



PANTHEON
RESOURCES PLC

Webinar

14th September 2023

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Bob Rosenthal – Technical Director

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David Hobbs – Executive Chairman

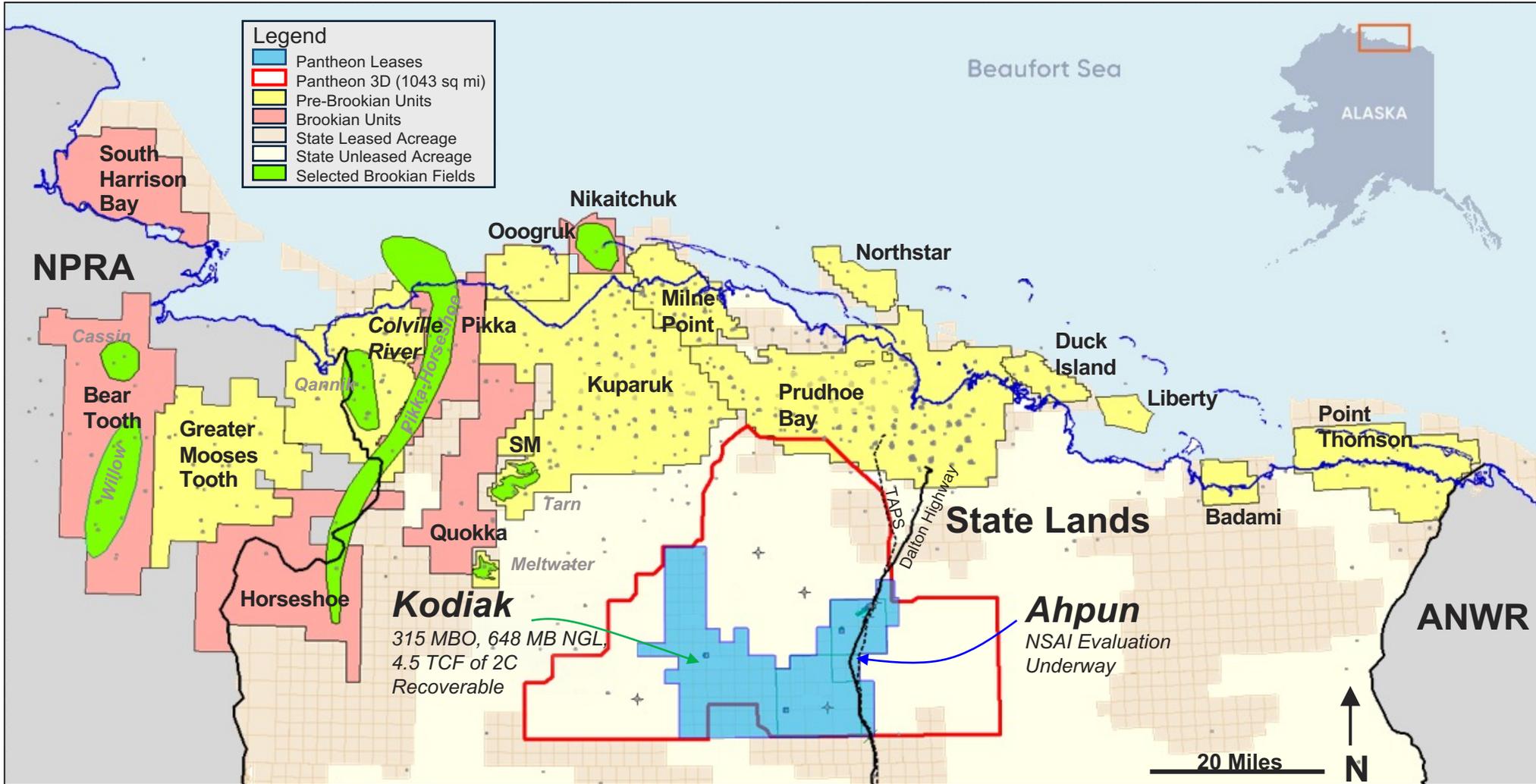


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- Competent Person’s statement: Michael Duncan has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person in accordance with the guidance note for Mining, Oil & Gas Companies issued by the London Stock Exchange in respect of AIM Companies, which outlines standards of disclosure for mineral projects. Michael Duncan consents to the inclusion in this Presentation of the matters based on his information in the form and context in which it appears.

Pantheon's North Slope Field Development Assets

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Kodiak – 963 million barrels of marketable liquids (NSAI estimate)*



* Best estimate 2C recoverable



1. Netherland, Sewell and Associates report summary
 - i. Kodiak report results
 - ii. Appraisal upside
2. Reservoir and fluids characterization
3. SMD test in Alkaid-2
4. Future development planning work
5. Contingencies on permitting and offtake
6. Update on strategy implementation
7. Q&A

NSAI Resource Estimate (August 2023)

Kodiak (formerly known as Theta West)

