009N, 011W, 11	60.88679N, 151.16702W

Oil and Gas Lease: ADL 389197
Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU Osprey) & Jack-up Rig	S, 010N, 011W, 24	60.93616N, 151.15856W

Oil and Gas Lease: ADL 389198

Oil and Gas Mineral Estate Lessee(s): Cornucopia Oil & Gas Company, LLC
Surface Ownership and Access Agreement: State submerged lands and state waters.
Special Use Lands: None identified.
Jointly Managed Lands: None identified.
Other Considerations: Furie anticipates activity in this ADL during the drilling season, from April through October. Furie consulted with the UCIDA to verify there would be no drift net conflict.

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Wellbore (KLU Deep Jurassic) & Jack-up Rig	S, 010N, 011W, 26	60.92289N, 151.17056W

B. State of Alaska Surface Lands: This section refers to State owned surface lands where no Division managed oil and gas leases exist.

Not applicable for this project.

C. Non-State Lands: This section refers to areas where the State does not own the surface land and no Division managed oil and gas leases exist.

Not applicable for this project.

IV. PROPOSED OPERATIONS

The Plan describes the proposed operations in full detail. Set forth below is a summary of the key details. All dates are approximate and may be altered by weather or logistical requirements. The dates will also change because some of them precede this decision. The Division reviewed this schedule with the expectation that dates early in the sequence would be altered as they have passed. Changes to the sequence and schedule of events will be reviewed by the Division prior to implementation in the field.

A. Sequence and Schedule of Events

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1.	Permitting	11/1/2015	6/1/2016
2.	Arrival of jack-up in Cook Inlet	1/1/2016	4/1/2016
3.	Drilling of 2 development wells inside the Corsair Block (approved under a separate development Plan LOCI 13-003)	5/15/2016	10/31/2016
4.	Re-entry and evaluation of KLU#4 well to a sufficient depth	5/15/2016	10/31/2017
5.	Exploration drilling of 2 wells outside the Corsair Block (KLU#9 and KLU#12)	4/1/2017	10/31/2017

6.	Drilling of 2 development wells inside the Corsair Block (approved under a separate development Plan LOCI 13-003)	4/1/2017	10/31/2018
7.	Exploration drilling of 2 wells (KLU Osprey and KLU Deep Jurassic Prospect)	4/1/2018	10/31/2018
8.	Exploration drilling of 2 wells (KLU#10 and KLU#11)	4/1/2019	10/31/2019
9.	Exploration drilling of 2 wells (KLU#6 and KLU#8)	4/1/2020	10/31/2020
10.	Exploration drilling of 1 well (KLU#7)	4/1/2021	10/31/2021

B. Well Sites

The KLU is located in the marine waters of Cook Inlet to the North and northeast of the town of Nikiski on the Kenai Peninsula, approximately 18 miles north of the townsite of Kenai and 16 miles south of the Native Village of Tyonek (NVT). The proposed KLU exploration well sites are located approximately 10 miles north of Boulder Point offshore near Nikiski. Figure A-1 shows the vicinity and location of the KLU in Cook Inlet in relation to Boulder Point and other towns in the area.

Furie, as operator, plans to re-enter the KLU#4 exploration well to continue exploration and drill up to 9 new oil and/or gas exploration wells in the KLU using a jack-up drilling rig during the summer drilling seasons from April to October. Figure A-2 shows the planned drill locations. Drilling operations will begin as soon as the necessary permits and approvals are acquired and the jack-up rig arrives in the upper Cook Inlet waters. Furie has contracted the Randolph Yost (Yost), an independent-leg cantilever jack-up rig, to be mobilized to Cook Inlet to accomplish the drilling activities.

In the North Block, Furie plans to re-enter the KLU#4 borehole to a True Vertical Depth (TVD) of 17,858 feet, testing through the Tyonek and Hemlock formations and into the Jurassic formation. An additional 2 exploration wells will be drilled in the North Block into the Hemlock formation. Two exploration wells will be drilled in the Southwest Block to test the Beluga, Tyonek, and Hemlock formations. One proposed well will be drilled in the Central Block to test the Sterling, Beluga, Tyonek, Hemlock, and Upper Jurassic formations. Two proposed wells will be drilled in the Corsair Block. The first well will be drilled over the existing Julius R Platform to reach the Sterling formation. The second exploration well in the Corsair Block will be drilled to test through the Sterling, Beluga, Tyonek, Hemlock, and Upper Jurassic formations.

Water depth at the drilling locations is approximately 90 feet, and no site improvements are anticipated. Transportation to the rig will be provided by helicopter or support vessel. Supplies will be provided to the rig via support vessel on a regular basis. Upon completion of exploration wells, the wells will be developed, suspended, or plugged and abandoned (P&A'd), depending on the exploration results.

C. Buildings

No operations involving buildings are proposed, the drill rig is self-contained.

D. Fuel and Hazardous Substances

Fuel Storage: All fuel required for drilling exploration activities will be contained on the Yost jack-up rig in fuel storage containers. There are four fuel oil storage tanks, one dirty oil tank, and five mud tanks on the Yost. Total fuel oil capacity is 3,120.68 barrels; dirty oil capacity is 49.76 barrels. Total mud tank capacity is 1,467.04 barrels. All independent fuel and hazardous substance containers will be marked and labeled to describe the contents and include the lessee or contractor name. Fuel transfer procedures and safety precautions will be included in the drilling contractor's Spill Prevention, Control, and Countermeasures (SPCC) Plan. Fuel storage, handling, transfers, and spill reporting will be conducted in accordance with the regulatory requirements as described in the SPCC/Oil Discharge Prevention and Contingency (ODPC) Plan.

During equipment storage or maintenance, the area will be protected from leaking or dripping fuel and hazardous substances using drip pans or other liners designed to catch and hold fluids under the equipment or by creating a specialized area using an impermeable liner or other suitable containment mechanism. During fuel or hazardous substance transfers, secondary containment or a surface liner will be placed under all container fuel tank inlet and outlet points, hose connections, and hose ends.

The jack-up rig will be equipped with appropriate spill kits and absorbent material to immediately contain and clean up product in the event of a spill. Trained personnel will attend transfer operations at all times. Fuel will be periodically transferred to the jack-up rig via support vessel. Any transfer or bunkering of fuel for offshore activities will comply with United States Coast Guard (USCG) bunkering at sea regulations. Contractors associated with this project will maintain SPCC plans for drilling and fuel storage and transfer activities.

E. Solid Waste Sites

Solid wastes generated on the jack-up rig will be containerized appropriately as they are generated. Solid wastes include hazardous waste (glycol, lube oil, hydraulic fluid, batteries, and chemicals), oily rags, scrap metal, welding scrap, food wastes, and general refuse. Other solid waste (packaging, domestic trash) from the platform will be containerized in plastic bags and placed in a trash compactor on the facility.

When the compactor container is full, it will be taken ashore via the supply boat for disposal at the Kenai Peninsula Borough (KPB) Central Peninsula Landfill. Wastes will be stored in appropriate containers and periodically removed from the jack-up rig by support vessel and transported to an appropriately permitted disposal facility. Domestic and sanitary wastewater will be treated using a marine sanitation device and discharged into Cook Inlet per Alaska Pollutant Discharge Elimination System (APDES) permit AKG315100. Drilling wastes (drilling mud and cuttings) will be discharged to Cook Inlet in accordance with the APDES Permit.

