



# Atlas Sand & University Lands

*What Starts in the Permian is Changing the World*

June 2019



Confidential

# Introduction

- **U.S. Shale has disrupted world oil supplies. The Permian is the leader in U.S. Shale, and remarkably we've displaced OPEC by providing the marginal barrel of supply to meet global oil demand. We are now exporting freedom, and that's good for Texas, the USA, and the free world**
- **University Lands and Atlas, particularly given our new relationship, and also given our premium geography / rock, are integral to the Permian disruption, and we will play an increasingly important role**
- **Atlas is one of numerous sand suppliers providing local sand which has disrupted sand markets providing (a) lower sand prices and (b) better logistics / reliability. This disruption is hugely beneficial to Permian drilling economics and is further differentiating the Permian**
- **Darwin will sort the sand market out, and ultimately Atlas and University Lands will benefit immensely**
  - Atlas controls the largest and highest quality sand reserves, with the lowest cost to mine
  - Atlas is growing its sand production, sales, revenue and cash flow, while capturing market share
  - Other plants are shuttering, rationalizing, or struggling
- **The University Lands / Atlas relationship, in time, will further differentiate both University Lands and Atlas**
  - Lowering cost of delivered sand
  - Reduced infrastructure wear and tear
  - Saving Lives
- **MORE TO COME**

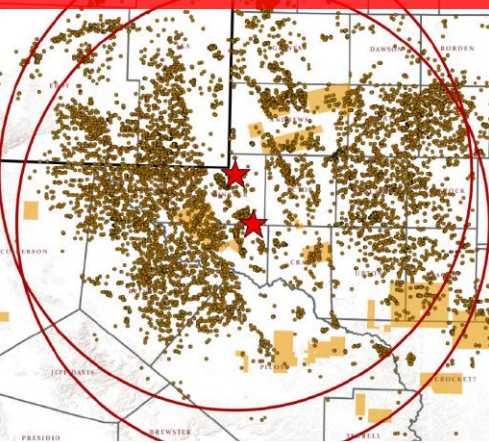






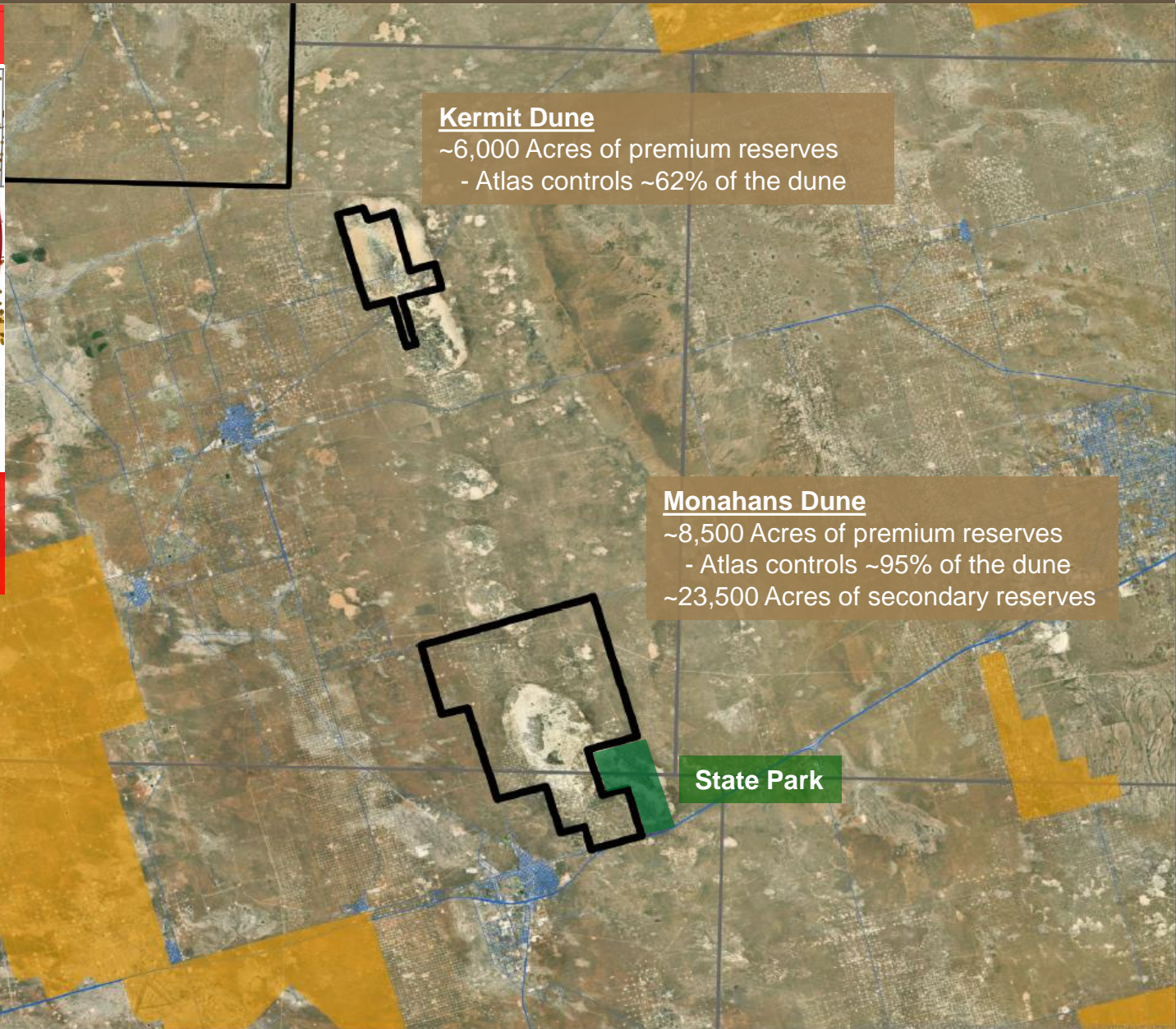
# Atlas's Dominant Pure-Play Permian Acreage Position holds the Largest Permian Basin Reserves of any Sand Provider

Nearly every well permit in the Permian is within 100 miles of one of Atlas' mine sites



Circle Radius = 100 Miles  
Note: Permitted HZ Wells  
Source: DrillingInfo.

