



PANTHEON
RESOURCES PLC

Webinar

28th June 2023

Jay Cheatham – Chief Executive Officer
David Hobbs – Executive Chairman
Tony Beilman – Senior VP, Engineering

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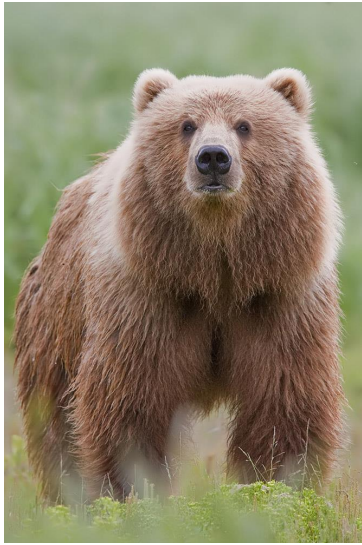
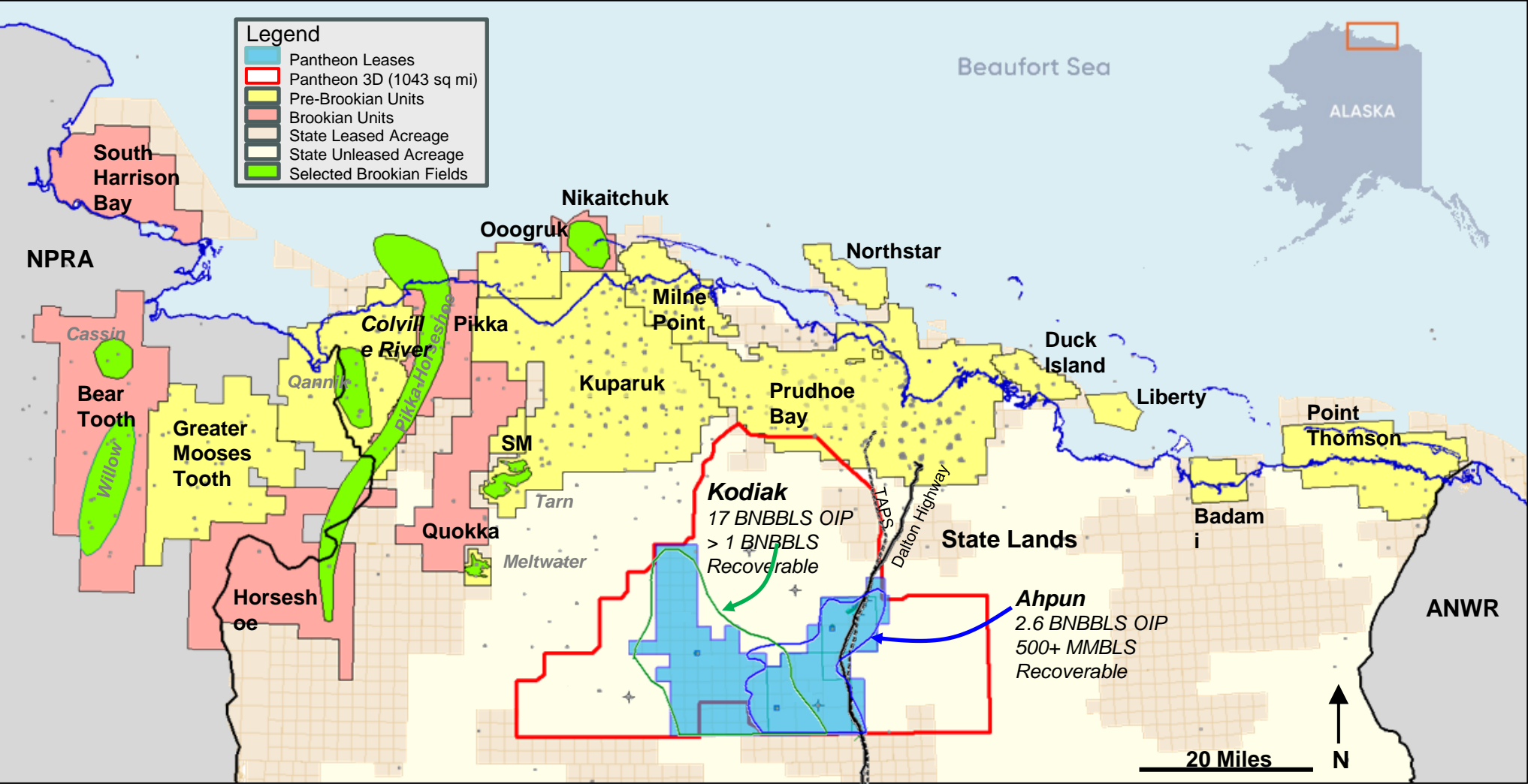


