

# Optimism on the North Slope Pikka: Investment for the Future

Resource Development Council November 2022



# Operating world-class assets and making meaningful community contributions

## Santos in AK

- + Merger (Dec. 2021) made Santos the 20<sup>th</sup> largest global oil and gas company
- + About 3,500 employees globally; ~150 currently in AK, and growing
- + Alaska is an area of opportunity for the company
- + Santos is Alaska's second largest oil and gas lease holder
- + Continued commitment to the environment, and to developing and maintaining strong relationships with partners and communities where we work

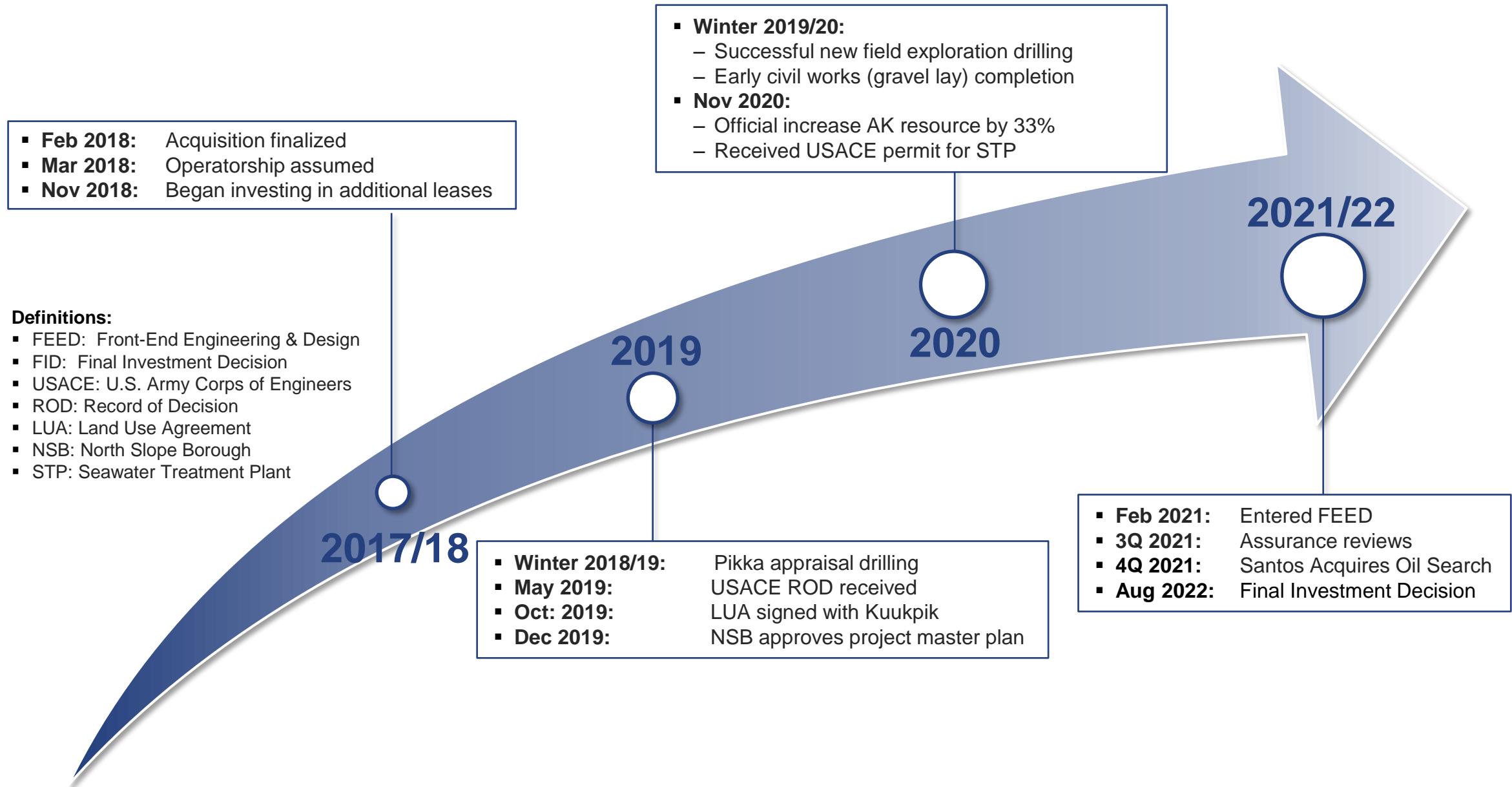


**>1,200+ years**  
of combined Alaska  
experience

**>1,500+ years**  
global experience

- + Operator of AK assets since March 2018
- + ~75% of employees have been hired from within Alaska; ~98% live here
- + Growing Alaska workforce with project progression

# Key Alaska milestones to date



Pikka Phase 1 has the right rocks, the right plan, the right people, and...



## The funding!

We're excited to work with you to make Pikka a great success for Alaska

### Project stats:

- + 80,000 BOPD gross production
- + ~400 million barrels gross resource before royalties
- + \$2.6 billion gross spend to nameplate capacity
- + Net-zero project (scope 1 & 2, Santos equity share)
- + First oil 2026

