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June 1, 2017

Kevin Pike
Alaska Department of Natural Resources, Division of Oil and Gas
550 W. 7th Ave., Suite 1100
Anchorage, AK 99501

Eleventh Plan of Development, Oooguruk Unit

Dear Kevin:

Attached please find the eleventh plan of development for the Oooguruk Unit filed on behalf of Caelus Natural Resources Alaska, LLC, as unit operator and working interest owner, and Eni Petroleum US LLC, as working interest owner.

Please advise if you have any questions. Otherwise, we'll see you June 7 at the meeting.

Respectfully submitted,

Dale Hoffman

cc: R. Province, Eni

ELEVENTH PLAN OF DEVELOPMENT, OOOGURUK UNIT

September 1, 2017-August 31, 2018

Caelus Natural Resources Alaska, LLC, as Operator
Eni Petroleum US LLC, as Working Interest Owner

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Attachments

OOOGURUK UNIT ELEVENTH PLAN OF DEVELOPMENT

This Eleventh Plan of Development (POD) for the Oooguruk Unit (OU) is submitted by Caelus Natural Resources Alaska, LLC (Caelus), as Operator, and on behalf of itself and Eni Petroleum US LLC (Eni), to the Department of Natural Resources Division of Oil and Gas (DOG) as required by Article 8 of the Oooguruk Unit Agreement and 11 AAC 83.343.

HISTORICAL ACTIVITIES

The Oooguruk Unit comprises 25 state leases for a total of approximately 53,344 acres. Caelus and Eni are 70% and 30% working interest owners (WIOs), respectively, in the participating areas currently under development. Cumulative oil production from the Oooguruk Unit totals approximately 30 million barrels through April 2017.

The leases are unitized and developed jointly under the terms of the Oooguruk Unit Agreement (OUA) between WIOs and the State of Alaska. Development drilling and operations are conducted under the terms of the Oooguruk Unit Operating Agreement (OUOA) between the WIOs.

1. TENTH POD UPDATE (September 1, 2016-August 31, 2017)

Caelus has made significant cost reductions at the OU, suspended drilling operations in May, 2016 and reduced its workforce by 25 percent. To date, 43 wells have been drilled within the OU, including 28 Oooguruk Nuiqsut Participating area (ONPA) development wells, five Oooguruk Kuparuk Participating Area (OKPA) development wells, four Oooguruk Torok Participating Area (OTPA) development wells, one Class I & II disposal well and five other wells outside of existing PAs (refer to Attachment 1).

ONPA	**OKPA**	**OTPA**	**Other Unit Wells**
ODSN-01A	ODSK-14	ODST-39	ODSDW1-44 (disposal)
ODSN-02	ODSK-33	ODST-45A	ODSK-13 (appraisal)
ODSN-03i	ODSK-35i	ODST-46i	ODSN-40 (appraisal)
ODSN-04	ODSK-38i	ODST-47	Nuna 1 (appraisal)
ODSN-06i	ODSK-41		NDST-02 (appraisal)
ODSN-07i			Sikumi 1 (exploration)
ODSN-10i			
ODSN-15i			
ODSN-16			
ODSN-17			
ODSN-18			
ODSN-19i			
ODSN-22			
ODSN-23i			
ODSN-24			
ODSN-25			
ODSN-26i			
ODSN-27i			
ODSN-28			
ODSN-29			
ODSN-31			
ODSN-32i			
ODSN-34i			
ODSN-36			
ODSN-37			
ODSN-42B			
ODSN-43			
ODSN-48			

1.1 Facilities

During the Tenth POD, a planned seven-day field maintenance shut-down occurred September 3 through 9, 2016. Hardware and software were successfully upgraded on the Distributed Control System. Inspections and repairs were performed in the waste heat recovery system, production heater, and production separator. API external tank inspections were completed on eight tanks at ODS. Module subsidence adjustments were also completed at ODS.

Routine operations allowed Caelus to perform general maintenance and replace critical oil, water and gas piping and valves. Additional field-wide maintenance was also performed, including mechanical integrity inspections of piping and other safety systems, and internal and external inspections of 12 additional tanks at ODS and OTP. OTP power turbines B and C received operational diagnostics to address vibration issues. The production heater B tubing bundle was replaced due to internal fouling.

Caelus directed engineering and operational efforts towards optimizing and debottlenecking existing equipment, including separator control system performance, proportional fluid sampling upgrades, and measurement system accuracy. A new variable frequency drive on OTP compressor A was also scoped for potential future installation.

Follow-up recommendations from the Ninth POD Measurement Technical Review were completed, ensuring all process metering met or exceeded industry standards. A subsequent Measurement Technical Review was completed in August 2017, with a final report and subsequent recommendations continuing into the Eleventh POD period.

A five-year Process Hazard Analysis (PHA) revalidation was also completed on all ODS and OTP surface process infrastructure, with most action items closed out.

