2026 Supplemental Assessment of Oil and Gas Resources Cook Inlet Planning Area – Alaska Outer Continental Shelf Region

Prepared by:

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Abbreviations and Acronyms

2D....................two dimensional

AOCS..............Alaska Offshore Continental Shelf

AVO.................Amplitude versus Offset

bbl ....barrels

bcf ....billion cubic feet

BOE ....barrels of oil-equivalent resources

BOEM..............Bureau of Ocean Energy Management

Cf ....cubic feet

CIPA ....Cook Inlet Planning Area

COST ....Continental Offshore Stratigraphic Test

DCF.................discounted cash flow

FMV................fair market value

ft ....foot/feet

GRASP.............Geological Resource Assessment Program

Mcf ....thousand (10^3) cubic feet

mi ....miles

mi^2....................square miles

MMbbl ....Million (10^6) barrels of oil

MMBOE ....Million (10^6) barrels of oil equivalent

NAMSS............National Archive of Marine Seismic Surveys

OCS.................Outer Continental Shelf

OCSLA ....Outer Continental Shelf Lands Act

P5 ....5th percentile, represents a 5% probability (a 1 in 20 chance)

P95 ....95th percentile, represents a 95% probability (a 19 in 20 chance)

PSTM...............pre-stack time migration

RE ....Resource Evaluation

UERR...............undiscovered economically recoverable resources

U.S. ....United States

USGS ....United States Geological Survey

UTRR ....undiscovered technically recoverable resources

List of Terms

Assessment Unit: A group of pools that share a common history of hydrocarbon generation, migration, reservoir development, and entrapment without consideration of planning area boundaries.

Barrel: A volumetric unit of measure for crude oil equivalent to 42 U.S. gallons.

Basin (geologic basin): A depressed and geographically confined area of the earth's crust in which sediments accumulated, and hydrocarbons may have formed.

Continental Offshore Stratigraphic Test (COST) well: Stratigraphic tests drilled to obtain geological, engineering, and environmental data prior to lease sales for both government agencies and industry. These are typically deep, expensive, non-commercial wells designed for data gathering.

Field: An area consisting of a single reservoir, or multiple reservoirs all grouped on or related to, the same general geologic structural feature and/or stratigraphic trapping condition; two or more reservoirs in a field may be separated vertically by impervious strata, laterally by local geologic barriers, or both.

Outer Continental Shelf: The continental margin, including the shelf, slope, and rise, beyond the line that marks the boundary of state ownership; that part of the seabed under Federal jurisdiction.

Pool: Discovered or undiscovered accumulation of hydrocarbons, typically within a single stratigraphic interval.

Play: A group of pools within a single planning area that share a common history of hydrocarbon generation, migration, reservoir development, and entrapment.

Price Pair: A combination of one oil price and one natural gas price used together to model a single economic scenario. To make the values comparable, natural gas prices are converted to a Barrel of Oil Equivalent (BOE).

Probability: A means of expressing an outcome on a numerical scale that ranges from impossibility to absolute certainty; the chance that a specified event will occur.

Production: Production is the cumulative quantity of petroleum that has been recovered over a defined period.

Planning Area: Areas not based on geology or geography but delineated based on political boundaries in the same fashions as state or county lines.

Prospect: An untested geologic feature having the potential for trapping and accumulating hydrocarbons.

Resources: Accumulations in the earth's crust of naturally occurring liquid or gaseous hydrocarbons that can be discovered and recovered.

Total resource endowment: The sum of the discovered resources (original recoverable reserves) and undiscovered resources.

Undiscovered resources: Resources postulated, based on geologic knowledge and theory, to exist outside of known fields or accumulations.

Undiscovered Technically Recoverable Resources (UTRR): Oil and gas that may be produced because of natural pressure, artificial lift, pressure maintenance, or other secondary recovery methods, but without any consideration of economic viability.

Undiscovered Economically Recoverable Resources (UERR): A portion of undiscovered technically recoverable resources that are economically recoverable under imposed economic and technologic conditions.

Executive Summary

This Supplemental Resource Assessment of the Cook Inlet Outer Continental Shelf (OCS) Planning Area, as part of the U.S. Bureau of Ocean Energy Management's (BOEM) 2026 National Assessment of Undiscovered Oil and Gas Resources, updates assessment unit boundaries, highlights recent BOEM funded seismic reprocessing and legacy well analysis efforts, and documents the undiscovered technically and economically recoverable hydrocarbon resources of the Cook Inlet Planning Area. Local market demands in this region emphasize Cook Inlet's growing importance in Alaska's OCS portfolio and the need for continued geologic analysis and data enhancement to support informed decision-making in advance of the six upcoming lease sales required under the One Big Beautiful Bill Act and potential additional sales proposed as part of the 11th National Program (BOEM, 2026b,c).

The total mean volume of undiscovered technically recoverable resources in the Cook Inlet Planning Area is estimated at 968 million barrels of oil (MMbbl) and 1,254 billion cubic feet (Bcf) of natural gas, totaling 1,191 million barrels of oil equivalent (MMBOE). Approximately 83 percent of these resources are modeled as liquid hydrocarbons (oil and condensate), with one assessment unit modeled primarily with gas resources.

Recent remapping efforts of assessment units in the Alaska OCS extended the boundaries of two of the four assessment units within the Cook Inlet Planning Area, the Mesozoic-Structural and Tertiary-Gas, with the intent of updating the other two in future assessments. Due to the limited amount of recent exploration activity, this remapping effort represents the most significant update to the geology of Cook Inlet's assessment units since the 2006 Assessment. In addition, BOEM's Alaska Region is reprocessing and publicly releasing two dimensional (2D) seismic data collected in Cook Inlet and conducting detailed petrophysical analysis on Cook Inlet OCS wells. These efforts are expected to significantly enhance future assessments by improving subsurface imaging, refining geologic chances of success estimates, and supporting more accurate delineation of petroleum systems.

1   INTRODUCTION

The Bureau of Ocean Energy Management (BOEM) manages the development of energy, mineral, and geological resources on the Outer Continental Shelf (OCS) of the United States (U.S.) in an environmentally and economically responsible way. BOEM periodically develops an assessment of the amount of technically and economically recoverable undiscovered oil and natural gas resources on the U.S. OCS to support the Bureau's mission, and to comply with statutory requirements in the Outer Continental Shelf Lands Act (OCSLA) (as amended) and Section 357 of the Energy Policy Act of 2005.

The 2026 assessment (OCS Report 2026-004) is based upon geological work that was performed for the 1995 Undiscovered Oil and Gas Resources, Alaska Federal Offshore, and compiled into OCS Report MMS 98-0054 (Sherwood, et al., 1998) and supplemented with additional geologic descriptions of the resource provinces and play descriptions (now referred to as Assessment Units) of the Cook Inlet Planning Area (CIPA) in the 2006 Assessment (BOEM, 2006a,b, 2026). The hydrocarbon resources assessed include oil (crude oil and condensate) and natural gas (associated and non-associated gas). This report updates any changes to the planning area's assessment units since the 2021 resource assessment, highlights recent regional projects used to inform the assessment, and documents the 2026 assessment of undiscovered technically and economically recoverable oil and gas resources of the Alaska OCS in the CIPA.