Atlas holds over a massive mineable resource in place (as of 2018 JT Boyd reserve report), representing hundreds of years of resource life at current capacity of 8mtpy



**Kermit Dune**  
~6,000 Acres of premium reserves  
- Atlas controls ~62% of the dune

**Monahans Dune**  
~8,500 Acres of premium reserves  
- Atlas controls ~95% of the dune  
~23,500 Acres of secondary reserves

**State Park**



# Giant Open Dune Advantages: Industry Leading Research Program Targeted the Very Best Reserves in the Trend

## Consortium Research Project Participants



**Bud Brigham**  
Founder

**Griffin Money**  
Senior Geologist



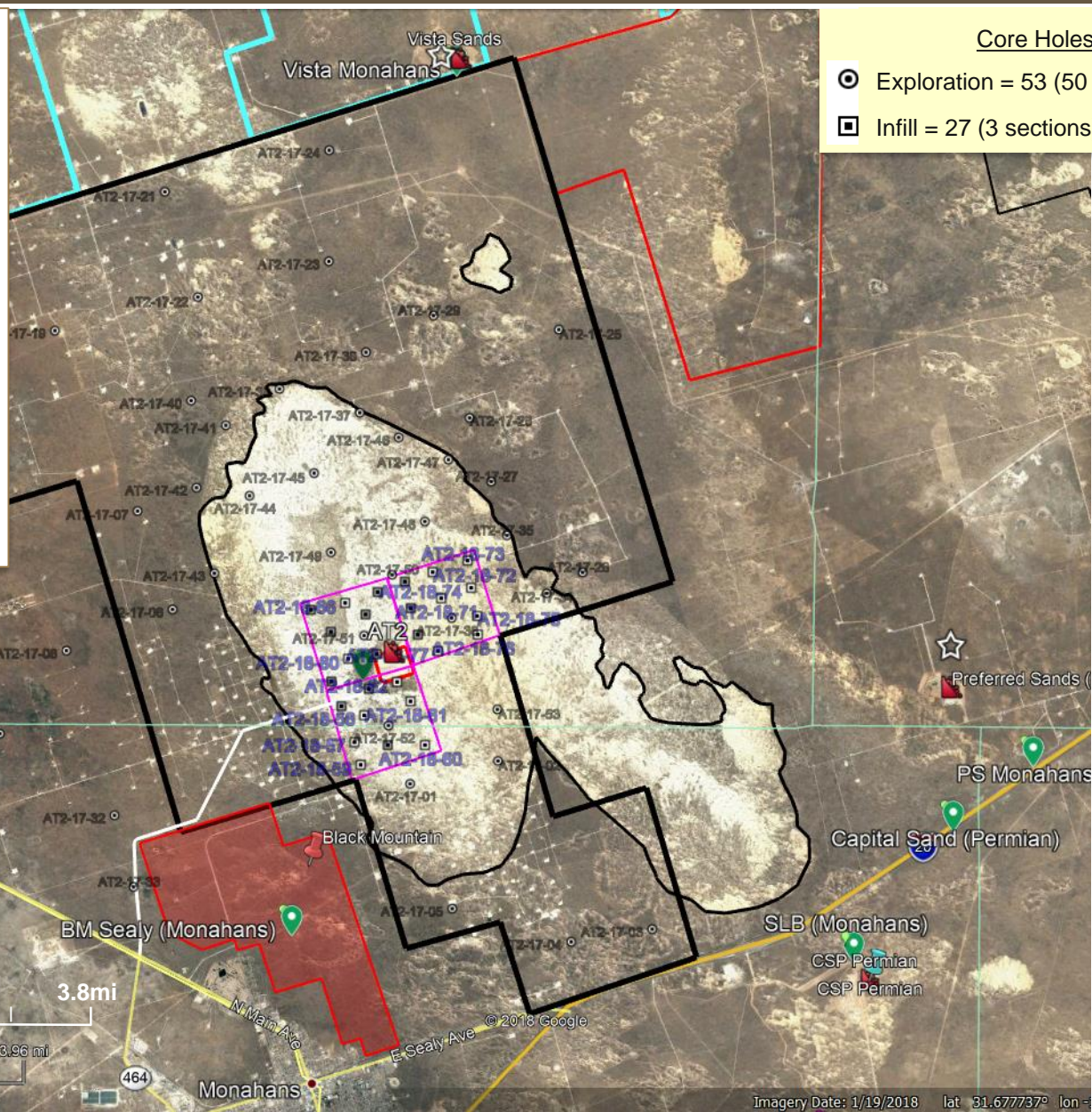
**Dr Steve Forman**  
Professor

**Logan Wiest**  
PhD Postdoc Research Assoc



**Chad Ostrander**  
President Hitachi Technologies

**Dr Gary Kocurek**  
Professor



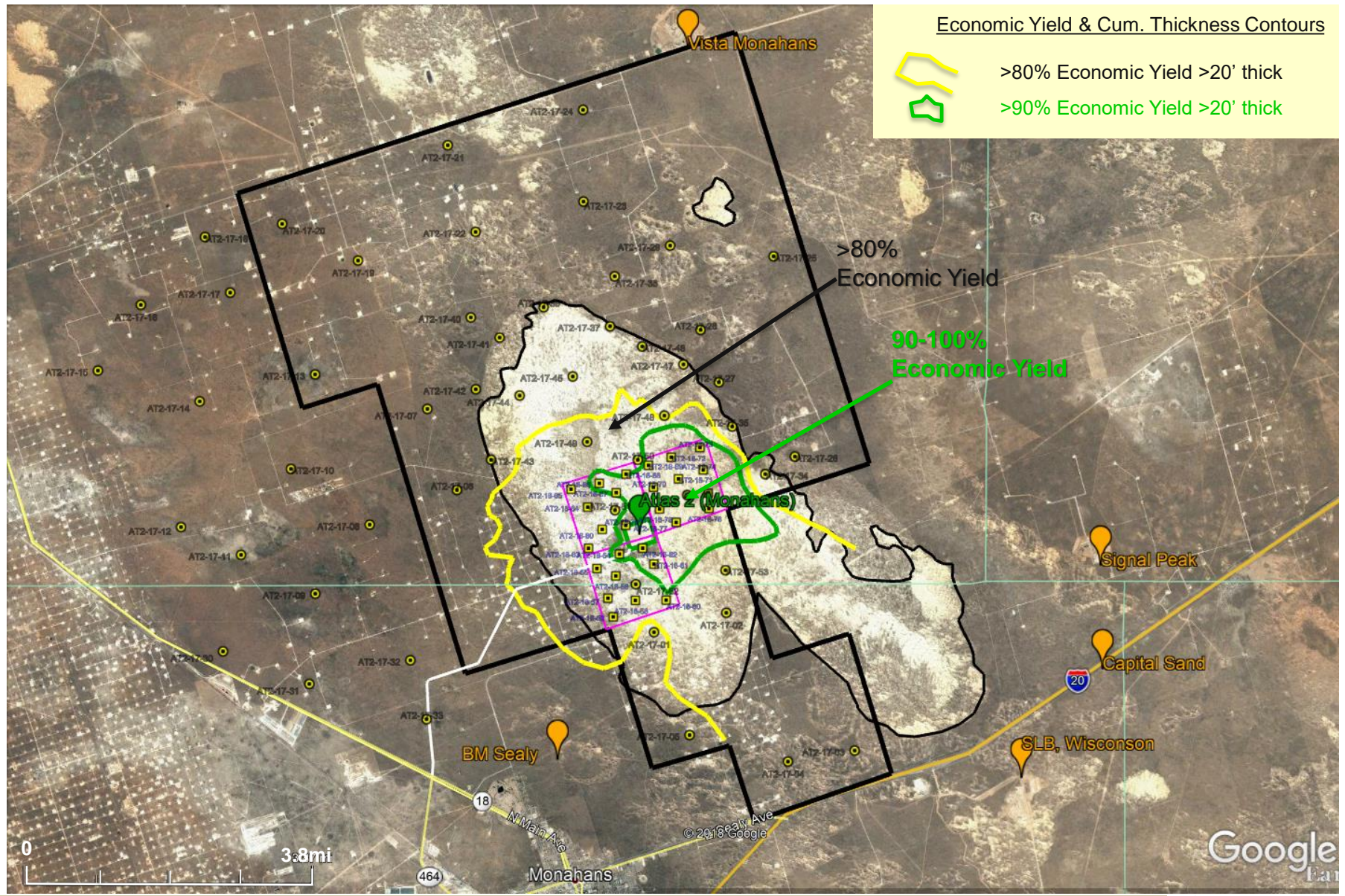
**Core Holes**

- Exploration = 53 (50 sections)
- Infill = 27 (3 sections)