1.2 Reservoir Management

Subsurface development of the OU is ongoing with dedicated development wells in the Alaska Oil and Gas Conservation Commission (AOGCC)-approved Oooguruk-Nuiqsut, Oooguruk-Kuparuk and Oooguruk-Torok oil pools. Unitized substances are commingled on the surface. During the Tenth POD development progressed as planned in the OKPA, ONPA and OTPA. The ONPA water and immiscible gas flood (under-saturated WAG) was expanded, and the waterflood for secondary recovery continued in both the OKPA and OTPA.

The OKPA production continued as projected from horizontal producers ODSK-14 and ODSK-41. ODSK-38i was the primary injector for the OKPA waterflood for this period with ODSK-35Ai returned to injection in 2017. ODSK-33 production, the dominant and first production well, has been shut-in due to very high water-cut and significant hydraulic backout effects to other ODS wells (refer to Attachment 2A). Caelus maintains a simulation model to assist in reservoir and flood management decisions in the OKPA.

Development activities within the ONPA included reservoir surveillance, reservoir management, wellwork and continued testing of the ONPA expansion areas: ODSN-10i in the southwest proposed ONPA expansion area; ODSN-06i in the northeast ONPA near the Ivik exploration well, and ODSN-07i drilled in the northern ONPA to support strong production from offsetting producers in the area, ODSN-02 and ODSN-28 (refer to Attachment 2B). After a brief production period, ODSN-07i was converted to injection in January, 2017. ODSN-06i and ODSN-10i are ultimately planned as injectors, but extended pre-production is planned to assess long term reservoir performance in these new development areas of the ONPA. An extended reservoir surveillance program is ongoing in the ODSN-03i pattern which had early water injection breakthrough in both offset producing wells, ODSN-02 and ODSN-04. In July, 2016 plugs were placed in the lateral of ODSN-03i to isolate suspected thief zones and the response was monitored in the ODSN-02 and ODSN-04 wells. The plugs were removed in April 2017 and the well was placed on gas and alternating water WAG injection and monitoring is in progress. The surveillance data from the program will be used to assess reservoir management and remediation alternatives.

Following the September 2016 Kuparuk River Unit and OU seawater shutdown, two of the Nuiqsut injectors, ODSN-27i and ODSN-34i, had significantly lower injectivity. Attempts were made to clear any debris possibly plugging the lateral by back-flowing and surging the wells. Injection performance is under review.

Reservoir management included maximizing voidage replacement and managing producing gas oil ratios by cycling producing wells on and off production where possible operationally. Final well planning has been completed for six of the remaining 13 ONPA development locations (refer to Attachment 3). Ultimately eight new wells and five well slot reclamations are planned in the ONPA which was the basis for the third ONPA expansion request. Caelus maintains a simulation model to assist in reservoir and flood management decisions in the ONPA.

OTPA development progressed as planned. Production continues from horizontal fracture stimulated wells ODST-39 and ODST-45A which was recompleted in April 2016 but was shut-in pending a coiled tubing stimulation to remove scale build-up in the lateral. The stimulation was completed in April 2017 and its success is still being evaluated. Injection in horizontal well ODST-46i was reestablished after suspension of drilling and upon repair of a tubing leak to the inner annulus through a leaking gas lift valve. Caelus plans to contract the OTPA, removing the ODST-47 associated area, as the well is non-productive due to mechanical failures and future development plans will use the slot for further development of the ONPA (refer to Attachments 2C, 3 and 4). As with the Kuparuk and Nuiqsut PAs, Caelus maintains a simulation model to assist in reservoir and flood management decisions in the OTPA.

Contraction of the OTPA along with the ongoing expansion of the ONPA is consistent with current and future OU production and development plans. Following completion of participating area modifications both the OTPA and ONPA will better reflect tract participations consistent with ongoing production, costs and future development providing appropriate allocations of Unitized Substances produced and Unit Expenditures.

1.3 Drilling

No drilling activities were conducted during the Tenth POD. . However, eight workover operations have been planned and approved by management. The workovers include recompletions to improve flow efficiency by installing electrical submersible pumps (ESPs) or a 2 7/8" gas lift completion, three well integrity repairs, and a test of the Kuparuk in the Ivik fault block via a dual Nuiqsut and Kuparuk completion in the ODSN-29 wellbore (the Nuiqsut was completed in 2013), refer to Attachment 2A. The workovers are scheduled to start in August 2017 and end during the Eleventh POD.

Approved Workover Operations

ODSN-02 (casing repair, recomplete with ESP)
ODSN-04 (casing repair, recomplete with ESP)
ODSN-16 (recomplete with new ESP)
ODSN-17 (recomplete with new ESP)
ODSN-28 (casing repair, recomplete with gas lift)
ODSN-29 (add Kuparuk completion and test)
ODSN-31 (recomplete with new ESP)
ODST-39 (recomplete with gas lift)

2. ELEVENTH POD PROPOSED OPERATIONS (September 1, 2017-August 31, 2018)

2.1 Facilities

Caelus will complete any outstanding action items from the tenth POD Process Hazard Analysis revalidation.