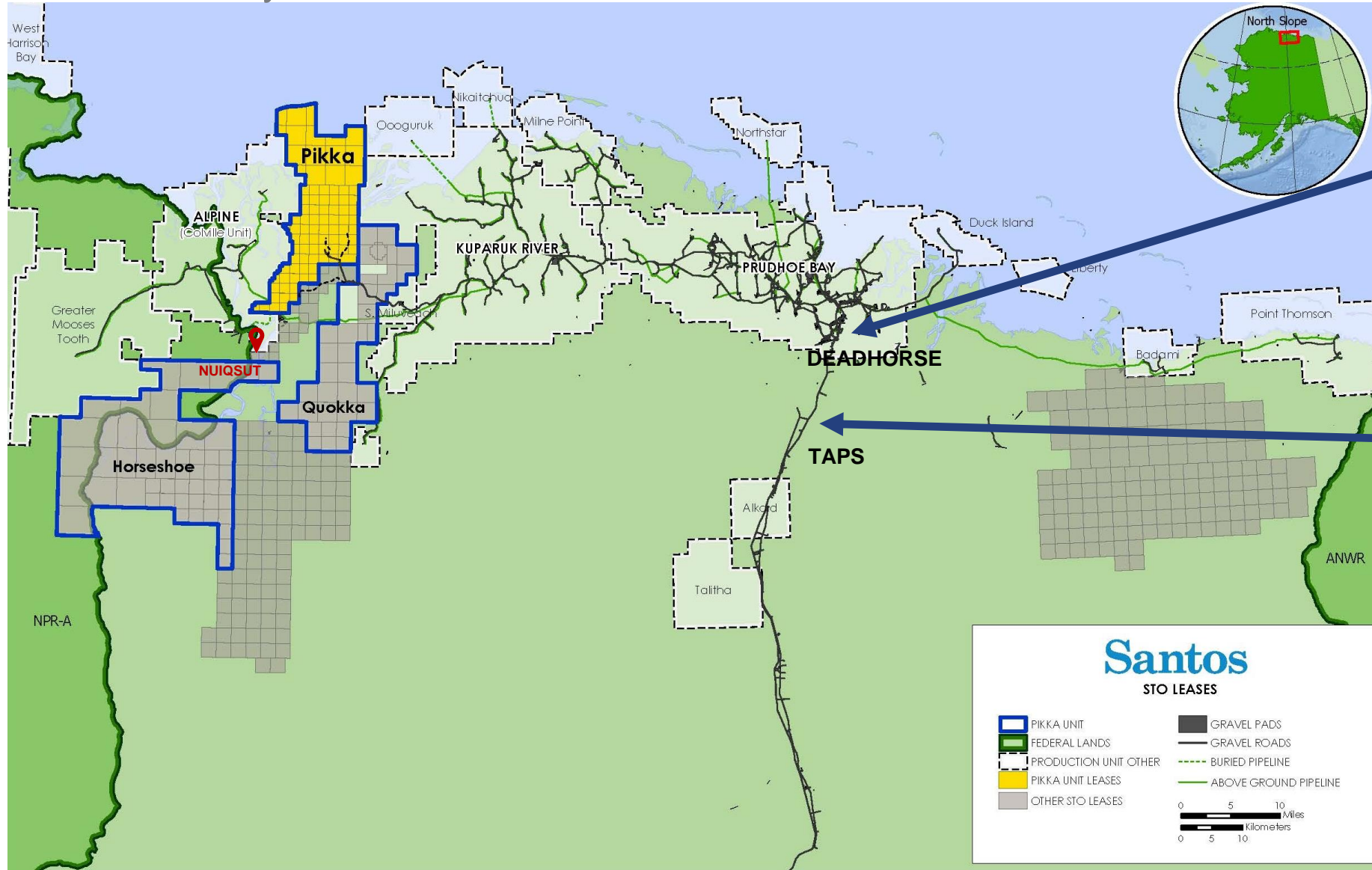
# Pikka Phase 1

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# Pikka is a world class conventional asset

