



Placer Unit Technical Update Meeting

**for
Alaska Division of Oil and
Gas
August 7, 2018**



Agenda



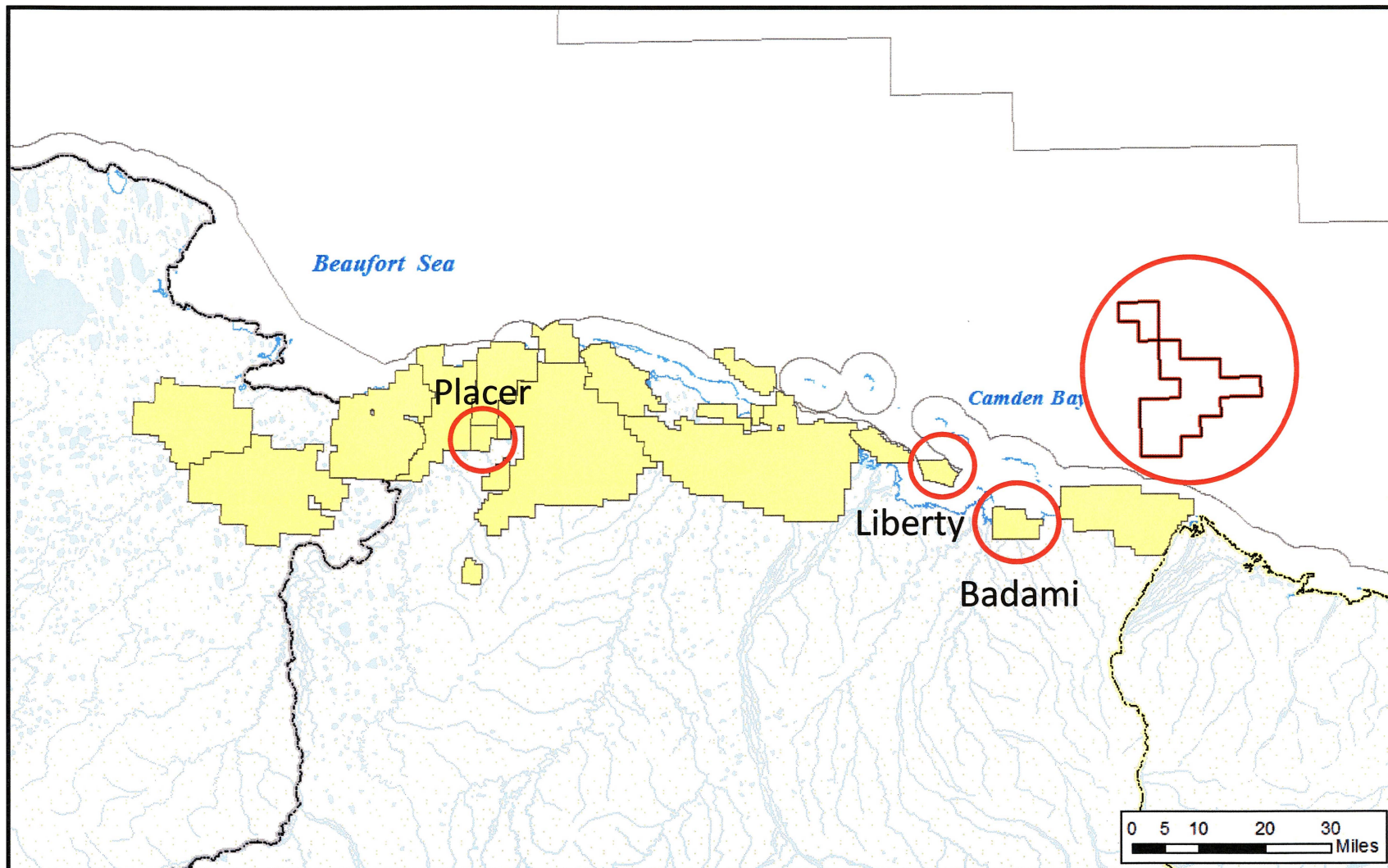
- Placer Unit
 - 1st & 2nd POD
 - Proposed 3rd POD
- Subsurface Status Report
 - Geology update
 - Pressure Transient Analysis of Placer #3
 - Seismic Processing and Mapping
- Infrastructure Cost Estimates
- 2018 Field Operations
- Conclusions