Recommendations from the tenth POD Measurement Technical Review will be implemented to ensure all process metering meets or exceeds industry standards.

OTP power turbine C will undergo repairs to address previously diagnosed vibration issues.

Routine maintenance will also be performed, including replacement of worn piping and valves and general mechanical integrity inspections of piping and other safety systems. Caelus will conduct a mandatory five-year In-line Inspection (ILI) smart pigging of the production flowline from ODS to OTP to ensure mechanical integrity.

Caelus' engineering and operational efforts will continue in optimizing and debottlenecking existing equipment, including separator control system performance, proportional fluid sampling upgrades, and measurement system accuracy. A new variable frequency drive on OTP compressor A will be considered to optimize gas lift and injection operations.

2.2 Reservoir Management

During the period of the Eleventh POD Caelus plans to further optimize the OKPA waterflood and the ONPA Under-Saturated Water-Alternating-Gas (US-WAG) flood and continue the OTPA enhanced recovery operation. All OU floods will be managed to maximize voidage replacement. Individual well and pattern surveillance data will be collected in all reservoirs to monitor performance versus expectations. Simulation models will be updated to assist in reservoir and flood management decisions.

2.3 Drilling

No drilling activities are currently approved during the Eleventh POD. However, Caelus has prepared to drill six new ONPA wells for when drilling resumes at ODS (refer to Attachments 1, 2B and 3). Eight workover operations have been planned and approved by management. The workovers include recompletions to improve flow efficiency by installing electrical submersible pumps (ESPs) or a 2 7/8" gas lift completion, three well integrity repairs, and a test of the Kuparuk in the Ivik fault block via a dual Nuiqsut and Kuparuk completion in the ODSN-29 wellbore (the Nuiqsut was completed in 2013), refer to Attachment 2A. The workover campaign is scheduled to end during the Eleventh POD.

Planned ONPA New Wells **Approved Workover Operations**

ODSN-05	ODSN-02 (casing repair, recomplete with ESP)
ODSN-08	ODSN-04 (casing repair, recomplete with ESP)
ODSN-09	ODSN-16 (recomplete with new ESP)
ODSN-11	ODSN-17 (recomplete with new ESP)
ODSN-12	ODSN-28 (casing repair, recomplete with gas lift)
ODSN-20	ODSN-29 (add Kuparuk completion and test)
	ODSN-31 (recomplete with new ESP)
	ODST-39 (recomplete with gas lift)

3. PLAN OF EXPLORATION FOR LANDS NOT WITHIN A PARTICIPATING AREA

Efforts associated with the Kuparuk reservoir, outside the OKPA, have been focused in the Ivik fault block to the northeast of the current OKPA (refer to Attachments 2A). ODSK-13 was drilled in late 2011 as horizontal producer to test the thickness and productivity of the Ivik fault block. A workover was performed in 2013 to repair a failed SSSV. Production testing showed less than economic production rates and the well was converted to injection for short term testing in 2013 and 2014. The well is now shut-in for long term pressure monitoring. Pressures from the ODSK-13 injection and fall off test indicate the Ivik block is not in hydraulic communication with the main Kalubik fault block development area. Analyses of ODSK-13 oil samples show the asphaltene content is significantly higher than the Kalubik fault block producing wells, which may explain the low productivity from the well. Integration of the ODSK-13 performance data with recent data collected while drilling to the Nuiqsut in this area (ODSN-29, ODSN-28, ODSN-07i and ODSN-06i) suggests higher mobilities and potential economic resource in the area. Caelus plans to recomplete the ODSN-29 well in the Kuparuk for testing and appraisal; while this will temporarily shut-in Nuiqsut production from the well, the long term plan, which requires AOGCC approval, is to commingle production from the two pools at this OU location.

Caelus sanctioned Phase 1 of the Nuna project (see Attachment 3) which would access resources inaccessible from ODS in and near the Colville River Delta using extended reach drilling from Nuna Drill Site 1 (NDS1). The project lies two miles north-west of existing facilities at KRU Drill Site 3S (DS-3S).

During the Tenth POD Caelus performed the following activities as part of its plan of exploration (POE) for lands outside a participating area:

1. Conducted studies in support of NDS1;

2. Analyzed approximately 75 square miles of 3D seismic data over Nuna lands;

3. Revised the results from drilling, detail engineering, and permit stipulations into an assessment of the commercial viability of the Nuna onshore development;

4. Refined the scope, costs and schedule of the Nuna Torok Phase 1 Development; and

5. Applied for the initial Nuna Torok Participating Area (NTPA) consistent with the initial 30 well development area (refer to Attachment 4).