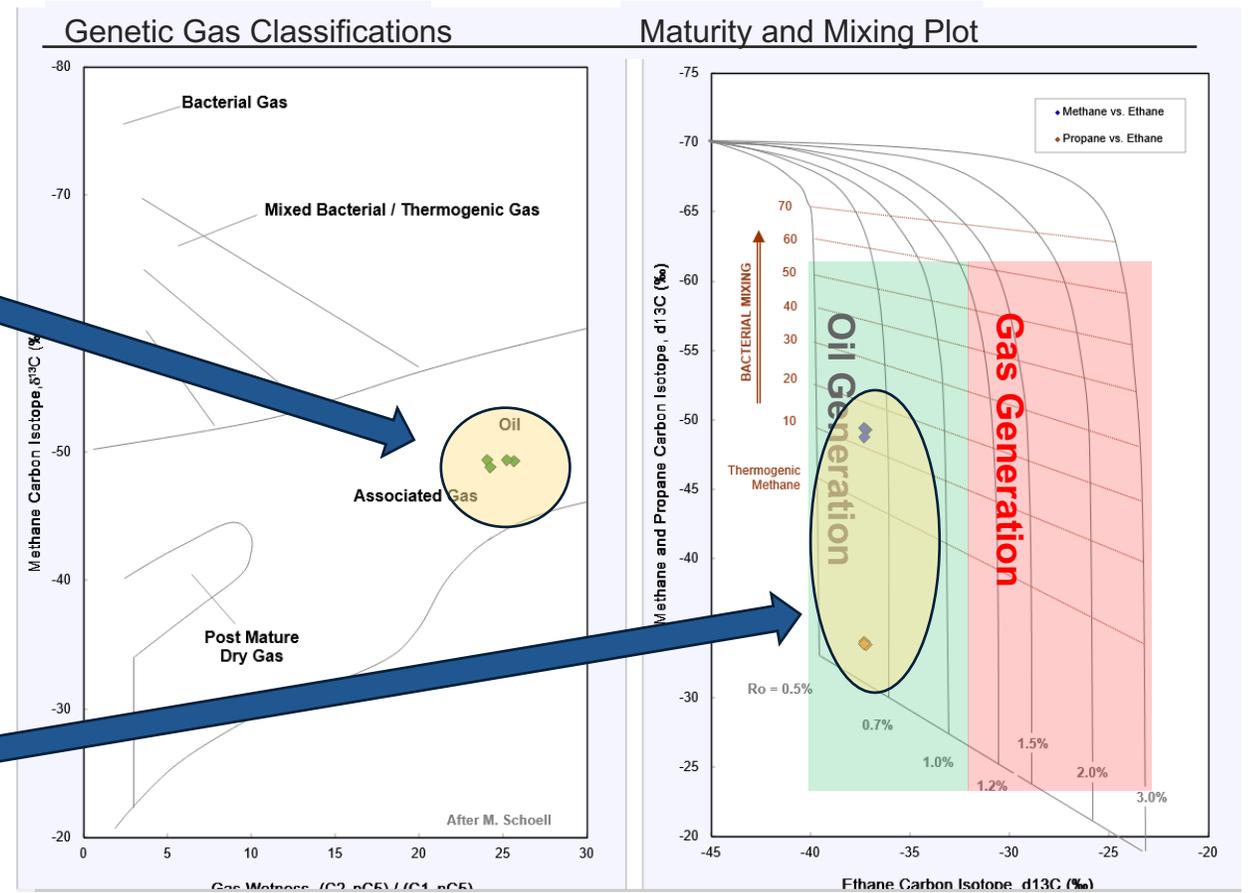


Category	Oil (billion bbl)	NGL (billion bbl)	Total Liquids (billion bbl)	Residual Gas ⁽¹⁾ (trillion cubic feet)
Low Estimate (1C)	0.15	0.29	0.44	2.15
Best Estimate (2C)	0.31	0.65	0.96	4.47
High Estimate (3C)	0.65	1.37	2.02	8.82

⁽¹⁾ Residual gas volumes are after shrinkage to account for the extraction of NGL volumes.



1. All gas is associated with light oil
2. Free gas is associated gas that has come out of solution
3. Source rocks in the oil generation window





Marketable Liquids – Pantheon Portfolio Mixture of oil, condensate and NGLs

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1. Liquids produced and sampled in well tests have been “black oil”
2. Associated gas has been flared but Alkaid-2 provided opportunity to gather “stabilized” samples and properly calculate liquids yield
3. GeoMark analysis indicates yield of 100 barrels per million cubic feet of gas.



Interpretive Report
Houston Texas
29 November 2022

GEOMARK

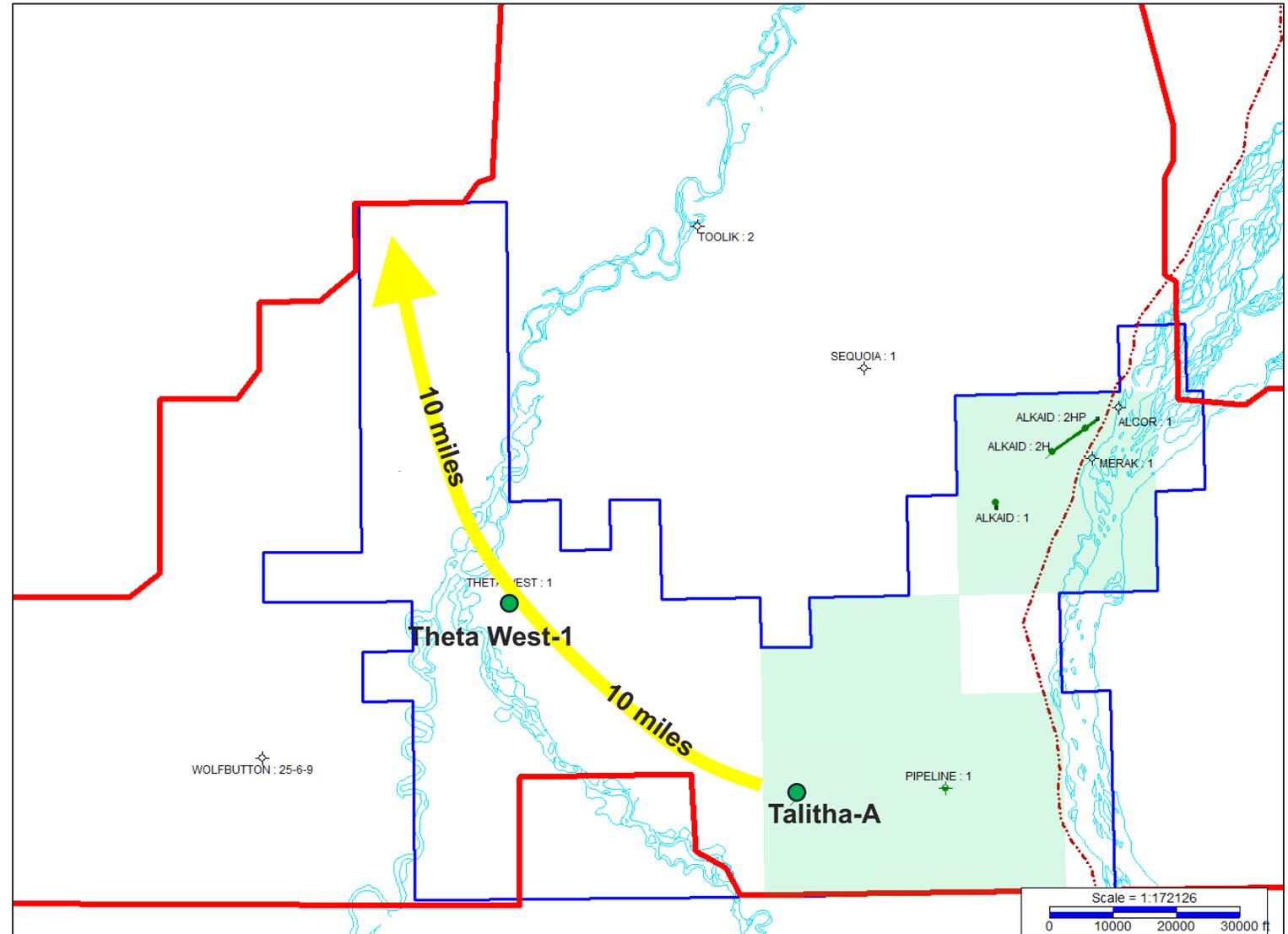
Scope to increase
estimated recoverable
volumes through
further appraisal



Scope for Improved Reservoir Quality to the North West Conventional Reservoir Cut Off > 0.1mD (SLB Definition)