## Surrounded by infrastructure

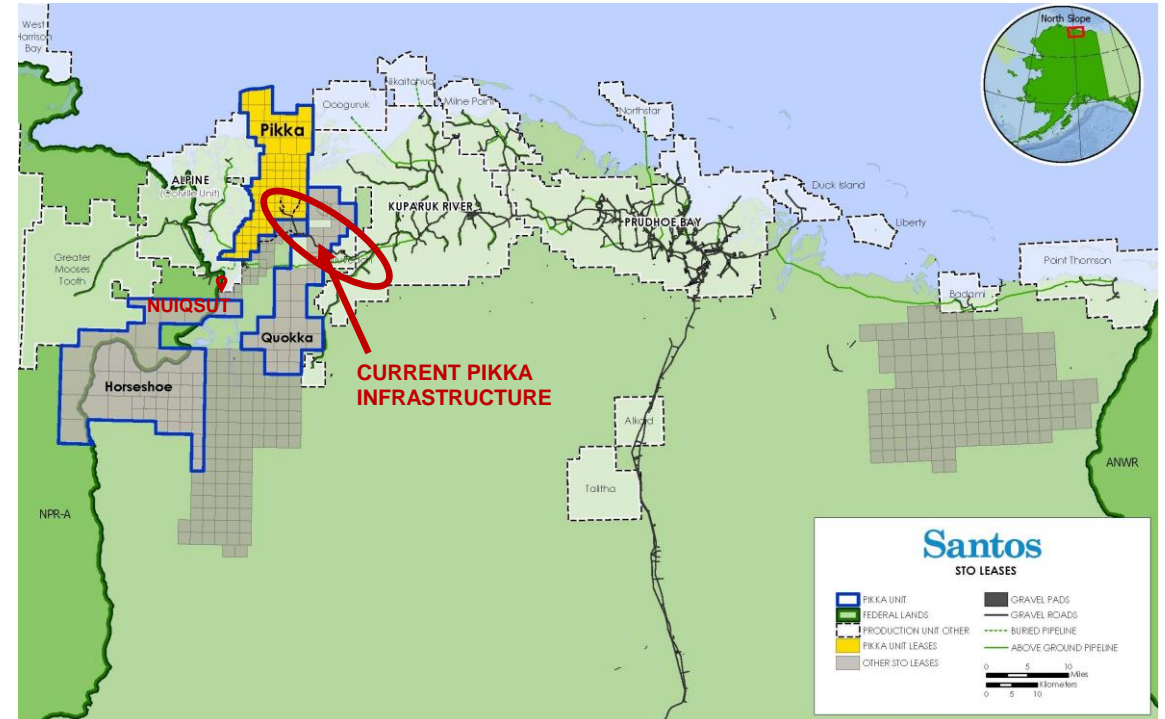


## Key infrastructure



# Pikka Unit overview and highlights

- + Pikka Unit ownership: Santos 51% & Repsol 49%
- + Pikka Unit is located on state and ASRC land
- + Pikka Phase 1 is appraised, permitted and has received the final investment decision (FID)
- + Phase 1 gross 2P resource of ~400 million barrels of oil from single drill site
  - ~30-year production period
- + Development plan delivers first oil in 2026
- + Surrounded and supported by existing infrastructure
  - Miles of roads & bridges
  - Air strip in Deadhorse
  - Emergency response personnel and equipment
    - Alaska Clean Seas spill response cooperative

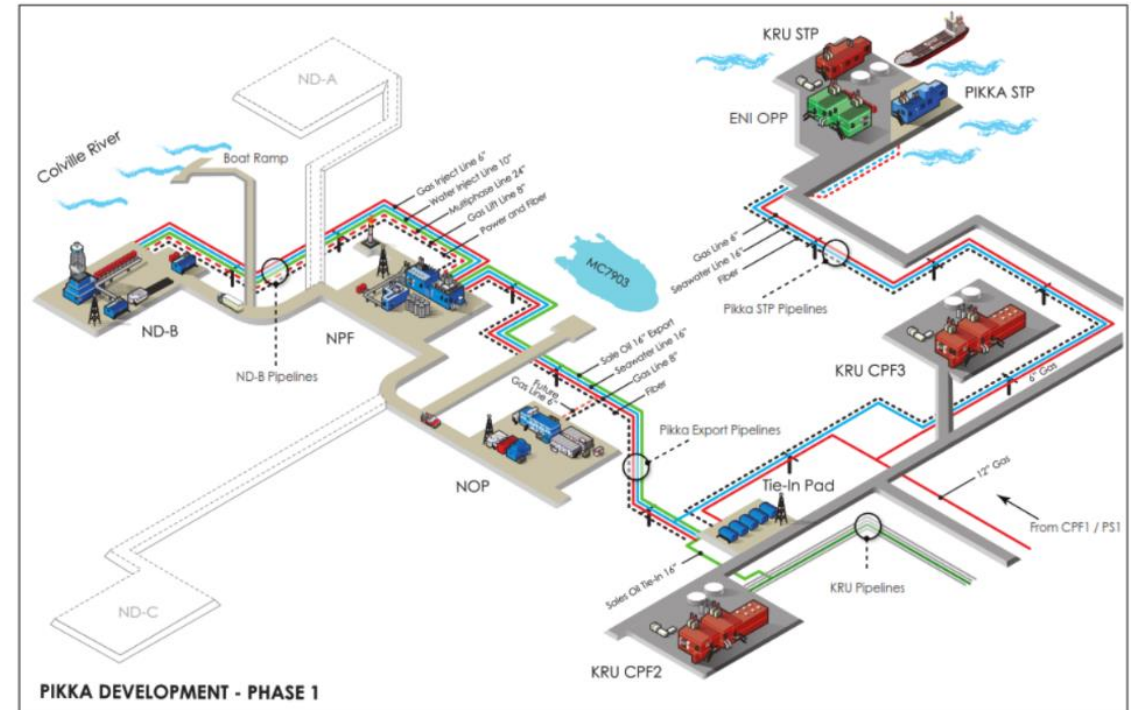




# Pikka Phase 1: Project Design and Execution Strategy

## Project design & execution strategy mitigates risk and creates optionality

- + Pikka Phase 1 development includes processing facility, drillsite, sea water treatment plant and operations pad
- + Disciplined facilities design
  - Simplify, standardize, focus on proven technology
  - Safe, flexible, high turndown capability, high operating efficiency
- + Contracting strategy designed to minimize project risks
  - EPF (Engineer, Procure, Fabricate) lump sum on major components
  - Santos' execution team to manage delivery, installation, and commissioning of all systems
  - Focus on Alaska or North America procurement and fabrication wherever possible
    - Minimizes logistics issues and leverages contractors' Arctic experience
- + Modular processing facilities
  - Utilizes proven and standard equipment / designs
  - Modules trial fit in fabrication yard
  - Modular facilities offer significant optionality for expansion
- + Barge lift STP with minimal commissioning
- + Schedule minimizes seasonal impacts & levels construction workforce
  - Leveling workforce needs on the North Slope



- (1) Kuparuk River Unit (KRU), operated by ConocoPhillips, and ENI facilities shown for reference only
- (2) Includes KTC line
- (3) ND-B – Nanushuk drill site B
- (4) NPF – Nanushuk processing facility
- (5) NOP – Nanushuk operations pad
- (6) STP – Seawater treatment plant
- (7) CPF – Central processing facility

## Costs

- + Major Contracts awarded at FID
  - Processing facility (NPF), seawater treatment plant (STP), rig awarded, pipe materials
- + ~30% of total project contracts value awarded to date

