



PANTHEON
RESOURCES PLC

April 2022 Webinar



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PANTHEON RESOURCES

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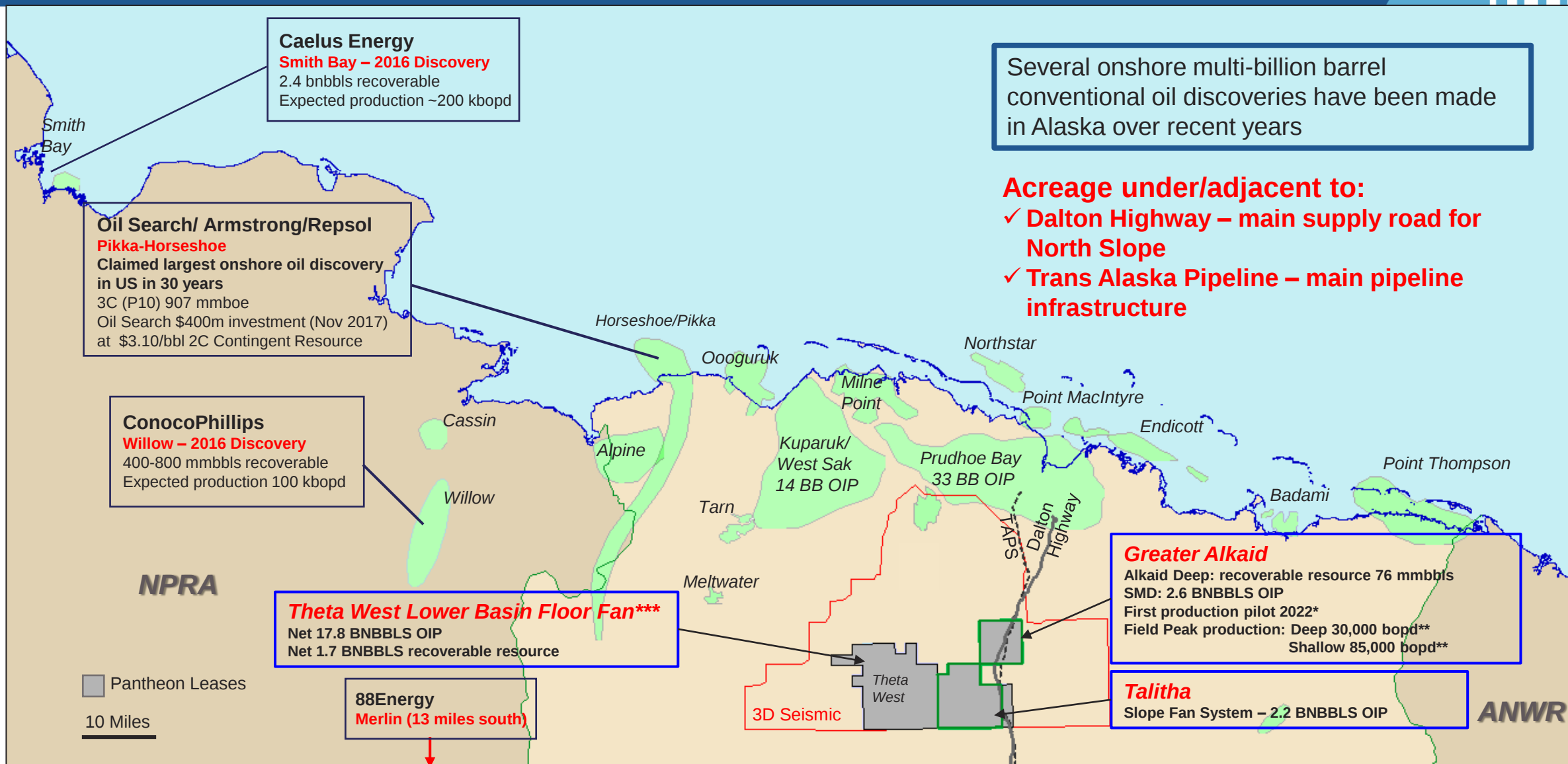


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- Competent Person's statement: **Michael Duncan** has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person in accordance 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.



REGIONAL CONTEXT – LOCATION, LOCATION, LOCATION.....

PANTHEON'S ACREAGE ON THE NORTH SLOPE



* Company estimate **Source: Modelled development plans, Lee Keeling & Associates ***Company estimate.

PANTHEON RESOURCES

EXPERIENCED BOARD & MANAGEMENT



BOARD & MANAGEMENT

Phillip Gobe - Chairman

+40 years' experience in the sector. Non-exec director of the S&P 500 Pioneer Natural Resources. Chairman & CEO Propetro Holdings Corp., a Permian basin pressure pumping company. Formerly head of Prudhoe Bay operations in Alaska for ARCO

Jay Cheatham - Chief Executive Officer

Petroleum Engineer. +40 years' experience. Ran family E&P business prior to joining ARCO. At time of BP's \$30bn acquisition Jay headed up ARCO International (responsible for all operations outside USA). Prior to that he led ARCO exploration and production for USA (Gulf coast region)

Robert Rosenthal - Technical Director

Geologist +40 years' experience. Founding Manager of Great Bear Petroleum. Ex BP (Global Consultant - Exploration worldwide). Expert in seismic stratigraphy and high tech geophysics

Justin Hondris - Director, Finance & Corp Development

Banking & financial background with over 25 years' experience including roles in investment banking & private equity with 15 years specialising in energy

Patrick Galvin - Chief Commercial Officer / General Counsel Alaska

Former Alaska State Commissioner of Revenue, Former Petroleum Land Manager for the Alaska Dept of Natural Resources, overseeing the State's oil and gas leasing program. Former partner at K&L Gates

Jeremy Brest – Non-Executive Director

+25 years' experience banking and financial advisory. A specialist in structuring and execution of private transactions

Mario Traviati - Advisor to the Board

Previous head of Asia Energy research for Merrill Lynch. +35 years working, analysing & funding oil and gas projects, Founding Manager Great Bear Petroleum, previous Woodside Petroleum

Michael Duncan - Vice President Operations

Professional Engineer, licensed in Alaska with experience and expertise in conventional and unconventional reservoirs throughout North America

Ed Duncan - Senior Geoscience Consultant

Founder Great Bear Petroleum, Geologist +37 years' experience

Jerry Nichols - Senior Geophysicist Consultant

Geophysicist with +40 years' experience in numerous worldwide exploration and development projects, including Alaska

TECHNICAL PARTNERS

eSeis Inc.

A pioneer in the use of Seismic Petrophysics / High Tech Geophysics for the petroleum industry. Deep experience in Alaska

AHS

Industry leaders in volatiles analysis

The Company will consider the appointment of an additional Independent Non-executive Director in due course

PANTHEON RESOURCES

WHY ALASKA : WHY PANTHEON : INVESTMENT CATALYSTS



1. Why Alaska North Slope

- Proven major oil province with established infrastructure. A “Superbasin”
- Pantheon acreage located on Alaska State lands – as opposed to Federal lands
- State Government supportive of oil development – State relies on oil revenue
- Underexplored province yielding impactful discoveries as evidenced in recent years
- Onshore location reducing development risk and cost, without the major upfront capex of offshore projects

2. Why Pantheon

- Established local Operator with large 153,000 acre contiguous acreage position.
- Awarded two units (Alkaid and Talitha) by State of Alaska
- Highly experienced team with deep Alaskan experience
- **Pantheon acreage unique** – big oil discoveries, adjoining export infrastructure onshore North America.
- Major resources already discovered (>20 bn bbls Oil in Place⁽¹⁾ net to Pantheon)
- Location of Pantheon assets allows quicker, lower cost and phased development options
- No known environmental or social/native impediments on Pantheon acreage
- >\$335m over more than a decade invested into the projects⁽²⁾

3. Investment Catalysts

- Already discovered > 2 billion bbls oil recoverable resource⁽¹⁾
- Near-term commercialisation opportunity. Alkaid could be completed for production within weeks of drilling⁽³⁾
- Several hundred million bbls of recoverable oil could be developed from highway location⁽¹⁾
- Update resource estimates for all proven oil zones including new Slope Fan System appraised at Theta West

(1) Company estimate. See slide 23 for details of Resource Estimates (2) Through Pantheon and Great Bear Petroleum (3) On successful testing. Subject to receipt of all necessary permits and authorisations (4) Calculated at share price £0.70 and USD/GBP 1.35 (Fully Diluted), based on Management belief that relevant Company resource estimates meet the classification of Contingent Resource

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WINTER 2022 RESULTS & IMPLICATIONS⁽¹⁾



1. Winter 2022 – A winter of significant Achievements⁽¹⁾

- Successfully appraised a giant Lower Basin Floor Fan (LBFF) at Theta West with 10.5 mile step out well
- Theta West tested the same quality light sweet oil as at Talitha in the same zone – 10.5 miles apart
- Talitha tested light sweet oil in three separate accumulations (SMD, SFS & LBFF)
- These tests proved >20 bn Barrels of Oil in Place (Recoverable Oil expected to be in excess of 2bn barrels)
- Achieved pre-drilling/testing objectives in both wells:
 - ✓ Confirmed **presence of** high-quality light oil
 - ✓ Confirmed the **movability of** that oil
- Pantheon believes all three accumulations are commercial⁽²⁾
- A generation of development opportunities in unique and highly favorable location

2. Future Plans⁽¹⁾

- First commercial long term production test in Pantheon leases will be at Alkaid – July 2022
- Alkaid's geographic location (on highway) has immediate commercial implications through this operation
- Alkaid # 2 well to begin drilling July 2022 : vertical test well with horizontal leg through oil discovered at Alkaid #1
- Primary objective at Alkaid #2 is a long-term horizontal production test of the Alkaid #1 zone plus:
 - i. appraisal of oil discovered in shallower SMD,
 - ii. explore deeper Brookian section, previously untested
- First oil sales forecast for Autumn 2022! ⁽³⁾
- Two rig drilling program planned for Winter 2023 (exploration or appraisal or both ????)

IF SUCCESSFUL ➡ A GENERATION OF DEVELOPMENT OPPORTUNITIES⁽¹⁾⁽³⁾

(1) Company estimate. See slide 23 for details of Resource Estimates (2) As at the current date. (3) Subject to success

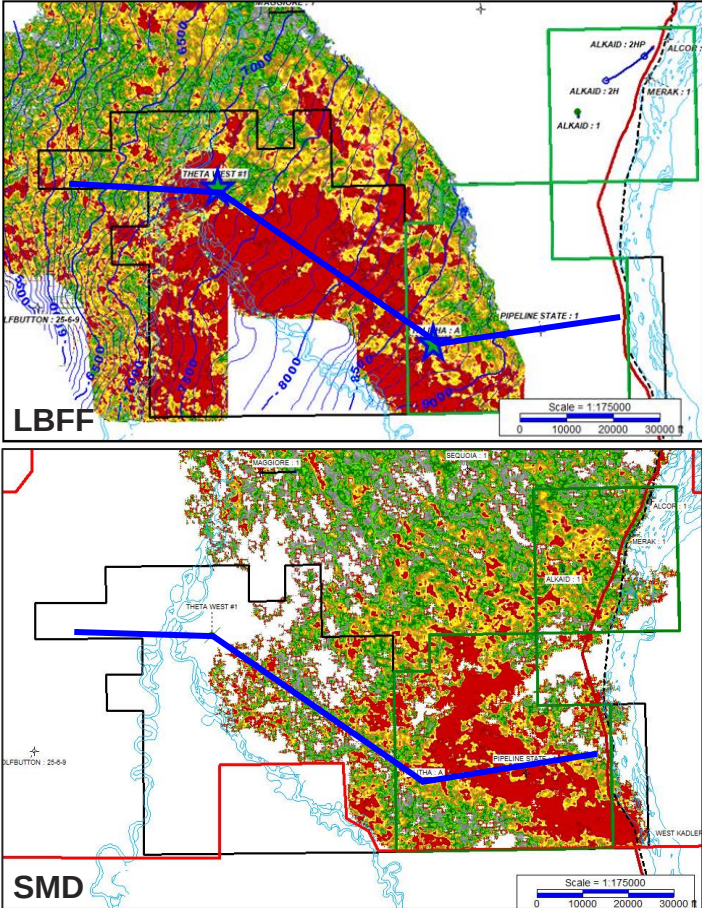
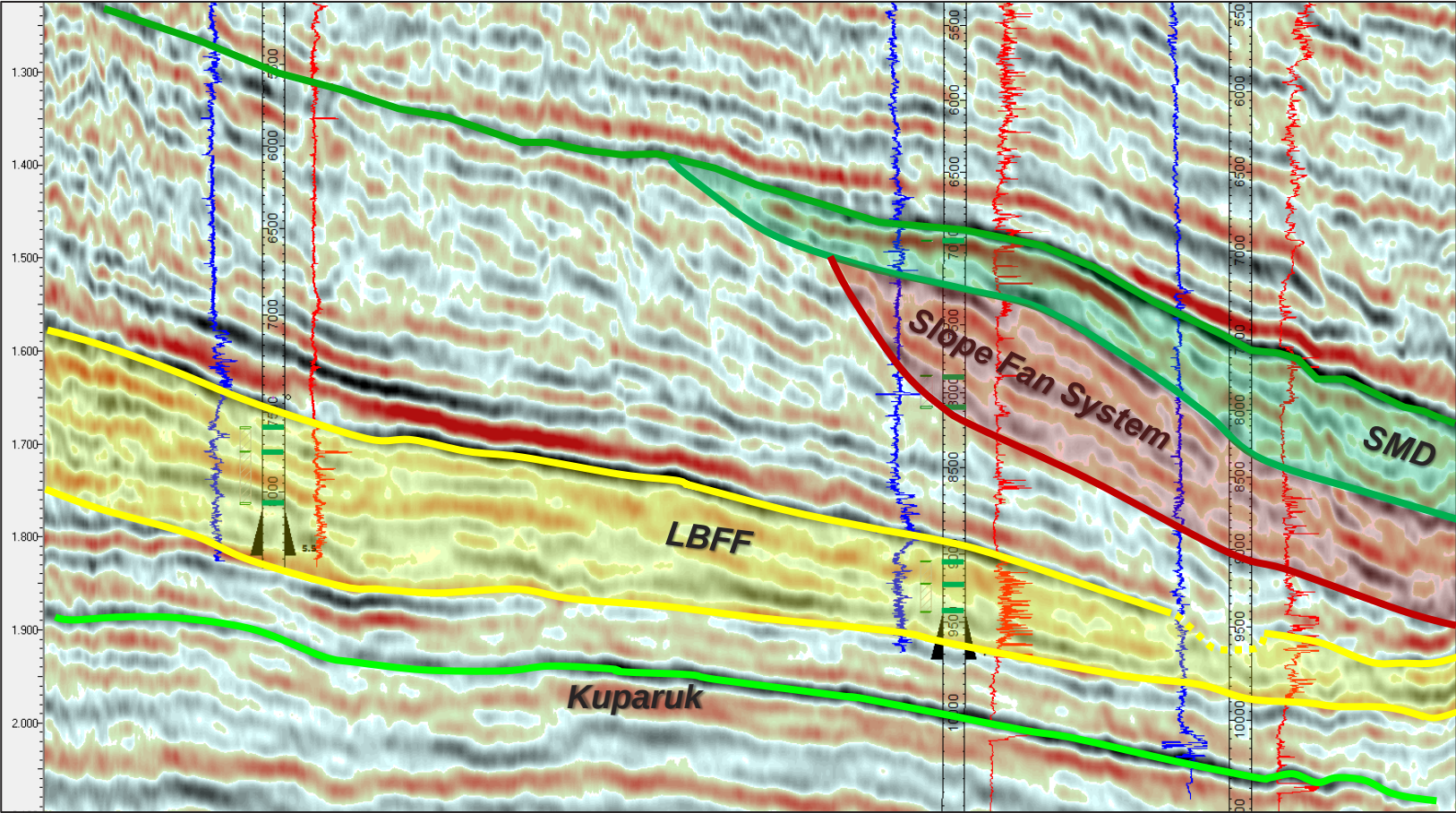
GEOLOGIC OVERVIEW

MULTIPLE ACCUMLATIONS, EACH WITH ENORMOUS POTENTIAL



10.5 Miles

Theta West #1 Talitha A Pipeline State #1



Reservoir Model

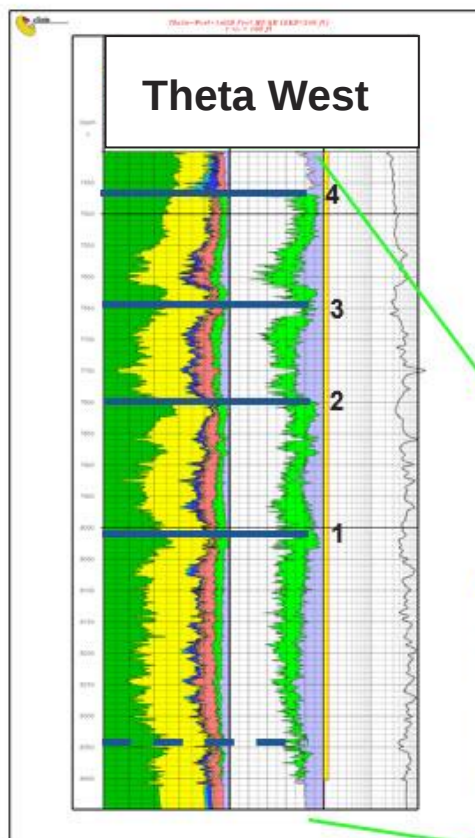




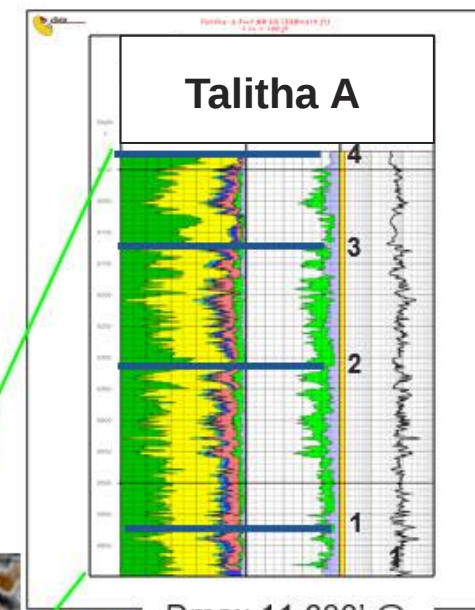
Theta West was drilled 1500 feet up dip (2000 feet shallower Dmax) from Talitha