Placer Unit Team

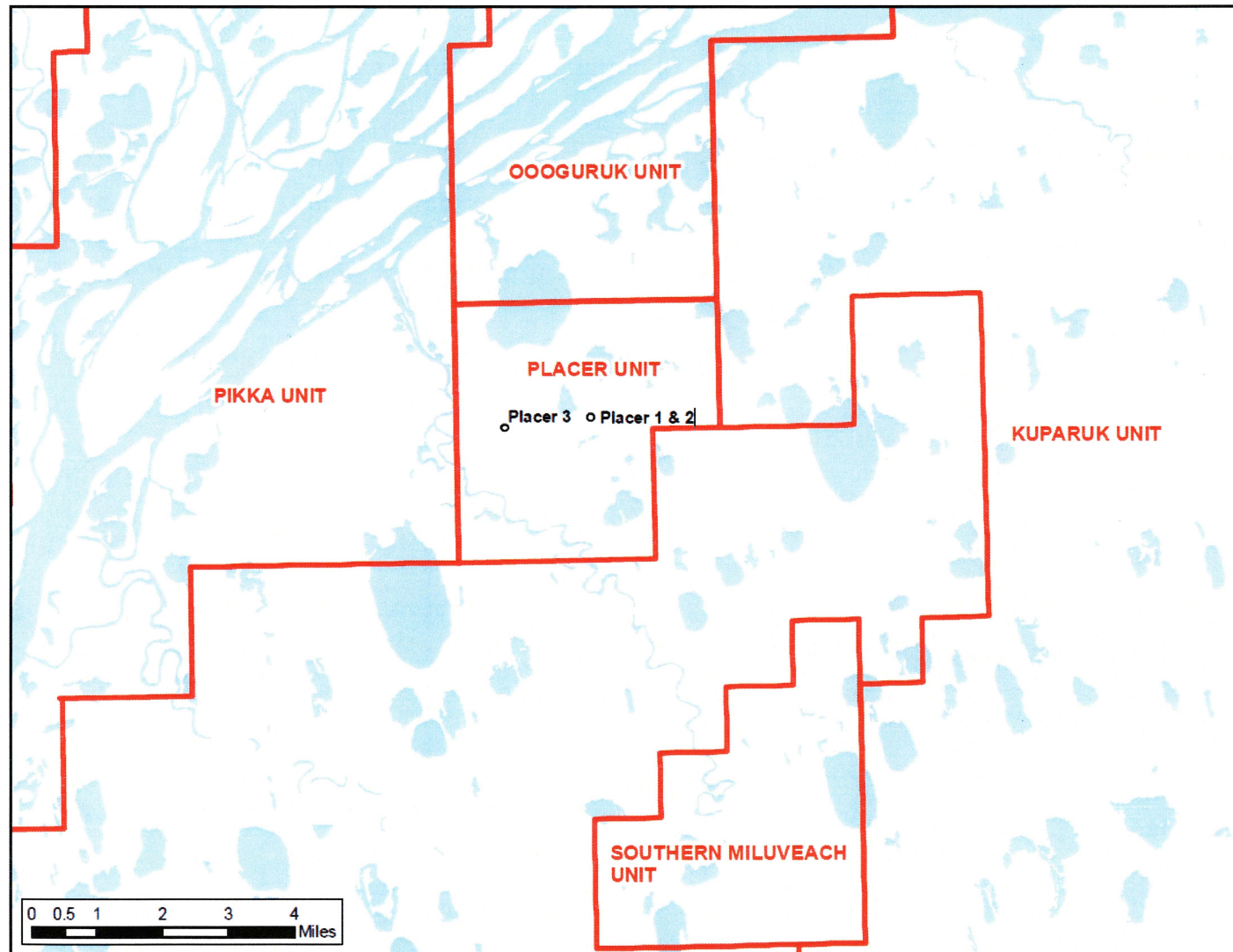


- Teresa Imm, President AEX
- Geoscience
 - Mike Richter, Independent Consultant
 - Chet Paris, Independent Consultant
 - Veronica Jones, AEX
 - Mike Helton, PRA
 - Ray Eastwood, PRA
- Reservoir Engineering
 - Pete Stokes, PRA
 - Chait Borade, AEX
- Facilities/Infrastructure Engineering
 - Suge Wharton, AES - Engineering
 - Robert Seitz, AES - Engineering
- Permitting/GIS
 - Amanda Henry, AES/RTS
 - Joseph Christopher, AES/RTS
 - Stewart Seaberg, AEX/RTS
 - Erik Kenning, AEX
- Regulatory
 - Bill Van Dyke, PRA

AEX Properties



Placer & Surrounding Units



Placer Unit 1st POD



- **Plan**
 - **Analyze all geologic and engineering data to estimate the extent, size and continuity of all producible reservoirs.**
 - **Develop high level infrastructure cost estimate.**
 - **Initiate discussions with BRPC and COP for terms of facility access/sharing**
 - **Purchase and license the CGG Tabasco 3D seismic data.**
 - **Develop plan to merge new seismic with existing surveys for reprocessing and interpretation.**
 - **Map structure and prospective reservoir sands.**
- **Accomplished**
 - **Completed detailed analysis of data from the Placer #3 well-**
 - **Pressure transient analysis**
 - **Thin section photography**
 - **Description of the sidewall cores.**
 - **Certification of Paying Quantities for Placer #3.**
 - **Initiated FSA discussions with nearby operators**
 - **Completed Class 5 cost estimate study for roads, pipelines and facilities to develop Placer Unit.**
 - **Received Tabasco 3D data set and selected contractor to reprocess and merge with adjacent WBA and Kookpuk 3D data sets that are licensed by AEX.**

Placer Unit 2nd POD



- Plan

- Complete acquisition & begin reprocessing & merge of the Tabasco data with the existing WBA & Kookpuk 3D data set.
- Progress facility sharing negotiations.
- Undertake Phase II engineering and cost studies
