

October 1, 2018

Ms. Rebecca Kruse Unit Manager DNR, Division of Oil and Gas 550 W. 7<sup>th</sup> Avenue, Suite 1100 Anchorage, AK 99501-3560

RE: Forty-fifth Plan of Development State of Alaska Nicolai Creek Unit Agreement "EXHIBIT G"

# Forty-fifth Plan of Development and Operations

Dear Ms. Kruse:

Aurora Exploration, LLC acquired the Nicolai Creek Unit (NCU) from Aurora Gas, LLC (out of bankruptcy) effective January 1, 2018. Subsequent to taking over ownership and operations of NCU, Aurora Exploration, LLC changed its name to Amaroq Resources, LLC. Reference is made to the captioned Unit Agreement being DNR No. 14-08-0001-8913. Pursuant to Article X of the Nicolai Creek Unit Agreement, Amaroq Resources, LLC, as the designated Unit Operator, hereby submits for approval this Forty-fifth Plan of Development and Operations.

#### A. **DURATION:**

This plan shall be in effect from January 1, 2019, through December 31, 2019.

# B. <u>DRILLING / WORKOVER / FIELD MODIFICATION AND 3-D SEISMIC DURING</u> <u>THE FORTY-FOURTH PLAN OF DEVELOPMENT AND OPERATIONS:</u>

#### <u>General</u>

No development drilling, nor significant field modifications were performed during the Fortyfourth Plan of Development period. Coil Tubing and Slickline work was performed on several wells: mostly checking for and attempting to clean-out sand fill.

# Nicolai Creek Unit #2 Well and Reservoir

Slickline was run in the well in August 2018 to ascertain wellbore conditions and evaluate potential for future production and/or gas storage. Mechanical issues in the well were identified but no further work was performed and the well remains shut in pending further evaluation of the data obtained.

# <u>Nicolai Creek Unit #3</u>

The well is shut-in pending a coiled tubing cleanout. However, the stinger on the end of the tubing is less than 2" diameter and will require 1.25" coiled tubing for the cleanout, which is not readily available in the Cook Inlet area at this time.

### Nicolai Creek Unit #9 Well

Slickline was run in the well in August 2016, and fill was discovered in the tubing very close to previous runs, but deep enough not to be causing significant blockage of the sand screen. A coiled tubing cleanout of the well was successfully performed in the 3rd Quarter of 2018 which resulted in  $\sim$ 50% increased production.

### Nicolai Creek Unit #10 Well

In May 2015, the Carya 2-1 Sand at 2149-2242" was reopened and commingled with the Carya 2-3 Sand. However, in December 2015, fill was found above the sliding sleeve for the 2-3 completion, and a fill check in August 2016 found fill even shallower but still below the 2-1 completion sliding sleeve. Thus, the well has been producing from the 2-1 (Upper) completion during the entire plan period. A coiled tubing cleanout and chemical sand control of the Carya 2-4.2 completion was attempted during the 3<sup>rd</sup> Quarter of 2018. However, as a result of parted tubing, the procedure was unable to be completed. The well is currently shut in while Amaroq evaluates methods for producing the well while dealing with sand production.

# Nicolai Creek #11 Well

In December 2015, a slickline depth check was run in the well, and sand fill was found above the top of the sand-control screen, totally blocking production from the Lower (Tyonek) Completion. Attempts to clean out the fill with a slickline bailer were not successful. Thus, the sliding sleeve for the Lower Middle Completion (Lower Beluga) was confirmed to be open, after the tubing patch was removed from the leaking sleeve of the Upper Middle (Beluga) Completion. The well has therefore been producing from the Lower Middle Completion and, probably, from the Upper Middle Completion during the Plan Period to date. A coiled tubing cleanout of the well was successfully performed in the 3rd Quarter of 2018 which resulted in ~85% increased production.

# C. <u>OWNERSHIP / OPERATOR CHANGES DURING THE</u> FORTY-FOURTH PLAN OF DEVELOPMENT AND OPERATIONS:

Ownership of NCU was conveyed to Amaroq Resources, LLC (*formerly Aurora Exploration, LLC*) effective with the expiration of the Forty-third Plan of Development period.

# D. PRODUCTION:

### Nicolai Creek Unit #1B

The NCU #1B well produced 10,258 Mcf for the period of January 1, 2018, through August 31, 2018.

### Nicolai Creek Unit #2

The NCU #2 was shut in for the period of January 1, 2018, through September 30, 2018.

### Nicolai Creek Unit #3

The NCU #3 well remained shut in for the period of January 1, 2018, through September 30, 2018, due to formation sand and silt plugging the tubing.

#### Nicolai Creek Unit #9

The NCU # 9 well produced 38,483 Mcf for the period of January 1, 2018, through August 31, 2018.

#### Nicolai Creek Unit #10

The NCU #10 well produced 25,623 Mcf for the period January 1, 2018, through August 31, 2018.