Confirmed: multicycle reservoir continuity, significant increase in reservoir quality and continuous oil accumulation

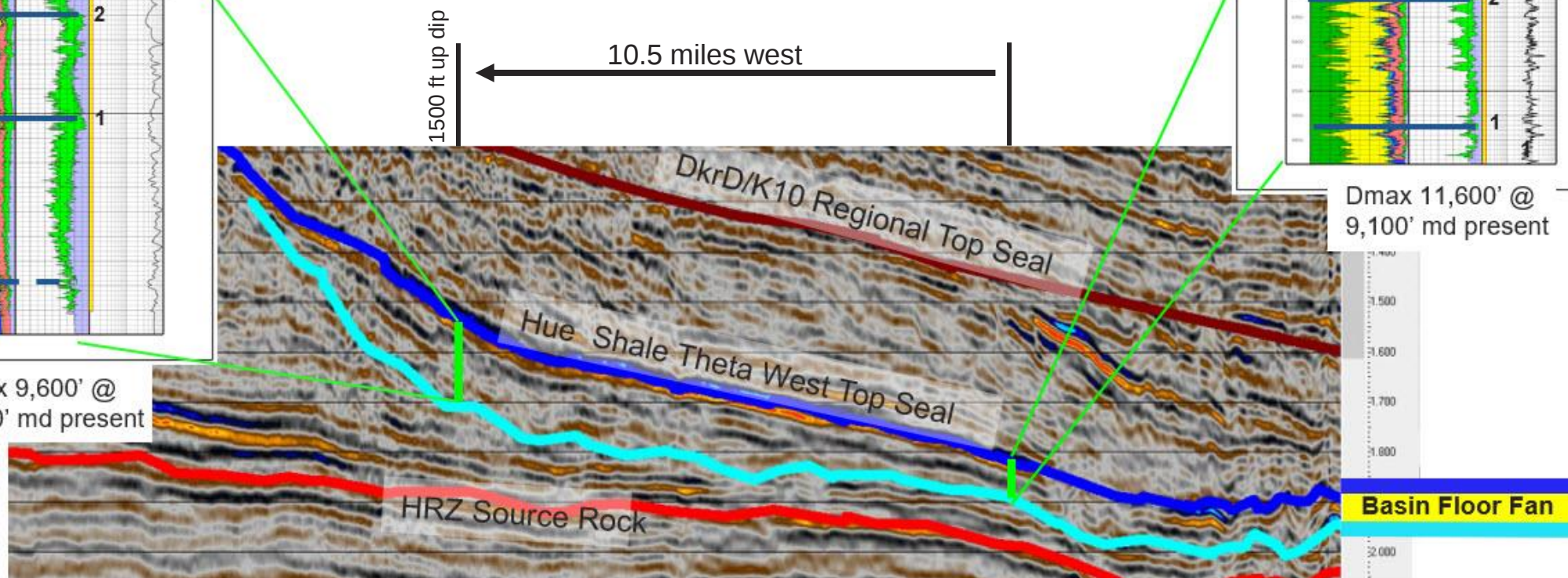
Theta West has over 2X the oil volume as Talitha A



Dmax 9,600' @
7,600' md present



Dmax 11,600' @
9,100' md present



Basin Floor Fan

PANTHEON RESOURCES PLC

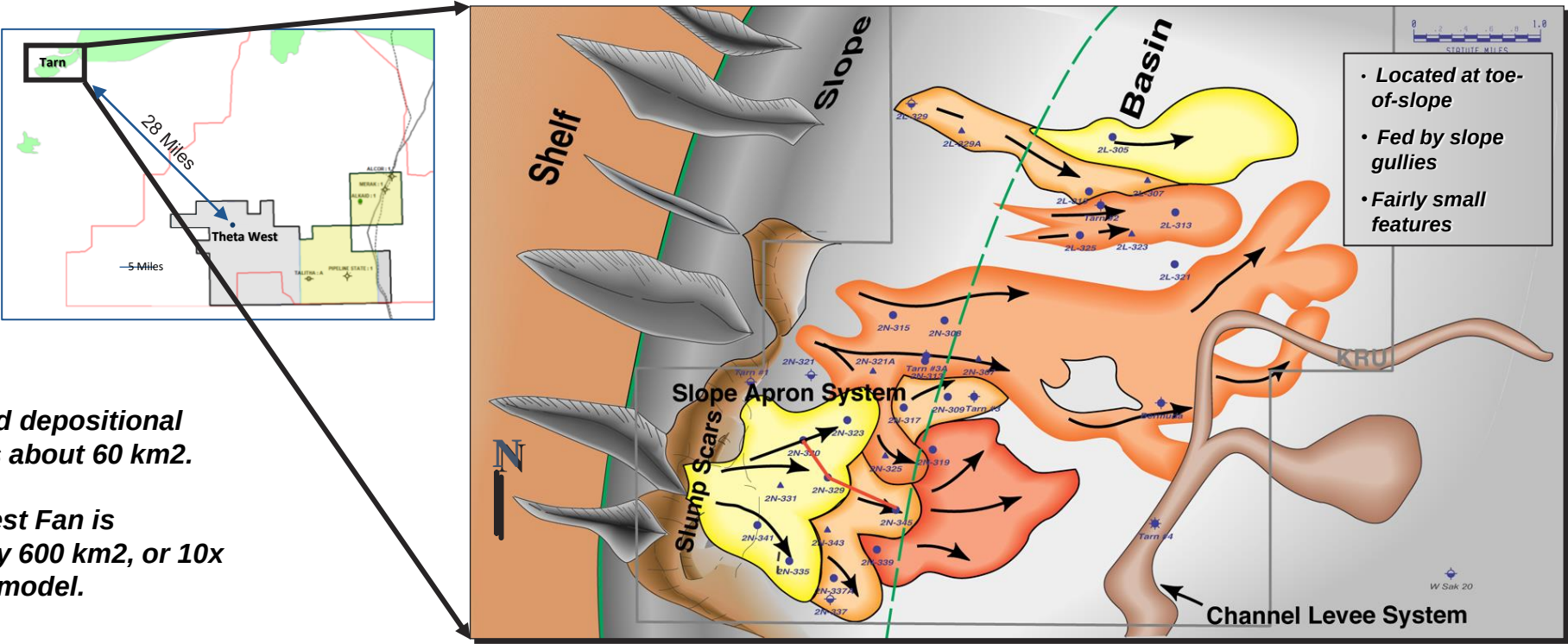
TARN FIELD: THETA WEST ANALOGUE



The Tarn Field is slightly older than the Theta West LBFF and much smaller in scale but is a good depositional process analog. Channel complexes are the best reservoirs followed by levees then inner channel overbank facies.

Facies architecture will influence porosity and permeability distribution and oil flow during depletion of the oil resource.

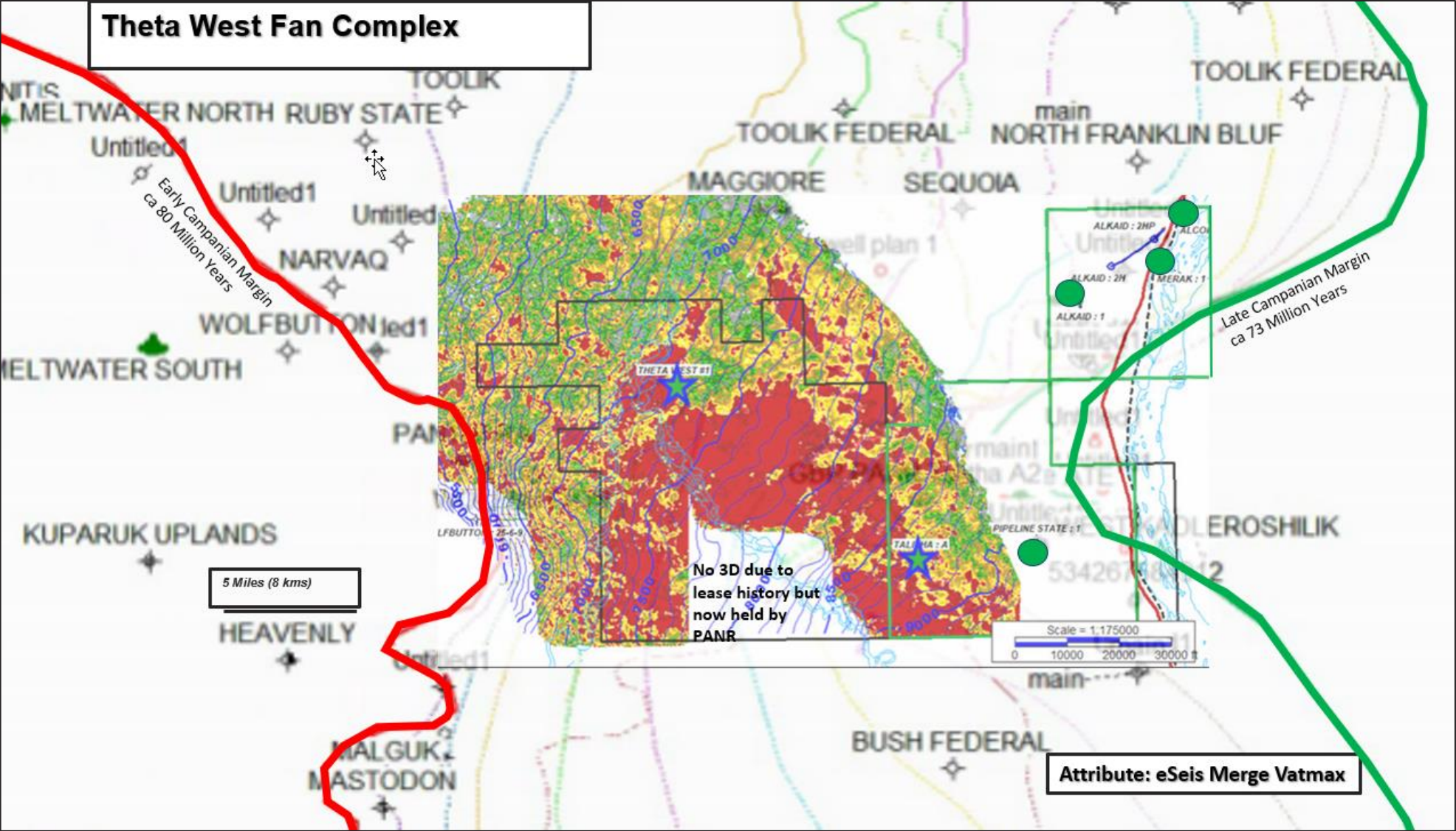
Integrating our subsurface data with tests results will be an “evergreen” activity aimed at optimizing our depletion plans as we **appraise and begin development** of the Theta West Fan.



The Tarn Field depositional model covers about 60 km².

The Theta West Fan is approximately 600 km², or 10x the Tarn Fan model.

PANTHEON RESOURCES CAMPANIAN SHELF MARGIN EVOLUTION

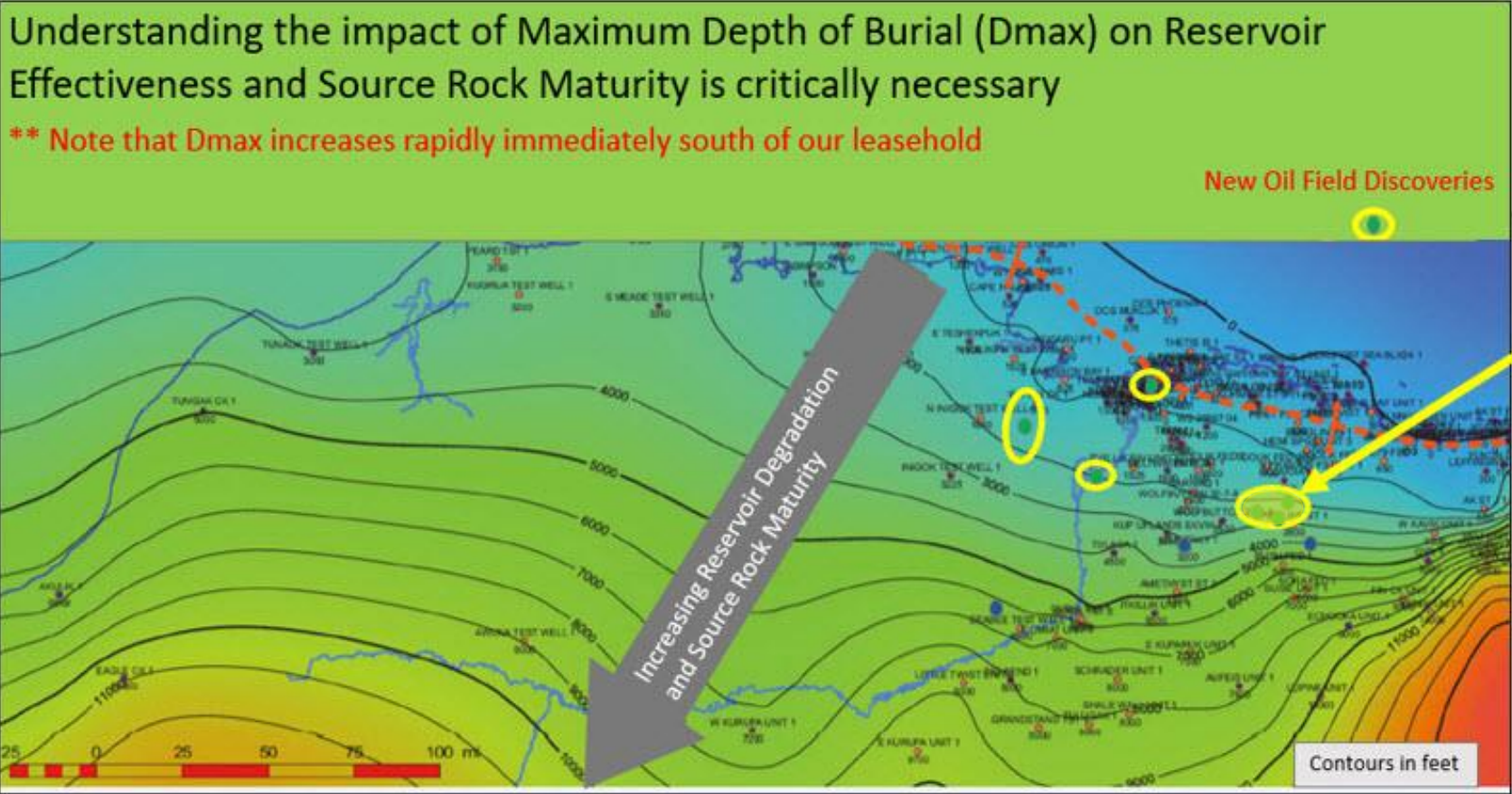


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UNDERSTANDING MAXIMUM BURIAL DEPTH (Dmax)



Basins like the Brookian Foredeep of Alaska have complex “filling” histories that, if not properly understood, can lead to poor technical results and disappointing business outcomes



Pantheon Acreage
Alkaid
Talitha
Theta West

Erosion estimates for 145 wells derived from sonic compaction curves (Burns and others, 2005)

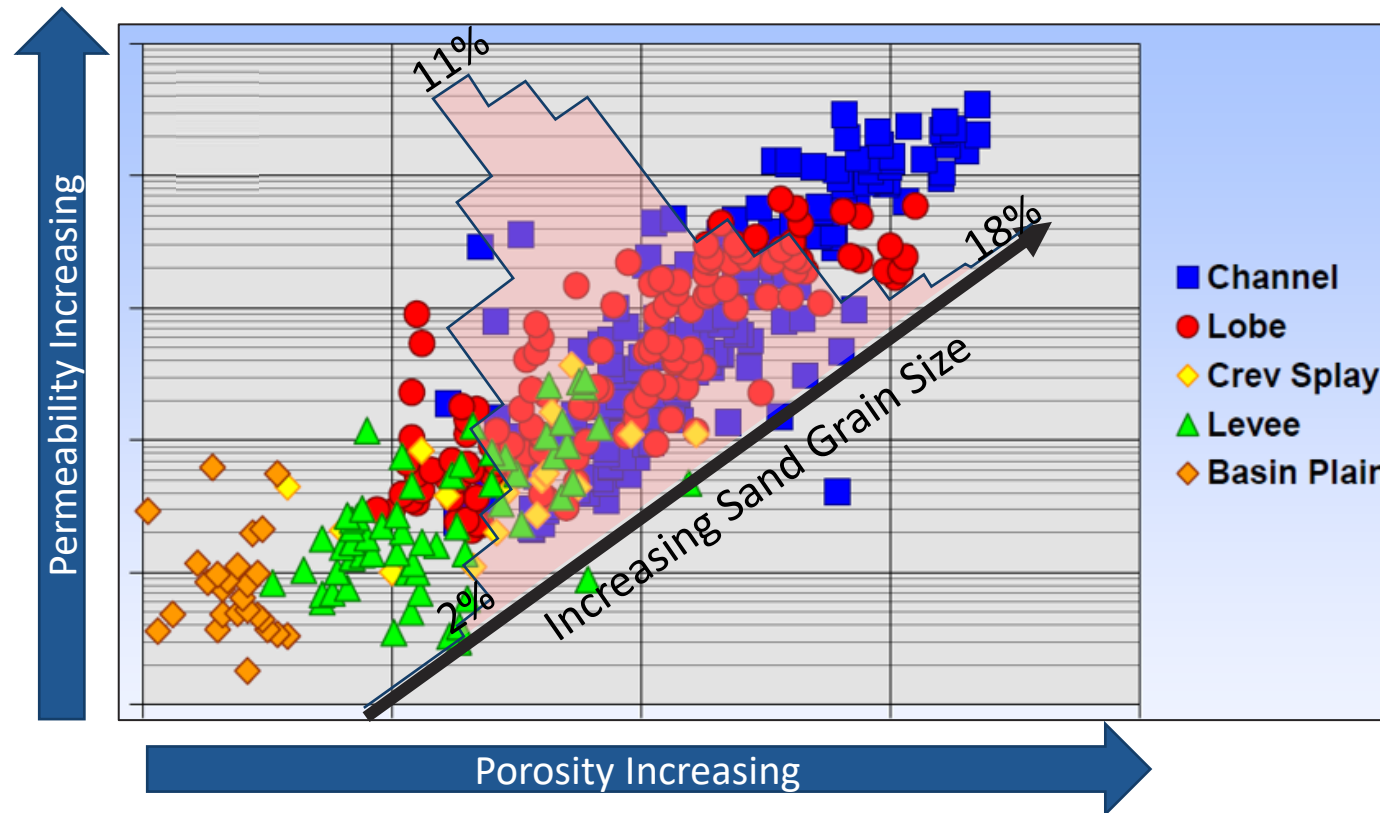
Maximum Burial Depth (Dmax) = Present Depth (ft) + Brookian Erosion (ft)

PANTHEON RESOURCES

DEPOSITIONAL CONTROL ON RESERVOIR QUALITY



Every well penetration will encounter a range of depositional facies – that will exhibit a range of porosity and permeability characteristics related to facies and grain size. Compaction (gravity) affects everything – greater compaction (Dmax driven) generally reduces porosity and permeability within an expected range of outcomes.