Appraisal of North and
Western Limits of Kodiak
Reservoir

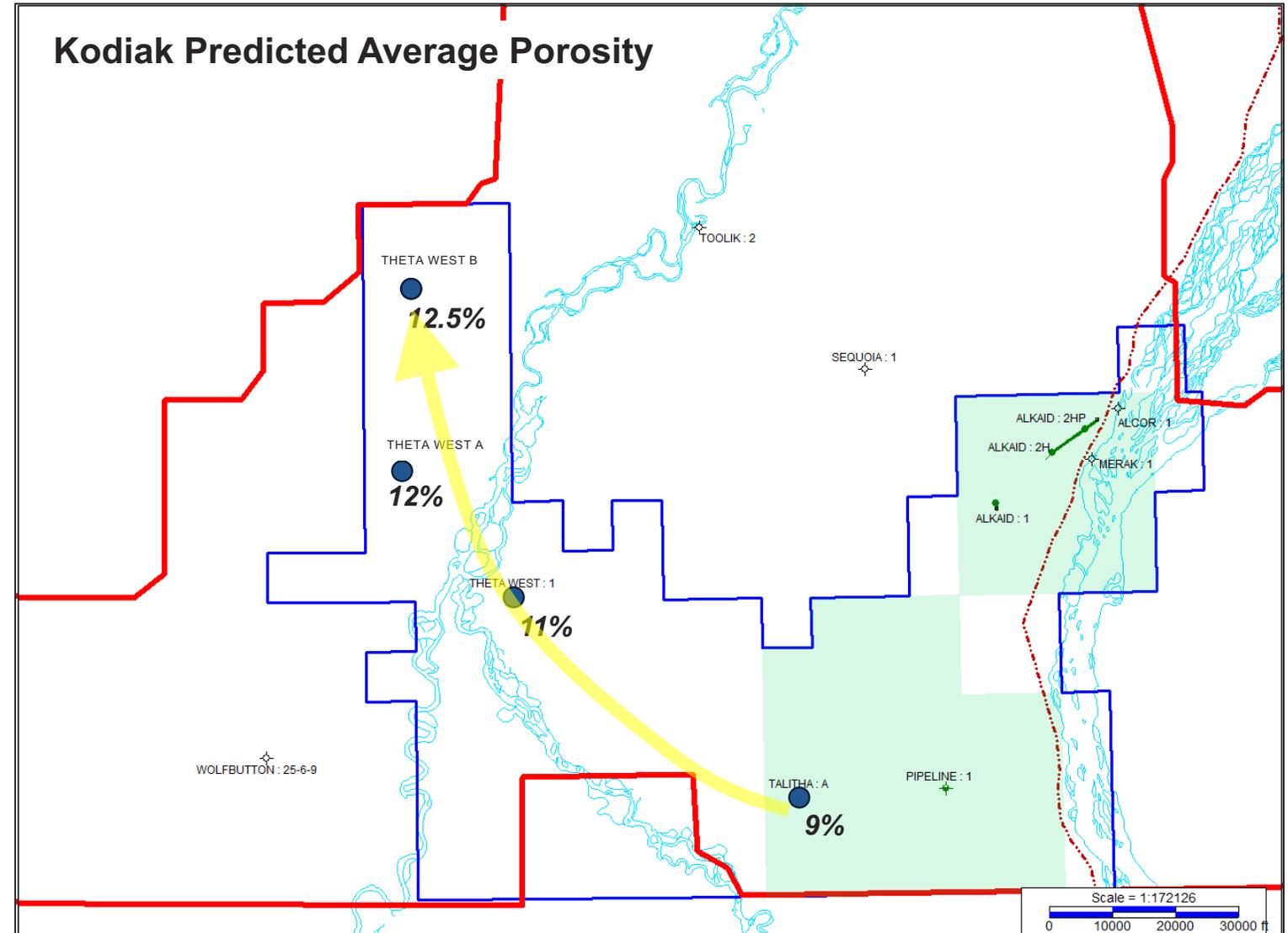


Scope for Improved Reservoir Quality to the North West Conventional Reservoir Cut Off $> 0.1\text{mD}$ (SLB Definition)



Appraisal of North and
Western Limits of Kodiak
Reservoir

Increasing Average Porosity



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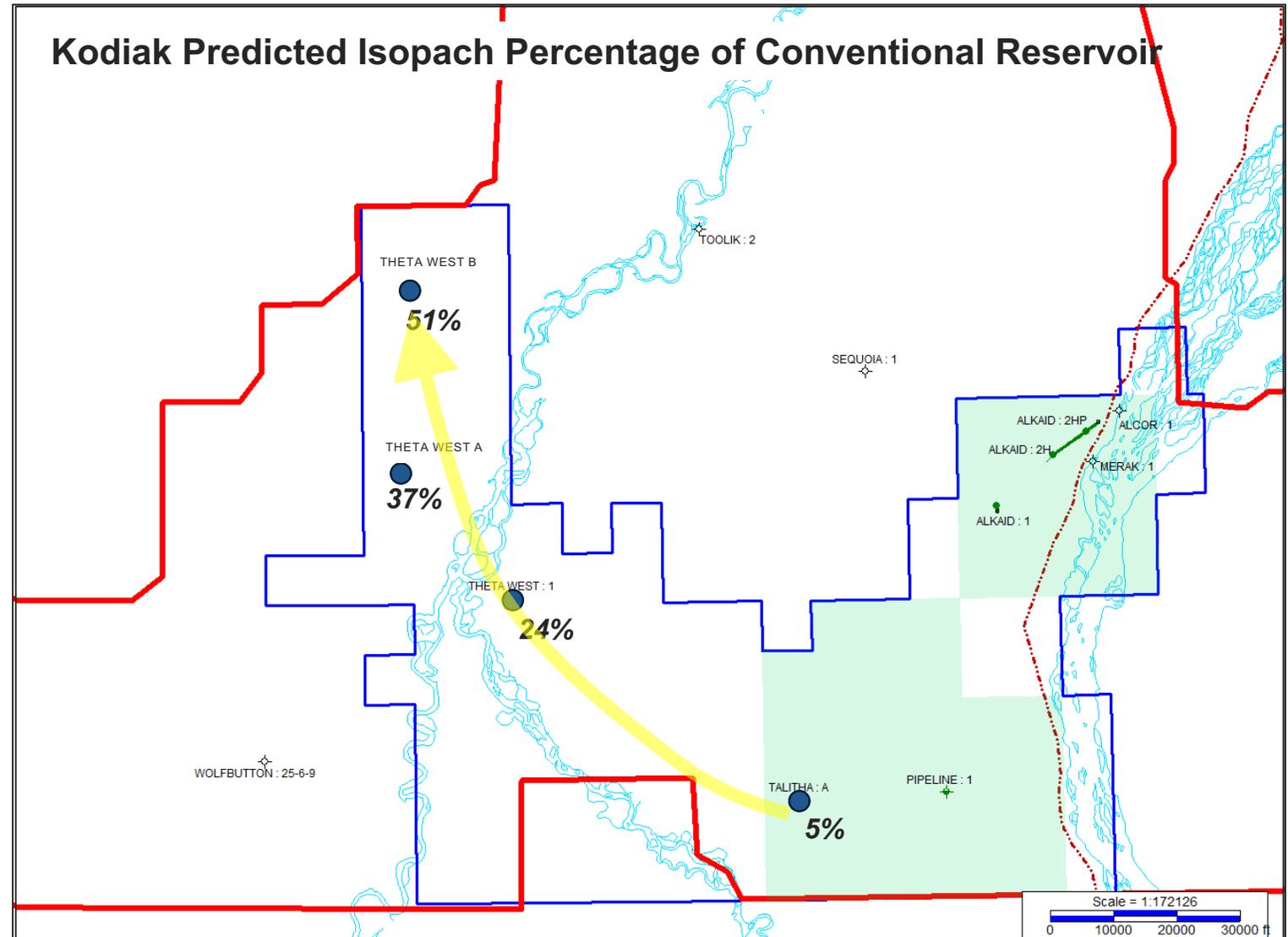


