



# Spring Valley Prospect

White Pine County, Nevada

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## **Executive Summary**

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Location	<ul> <li>The Spring Valley Prospect lies within the eastern side of the Great Basin in White Pine County, Nevada.</li> <li>Spring Valley lies between two mountain ranges with the Schell Creek Range to the West and the Snake Range to the Fast</li> </ul>		
Geologic Setting	<ul> <li>West and the Snake Range to the East.</li> <li>Cretaceous and Tertiary crustal shortening compressed the existing basin causing thrust duplex structures <ul> <li>Allows for oil shales to be buried at optimal depths for oil generation</li> <li>Oil migration pathways formed from natural fracturing of rocks</li> </ul> </li> <li>Different depositional environments allow for multiple types of reservoirs <ul> <li>Carbonates (Miss. &amp; Devonian), Sandstone (Jurassic)</li> </ul> </li> </ul>		
Primary and Secondary Reservoirs	<ul> <li>Simonson Dolomite/ Guilmette (Primary Sourced from the Chainman Shale Grant Canyon Field is Analog to th Subthrust Jurassic Sandstone (Primary T Sourced from the Chainman Shale Covenant Field of Western Utah is Secondary Targets: Tertiary Lakebeds, Chainman Shale</li> </ul>	<ul> <li>Simonson Dolomite/ Guilmette (Primary target)         <ul> <li>Sourced from the Chainman Shale</li> <li>Grant Canyon Field is Analog to the Devonian Carbonates in Spring Valley</li> </ul> </li> <li>Subthrust Jurassic Sandstone (Primary Target)         <ul> <li>Sourced from the Chainman Shale</li> <li>Covenant Field of Western Utah is analog to the S.S. in Spring Valley</li> </ul> </li> <li>Secondary Targets:         <ul> <li>Tertiary Lakebeds, Chainman Shale, Pilot Shale, and Joana Limestone</li> </ul> </li> </ul>	
	Asset Sum Gross Acres WI / NRI Initial Well Cost (D&C)	14,773 100 / 80% \$4.5MM	

5.0x

200%

150+

ROI (per well)

Avg. IRR

Possible Well Locations

Cau Bal Mit **UT/WY Thrust Belt** 350 MB) & 6.7 TCFG Salt Great Salt Salt Lake Lake Desert City Pine Valley > 5MBO B 13880 Railroad Valley 50 MBO 0 Covenant Field 700 MBO Spring Hill 10 0 UTAH NEVADA Potential do ARIZONA Las Vegas 13061-0 Mojave esert Grout Basin 5) National Fark Victorville MAP LEGEND SHAPEFILES Salton Sea Marketed Acreage  $\bigcirc$ San Diego Mexicali Sonoran 100 200 Desert miles MEXICO

Figure 1. Great Basin Oil fields with marketed acreage in the Spring Valley

#### **Mapping Overview**

Chamberlain mapped the Mississippian Joana Limestone (Mj) in the Great Basin over several decades

- Mj formation covers much of the Great Basin
- Easily mapped through measured sections (surface) and gamma ray logs (sub-surface)
- Used to determine optimum depth for oil generation in the overlaying Chainman Shale and underlaying Pilot Shale (source rocks)
- Reveals the location of Tertiary basin targets (secondary target)

#### **Mapping Significance**

The Spring Valley Prospect acreage lies on top of favorable geologic setting

- Pilot Shale is up to 900' thick and buried at optimal depth for oil generation
- A low in the structure map reveals a Tertiary basin allowing for up hole potential



Figure 2. Map of Nevada with control points for the Miss. Joana Limestone. (Chamberlain, 2013)



# Geologic Overview of Key Plays

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### **Private Sale**





Figure 6. Great Basin stratigraphy and associated oil shales (Chamberlain, 2015)



Figure 7. Spring Valley Cross Section

### **Private Sale**

## Leased Acreage and Test Well Proposal

#### Leased Acreage Overview

The leased 14,773 gross acres lies withing Spring Valley

- Chamberlain's Mj map correlates to a structural low
  - Indicator that there is a Tertiary Lakebed and a productive zone
  - Optimum depth for oil generation in the Chainman and Pilot Shales
- Proposed test well would be drilled in 17N-67E
  - Deepest part of the basin