Under the POE during the Eleventh POD, Caelus plans to:

1. Continue the Nuna Torok Phase 1 Development by completing the facility design and integration with OTP and KRU in anticipation of start-up in 2018 or later. Equipment and material procurement will be ongoing, concurrently with module fabrication. Flowline installation is planned for the first quarter of 2018 or later and facility installation will occur prior to start up;

2. Perform preventive maintenance on equipment and materials that were purchased prior to deferral;

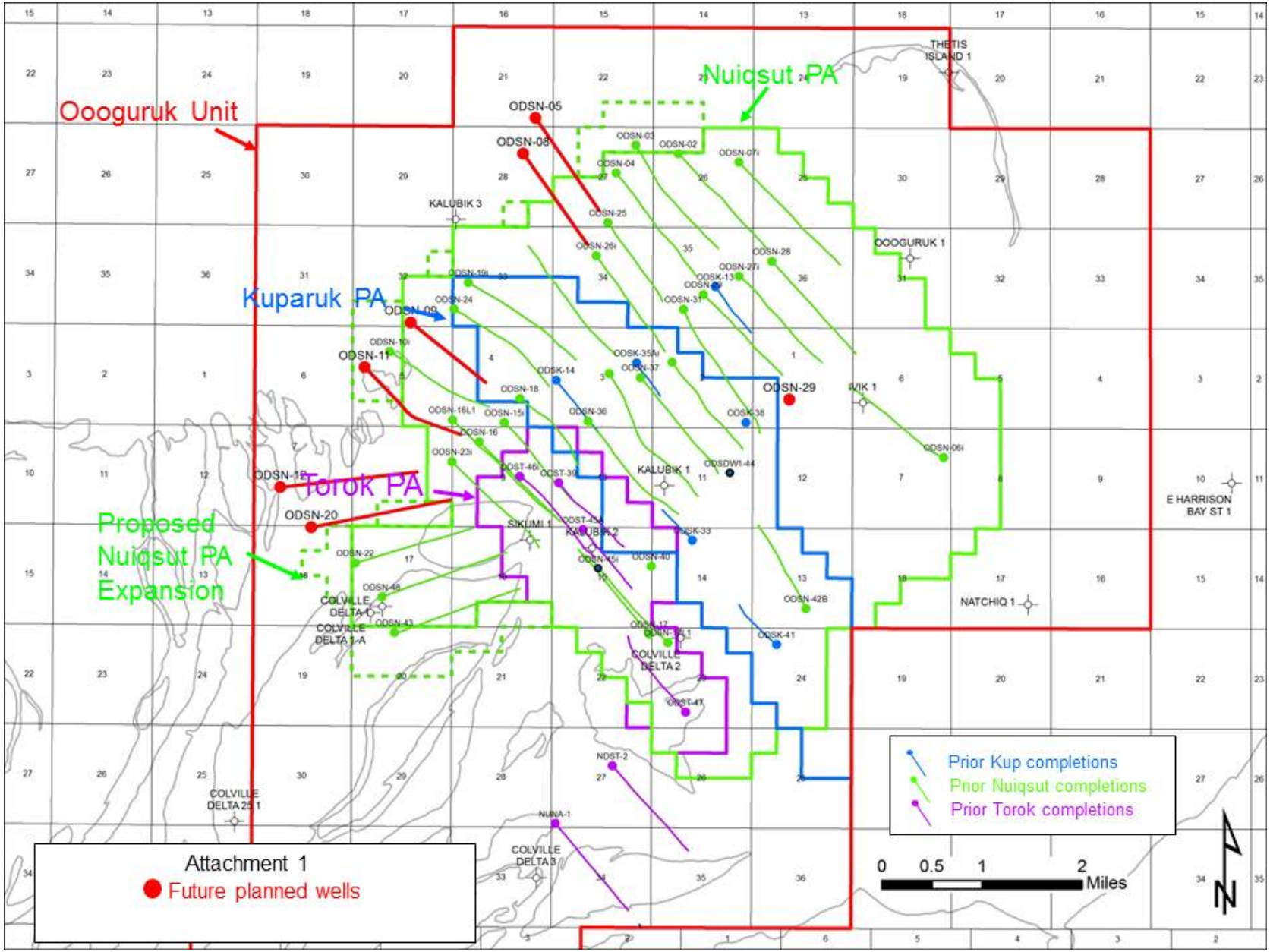
3. Continue long lead procurement efforts;