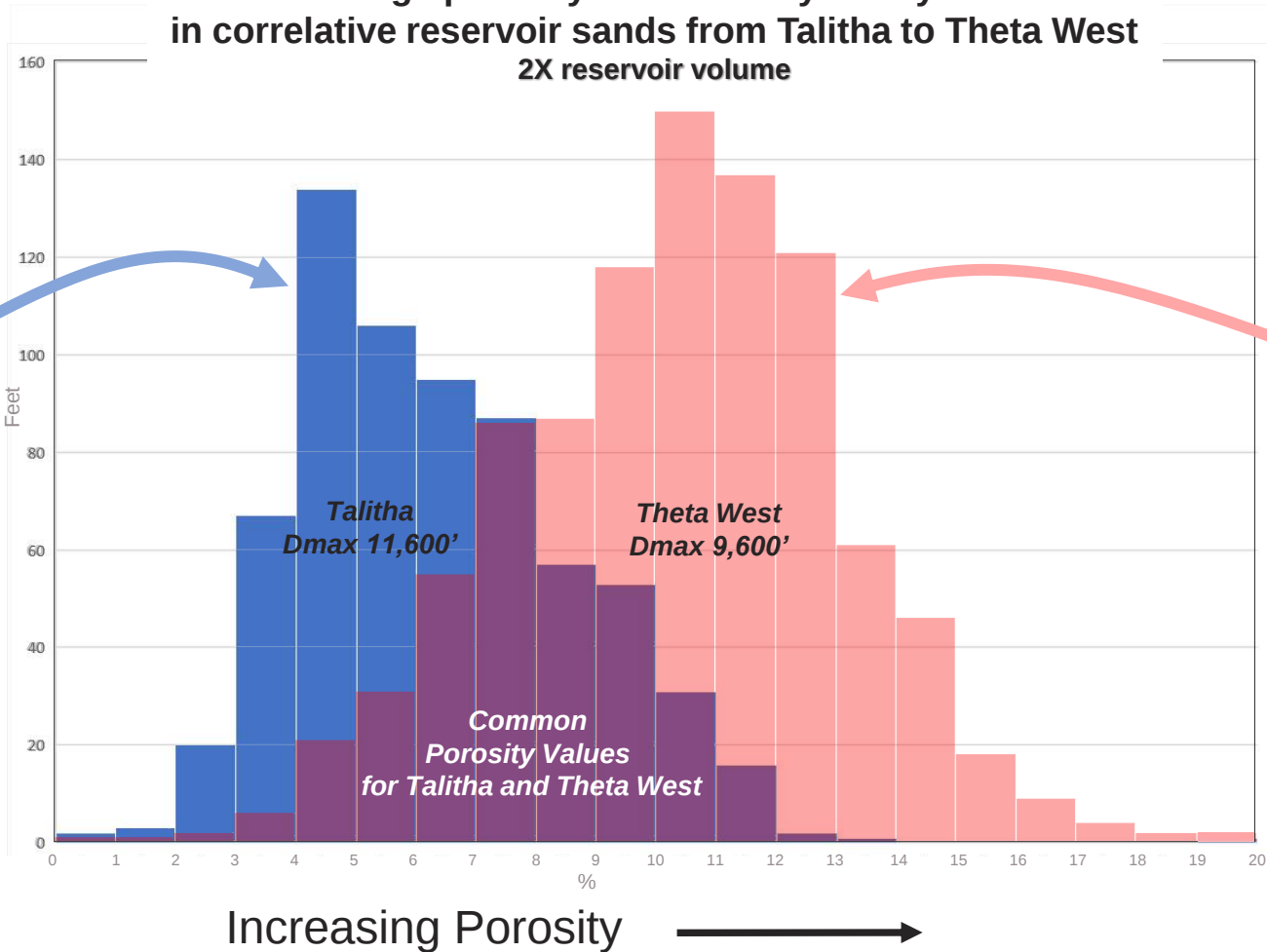
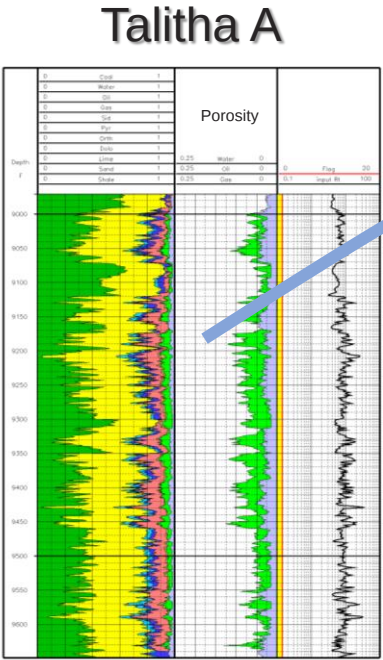
The background histogram illustrates the distribution of calculated porosity values for the Theta West LBFF interval (Dmax 9600') and interpreted depositional facies association.

THETA WEST LOWER BASIN FLOOR FAN PROJECT LOG ANALYSIS AND POROSITY DISTRIBUTION

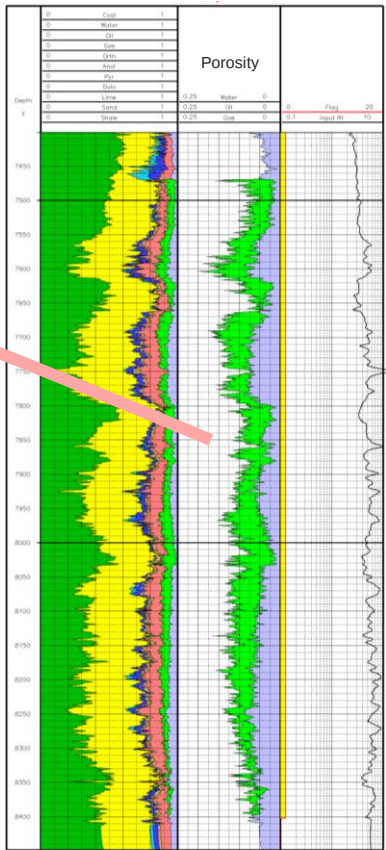


Theta West was drilled 1,500 feet up dip (2000 feet shallower Dmax) from Talitha: 2,000 feet shallower Dmax makes a big difference!

Average porosity Increased by nearly 60%
in correlative reservoir sands from Talitha to Theta West
2X reservoir volume



Theta West #1



Volatiles Analysis





Rock Volatiles Stratigraphy (RVStrat) of Pantheon Theta West #1 Well, North Slope, Alaska

Supplied by: Advanced Hydrocarbon Stratigraphy (AHS):

Presented by: Michael P. Smith, PhD, President, Inventor of RVStrat

In making interpretations of RVStrat and other logs, our employees and associates will give the customer the benefit of their best judgment. But since all interpretations are opinions based on inferences from electrical, analytical, and other measurements, we cannot, and we do not, guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees or associates.



Mike Smith, PhD, President AHS

Technological Achievements

- 1) Invented First Mass Spec System to Analyze Individual Fluid Inclusions with Colin Barker, early 1980's.
- 2) Invented Fluid Inclusion Stratigraphy (FIS) at Amoco Research in late 1980's early 1990's. Won Secret and Prestigious Amoco's President Award. FIS Recently Purchased By Schlumberger.
- 3) Founded AHS and Invented Fluid Inclusion Volatiles (FIV). XOM Purchased FIV from MPS in 1999, still used worldwide by XOM.
- 4) MPS Refounded AHS and Invented Volatiles Analyses Services (RVStrat) starting in 2009. AHS Formed Strategic Partnership with Baker Hughes in 2018 to Market RVStrat Worldwide.



Mike Smith, Patents

MP Smith Recently Granted Single Authored Rock Volatiles Stratigraphy Patents

- 1) US Patent No. 10,190,413 Methods and devices for evaluating the contents of materials
- 2) US Patent No. 10,494,919 Methods and devices for evaluating the contents of materials
- 3) US Patent No. 10,260,336 Methods and devices for evaluating the contents of materials

Pending in AU, BR, CA, RU, EP, IN, SA

MP Smith Single Authored Patents

- 4) **Patent:** CA2018780A1 **Title:** Autosampler for stable isotope analysis **Published:** 1991-02-24
- 5) **Patent:** US5224658A **Title:** Method and apparatus for releasing fluid inclusion volatiles from rock samples **Published:** 1993-07-06
- 6) **Patent:** US4960567A **Title:** Apparatus for analyzing fluid inclusions **Published:** 1990-10-02
- 7) **Patent:** US4898831A **Title:** Method and apparatus for analyzing fluid inclusions **Published:** 1990-02-06
- 8) **Patent:** EP0465168A3 **Title:** Finding and evaluating rock specimens having classes of fluid inclusions for oil and gas exploration **Published:** 1992-12-09
- 9) **Patent:** US5241859A **Title:** Finding and evaluating rock specimens having classes of fluid inclusions for oil and gas exploration **Published:** 1993-09-07
- 10) **Patent:** CA2002713A1 **Title:** Method and apparatus for analyzing fluid inclusions **Published:** 1991-05-10
- 11) **Patent:** CA2041970C **Title:** Finding and evaluating rock specimens having classes of fluid inclusions for oil and gas exploration **Published:** 1991-12-30
- 12) **Patent:** DK199101274A **Title:** Fremgangsmåde til at finde og vurdere prøver af bj ergarter med fluid-inklusion **Published:** 1991-12-30
- 13) **Patent:** US4916314A **Title:** Method and apparatus for analyzing components of selected fluid inclusions **Published:** 1990-04-10
- 14) **Patent:** US4797906A **Title:** Nondestructive method for analyzing total porosity of thin sections **Published:** 1989-01-10
- 15) **Patent:** US5286651A **Title:** Determining collective fluid inclusion volatiles compositions for inclusion composition mapping of earth's subsurface **Published:** 1994-02-15
- 16) **Patent:** EP0415672B1 **Title:** Method for exploring the earth's subsurface **Published:** 1995-01-25
- 17) **Patent:** EP0414564B1 **Title:** Apparatus and method for use in the analysis of fluid inclusions **Published:** 1995-10-18
- 18) **Patent:** CA2020707C **Title:** Inclusion composition mapping of earth's subsurface using collective fluid inclusion volatile compositions **Published:** 1994-11-08
- 19) **Patent:** DK0415672T3 **Title:** Fremgangsmåde til udforskning af jordens undergrund **Published:** 1995-04-19
- 20) **Patent:** CA2020480A1 **Title:** Determining collective fluid inclusion volatiles compositions for inclusion composition mapping of earth's subsurface **Published:** 1991-02-25
- 21) **Patent:** US5328849A **Title:** Inclusion composition mapping of earth's subsurface using collective fluid inclusion volatile compositions **Published:** 1994-07-12
- 22) **Patent:** CA2020635A1 **Title:** Obtaining collective fluid inclusion volatiles for inclusion composition mapping of earth's subsurface **Published:** 1991-02-25
- 23) **Patent:** DE69016312T2 **Title:** Verfahren zur unterirdischen Untersuchung. **Published:** 1995-09-14
- 24) **Patent:** US5416024A **Title:** Obtaining collective fluid inclusion volatiles for inclusion composition mapping of earth's subsurface **Published:** 1995-05-16
- 25) **Patent:** DE69023079T2 **Title:** Vorrichtung und Verfahren zum Gebrauch bei der Analyse von Flüssigkeitseinschlüssen. **Published:** 1996-06-13
- 26) **Patent:** US4965209A **Title:** Isotope analysis of closely adjacent minerals **Published:** 1990-10-23
- 27) **Patent:** US4856351A **Title:** Sample chamber and system for analyzing fluid inclusions **Published:** 1989-08-15
- 28) **Patent:** CA2068012A1 **Title:** Fluid inclusion oil proximity exploration **Published:** 1992-12-22
- 29) **Patent:** GB2256885A **Title:** Method of exploring for oil **Published:** 1992-12-23
- 30) **Patent:** EG19330A **Title:** Finding and evaluation rock specimens having classes of fluid inclusions for oil and gas exploration **Published:** 1994-10-30
- 31) **Patent:** NO302978B1 **Title:** Petrokemisk fremgangsmåde ved undersøkelser av stenprøver **Published:** 1998-05-11
- 32) **Patent:** CA1285665C **Title:** Nondestructive method for analyzing total porosity of thin sections **Published:** 1991-07-02
- 33) **Patent:** CA1322615C **Title:** Method and apparatus for analyzing components of selected fluid inclusions **Published:** 1993-09-28
- 34) **Patent:** DK0414564T3 **Title:** Apparat og fremgangsmåde til analyse af fluide indeslutninger **Published:** 1995-11-27
- 35) **Patent:** DE69023079D1 **Title:** Vorrichtung und Verfahren zum Gebrauch bei der Analyse von Flüssigkeitseinschlüssen. **Published:** 1995-11-23
- 36) **Patent:** DE69016312D1 **Title:** Verfahren zur unterirdischen Untersuchung. **Published:** 1995-03-09
- 37) **Patent:** NO19903717A **Title:** Fremgangsmåde ved analyse av en underjordisk prøve. **Published:** 1991-02-25

MP Smith Multi-authored Patents

- 38) **Patent:** US6661000 **Title:** Method for measuring absorbed and interstitial fluids: **Inventors:** MP Smith, RJ Pottorf, GG Gray, MO Vityk, **Published:** 2003-12-9



AHS RVStrat Operational Philosophy: Unbiased Science

- 1) AHS Performs RVStrat Analyses BLIND of ANY INFORMATION about the wells we analyze
- 2) NO INFORMATION or ANY RESULTS from Pantheon Great Bear on Theta West 1 were shared with AHS prior to Final Data Drop Off for all the cuttings and isotubes data, and not until after AHS provided our interpretations based solely on our data.
- 3) This RVStrat study was done **COMPLETELY BLIND AND INDEPENDENT** from Pantheon by AHS.

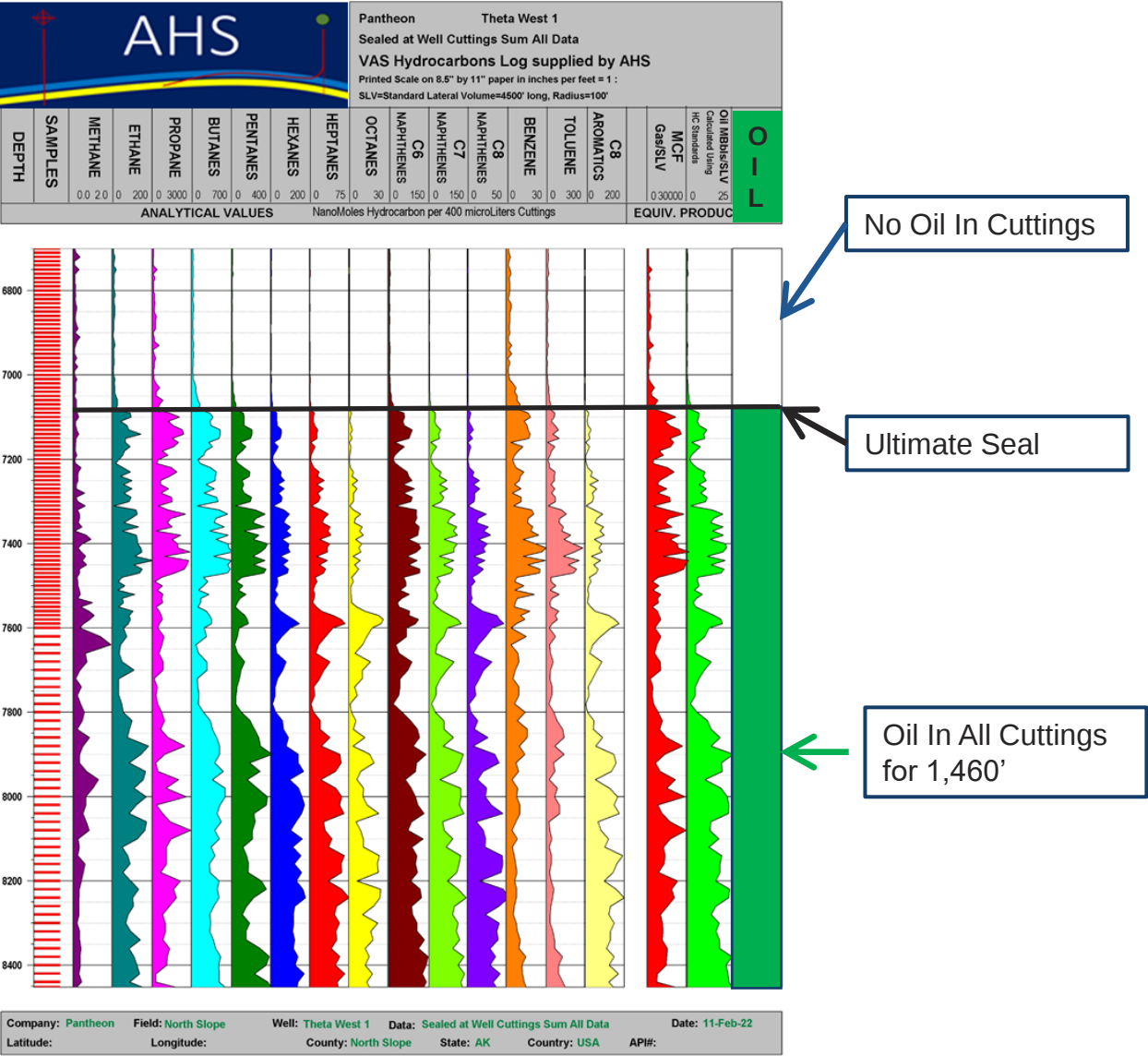


RVStrat of Pantheon Theta West 1

1,460' of PDC Bit Cuttings
All Contain Oil

RVStrat Indicates:

Abundant Good Quality:
Reservoirs, Seals, and Oil





AHS's Rock Volatiles Stratigraphy (RVStrat) of Pantheon's Theta West 1 Well, North Slope, Alaska

Conclusions. RVStrat Of Theta West 1 Indicates:

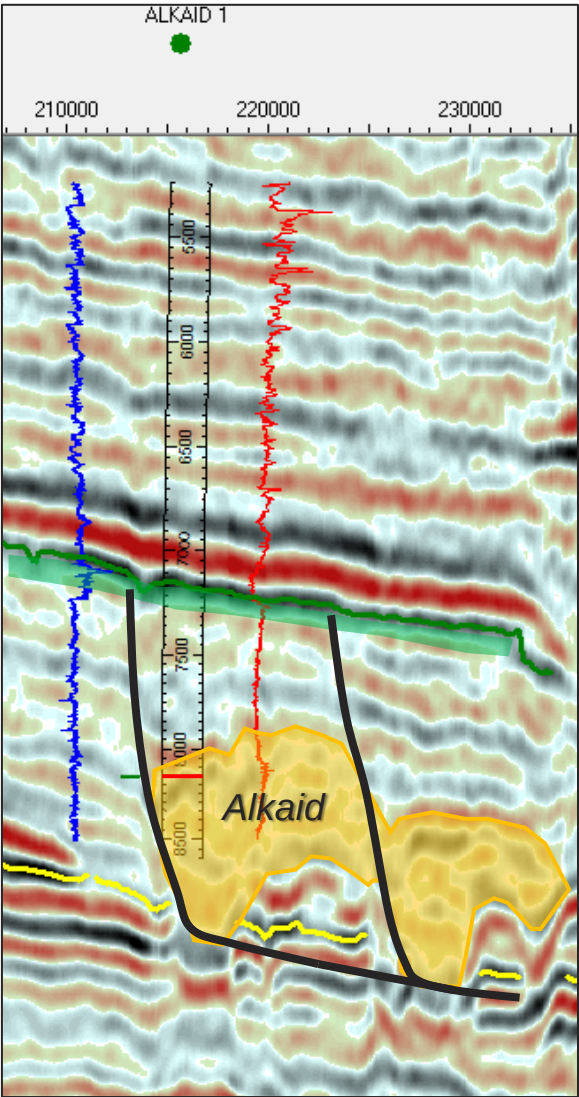
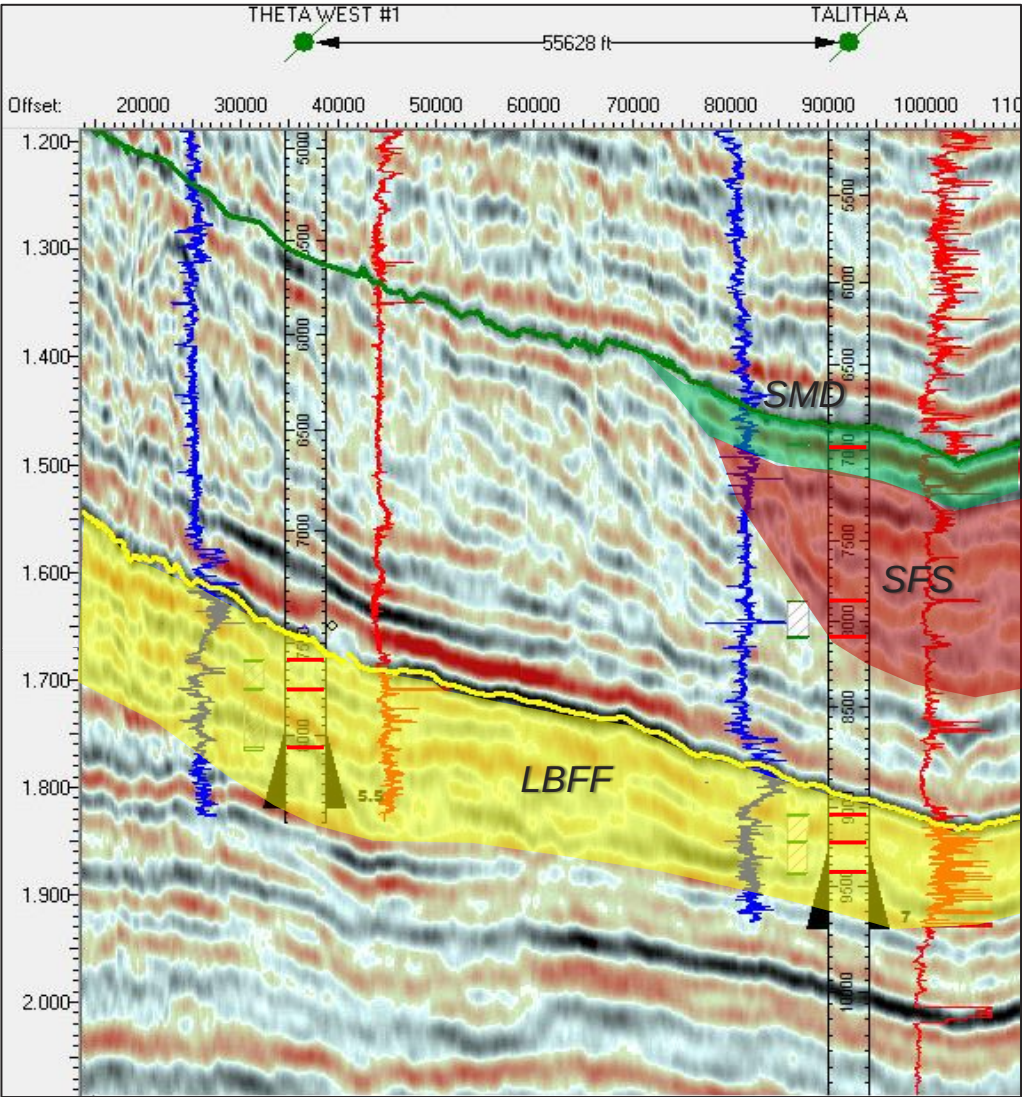
- 1) World Class Petroleum System. >1,460 feet of significant oil saturation indicated by 1,460' of continuous oil bearing cuttings in the Basin Floor Fan complex.
- 2) Good Quality and High Abundances of Oil, Reservoirs, and Seals.

Resource Upgrade



PANTHEON RESOURCES

RESOURCE ASSEMENT OF **PROVEN** RESERVOIRS



PANR Net OIP

Shelf Margin Deltaic

- Monte Carlo simulation: no change since Talitha
- Log pay observed at Talitha, Pipeline, and Alkaid
- Tested light oil at Talitha

2.6 BNBBLs

Slope Fan System

- Successfully tested at Talitha
- Scoping deterministic estimate based on calibrated AVO response to sand, plus incorporating matrix

2.2 BNBBLs

Lower Basin Floor Fan

- 3 penetrations, all oil saturated
- Successfully tested at Talitha and Theta West #1
- Accurate prognosis: increased confidence in reservoir description
- Significantly improved porosity relative to Talitha
- Expanded gross rock volume: main OIP driver, accurately mapped
- Upgraded assessment to deterministic OIP model

17.8 BNBBLs

Alkaid

- Successfully tested in Alkaid #1
- Independent Expert OIP estimate
- Estimate unchanged

0.9 BNBBLs

Combined OIP

23.5 BNBBLs

Talitha #A and Theta West

Operations Review 2022 Winter Season





Path Forward

Theta West (LBFF) – Appraise

Shelf Margin Deltaic (SMD) – Understand, appraise, and test

Slope Fan System (SFS) – Appraise and test

Alkaid – Drill and PRODUCE!!!

Move to Development

Alkaid – 2022

SMD – Test and evaluate



Review of 2022 Winter Operations

Proven oil and oil quality in 4 reservoirs containing over 23 billion barrels

Talitha A

LBFF – Good result, 42 BOPD stable

SFS – Very good result, 45 BOPD

SMD – Obstruction to flow...

Theta West #1

Successfully drilled through all pay to planned TD

Cased well, had an incorrectly assembled service company tool caused a cementing issue that was fixed with a small diameter liner

Tested LBFF – 57 BOPD stable

Conclusions

LBFF – Huge discovery, economic play with high quality oil

SFS – Very exciting, good deliverability and huge potential

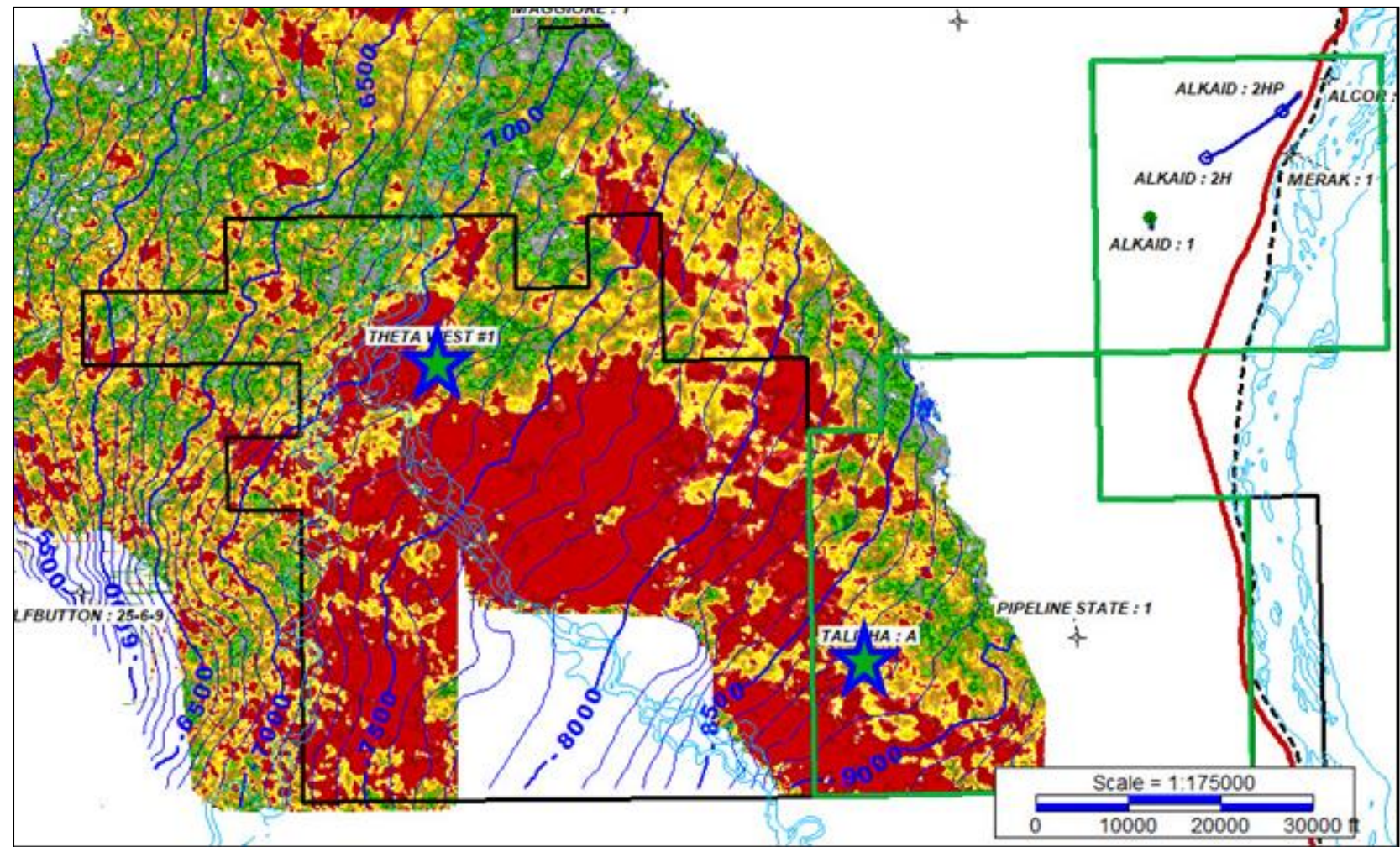
SMD – Forward plan: sidetrack in Talitha, test in Alkaid #1 (drilled in 2015) and evaluate in two new winter wells

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THETA WEST: LOWER BASIN FLOOR FAN (LBFF)



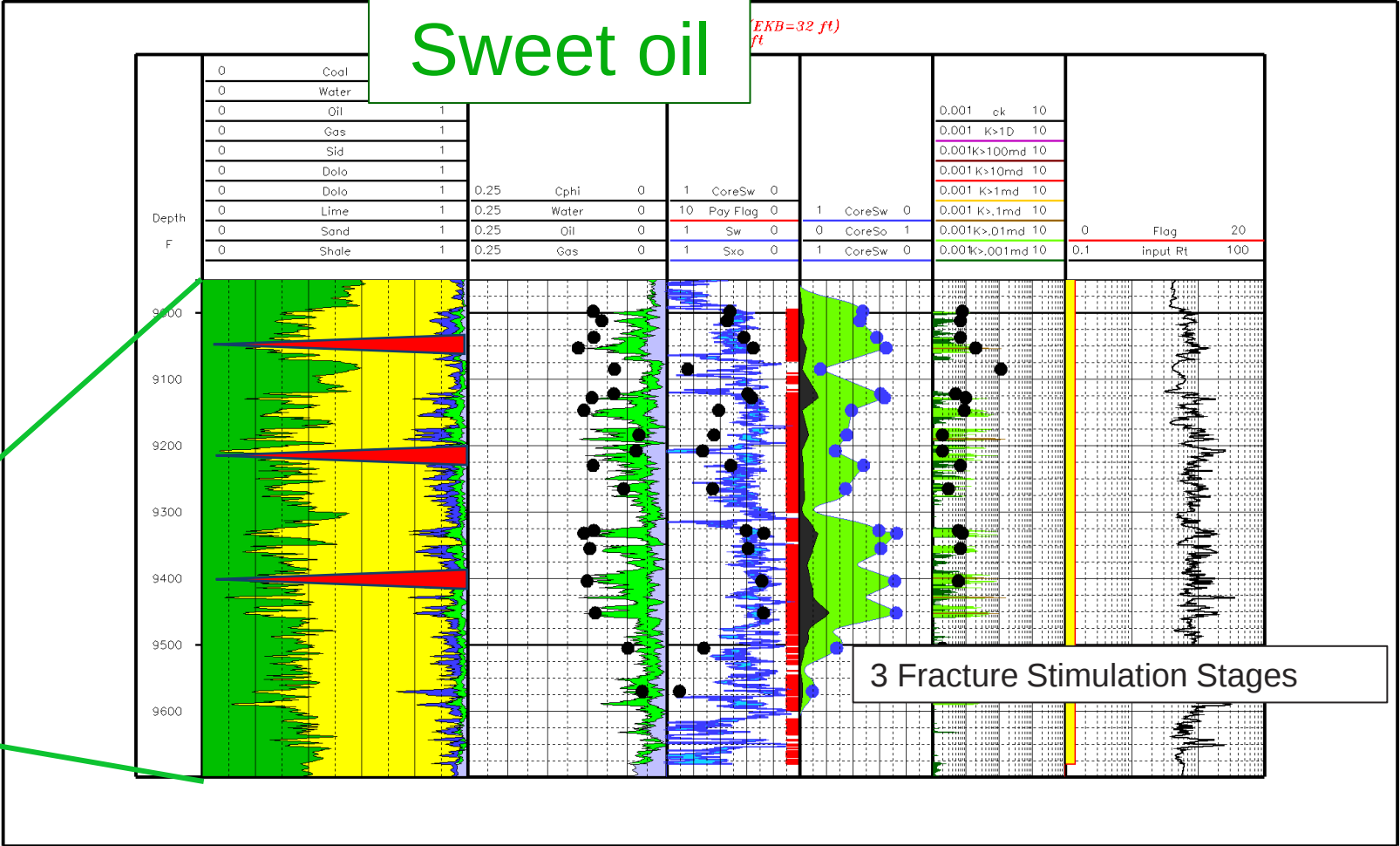
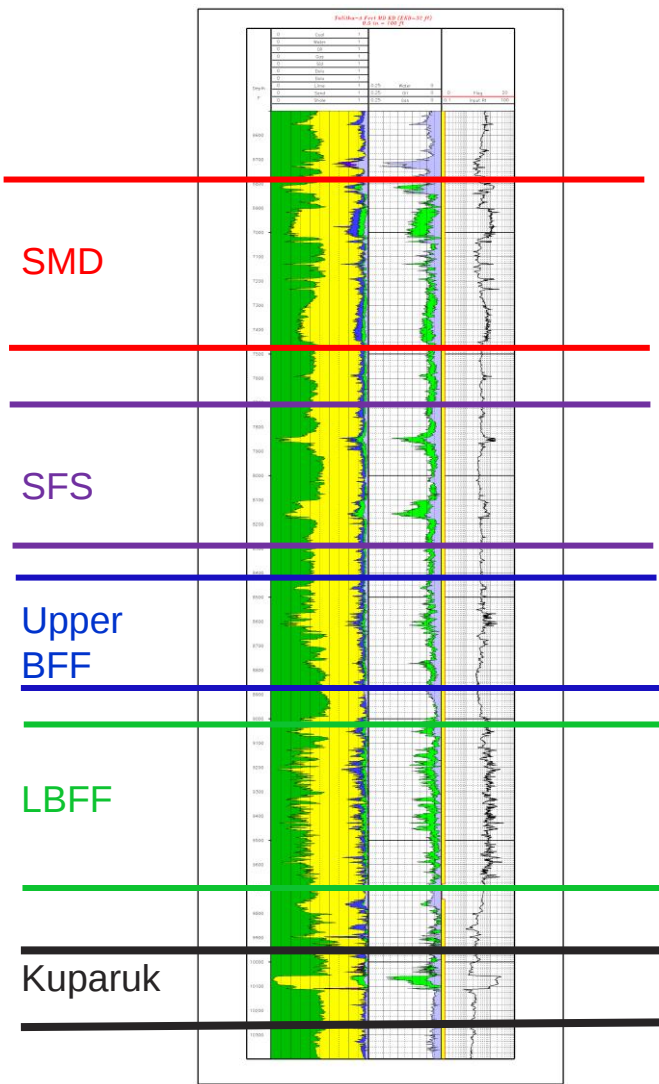
>17 Billion bbls Oil in Place⁽¹⁾
 >1.7 Billion Recoverable Resource⁽¹⁾