The planning area comprises submerged lands that extend from the seaward limit of State of Alaska waters (3 miles (mi) offshore) south through the Shelikof Straight nearly to the southern end of Kodiak Island, where it borders the Kodiak and Shumagin Planning Areas, covering approximately 8,300 square miles (mi^2) (5.3 million acres). Four assessment units are contained within the planning area – all of which have been assessed with quantifiable hydrocarbon resources. Two of the four assessment units (the Mesozoic-Structural and Tertiary-Gas) have been updated as part of a regional mapping effort which utilizes new data to better define the overall extent where hydrocarbons may be present.

2   RECENT BOEM FUNDED PROJECTS

The Alaska Offshore Continental Shelf (AOCS) Office of Resource Evaluation (RE) investigates the resource (mainly oil and gas) potential of Alaska's OCS. The foundation of BOEM's resource assessment work lies in the comprehensive data and interpretations derived from well logs and seismic reflection data. These datasets are vital for developing our assessments of OCS oil and gas resources, informing the National Oil and Gas Leasing Program, and to ensure the federal government receives fair market value (FMV) for OCS oil and gas leases that it awards through a competitive bidding process. For these investigations, RE uses seismic and well data to create maps that identify those areas of the Alaska OCS likely to contain oil and gas accumulations. Direct observations and samples of subsurface rock formations that may contain petroleum resources are very limited in these areas due to the lack of extensive exploration drilling and collection of seismic data. To best utilize legacy seismic and well data, which are typically 20 to 50 years old, BOEM re-analyzed and reprocessed select data using modern computing and processing techniques.

2.1   Seismic Reprocessing

Seismic reflection data is the main tool for interpreting subsurface geology; and for evaluating the potential for these areas to contain petroleum resources across many of these unexplored or lightly explored areas, only vintage two dimensional (2D) seismic reflection data is available. Imaging seismic data in the Cook Inlet presents special challenges. Seabed topography varies from sea level to nearly 700 feet (ft) in water depth across the planning area. Cook Inlet is affected by strong tidal currents which cause feathering of streamer cables resulting in errors calculating survey geometries. The seabed is highly variable in composition and ranges between hard rock, soft mud, clay/gravel, and sand dunes. The shallow section contains thin coal beds which attenuate (i.e., mute) high frequency portions of the data signal. The subsurface is significantly deformed by folds and wrench faults in both older, relatively brittle rocks, and in younger, relatively ductile rocks. A relatively small part of the area is characterized by undeformed sedimentary rocks. The vintage nature of the data also creates special challenges for reprocessing associated with incomplete/missing navigation files. Modern processing techniques developed since the collection of this legacy data correct for many of these challenges, yielding better data, and ultimately a better understanding of the underlying geology.

Recently completed reprocessing efforts by BOEM updated 1,492.59-line miles of legacy 2-D seismic reflection data in the CIPA. These data were collected by Western Geophysical in 1979 and 1992 (under BOEM permits 79-31 and 92-05) and by Digicon in 1988 (under BOEM permit 88-02). The reprocessing resulted in improved resolution data volumes of pre-stack time migration (PSTM) and angle-stack data suitable for amplitude-verses-offset (AVO) analysis at a cost to BOEM of $549,273. These data are published for public use through the U.S. Geological Survey (USGS) National Archive of Marine Seismic Surveys (NAMSS) (USGS, n.d.). As of publication, BOEM is procuring services to reprocess additional portions of the vintage 2D seismic reflection data with the objective to enhance the resolution of the data and facilitate improved interpretation of subsurface rock formations.

2.2   Petrophysical Analysis in the OCS

Among the 101 oil and gas exploration wells and 14 deep stratigraphic test wells in the Alaska OCS, 95 were drilled prior to 1993. To analyze the legacy well logs and data using modern geoscience software and workstations, the logs must go through a meticulous process that includes environmental corrections, normalization, filtering, merging, splicing, depth shifting, core integration, and other necessary adjustments to ensure the logs are primed for interpretation. This effort necessitates specialized technical expertise to ensure rigorous quality control and analysis.

BOEM procured petrophysical well log correction and analysis focused on evaluating legacy Alaska OCS exploration and stratigraphic test logs to quantify critical properties such as lithology/facies, porosity, shale volume, net pay, fluid type and saturation, and formation temperature analysis. This effort is ongoing, with additional plans to continue the evaluation of legacy Alaska OCS exploration and stratigraphic test wells. Initial work has completed 20 OCS wells, including 9 in Cook Inlet (all except the Continental Offshore Stratigraphic Test (COST) well). The Cook Inlet COST well (DST-7) is expected to be completed and released to the public in the summer of 2026. All completed and future deliverables from this project are or will be released to the public and are available on BOEM's Alaska Region website.

3 UPDATES SINCE 2006 ASSESSMENT

3.1 Lease Sales and Results

As of publication, the CIPA has 8 active leases, all owned by Hilcorp, for a total of 45.547 acres leased. Leasing history in the federal portion of the Cook Inlet is summarized below and presented in Table 1 and Figure 1.

Table 1:   Leasing History of the Cook Inlet Planning Area (Federal OCS)

Cook Inlet Leasing History				
Lease Sale	**Year**	**Leases Issued**	**Bonus Bids**	**Notes**
LS CI	1977	87	$398.5 million	First federal lease sale in Cook Inlet
LS 60	1981	13	$4.4 million	
LS 149	1997	2	$253,965	Leases expired in 2010
LS 191	2004	0	NA	No bids received
LS 211	2009	Cancelled	NA	Cancelled due to lack of interest
LS 219	2011	Cancelled	NA	Cancelled due to lack of interest
LS 244	2017	14	$3.034 million	7 leases relinquished in 2024
LS 258	2022	1	$63,983	One bid received (Hilcorp)