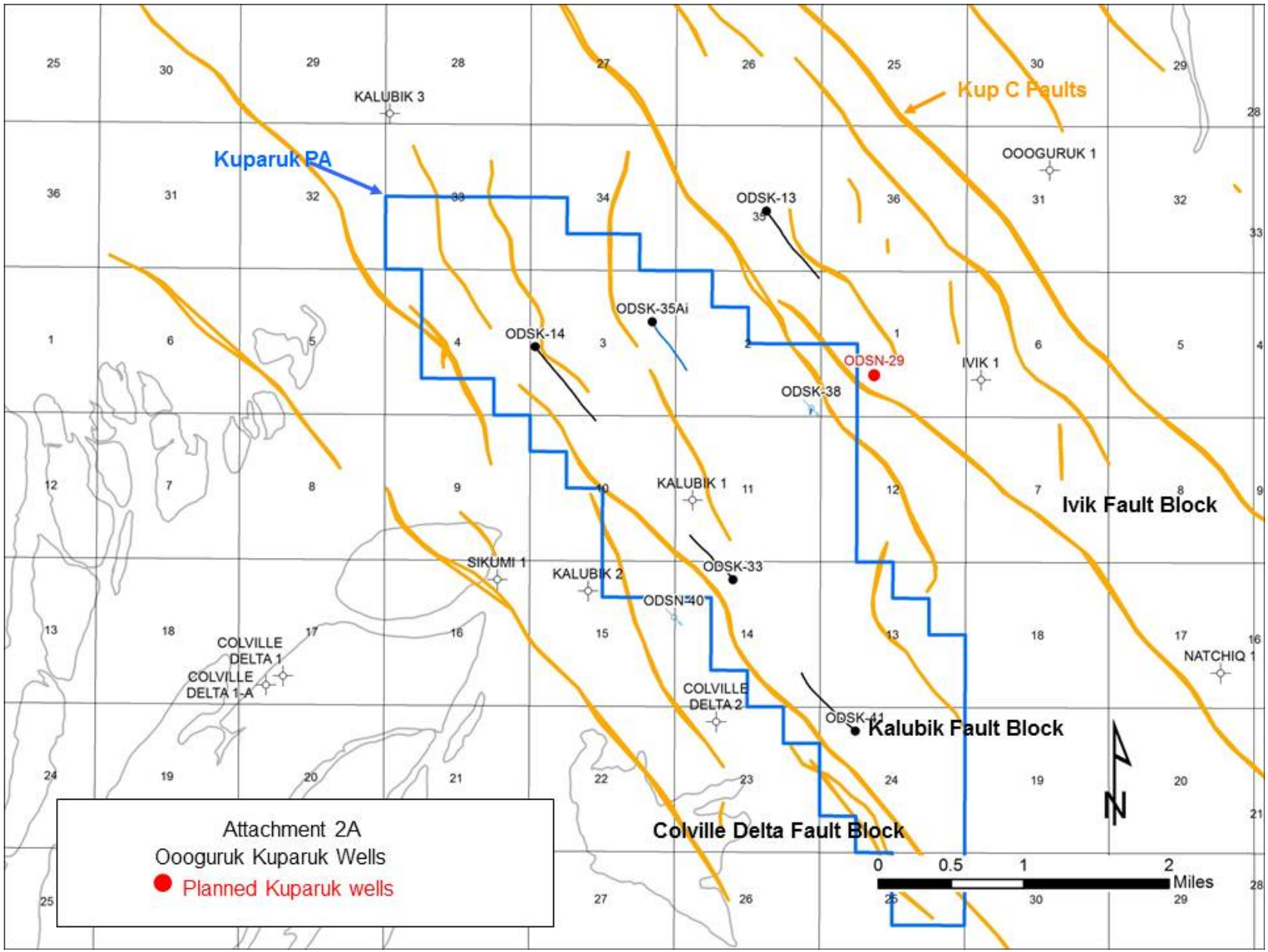
4. Re-evaluate and continue to optimize facility construction schedule and cost in light of oil price and tax structure environment;

