



DIMMICK 4375-06-07

Powder River Basin

Shannon Horizontal -Secondary Unit- Development Infill Offering

70% WI / 55% NRI in prospect

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Optimize facilities to prevent environmental incidents.

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Develop

Exploit behind-pipe potential

Execute low risk projects efficiently

Enhance production with latest technology



DIMMICK PROSPECT – Project HIGHLIGHTS

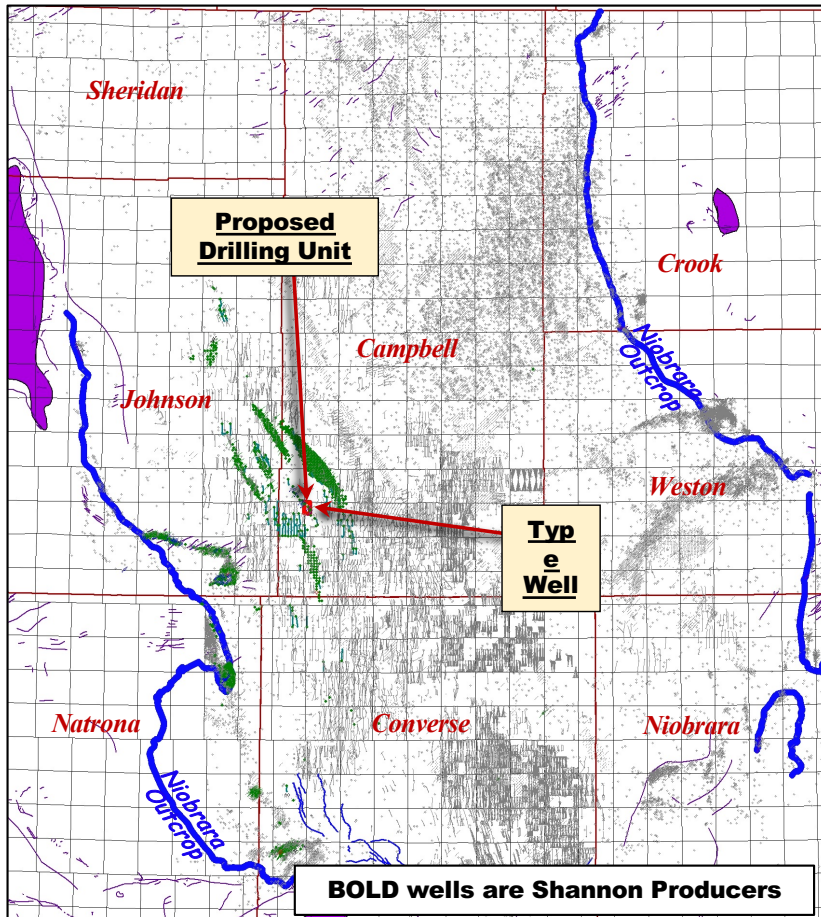
Leasehold Status

- ☐ 94.95% WI / 73.59 NRI in Pumpkin Buttes Secondary Unit (PBSU)
- ☐ 70% WI / 55% NRI in proposed Shannon spacing area
- ☐ 28% acreage outside PBSU to be pooled into a new communization agreement over-lapping PBSU
- ☐ Interest below Shannon formation being marketed as well: 94.95% Working Interest, 73.59% NRI

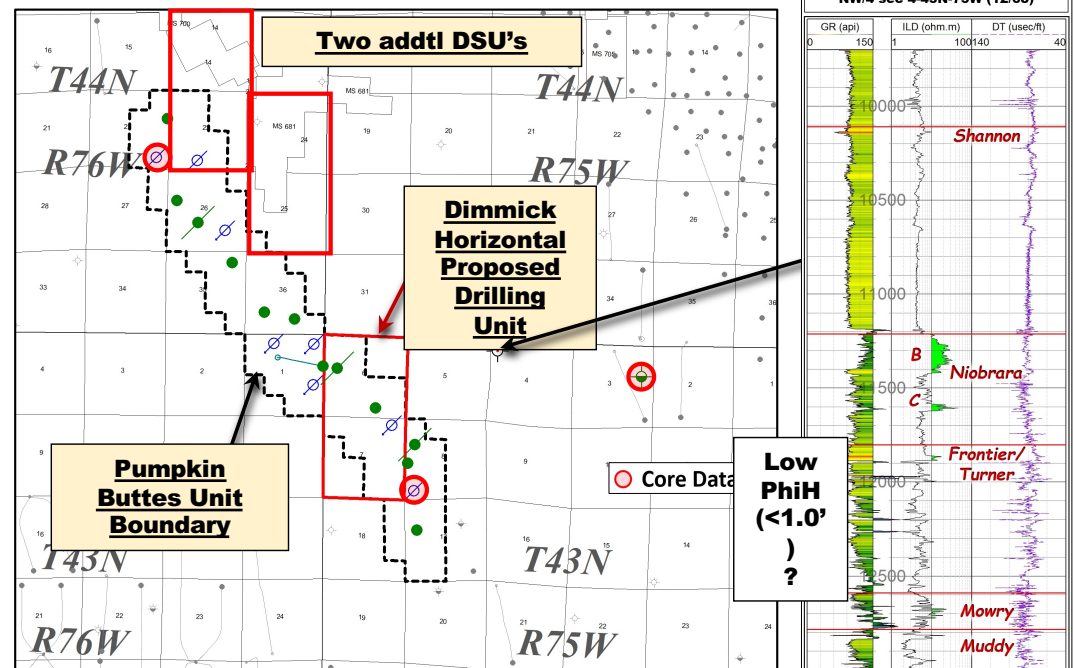
Operational Continuity Benefits

- ☐ Flowlines throughout field to reduce trucking
- ☐ Fresh water well for frac
- ☐ Disposal facility for secondary recovery unit
- ☐ Electric tie-in available nearby