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- Able test all zones down to 12,000'.
- The Pilot Shale isopach shows thickening to the north allowing for optimal oil maturation through this zone

#### **Well Proposal Overview**

- \$3MM for initial test well up to 12,000' deep (\$250 / ft)
- Primary Zones: Jurassic Sandstone and Devonian Carbonates (Guillmette and Simonson Dolomite)S
- Secondary Zones: Chainman Shale, Pilot Shale, and Tertiary Lakebeds
- Multi-Pay. Multi-Well Project. 14,773 Acres
- **Projected IP:** 460 BOPD+ (Main Zones)

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• ROI: 5:1 Devonian; 5:1 Intermediate up hole



Figure 8. Pilot Shale Isopach with leased acreage overlay



Figure 9. Proposed location map (Chamberlain, 2014)



Figure 10. Initial wellbore to deepest interval (Anna et. al., 2007)

### **Private Sale**

Utah tar sands 13 bilion barrels oil in tar residue

# Analogous fields

Spring Drilling	<ul> <li>* \$3MM for initial test well up to 12,000' deep (\$250 / ft)</li> <li>Primary Zones: Jurassic Sandstone and Devonian Carl (Guillmette and Simonson Dolomite)</li> <li>* Secondary Zones: Chainman Shale, Pilot Shale, and Tert</li> <li>* Multi-Pay. Multi-Well Project. 14,773+/- Acres</li> <li>* Projected IP: 460 BOPD+ (Main Zones)</li> <li>* ROI: 5:1 Devonian; 5:1 Intermediate up hole</li> </ul>	bonates tiary Lake Beds
Grant ( and Ba Fie (Dev Carbo	<ul> <li>Analog to the Guilmette/Simonson Carbonates</li> <li>Same carbonate formation with good reservoir in Coral reefs, karsted zones, and sandstor</li> <li>Located 85 miles southwest of Spring Valley</li> <li>Grant Canyon cumulative production &gt; 50MM bbls</li> <li>7 vertical wells</li> </ul>	intervals ne AveTOC 12 0/
Covena (Na Sands	<ul> <li>Analog to the Spring Valley Jurassic Sandstone</li> <li>Same reservoir rock with similar structures and o</li> <li>Located 130 miles east of Spring Valley</li> <li>Covenant Field cumulative production &gt;700MM bbls</li> <li>Drilled in the Navajo Sandstone Formation</li> <li>33 horizontal wells</li> </ul>	depths          Well Location         Well Permit Number         Samples w/ Palynomorph Analysis         Measured Section         Feet Measured         Number of Rock Samples         Number of Rock Samples         Samples w/ Palynomorph Analysis

Figure 11. Total Organic Content of the Mississippian Antler Basin the source rock for multiple oil zones throughout Nevada and Utah (Chamberlain, 2014)



# Jurassic Sandstone Analog Type Curve – Covenant Field

#### **Type Curve Overview**

- Type Curve taken from the Covenant Field in Utah, 130 miles to the East of Spring Valley
- 33 horizontal wells drilled in the Navajo Reservoir
- Per well economics:<sup>[1]</sup>
  - ROI 5.6x
  - IRR 245%
  - PV10 \$23.2MM
  - EUR 1.7 MMBO



#### Analog Field Overview





# Devonian Analog Type Curve – Railroad Valley

### **Type Curve Overview**

- Type curve taken from Grant Canyon Field and Bacon Flat Field, 85 miles to the SW of Spring Valley
- 7 vertical wells drilled in Guillmette/Simonson Formation
- Per well economics:<sup>[1]</sup>
  - ROI 5.0x
  - IRR 224%
  - PV10 \$23.5MM
  - EUR 0.9 MMBO

5		Type Cur	Type Curve Parameters	
		Oil Rate	465 bopd	
		Decline	52%	
		B-factor	1.5	
		~~~~~		
	50 No. of Months	100		

### Analog Field Overview





### Sale Process

- Virtual data room available August 19<sup>th</sup>, 2021
- Bid instructions available in VDR
- Effective date of September 1<sup>st</sup>, 2021

# Now Accepting Proposals

For additional questions or information, please contact our team:

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### Oil & Gas Asset Clearinghouse

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