Appraisal of North and
Western Limits of Kodiak
Reservoir

Increasing Average Porosity

Increasing Proportion of
Conventional Pay

Improved Anticipated Well
Production Performance

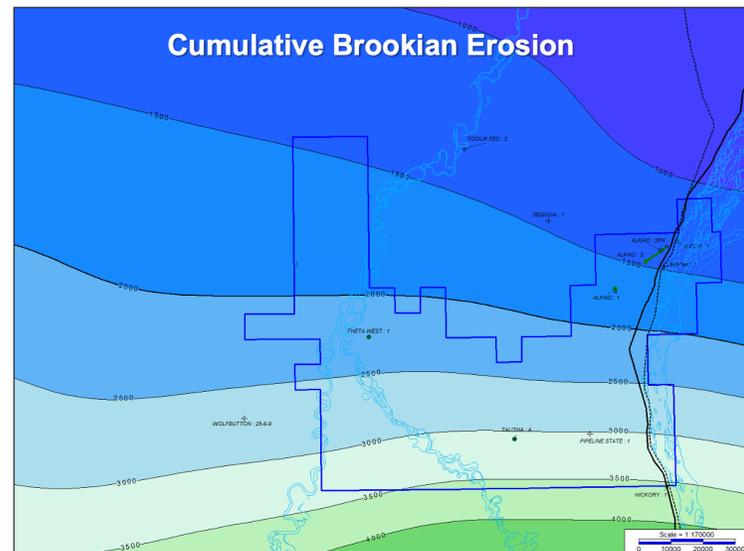
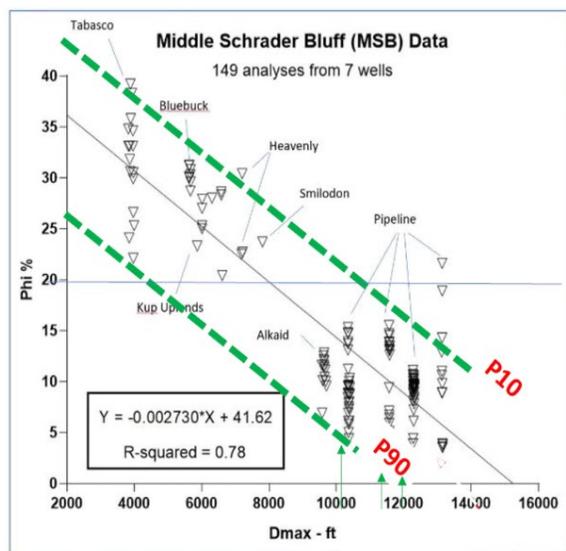
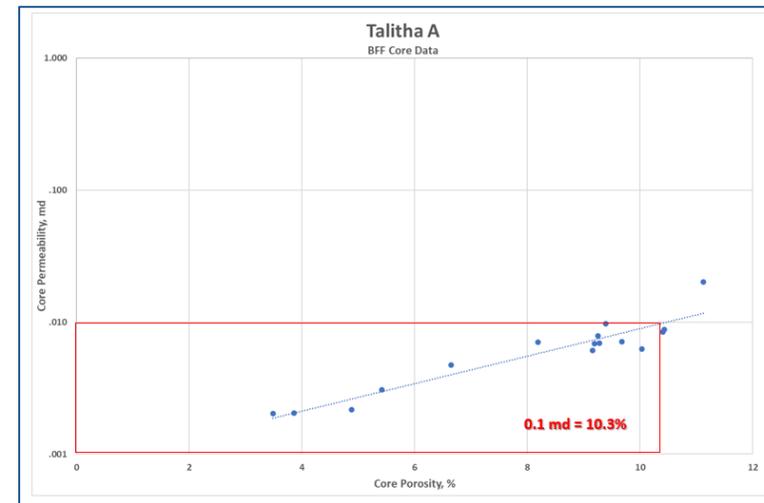
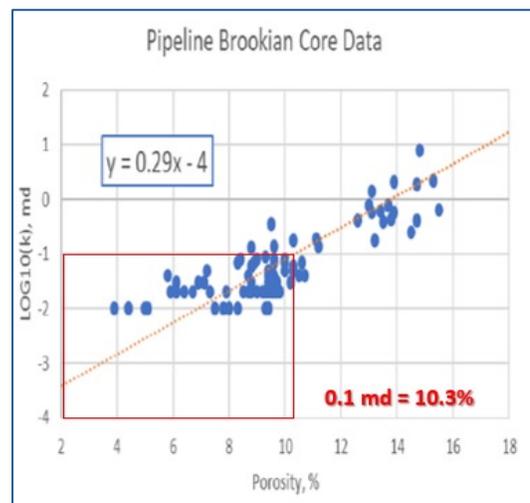
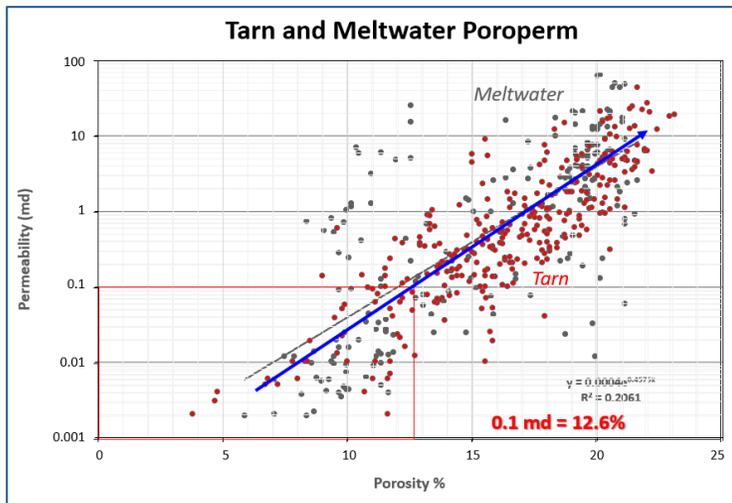