F. Water Supplies

Potable water will be transferred to the jack-up rig by support vessel. Drill water will be pumped from Cook Inlet in accordance with the APDES permit.

G. Utilities

The jack-up rig is a self-contained unit that will supply all of its own utilities. The rig will be powered by three diesel engines and three AC generators. One emergency engine and AC generator are on standby in case of emergency. Utility and instrument air is provided by three medium-pressure air compressors and one cold start air compressor. The rig also uses three boilers, six air conditioning units, and one water distillation unit.

H. Material Sites
No operations involving material sites are proposed.

I. Roads
No operations involving roads are proposed.

J. Airstrips
An airstrip will not be used for this project; however, the jack-up rig contains a helicopter landing deck.

K. All Other Facilities and Equipment
A variety of offshore support vessels and helicopters will be used throughout exploration activities. The vessels may support the rig at any time and will originate from Nikiski, from either the Offshore Systems Kenai (OSK) Dock or Rig Tender's Dock. No other facilities will be used for this project. Outside the drilling season, the jack-up rig is proposed to over-winter in Homer.

L. Rehabilitation Plan
Furie's Plan states that the jack-up rig will be the only equipment used in support of drilling exploration activities. Upon completion of exploration activities, the Yost jack-up rig will be removed from Cook Inlet.

Any impact to habitat or wildlife resulting from the planned activities will only exist during drilling activities. Upon completion of site activities, no residual impacts will remain. Wells will be P&A'd within one year of closure. Site restoration activities are not anticipated as no permanent infrastructure is associated with the proposed exploration activities.

M. Operating Procedures Designed to Minimize Adverse Effects
In approving a Plan, DNR may require amendments necessary to protect the State's interest (11 AAC 83.346(e)). The Division has determined that to protect the State's interest, it is necessary to incorporate into the Plan the 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding Mitigation Measures. Furie addressed these mitigation measures in the application process, but it is necessary to amend the Plan to make clear that the Plan incorporates the 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding Mitigation Measures.

All plan applicants must complete a mitigation measure analysis demonstrating that each mitigation measure is satisfied or inapplicable to the proposed Plan, or that the applicant is seeking an exception. The 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding Mitigation Measures allow for the Division to grant an exception if the applicant shows that compliance with the measure is not practicable or that the applicant will undertake an equal or better alternative to satisfy the intent of the mitigation measure. Furie completed the mitigation measure analysis for the Cook Inlet Areawide and seeks exceptions to the mitigation measures discussed below.

1. Mitigation Measure A.4.b.:
   Containers with an aggregate storage capacity of greater than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a waterbody, or within 1,500 feet of a current surface drinking water source.

Furie provided the below request and explanation for the exception:

The jack-up rig requires storage of fuel and hazardous substances over water in quantities greater than 55 gallons. To mitigate risks associated with over-water storage of fuel, all fuel required during mobilization activities will be contained within the support vessels or heavy equipment. All vessels and structures will be equipped with spill kits and absorbent material to allow immediate containment and cleanup of spills. The SPCC Plan provides additional details for storage and containment of fuel and hazardous materials.

The Division finds that compliance with the measure is not practicable. Furie's proposal necessitates storing fuel and hazardous substances over water in quantities greater than 55 gallons. The rig proposed for use was built to operate in marine environments and has been engineered to do so safely and mitigate spill risks. Furie additionally states that all vessels and structures will be equipped with spill kits and absorbent material to allow immediate containment and cleanup of spills. The Division grants an exception to this mitigation measure to allow for the Applicant's alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended plans of operations.

2. Mitigation Measure A.4.j.:
   Wherever practicable, the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Other methods of disposal shall be allowed only upon approval by the Director, in consultation with Alaska Department of Environmental Conservation (ADEC) and Alaska Department of Fish and Game (ADFG).

Furie provided the below request and explanation for the exception:

The KLU does not include an underground injection well. Furie requests the Director's approval to discharge drilling mud, cuttings and fluids from the KLU Project to Cook Inlet in accordance with the ADEC APDES permit.

The Division finds that Furie has shown rationale that proposed activities in the Plan equally satisfy the intent of this mitigation measure. Furie's proposal requests the Director's approval to discharge drilling mud, cuttings and fluids from the KLU Project to Cook Inlet in accordance with the ADEC APDES permit. According to ADEC, Furie has applied for coverage under AKG315100 - Mobile Oil and Gas Exploration Facilities in State Waters in Cook Inlet. Under this authorization, Furie will be allowed to discharge water-based drilling fluids. ADEC concurs with the waiver. ADFG has no specific comments regarding the proposed exploration project, provided that Furie follows the established Cook Inlet Mitigation Measures for Habitat, Fish, and Wildlife, Subsistence, and Other Fish and Wildlife Uses, and Other ADFG Regulatory Requirements (Lessee Advisories).

After consultation with ADEC and ADFG, the Division grants an exception to this mitigation measure to allow for the Applicants alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended plans of operations.

The Division has determined that to protect the State's interest, it is necessary to incorporate into the Plan the 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding Mitigation Measures as amendments and stipulations to this Plan (11 AAC 83.346(e)).

Other operating procedures designed to minimize adverse effects include:

Fish and Wildlife Habitats: "Primary, secondary, and tertiary containment will be implemented to mitigate risks of a spill from storage tanks, process equipment, or fuel lines. Primary containment includes process skid drains and lined berms around tanks; secondary containment includes a sump collection system; and tertiary containment includes deck coaming. Wildlife impact due to noise will be minimized during drilling by implementing a buffer zone encompassing the 120-decibel sound pressure level isopleth. At least one Protected Species Observer (PSO) with stop-work authority will monitor the buffer zone during daylight hours. All platform, helicopter, and vessel crews will be instructed to assist with the detection of Cook Inlet beluga whales and Stellar sea lions. Drilling fluids will be water-based, following the Drill Fluid Plan approved by ADEC. Furie contacted the ADFG, Invasive Species Section for analysis of marine growth samples collected from the jack-up rig legs. The Department (ADFG) determined that there would be no introduction of invasive species into the waters of Cook Inlet."

Historic and Archeological Sites: No historic or archeological sites will be disturbed during project activities. A review of the Alaska Heritage Resources Survey database was conducted in November 2012. The database did not contain any surveys conducted in the KLU Project Area. In addition, the Bureau of Ocean Energy Management Alaskan Shipwreck Table was reviewed and it was determined that there are no shipwrecks on the sea floor in the vicinity of the planned well locations. A high-resolution bathymetry and side-scan sonar survey of the sea floor was conducted in 2011, which yielded no evidence of shipwrecks or cultural resources in the area.

Public Use Areas: The sites proposed for exploration are not sited on and will not impact any residential, commercial, or recreational areas, native allotments, subsistence use areas, or private lands. The Cook Inlet Drift Net Area is below the East/West Forelands and Furie Consulted with the UCIDA to verify there would be no drift net conflicts. The set net fishing areas are 2 miles or more from the KLU boundary and the drill sites are farther away within the KLU boundary. To minimize support vessel impacts, Furie will coordinate the use of offshore supply vessels (OSVs) and helicopters with other companies operating in the area.

Other Uses: A programmable logic controller-based system will monitor process safety devices and initiate isolated equipment shutdowns. All enclosures will have gas detection equipment. Fire suppression will be installed, as required, and will use a non-hazardous suppression agent.