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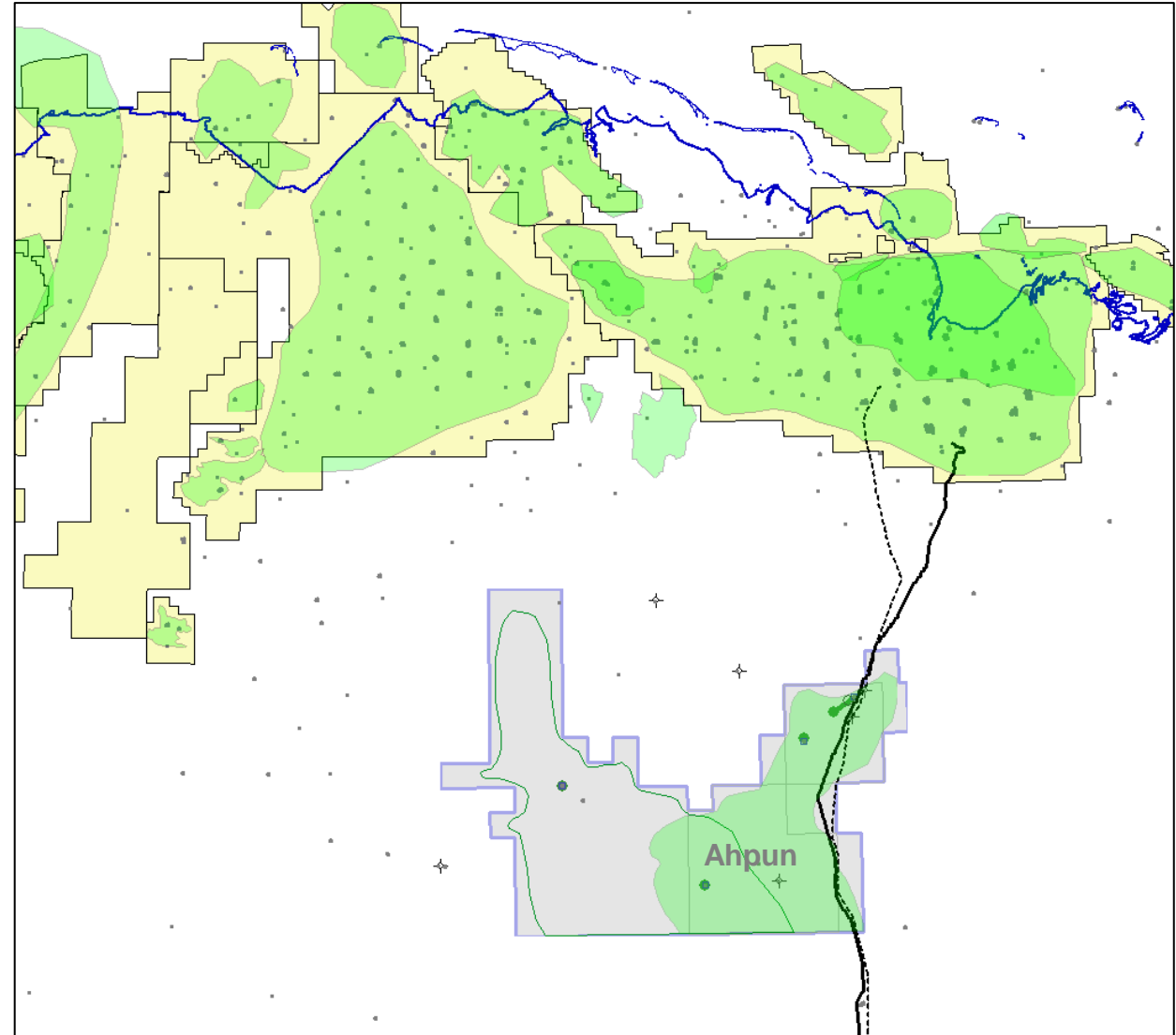


Pantheon Assets In Context

We have discovered and appraised two wholly owned, giant fields on Alaska's North Slope, close to infrastructure. We are now moving to development of Ahpun and Kodiak