## Schedule

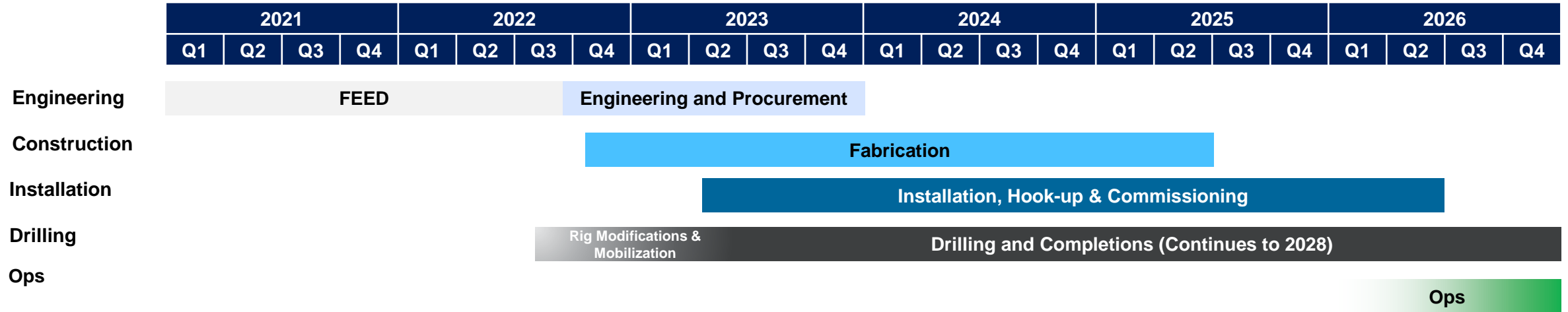
- + Best-in-class level of engineering definition achieved pre-FID (60% vs 30% standard at FID)
- + Early in execution phase
- + Schedule on track for RFSU (ready for start up) in 2026

## Production

- + Rig modification work underway
- + Drilling to commence 2Q23
- + Well capacity sufficient to load facility by 2026 start up

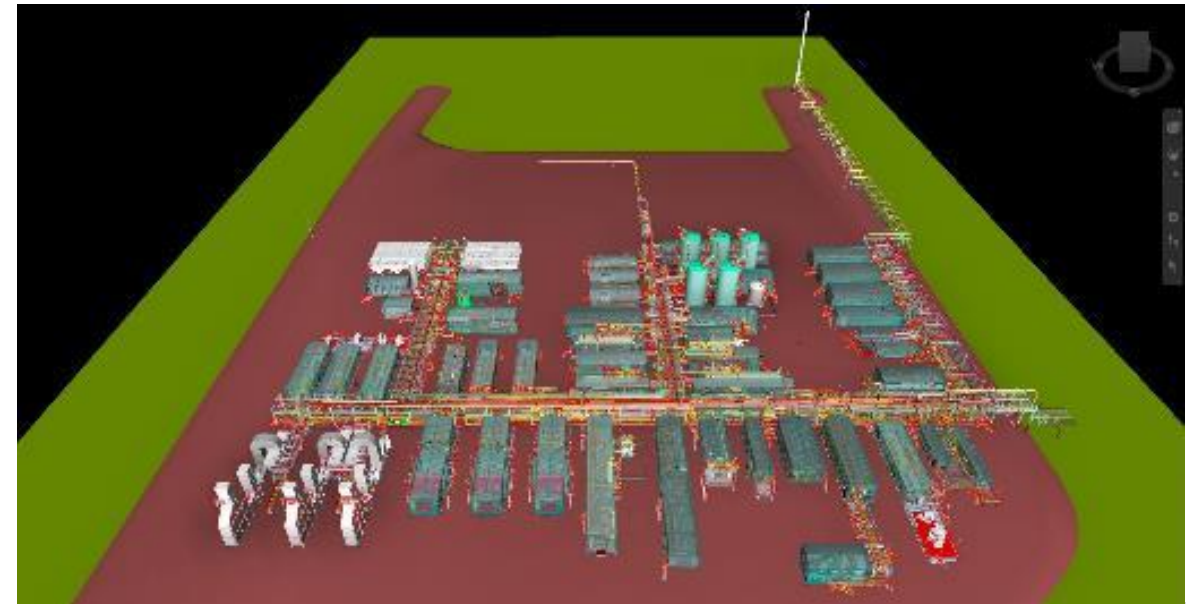


# Pikka Phase 1: Timeline & Project Summary



Development plan	Optimised using existing pipeline capacity, single small footprint drilling pad and electrified field operations
Carbon neutral project	Santos committed to delivering a net-zero project from first oil (Scope 1 &2, equity share)
First oil	2026
Nameplate capacity	80,000 barrels of oil per day, gross
Capex to nameplate capacity	<ul style="list-style-type: none"> <li>▶ \$2.6 billion gross (2022 real) to nameplate capacity</li> <li>▶ \$1.3 billion Santos share at 51% interest</li> </ul>

Visualization of Nanushuk Processing Facility (NPF)



# Benefits to Alaska

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Construction period

**\$2.6 billion spend**

(Bulk of spend 2022-2025)



Operations period

**Pikka 1 - 80,000 bopd**

(>15% of TAPS throughput)