# Nicolai Creek #11

The NCU #11 well produced 27,713 Mcf for the period of January 1, 2018, through August 31, 2018.

# E. <u>DRILLING OPERATIONS AND FIELD MODIFICATIONS PLANNED DURING</u> <u>THE FORTY-FIFTH PLAN OF DEVELOPMENT AND OPERATIONS</u>:

#### Nicolai Creek #12

The previous operator, Aurora Gas, LLC, identified a possible development well (NCU #12) which may be drilled in the Nicolai Creek North unit to access the deeper sands that are currently not accessible through the Nicolai Creek #3 well. Additional evaluation of geologic and seismic data will be necessary to determine the economics of this well. The location being evaluated for

this well is south of the #3 and #10, with a surface location staked at 513' FSL and 2378' FWL, Section 20, T11N, R12W. If drilled, NCU #12 will be a directional well drilled to 5,650 TD with a bottom hole location 900' to the west-northwest, targeting the Beluga and Upper Tyonek sands productive in #3 and #10.

### F. <u>WELL DATA:</u>

Possible Drilling	1	(NCU #12)
Completed Workover / Conversion	0	
Producing	6	(NCU #'s 1B, 2, 3, 9, 10, 11)
Shut-in Pending Facility Installation	0	
Suspended	0	
Abandoned (by previous operators)	5	(NCU #'s 4, 5, 6, 13, 14)

#### G. <u>DEVELOPMENT AND REMEDIAL WELL WORK AND 3D SEISMIC WORK</u> <u>PLANNED DURING THE FORTY-FIFTH PLAN OF DEVELOPMENT AND</u> <u>OPERATIONS:</u>

#### Nicolai Creek Unit #2 and #9

Pending the issuance of a gas storage lease, the NCU # 2 and #9 wells may be converted into a gas storage injection/production well (total reservoir volume of 2.5 - 3 BCF). The possibility of a future horizontal well through the storage reservoir is also contemplated. While there has been renewed interest in this project, studies have not yet commenced. Commencement of feasibility studies, leasing, permitting, and implementation are all possible during this 45th Plan period but are not planned at this time.

#### Nicolai Creek Unit #10 Remedial Workover

Coiled tubing cleanout and chemical sand control treatment were initiated in the 3rd Quarter of 2018. However, parted tubing was discovered in the well which will require a rig to effectuate repairs. Amaroq is evaluating the economics associated with a rig workover during 2019 in order to pull and replace the tubing along with implementing sand control solutions. In the interim, various options for producing the well and controlling sand production are being evaluated.

#### **Exploration Plans**

Apache Alaska Corporation purchased deep rights under the Nicolai Creek Unit (onshore) from Aurora Gas, LLC, to evaluate and possibly drill exploration well(s) for the deeper oil and gas prospects in the Nicolai Creek Unit, with Aurora retaining certain rights and interests. New 3-D seismic was acquired over the Unit acreage during the Thirty-Eighth Plan Period, in early 2012, by Apache. However, Apache has withdrawn from active pursuit of exploration in Alaska. Nonetheless, Amaroq Resources is interested in acquiring and/or accessing this new seismic with plans to interpret and evaluate; and along with other geologic data, determine possible exploration, development, and extension drilling targets at all depths. However, no drilling of exploration wells is expected during the Forty-fifth Plan Period, but this Plan will be revised if that changes.

# H. <u>OWNERSHIP / OPERATORSHIP CHANGES EXPECTED DURING THE</u> FORTY-FIFTH PLAN OF DEVELOPMENT AND OPERATIONS:

No additional changes of ownership of the Unit are expected during the Forty-fifth Plan of Development period.

# I. LONG-RANGE PLANS INCLUDING WELL AND LEASE ABANDONMENT

It appears that, unless there is further development (drilling or gas storage), the field will become uneconomic to operate in 2022, based on Amaroq's production and economic projections. Thus, well abandonment and surface equipment removal would likely be planned for the summer of 2022.

# J. <u>NOTICES:</u>

To the extent additional information regarding this Plan of Development is desired or notices as to the status of this filing are made, please direct such correspondence to:

G. Scott, President Amaroq Resources, LLC 4645 Sweetwater Blvd., Suite 200 Sugar Land, TX 77479 Phone: (281) 495-9957 Fax: (832) 999-4382 Email: gspfoff@aurorapower.com

Amaroq Resources, LLC (*formerly Aurora Exploration, LLC*) as Unit Operator, reserves the right to modify the Plan of Development and Operations if economic or geological factors warrant; however, such modifications are not to be commenced without prior consent of the Department of Natural Resources, Division of Oil and Gas.

Your approval of this submitted plan, pursuant to 11 AAC 83.343, is respectfully requested.

Sincerely,

6. Som Ples

G. Scott Pfoff - President Amaroq Resources, LLC (formerly Aurora Exploration, LLC)

CC: Susan Wang, Apache Alaska Corp. Mike Franger, MHT Land Office Jason Brune, CIRI