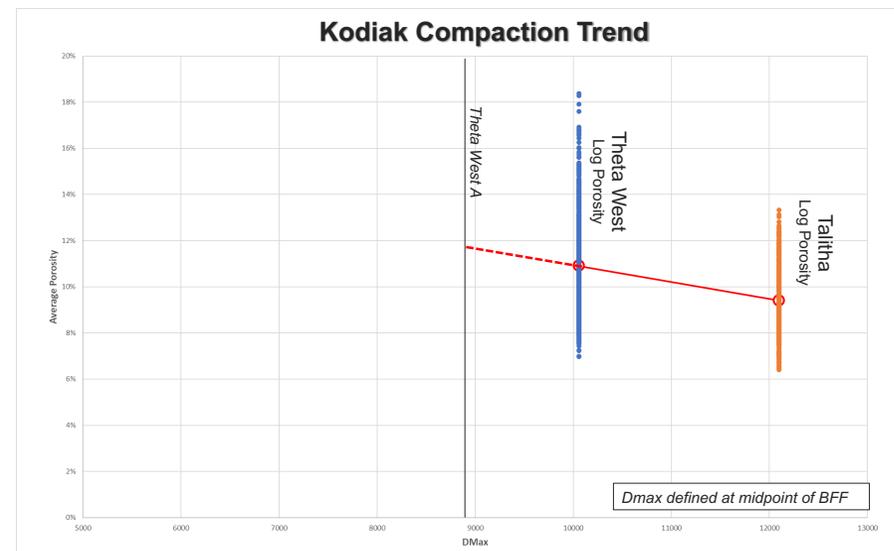
Establish Porosity/Permeability relationship using local and regional data

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Extrapolate Talitha A porosity profile across Kodiak incorporating Dmax



