THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources
OFFICE OF THE COMMISSIONER

550 West 7th Avenue, Suite 1400
Anchorage, AK 99501-3561
Main: 907.269.8431
Fax: 907.269.8918

January 26, 2023

The Honorable Bert Stedman, Co-Chair
The Honorable Lyman Hoffman, Co-Chair
The Honorable Donald Olson, Co-Chair
Senate Finance Committee
Alaska State Capitol, Rm 532
Juneau, Alaska 99801

Re: Production Forecast Presentation

Dear Senate Finance Co-Chairs:

Thank you for the opportunity to present the annual production forecast to the committee on January 18, 2023. In providing testimony, several questions needed follow-up information to better inform the committee. Those answers are below.

Capital expenditures

We understand the Department of Revenue (DOR) provided information responsive to this during and after their hearing on the revenue forecast. Below, we provide information that is publicly available with respect to historical and future expenditures on the North Slope. Although DNR does have access to information regarding capital expenditures of some projects, this information is subject to confidential treatment defined under AS 38.05.035(a)(8)(D).

A. Historical expenditures

DOR reports that the allowable capital expenditure on the North Slope for fiscal year 2022 was $1.4 billion. Source: Revenue Sources Book, page 44. (*source:* http://tax.alaska.gov/programs/documentviewer/viewer.aspx?1761r.)

B. Future expenditures

For the next two fiscal years, the forecasts for capital expenditures are $2.3 billion and $2.7 billion, respectively. (*source:* Revenue Sources Book, page 44. (*source:* http://tax.alaska.gov/programs/documentviewer/viewer.aspx?1761r.)

Pikka:

Capital expenditures are estimated at $2.6 billion. Annual operating expenditures are estimated at $150 million. Source: Santos Media Release (*source:* https://www.santos.com/wp-content/uploads/2022/08/Santos-announces-Pikka-FID-1.pdf)

Willow:

ConocoPhillips: Cost to develop estimated at approximately $8 billion (no breakdown of expenditures into operating and capital) (*source:* https://static.conocophillips.com/files/resources/fact-sheet-willow-final.pdf)

BLM – Northern Economics Inc. (consultant)'s estimation of Willow expenditures: Drilling capital expenditures range from $3.6 billion to $3.9 billion. Facilities capital expenditures range from $4.5 billion to $5.4 billion. Operating expenditures range from $4.6 billion to $4.9 billion. Source: Willow Master Development Plan, Environmental Impact Statement, Volume 6: Appendices E.8 through E.16, August 2020 (*source:* https://www.arlis.org/docs/vol1/BLM/2020/1183900266/Willow_MDP_FEIS-v6.pdf)

Other developments:

ConocoPhillips plans to invest $25 billion of capital for the period 2020 – 2030. (*source:* https://www.petroleumnews.com/pntruncate/313099022.shtml)

No public information is available for capital expenditures for CRU Narwhal CD8, MPU Raven Pad, and KRU Nuna Torok. These were the three other "key future projects" presented on slide 7 of the Department's presentation.

Smith Bay development status

Petroleum News reported in May of 2022 that the Smith Bay Company planned to pursue unitization and drilling in 2023. A unit formation application was received by the Division of Oil & Gas in October 2022. It has not been deemed complete, pending data submittals in support of the application, so it has not yet been publicly noticed for comment.

Two wells have been drilled in the Smith Bay lease block, though they have not been tested. The Smith Bay Company has purchased and analyzed seismic surveys for the area in the interest of future exploration. Their stated plan of exploration under the application is to drill during the 2025–2026 winter season. The application cover letter has been attached to this letter.

When confidential information becomes public

Information received by DNR and requested to be held public under AS 38.05.035(a)(8)(C) and (D) does not ever become public under law. This includes the information collected from operators in support of production forecasts, as well as any information in support of lease and unit plans of exploration, development, and operations. This longstanding statute is in place to protect sensitive commercial information that would deter investment and activity in Alaska if released.

Data received under the effectively repealed AS 43.55.025 tax credit program is released on a varying schedule (2–10 years). (*see* available data). DNR anticipates data under the program will continue to be released on a rolling schedule in the years ahead until all periods have expired.