Since leasing began in 1978, 13 exploration wells have been drilled in the Cook Inlet OCS; most recently in 1985, however, no commercial hydrocarbon discoveries have been made. In addition to these federal leases, there are 17 active leases in State of Alaska waters in Cook Inlet—11 of which are actively producing. Except for the Cosmopolitan Unit, which is adjacent to the Federal OCS on the eastern side of the Inlet near Nikiski, the active state leases are in the northernmost portion of Cook Inlet.
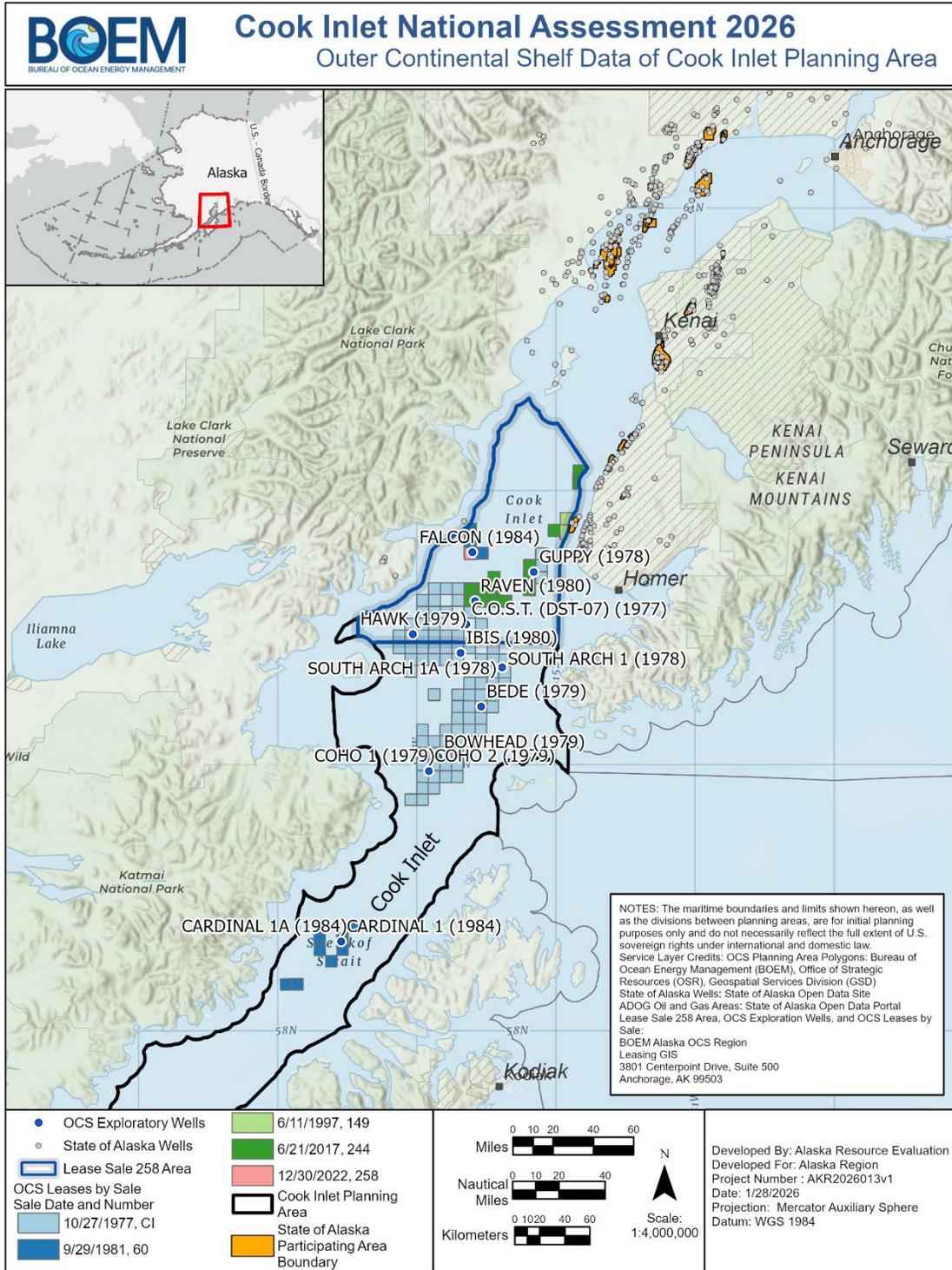
Figure 1: **Leasing and Drilling History within the Cook Inlet Planning Area**

3.2   Cook Inlet Mesozoic Structural Assessment Unit

The legacy Mesozoic Structural Play of the Cook Inlet was previously limited by the CIPA boundaries. This 2026 supplemental update extends this assessment unit southward beyond the boundary and into the Shumagin and a small part of the Kodiak Planning Areas to better conform with geological constraints. The assessment unit area is limited to the north by the OCS boundary and to the south by the regional Border Ranges fault. This mapping effort contributed to a decrease in the geological chance of success from 28 percent to 24.5 percent for the assessment unit. Updating the Geological Resource Assessment Program (GRASP) model with the decreased geological chance of success resulted in a decrease (69 MMBOE) in assessed resource volume. In 2021, this play was assessed with an area of 8,400 mi^2 and a resource endowment of 523 MMBOE (Mean Risked Undiscovered Technically Recoverable Resources (UTRR)). The adjusted Cook Inlet Mesozoic Structural Assessment Unit covers an area of 11,719 mi^2 and a resource endowment of 454 MMBOE (Mean Risked UTRR). A map comparing the legacy Mesozoic Structural Play of the Cook Inlet with the new Cook Inlet Mesozoic Structural Assessment Unit is presented on Figure 2.