Burns et al, USGS, 2005

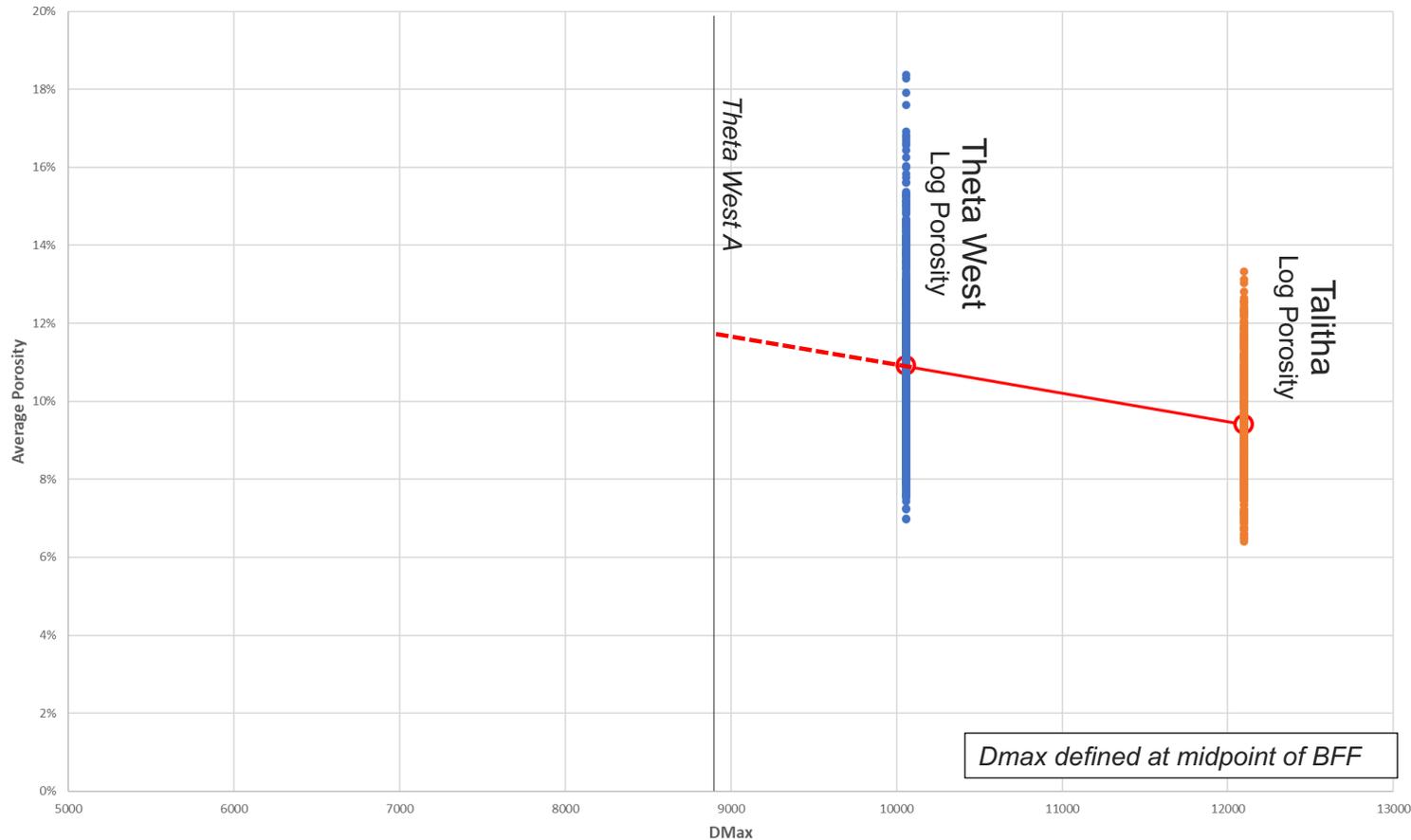


Establish Porosity/Permeability relationship using local and regional data

Extrapolate Talitha A porosity profile across Kodiak incorporating Dmax



Kodiak Compaction Trend

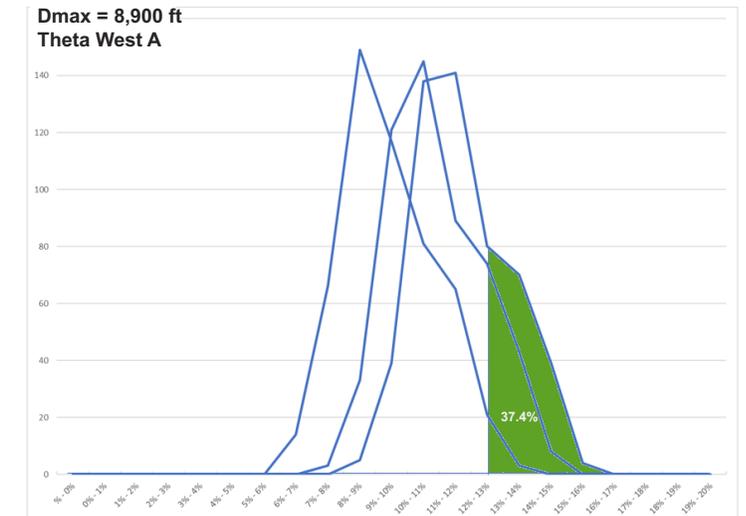
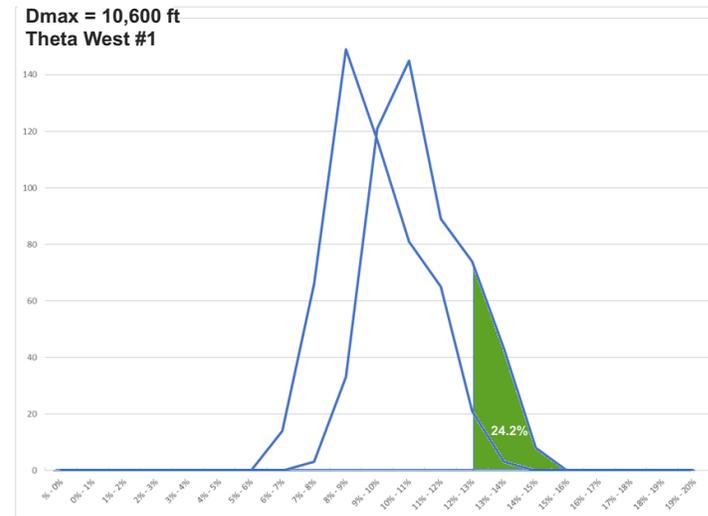
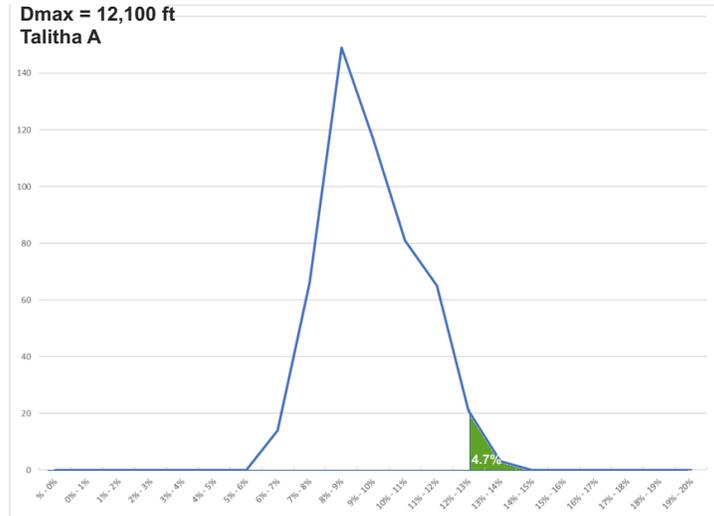
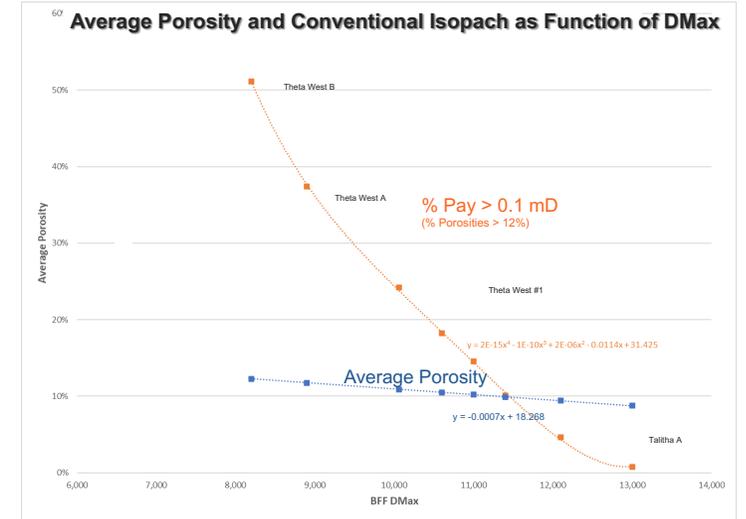
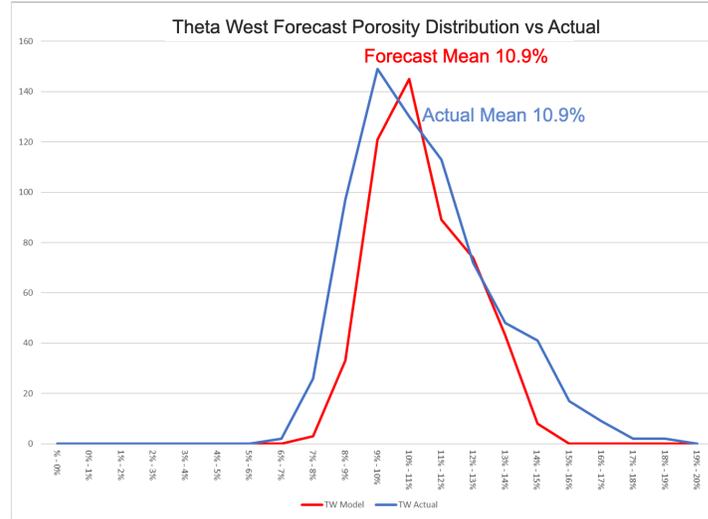
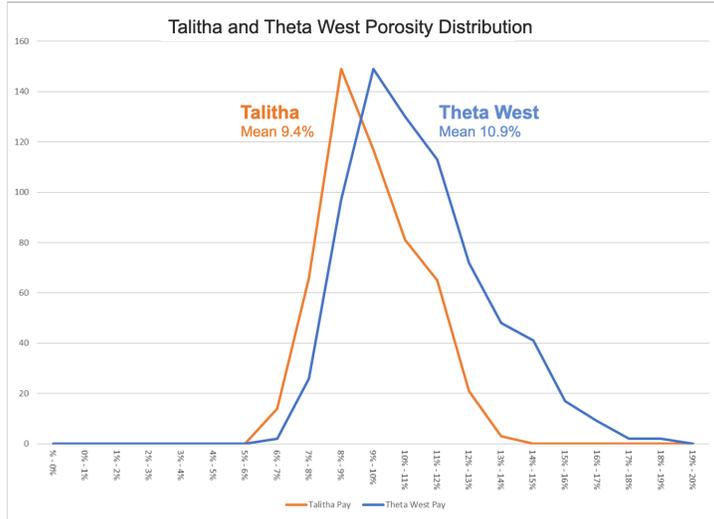