V. CONSIDERATION OF UNIT PLAN OF OPERATIONS REQUIREMENTS UNDER 11 AAC 83.346(c-d) and 11 AAC 83.390

A. Full Payment of Damages to the Surface Owner 11 AAC 83.346(c)

The State owns the surface and full payment of damages to the State are accomplished through a bond posted by the applicant discussed in subsection C below.

B. Plan Sufficiency 11 AAC 83.346(d)

A proposed plan must include statements, maps, or drawings setting forth

(1) the sequence and schedule of operations;
(2) the projected use requirements directly associated with the proposed operations;
(3) plans for rehabilitation;
(4) a description of operating procedures to prevent or minimize adverse effects on natural resources and concurrent uses of the area (11 AAC 83.346(d)).

The information in section IV. Proposed Operations, above, and additional information contained in Furie's proposed Plan satisfy the requirements for a plan under 11 AAC 83.346(d) and thus provide the Division with sufficient information available at this time to determine the surface use requirements and impacts directly associated with the proposed operations.

C. Oil and Gas Lease Bond 11 AAC 83.390

The State owns all the surface land where the proposed Plan activities will be located. The State owns all the mineral estate the Plan proposes to explore. For the State, a lessee provides for payment of damages by posting a bond, and remains liable for full damages under the lease. Furie has a Statewide Oil and Gas Bond in the amount of $500,000.00 and continuing liability under the lease.

VI. CONSIDERATION 11 AAC 83.303 CRITERIA

A. Protection of Public Interest

The Division has considered the public interest, considering statutory provisions that provide for conserving natural resources through unitized development (11 AAC 83.303(a); AS 38.05.180(p)). The legislature has declared the public's interest in oil and gas development as an interest in developing oil and gas resources to maximize economic and physical recovery, maximize competition, and maximize use of Alaska's human resources (AS 38.05.180(a)(1)).

This Plan addresses the means for carrying out the KLU exploration activities as described in the approved 3rd KLU Plan of Development (POD). Additionally, development under this Plan may contribute to the market by increasing overall gas production in the area.

The proposed Plan provides for use of Alaska's human resources by pledging to provide local employment and contracting opportunities and to encourage its contractors to do the same (Proposed Plan Mitigation Measure Analysis A.7.a).

B. Conservation of Natural Resources

The Division has considered whether the Plan promotes conservation of all natural resources, including all or part of an oil or gas Plan, field, or area (11 AAC 83.303(a)(1)). Conservation, in this context, means maximizing the efficient recovery of oil and gas and minimizing the adverse impacts on the surface and other resources (11 AAC 83.395(1)). Development within a unit is intended to provide more efficient development than on the individual leases that make up the unit, and this Plan considers the development of the Unit, not single leases. Efficient development creates less impact on the land and promotes maximum use of all natural resources in the area, consistent with the public interest.

There are a number of ways in which the Plan seeks to minimize adverse impacts on natural resources. This Plan incorporates the mitigation measures set forth in the 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding (Cook Inlet Mitigation Measures). These mitigation measures include measures to protect habitat, fish, and wildlife, protect subsistence resources, and limit the impact from fuel and hazardous substances (2009 Cook Inlet Areawide Final Finding at Chapter 9 sections 9-3 to 9-6. The Plan also includes operating procedures to prevent or minimize adverse effects, including effects on the environment, wildlife, and subsistence resources discussed in section IV.M of this decision.

C. Prevention of Economic and Physical Waste

The Division has considered whether the Plan promotes the prevention of economic and physical waste (11 AAC 83.303(a)(2)). Issues of economic and physical waste are considered during unitization and annually thereafter in the approved POD; this Plan conforms to the approved 3rd KLU POD.

D. Protection of All Parties of Interest, Including the State

The Division has considered whether the Plan provides for the protection of all parties of interest, including the State (11 AAC 83.303(a)(3)). The parties of interest to a unit plan are the unit operator and working interest owners. The State has an economic interest in the oil and gas resources because it receives royalties from production. It is further in the State's best interest to encourage assessment of oil and gas resources, recognize the costs of exploring in varied geographic regions, and minimize the adverse impact of exploration, development, production, and transportation activity (AS 38.05.180(a)(2)).

Without approval of a Plan, Furie cannot perform KLU exploration, and the State cannot recover royalties that may come from future development. The Plan thus protects the Unit Operators, working interest owners' and the State's interests in developing the resources.

E. Environmental Costs and Benefits

The Division has considered the environmental costs and benefits of unitized development outlined in this Plan and through the approved 3rd KLU POD (11 AAC 83.303(b)(1)); this Plan conforms to the approved 3rd KLU POD.

The Cook Inlet Mitigation Measures, incorporated into this Plan by amendment, include measures to protect habitat, fish, and wildlife (2009 Cook Inlet Areawide Final Finding at Chapter 9 sections 9-3 to 9-5). Additional operating procedures designed to minimize adverse effects on other natural resources and other uses of the unit area and adjacent areas are discussed in section IV.M of this decision.

F. Geological and Engineering Characteristics of Hydrocarbons

DNR previously considered the geological and engineering characteristics of a potential hydrocarbon accumulation or reservoir when it approved the unit agreement (11 AAC 83.303(b)(2)); this Plan conforms to the approved 3rd KLU POD.

G. Prior Exploration Activities

The Division has considered prior exploration activities in the Plan area pursuant to 11 AAC 83.303(b)(3). The KLU is an 83,394 acre unit that is divided into four blocks: the Corsair, North, Southwest, and Central blocks. Furie's drilling activities to date have occurred in

the North and Corsair blocks. In 2015, Furie completed construction and installation of its offshore platform in the Corsair block and onshore processing facilities, pipelines are laid, and pre-commissioning is underway. It has contracted use of a workover rig to complete the KLU#3 well. Furie anticipates first gas production before the end of 2015. Additionally, Furie has entered into a gas supply agreement with Homer Electric Association beginning in April 2016.

H. Plan of Development

The Division has considered the plans for development set forth in and approved by DNR in the POD (11 AAC 83.303(b)(4)). The 3rd KLU POD approved on December 16, 2015, supports the operations Furie identifies in the proposed Plan.

I. Economic Costs and Benefits to the State

The Division has considered the economic costs and benefits to the State (11 AAC 83.303(b)(5)). Without approval of a plan, Furie will be unable to proceed with further KLU Exploration, which will cost the State the economic benefit of the royalties, as well as other economic benefits that flow from production.

J. Other Relevant Factors to Protect the Public Interest

The Division has considered other relevant factors necessary or advisable to protect the public interest (11 AAC 83.303(b)(6)). These other factors consist of the mitigation measures (section IV.M of this document) that will apply to this Plan; and the necessity to obtain other permits and approvals by different Agencies and landowners.

VII. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered the fact that Furie may require approvals from Agencies for other elements of its project. Although mentioned in the Plan and above, these aspects of the project are not operations being approved by this decision and the Division offers no opinion on whether an agency should or should not approve these activities.