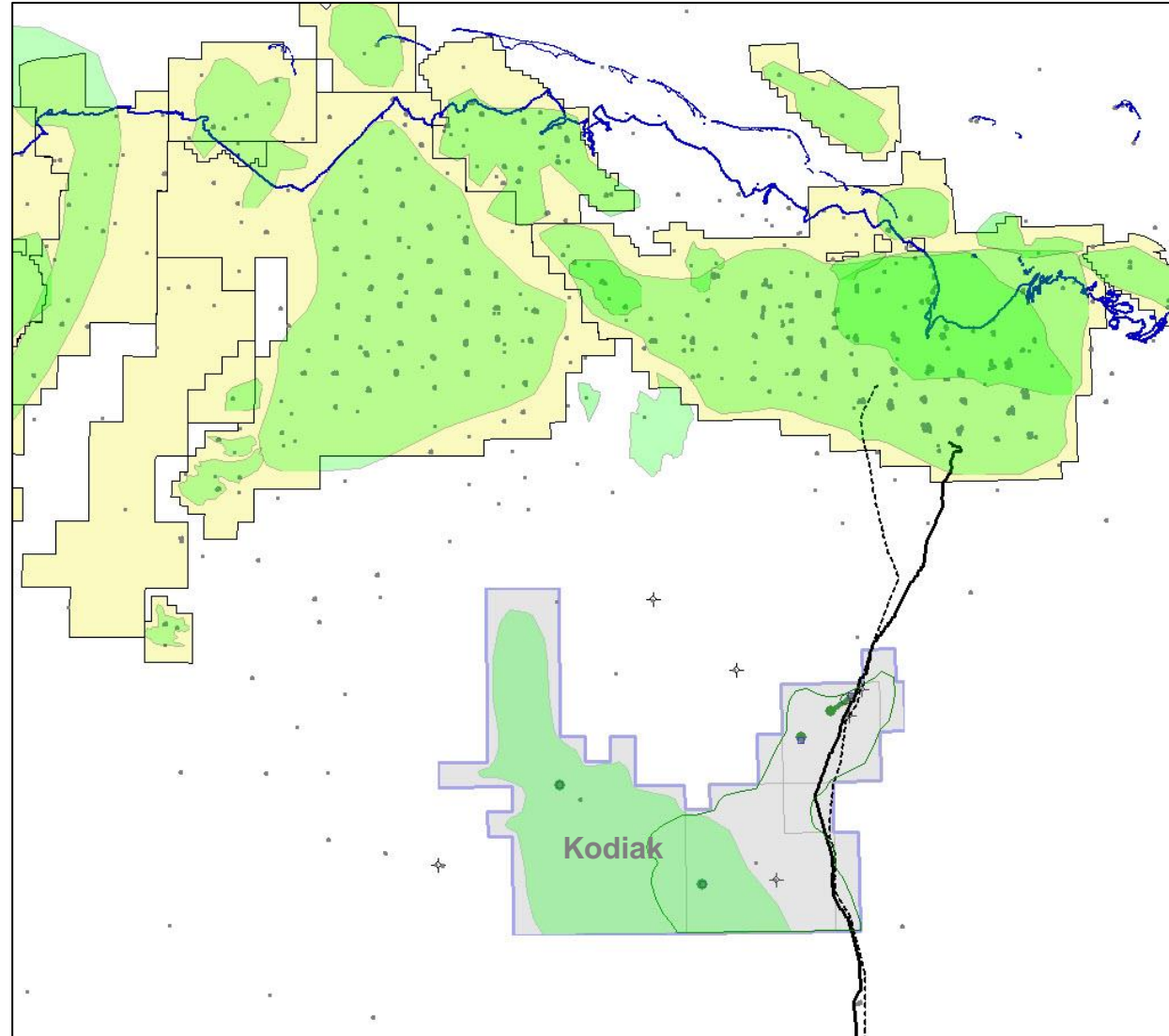


Ahpun Field



Named after the beloved, long-time resident polar bear at the Alaska Zoo (1998-2017)

Kodiak Field



Pantheon's Strategic Plan



Objective

- Deliver sustainable market recognition of a value of \$5 – \$10 per barrel of 1C recoverable resources

Goals

- Final Investment Decision (FID) on aggregate 2C recoverable resource of 2 bn bbls TAPS liquids across Ahpun and Kodiak fields
- Sufficient net operating cashflow to fund all future development and production growth
- 20,000 bbls/day production into TAPS

Requirements

- Net capital (equity, reserve lending, asset level, etc) requirements of ~ \$350 million over five years to develop 2 bn bbls of recoverable oil
- 30 optimally fracked 10,000ft laterals from Alkaid & Phecda pads
- Processing facilities for 20,000 bpd marketable liquids including water and gas reinjection wells.
- Hot tap into TAPS main oil line

Key Additional Activities

- Establishment of Houston headquarters
- Hiring advisors on US listing strategy
- Development permitting for Ahpun Field

Two Giant Fields (Ahpun & Kodiak) plus Three Further Discoveries (Slope Fans, Kuparuk, and Upper Basin Floor Fan)



Ahpun Field

- Underlies Alkaid & Talitha Units
- Incorporates reservoirs between regional top seal and Hue shale

Stage 1

- accessible from pads within Dalton Highway corridor
- 200-300 mmbbls EUR. \$300 million net cash investment to achieve positive net operating cashflow¹

Stage 2

- additional pads up to 5 miles from Dalton Highway corridor
- 300-500 mmbbls EUR. Initial Stage 2 development capex funded from Stage 1 net operating cashflows¹

Kodiak Field

- Underlies Theta West/Chimney Areas and Talitha Unit

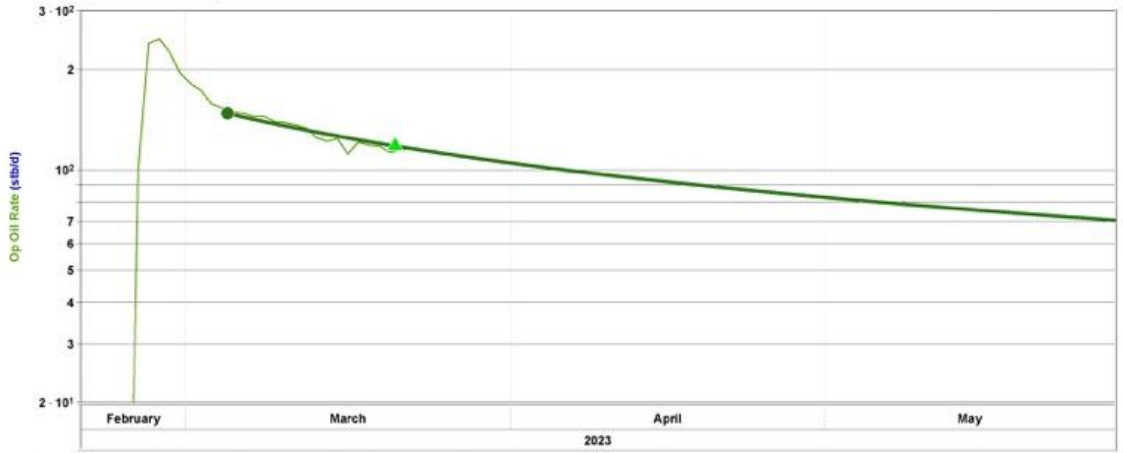
- 3 further appraisal wells to reach FID. \$50 million capital investment
- Multiple pads up to 10 miles from Dalton Highway and TAPS corridor
- 1.5 bn bbls EUR¹
- Development capex funded from net operating cashflows of Ahpun Field Phase 1 and Phase 2 developments

Other Discoveries

Slope Fans, Kuparuk, and Upper Basin Floor Fan Discoveries

- Appraisal drilling to follow FID of Kodiak Field Development
- Best Estimate Prospective Recoverable Resources more than 500 mmbbls¹

¹ Company Estimates



Analysis	Class	EUR ₀	N _p	RR ₀	Start Date	Q ₀	Δt	d, sec	b	d ₁₀₀ exp	(q ₀) ₀	End Date	R ² _{log-log}
Name		Mstb	Mstb	Mstb	MM/DD/YYYY	stb/d	year	%/year		%/year	stb/d	MM/DD/YYYY	
Analysis 1		131.243	3.767	127.476	03/21/2023	118.1	41.83	71.852	1.650	3.000	3.0	01/16/2065	0.843