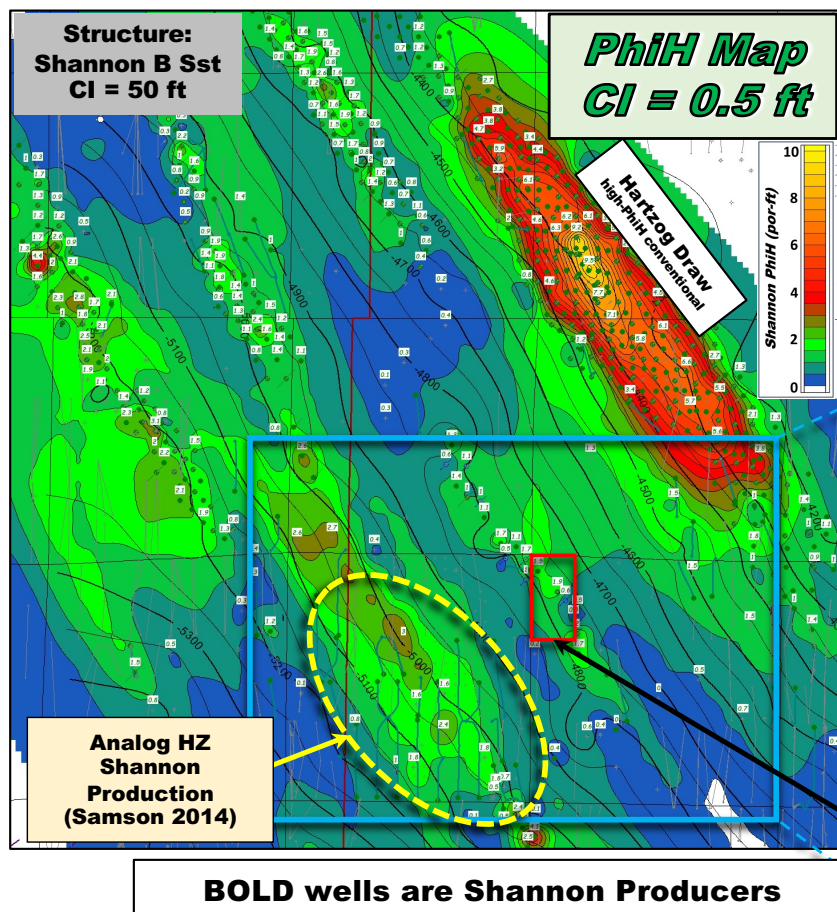
Prospect Location and Type Well



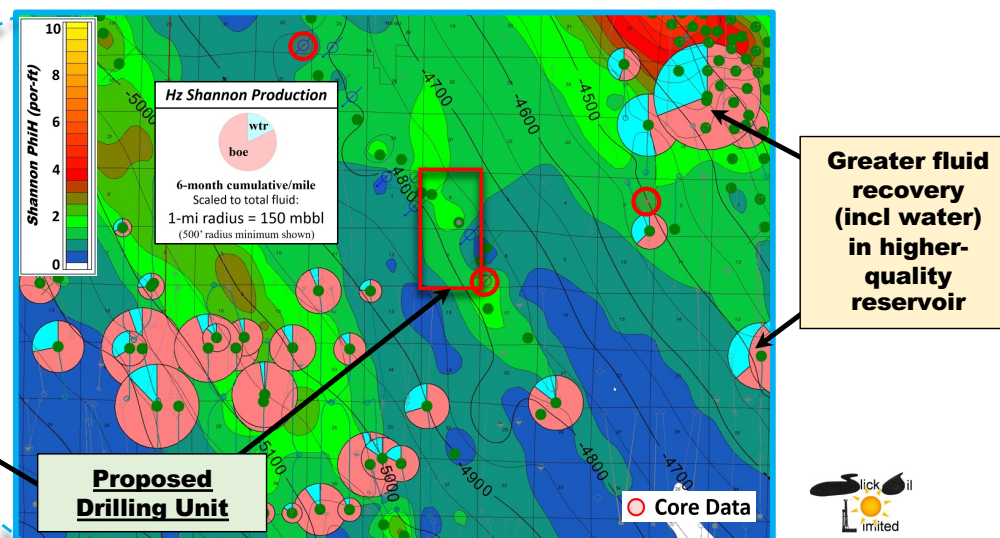
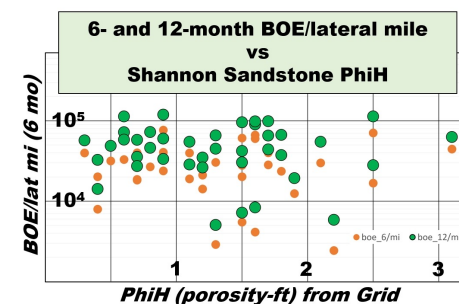
- ❑ Pumpkin Buttes Shannon Unit located in southwest Campbell County, WY
- ❑ Proposed Shannon horizontal drilling unit is located in the southern portion of Pumpkin Buttes, in section 6 and 7 – T43N – R75W
- ❑ Existing analog horizontal production amid vertical fairway



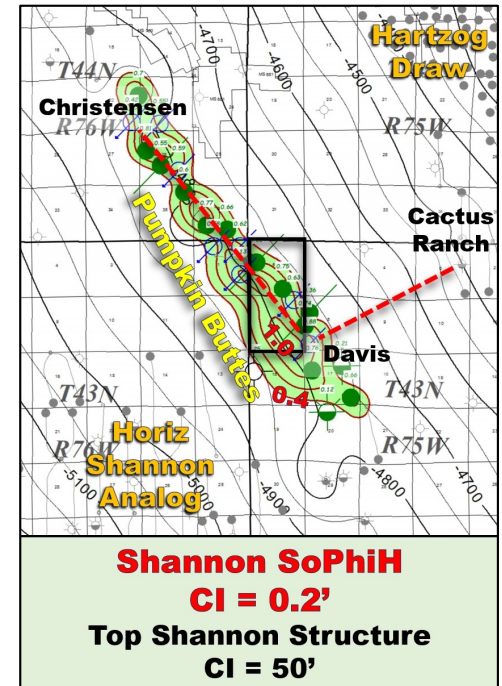
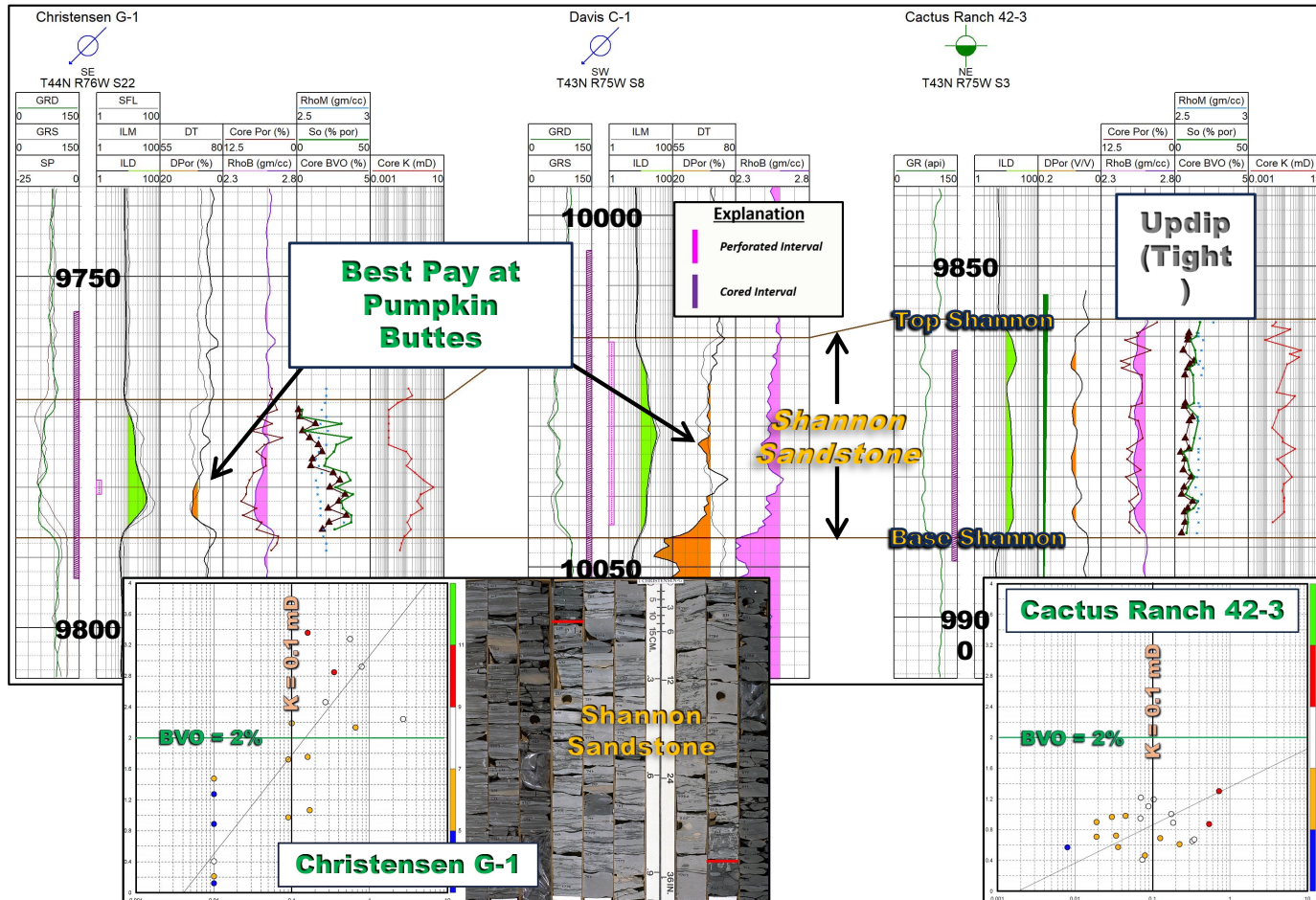
Shannon Reservoir Quality and Hz Production