# The oil and gas industry drives the Alaskan economy

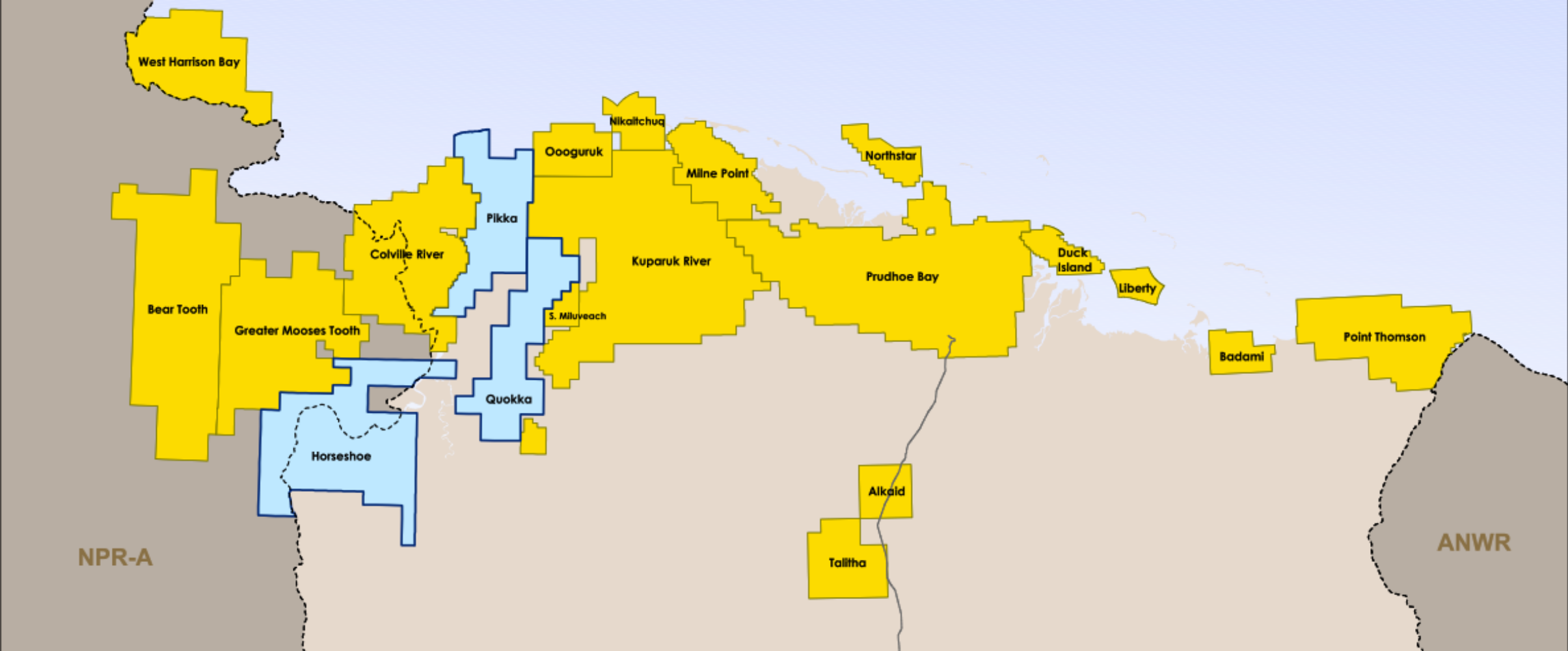
“Alaska’s oil and gas industry remains the single most important economic engine in the state”

*McDowell Group, The Role of the Oil & Gas Industry in Alaska’s Economy, January 2020*



- + O&G accounts for 24% of all Alaska jobs and 27% of all Alaska wages
- + O&G has accounted for an average of 80% of state revenue since 1977
- + Pikka Phase 1 will:
  - Provide ~15% of TAPS throughput
  - Lower pipeline tariffs/increase value for all shippers by \$1 per barrel of oil

# Growth Opportunity



## Mega discoveries

- + Over 18-billion barrels of oil produced to date

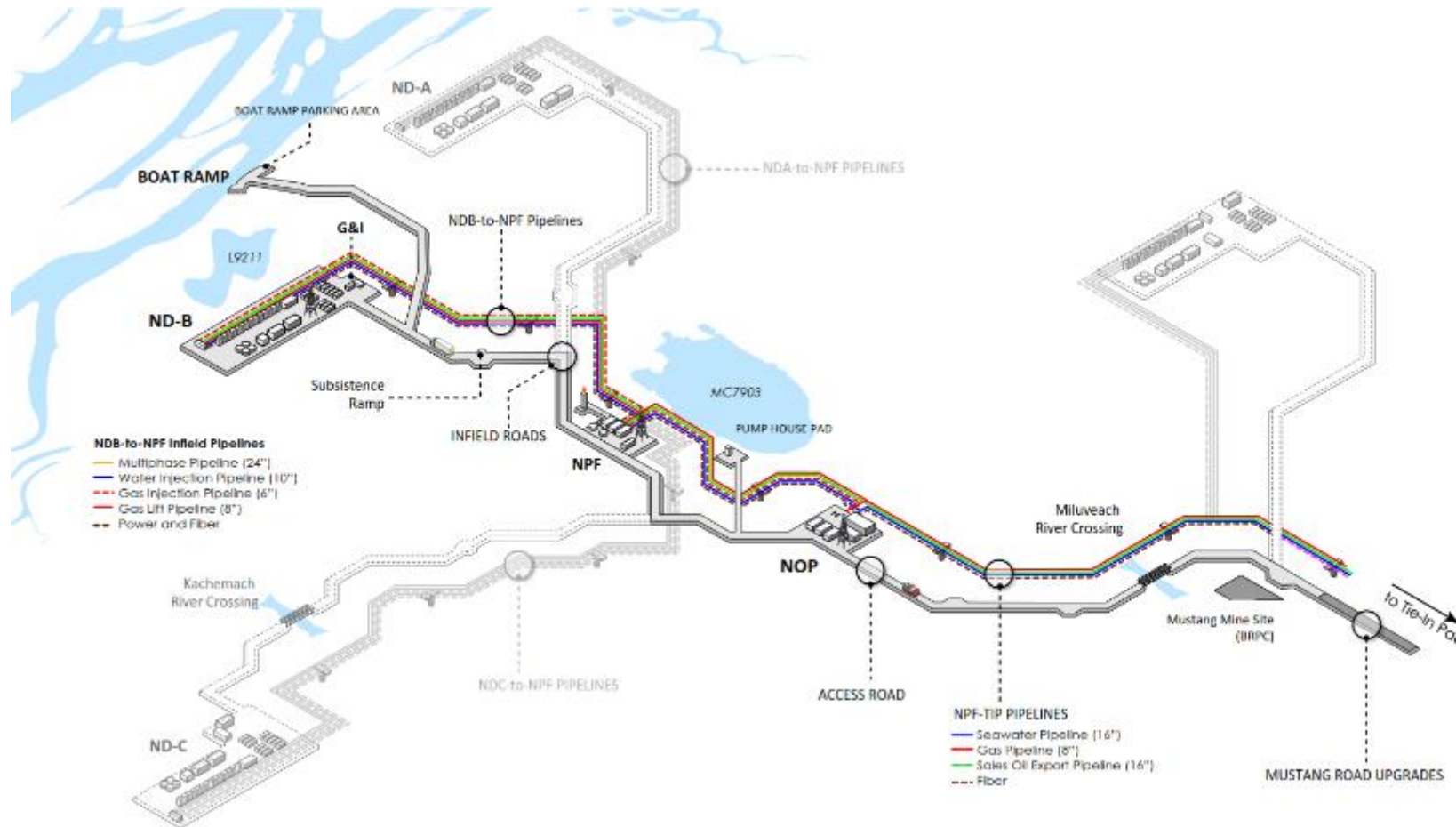
## Significant discoveries in Nanushuk play