3.3   Cook Inlet Tertiary Gas Assessment Unit

The legacy Tertiary Gas Play of the Cook Inlet was confined to upper Cook Inlet, north of the regional Seldovia Arch structure. The 2026 Assessment extends the Cook Inlet Tertiary Gas Assessment Unit southward across the Seldovia Arch into the Shelikof Strait, and to the south end of Kodiak Island. The southern extension is limited to where the depth to the Base Tertiary Unconformity is greater than 3,500 ft. This assessment unit is further constrained by its eastward intersection with the Border Ranges Fault off the north and south ends of Kodiak Island. The redefined area of this assessment unit's southernmost limit extends slightly into the Kodiak and Shumagin Planning Areas. These changes were guided by the Cook Inlet basin modeling work done by RE, demonstrating the likelihood of a functional petroleum system throughout the CIPA, and constrained by the sedimentary basin thickness map produced by Kirschner (1988). This mapping effort contributed to an increase in the geologic chance of success from 24.5 to 28 percent for the assessment unit. Updating the GRASP model with the increased geological chance of success resulted in an increase of 18 MMBOE in the assessed resource volume. In 2021, this play was assessed with an area of 825 mi^2 and a resource endowment of 131 MMBOE (Mean Risked UTRR). The adjusted Cook Inlet Tertiary Gas Assessment Unit covers an area of 4,593 mi^2 and a resource endowment of 149 MMBOE (Mean Risked UTRR). A map comparing the legacy Tertiary Gas Play of the Cook Inlet with the new Cook Inlet Tertiary Gas Assessment Unit is presented on Figure 3.
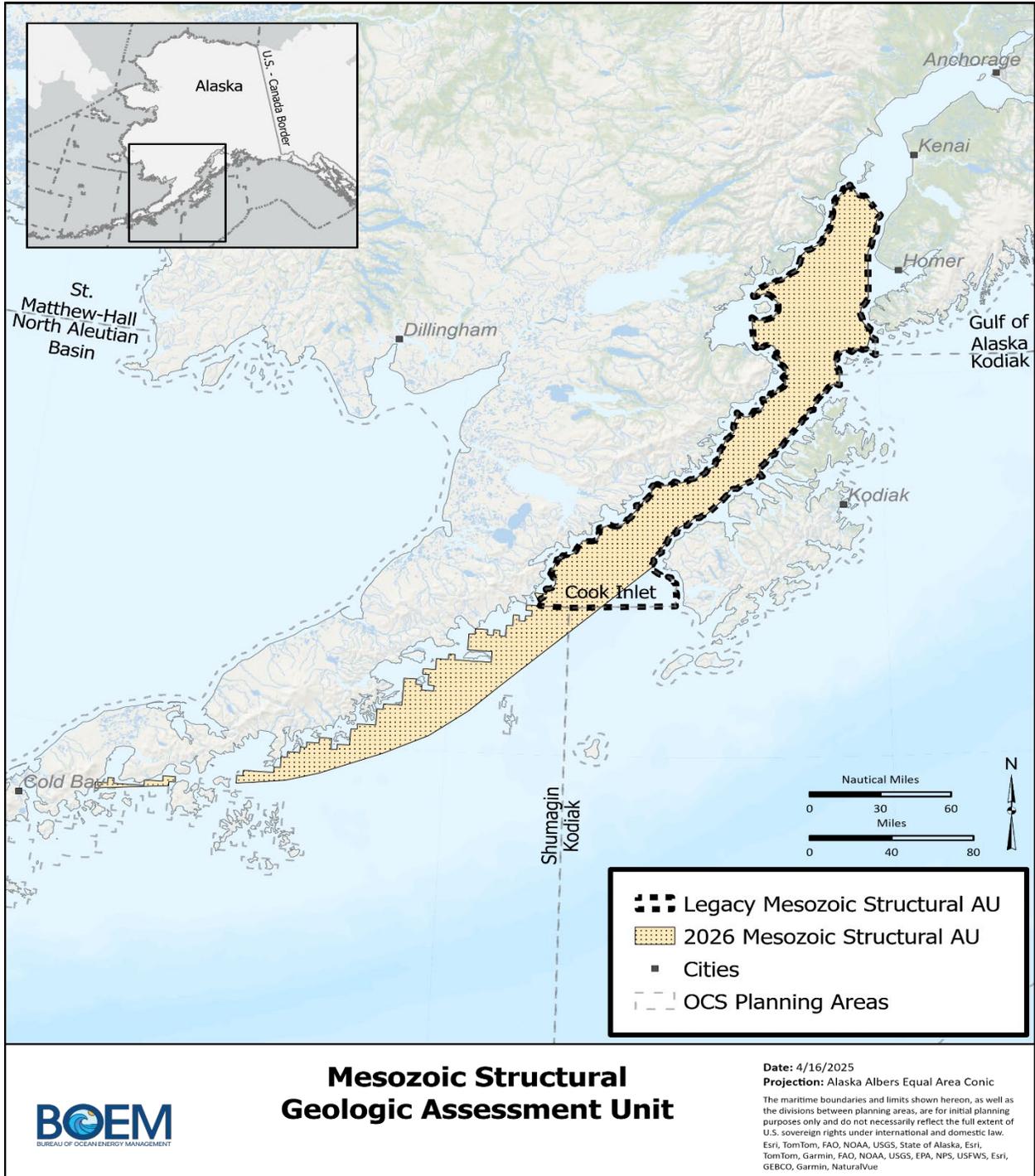
Figure 2:   Cook Inlet Mesozoic Structural Assessment Unit

**Note: The Submerged Lands Act boundary is not yet defined in the Shumagin Planning Area and the current boundary is bounded by OCS blocks.
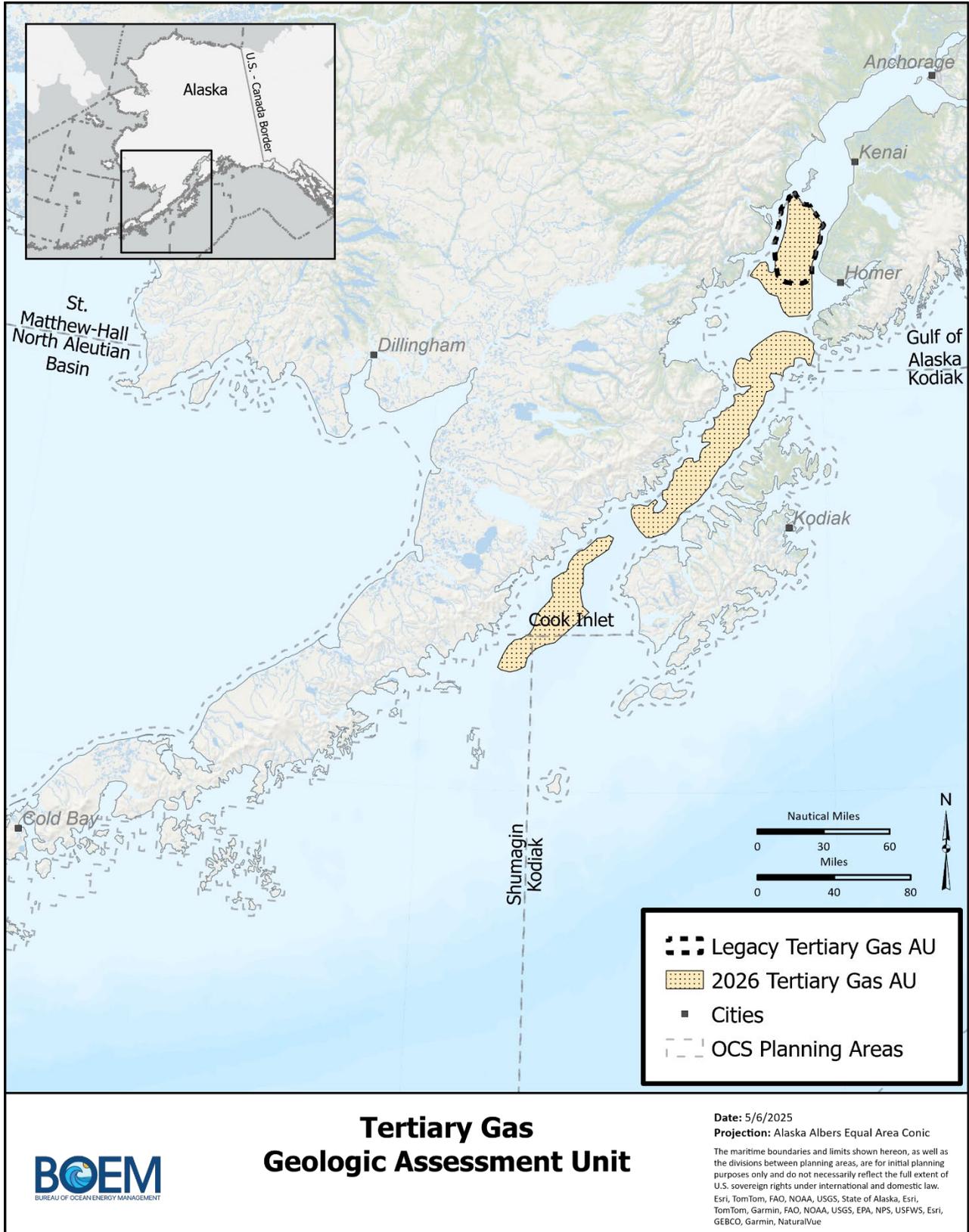
Figure 3:   **Cook Inlet Tertiary Gas Assessment Unit**

4 COOK INLET RESOURCE ASSESSMENT RESULTS

Uncertainties in petroleum systems stem from various factors, including reservoir characteristics like size and connectivity, which influence storage and fluid movement, as well as variations in oil quality such as viscosity and sulfur content. The effectiveness of seals, the capacity of source rocks to generate hydrocarbons, and the complexities of hydrocarbon migration pathways further add uncertainty when evaluating petroleum systems. To refine existing or generate new estimates of undiscovered oil and gas resources, BOEM employs an assessment-unit based approach for identifying and estimating geological resource parameters utilizing probabilistic techniques to capture the range of uncertainties. Undiscovered resource volume estimates are generated stochastically and reported as a range, where the mean is the expected volume, and the 95th and 5th percentiles represent the lower and upper volumes, respectively. The 95th percentile represents a 95 percent probability (a 19 in 20 chance) of exceeding the lower volume, while the 5th percentile represents a 5 percent probability (a 1 in 20 chance) of exceeding the higher volume within the specified area.