- Stratigraphically trapped high-quality Shannon reservoir pools
- Based on old (2014) horizontals west of the DSU, 50-100 mboe in 1 year anticipated from proposed ~2-mile lateral in $1.5 < \text{PhiH} < 2.0+$
- Modern completion should yield upside to analog production metrics



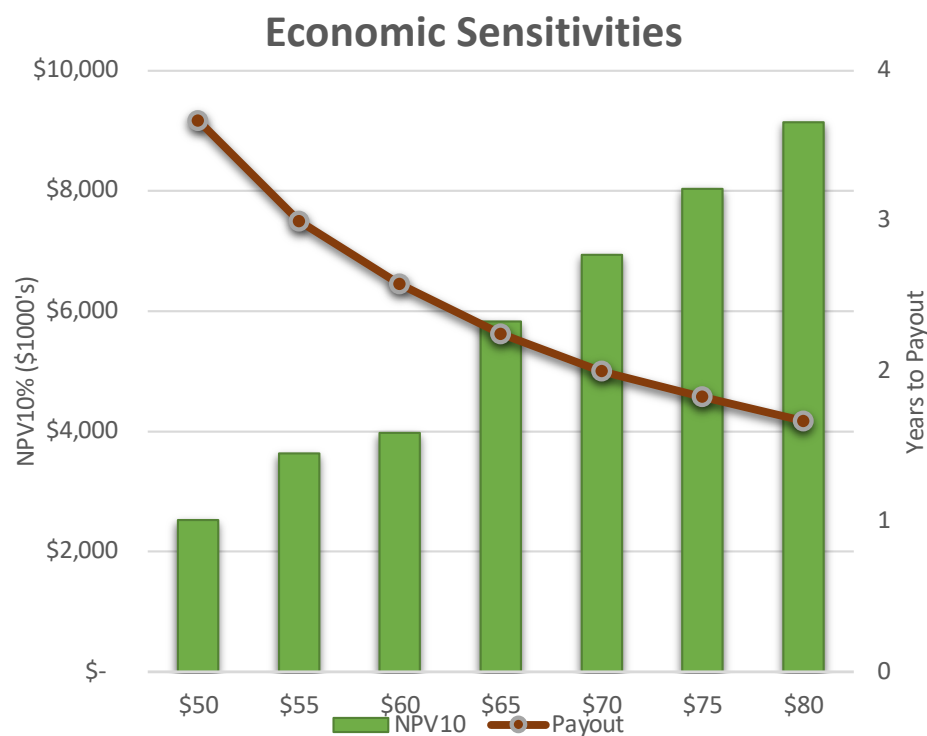
Shannon Reservoir from Core and SoPhiH



- Shannon Pay 10-12% Porosity and $0.1 < \text{Permeability} < 1.0$ mD
- Proposed lateral will test $0.6 < \text{SoPhiH} < 1.0+$ ft in relatively un-drained portion of unit



Dimmick 4375: Economic Indicators



PREDRILL
DRILLING Tangible
 Intangible
COMPLETION Tangible
 Intangible

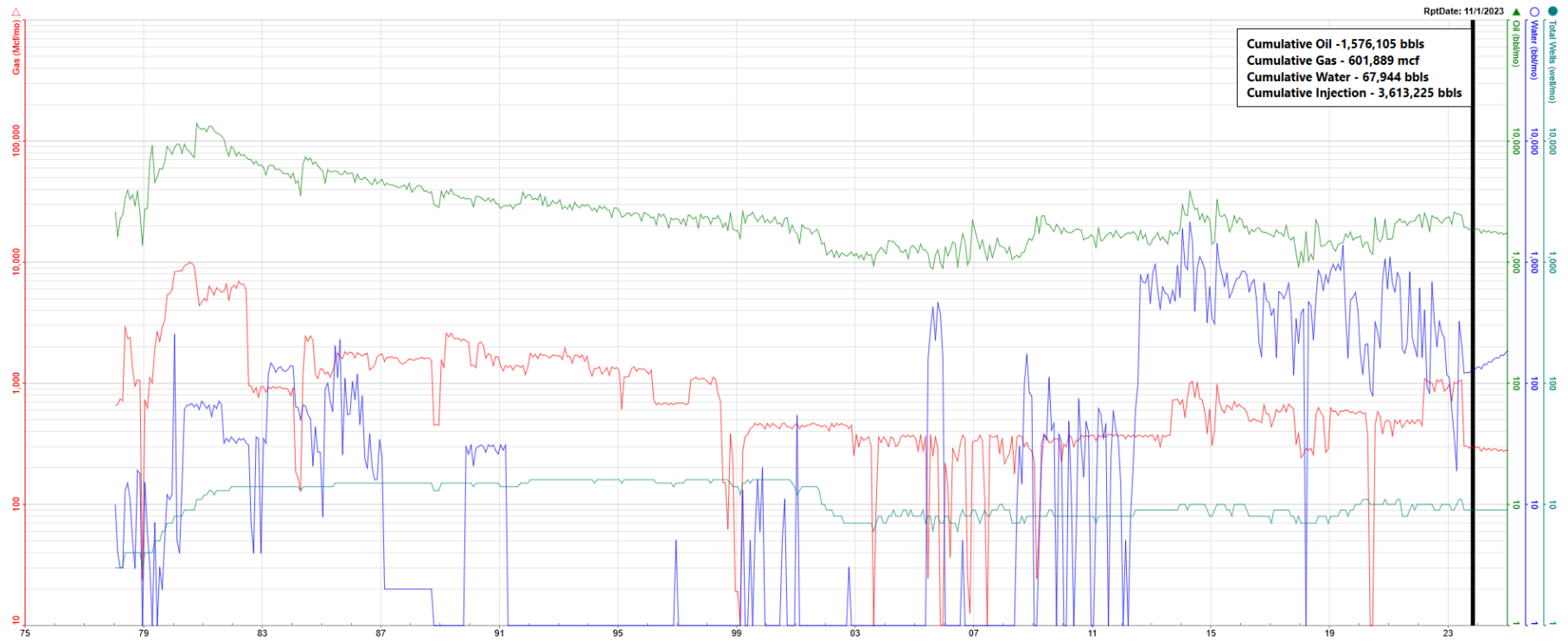
Current AFE Gross Costs	
Sub-Ttl	Total
	\$0
	\$0
	\$181,489
	\$2,307,910
	\$2,489,399
	\$1,402,170
	\$3,430,350
	\$4,832,520
	\$7,321,919
	\$7,321,919