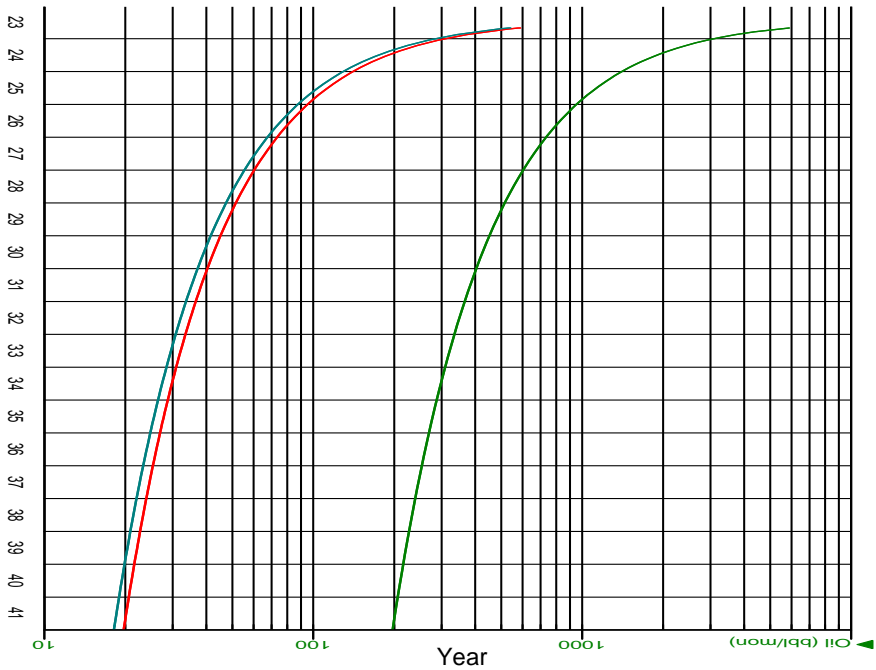
Analysis	Class	EUR ₀	Q ₀	RR ₀	Start Date	Q ₀	Δt	d, sec	b	d ₁₀₀ exp	Q ₀	End Date	R ² _{log-log}
Name		MMscf	MMscf	MMscf	MM/DD/YYYY	Mscf/d	year	%/year		%/year	Mscf/d	MM/DD/YYYY	
Analysis 2		1637	47	1590	03/22/2023	1583.5	32.84	64.915	1.500	8.000	20.0	01/23/2056	0.576

Alkaid 2 (as completed)

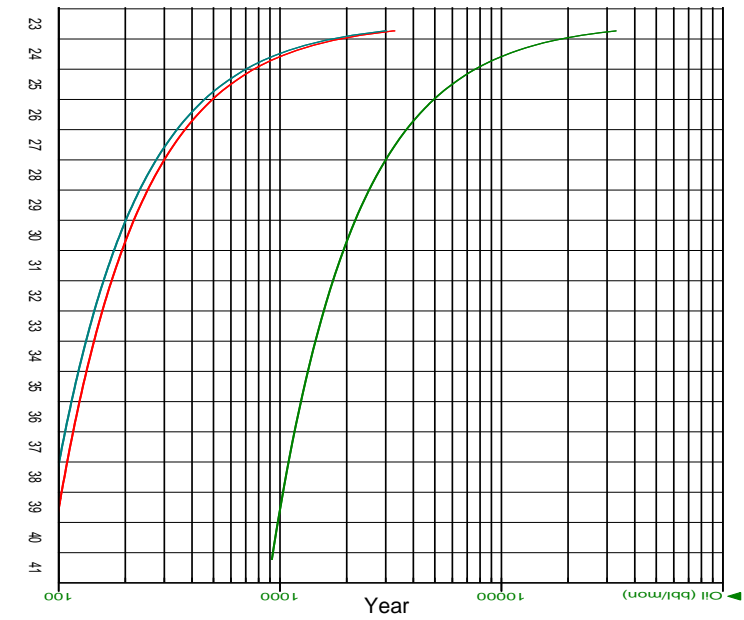
- EUR: 0.26 mmbbls,
- IP30: 505 bpd (pipeline liquids*)
- Remaining NPV₁₀ at \$70/bbl: approx \$6.5 million

Based on actual Alkaid 2 well performance (decline curve extrapolation and revised completion modeling)

* Oil, Condensate & NGLs



Source: Alkaid 2 Well Test Data



EUR per well		mbbls
Oil		570
Cond/NGL		623
Total		1,193

Optimised completion vs Alkaid 2 actual
(Incremental well after initial facilities installed)

- EUR: 1.2 mmbbls vs 0.3 mmbbls,
- IP30¹: > 1,500 bpd vs 500 bpd (pipeline liquids²)
- NPV₁₀ at \$70/bbl: \$29m and \$13m well cost
- Discounted PIR³: 2.8x IRR: > 300%

Based on actual Alkaid 2 well performance (decline curve extrapolation and revised completion modeling)

- 2x performance increase estimated based on 10,000ft lateral vs 5,000ft at Alkaid 2
- 2-4x performance increase estimated based on optimised frac design

¹ Total IP30 Well Stream estimated approx 1,500 bpd and 3-5 mmcf/d wet gas (containing condensates and NGLs) with 50% Water Cut

² Oil, Condensate & NGLs ³ Profit to Investment Ratio

Initial Investment (millions)	\$13.0
PIR (10% DCF)	2.8
Payout (Years)	0.66
IRR	350%

Discount Rate	NPV (millions)
5%	\$35.8
8%	\$31.2
10%	\$28.7
12%	\$26.6
15%	\$23.9
20%	\$20.5

Evolution of Fracs in New Basins – Alkaid 2 Well Up Learning Curve



Hybrid, linear, and cross-link gel systems create good conductivity (high flow capacity at wellbore) but do not create the frac complexity (surface area contact) that slick water does.



Low treating rates lead to low frac complexity



30/50 proppant tends to screen out and flow back frac sand easier, resulting in excessive workovers to clean out sand from wellbore.