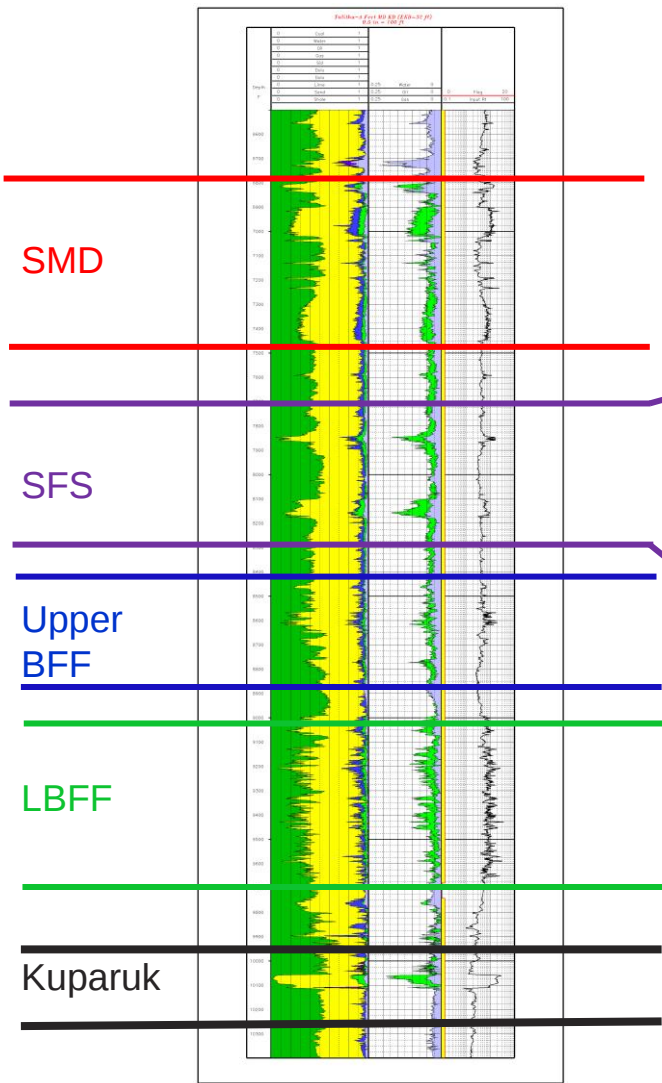
(1) Company estimate



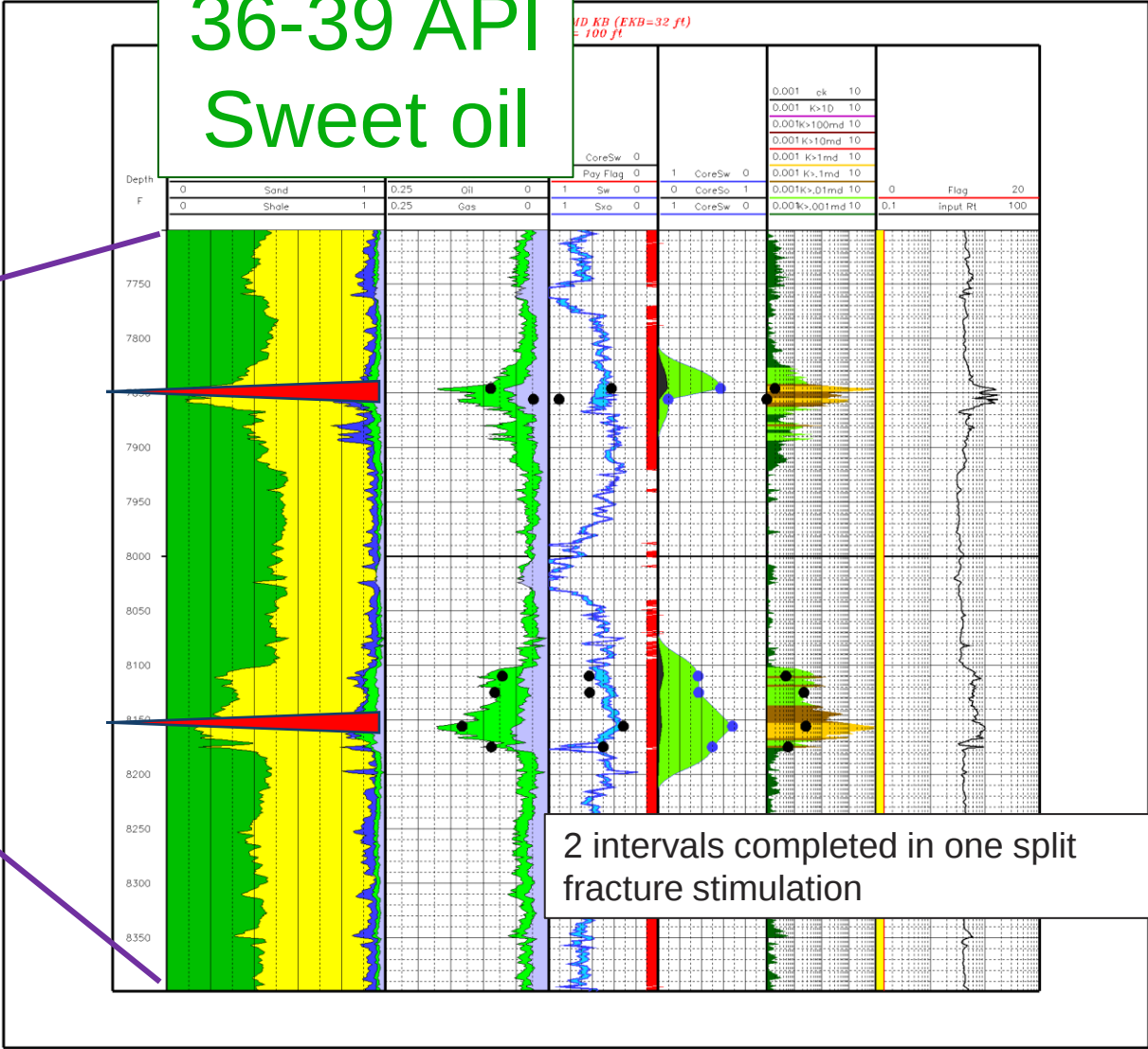
42 BOPD
36-39 API
Sweet oil



PANTHEON RESOURCES TALITHA #A: SLOPE FAN SYSTEM (SFS)



45 BOPD
36-39 API
Sweet oil



PANTHEON RESOURCES
TALITHA #A: SHELF MARGIN DELTAIC (SMD)



Cut and evaluated in five locations

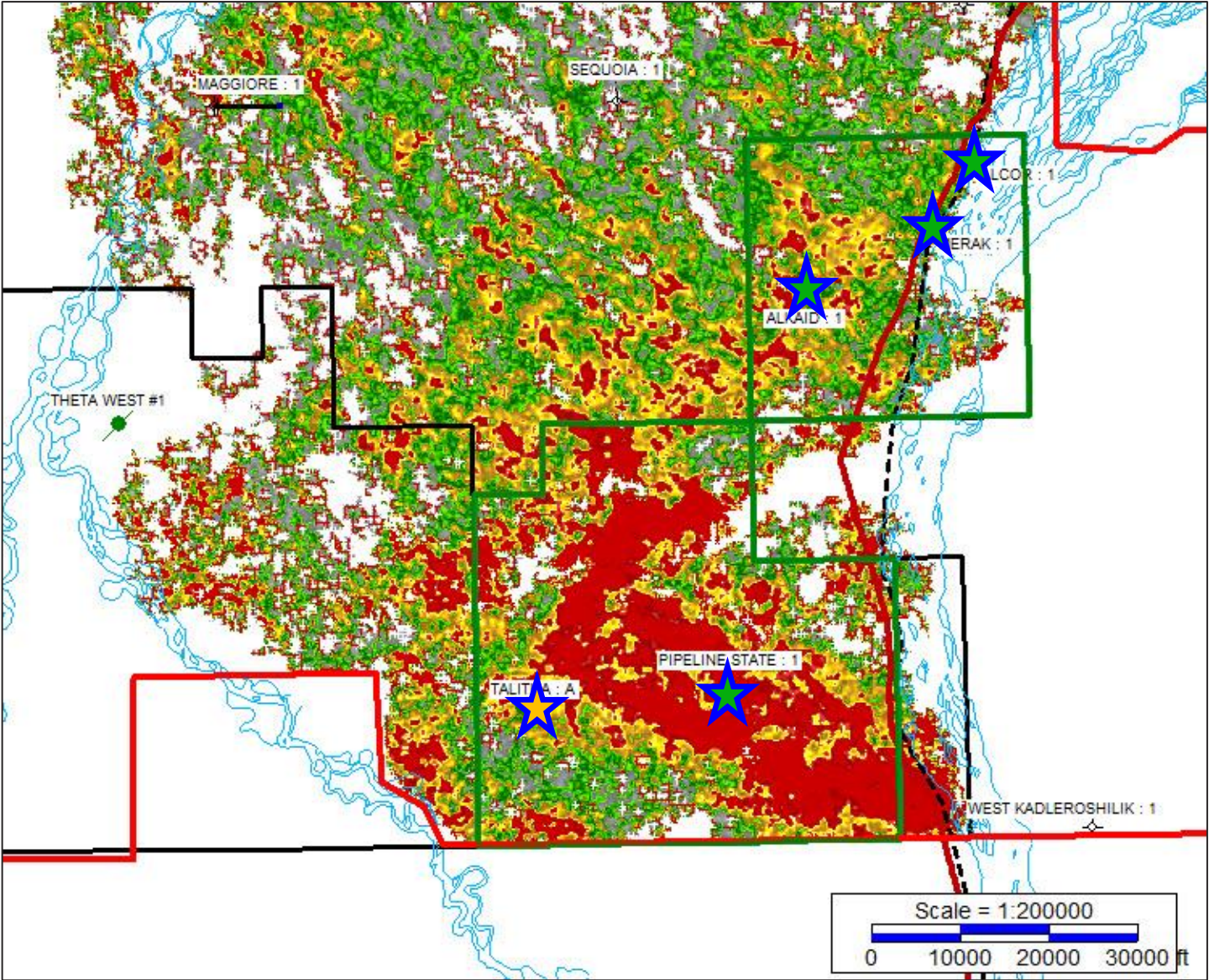
- ★ Alcor
- ★ Merak
- ★ Alkaid
- ★ Pipeline State
- ★ Talitha A

Tested in one location

- ★ Talitha A

Will cut/log/test in future wells:

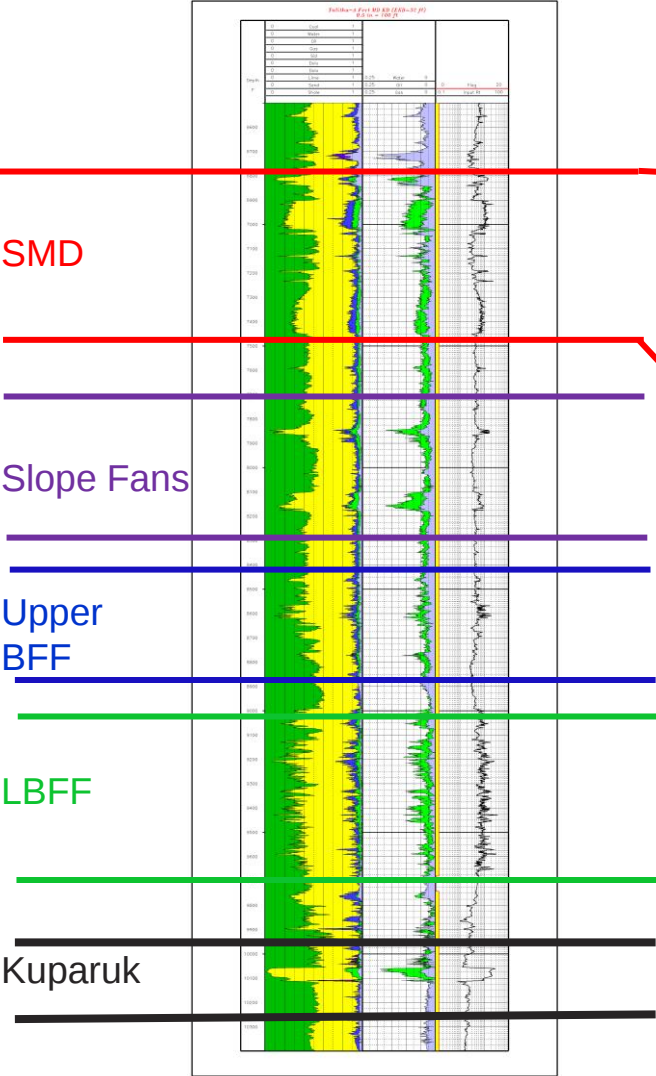
- ★ Alkaid 1
- ★ Alkaid 2
- Talitha B



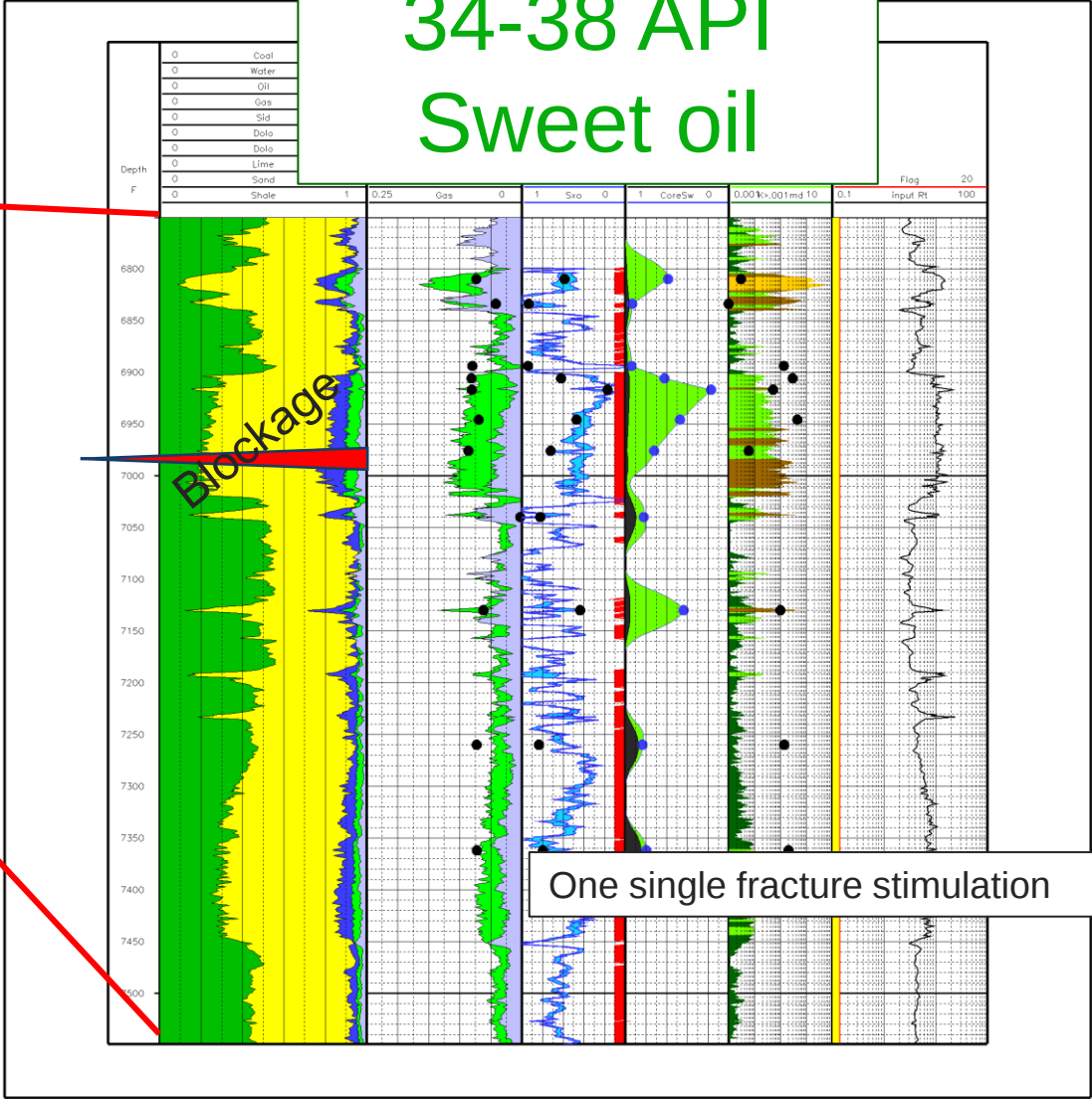
TALITHA #A: SHELF MARGIN DELTAIC SUSPECTED BLOCKAGE ENCOUNTERED



Minimal inflow
34-38 API
Sweet oil



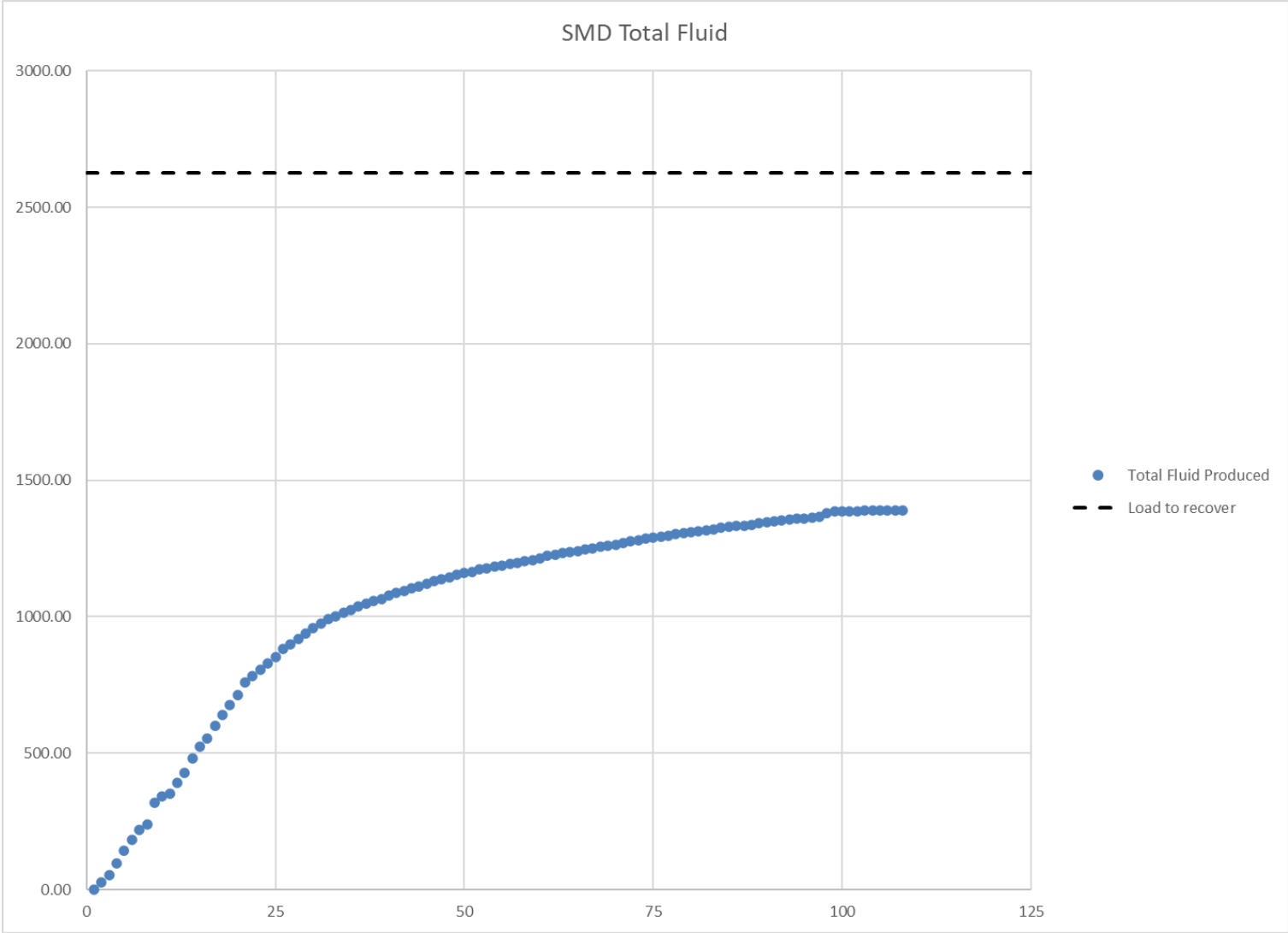
At Talitha #A, testing was suspended due to the onset of a blizzard. Upon resumption of testing the well stopped flowing after a short period of time, still during the cleanup phase – Consensus from the Company and external consultants is that a blockage is believed to occurred.





Frac fluid pumped

Not even getting
full frac fluid back





SMD – Flow rate

Flow rates from this interval are anticipated to mirror Alkaid production within 20%. IP of 50-80 bopd for the single stage will be a success.

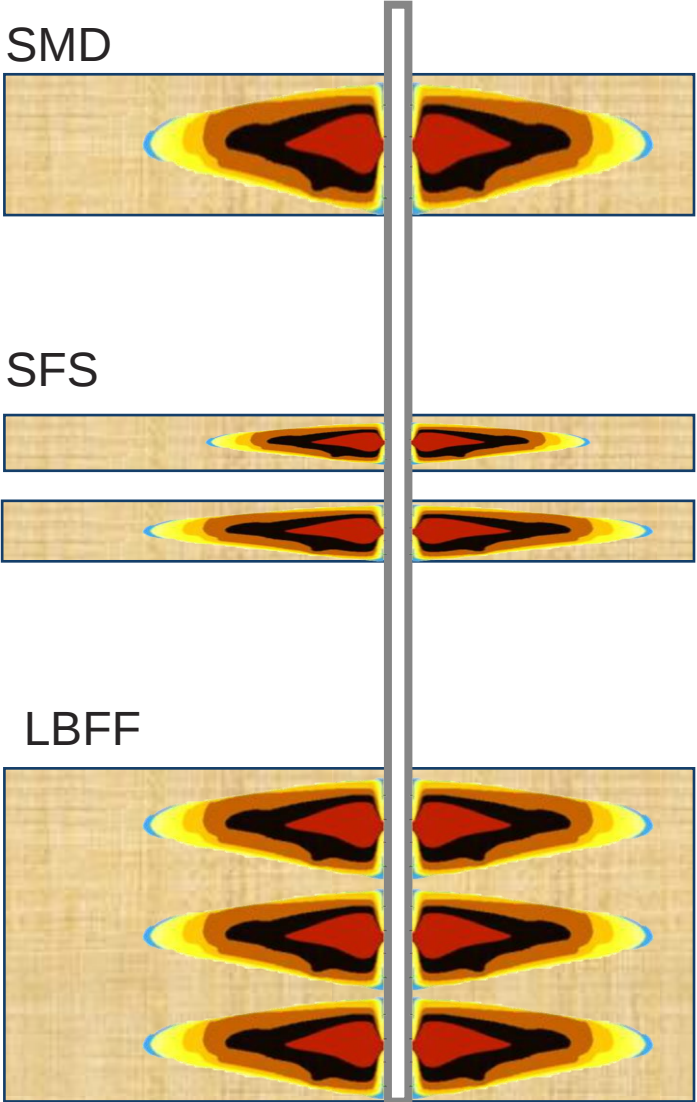
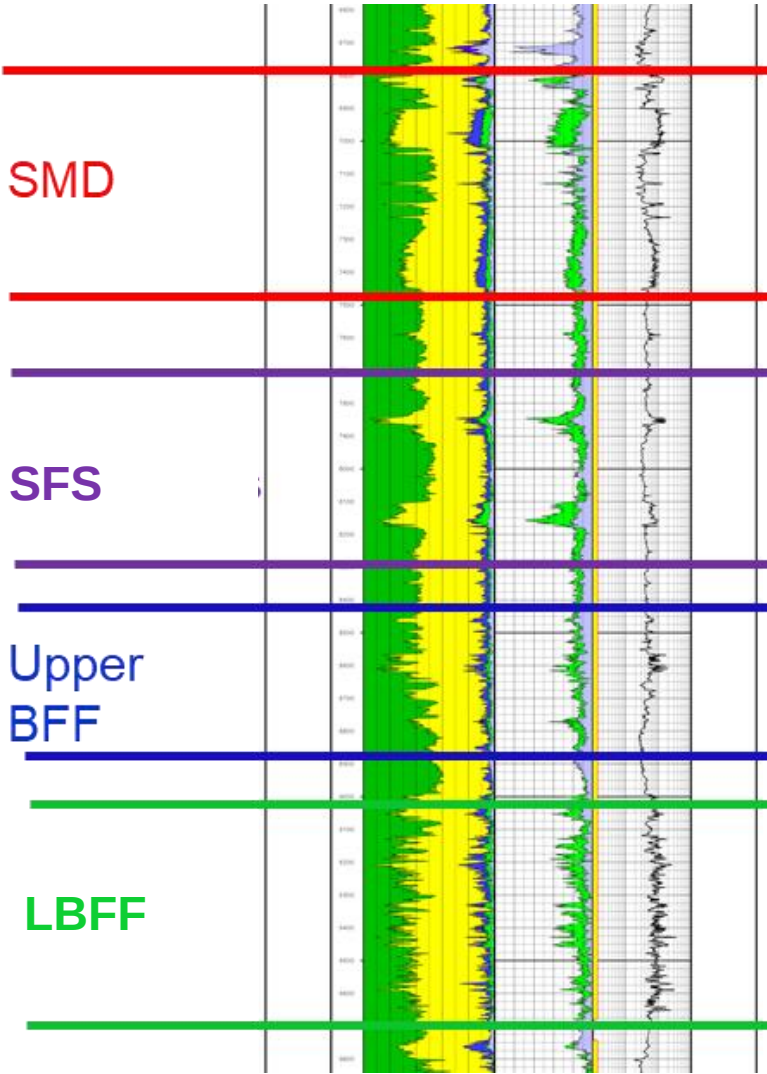
SFS– Reservoir quality

Permeability measurements and oil quality are the two goals here. Success is proving good reservoir quality with movable oil. 35-42 API oil is anticipated.

LBFF – Oil quality

Talitha success in the basin floor fan will be determined by movable oil of high quality. 35-42 API oil is anticipated.

TBD



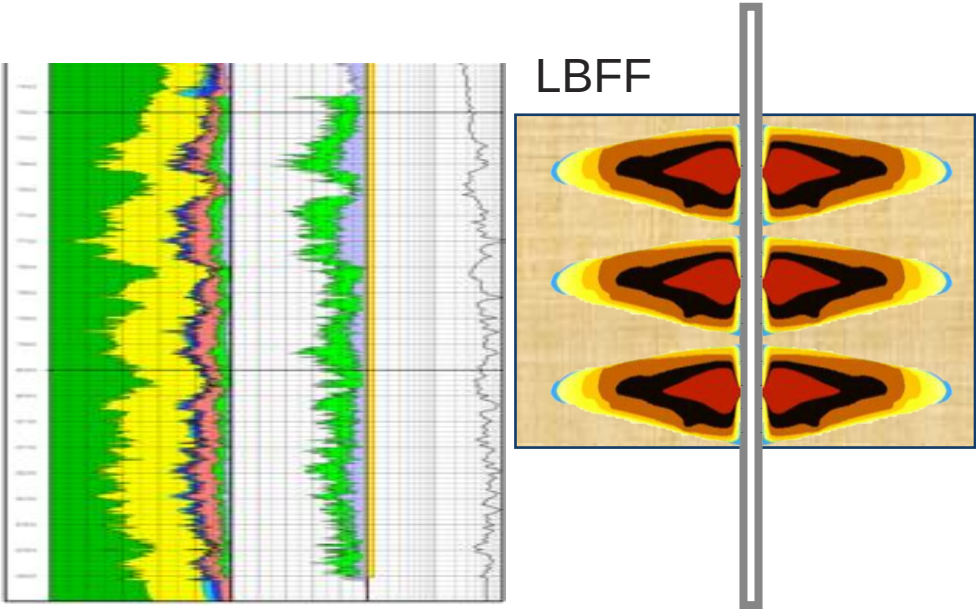


LBFF – Reservoir continuity and improvement

Cut 900+ feet of reservoir analogous to Talitha.
Improved thickness and reservoir quality vs Talitha

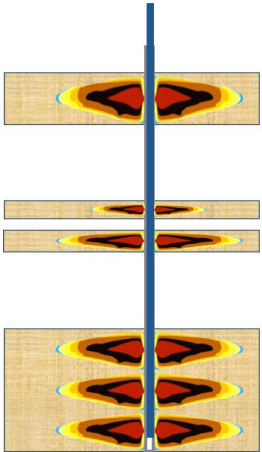
Flowed 36-39 API oil matching that of the Talitha A
LBFF. Produced and sold 38.7 API oil

57 BOPD
36-39 API ✓
Oil matching Talitha





Talitha #A

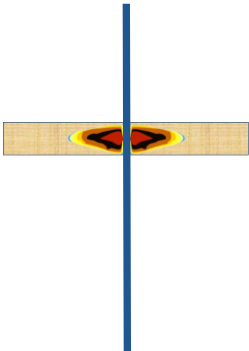


TBD

45 BOPD

42 BOPD

Alkaid #1

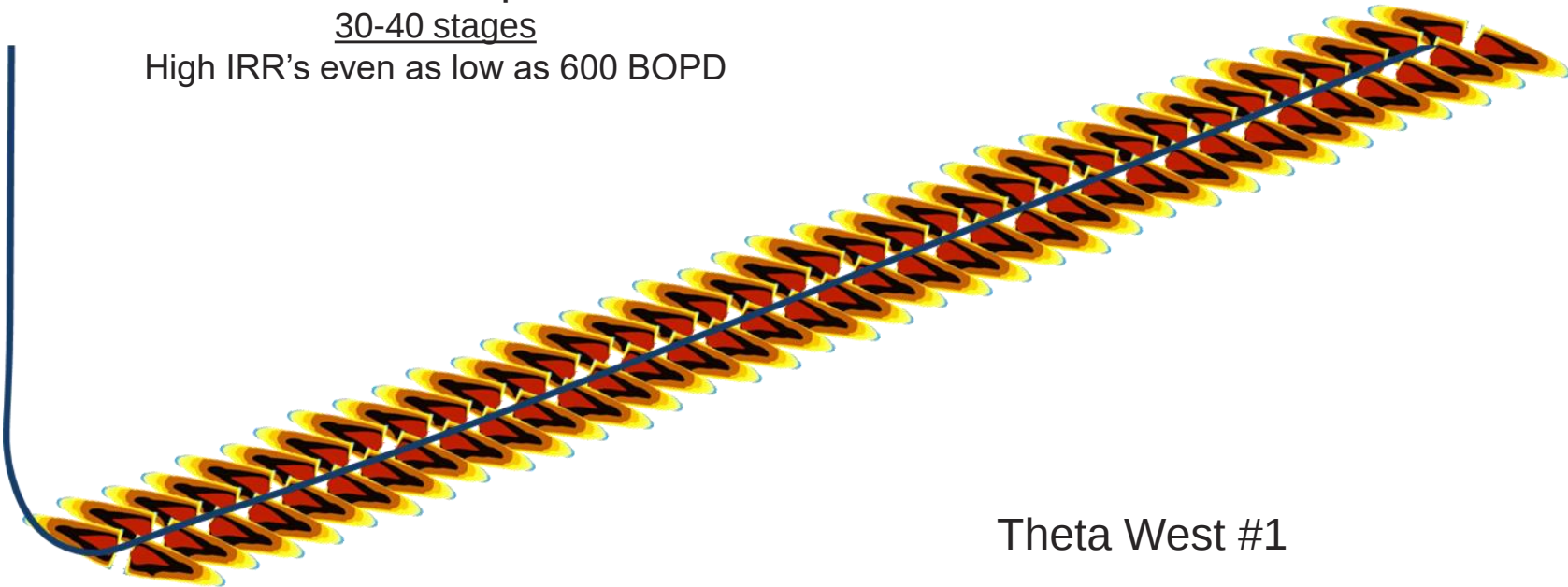


108 BOPD

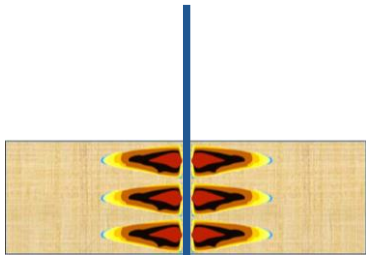
Illustrative Development Well

30-40 stages

High IRR's even as low as 600 BOPD



Theta West #1



57 BOPD

Unrealized Improvements

- Better Frac
- Better Lift
- Drilling Techniques
- Better mapping and targeting of reservoir



Appraise

Theta West Basin Floor Fan

17.8 Billion Barrels
98,200 Acres
Cut in two wells
Tested in two wells
36-39 API oil

Appraise

Slope Fan System

2.2 Billion Barrels
29,900 Acres
Cut in 2 wells with 1 close analog
Tested in one well with one analog
35-38 API oil

Test

Shelf Margin Deltaic

2.6 Billion Barrels
61,400 Acres
Cut in 5 wells
Tested (questionably) in one well
34-38 API oil

PRODUCE!

Alkaid Formation

0.9 Billion Barrels
7,650 Acres
Cut in 1 well with 2 Analogs
Tested in one well with one analog
35 API oil

Alkaid #2

Operations Plan 2022 Summer Season





Alkaid #2 Objectives
Two Proven Oil Zones

1. SMD Appraisal

- SMD extends to Talitha location and appraised by recent well
- Oil in Place 2.6 billion bbl & 404 million bbl Recoverable Resource (Company estimate)⁽¹⁾

2. Alkaid Production Test

- Independent Expert Report affirms
 - 76.5 MMBO Contingent Resources (recoverable)⁽²⁾
 - Estimated ultimate recovery (EUR) **per well** of 2.25 MMBO
 - **NPV10 \$595m at \$55 oil price**

SMD: Conceptual Development Model – Company estimates
Sensitivity analysis

Oil Price	\$	40	\$	50	\$	60	\$	70	\$	80	\$	90
NPV10 (\$million)	\$	175	\$	1,364	\$	2,479	\$	3,578	\$	4,534	\$	5,404
NPV10/barrel	\$	0.42	\$	3.23	\$	5.88	\$	8.49	\$	10.75	\$	12.82

Conceptual development model for the SMD-B project based upon management estimates. **For illustrative purposes only.** Assumptions: 400 well development (194 wells @ EUR of 1.4 mmbo and 206 wells @ 0.7mmbo), average well cost \$23m for three delineation wells and \$12m per well thereafter, oil prices held flat, model truncated at year 20.

Alkaid: Conceptual Development Model – Company estimates
Sensitivity analysis

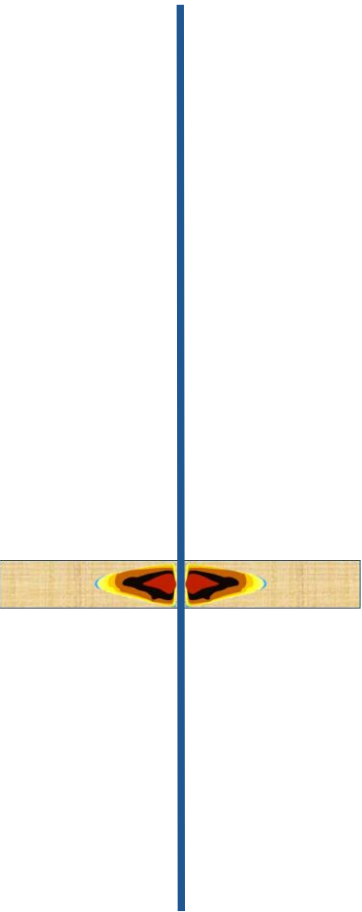
Oil Price	\$	40	\$	50	\$	60	\$	70	\$	80	\$	90
NPV10 (\$million)	\$	68	\$	349	\$	605	\$	833	\$	1,040	\$	1,240
NPV10/barrel	\$	0.89	\$	4.56	\$	7.91	\$	10.88	\$	13.60	\$	16.21

Conceptual development model for the Alkaid anomaly project (i.e.. excluding SMD), based upon the development model used by Lee Keeling & Associates. **For illustrative purposes only.** Assumptions: 44 wells drilled (24 wells @ EUR of 2.1mmbo and 20 wells @ 1.1mmbo), average well cost \$23m for three delineation wells and \$12m per well thereafter, oil prices held flat, model truncated at year 20.