4.1 Undiscovered Technically Recoverable Resources

The UTRR that is reported in this assessment is the result of a structured probabilistic modeling of key geologic parameters based upon the petrophysical analysis of data gathered for the CIPA. BOEM geologists use GRASP to create probabilistic distributions while allowing assessment units to be modeled as independent, dependent, or partially dependent. This provides a more realistic method for summing resources across complex geologic settings, recognizing that discoveries or failures in one assessment unit may influence expectations for adjacent assessment units. The table below presents a summary of the UTRR within the four geologic assessment units making up the CIPA.

Table 2:   Cook Inlet Planning Area UTRR by Assessment Unit

Region		2026 UTRR for Cook Inlet Planning Area		
		Oil (MMbbl)	Gas (Bcf)	Total BOE (MMbbl)
Planning Area	Assessment Unit	Mean	Mean	Mean
Cook Inlet	Tertiary - Oil	366	137	391
	Mesozoic - Stratigraphic	182	82	197
	Mesozoic - Structural	420	194	454
	Tertiary - Gas	0	840	149
	Planning Area Total:	**968**	**1,254**	**1,191**

4.2 Undiscovered Economically Recoverable Resources

As in the 2026 Alaska Regional Assessment, the fraction of UTRR that is estimated to comprise the undiscovered economically recoverable resource (UERR) volume varies. This is based on several assumptions beyond those implicit in the calculation of geologic resources including commodity price environment, cost environment, and the relationship of gas price to oil price. When the UTRR are subjected to a risked discounted cash flow (DCF) analysis using the economics module in GRASP, the result is an estimate of UERR. The UERR values that are reported are linked to a specific oil and gas price pair. This results in multiple UERR values reported in the assessment, with each value linked to its specific oil and gas price pair ratio.

Low oil-to-gas price ratios are applicable in areas with nearby markets and an established transportation infrastructure for delivery of produced oil and gas, such as the Gulf of America. By contrast, the Cook Inlet OCS planning area is considered a frontier area where development of oil and gas resources will

require substantial infrastructure development necessitating higher oil-to-gas price ratios. Although there has been oil production from the Cook Inlet area since the 1960s, it has been limited to the upper Cook Inlet in State waters. A summary of the UERR results from the Cook Inlet assessment analysis is presented in the tables below for oil-to-gas price ratios of 0.8 and 1.0. Reported assessment unit UERR volumes are low enough that they are reported in million barrels (MMbbl) of oil and billion cubic feet (Bcf) of gas.

Table 3: **2026 Cook Inlet UERR at an Oil/Gas Price Pair ratio of 0.8**

| Cook Inlet Planning Area | O/G = 0.8 | | | | | | | | | |
| | $30/bbl $4.27/Mcf | | $40/bbl $5.69/Mcf | | $60/bbl $8.54/Mcf | | $100/bbl $14.23/Mcf | | $160/bbl $22.78/Mcf | |
Assessment Unit	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas
Tertiary - Oil	0.00	0.00	0.00	0.00	24.18	10.01	231.80	88.34	307.38	116.00
Mesozoic - Stratigraphic	0.00	0.00	0.00	0.00	1.11	0.52	63.16	28. 41	106.56	47.50
Mesozoic - Structural	0.00	0.00	0.00	0.00	6.51	3.05	172.68	79.13	258.75	117.95
Tertiary - Gas	0.00	0.00	0.00	0.00	0.00	1.34	0.00	230.02	0.00	392.66
Planning Area Total:	**0.00**	**0.00**	**0.00**	**0.00**	**31.80**	**14.92**	**467.64**	**425.90**	**672.69**	**674.11**

Notes: Price pairs are reported in $/bbl oil and $/Mcf Gas. UERR results by Assessment Unit are reported in million barrels (MMbbl) of oil and billion cubic feet (Bcf) of gas.

Table 4: **2026 Cook Inlet UERR at an Oil/Gas Price Pair ratio of 1.0**

| Cook Inlet Planning Area | O/G = 1.0 | | | | | | | | | |
| | $30/bbl $5.34/Mcf | | $40/bbl $7.12/Mcf | | $60/bbl $10.68/Mcf | | $100/bbl $17.79/Mcf | | $160/bbl $28.47/Mcf | |
Assessment Unit	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas
Tertiary - Oil	0.00	0.00	0.00	0.00	29.01	12.20	239.15	91.37	309.97	117.05
Mesozoic - Stratigraphic	0.00	0.00	0.00	0.00	1.68	0.93	66.97	30.79	109.04	48.90
Mesozoic - Structural	0.00	0.00	0.00	0.00	8.84	4.63	181.41	84.83	263.08	121.06
Tertiary - Gas	0.00	0.00	0.00	0.00	0.00	127.28	0.00	422.13	0.00	616.45
Planning Area Total:	**0.00**	**0.00**	**0.00**	**0.00**	**39.53**	**145.04**	**487.53**	**629.12**	**682.09**	**903.46**

Notes: Price pairs are reported in $/bbl oil and $/Mcf Gas. UERR results by Assessment Unit are reported in million barrels (MMbbl) of oil and billion cubic feet (Bcf) of gas.