# Giant Open Dune Advantages Largest Reserves of Highest Quality Sand & Lowest Cost to Produce

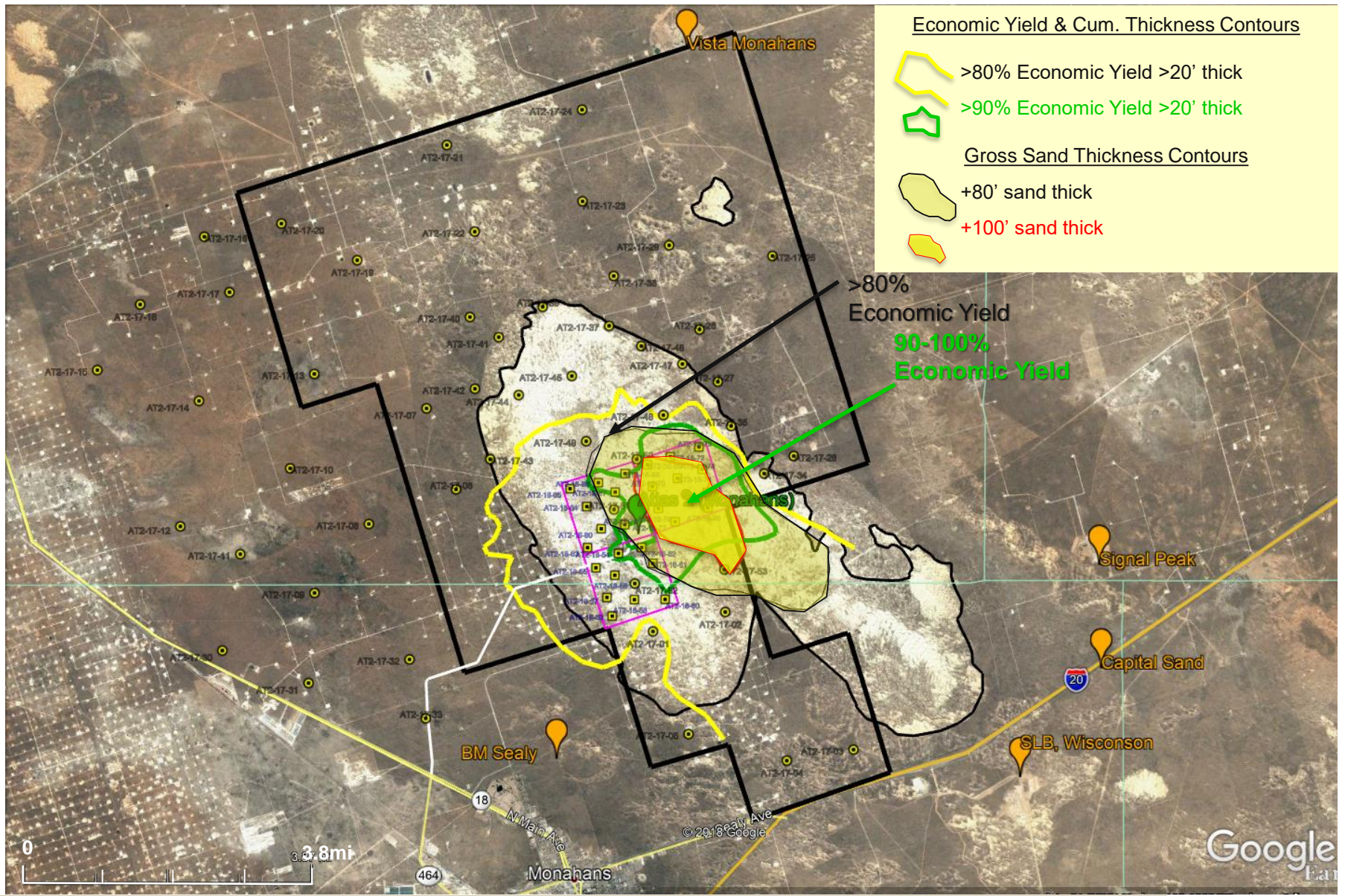
## Economic Yield Sweet Spots





# Giant Open Dune Advantages Largest Reserves of Highest Quality Sand & Lowest Cost to Produce

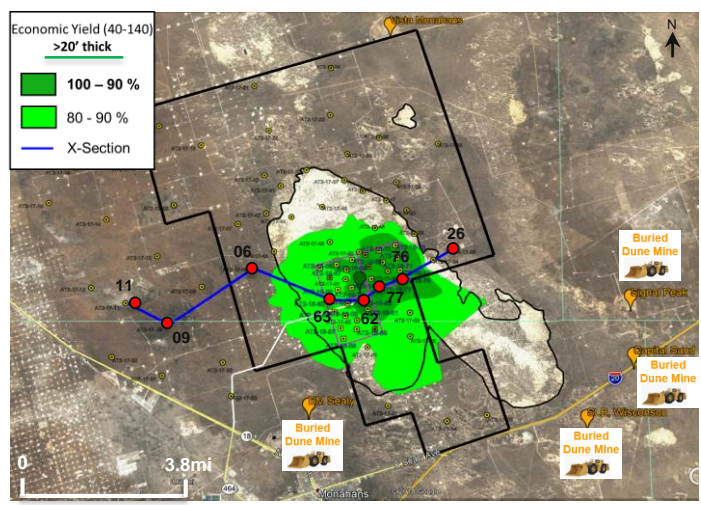
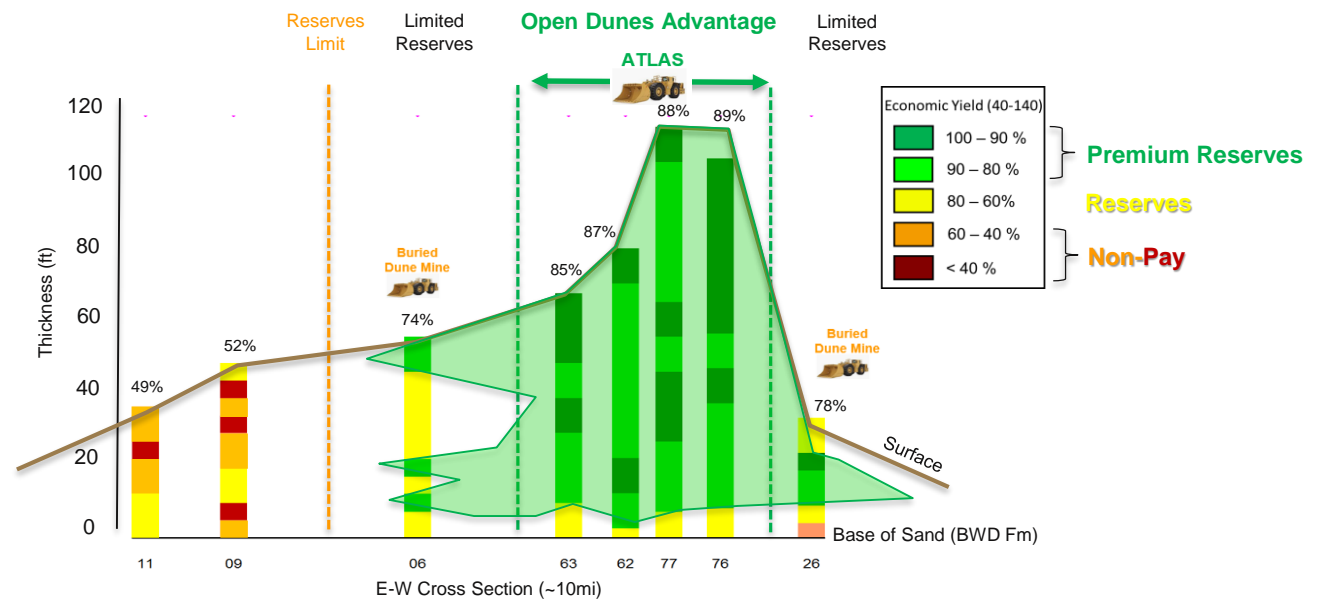
Economic Yield sweet spots concurrent with thickest reserves  $\approx$  50+ years proven currently