- + USGS estimates >6 Bbbl yet-to-find
- + Advanced technologies have lowered development costs and reduced environmental impact





# Largely permitted project scope in Northern Area



Development pace can be managed through price cycles

- + NDA and NDC are permitted
- + Processing capacity could be expanded to 160,000 BOPD
- + Additional 10 miles (~16km) of gravel roads and one bridge necessary to be constructed in subsequent Pikka Phases
- + Nearby Quokka Unit

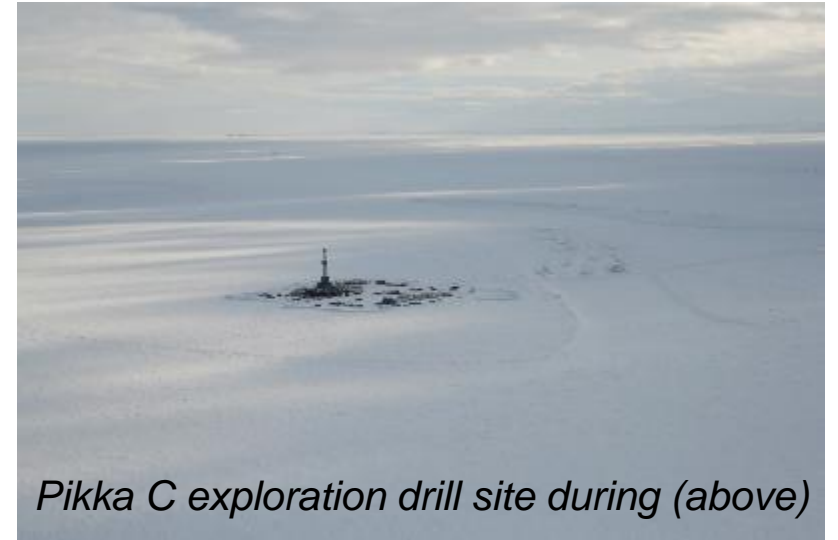
# Environment

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# Alaska is the right place for responsible development

- + In a 2°C scenario, the world needs to develop more oil to account for natural depletion of existing oil reservoirs during the transition
- + Alaska and the North Slope have the strongest environmental standards in the oil and gas industry
- + Robust permitting process is the foundation of the North Slope's strong environmental credentials and performance – ESG compliance is baked into the process
  - Local, state, and federal permitting – multi-agency
  - BU permitting team with decades of experience and strong relationships with agencies
  - Significant opportunity to public input
- + The North Slope is a mature basin with existing and underutilized infrastructure
- + By producing oil in the North Slope of Alaska we are:
  - Managing climate change transition risk
  - Ensuring oil is produced at a low GHG emission intensity and with the highest environmental standards
  - Supporting local communities and indigenous people
- + North Slope oil production is part of a climate change transition strategy that is based on low GHG intensity oil being produced in an environmentally responsible manner



*Pikka C exploration drill site during (above)*



*and 18 months after (below)*

# Project Poised to Play an Important Role in Energy Transition **Santos**

Phase 1 GHG intensity of 14 tCO<sub>2</sub>e/mboe is in the top quartile of global oil project performance

## Low GHG intensity (14 tCO<sub>2</sub>e/mboe)

- + In the top quartile of global GHG performance
  - 53% lower than average conventional onshore developments

## Paris aligned

- + The Pikka Development's breakeven cost of supply makes it resilient to low price environment and resilient to a number of decarbonization scenarios, including "well below 2 degrees C"
- + North Slope oil production is part of a climate change transition strategy that is based on low GHG intensity oil being produced in an environmental responsible manner