Generation	Gen1	Gen 2	Gen 3	Gen 4	Alkaid 2
Pump Rates	60-70	75-90	75-80	75-80	75
Fluid type	Linear gel system	Linear & xlink gel	Slick water	Slick water	Slick water
Stage Size	250 -300	210-220	150	180-190	110-219
Perf Cluster/ spacing per stage	45-50	45-50	45-50	18-25 ft	18-25
Number Perfs	72	55	40	48	72
Fluid Volume (bbls/ft)	20-25	20-25	35-40	55-65	30-35
Sand Volume (lbs/ft)	1000-1500	1500 -2000	2500-3000	2300-2500	1600-1700
Sand size	100 mesh & 40/70	100 mesh, 40/70 & 30/50	100 mesh, 40/70	100 mesh, 40/70	40/70 & 30/50 17% 30/50
Max Sand concentration (PPG)	2-2.5	4-5.0	2-2.25 ppg	2-2.25 ppg	3-4
Percentage of 100 mesh	15-20%	15-20%	45 %	55-65%	0
comments	Focus on maximize frac stages to minimize costs	Focus on building high sand pack near wellbore (wider fracture)	Limited number of perfs to achieve a limited entry	Higher fluid volumes per lateral ft, Closer cluster spacing on perfs, Increased 100 mesh	Over perforated (ideal 2bpm)

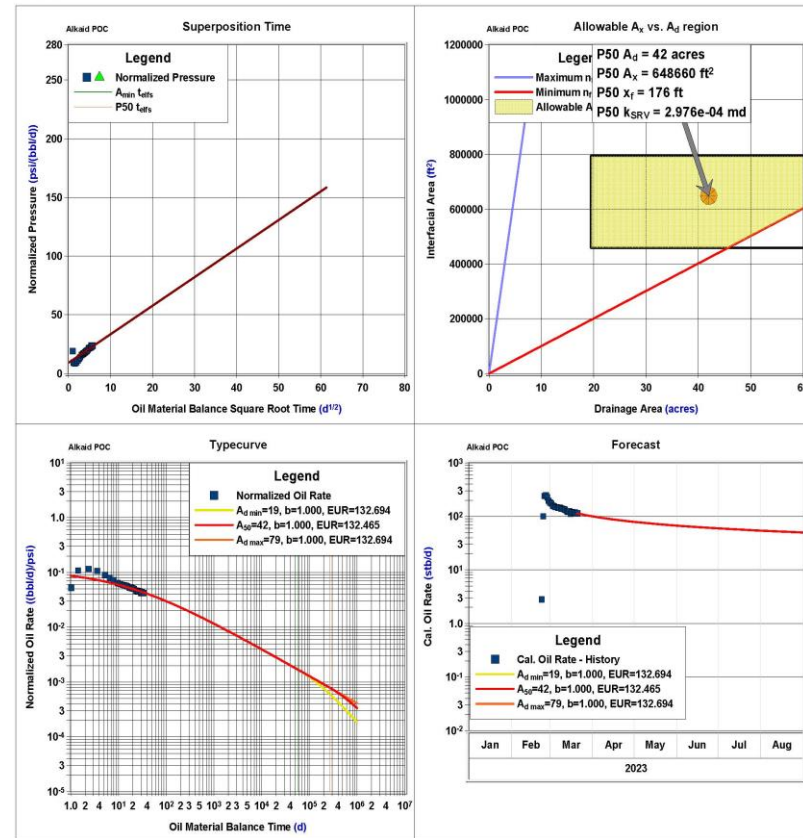
*Highlighted areas represent Alkaid 2 design vs planned design



Material Balance comparison of base frac and upside frac

Ultimate recovery improvement expected from 3rd Gen frac design (Company estimates)

Alkaid POC
UR-OST 1



Superposition Time Options

MultiPhase (Pseudo-Pressure) (Beta)
GeoMechanical

Forecast Parameters

A_{min}	19 acres
b	1.000
$(q_o)_i$	7.5 stb/d
Start Date	03/21/2023 MM/DD/YYYY
Δt	300.0 month
End Date	03/20/2048 MM/DD/YYYY
P_{wff}	1085.16 psi(a)

Input Parameters

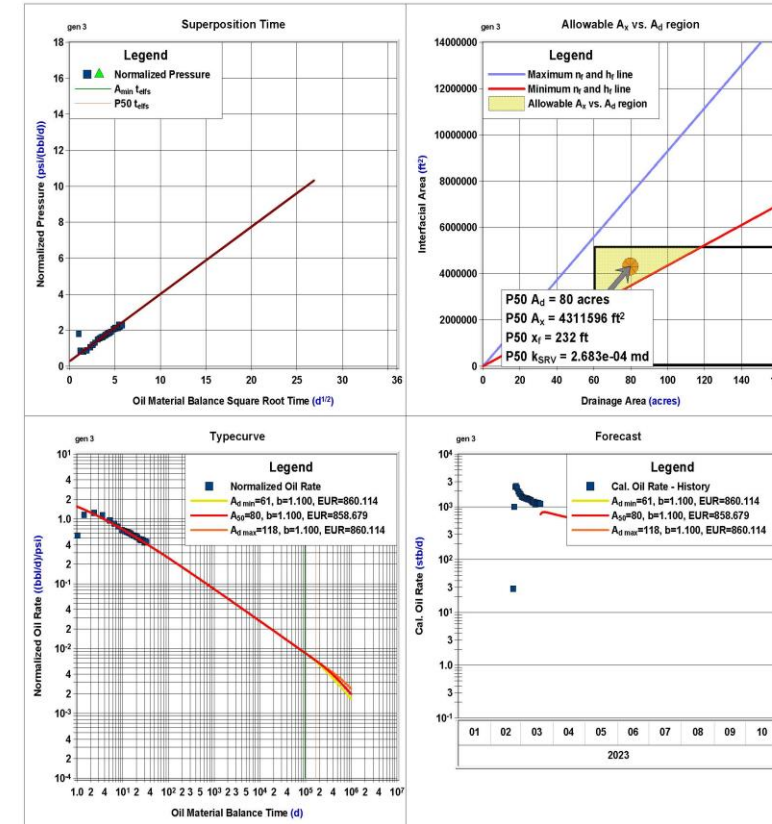
Model Type	H _z - Multi Frac - SRV
L_e	5200.0 ft
y_e	7500.0 ft
Max A_d	895 acres
$(k_{SRV})_{min}$	2.000e-04 md
$(k_{SRV})_{max}$	6.000e-04 md
$(n_i)_{min}$	4
$(n_i)_{max}$	32
$(h_i)_{min}$	150 ft
$(h_i)_{max}$	250 ft