# Giant Open Dune Advantages

Largest Reserves of Highest Quality Sand & Lowest Cost to Produce

X-Section Flattened on Base Sand with core results





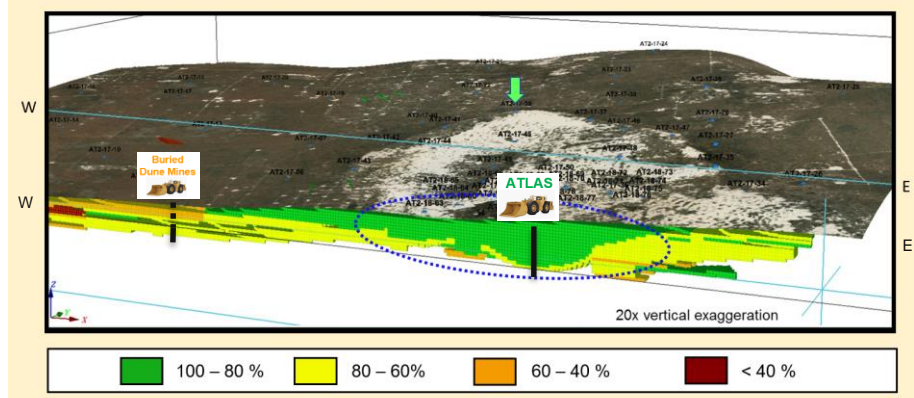
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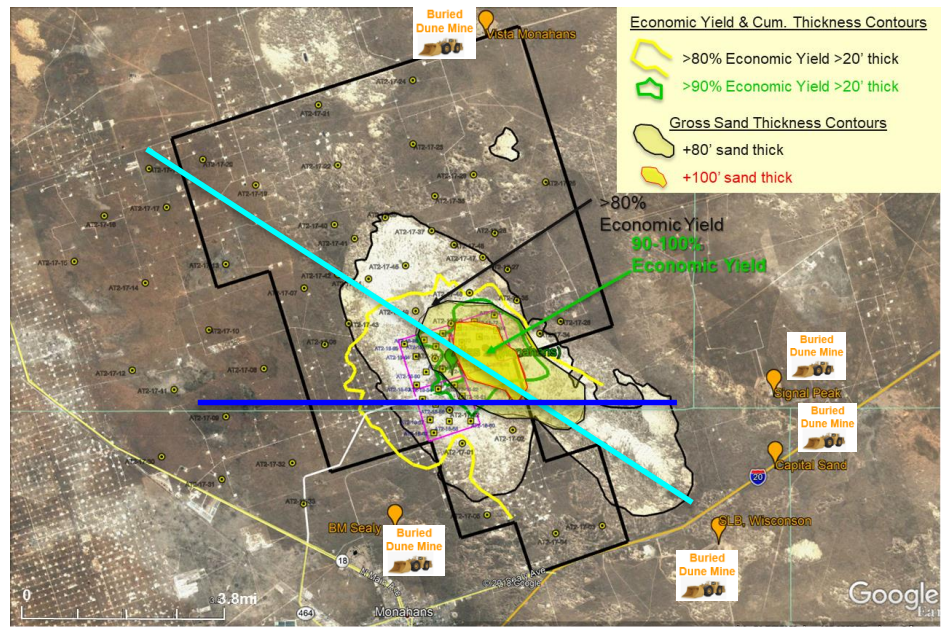
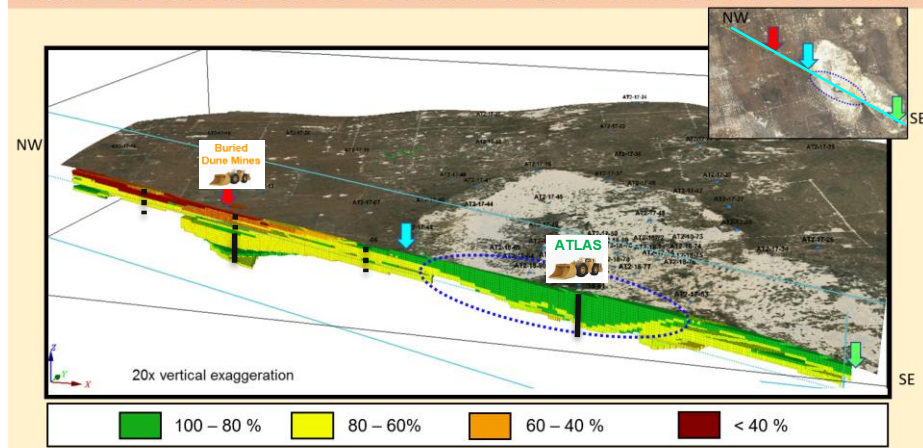
E-W