Data received by the Alaska Oil & Gas Conservation Commission (AOGCC) for development wells is released one month after completion, or two years after completion for exploration wells. Note that well data for the Smith Bay wells (CT-1 and CT-2) was released in January 2020. (*see* AOGCC data website). Operators can request extended confidentiality in limited circumstances described in law at AS 31.05.035(c) and applicable regulations.

The Department of Revenue may have tax-related financial data it can release in a limited form in accordance with federal law.

Cumulative volume of future North Slope projects

The sum of the volume wedge for the "Under Evaluation" or "UE" category shown in the chart on slide 14 is 531.9 million stock tank barrels of oil (mmstbo) over 10 years.

Facility capacity status

Attached please find a table describing facility capacity status of major North Slope units. The following is an explanation of the data collection:

1) The facility throughput limitations with regards to oil, gas, and water are estimated using public information; if not available, are estimated based on historical peak rates from the AOGCC database, in case of the historical production showing decline or flat trends.

2) Some facilities still have upward trends in water or have produced very little water up to date. Historical peak rates might not reflect the true facility capacity, so those estimates are not given (indicated in the table by a question mark).

3) Production from fields with multiple facilities is aggregated to field level due to the interconnectivity between facilities and no clear way of assigning production volumes from certain wells to a specific facility for a given period. For example, Prudhoe Bay Unit.

4) Estimation of facility capacity is based on historical peak rates and so may not reflect the real nameplate capacities of the respective facilities and fields, but rather our best estimate if the facility could deliver those volumes historically. These rates may or may not be achievable under present conditions. Furthermore, operators may remove equipment from service if their forecast shows historically high rates may never be achieved again, and it is not cost-effective to keep them in service.

Finally, it is important to note that gas production is influenced by ambient temperatures, so seasonality plays a large role in facility capacity.

Please let me know if we can be of further help in providing information to the committee.

Sincerely,

Joe Byrnes
Legislative Liaison

Cc: Laura Stidolph, Director, Governor's Legislative Office

Enclosures

Caelus Energy Alaska Smith Bay, LLC

October 7, 2022

Mr. Derek Nottingham, Director
Alaska Department of Natural Resources
Division of Oil and Gas
550 West 7th Avenue, Suite 1100
Anchorage, AK 99501-3560

Subject: Smith Bay Unit Application
North Slope, Alaska

Dear Director Nottingham,

In accordance with 11 AAC 83.306, Caelus Energy Alaska Smith Bay, LLC (Caelus), The Smith Bay Company, Inc. ("TSBC") and L 71 Resources, LLC. ("L 71") jointly propose the formation and establishment of the Smith Bay Unit and hereby petition the Department of Natural Resources (the "Department") to approve the Smith Bay Unit Agreement. 100% of the Subsurface Estate within the proposed Unit Area is held by the State of Alaska and is subject to Oil and Gas Leases jointly controlled by Caelus, TSBC and L 71. The Working Interest of each Oil and Gas Lease within the proposed Unit Area is held 75% by Caelus, 17.50% by TSBC and 7.50% by L 71. Caelus Energy Alaska Smith Bay, LLC has recently transferred 100% of its ownership rights in and to the Oil and Gas Leases within the proposed Unit Area and all other assets, rights and liabilities to TSBC. At some time in the future Caelus Energy Alaska Smith Bay, LLC may submit a name change; however, for the purpose of this application and for the duration of the adjudication period, the 75% working interest is held in the name of Caelus.

Caelus Energy Alaska Smith Bay, LLC is designated as Unit Operator under both the Smith Bay Unit Agreement and the Smith Bay Operating Agreement.

Formation of the Smith Bay Unit – Criteria and Justification

11 AAC 83.303 prescribes the criteria that the Department shall utilize in its evaluation of a proposed Unit. A new Unit shall be approved if it; 1) promotes the conservation of natural resources, 2) promotes the prevention of both environmental and economic waste, and 3) provides for the protection of all parties, including the State. We respectfully submit that the proposed Smith Bay Unit satisfies these criteria. Unitized developments better enable optimum facility and well placement which minimize duplicate facilities and the environmental impacts and maximizes the efficient production of resources. These benefits are difficult to achieve through lease-by-lease developments.