Calculations

$A_{dmin}^{1/2}$	11240.383 md ^{1/2} ft ²
$A_{d0}^{1/2}$	50981.587 md ^{1/2} ft ²
$A_{dmax}^{1/2}$	11.240 md ^{1/2} ft ²
x_i total $k_{SRV}^{1/2}$	50.982 md ^{1/2} ft
P50 A_x	648660 ft ²
P50 A_d	42 acres
P50 n_i	6
P50 h_i	154.35 ft
P50 x_i	176 ft
P50 k_{SRV}	2.976e-04 md
P50 F_{CD}	122.1
P50 t_{eff}	269730 d
P50 OOIP	2280.3 Mstb
P50 EUR _o	132.465 Mstb
N_p	3.882 Mstb
P50 RR _o	128.583 Mstb
R^2	0.759

Comments

gen 3
UR-OST



Superposition Time Options

MultiPhase (Pseudo-Pressure) (Beta)
GeoMechanical

Forecast Parameters

A_{min}	61 acres
b	1.100
$(q_o)_i$	47.3 stb/d
Start Date	03/20/2023 MM/DD/YYYY
Δt	300.0 month
End Date	03/19/2048 MM/DD/YYYY
P_{wff}	1181.74 psi(a)

Input Parameters

Model Type	H _z - Multi Frac - SRV
L_e	7500.0 ft
y_e	10000.0 ft
Max A_d	1722 acres
$(k_{SRV})_{min}$	2.000e-04 md
$(k_{SRV})_{max}$	2.000 md
$(n_i)_{min}$	25
$(n_i)_{max}$	32
$(h_i)_{min}$	150 ft
$(h_i)_{max}$	250 ft

Calculations

$A_{dmin}^{1/2}$	72789.681 md ^{1/2} ft ²
$A_{d0}^{1/2}$	195630.062 md ^{1/2} ft ²
$A_{dmax}^{1/2}$	27.996 md ^{1/2} ft ²
x_i total $k_{SRV}^{1/2}$	70.212 md ^{1/2} ft
P50 A_x	4311596 ft ²
P50 A_d	80 acres
P50 n_i	28
P50 h_i	171.21 ft
P50 x_i	232 ft
P50 k_{SRV}	2.683e-04 md
P50 F_{CD}	860.5
P50 t_{eff}	168722 d
P50 OOIP	14813.2 Mstb
P50 EUR _o	858.679 Mstb
N_p	38.818 Mstb
P50 RR _o	819.861 Mstb
R^2	0.726

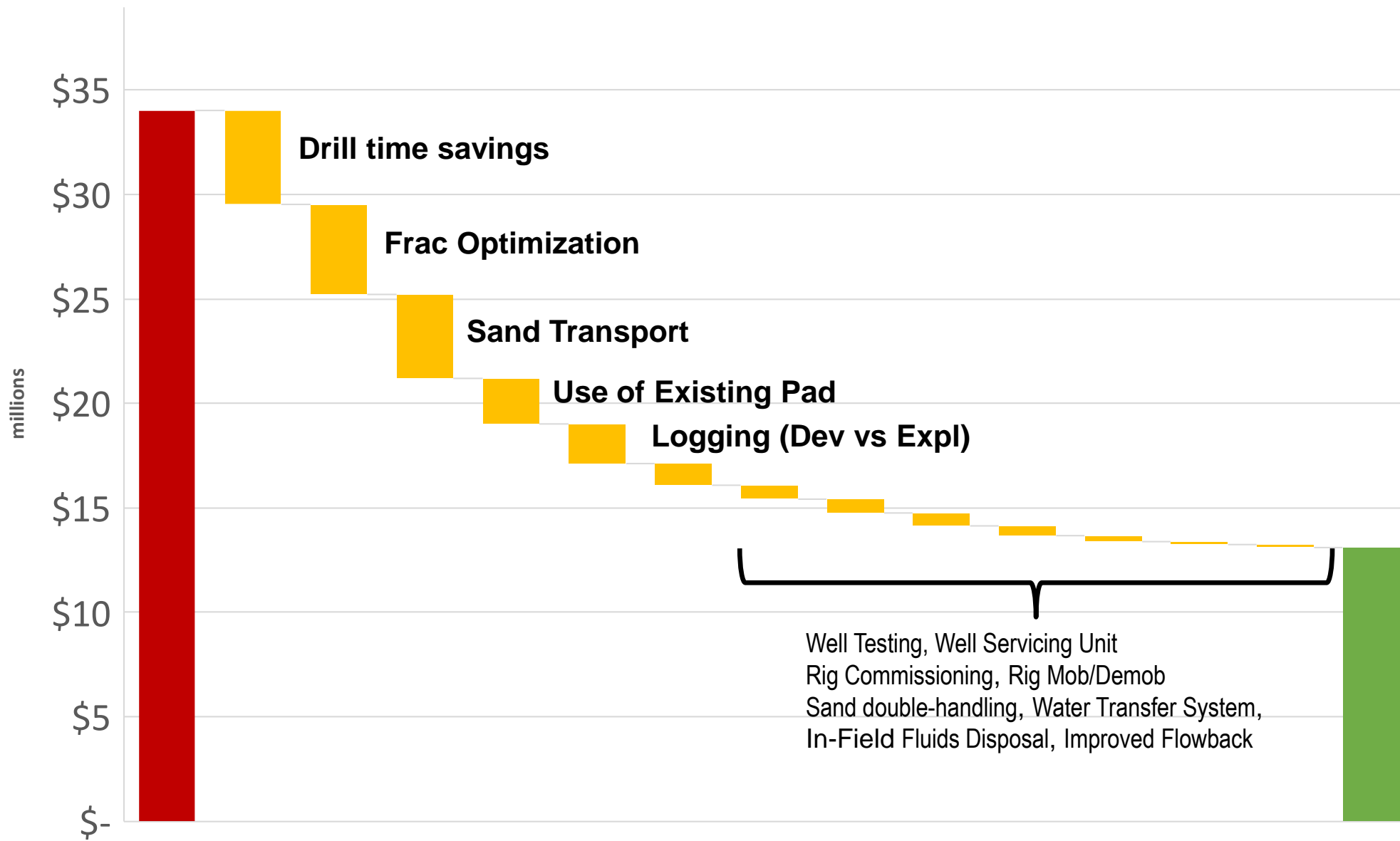
Comments

Alkaid 2 (Est Costs vs Outturn)