In addition to considering the approvals required by Agencies as they relate to this decision, the Division provided an Agency review and comment opportunity for the activities proposed for authorization under this decision. The following government entities were notified on February 19, 2016 for comment on the Plan: ADFG, ADEC, KPB, USCG, United States Army Corps of Engineers (USACE), Alaska Oil and Gas Conservation Commission (AOGCC), Department of Transportation and Public Facilities (DOTPF), City of Kenai, Cook Inlet Region, Incorporated (CIRI), National Oceanic and Atmospheric Administration (NOAA), United States Fish and Wildlife Service (USFWS), and DNR: Division of Mining, Land and Water (DMLW), Office of History and Archaeology (OHA), Office of Project Management and Permitting OPMP, Division of Parks and Outdoor Recreation (DPOR), and Division of Oil and Gas. The comment deadline was 4:30 pm Alaska time on March 4, 2016. Comments were received and the Division, Applicant, and commenting agencies reconciled the comments without modifying the Plan; Agency comments and Division's responses are summarized in Appendix B. The Plan was then publicly noticed.

VIII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment, per AS 38.05.035, was published in the Alaska Dispatch News (ADN) and Peninsula Clarion on March 8, 2016 with a deadline for comments of April 6, 2016 at 4:30 pm Alaska time. Additionally, a copy of the notice was

posted on DNR's web site and faxes of the public notice were sent to the Kasilof, Kenai, Nikiski, Soldotna and Tyonek post offices. Timely comment was received by the Division. No modifications to the Plan were made as a result of the comments; public comment and the Division's and the applicant's responses are summarized in Appendix B.

IX. CONDITIONS OF APPROVAL

Having considered the proposed project, the Division approves the Plan as amended and modified by this decision and subject to the below conditions of approval and project specific stipulations:

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Conditions of Approval:

a) The applicant shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this approval by the applicant, its contractors, subcontractors and their employees.
b) The applicant shall inform and ensure compliance with any and all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
c) Unless pre-authorized by a general permit, amendments and modifications to this approval require advance notice and must be approved in writing by the DNR.
d) The Commissioner of the DNR may require that an authorized representative be on-site during any operations conducted under this approval. This stipulation is required to ensure that the Divisions of Oil and Gas and Mining, Land and Water meet their statutory responsibilities for monitoring activities taking place on State-owned lands.
e) A status report for the activities conducted under this approval must be filed with this office on May 1 and November 1 each year, from the date this approval is issued and until a final completion report is filed with the Division. If a lessee requests an assignment, a status report must also be submitted during the assignment process. Failure to file in a timely manner may result in revocation of this approval.
    a. Each status report shall include a statement describing and map(s) depicting all operations actually conducted on the leased area as of the date the report is prepared, which includes the location, design and completion status of well sites, material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment installed.
    b. Upon completion of operations, the applicant will submit a completion report which will include all information required of a status report described in (a) above as well as a statement indicating the date of operations completion, any noncompliance with the terms of this plan approval of which a reasonable lessee would have knowledge of, clean-up activities conducted, the method of debris disposal, and a narrative description of known incidents of surface damage.
f) Notification. The applicant shall notify the DNR of all spills that must be reported under 18 AAC 75.300 under the timelines of 18 AAC 75.300. All fires and explosions must be reported to DNR immediately. The DNR 24 hour spill report number is (907) 451-2678; the fax number is (907) 451-2751. The ADEC oil spill report number is (800) 478-9300. DNR and ADEC shall be supplied with all follow-up incident reports.

g) A certified As-Built survey of the improvement shall be provided within one year of placement of the improvement. This As-Built must be submitted in both electronic and physical format.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Project Specific Stipulations:

1.) Furie is required to notify ADFG if the proposed activities will expand to the west in any manner that would affect the Trading Bay State Game Refuge or the Redoubt Bay Critical Habitat Area.
2.) Furie is required to request and obtain a letter of non-objection from the Division prior to commencing operations on the following wells: KLU Osprey, Deep Jurassic, KLU 6, 7, 8, 10, 11.

X. FINDINGS AND DECISION

Having considered the proposed project and based on the foregoing discussion and consideration of issues and conditions of approval, the Division makes the following findings:

1. The Plan provides sufficient information, based on reasonably available data, for the Division to determine the surface use requirements and impacts directly associated with the proposed operations.
2. The Plan includes statements, maps, or drawings setting forth the sequence and schedule of operations, projected use requirements, description of operating procedures, and a plan of rehabilitation designed to prevent or minimize adverse effects.
3. To protect the State's interest and mitigate potential adverse social and environmental effects associated with the Plan, the Division finds it necessary to amend the Plan to incorporate the mitigation measures set forth in the 2009 Cook Inlet Areawide Oil and Gas Lease Sale Final Finding.
4. All oil and gas activities conducted under oil and gas leases are subject to numerous local, state and federal laws are regulations with which Furie is expected to comply.
5. The people of Alaska have an interest in developing the state's oil and gas resources and maximizing the economic and physical recovery of those resources. AS 38.05.180(a).
6. Alaska's economy depends heavily on revenues related to oil and gas production and government spending resulting from those revenues. The related revenue sources include bonus payments, rentals, royalties, production taxes, income taxes, and oil and gas property taxes.
7. The potential benefits of approving this Plan outweigh the possible adverse effects, which have been minimized through imposition of mitigation measures, conditions of approval, and project specific stipulations, and thus approval of this Plan as modified is in the State's best interest.

Based upon the Plan, supporting information provided by the applicant and the Division's review, determination of applicable statutes and regulations, consultation with other agencies, relevant entities and individuals, public comment, and the above findings related to that Plan, the Division hereby approves the Plan as modified.

Sincerely,

Kim Kruse 5/20/2016

Kim Kruse
Permitting Section Manager
Division of Oil and Gas

Date

Appeal

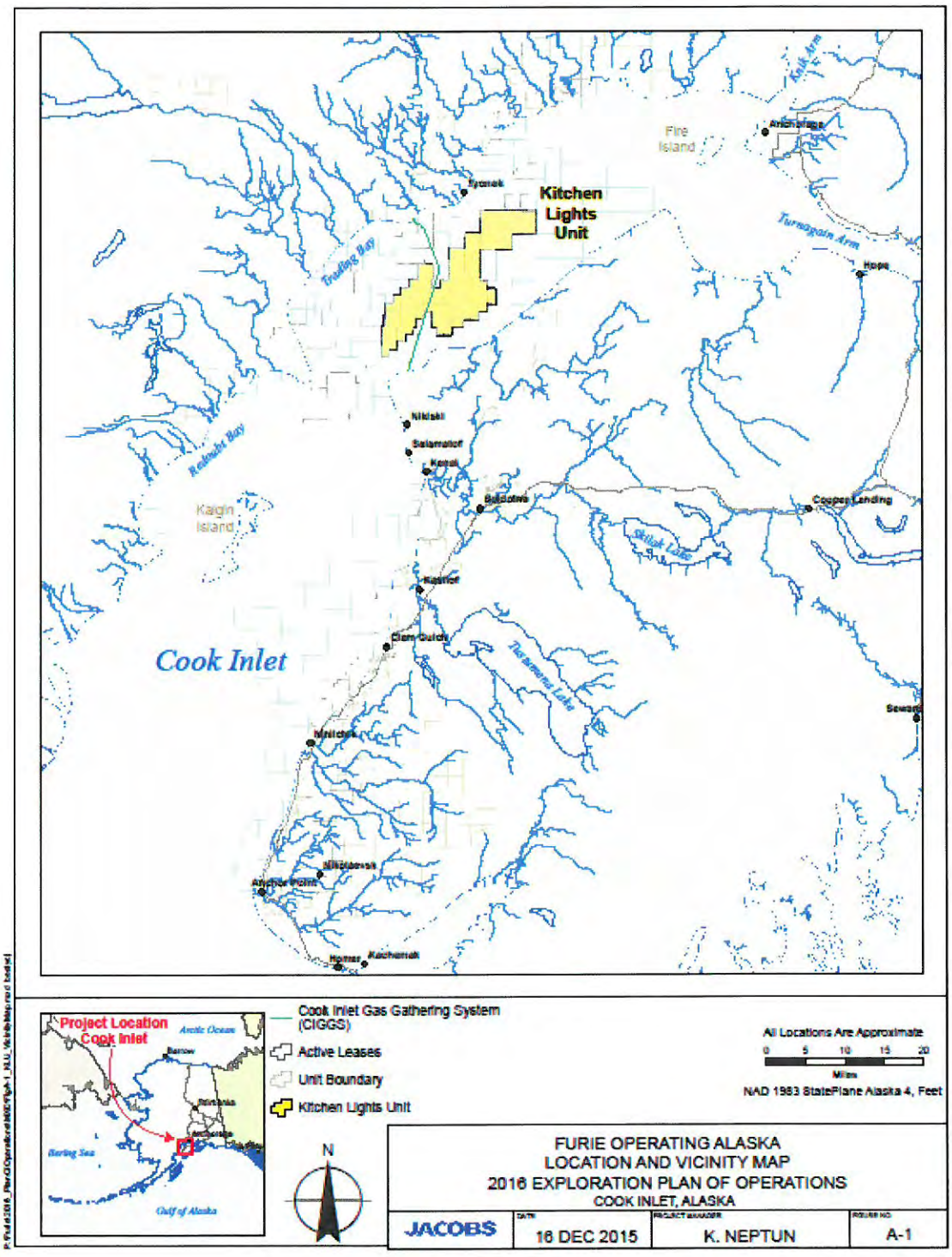
An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