PART II: Various cross sections of the Economic Yield model



NW-SE

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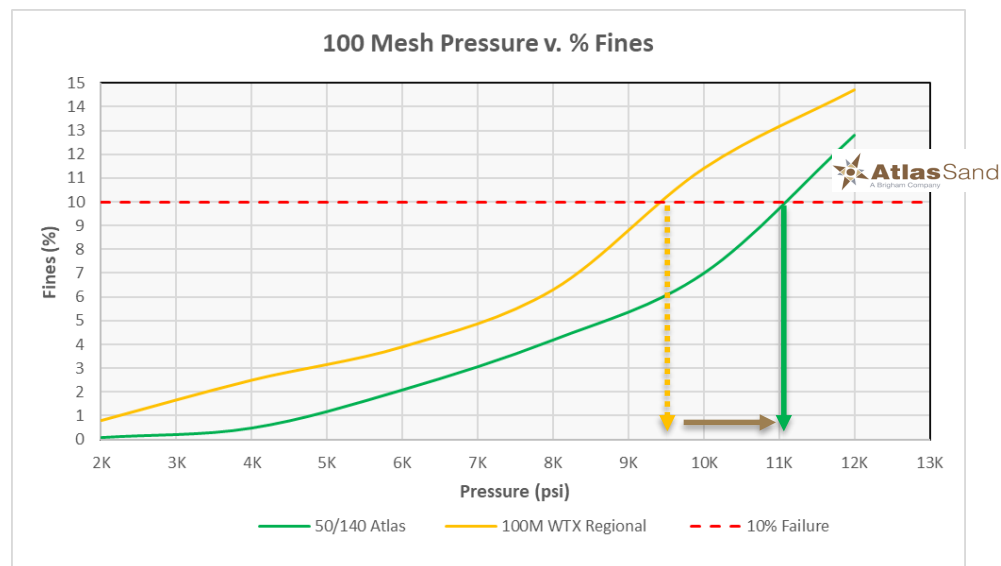
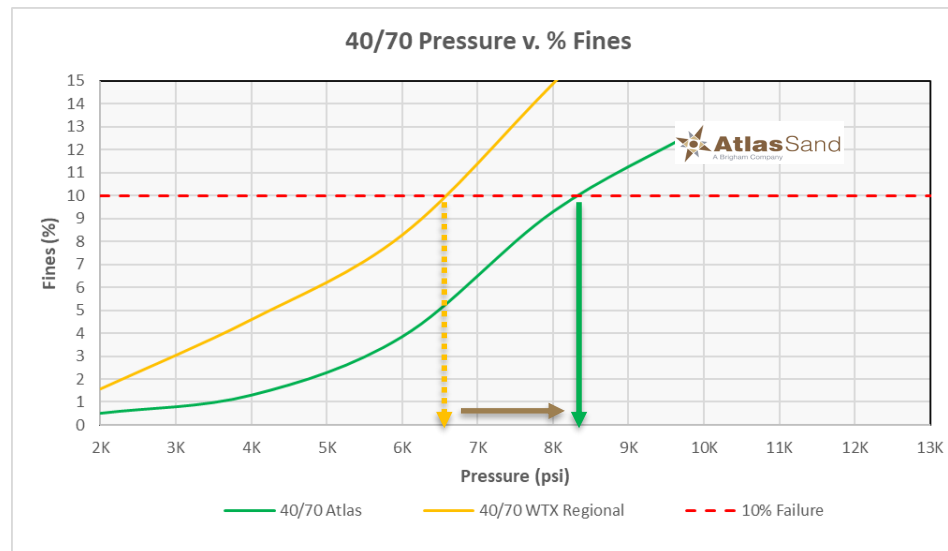




# Giant Open Dune Advantages

Largest Reserves of Highest Quality Sand & Lowest Cost to Produce

Atlas Premium Dune Sand offers top in-basin crush performance





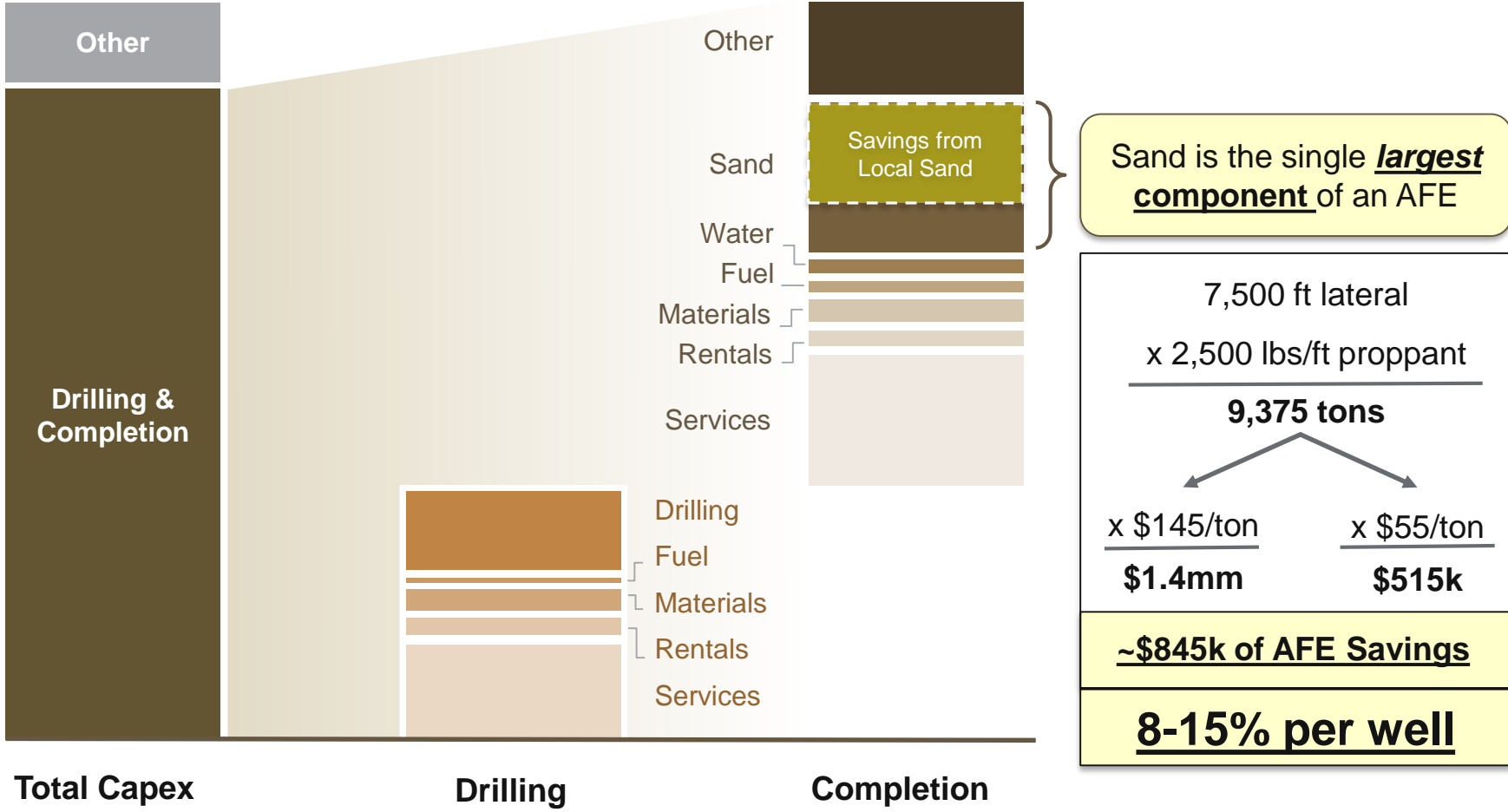
# Giant Open Dune Advantages: Largest Reserves of Highest Quality Sand & Lowest Cost to Produce