Eco Indicators			
Return on Investment (disc.):	1.828	Present Worth Profile (M\$)	
Return on Investment (undisc.):	3.185		
Years to Payout:	2.25		
Internal Rate of Return (%):	47.02		
	Initial	1st Rev.	2nd Rev.
Working Interest:	1.00000000	0.00000000	0.00000000
Revenue Interest:	0.78000000	0.00000000	0.00000000
Royalty Interest:	0.00000000	0.00000000	0.00000000
Rev. Date:			

Shown: \$65 / bbl of Oil



Pumpkin Buttes (Shannon) Unit Production

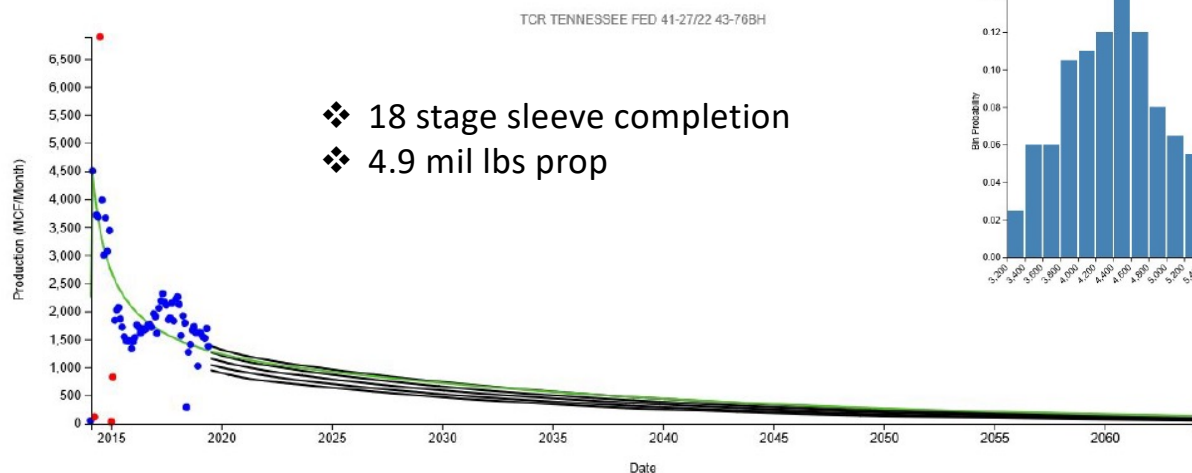
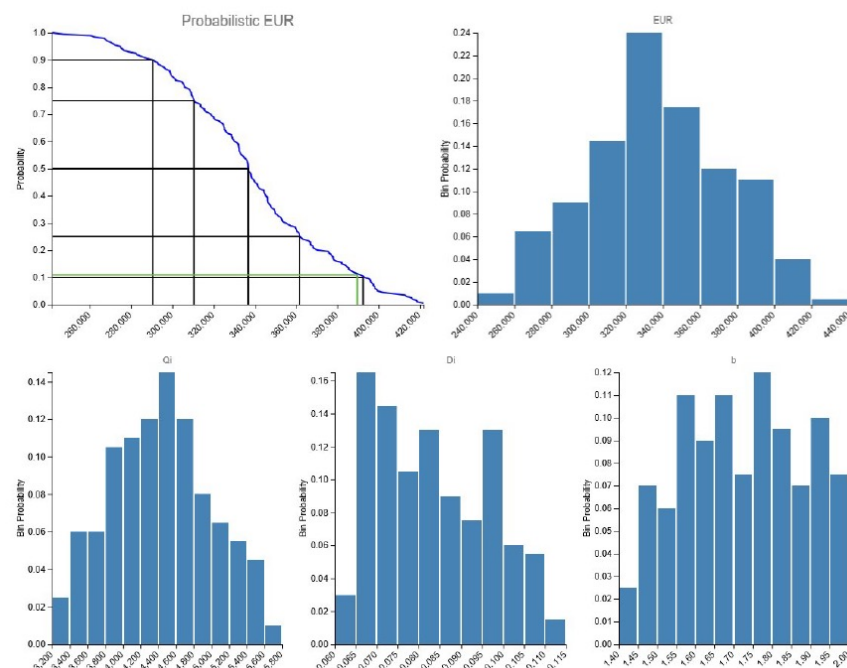


Analog well performance - 2 mile lateral

2- mile Shannon Horz offset (2014)

342 MBO cum

437 MBO EUR



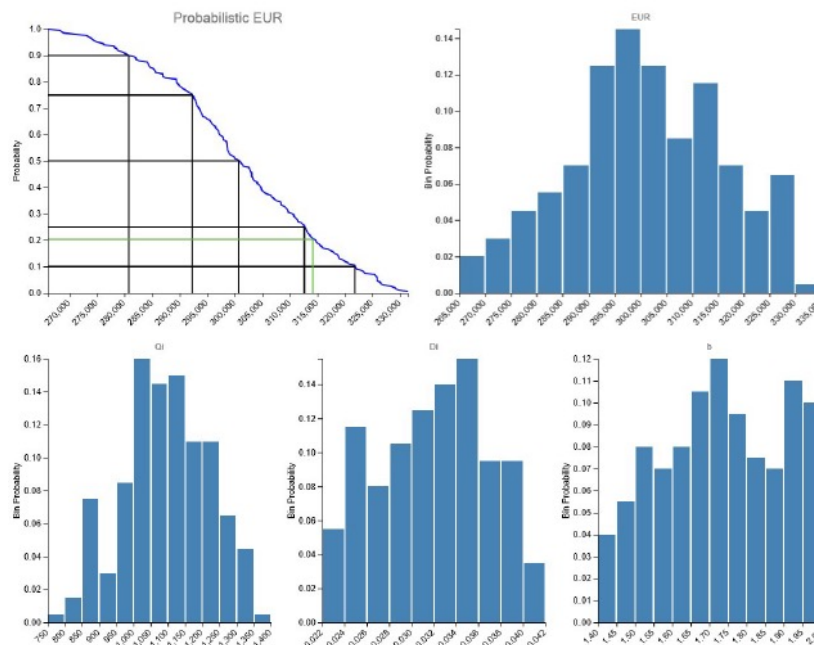


Analog well Performance – 1 mile Lateral

1- mile Shannon Horz offset (2012)