(1) Management believe resource estimate meets the classification of Contingent Resource. (2) Lee Keeling & Associates (Independent Expert) estimate



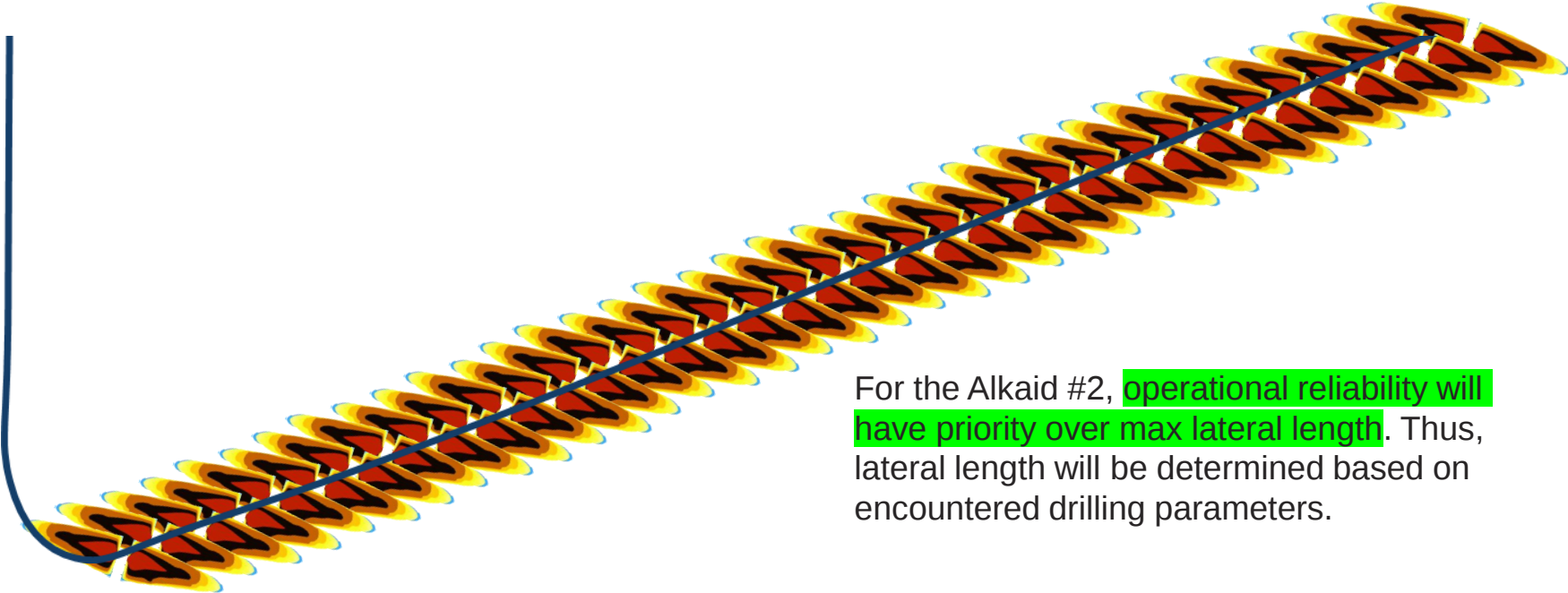
Alkaid #1
Single Frac Stage
Produced 108 BOPD



x 30 to 40 =

Alkaid #2
30-40 stages, one stage for 150-250' of horizontal
Expecting 150 bopd per 1000' of horizontal

Based on 2022 frac analysis



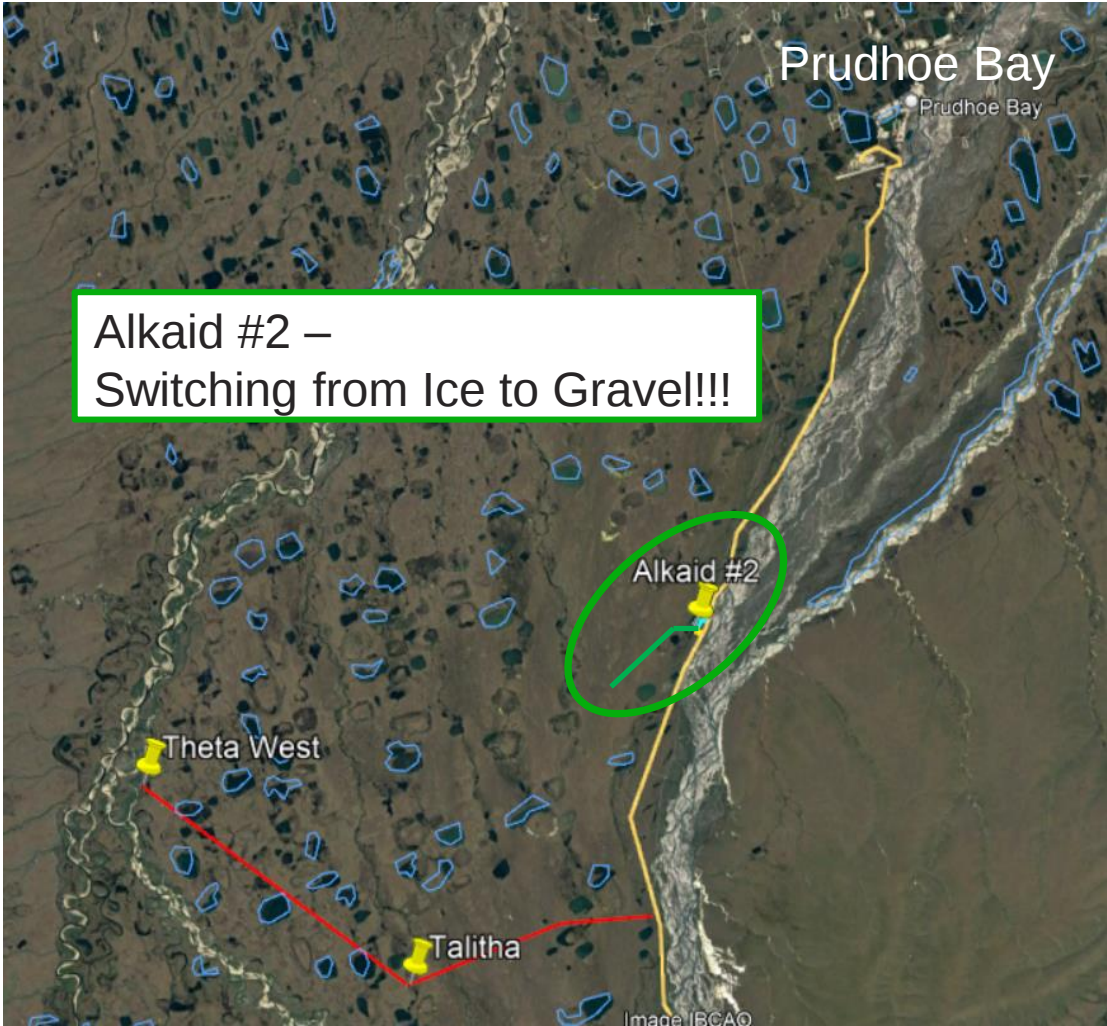
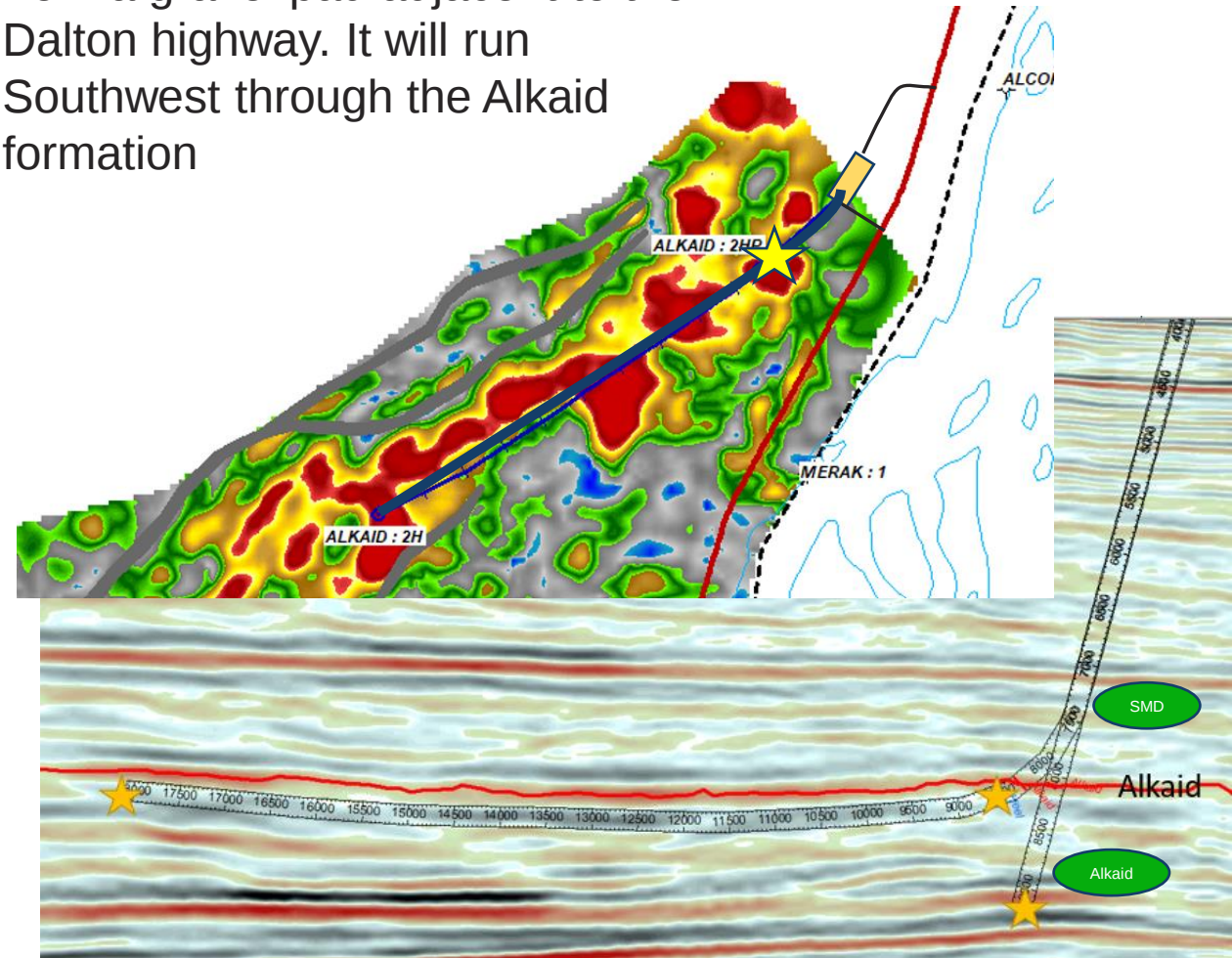
For the Alkaid #2, operational reliability will have priority over max lateral length. Thus, lateral length will be determined based on encountered drilling parameters.

Production Expectations:
450 bopd for 3000' of completed horizontal
750 bopd for 5000' of completed horizontal
1,200 bopd for 8,000' of completed horizontal

PANTHEON RESOURCES
ALKAID #2 – SUMMER WELL

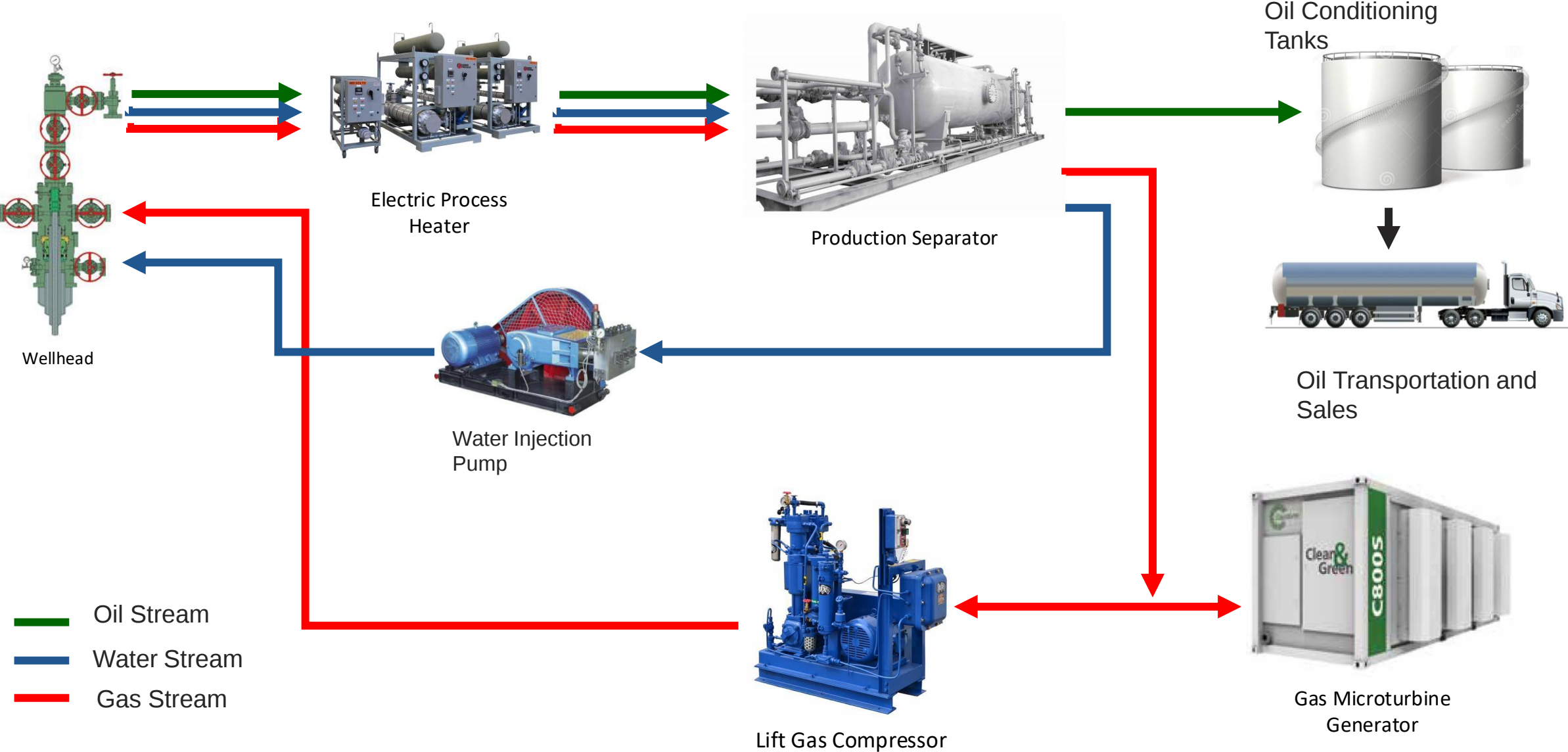


Alkaid well is a horizontal, drilled from a gravel pad adjacent to the Dalton highway. It will run Southwest through the Alkaid formation



PANTHEON RESOURCES

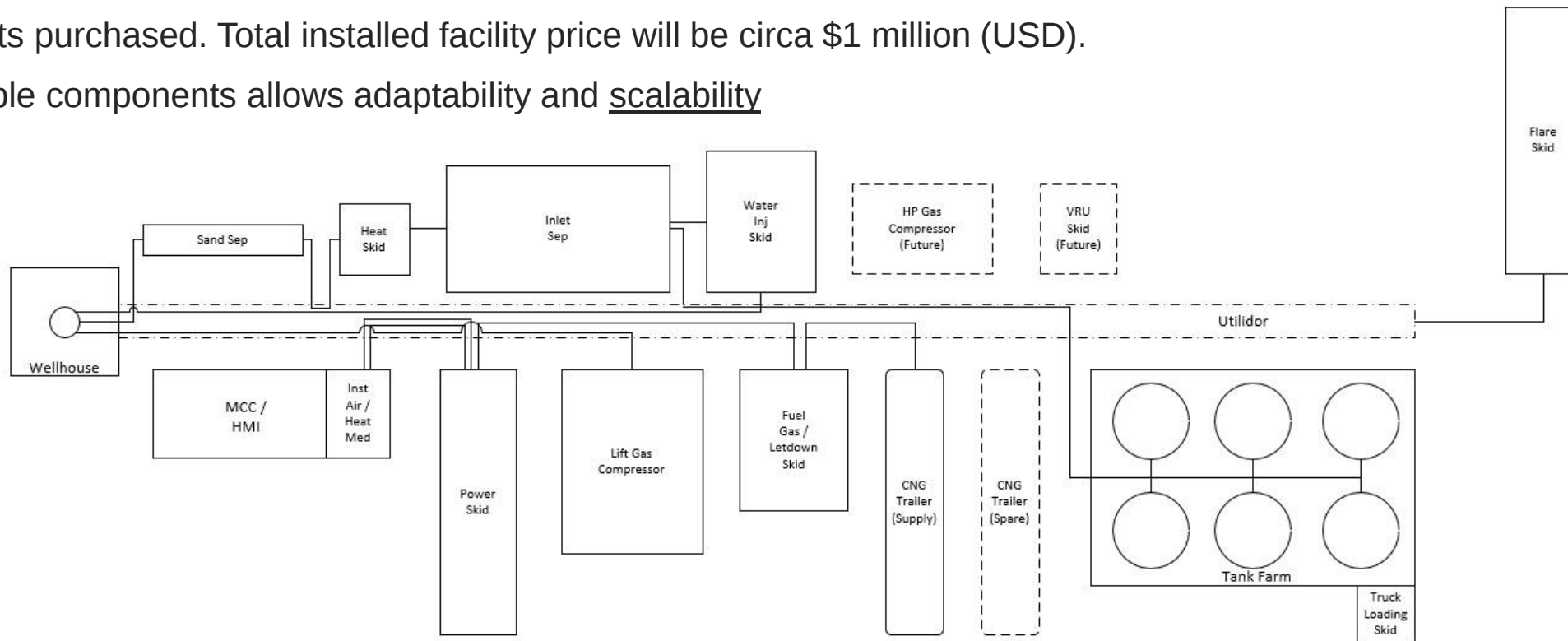
ALKAID #2 – 2,000 BOPD PROCESSING FACILITY