On Dune Reserves	Off Dune Reserves	On Dune Benefits
<p><b>Yields of 80%-90%+</b></p>	<p><b>Yields of 60%-80%</b></p>	<ul style="list-style-type: none"> <li>• Removes variability in product quality</li> <li>• Reduces stress on equipment &amp; operations</li> <li>• More dependable / predictable production plan</li> </ul>
<p><b>Low turbidity</b></p>	<p><b>Increased turbidity</b></p>	<ul style="list-style-type: none"> <li>• Atlas &lt;35 NTU</li> <li>• Diminished impact of organics on fluid system and production</li> <li>• Reduced stress on equipment &amp; operations</li> </ul>
<p><b>Consistent reserve mix &amp; quality</b></p>	<p><b>Inconsistent reserve mix &amp; quality</b></p>	<ul style="list-style-type: none"> <li>• Open dunes have less variation and increased quality due to geologic processes</li> <li>• More dependable / predictable production plan</li> </ul>
<p><b>Avg reserve depth 80'-100'</b></p>	<p><b>Avg reserve depth 20'-60'</b></p>	<ul style="list-style-type: none"> <li>• Consistent quality &amp; supply with less impurities</li> <li>• Reduces stress on equipment &amp; operations</li> </ul>



# Breakdown of Permian In-Basin Sand Savings per Well

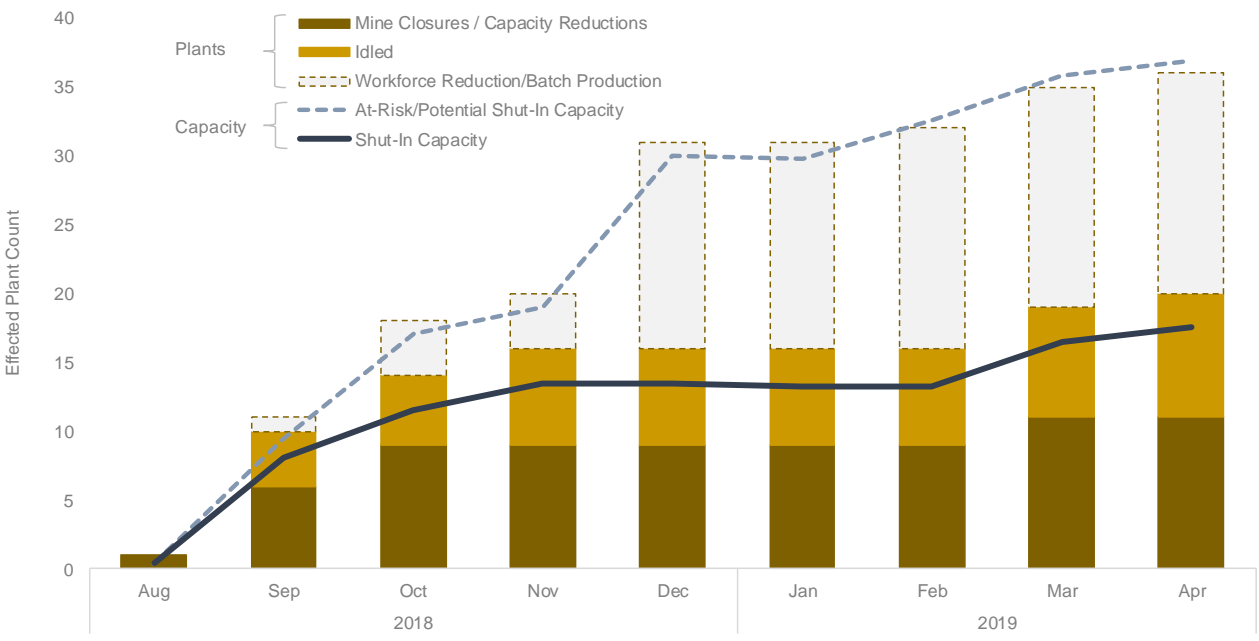
Operators have largely switched away from Northern White & Brady Sand due to (a) savings per well and (b) improved logistics / reliability from buying sand locally



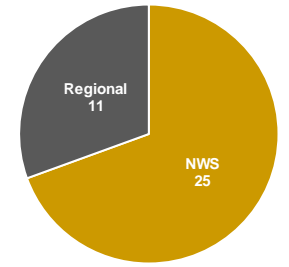
# Northern White / Out of Basin Mine Closures Stacking Up

## Plant Closure and Capacity Reductions

+40 mmtpa capacity impacted in <60 days

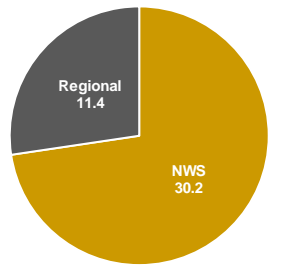


### Impacted Plant Count by Geography



**36 Total**

### Affected Capacity by Geography



**41.6 mmtpa Impacted**

### Quarterly Capacity Impact vs. Last Cycle (mmtpa)



**~23 mmtpa capacity effected over 2 years in the last cycle**

**~42 mmtpa capacity effected over only 7 months**

Legend	
"NWS"	Northern White
"Regional"	Outside the Permian
"In-Basin"	Inside the Permian