	Estimate	Actual		
	Fall 2021	Fall/Winter 2022/23	Delta	Note
Number of Days	65	69	4	Problem with kickoff plug
Total Rig Cost	3.11	3.37	0.26	General inflation
Tubulars/Cementing	0.85	1.46	0.61	General inflation
Logging	1.08	3.18	2.10	More intensive MWD/LWD logging suite
Workover Rig	0.18	1.22	1.04	Single option from Hilcorp after contractor rig failure
Drilling Total	5.22	9.23	4.01	
Frac				
Pumping	1.35	5.42	4.07	Single vendor and pumps mobilised from lower 48
Chemicals	0.08	2.82	2.73	Single vendor "corkage"
Sand	4.20	5.88	1.68	Fuel price escalation for handling sand
Frac Total	5.63	14.12	8.48	
Other	10.74	10.68	(0.07)	Camp, transport etc
Total D&C	21.60	34.02	12.42	

Development Well Cost – Path to \$13m per Well (Company estimates)



Ahpun Field Development Project – Stage 1 (Company estimates)

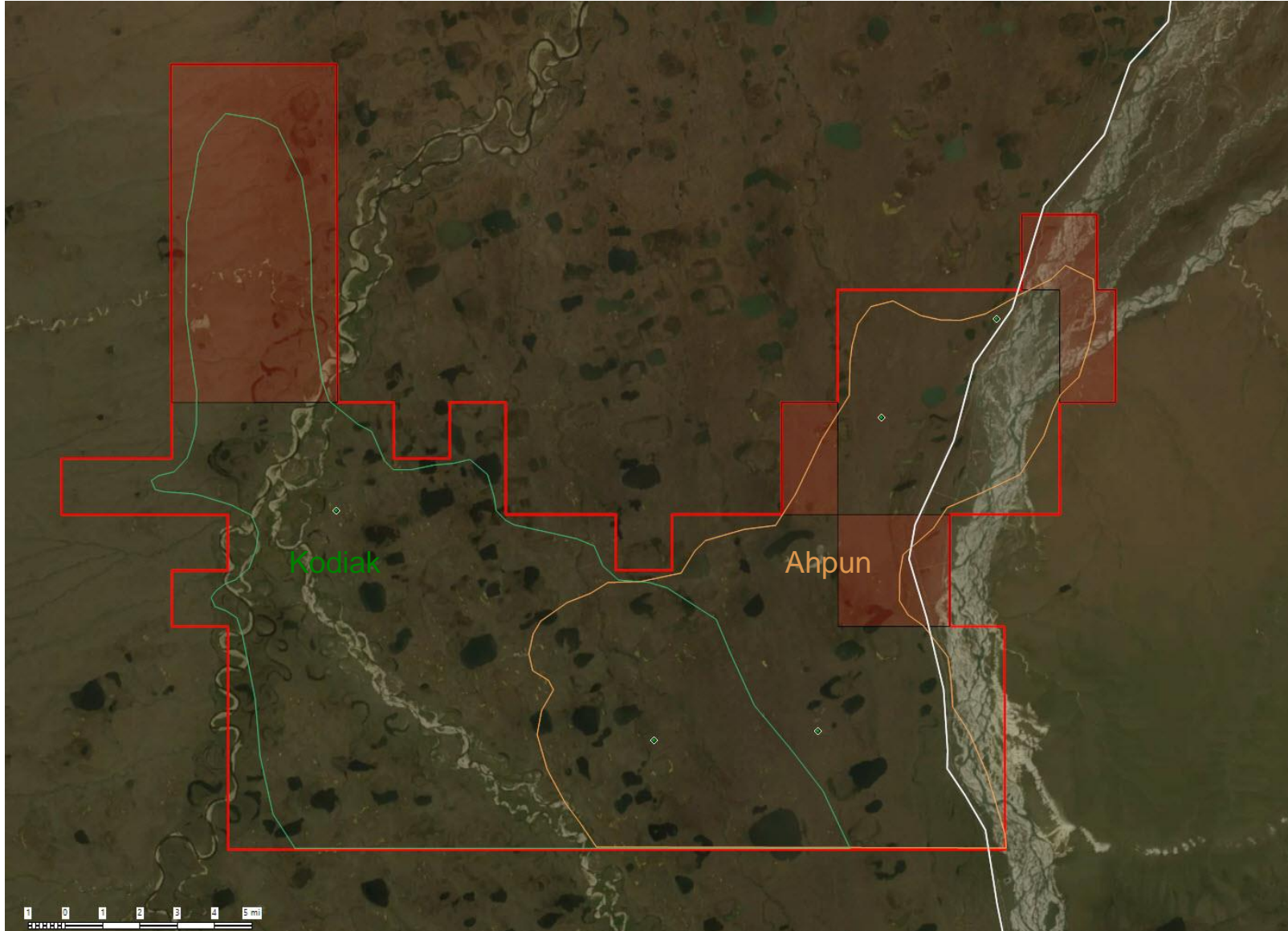


- Development permitting and TAPS main oil line connection (hot tap) ~2 miles north of Alkaid pad – to be completed in ~24 months
- Batch drilling and completion of first 4 production wells and water/gas disposal wells as required – to begin in ~21 months
- Upgrade of initial modular production system to incorporate NGL stripping to maximize marketable liquids volumes (planned for eventual relocation to Central Processing Pad) – to be completed in ~27 months
- Initial depletion would be conducted from the two already permitted pads (Alkaid and Phecda) with production sent directly to TAPS main oil line from initial modular production system:
 - The Quality Bank adjustment expected to result in 10% shrinkage factor through TAPS (Ahpun Field export volume vs ANS lifted volume at Valdez)
- Excess associated gas not used to produce electricity, along with produced water, to be re-injected into the reservoir to enhance oil recovery



