Proposed Birdtail Unit No. 5

Application for Enhanced Oil Recovery Waterflood Project

List of Figures

- Figure 1 Birdtail Area Map
- Figure 2 Birdtail Unit No. 5 Proposed Boundary
- Figure 3 Bakken Three Forks A Pool Map
- Figure 4 Birdtail Unit No. 5 Historical Production
- Figure 5 Birdtail Unit No. 5 Development Plan
- Figure 6 Birdtail Unit No. 3 Production Profile
- Figure 7 Birdtail Unit No. 5 Primary Recovery Rate v. Time
- Figure 8 Birdtail Unit No. 5 Primary Recovery Rate v. Cumulative Oil
- Figure 9 Birdtail Unit No. 5 Primary + Secondary Recovery Rate v. Time
- Figure 10 Birdtail Unit No. 5 Primary + Secondary Recovery Rate v. Cumulative Oil
- Figure 11 Typical Openhole Water Injection Well Downhole Diagram
- Figure 12 Birdtail Unit No. 3 Waterflood Flow Diagram
- Figure 13 Birdtail Initial Reservoir Pressures



Figure 1 - Map 1 Birdtail Field



A



Figure 3 - Bakken & Bakken Torquay Formation Pools (60 & 62)

Well Information as of 1/10/2019 - Group Well Report

Figure No. 4





Map Title

Δ

Datum: NAD27 Projection: Stereographic DLS Version AB: ATS 2.6, BC: PRB 2.0, SK: STS 2.5, MB: MLI07

© 2019 IHS Markit. All Rights Reserved. Provided "as is", without any warranty. This map is not to be reproduced or disseminated and is not to be used nor cited as evidence in connection with any territorial claim. IHS Markit is impartial and not an authority on international boundaries which might be subject to unresolved claims by multiple jurisdictions.

Well Information as of 10/5/2018 - Group Well Report



Base Forecast Tundra Oil and Gas VOLUME FORECAST Evaluation WB List



Report Time: Thu, 31 Jan 2019 11:50 Economic Case: Unit Apps / Hierarchy: Reserves DB: WORKING_AD : Mosaic10 Version: 2018.2

Base Forecast **Tundra Oil and Gas VOLUME FORECAST Evaluation WB List** Effective November 01, 2018 Selection: Evaluation WB List 20 Oil Production Volume: Category: Base Aggregation Sum Normalization None Volume Summary 21,953 Cum (m3) ē Rem Rec (m3) 20,733 Ult Rec (m3) 42,686 Cum (m3) 0 Gas Rem Rec (m3) 0 Ult Rec (m3) 0 Cum (m3) 35,044 Water 15 Rem Rec (m3) 0 Ult Rec (m3) 35,044 Cum (m3) 0 Field Rem Rec (m3) 0 Ult Rec (m3) 0 Cum (m3) 0 NGL Rem Rec (m3) 0 Ult Rec (m3) 0 Forecast and Indicators @ Eff Date Oil Cal Daily (m3) -10 Product Oil 2018/11/01 Forecast Start 2052/10/01 Forecast End Saved Public Presentation Initial Rate (m3) 7.04 Final Rate (m3) 0.16 Ult Rec (m3) 42,685.98 21,953.30 Cum (m3) Rem Rec (m3) 20,732.68 Res Life (yrs) 33.92 RLI Full Year (yrs) 1.38 Res Half Life (yrs) 14.06 S 0 20,000 25,000 5,000 10,000 15,000 30,000 35,000 0 40,000 Total Cum Oil m3

Report Time: Thu, 31 Jan 2019 11:50 Economic Case: Unit Apps / Hierarchy: Reserves DB: WORKING_AD : Mosaic10 Version: 2018.2

Base + Growth Forecast Tundra Oil and Gas VOLUME FORECAST Evaluation WB List



Report Time: Thu, 31 Jan 2019 11:52 Economic Case: Unit Apps / Hierarchy: Reserves DB: WORKING_AD : Mosaic10 Version: 2018.2

Base + Growth Forecast Tundra Oil and Gas VOLUME FORECAST Evaluation WB List



Tundra Oil And Gas Partnership							
TYPICAL OPEN HOLE WATER INJECTION WELL (WIW) DOWNHOLE DIAGRAM							
W	/ELL NAME:	Tundra Birdtail Unit No. 5	HZNTL Open Ho	le WIW	WELL LICENCE:		
Pr	repared by	WRJ	(average depths))	Date:	2012	
E	levations :						
K	B [m]			KB to THF [m]		TD [m]	2400.0
	iL [m]			CF (m)		PBTD [m]	
	urrent Perfs:	Open Hole			950.0	to	2400.0
	urrent Perfs:	700 MD		Tatal later and		to	
	OP:	700 m MD		l otal Interval	Land	t0 na Danth Im	/D1
	ubulars		48.06		Land		\D] 1/0.0
	termed Csg (if ru	244.3 n) 177.8	34 23 & 29 76	11-40 - 31&C	Surface	to	650.0
	inen Hole Latera	none	none	none	650 0	to	2400.0
	ubina	60.3 or 73.0 - TK-99	6.99 or 9.67	J-55	Surface	to	640.0
					0011000		0.010
	ate of Tubing Ins	stallation:				Length	Top @
	Item	Description			K.BTbg. Flg.	0.00	m KB
	Corrosion Protected ENC Coated Packer (set within 15 m of Intermed Csg shoe)						
	60.3 mm or 73 mm TK-99 Internally Coated Tubing						
SC = 140mKB	TK-99 Internally Coated Tubing Pup Jt						
	Coated S	split Dognut					
	America	noon above intention no-the	مر المالية الم	ited freeh wet			
	Annular s	space above injection packe	er tilled with innit	lited fresh water			
· 译							
90 90 90 B							
		Bottom of Tubing mK	3				
R	od String :						
	ate of Rod Installa	ation:					
憲 [[]							
B	ottomhole Pump	:					
Di	irections:						
KOP = ~ 700 mMD							
· · · · · · · · · · · · · · · · · · ·							
	de a Eludat						
	liar Fiuld						
Injection Packet	er set within 15 m	of Intermediate Casing Shoe					
	itermediate Casin	g Snoe					
The second secon	/		Onen Hele L. f.	al Caatier			
	6		Open Hole Later	al Section			
	and the second second	a martin the second	新小师 与200	1200 1000	「「「「「	A Start	·治心所。
		16.75	1.8 × 8 9 × 1	All the All of	B-46(7/5)		N BYS
14 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A						~ ~	







Figure 14

© 2019 IHS Markit. All Rights Reserved. Provided "as is", without any warranty. This map is not to be reproduced or disseminated and is not to be used nor cited as evidence in connection with any territorial claim. IHS Markit is impartial and not an authority on international boundaries which might be subject to unresolved claims by multiple jurisdictions.

Datum: NAD27 Projection: Stereographic DLS Version AB: ATS 2.6, BC: PRB 2.0, SK: STS 2.5, MB: MLI07