5   CONTRIBUTING PERSONNEL

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Appendix A: Play Risking Sheets

Play and Prospect Risk Analysis Form

Assessment Province:	COK	Play Number, Name:	45 Tertiary - Oil	
Assessor(s):	Caleb Jennings	Play UAI:	AAAAANAQ	
Date:	14-Jan-2026	Assessment	2026 National Assessment	

		Play Chance Factors		Prospect Chance Factors	
For each component, a quantitative probability must be assigned using the guidelines below.		Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)	Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)
1. Hydrocarbon Fill component	1		*1.0000*		*0.5000*
a. Presence of a Quality, Effective, Mature Source Rock Probability of efficient source rock in terms of the existence of sufficient volume of mature source rock of adequate quality located in the drainage area of the reservoirs.	1a	1.0000		1.0000	
b. Effective Expulsion and Migration Probability of effective timing of expulsion and migration of hydrocarbons from the source rock to the reservoirs.	1b	1.0000		0.5000	
2. Reservoir component	2		*1.0000*		*0.7000*
a. Presence of reservoir facies Probability of presence of reservoir facies with a minimum net thickness and net/gross ratio.	2a	1.0000		1.0000	
b. Reservoir quality Probability of effectiveness of the reservoir, with respect to minimum effective porosity, and permeability.	2b	1.0000		0.7000	
3. Trap component	3		*1.0000*		*0.8000*
a. Presence of trap Probability of presence of the trap with a minimum rock volume.	3a	1.0000		1.0000	
b. Effective seal mechanism Probability of effective seal mechanism for the trap and effective preservation of hydrocarbons in the prospects after accumulation.	3b	1.0000		0.8000	
Overall Play Chance (1 * 2 * 3) Product of All Subjective Play Chance Factors			**1.00**		
Average Conditional Prospect Chance1 (1 * 2 * 3) Product of All Subjective Conditional Prospect Chance Factors *1Assumes that the Play exists (where all play chance factors = 1.0)*					**0.2800**

Exploration Chance	**Total Exploration Chance**
(Product of Overall Play Chance and Average Conditional Prospect Chance)	*0.2800*

Probabilities are as follows:

Component Probably Exists	1.0 - 0.8
Component will Possibly Exist	0.8 - 0.6
Equally Likely Component is Present or Absent	0.6 - 0.4
Component is Possibly Lacking	0.4 - 0.2
Component is Probably Lacking	0.2 - 0.0

NOTE: If any probability is 0, the Petroleum System does not exist.

Comments: (use this space to identify highest risk elements)

NA2021: The Cosmopolitan structure extends across the OCS boundary and is actively producing oil from the Tertiary section, thus establishing this play.

NA2021: 2b prospect chance factor rounded to conform with 2021 risking standards

Play and Prospect Risk Analysis Form

Assessment Province:	COK	Play Number, Name:	46 Mesozoic - Stratigraphic
Assessor(s):	Caleb Jennings	Play UAI:	AAAAANAO
Date:	14-Jan-2026	Assessment	2026 National Assessment

			Play Chance Factors		Prospect Chance Factors	
For each component, a quantitative probability must be assigned using the guidelines below.			Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)	Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)
1. Hydrocarbon Fill component		1		*1.0000*		*0.7000*
a. Presence of a Quality, Effective, Mature Source Rock Probability of efficient source rock in terms of the existence of sufficient volume of mature source rock of adequate quality located in the drainage area of the reservoirs.		1a	1.0000		1.0000	
b. Effective Expulsion and Migration Probability of effective timing of expulsion and migration of hydrocarbons from the source rock to the reservoirs.		1b	1.0000		0.7000	
2. Reservoir component		2		*0.8000*		*0.5000*
a. Presence of reservoir facies Probability of presence of reservoir facies with a minimum net thickness and net/gross ratio.		2a	1.0000		0.6000	
b. Reservoir quality Probability of effectiveness of the reservoir, with respect to minimum effective porosity, and permeability.		2b	0.8000		0.5000	
3. Trap component		3		*0.7000*		*0.7000*
a. Presence of trap Probability of presence of the trap with a minimum rock volume.		3a	0.7000		1.0000	
b. Effective seal mechanism Probability of effective seal mechanism for the trap and effective preservation of hydrocarbons in the prospects after accumulation.		3b	1.0000		0.7000	
Overall Play Chance (1 * 2 * 3) Product of All Subjective Play Chance Factors				0.56		
Average Conditional Prospect Chance1 (1 * 2 * 3) Product of All Subjective Conditional Prospect Chance Factors 1Assumes that the Play exists (where all play chance factors = 1.0)						0.2450
Exploration Chance (Product of Overall Play Chance and Average Conditional Prospect Chance)					**Total Exploration Chance** *0.1400*	

Probabilities are as follows:

Component Probably Exists	1.0 - 0.8
Component will Possibly Exist	0.8 - 0.6
Equally Likely Component is Present or Absent	0.6 - 0.4
Component is Possibly Lacking	0.4 - 0.2
Component is Probably Lacking	0.2 - 0.0

NOTE: If any probability is 0, the Petroleum System does not exist.

Comments: (use this space to identify highest risk elements)
NA2021: 1b prospect chance factor rounded to conform with 2021 risking standards
NA2021: 2a,b prospect chance factor changed to match play 3 due to the reservoir intervals being the same
NA2021: 3a prospect chance factor rounded to conform with 2021 risking standards
NA2021: 3b prospect chance factor changed from 0.8 to 0.7 due to potential for seal failure in stratigraphic trap pinchouts

Play and Prospect Risk Analysis Form

Assessment Province:	COK	Play Number, Name:	47 Mesozoic - Structural
Assessor(s):	Caleb Jennings	Play UAI:	AAAAANAR
Date:	14-Jan-2026	Assessment	2026 National Assessment

		Play Chance Factors		Prospect Chance Factors	
For each component, a quantitative probability must be assigned using the guidelines below.		Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)	Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)
1. Hydrocarbon Fill component	1		*1.0000*		*0.7000*
a. Presence of a Quality, Effective, Mature Source Rock Probability of efficient source rock in terms of the existence of sufficient volume of mature source rock of adequate quality located in the drainage area of the reservoirs.	1a	1.0000		1.0000	
b. Effective Expulsion and Migration Probability of effective timing of expulsion and migration of hydrocarbons from the source rock to the reservoirs.	1b	1.0000		0.7000	
2. Reservoir component	2		*1.0000*		*0.5000*
a. Presence of reservoir facies Probability of presence of reservoir facies with a minimum net thickness and net/gross ratio.	2a	1.0000		0.6000	
b. Reservoir quality Probability of effectiveness of the reservoir, with respect to minimum effective porosity, and permeability.	2b	1.0000		0.5000	
3. Trap component	3		*1.0000*		*0.7000*
a. Presence of trap Probability of presence of the trap with a minimum rock volume.	3a	1.0000		1.0000	
b. Effective seal mechanism Probability of effective seal mechanism for the trap and effective preservation of hydrocarbons in the prospects after accumulation.	3b	1.0000		0.7000	

Overall Play Chance				
(1 * 2 * 3) Product of All Subjective Play Chance Factors		**1.00**		

Average Conditional Prospect Chance1				
(1 * 2 * 3) Product of All Subjective Conditional Prospect Chance Factors				**0.2450**
1Assumes that the Play exists (where all play chance factors = 1.0)				

Exploration Chance	**Total Exploration Chance**
(Product of Overall Play Chance and Average Conditional Prospect Chance)	*0.2500*

Probabilities are as follows:

Component Probably Exists	1.0 - 0.8
Component will Possibly Exist	0.8 - 0.6
Equally Likely Component is Present or Absent	0.6 - 0.4
Component is Possibly Lacking	0.4 - 0.2
Component is Probably Lacking	0.2 - 0.0

NOTE: If any probability is 0, the Petroleum System does not exist.

Comments: (use this space to identify highest risk elements)

NA2021: The Raven and Guppy wells discovered oil in Mesozoic structural targets, thus establishing this play.

NA2021: 1b prospect chance factor rounded to conform with 2021 risking standards

NA2021: 3a prospect chance factor changed from 0.8 to 1 as all OCS wells have targeted prospects with traps.