225 MBO cum

325 MBO EUR





Analog well Performance – 1 mile Lateral

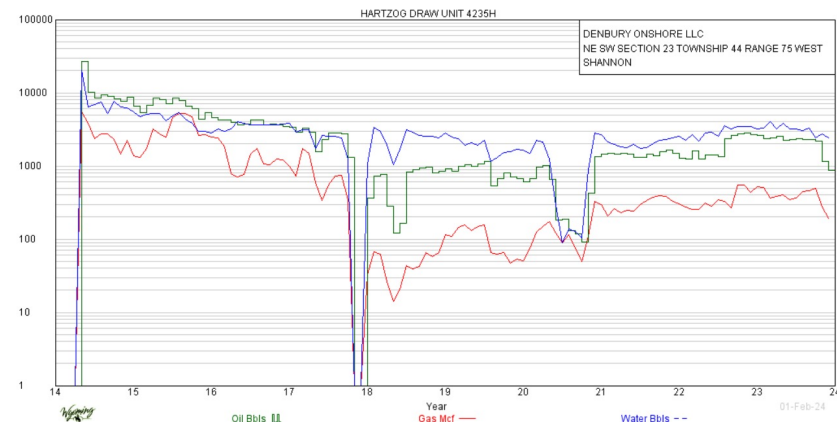
HARTZOG DRAW UNIT 4235H

1- mile Shannon Horz offset (2014)

333 MBO cum

462 MBO EUR

- ❖ 17 stage P&P
- ❖ 3.2 mil lbs prop





ADDITIONAL UPSIDE

3,275 net unitized HBP leasehold acres with another 314 net acres offsetting the unit are HBP

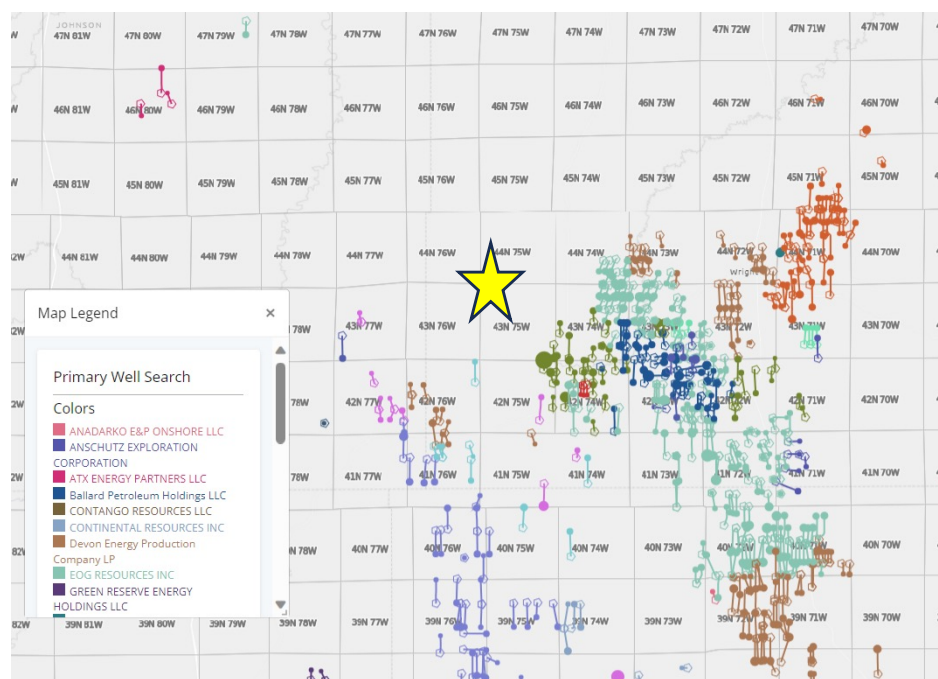
EOG, Peak, Continental, Devon and Anschutz actively permitting, operating, and drilling nearby

One-Mile horizontals directly offsetting acreage show Mowry 943 MBOE EUR; Turner 1.10+ MMBOE EUR; and Shannon 1.50+ MMBOE EUR



Offset Horizontal Activity in Turner, Nio, Mowry

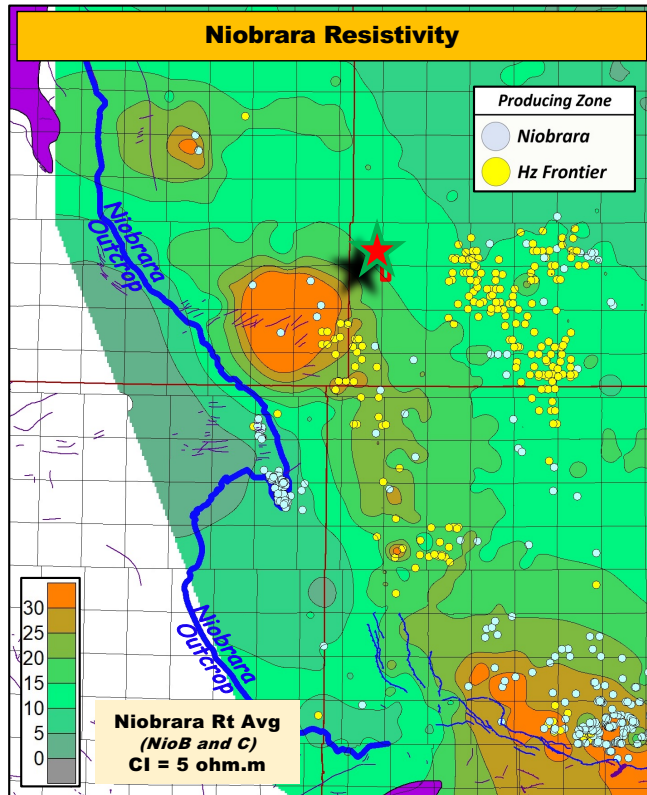
By Operator



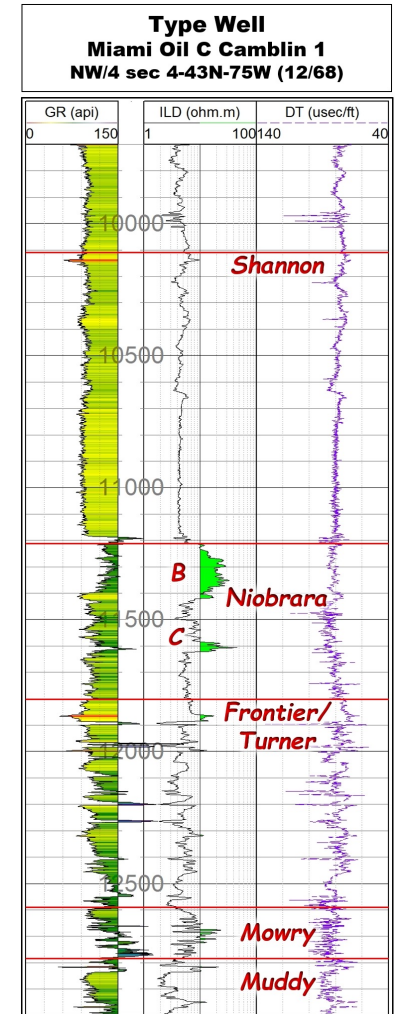
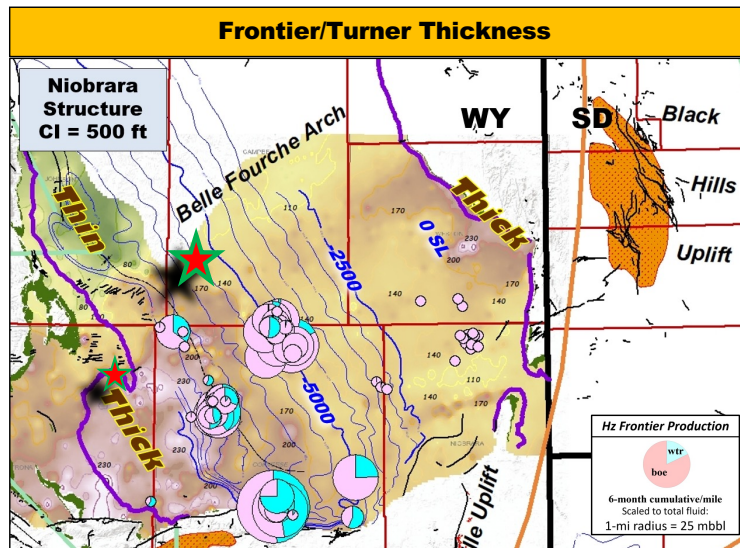
By Formation