Proposed Unit Area

The lands which are included within the proposed Smith Bay Unit Area are described upon Exhibit "A" to the Unit Agreement and depicted upon Exhibit "B" of this agreement. All of the following State of Alaska Oil and Gas Leases are included within the proposed Unit Area:

Tract 1	ADL-392285	Tract 2	ADL-392286	Tract 3	ADL-392283
Tract 4	ADL-392284	Tract 5	ADL-392282	Tract 6	ADL-392280
Tract 7	ADL-392191	Tract 8	ADL-392188	Tract 9	ADL-392187
Tract 10	ADL-392185	Tract 11	ADL-392278	Tract 12	ADL-392281
Tract 13	ADL-392192	Tract 14	ADL-392189	Tract 15	ADL-392190
Tract 16	ADL-392186	Tract 17	ADL-392279	Tract 18	ADL-392277
Tract 19	ADL-392184	Tract 20	ADL-392183	Tract 21	ADL-392183
Tract 22	ADL-392272	Tract 23	ADL-392275	Tract 24	ADL-392274
Tract 25	ADL-392273	Tract 26	ADL-392276		

Technical Information in Support of Application

Pertinent geologic, geophysical, engineering and well data, and interpretation of said data is attached to this application to directly support the technical basis for both the establishment of the Smith Bay Unit and the proposed initial Unit Area. This material is submitted pursuant to 11 AAC 83.306(4). The Smith Bay Working Interest Owners regards this material as CONFIDENTIAL and request the Department maintain it as CONFIDENIAL in accordance with the provision of AS 38.05.035(a)(8). Upon review of the submitted material your staff may determine that additional information and direct interaction with Caelus and TSBC technical staff may be helpful and necessary to allow an efficient review of the project and the proposed Unit. TSBC and Caelus will cooperate with all reasonable requests for additional data as timely as possible and we look forward to building strong, cooperative, relationships the Division.

Smith Bay Unit Agreement and the Proper Parties to the Unit

The proposed Smith Bay Unit Agreement is attached to this application. The form is identical to the Department's model Unit Agreement form *(August 2020)* and no modifications have been made. The Unit Agreement has been executed by all parties which own a Working Interest within the proposed Unit Area.

Initial Plan of Exploration

The initial Plan of Exploration is attached to this application in the form of Exhibit "G" to the Smith Bay Unit Agreement. The plan is for a term of five (5) years and provides for the drilling of one exploration appraisal well and the evaluation of all available geologic and geophysical data which relates to the Unit Area. The owners are preparing to drill the exploration appraisal well during the winter of 2025-2026.

Smith Bay Unit Operating Agreement

The Smith Bay Unit Operating Agreement is attached to this application for your information only, in accordance with the provisions of 11 AAC 83.306((2). Approval from the Department is not required or requested. SMBC has acquired the interest from Nordaq Energy Inc. (subsequently

Borealis Alaska Oil Inc through name change) and is subject to the existing Operating Agreement. TSBC is happy to ratify the Operating Agreement if the Division so requires.

Proposed Effective Date

The parties request that effective date of the Department's approval of the Smith Bay Unit be as early as conveniently possible.

Unit Application Copies and Fee

Three (3) copies of this application which include the non-confidential associated documents and two (2) additional copies which include CONFIDENTIAL material that directly supports this application, are submitted as required by 11 AAC 83.321. Check number 9029329649 in the amount of $10,000.00 payable to the State of Alaska is attached as payment of the application fee prescribed by 11 AAC 05.110.

If you or your staff have any question on this application or should you require additional information, please do not hesitate to call Pat Foley at (907) 830-0999. We await your expeditious and favorable approval of this unit application and we look forward to building upon the cooperative relationship with the Department that has established with your staff.