Porosity and permeability improve as we move to the NorthWest

- Updip location
- Reduced Dmax

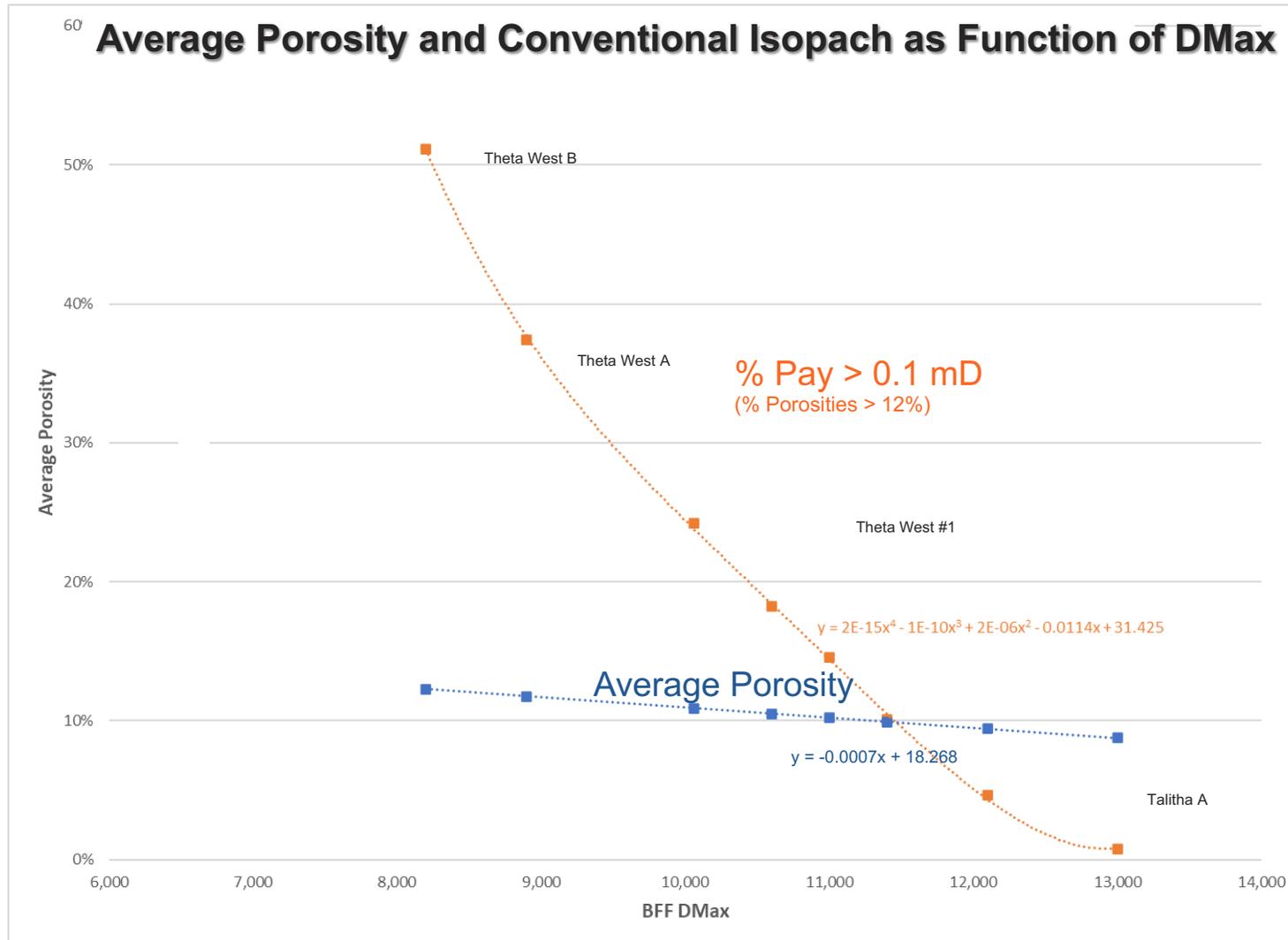
Predicting Porosity and Permeability Distributions (Company Analysis)

Increasing Proportion of Reservoir within Conventional Window to North West



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Thin bed analysis based on Pipeline State, Talitha core and log data Scope for further improvement in reservoir quality/performance



Examining reservoir at centimeter scale; possible from core analysis and Formation Microresistivity Imaging Log (FMI) vs conventional logs (order of magnitude lower resolution) yields new insight

1. The hydrocarbons in place do not change significantly but there are implications for the permeability and porosity of the pay sections in the laminations
2. The model predicts the sand laminations to be 2 to 5 porosity units above the average seen by conventional logs - wireline and logging while drilling (LWD)
3. Up dip in Theta West the predicted sand laminations have highs in the 15% to 20% range and permeabilities of the better reservoir will be above 0.5mD

This analysis informs our Kodiak appraisal plans – especially the need to gather full core data, run a full suite of wireline logs and perform optimally designed flow tests

The statistics of the core data support the validity of eSeis laminated porosity model

Process to reclassify contingent resources as reserves



Addressing the Contingencies Noted in NSAI Kodiak Report

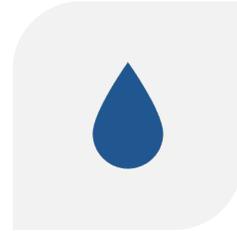
2C Recoverable Resources Estimate 963 million bbls of marketable liquids



I. TECHNICAL DATA THAT DEMONSTRATE SUFFICIENT RATES AND VOLUMES TO SUSTAIN ECONOMIC VIABILITY



II. FIELD DEVELOPMENT PLAN AND REGULATORY PERMITS



III. VIABLE GAS AND WATER UTILIZATION OR DISPOSAL METHODS



IV. ABILITY TO MARKET OIL AND NGL



V. COMMITMENT TO FUND AND COMPLETE THE DEVELOPMENT PROJECT



- Alkaid-2 SMD Test
 - Gathering PVT data
 - Evaluating revised frac design
 - Determining initial reservoir pressure
- Development drilling program and reservoir simulation based on SLB model will determine field economics
- Cut whole core on next Kodiak appraisal well and gather full suite of high-resolution logs (FMI) and optimised well tests