Frontier/Turner and Niobrara Upside Productive Potential at Pumpkin Buttes

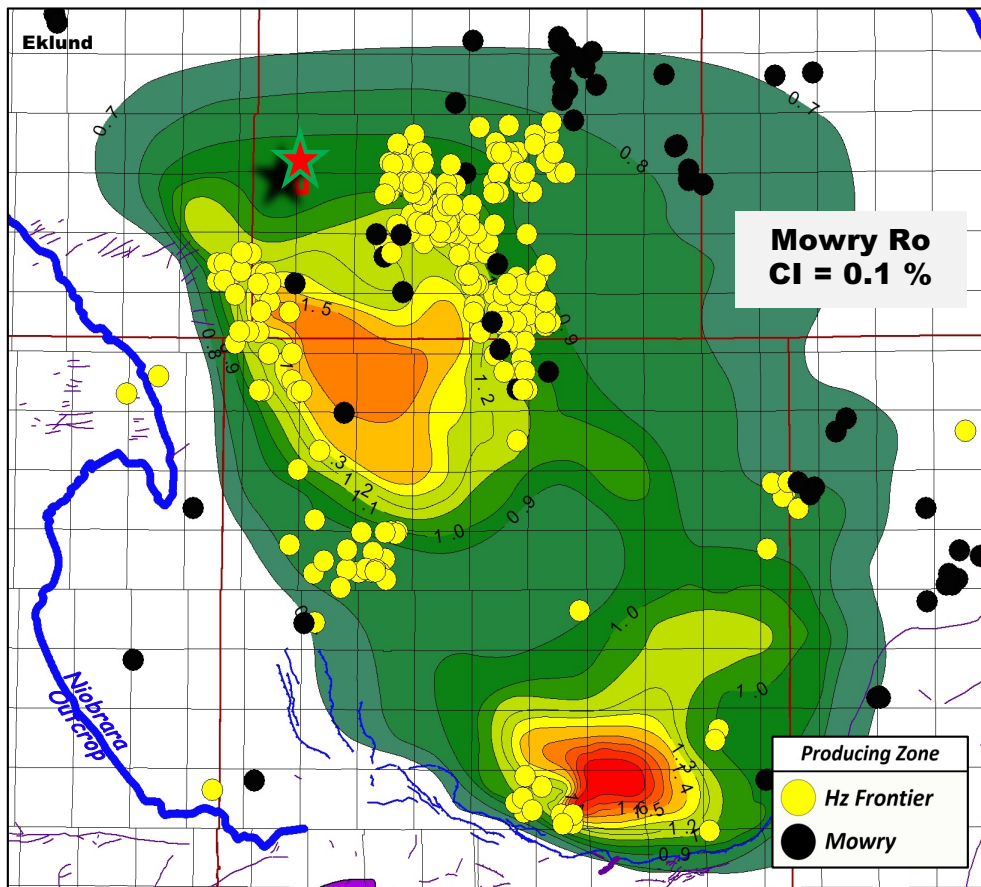


- Niobrara Resistivity proportional to Thermal Maturity in Niobrara Petroleum System
- In addition to self-sourcing, the Niobrara Petroleum System sources overlying Cretaceous sandstones (including Shannon), and underlying Frontier/Turner

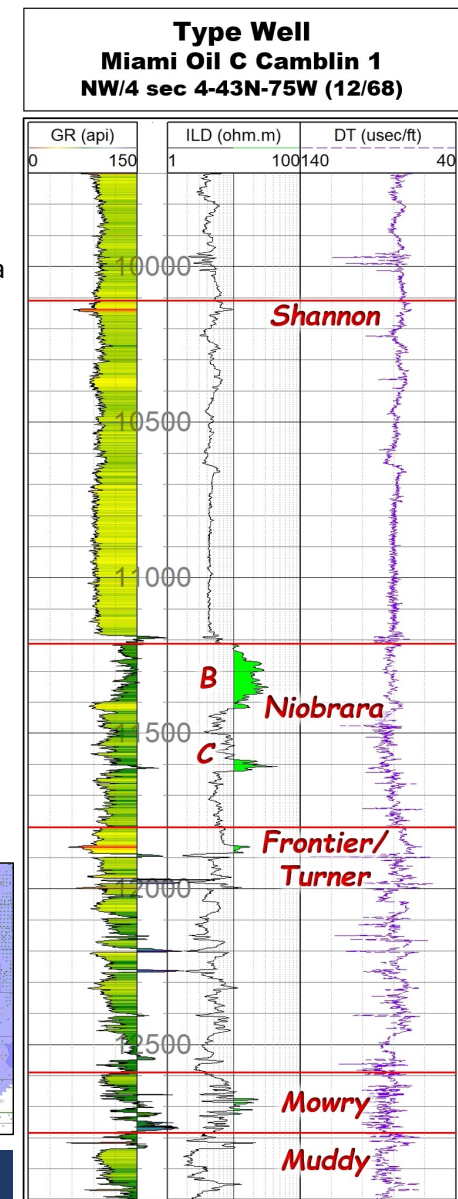
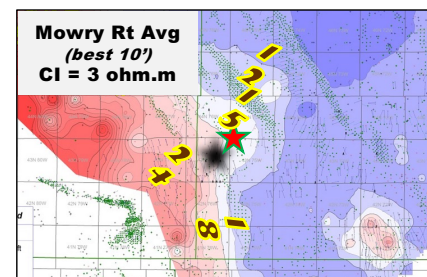


Niobrara and Frontier/Turner (Sourced by Niobrara) Potential Exist South of Bell Fourche Arch