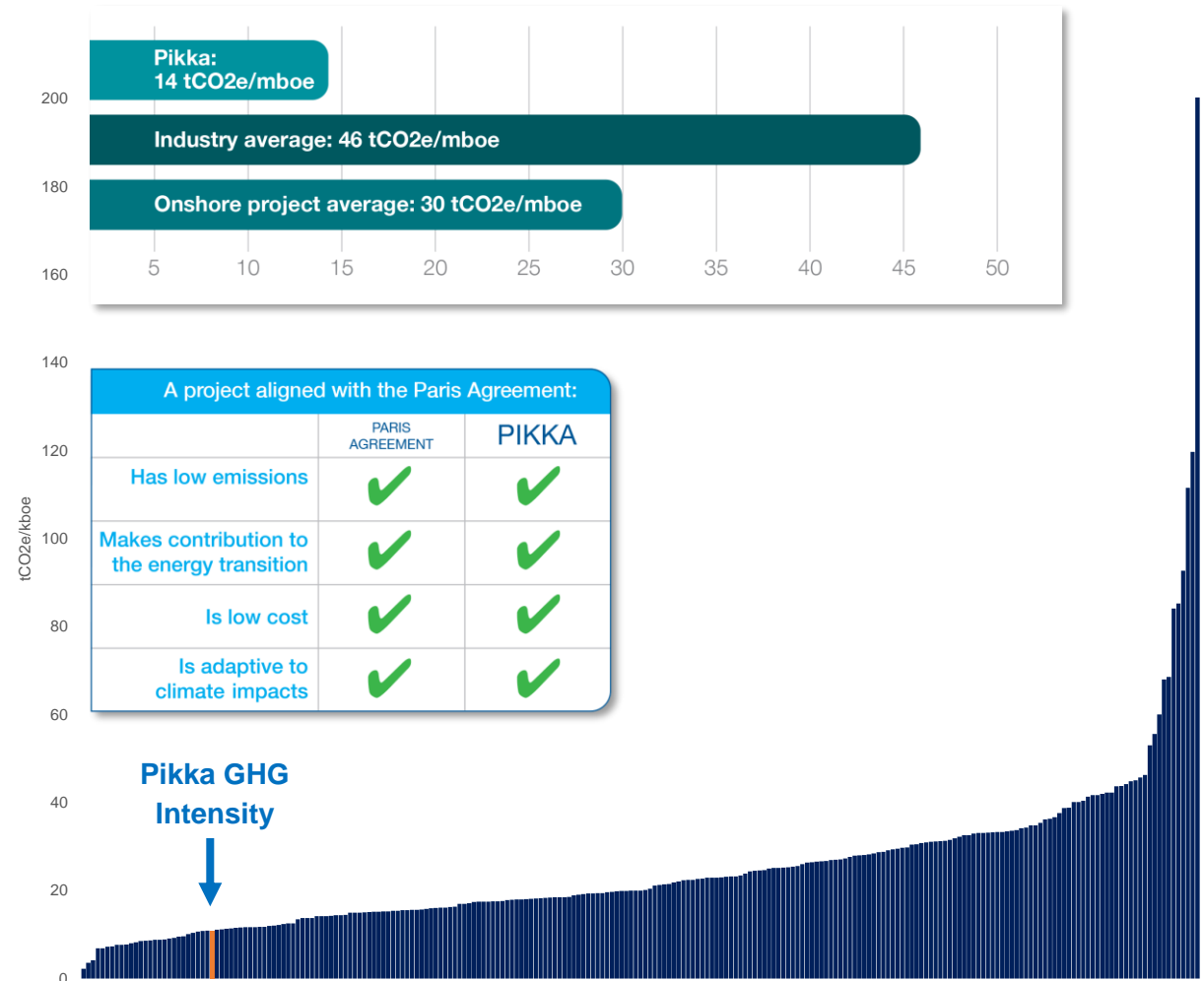
## Is a 'project footprint only' development.

- + Not a "frontier" development
  - Adds production to a mature, stable and well-regulated operating area

## Designed to minimize emissions

- + Centralized gas turbine generator power distribution from NPF to satellite pads and drilling rigs
- + Waste heat recovery units for all gas fired turbines to reduce (or eliminate) need for process and building heat
- + Drilling operations technology meets the highest EPA standards
- + Venting and flaring are not permitted except for specific, non-routine situations (testing and emergencies)

GHG Intensity of Probable/Under Development Oil Projects

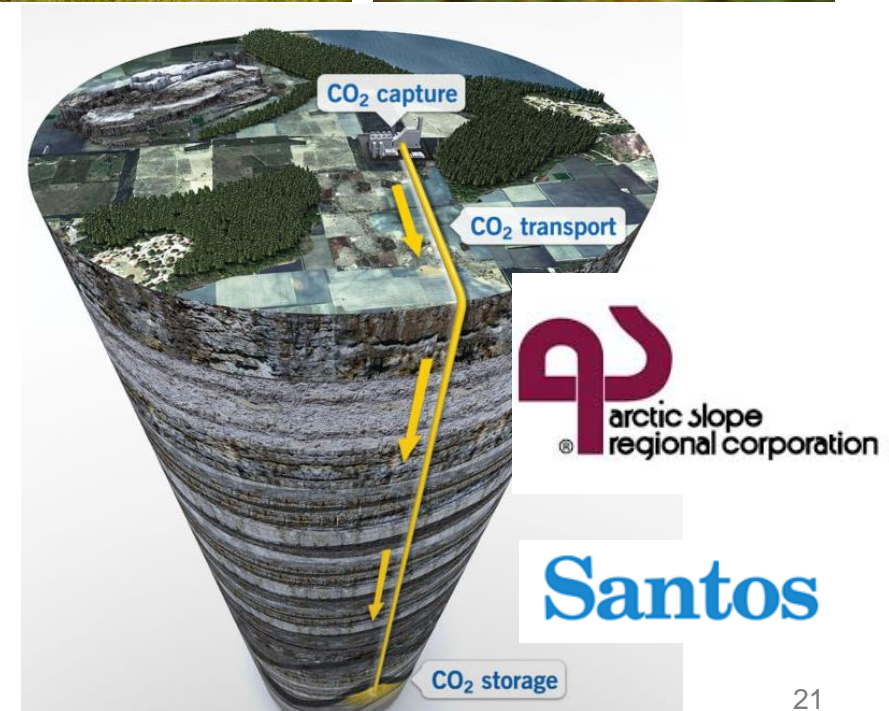


Sources: Wood Mackenzie Emissions Benchmarking Tool, January 2022; (Re)Positioning for the Future, Wood Mackenzie, November 2019