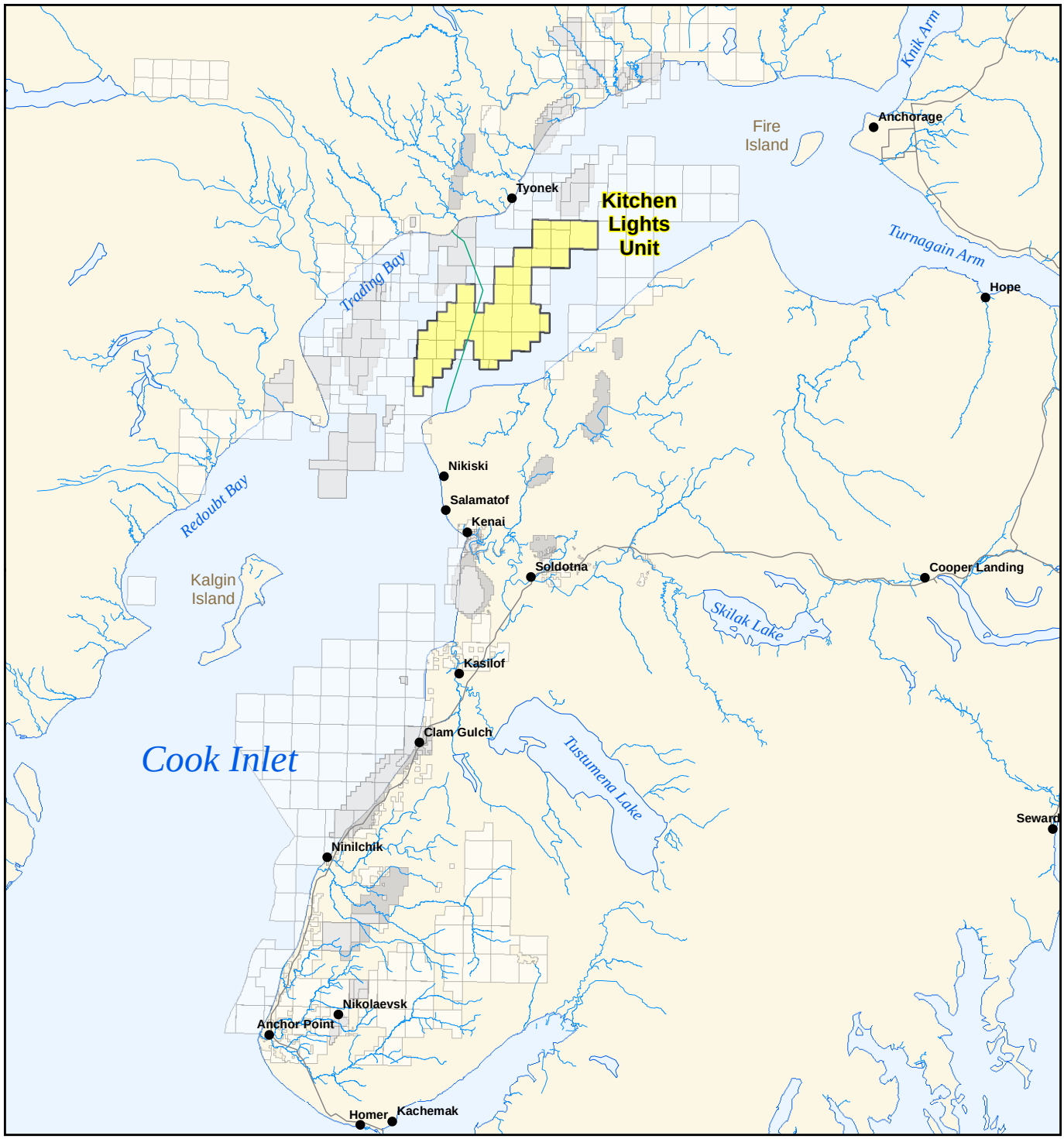
Attachments:

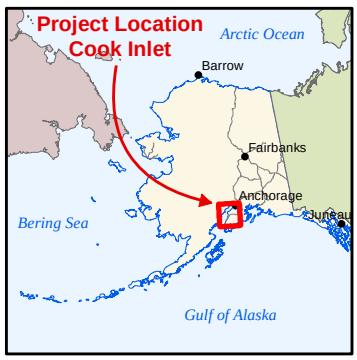
Appendix A: Maps and Figures
Appendix B: Agency and Public Comments

ecc: Division: Kim Kruse, Thomas Barrett, John Easton, Hak Dickenson and Jeanne Frazier
DMLW: Project Development Team, Clifford Larson, James Sowerwine, Eric Moore and Henry Brooks
OHA: ohaacc@alaska.gov
ADFG: Marla Carter, Mark Fink, Virginia Litchfield and Michael Daigneault
ADEC: dec.water.oilandgas@alaska.gov, Gary Evans, Mike Evans, Graham Wood, Young Ha, Tim Law, Gerry Brown and Natalie Wagner
OPMP: Sara Taylor, Mark Morones, Sara Longan and Jeff Bruno
KPB: Marcus Mueller, Johni Blankenship, Julie Denison, Dan Nelson and Karyn Noyes
AOGCC: James Regg
DOTPF: David Post
DPOR: Pamela Russell and Ryan Thomas
Other: jack.j.hewitt@usace.army.mil, HCD.Anchorage@noaa.gov, regpagemaster@usace.army.mil, CEPOA-RD-Kenai@usace.army.mil, CIRI, Barbara Mahoney, Kimberly Klein, Lynnda Kahn, Linda Speerstra, Sandra Modigh, Lisa Fox, Mark Ridgway, Joe Meade, Phil North and Gary Lawley