Best regards,

David Pfeiffer
Chief Financial Officer

Cc: Pat Foley j.pat.foley@gmail.com
Dave Cruz dcruz@cruzconstruct.com

Unit	Facility	Oil Capacity *bopd*	Gas Capacity *mscf/d*	Water Capacity *bwpd*	Notes	Facility Limits
Prudhoe Bay	Gathering Center 1, 2 & 3 Flow Station 1, 2 & 3 Central Gas Facility Central Compression Plant Central Power Station	?	8,500,000	1,450,000	• Unclear how much of the oil export equipment remains in service • Prudhoe Bay is too interconnected between facilities to deduce individual facility limitations based on publicly available production data. If it is required, need to ask operator to provide their current assessment	Gas is the biggest constraint, though water handling at the waterflood facilities is often maxed out in conjunction with PBU field gas-handling. E.g., water pumps at GC-2 are fully utilized though gas throughput at GC-2 might have space but has no throughput available for extra gas due to CGF being at its gas limit.
	2022 avg. rate	*237,000*	*7,826,000*	*1,323,000*		
Prudhoe Bay Greater Point McIntyre	Lisburne Processing Center	?	500,000	200,000	• Unclear how much of the oil export equipment remains in service • Water number could be too high since some Pt. Macintyre production is processed at GC1 but in database rolls up into GPMA	Same as PBU on constraints; gas is the biggest constraint though water is often maxed out.
	2022 avg. rate	*28,000*	*409,000*	*177,000*		
Milne Point	Milne Point Central Processing Facility	60,000	35,000	170,000		Predominately water constrained, but gas is also often close to maxed out.
	2022 avg. rate	*37,000*	*23,000*	*162,000*		
Kuparuk River	Kuparuk Central Production Facility 1, 2 & 3	340,000	400,000	670,000	Field level max is *not* a sum of facility max, but is based on historic field performance. Facilities reached their respective highest rate at different times, so the sum is higher.	Water handling capacity has often been a constraint on the oil production rate. CPAI is progressing studies that aim to forecast and balance seawater and produced water over time. Gas handling limits with the gas lift compressors will continue to constrain production from the Kuparuk River Unit. CPAI is progressing studies that aim to forecast and balance gas across the field.
	2022 avg. rate (including Oooguruk)	*88,000*	*126,200*	*574,700*		

Unit	Facility	Oil Capacity *bopd*	Gas Capacity *mscf/d*	Water Capacity *bwpd*	Notes	Facility Limits
Point Thomson	Point Thomson Unit Initial Production System	10,700	200,000	?	• Highest rate month for both gas and condensate production is December 2018. Field averaged ~200,000 mscfd gas throughput to achieve this condensate rate for the month. • Gas capacity is estimated based on reference: https://corporate.exxonmobil.com/Locations/United-States/Alaska/ExxonMobil-Point-Thomson-reservoir#WhatPointThomsonmeansforAlaska • Field makes very little water, unclear what the real water limit could be	Gas constrained
	2022 avg. rate	*8,800*	*158,000*	*110*		
Badami	Badami Processing Facility	38,500	20,000	?	• Oil capacity is estimated based on reference https://www.petroleumnews.com/pnads/572058 62.shtml • Field makes very little water, not sure what the real water limit could be	Gas constrained
	2022 avg. rate	*800*	*650*	*10*		
Duck Island (Endicott)	Endicott Processing Facility	120,000	380,000	250,000		No constraints noted by operator as of late.
	2022 avg. rate	*6,500*	*344,000*	*219,000*		
Nikaitchuq	Nikaitchuq Processing Facility	25,000	5,000	70,000	Water production keep rising over years, doesn't seem to have peaked yet	No constraints noted by operator as of late.
	2022 avg. rate	*17,000*	*3,300*	*64,000*		

Unit	Facility	Oil Capacity *bopd*	Gas Capacity *mscf/d*	Water Capacity *bwpd*	Notes	Facility Limits
Northstar	Northstar Production Facility	80,000	620,000	20,000		No constraints noted by operator as of late.
	2022 avg. rate	*7,200*	*549,000*	*14,000*		
Oooguruk	KRU's CPF 2	15,000	20,000	7,500		Gas constraints due to limited gas lift capacity and limitations with shared KRU facilities
	2022 avg. rate	*6,000*	*3,200*	*6,700*		
Colville River	Alpine Central Facility	140,000	180,000-220,000	184,000	• Oil capacity estimated based on historical peak rate, actual capacity needs to be confirmed by operator • Water and gas capacity based on public information	Gas capacity increased by 30 mmscfd since completion of Alpine Gas Expansion project in 2021. Gas handling capacity still limits production due to addition of Greater Mooses Tooth 1 & 2 projects. Operator evaluating options to de-bottleneck the problem.
	2022 avg. rate (including Greater Mooses Tooth 1 & 2)	*52,000*	*148,000*	*45,000*		