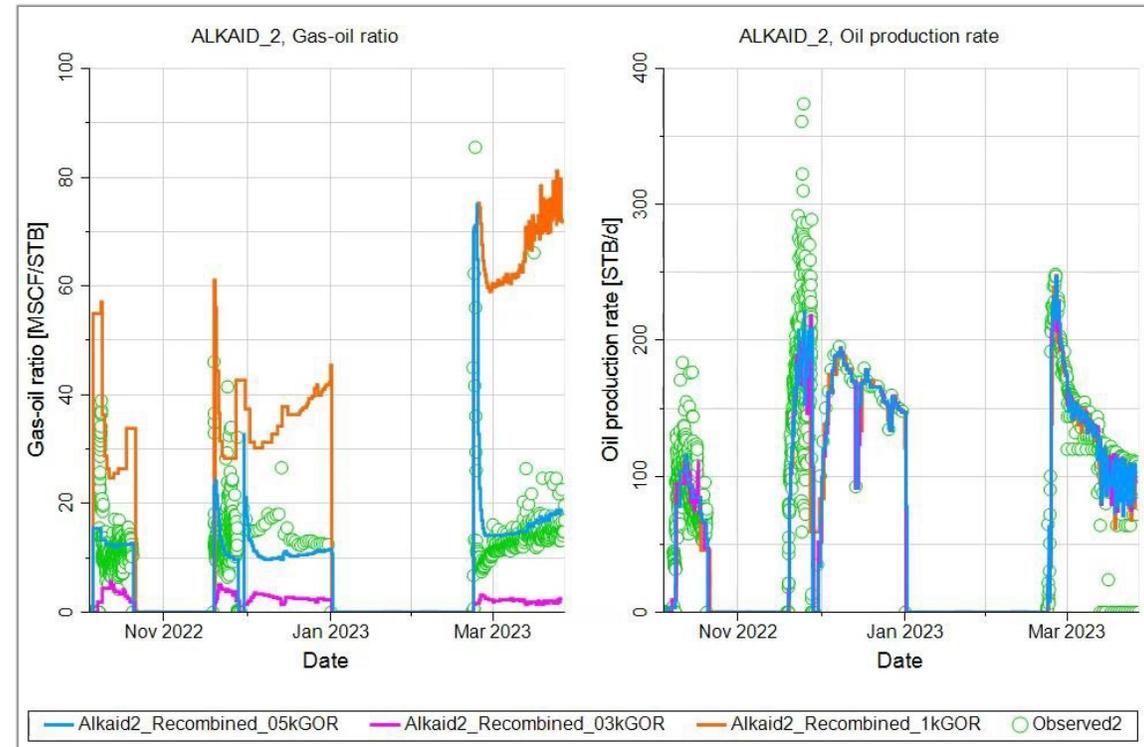
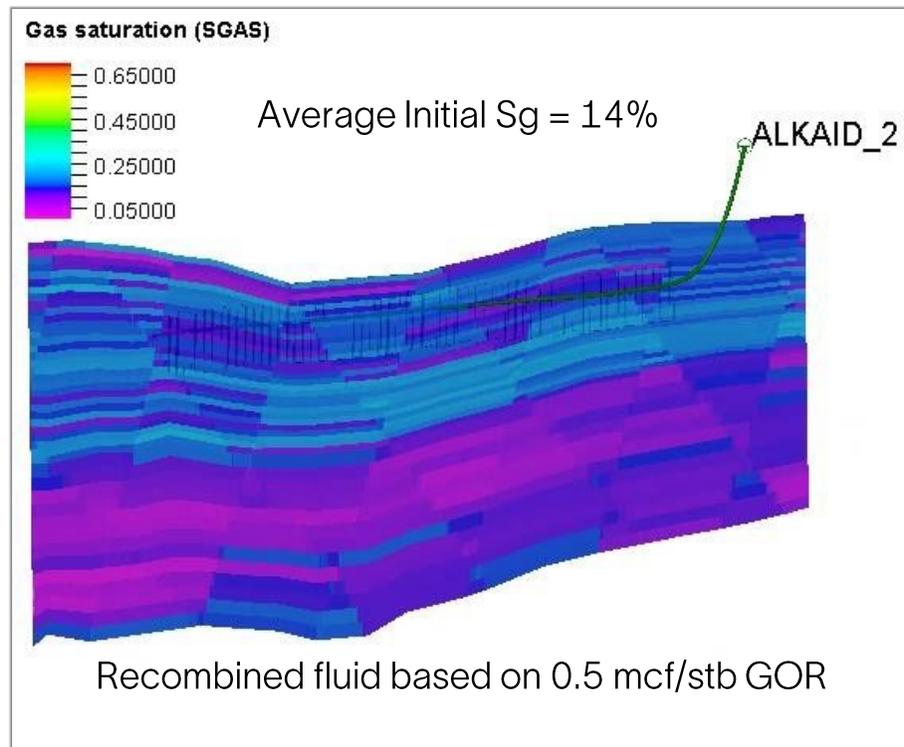


Reservoir Simulation with recombined lab conditioned fluids

Technical data that demonstrate sufficient rates and volumes to sustain economic viability



- Reservoir model is initialised with recombined fluids and flashed at reservoir conditions with two phases, gas and oil (average gas saturation of 14% for the recombined fluid based on 500 scf/stb Gas Oil Ratio (GOR))
- Recombined fluids based on 500 scf/stb GOR provides better match of producing GOR





Permitting a Development Project Major Milestones



- Unit Development Plan Approval
- State Pipeline Right-of-Way Lease
- Hot Tap Design Approval
- Air Quality Permit

An aerial photograph of a hot tap site in a marshy area. The site is a cleared, gravel-covered area with several blue storage tanks and equipment. A yellow arrow points to a location in the distance, labeled "Proposed Hot Tap Location".

Proposed Hot Tap Location



Working with SLB to develop:

- Well level analysis to estimate production forecast
- Conceptual field development plan

Final report expected Q2 2024

- EUR & production per section (various well spacing, scheduling)
- P10, P50, P90 production and well forecast for Ahpun
- SLB simulation report including use of the dynamic model to include gas injection & water injection well analysis





Valuation of NGL's and Condensate along with Oil Total Marketable Liquids transported via TAPS



- TAPS is a common carrier pipeline with access regulated by the Federal Energy Regulatory Commission (FERC)
- NGLs are transported to market via TAPS as part of crude stream
- Each input stream of North Slope crude is priced based on the relative value of each input stream's components
- Initial analysis indicates Pantheon's marketable liquids (entering the TAPS main oil line) will have a value of approximately 90% value of published ANS prices



Commitment to fund and complete the development project Illustrative Time Line – Ongoing Progress



Investor & industry partner engagement to secure mix of funding for Pantheon’s strategic goal: to deliver \$5-\$10/bbl by 2028 while minimizing value dilution to investors

Establishment of Houston HQ



NSAI report on Kodiak



NSAI initial report on Ahpun incorporating Alkaid 2 result

Advisors working on tax planning & re-listing of Pantheon

Regulatory permits for Hot Tap and Ahpun Full Field Development

Alkaid 2 SMD Frac/Test



NSAI final report on Ahpun for funding purposes

Financing for Ahpun Development



Ahpun Full Field FID



Positive Net Operating Cashflow Achieved



Cashflow Self-Sufficiency Achieved (incl Capex)

Further frac optimisation through well(s) from Alkaid or Phecda pads

Ahpun Field Development Drilling (initial drilling from Alkaid & Phecda pads to begin in late 2025)

Ahpun Field Production (building to 20,000 bpd by end 2028)

Kodiak appraisal drilling (3 wells)

Regulatory permits for Kodiak Field Development



Kodiak FID

Today End 2028



Objective

- Deliver sustainable market recognition of a value of \$5 – \$10 per barrel of 1C/1P recoverable resources by end 2028

Goals

- Final Investment Decision (FID) on Ahpun (2025) and Kodiak (2028)
- Positive net operating cashflow to fund future development and production growth by 2028

Infrastructure Requirements

- 30 production wells & 10 injection wells from Alkaid & Phecda pads
- 20,000 bpd marketable liquids processing capacity.
- Hot tap into TAPS main oil line

Key Activity Update vs Illustrative Timeline

- NSAI report on Kodiak delivered, Ahpun (Alkaid ZOI) analysis ongoing
- Placement for Convertible Bond to long term holder
 - *Aim to reduce supply of “loose” equity into the market*
- Mobilising shortly for Alkaid-2 SMD test
- Negotiating lease on Houston headquarters, Advisors working on tax implications of US or Dual Listing strategy