- Pending successful seismic reprocessing/merge/mapping/interpretation and results of Phase II engineering and cost studies, apply for a Participating Area based on reservoir studies.
- Complete initial reservoir mapping & use results to generate geologic and dynamic reservoir models.
- Plan development well locations within the target reservoir using modeling results.
- *Supplemented 2nd POD for 2018 field summer operations*

- Accomplished

- Completed acquisition and began reprocessing + merge of the Tabasco data with the existing WBA and Kookpuk 3D data set.
- Advanced KRU facility sharing negotiations
- Commenced Phase II surface facility cost study for new routing options
- Initiated discussion with Oil Search with respect to facility optimization for Placer development
- Preliminary 3-D interpretation

Proposed 3rd POD



- Finalize 3D Interpretation and generate Geo & Reservoir models
- Perform Reservoir Study/Simulations
 - Develop horizontal frack models to access all Kup C facies
 - Investigate waterflood potential
 - Optimize field development
- Evaluate early production using ice road and an Early Production Facility starting in winter 2019/2020
- Commercialize resources in Placer Unit
 - Development Drilling Cost study
 - Evaluation of Early Production alternatives
 - Continued commercial analysis of centralized production facilities through either Nanushuk or Mustang



Subsurface Status Report



Subsurface Summary



- Kup C
 - Regional Geology
 - Petrophysical Model
 - Petrography Analysis of Placer 3 well
 - Facies Modeling
 - Comparison with surrounding wells
 - Pressure Transient Analysis of Placer #3
- Moraine Interval
- Seismic Processing and Mapping

DOG staff note:
Slides 11–31 withheld from public file due to confidentiality.
Full slide pack is in Resource Evaluation files.



Infrastructure Cost Estimates



DOG staff note:
Slides 33–36 withheld from public file due to confidentiality.
Full slide pack is in Resource Evaluation files.