Mowry and Frontier/Turner Upside Productive Potential at Pumpkin Buttes

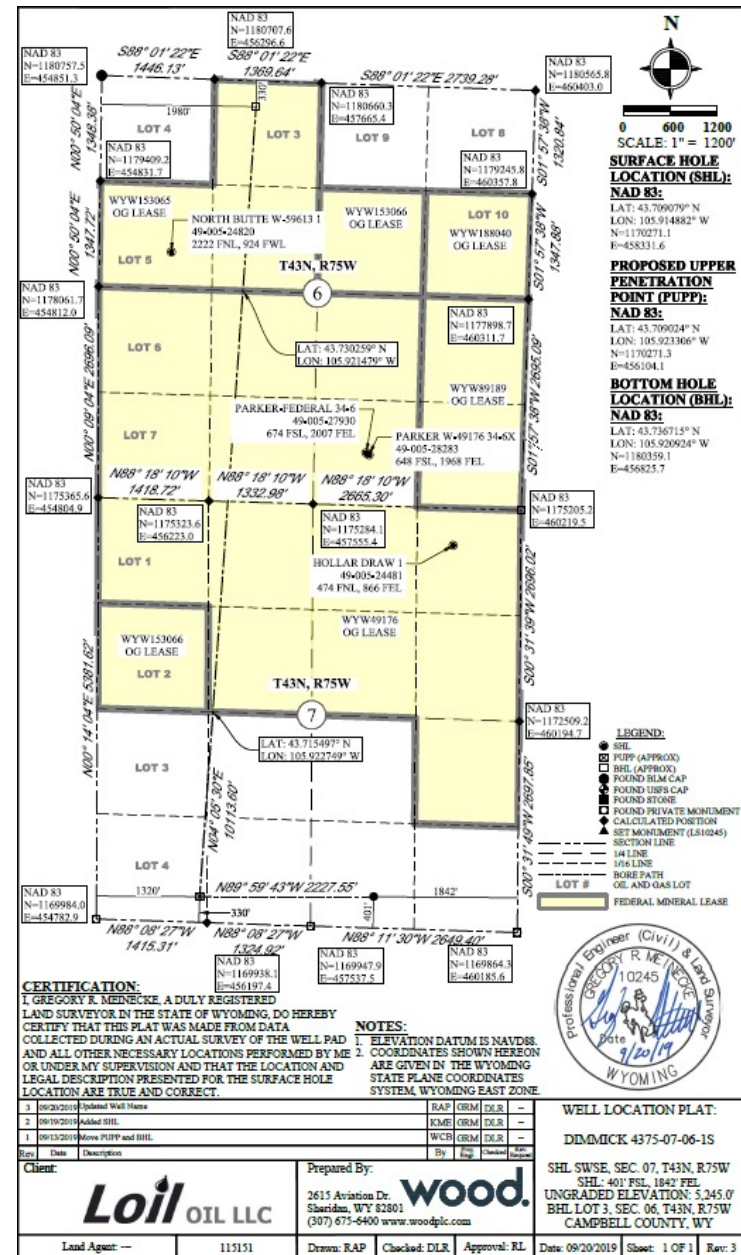


- Vitrinite Reflectance (R_o , %) is a good indicator of thermal maturity in the Mowry Petroleum System
- Resistivity in the Mowry is also used as an indicator of thermal maturity
- In addition to self-sourcing, the Mowry Petroleum System sources overlying Frontier/Turner, and underlying Muddy Sandstones



Pumpkin Buttes Unit is Located in an Area of High Thermal Maturity (Oil Window)

WYOGCC SPACING EXHIBITS



Shannon Drainage Calculations PBSU 1-H

Lease Name	Location	API	Operator	Reservoir	Cumulative Oil Production* (STB)	Ultimate Oil Reserves* (STB)	Ultimate Gas Reserves* (MCF)	GOR FT3/BBL	Ultimate BOE Reserves* (STB)	OOIP (STB)	Net Pay (ft)	θ_r (%)	Drainage Area (acres)	Lateral Length (ft)	Joshi Drainage Radius (ft)
VERTICAL WELLS															
NORTH BUTTE W-59813 1	6 43N 75W SW NW	4900524820	LOIL OIL LLC	SHANNON	58,293	58,293	24,309	417	58,293	582,930	24.0	9.0	75		1,019
PARKER W-49716 34-6X	6 43N 75W SW SE	4900528283	LOIL OIL LLC	SHANNON	44,394	48,493	38,686	798	48,493	484,930	24.0	9.0	62		930
HOLLAR DRAW 1	7 43N 75W NE NE	4900524481	LOIL OIL LLC	SHANNON	112,727	117,348	74,487	635	117,348	1,173,480	24.0	9.0	151		1,446
TOTAL VERTICAL WELLS													288		
HORIZONTAL WELLS															
PBSU 1-H	1 43N 76W SE NW	4900557548	LOIL OIL LLC	SHANNON	30,260	37,628	2,863	71	37,628	250,853	24.0	9.0	29	2598	215
R2 11-21XH	21 43N 75W NW NW	4900561780	CHIPCORE LLC	SHANNON	80,324	114,345	49,446	432	114,345	762,300	24.0	9.0	89	4393	387
T-CHAIR 1-31H	31 43N 75W SW SW	4900561717	PEAK POWDER RIVER	SHANNON	201,283	343,353	162,660	474	343,353	2,289,020	24.0	9.0	288	9116	621
TRUE FEDERAL 24-24 24-13H	24 43N 76W SE SW	4900561499	TRUE OIL LLC	SHANNON	122,418	237,828	79,707	335	237,828	1,585,520	24.0	9.0	185	9234	408
TCR NORTH CAROLINA FED 11-23 14 43-76BH	26 43N 76W NE NW	4900561652	SAMSON RESOURCES	SHANNON	254,883	356,367	191,509	537	356,367	2,375,780	24.0	9.0	299	9655	613
TCR SOUTH CAROLINA 44-26 35 43-76BH	26 43N 76W NE NW	4900561646	SAMSON RESOURCES	SHANNON	123,843	180,960	111,873	618	180,960	1,206,400	24.0	9.0	152	9662	325
TCR COLUMBIA FEDERAL 14-26 35 43-76BH	26 43N 76W NE NW	4900561832	SAMSON RESOURCES	SHANNON	286,862	537,358	276,460	514	537,358	3,582,387	24.0	9.0	451	9549	886
TCR MISSOURI FEDERAL 44-28 33 43-76BH	21 43N 76W SW SE	4900561655	SAMSON RESOURCES	SHANNON	253,919	428,115	264,082	617	428,115	2,854,100	24.0	9.0	359	9644	725
TCR JEFFERSON CITY FED 14-28 33 43-76BH	21 43N 76W SW SE	4900561840	SAMSON RESOURCES	SHANNON	210,237	309,388	156,796	507	309,388	2,062,453	24.0	9.0	259	9462	546
AVERAGE HORIZONTAL						313,462			313,462				260	8,839	565

Shannon Horizontal Well Calculations: Based upon Joshi Method.

$$\begin{aligned} \text{Drainage Area} &= [\pi r_2^2 + 2rL] \\ &= [\pi(565 \text{ ft})^2 + 2(565 \text{ ft})(9900 \text{ ft})]/43,560 \text{ ft}^2/\text{acre} \\ &= 280 \text{ acres} \end{aligned}$$

Calculated Joshi Drainage Radius = 565 Feet

DSU Size	Toe/Heel Setback	Lateral Length	Drainage Area 1 Well	Drainage Area 2 Wells
1280-Acre	330	9,900	280	560

Shannon Horizontal Well Calculations: Based upon Rectangle Method.