PANTHEON RESOURCES EXTENDED WELL-TEST FACILITY HIGHLIGHTS



- Merges Canadian and USA/Alaskan methods
- Designed for sustained production of 2000+ b.o.p.d
- Fully electric, fit for remote/stand alone operations
- Eliminates operating expense (N2, water disposal, well test personnel)
- Utilizes trucking (proven) for oil sales
- Core components purchased. Total installed facility price will be circa \$1 million (USD).
- Fully transportable components allows adaptability and scalability

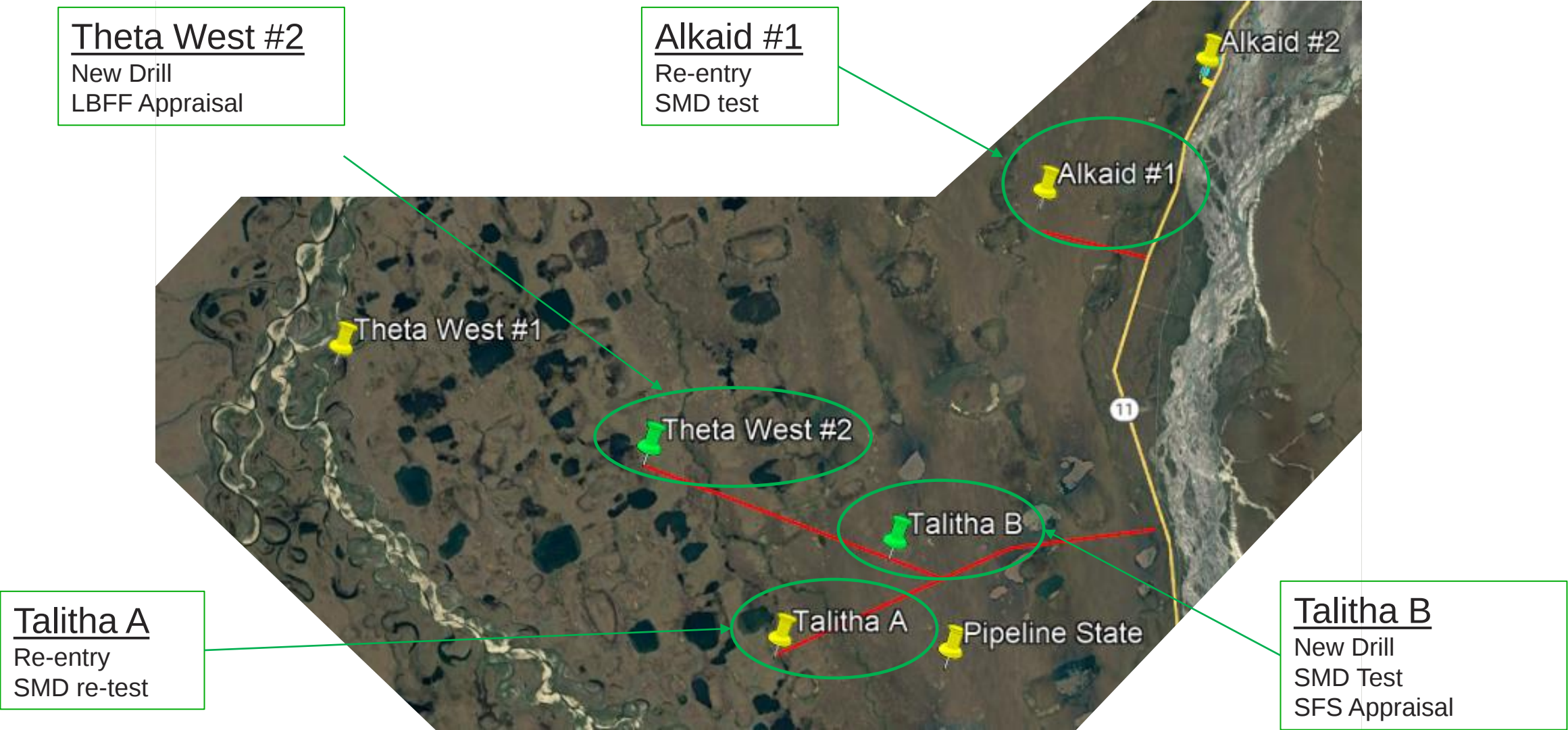


Alkaid #1, Talitha A, Talitha B, Theta West #1

Operations Plan 2023 Winter Season



PANTHEON RESOURCES
WINTER 2023, TWO RIG OPERATION





Theta West Lower Basin Floor Fan

17.8 Billion Barrels
98,200 Acres
Cut in **three** wells
Tested in **three** wells
36-39 API oil

Shelf Margin Deltaic

2.6 Billion Barrels
61,400 Acres
Cut in **eight** wells
Tested in **three** wells
38.1 API oil

Slope Fan System

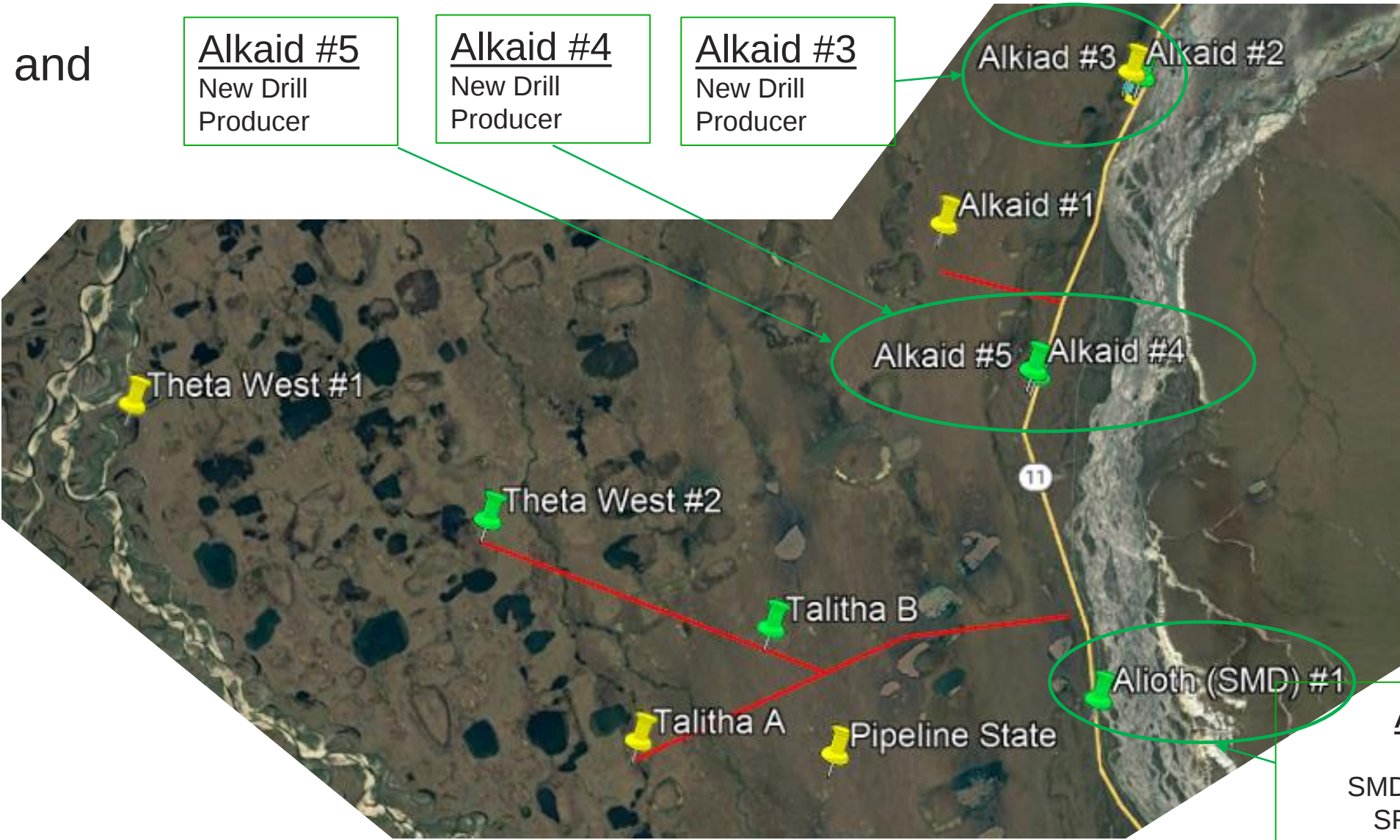
2.2 Billion Barrels
29,900 Acres
Cut in **four** with **two** close analogs
Tested in **three** well with **two** close analogs
35-38 API oil

Alkaid Formation

0.9 Billion Barrels
7,650 Acres
Proved and producing with Reserves



Production and Reserves!



Alkaid, SMD, and LBFF

Development Plans and Concepts



PANTHEON RESOURCES ALKAID ILLUSTRATIVE DEVELOPMENT PLAN



Shown is a depiction of a reservoir development.

Darker shaded well paths are those over amplitude anomalies similar to that of the Alkaid well. 24 wells fall into this category



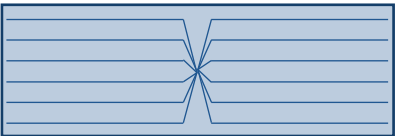
Lighter shaded well paths are those with seismic amplitudes that differ from Alkaid. To account for the possibility of reservoir differences, these 20 wells have production discounted 50%



PANTHEON RESOURCES SHELF MARGIN DELTAIC



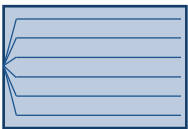
22 full drilling locations



To scale



8 half drilling locations



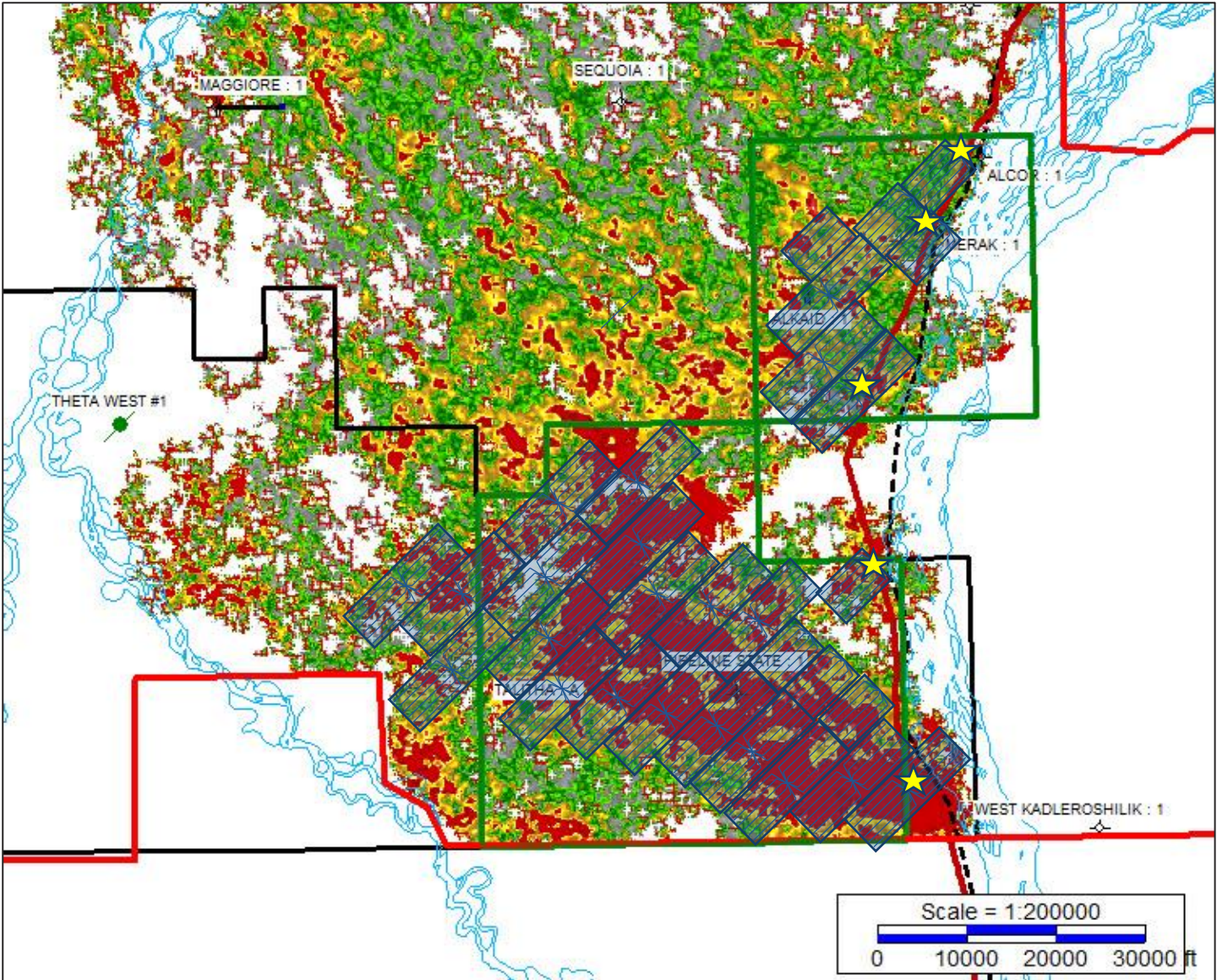
To scale



312 wells

42 wells can be drilled from the Dalton Highway producing 30,000 BOPD

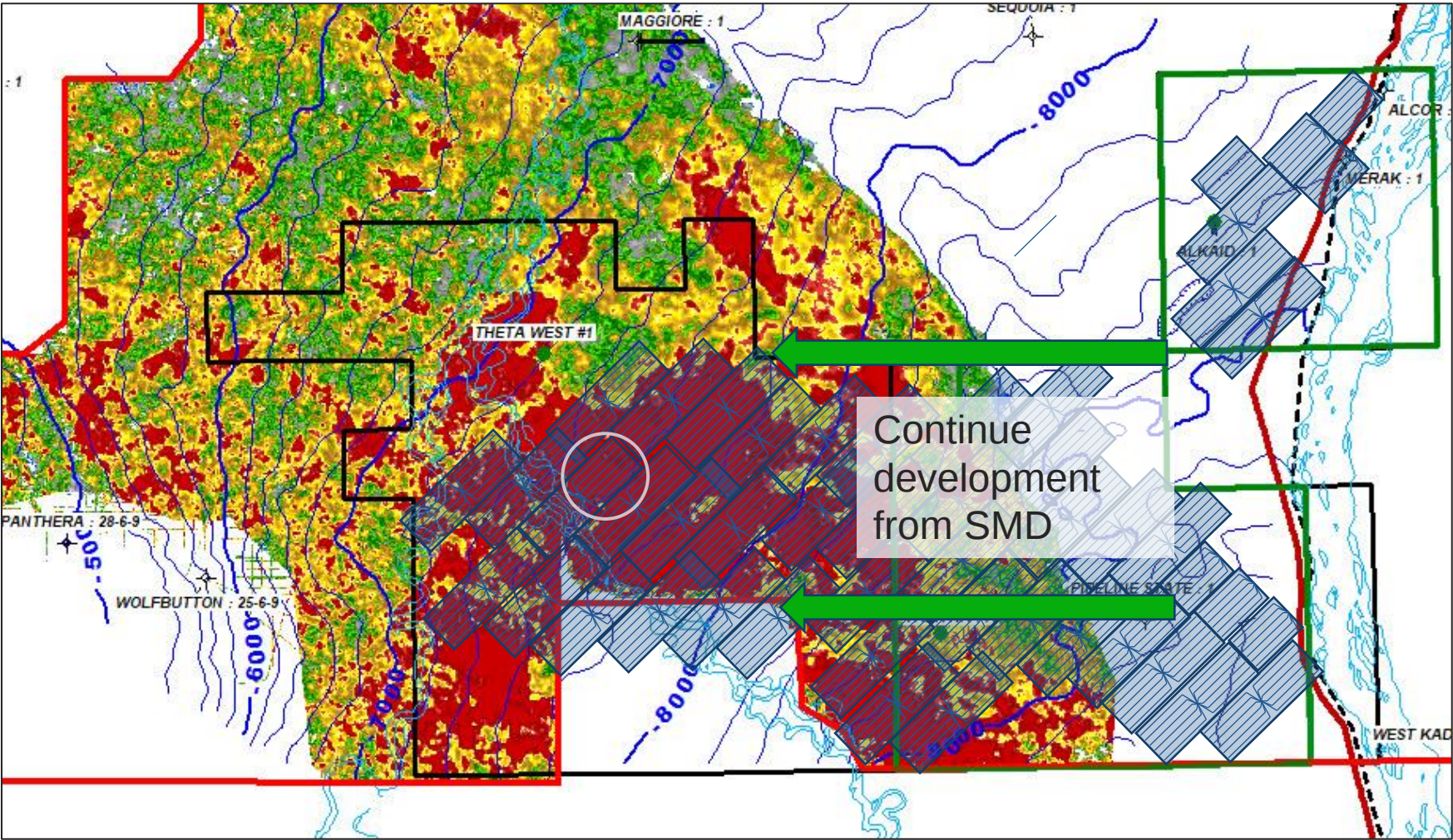
Development to spread from East (closest to pipeline) to West



PANTHEON RESOURCES BASIN FLOOR FAN DEVELOPMENT



- Piggy-back on prior developments
- More wells
- More horizons
- Optimize for better reservoir
- 700+ more locations





- **4 reservoirs, all proven, smallest is 1 billion barrels, largest >17 billion barrels**
- **All contain light, sweet crude**
- **Largest underutilized takeaway capacity on the continent, and the only paved road in North Alaska traverse 3 of the 4 reservoirs**
- **Production begins October 2022**

Q&A

“There is no conventional onshore oil play in the world that has the type of potential that still exists on the North Slope. These massive shallow oil targets more than offset the Alaska challenges of weather, infrastructure access, funding issues.”

Bill Armstrong, April 2022