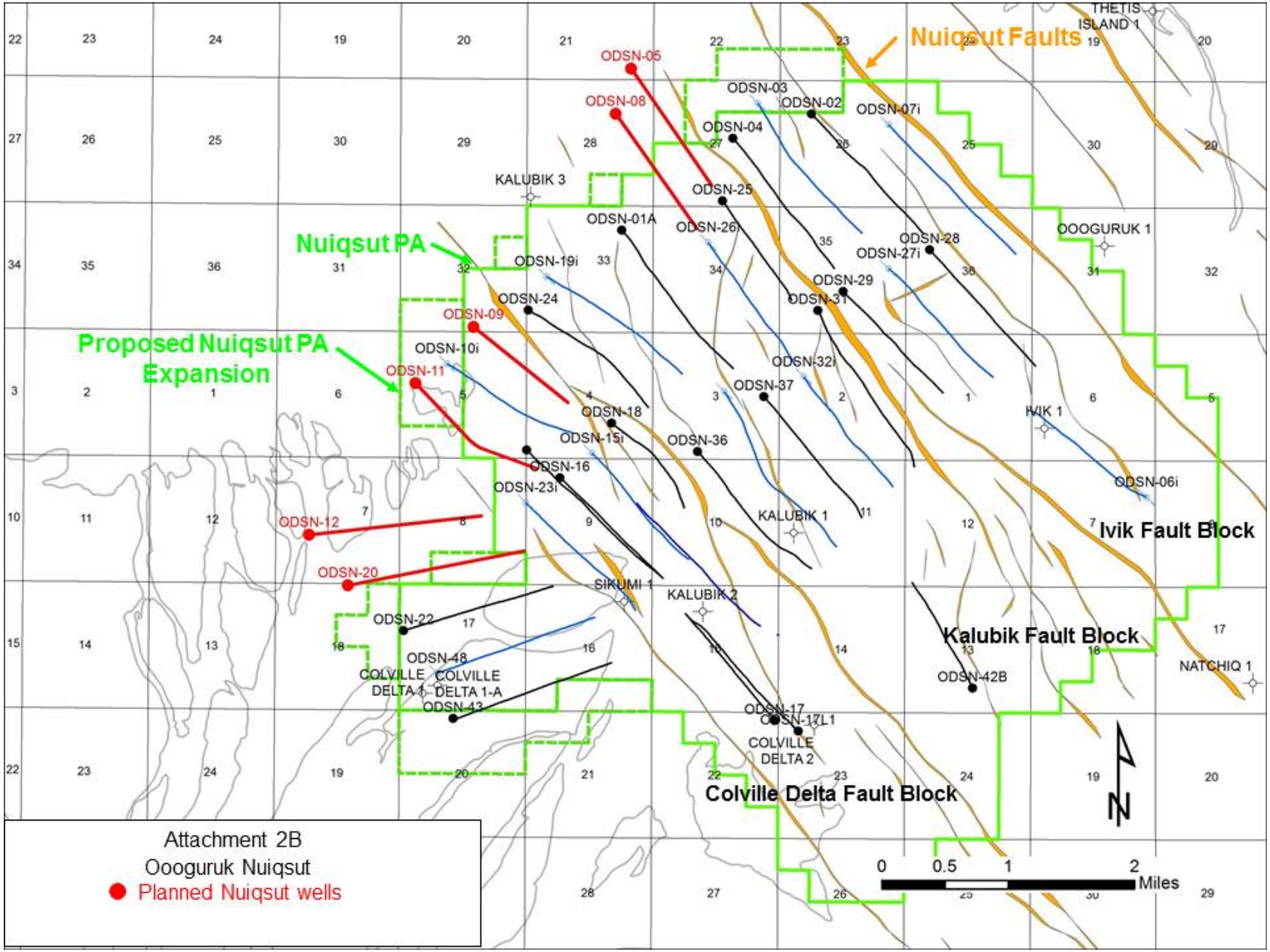
5. Refine geologic and geophysical analyses incorporating offset exploration results from recently released well data to enhance the understanding of opportunities in the southern OU acreage, specifically accessible from the permitted Nuna Drillsite 2 (NDS2, refer to Attachment 4), focused on the Nanushuk, Torok, Kuparuk, Alpine and Nuiqsut intervals; and

6. Evaluate acquiring a license to the CGG Tabasco seismic survey which overlaps OU seismic data and contains the recent Pikka Unit discoveries which may refine additional potential within the southern OU.

All of the above are subject to management approval.


Oooguruk Unit
Nuiqsut PA
Kuparuk PA
Torok PA
Proposed Nuiqsut PA Expansion
ODSN-05
ODSN-08
ODSN-09
ODSN-11
ODSN-12
ODSN-20
ODSN-29
THETIS ISLAND 1
KALUBIK 3
OOOGURUK 1
IVIK 1
KALUBIK 1
E HARRISON BAY ST 1
NATCHIQ 1
SIKUMI 1
KALUBIK 2
COLVILLE DELTA
COLVILLE DELTA 1-A
COLVILLE DELTA 2
COLVILLE DELTA 2S 1
COLVILLE DELTA 3
NUNA-1
NDST-2
Prior Kup completions
Prior Nuiqsut completions
Prior Torok completions
Attachment 1
Future planned wells
0 0.5 1 2
Miles
N


Kup C Faults
Kuparuk PA
KALUBIK 3
OOOGURUK 1
ODSK-13
ODSK-35Ai
ODSK-14
ODSN-29
IVIK 1
ODSK-38
KALUBIK 1
Ivik Fault Block
SIKUMI 1
KALUBIK 2
ODSK-33
ODSN-40
COLVILLE DELTA 1
COLVILLE DELTA 1-A
COLVILLE DELTA 2
NATCHIQ 1
ODSK-41
Kalubik Fault Block
Colville Delta Fault Block
N
0 0.5 1 2 Miles
Attachment 2A
Oooguruk Kuparuk Wells
Planned Kuparuk wells