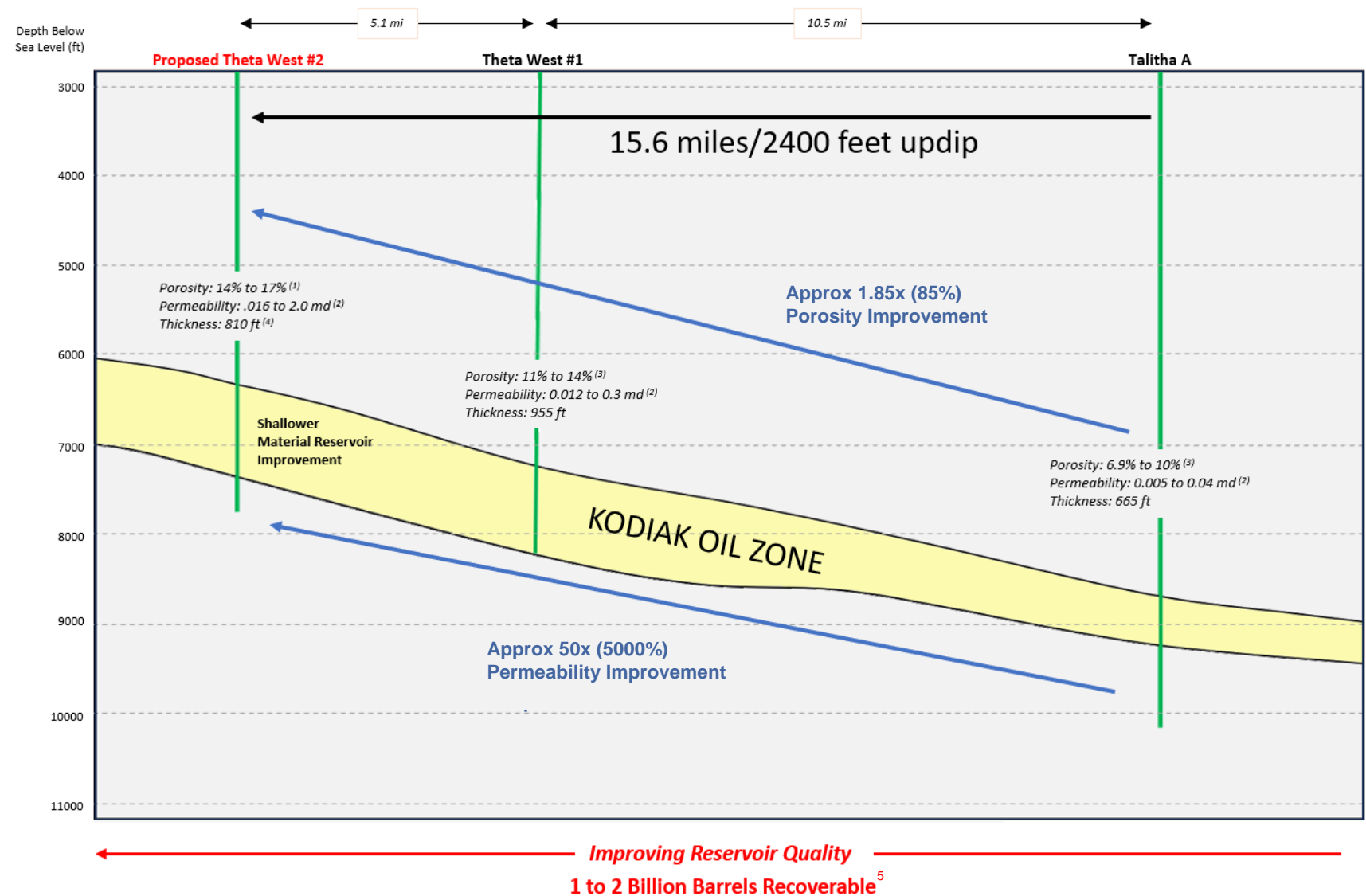
Update on New Acreage Acquired in 2023

Securing the Remaining Portion of the Kodiak Field



- Extends Pantheon's ownership of the Kodiak Field (f/k/a Basin Floor Fan) updip to the northwest
- Extends Pantheon's ownership of the Ahpun Field to the northeast
- Provides continuity between the Alkaid and Talitha Production Units

Major Reservoir Quality Improvement Expected Updip in Kodiak Reservoir⁵



(1) P50 to P10 projection from Theta West #1 based on maximum depth of burial
(2) Low estimate based on best fit core measurements; high estimate based on observed regional relationships
(3) P50 and P10 porosities from log data
(4) Based on seismic data
(5) Company Estimates and Analysis. Unless otherwise stated, volumes are marketable pipeline quantities exported to TAPS

Bringing Capital Formation to Pantheon's Strategic Core



Pantheon will seek investment from multiple channels:

- Asset level
 - *farm-in or other structures (including swap or acquisition of complementary assets)*
- Corporate level
 - *equity and debt (reserve backed lending) markets*
 - *Non-traditional including vendor financing, pre-sales of production (VPP) etc*

We will prefer to finance the business conservatively to ensure future funding is secured from a position of strength and always select the approach that minimizes expected value dilution over the period up to cashflow breakeven

Our ability to access capital and minimize value dilution to shareholders will be a function of how effectively we execute our strategic plan

Pantheon's Strategic Plan



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Illustrative Time Line