Source: Infill Thinking



# Atlas is Built to Last: Summary of Competitive Advantages



# Atlas Designed a Leading-Edge Sand Facility with Superior Reliability and Efficiency

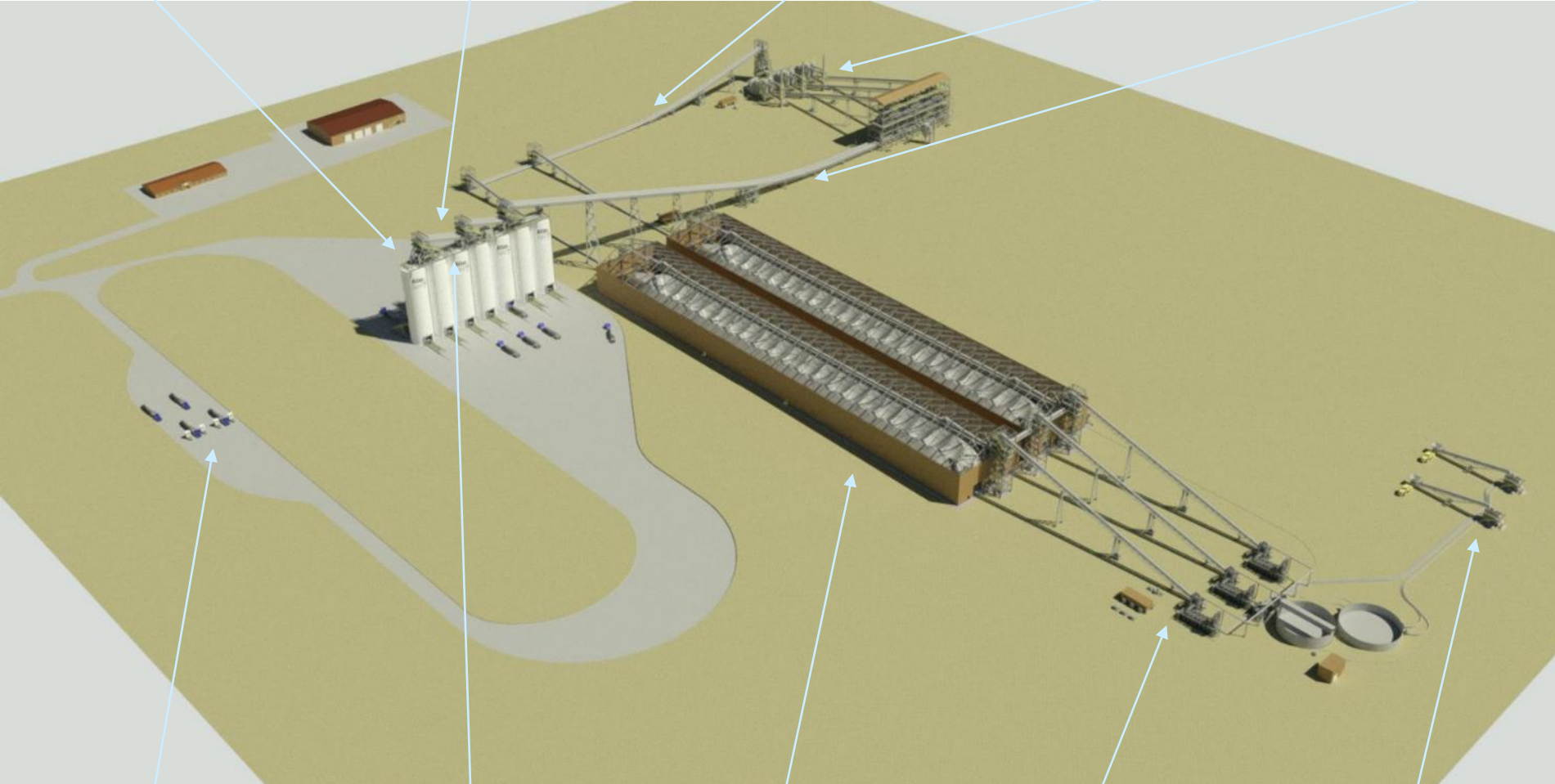
7x 5,000 ton silos, with 7 loadout lanes = largest dry storage in the basin

Average load times significantly outperform any other Permian mine

2x conveyor lines exiting the wet sand storage buildings provides backup

3x dryers with fully independent lines to screener towers

3x fully independent lines exiting the dry plants



Multiple automated check-in stations minimize check-in time

Any of the 3x conveyor lines can deposit either 40/70 or 100# into any silo

2x wet sand storage can each be fed from any of the three conveyors at the wet plants








3x independent wet plants with attrition scrubbers provide the most thorough wash process in the basin

Multiple mobile mine skids keeps mining going



# Atlas' Cost Profile Structured for Long Term Sustainability

For long-term partnerships it is important to consider the financial viability of one's partner to continue to deliver for years to come

Firm	Total Debt (\$MM)	Q1'19 Ann. Prod. (mmpy)	Q1'19 Ann. Interest (\$MM)	Q1 '19 Ann. G&A (\$MM)	G&A + Interest per Ton
 HI CRUSH PARTNERS LP	~\$475	~9.3	~\$42	~\$44	<b>\$9.34</b>
 US SILICA	~\$1,272	~19.3	~\$96	~\$122	<b>\$11.30</b>
 COVIA	~\$1,669	~32.0	~\$102	~\$157	<b>\$8.10</b>
 SOURCE ENERGY SERVICES	~\$135	~3.1	~\$17	~\$29	<b>\$15.23</b>
 EMERGE energy services	Not Meaningful – has not released Q4 figures and has announced a restructuring support agreement is being pursued				<b>N/M</b>
 preferred sands	Not Meaningful – has withdrawn it's S-1 and has completed a restructuring				<b>N/M</b>
<b>Average</b>			<b>~\$65</b>	<b>~\$88</b>	<b>\$10.99</b>
 Atlas Sand A Brigham Company					<b>&lt;\$5.00</b>

Note: Atlas presented at full utilization, and excluding amortization of debt discount from interest expense (but including other non-cash interest). All G&A figures exclude non-cash compensation.

## Questions?