Appendix A: Maps and Figures







Cook Inlet Gas Gathering System (CIGGS)

Active Leases

Unit Boundary

Kitchen Lights Unit

N

All Locations Are Approximate

0 5 10 15 20

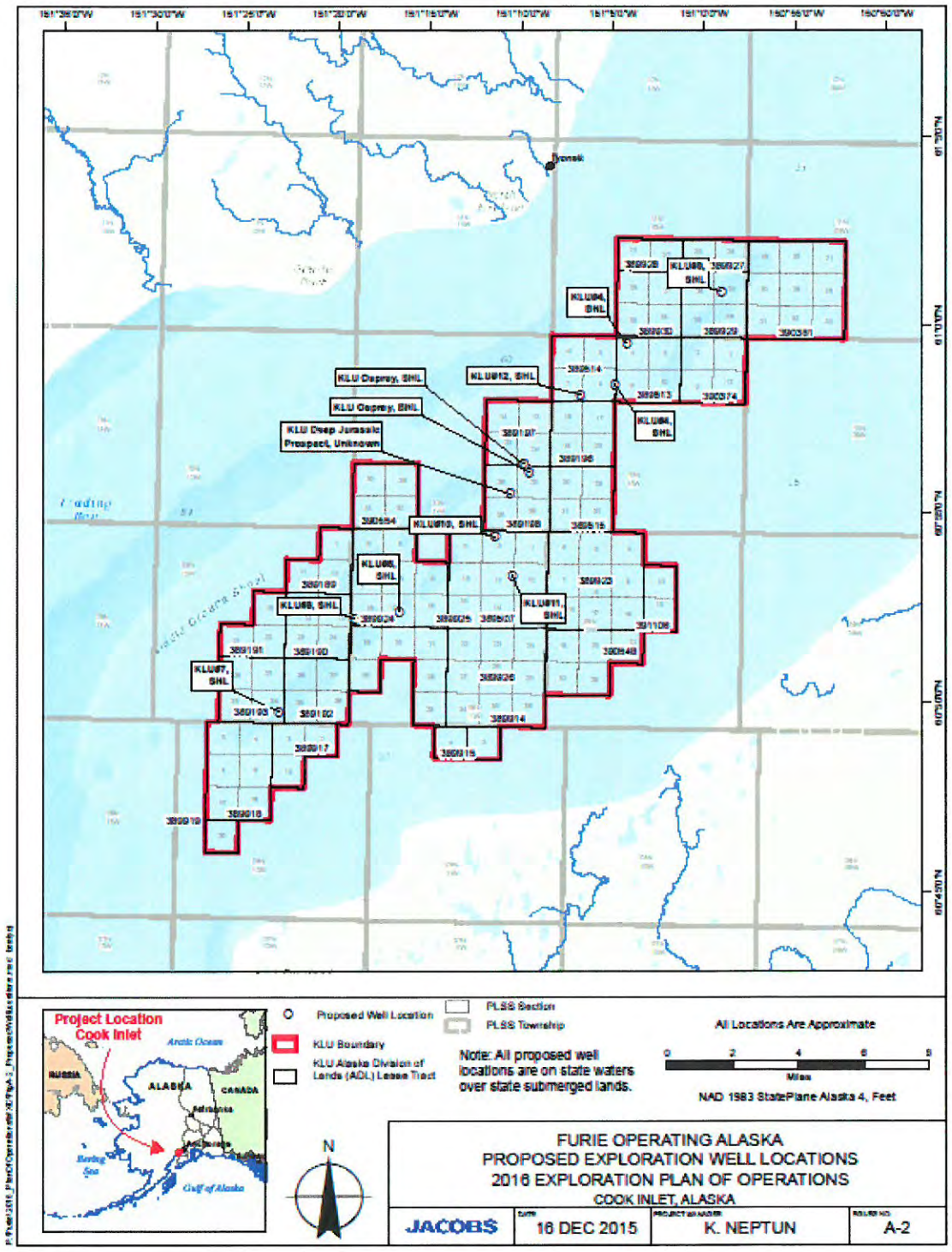
Miles

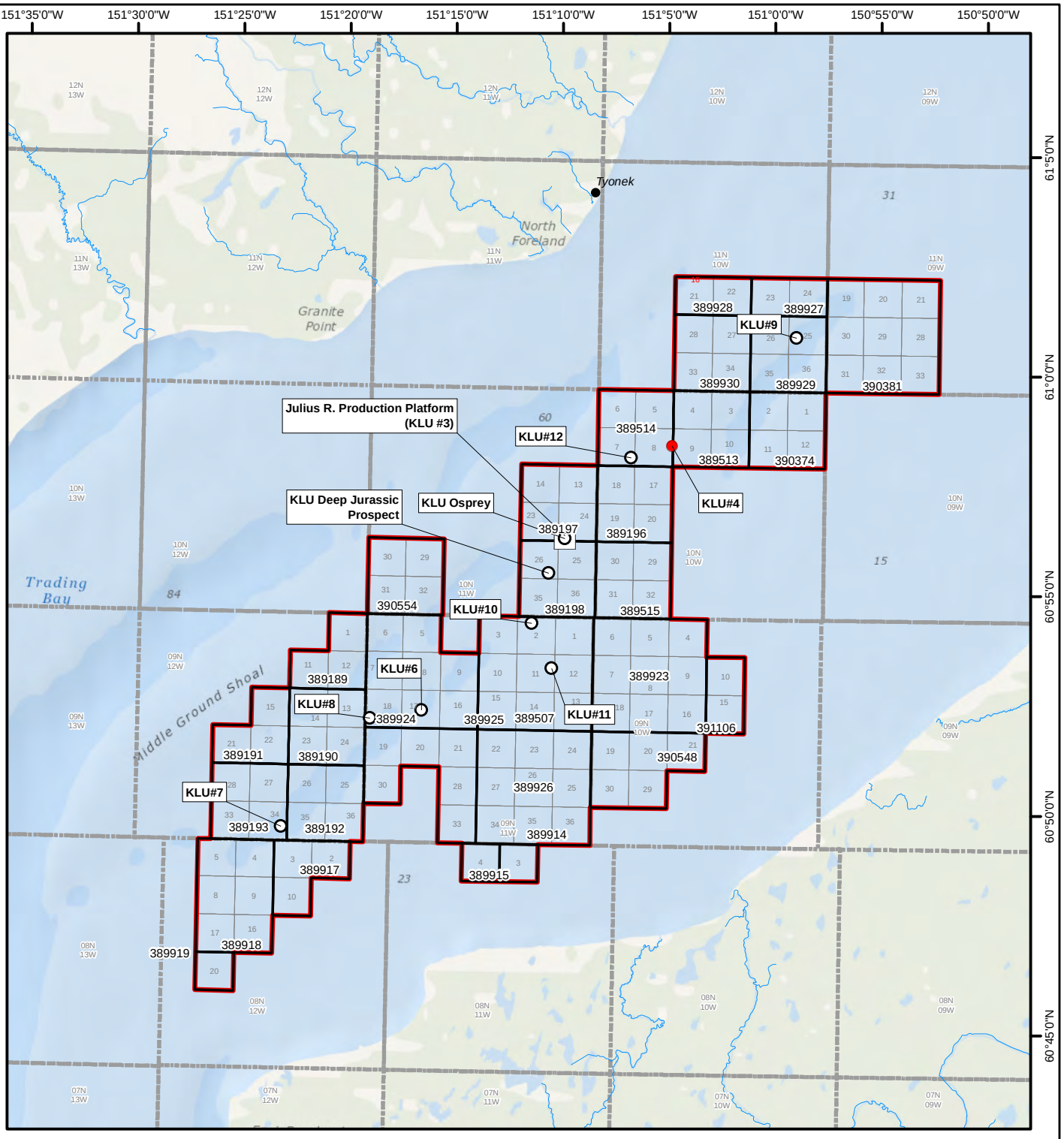
NAD 1983 StatePlane Alaska 4, Feet

FURIE OPERATING ALASKA
LOCATION AND VICINITY MAP
2016 EXPLORATION PLAN OF OPERATIONS
COOK INLET, ALASKA

JACOBS	DATE: 16 DEC 2015	PROJECT MANAGER: K. NEPTUN	FIGURE NO: A-1

P:\Furie\2016_PlanOfOperations\MXD\FigA-1_KLU_VicinityMap.mxd beatycj


KLU Osprey, SHL
KLU Osprey, SHL
KLU Deep Jurassic Prospect, Unknown
KLU#12, SHL
KLU#4, SHL
KLU#6, SHL
KLU#10, SHL
KLU#8, SHL
KLU#9, SHL
KLU#11, SHL
KLU#7, SHL
Project Location Cook Inlet
Arctic Ocean
RUSSIA
ALASKA
CANADA
Bering Sea
Gulf of Alaska
Proposed Well Location
KLU Boundary
KLU Alaska Division of Lands (ADL) Lease Tract
PLSS Section
PLSS Township
Note: All proposed well locations are on state waters over state submerged lands.
All Locations Are Approximate
0 2 4 6 8
Miles
NAD 1983 StatePlane Alaska 4, Feet
N
FURIE OPERATING ALASKA
PROPOSED EXPLORATION WELL LOCATIONS
2016 EXPLORATION PLAN OF OPERATIONS
COOK INLET, ALASKA
JACOBS
16 DEC 2015
K. NEPTUN
A-2



- Existing Well Location
- Proposed Well Location
- Platform
- KLU Boundary
- KLU Alaska Division of Lands (ADL) Lease Tract
- PLSS Section
- PLSS Township

Note: All proposed well locations are on state waters over state submerged lands.