NA2021: 3b prospect chance factor changed from 1 to 0.7 due to potential for seal failure in faulted and fractured traps

Play and Prospect Risk Analysis Form

Assessment Province:	COK	Play Number, Name:	48 Tertiary - Gas
Assessor(s):	Caleb Jennings	Play UAI:	AAAAANAP
Date:	14-Jan-2026	Assessment	2026 National Assessment

For each component, a quantitative probability must be assigned using the guidelines below.		Play Chance Factors		Prospect Chance Factors	
		Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)	Enter Element Success in this Column	Component Success (Component Probability = Lowest Probability in group)
1. Hydrocarbon Fill component	1		*1.0000*		*0.5000*
a. Presence of a Quality, Effective, Mature Source Rock Probability of efficient source rock in terms of the existence of sufficient volume of mature source rock of adequate quality located in the drainage area of the reservoirs.	1a	1.0000		1.0000	
b. Effective Expulsion and Migration Probability of effective timing of expulsion and migration of hydrocarbons from the source rock to the reservoirs.	1b	1.0000		0.5000	
2. Reservoir component	2		*1.0000*		*0.7000*
a. Presence of reservoir facies Probability of presence of reservoir facies with a minimum net thickness and net/gross ratio.	2a	1.0000		1.0000	
b. Reservoir quality Probability of effectiveness of the reservoir, with respect to minimum effective porosity, and permeability.	2b	1.0000		0.7000	
3. Trap component	3		*1.0000*		*0.8000*
a. Presence of trap Probability of presence of the trap with a minimum rock volume.	3a	1.0000		1.0000	
b. Effective seal mechanism Probability of effective seal mechanism for the trap and effective preservation of hydrocarbons in the prospects after accumulation.	3b	1.0000		0.8000	

Overall Play Chance			
(1 * 2 * 3) Product of All Subjective Play Chance Factors		**1.00**	

Average Conditional Prospect Chance1			
(1 * 2 * 3) Product of All Subjective Conditional Prospect Chance Factors 1Assumes that the Play exists (where all play chance factors = 1.0)			**0.2800**

Exploration Chance

(Product of Overall Play Chance and Average Conditional Prospect Chance)

Total Exploration Chance

0.2800

Probabilities are as follows:

Component Probably Exists	1.0 - 0.8
Component will Possibly Exist	0.8 - 0.6
Equally Likely Component is Present or Absent	0.6 - 0.4
Component is Possibly Lacking	0.4 - 0.2
Component is Probably Lacking	0.2 - 0.0

NOTE: If any probability is 0, the Petroleum System does not exist.

Comments: (use this space to identify highest risk elements)

NA2021: The Cosmopolitan structure extends across the OCS boundary and is actively producing gas from the Tertiary section, thus establishing the
NA2021: Reservoir quality prospect chance factor rounded to conform with 2021 risking standards

Appendix B: Play Geologic Input Sheets

GRASP Play Data Form (Bureau of Ocean Energy Management [BOEM]-Alaska Regional Office)

Basin: COK **Assessor: Jennings** Sep-24
Play Number: 45 **Play Name: Tertiary - Oil**
Play UAI Number: AAAAANAQ

Play Area (mi2; millions of acres) : 851.45 (0.545) **Play Depth Range, feet: 4,000 - 6,000 - 10,000**
Reservoir Thermal Maturity, % Ro: **Expected Oil Gravity, O API: 30**
 Play Water Depth Range, feet: 50 - 150 - 200
 Prospect Distance from shore, miles: 25

POOLS Module (Volumes of Pools, Acre-Feet)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Productive Area of Pool (acres)	104.66	541.554	722.227	1168.415	1994.003	2699.858/2315.163	3402.942	4533.351	5505.262	7341.926	10151.56	12599.38	14067
Pay Thickness (feet)	19.092	48.077	56.518	74.058	100	110.674/52.868	135.028	158.64	176.934	208	249.535	281.736	526

MPRO Module (Numbers of Pools) - See Risk Sheet

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Numbers of Prospects in Play	6	8	9	11	14	14.93/4.59	17	19	21	23	27	27	28
Numbers of Pools in Play		1	2	3	4	4.18/2.16	5	6	7	8	9	10	18

	Zero at F98.3			
Minimum Number of Pools	0	**Mean Number of Pools**	4.18	**Maximum Number of Pools**	18

POOLS/PSRK/PSUM Module (Play Resources)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Oil Recovery Factor (bbl/acre-foot)	153.427	234.388	252.447	285.779	328	334.954/70.119	376.459	405.35	426.166	458.999	498.988	527.566	700
Gas Recovery Factor (Mcfg/acre-foot)	375	555.932	593.942	663.342	750	762.558/141.96	847.979	905.732	947.062	1011.814	1090.001	1145.456	1480
Gas Oil Ratio (Sol'n Gas)(cf/bbl)	143	192.624	219.808	274.059	350.176	374.603/142.092	447.434	510.326	557.866	636.595	738.569	815.475	1110
Condensate Yield ((bbl/Mmcfg)	20	39.765	42.192	46.583	52	52.692/8.796	58.047	61.576	64.088	68	72.689	75.994	100

Pool Size Distribution Statistics from POOLS (1,000 BOE):	µ (mu) = 11.1488808	σ2 (sigma squared) = 0.873838509	Random Number Generator Seed = 701141

BOE Conversion Factor (cf/bbl)	5620	**Probability Any Pool Contains Both Oil and Free Gas (Gas Cap)**	0
Probability Any Pool is 100% Oil	1	**Fraction of Pool Volume Gas-Bearing in Oil Pools with Gas Cap**	N/A
Probability Any Pool is 100% Gas	0		

GRASP Play Data Form (Bureau of Ocean Energy Management [BOEM]-Alaska Regional Office)

Basin: COK Assessor: Jennings Sep-24
Play Number: 46 **Play Name: Mesozoic - Stratigraphic**
Play UAI Number: AAAAANAO

Play Area (mi2; millions of acres) : 3942.99 (2.524) **Play Depth Range, feet: 4,000 - 6,000 - 10,000**
Reservoir Thermal Maturity, % Ro: **Expected Oil Gravity, O API: 30**
 Play Water Depth Range, feet: 100 - 230 - 500
 Prospect Distance from shore, miles: 50

POOLS Module (Volumes of Pools, Acre-Feet)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Productive Area of Pool (acres)	81.037	474.086	645.695	1081.981	1920.053	2727.322/2568.045	3407.272	4635.272	5709.514	7776.227	11009.72	13881.91	17064
Pay Thickness (feet)	18	46.512	55.079	73.06	100	111.719/56.038	136.874	161.984	181.557	215	260.063	295.239	564

MPRO Module (Numbers of Pools) - See Risk Sheet

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Numbers of Prospects in Play	8	10	12	15	20	21.89/8.60	26	30	33	38	45	49	50
Numbers of Pools in Play					2	3.00/3.44	5	7	8	10	12	13	24