Placer Unit 2018 Field Operations

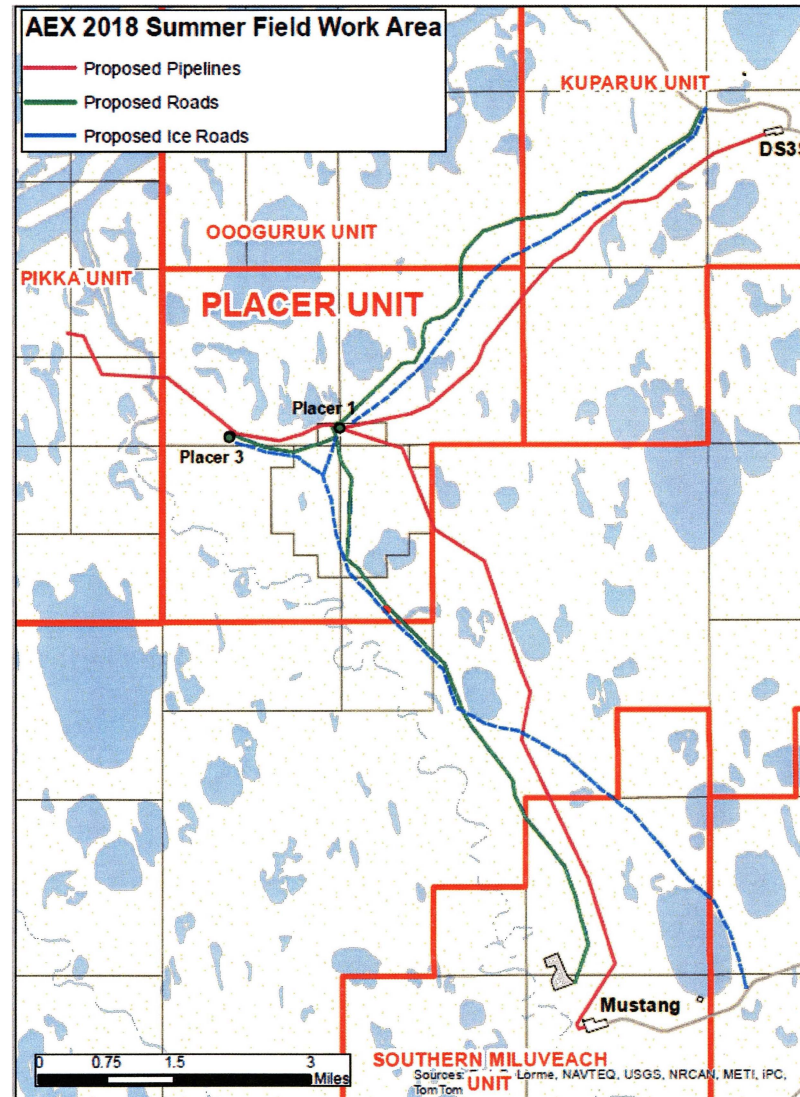


Placer Unit 2018 Field Operations



- Positive results from recent seismic evaluation prompted AEX to conduct field operations
- AEX's contractor will be in the field late August – early September to perform the following activities:
 - Investigate Placer #1 and Placer #3 wellbores for thaw subsidence
 - Inspect tundra disturbance caused by ADNR inspector
 - Investigate and determine ice road routes and ice pad areas for potential future Early Production Facility (EPF) to Kuparuk 3S and Mustang
 - Recon gravel and pipeline routes from Placer #1 and Placer #3 well sites for potential future production operations to Kuparuk 3S and Mustang
 - Recon pipeline crossing at the Miluveach River to Nanushuk Alt. 2 location

Placer Unit Summer Operations Map



Objectives for 3rd POD



- Finalize 3D Interpretation and generate Geo & Reservoir models
 - Determine revised OOIP based on new seismic in all facies
- Perform Reservoir Study/Simulations
 - Develop horizontal frack models to access all facies
 - Investigate waterflood potential
 - Optimize field development
- Commercialize resources in Placer Unit
 - Develop drilling plans and cost estimates
 - Evaluation of Early Production alternatives
 - Continued commercial analysis of centralized production facilities through either Nanushuk or Mustang



Quyanaqpak!

Questions?