# Pikka Phase 1 Project will be Net Zero

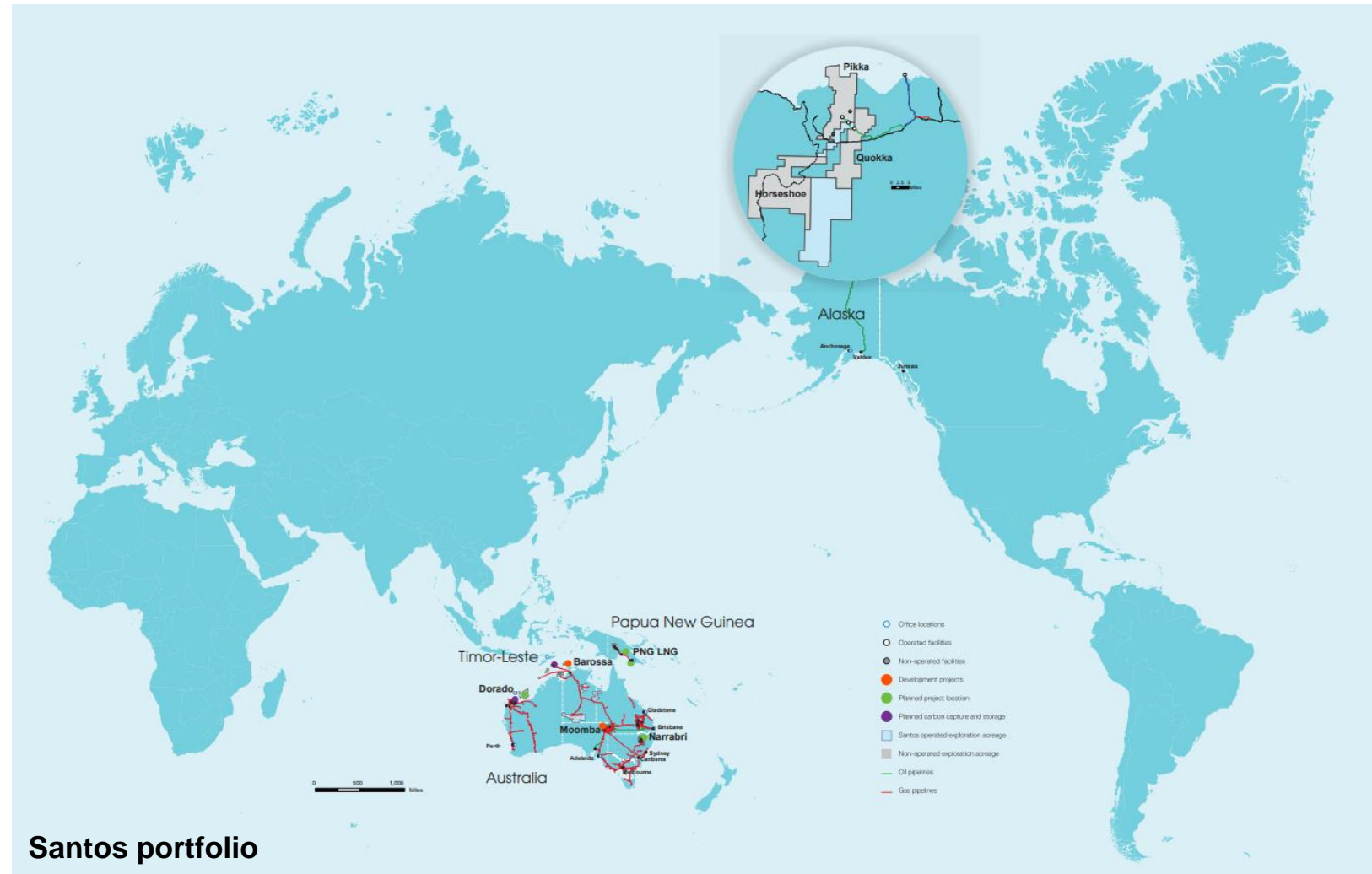
Carbon abatement options have been developed to offset STO Pikka Phase 1 emissions

- + Agreements in place with Native Alaskan Corporations to explore the feasibility of technical and nature-based carbon projects
- + Near-term nature-based Carbon Solutions
  - Letter of Intent (LOI) signed with large Alaska Native landowner to develop a forestry management project
  - Initial scope could completely offset Santos share of Pikka Phase 1 carbon emissions with high-quality credits registered for the voluntary market
- + Future large-scale carbon abatement technologies
  - Strategic Alliance Memorandum of Understanding (MOU) with ASRC Energy Services to develop carbon abatement solutions for Pikka operations
  - Participating in a consortium developing a Direct Air Capture (DAC) and Carbon Capture and Storage (CCS) hub concept in Alaska
- + Potential to accommodate offsetting future Pikka project phases and/or coverage of joint venture participant emissions



## World-class opportunity in OECD country with internationally competitive investment environment

- + Project Phase 1 final investment decision (FID) in August 2022
- + Oil development is part of decarbonization (and transition) strategy
  - Committed to net-zero project scope (scope 1 and 2, equity share)
- + Alaska creates portfolio diversification (product and geography) in an OECD<sup>1</sup>, business friendly environment
  - Presents opportunities for energy transition (gas, carbon capture and abatement, clean fuels)
- + Future development pace will be funded from cash flow and managed within capital framework
  - Optionality depending on conditions



<sup>1</sup> Organization for Economic Cooperation and Development

Let's Get to Work!

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