Nuiqsut Faults
Nuiqsut PA
Proposed Nuiqsut PA Expansion
ODSN-05
ODSN-08
ODSN-09
ODSN-11
ODSN-12
ODSN-20
ODSN-03
ODSN-02
ODSN-07i
ODSN-04
ODSN-25
ODSN-01A
ODSN-26
ODSN-19i
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ODSN-10i
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ODSN-37
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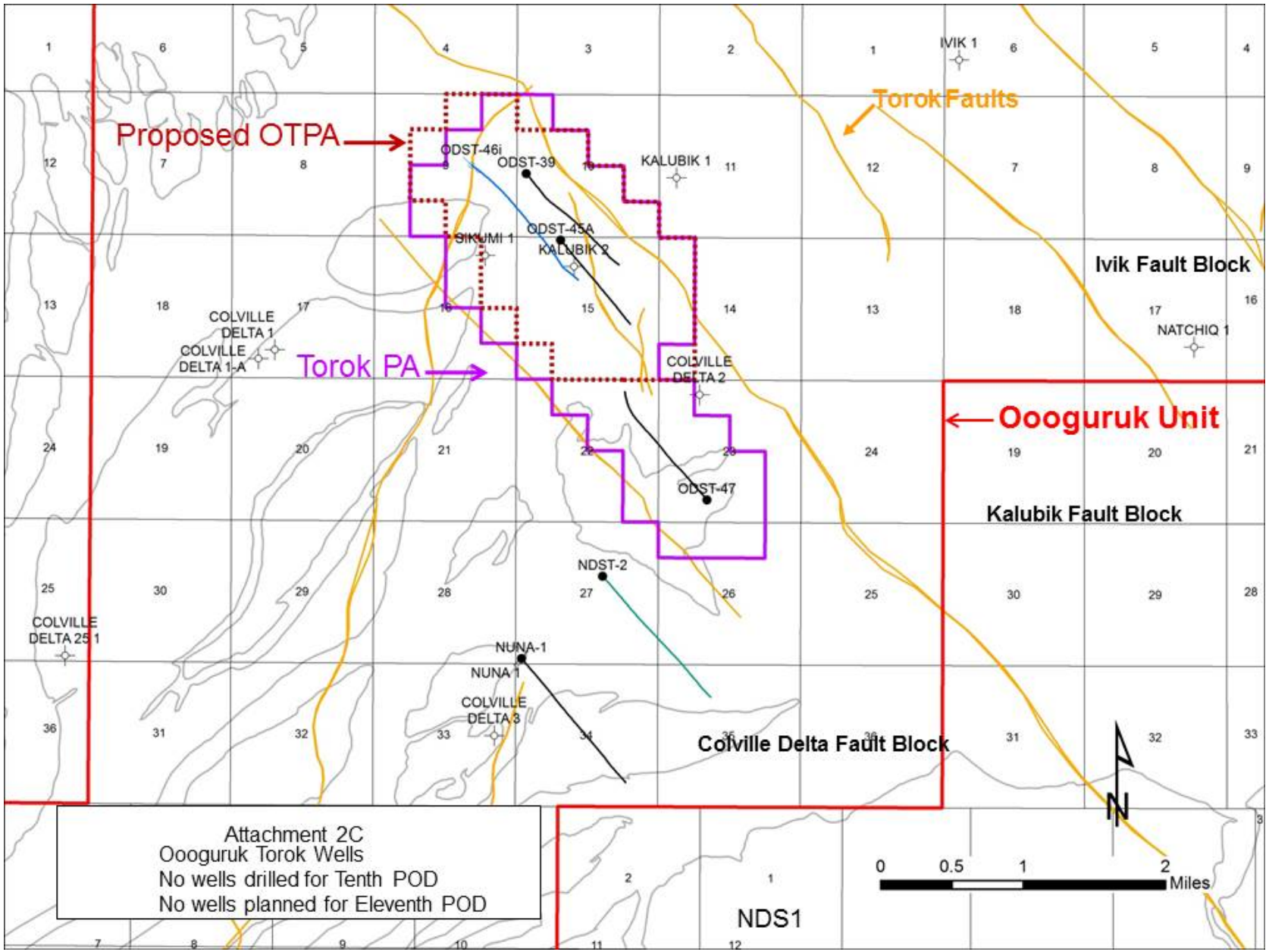
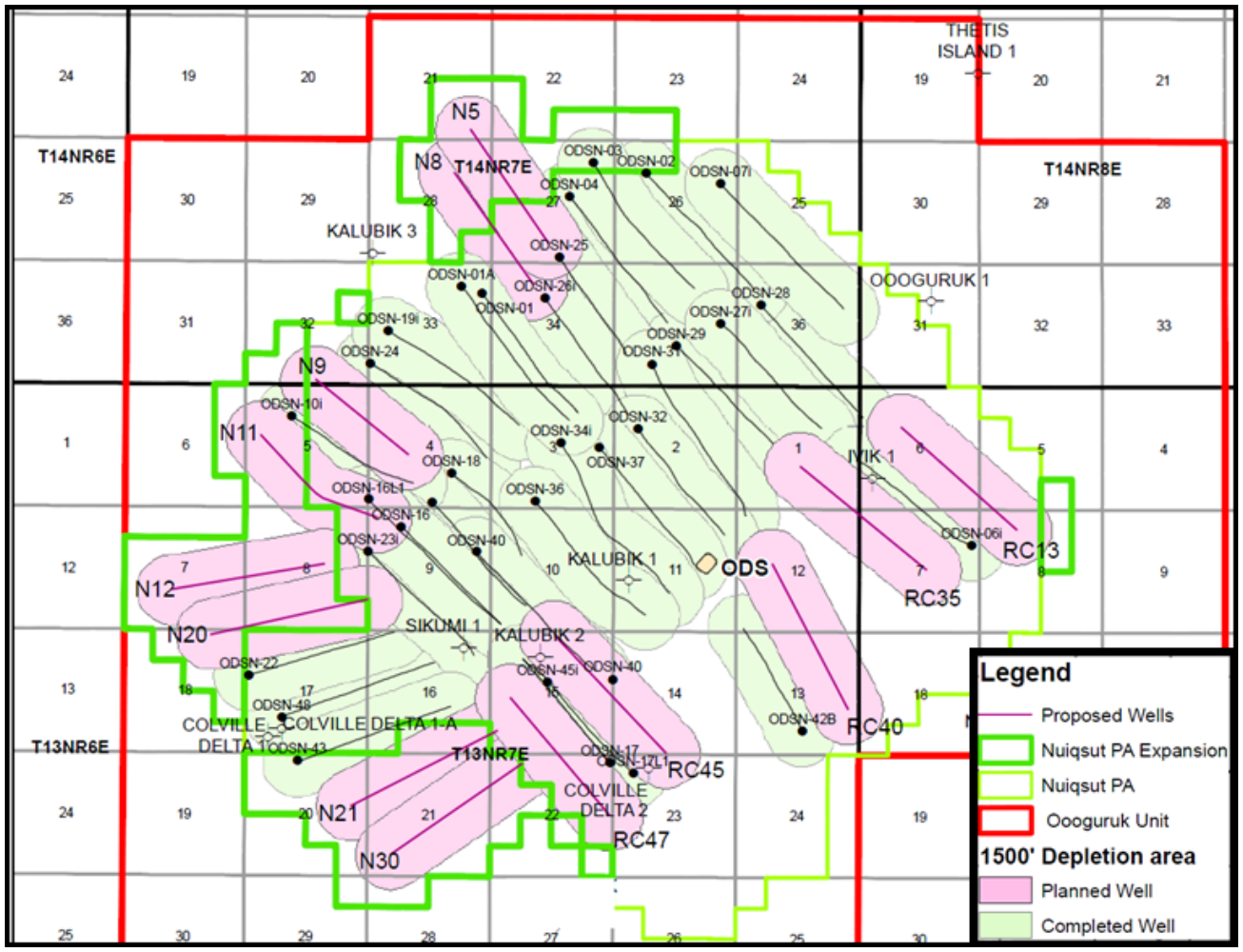
ODSN-28
ODSN-27i
ODSN-29
ODSN-31
ODSN-06i
ODSN-22
ODSN-48
ODSN-43
ODSN-42B
ODSN-17
ODSN-17L1
KALUBIK 3
KALUBIK 1
KALUBIK 2
SIKUMI 1
IVIK 1
OOOGURUK 1
THETIS ISLAND 1
NATCHIQ 1
COLVILLE DELTA 1
COLVILLE DELTA 1-A
COLVILLE DELTA 2
Ivik Fault Block
Kalubik Fault Block
Colville Delta Fault Block
N
0 0.5 1 2
Miles
Attachment 2B
Oooguruk Nuiqsut
Planned Nuiqsut wells


Proposed OTPA
Torok Faults
Torok PA
Oooguruk Unit
Ivik Fault Block
Kalubik Fault Block
Colville Delta Fault Block
NDS1
IVIK 1
KALUBIK 1
ODST-46i
ODST-39
ODST-45A
KALUBIK 2
SIKUMI 1
COLVILLE DELTA 1
COLVILLE DELTA 1-A
COLVILLE DELTA 2
NATCHIQ 1
ODST-47
NDST-2
COLVILLE DELTA 25 1
NUNA-1
NUNA 1
COLVILLE DELTA 3
Attachment 2C
Oooguruk Torok Wells
No wells drilled for Tenth POD
No wells planned for Eleventh POD
N
0
0.5
1
2
Miles

Attachment 3: Future Oooguruk Nuiqsut Development Well Locations



Attachment 4: Oooguruk Unit Proposed Torok Participating Areas