	Zero at F55.4			
Minimum Number of Pools	0	**Mean Number of Pools**	3.00	**Maximum Number of Pools**	24

POOLS/PSRK/PSUM Module (Play Resources)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Oil Recovery Factor (bbl/acre-foot)	131	174.43	183.972	201.097	222	224.381/33.515	245.075	258.432	267.888	282.544	300	312.233	377
Gas Recovery Factor (Mcfg/acre-foot)	287.602	416.642	444.587	495.528	559	568.01/103.764	630.602	672.735	702.856	749.999	806.85	847.126	1088
Gas Oil Ratio (Sol'n Gas)(cf/bbl)	143	192.624	219.808	274.059	350.176	374.603/142.092	447.434	510.326	557.866	636.595	738.569	815.475	1110
Condensate Yield ((bbl/Mmcfg)	20	39.765	42.192	46.583	52	52.692/8.796	58.047	61.576	64.088	68	72.689	75.994	100

Pool Size Distribution Statistics from POOLS (1,000 BOE):	µ (mu) = 10.7070994	σ2 (sigma squared) = 0.975488683	Random Number Generator Seed = 799503

BOE Conversion Factor (cf/bbl)	5620	**Probability Any Pool Contains Both Oil and Free Gas (Gas Cap)**	0.1
Probability Any Pool is 100% Oil	0.9	**Fraction of Pool Volume Gas-Bearing in Oil Pools with Gas Cap**	0.3
Probability Any Pool is 100% Gas	0		

GRASP Play Data Form (Bureau of Ocean Energy Management [BOEM]-Alaska Regional Office)

Basin: COK
Play Number: 47
Play Name: Mesozoic - Structural
Assessor: Jennings
Sep-24
Play UAI Number: AAAAANAR

Play Area (mi2; millions of acres): 11718.9 (7.500)
Reservoir Thermal Maturity, % Ro:
Play Depth Range, feet: 4,000 - 6,000 - 10,000
Expected Oil Gravity, O API: 30
Play Water Depth Range, feet: 100 - 400 - 600
Prospect Distance from shore, miles: 35

POOLS Module (Volumes of Pools, Acre-Feet)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Productive Area of Pool (acres)	85.26	552.281	766.089	1323.592	2429.998	3609.943/3684.431	4461.261	6180.812	7707.842	10691.82	15452.75	19753.47	26487
Pay Thickness (feet)	13	34.091	40.576	54.281	75	84.36/43.75	103.627	123.26	138.628	165	200.727	228.747	443

MPRO Module (Numbers of Pools) - See Risk Sheet

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Numbers of Prospects in Play	18	21	23	26	30	31.34/6.63	35	38	40	43	47	49	50
Numbers of Pools in Play F99.6=0		3	4	6	7	7.68/2.90	9	11	12	13	14	15	25

Zero at F99.95

Minimum Number of Pools	0	Mean Number of Pools	7.68	Maximum Number of Pools	25

POOLS/PSRK/PSUM Module (Play Resources)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Oil Recovery Factor (bbl/acre-foot)	106	147.696	156.327	171.888	191	193.339/30.836	212.238	224.591	233.364	247	263.303	274.765	343
Gas Recovery Factor (Mcfg/acre-foot)	286.737	416.087	444.126	495.257	559	568.094/104.258	630.947	673.3	703.586	750.998	808.193	848.723	1090
Gas Oil Ratio (Sol'n Gas)(cf/bbl)	143	192.624	219.808	274.059	350.176	374.603/142.092	447.434	510.326	557.866	636.595	738.569	815.475	1110
Condensate Yield ((bbl/Mmcfg)	20	39.765	42.192	46.583	52	52.692/8.796	58.047	61.576	64.088	68	72.689	75.994	100

Pool Size Distribution Statistics from POOLS (1,000 BOE): μ (mu) = 10.5079729 σ2 (sigma squared) = 1.08129093 Random Number Generator Seed = 968049

BOE Conversion Factor (cf/bbl)	5620	Probability Any Pool Contains Both Oil and Free Gas (Gas Cap)	0.1
Probability Any Pool is 100% Oil	0.9	Fraction of Pool Volume Gas-Bearing in Oil Pools with Gas Cap	0.3
Probability Any Pool is 100% Gas	0		

GRASP Play Data Form (Bureau of Ocean Energy Management [BOEM]-Alaska Regional Office)

Basin: COK
Play Number: 48
Play Name: Tertiary - Gas
Assessor: Jennings
Sep-24
Play UAI Number: AAAAANAP

Play Area (mi2; millions of acres): 4592.64 (2.939)
Reservoir Thermal Maturity, % Ro:
Play Depth Range, feet: 3,000 - 4,000 - 6,000
Expected Oil Gravity, O API: Gas Play / minor condensate
Play Water Depth Range, feet: 50 - 150 - 200
Prospect Distance from shore, miles: 25

POOLS Module (Volumes of Pools, Acre-Feet)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Productive Area of Pool (acres)	104.66	541.554	722.227	1168.415	1994.003	2699.858/2315.163	3402.942	4533.351	5505.262	7341.926	10151.56	12599.38	14067
Pay Thickness (feet)	19.092	48.077	56.518	74.058	100	110.674/52.868	135.028	158.64	176.934	208	249.535	281.736	526

MPRO Module (Numbers of Pools) - See Risk Sheet

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Numbers of Prospects in Play	6	8	9	11	14	14.93/4.59	17	19	21	23	27	27	28
Numbers of Pools in Play		1	2	3	4	4.18/2.16	5	6	7	8	9	10	18

Zero at F98.3

Minimum Number of Pools	0	Mean Number of Pools	4.18	Maximum Number of Pools	18

POOLS/PSRK/PSUM Module (Play Resources)

Fractile	F100	F95	F90	F75	F50	Mean / Std. Dev.	F25	F15	F10	F05	F02	F01	F00
Oil Recovery Factor (bbl/acre-foot)	153.427	234.388	252.447	285.779	328	334.954/70.119	376.459	405.35	426.166	458.999	498.988	527.566	700
Gas Recovery Factor (Mcfg/acre-foot)	375	555.932	593.942	663.342	750	762.558/141.96	847.979	905.732	947.062	1011.814	1090.001	1145.456	1480
Gas Oil Ratio (Sol'n Gas)(cf/bbl)	143	192.624	219.808	274.059	350.176	374.603/142.092	447.434	510.326	557.866	636.595	738.569	815.475	1110
Condensate Yield ((bbl/Mmcfg)	0.006	0.007	0.008	0.008	0.009	0.009/0.001	0.01	0.01	0.01	0.011	0.011	0.012	NULL

Pool Size Distribution Statistics from POOLS (1,000 BOE): μ (mu) = 10.1854428 σ2 (sigma squared) = 0.86614768 Random Number Generator Seed = 166860

BOE Conversion Factor (cf/bbl)	5620	Probability Any Pool Contains Both Oil and Free Gas (Gas Cap)	0
Probability Any Pool is 100% Oil	0	Fraction of Pool Volume Gas-Bearing in Oil Pools with Gas Cap	N/A
Probability Any Pool is 100% Gas	1		