Method	Acres	Lateral Radius, R	Xf + R
Joshi	260	8839	
Rectangle (assuming 300' frac half-length)	260	8839	300 600

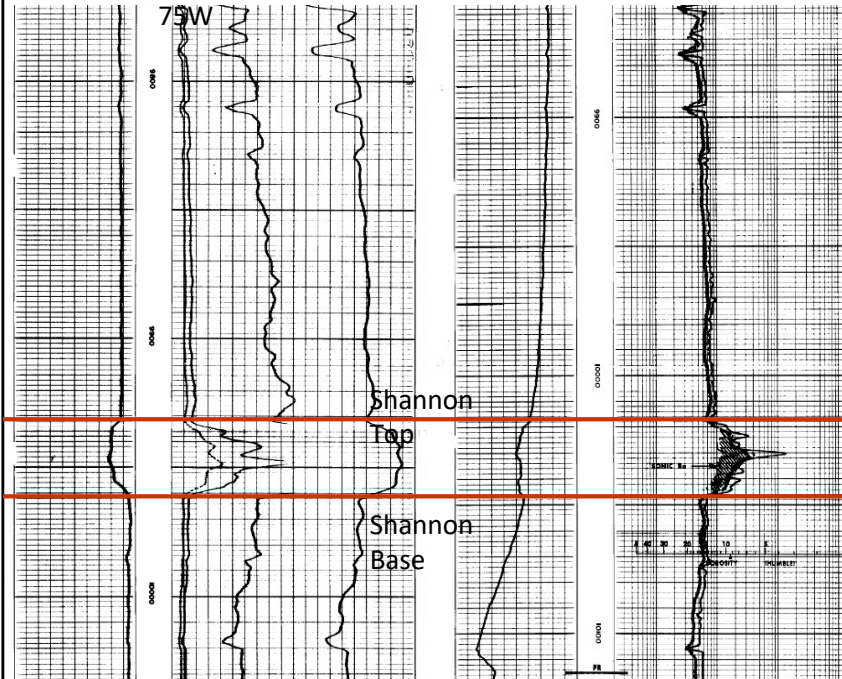
$$A = \frac{\text{OOIP} \times B_o}{7758 \times h \times \theta \times (1 - S_w)}$$

OOIP (original oil-in-place) = ultimate reserves/recovery factor
Recovery factor = 15% (estimated)
 θ_r = Density porosity, %
h = net pay (Density Porosity > 6%, 2.68 Grain Density)
 S_w = water saturation = 35% (Assumed)
 B_o = 1.27 to 1.67 bbl/STB (calculated based upon depth, GOR)



Induction Log
SWNW 6-43N-

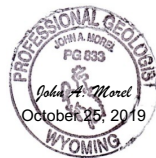
Induction Log
SWSW 8-43N-



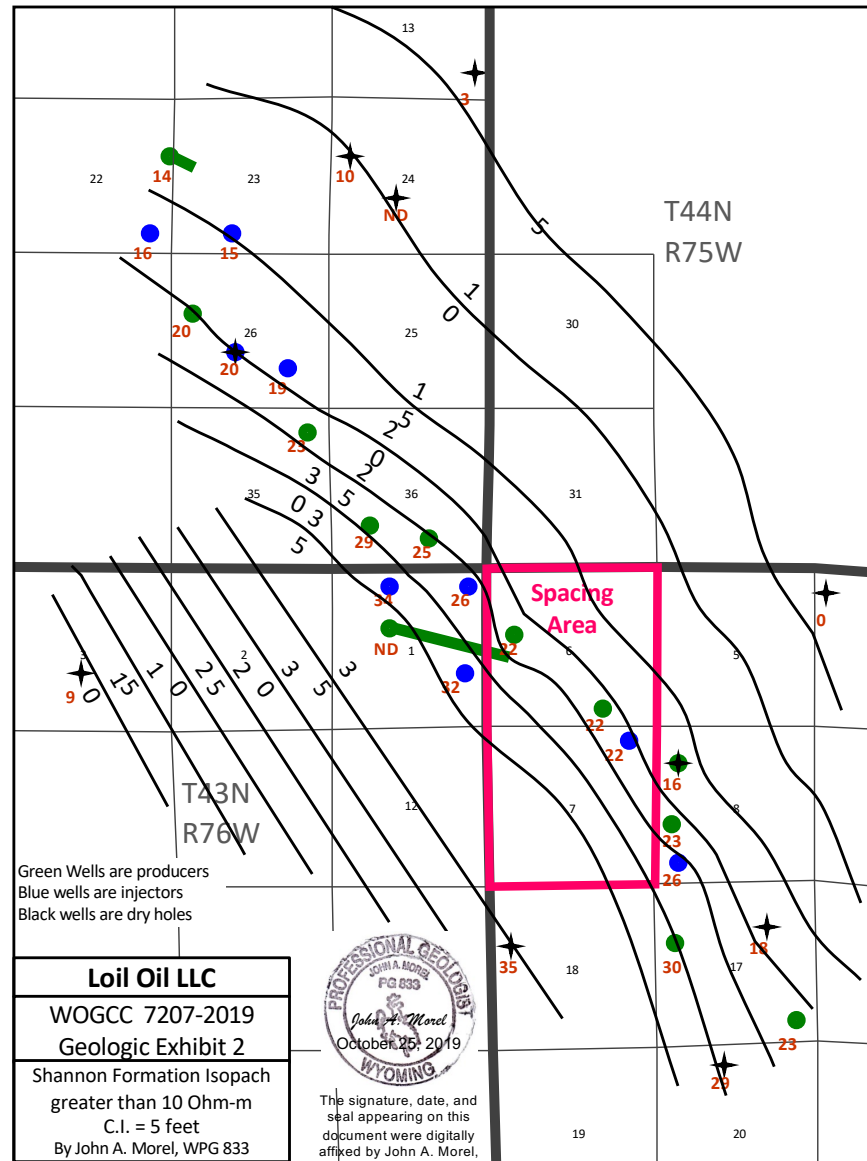
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WOGCC 7207-2019
Geologic Exhibit 1

Shannon Formation
Induction Log Cross Section
By John A. Morel, WPG 833

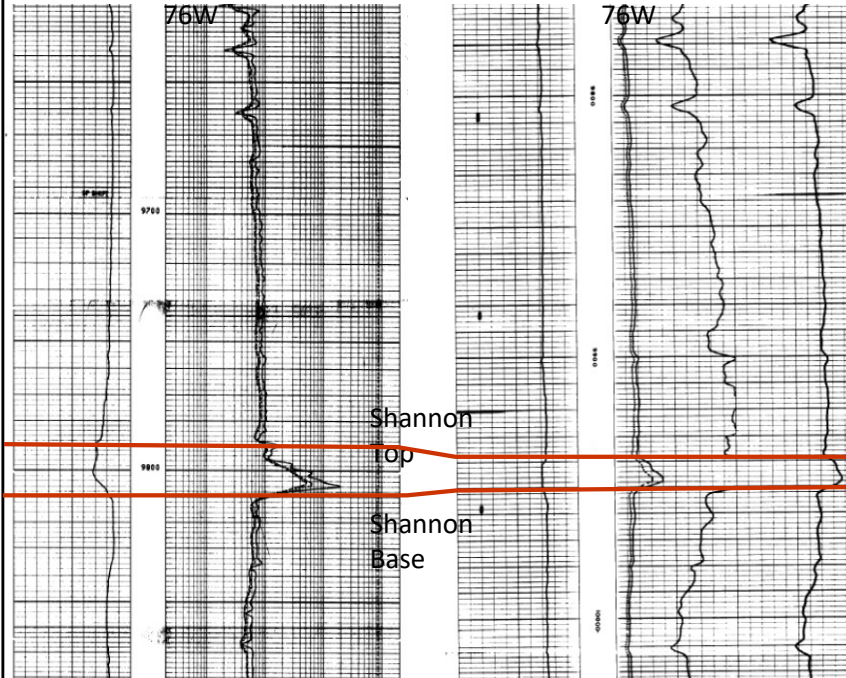


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Induction Log
NWSE 26-44N-

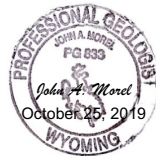
Induction Log
SWNW 24-44N-



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