All Locations Are Approximate

0 2 4 6 8
Miles

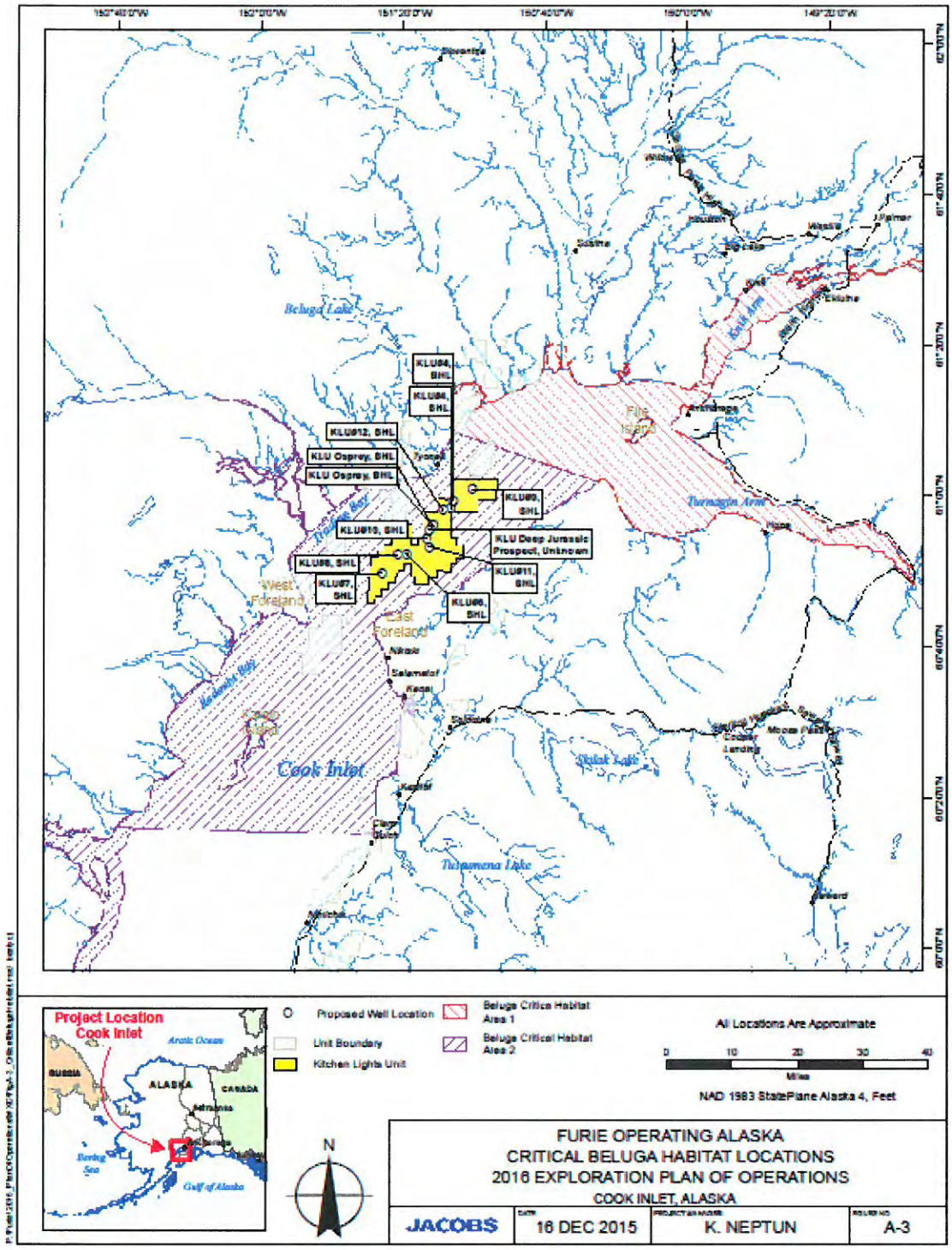
NAD 1983 StatePlane Alaska 4, Feet

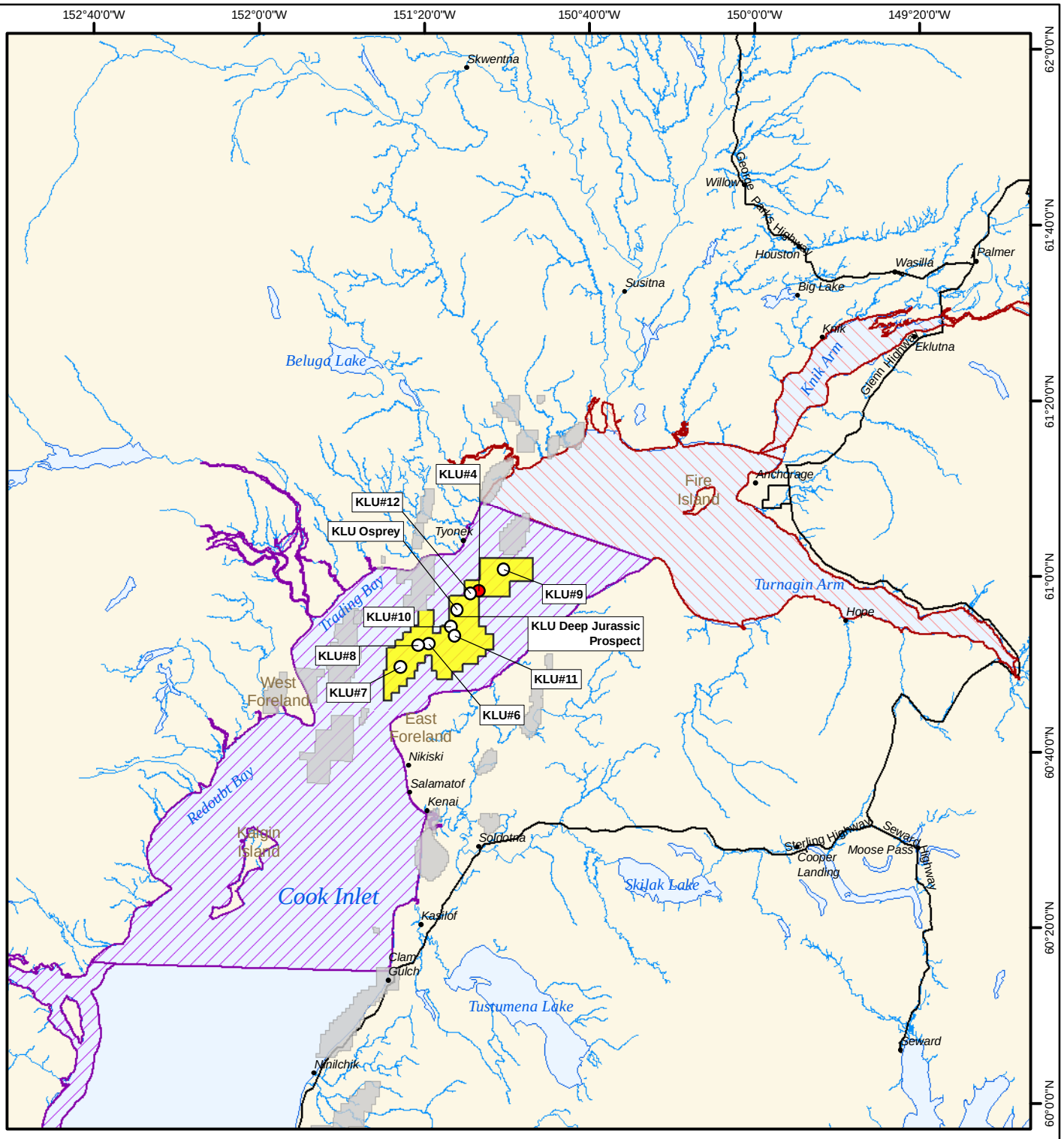
N

FURIE OPERATING ALASKA
PROPOSED EXPLORATION WELL LOCATIONS
2016 EXPLORATION PLAN OF OPERATIONS
COOK INLET, ALASKA

JACOBS	DATE: 22 JAN 2016	PROJECT MANAGER: K. NEPTUN	FIGURE NO: A-2

P:\Furie\2016_PlanOfOperations\MXD\FigA-2_ProposedWellLocations.mxd beatycj


Project Location
Cook Inlet
Arctic Ocean
RUSSIA
ALASKA
CANADA
Bering Sea
Gulf of Alaska
Proposed Well Location
Unit Boundary
Kitchen Lights Unit
Beluga Critical Habitat Area 1
Beluga Critical Habitat Area 2
All Locations Are Approximate
0 10 20 30 40
Miles
NAD 1983 StatePlane Alaska 4, Feet
N
FURIE OPERATING ALASKA
CRITICAL BELUGA HABITAT LOCATIONS
2016 EXPLORATION PLAN OF OPERATIONS
COOK INLET, ALASKA
JACOBS
16 DEC 2015
K. NEPTUN
A-3
Beluga Lake
Fire Island
Turnagain Arm
Knik Arm
Cook Inlet
West Foreland
East Foreland
Kalgin Island
Tuxedni Bay
Redoubt Bay
Trading Bay
Tyonek
Nikiski
Kenai
Soldotna
Kasilof
Homer
Seldovia
Anchorage
Eagle River
Wasilla
Palmer
Eklutna
Girdwood
Indian
Portage
Whittier
Hope
Moose Pass
Cooper Landing
Skilak Lake
Tustumena Lake
Ninilchik
KLU#4, SHL
KLU#4, SHL
KLU#12, SHL
KLU Osprey, SHL
KLU Osprey, SHL
KLU#3, SHL
KLU#13, SHL
KLU Deep Jurassic Prospect, Unknown
KLU#5, SHL
KLU#7, SHL
KLU#11, SHL
KLU#6, SHL



Existing Well Location
Proposed Well Location
Unit Boundary
Kitchen Lights Unit

Beluga Critica Habitat Area 1
Beluga Critical Habitat Area 2

All Locations Are Approximate

0 10 20 30 40
Miles

NAD 1983 StatePlane Alaska 4, Feet

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FURIE OPERATING ALASKA
CRITICAL BELUGA HABITAT LOCATIONS
2016 EXPLORATION PLAN OF OPERATIONS

COOK INLET, ALASKA

JACOBS	DATE: 14 JAN 2016	PROJECT MANAGER: K. NEPTUN	FIGURE NO: A-3

P:\Furie\2016_PlanOfOperations\MXD\FigA-3_CriticalBelugaHabitat.mxd menghibc

Appendix B: Agency and Public Comments

Agency Comments:

The proposed Furie Kitchen Lights Unit Exploration project was circulated for agency review on February 19, 2016. The comment period was for 14 days which ended on March 4, 2016. Two agencies commented:

1. Ms. Pamela Russell with DPOR, February 22, 2016.
   Ms. Russell stated "State Parks does not have any comments for this project."

   Division's Response:
   Comment noted and forwarded to the applicant for their information.

2. Mr. Michael Daigneault with ADFG, March 4, 2016.
   ADFG has no specific comments regarding the proposed exploration project, provided that the applicant follows the establish Cook Inlet mitigation measures for Habitat, Fish, and Wildlife (Chapter 9, A2), Subsistence, and Other Fish and Wildlife Uses (Chapter 9, A3), and Other ADFG Regulatory Requirements (Chapter 9, B3). If the proposed activities will expand to the west in any manner that would affect the Trading Bay State Game Refuge or the Redoubt Bay Critical Habitat Area, please notify ADFG immediately.

   Division's Response:
   Comment noted and forwarded to the applicant. See Project Specific Stipulation # 1.

Public Comment:

Public notice of the Plan and opportunity to comment was published in ADN and Peninsula Clarion on March 8, 2016, with a deadline for comments on April 6, 2016 at 4:30 pm Alaska time. One public commenter submitted timely comment:

1. Mr. Gary Lawley with Kinnetic Labs Inc., March 29, 2016.
   Mr. Lawley stated "The application references a Biological Assessment (BA) as being available upon request. Could we receive an electronic copy of this document please?"

   Applicant's Response:
   Furie emailed the Division an electronic copy of the 2012 BA produced by Furie for activities in Cook Inlet. It covers Beluga whales, sea lions, and fish. Furie also emailed the 2011 Biological Evaluation which covers Beluga whales as well.

   Division's Response:
   The Division provided Furie's electronic version of BA to the commenter.