


EWART UNIT NO. 8  
Waterflood Progress Report 2020

Prepared for:  
Manitoba Industry, Economic Development and Mines  
Petroleum Branch

Prepared by:  
 **TUNDRA OIL & GAS**

Date: 2021-08-26

## Introduction

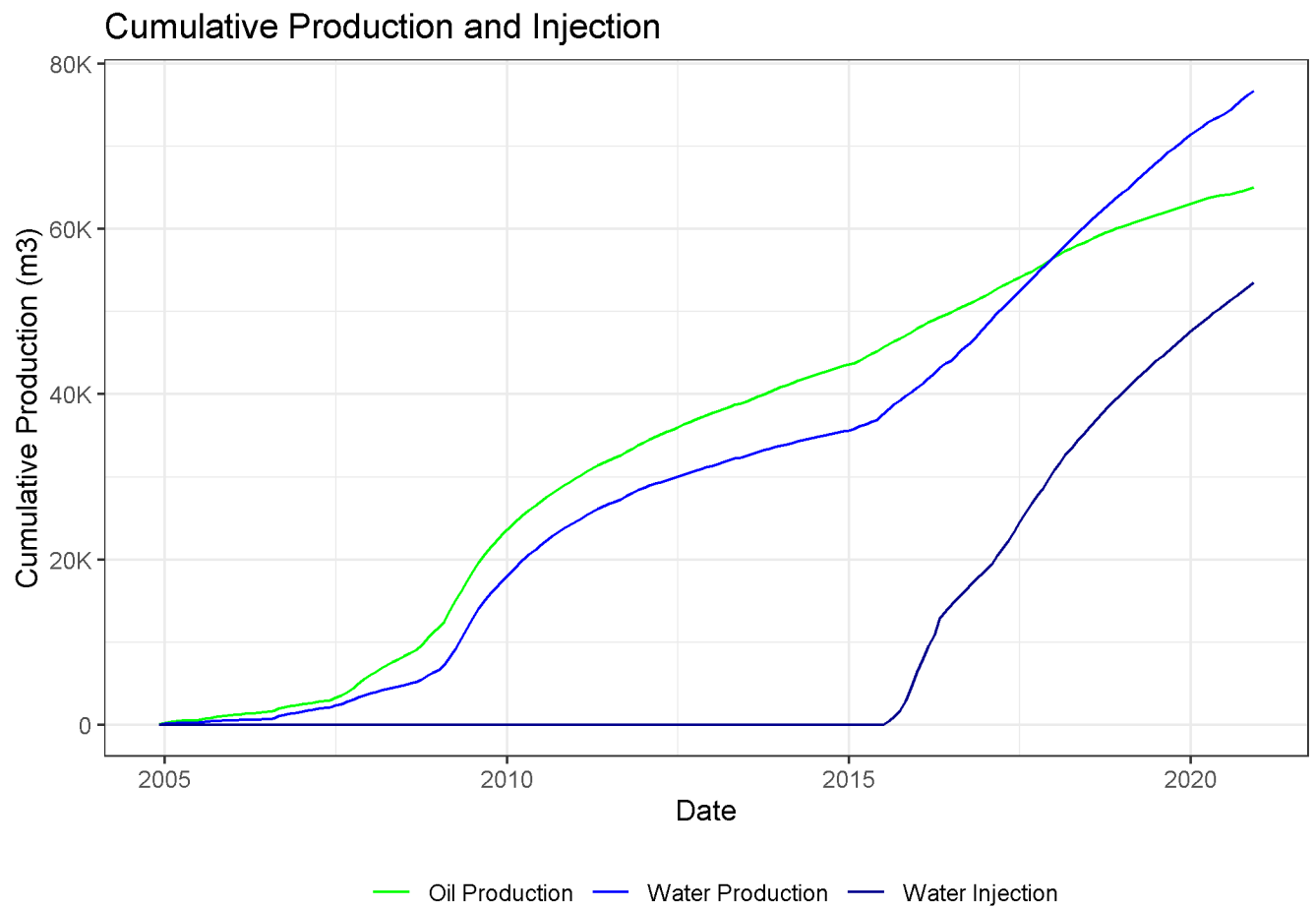
Ewart Unit No. 8 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 41, effective January 1, 2015 with Tundra Oil and Gas (Tundra) as Operator. The EOR project area contains wells in 16 LSDs in Township 7, Range 28W1. The Unit contains 13 wells. 10 producers, 2 injectors, and 1 abandoned/suspended/other.

## Monthly oil and water production rates, injection rate, GOR and WOR

MONTH	Cal Day Oil m3/d	Cal Day Water m3/d	Cal Day Injection m3/d	WOR	GOR
JAN 2020	8.21	16.86	19.13	2.05	0
FEB 2020	8.68	16.06	18.66	1.85	0
MAR 2020	6.94	16.26	18.13	2.34	0
APR 2020	7.13	15.81	18.23	2.22	0
MAY 2020	5.70	13.81	17.39	2.42	0
JUN 2020	3.18	9.47	16.60	2.98	0
JUL 2020	2.73	12.81	16.81	4.69	0
AUG 2020	3.54	15.16	17.90	4.28	0
SEP 2020	7.72	22.96	17.97	2.97	0
OCT 2020	5.71	18.43	17.55	3.23	0
NOV 2020	6.75	17.44	17.30	2.58	0
DEC 2020	6.35	14.36	16.94	2.26	0
Average	6.05	15.79	17.72		

## Year summary of produced oil, gas, water and fluid injected

Categories	m3
Oil Production	2,209
Water Production	5,774
Gas Production	0
Water Injection	6,483
Cumulative Oil	65,000
Cumulative Water	76,653
Cumulative Injection	53,522



## Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
100.08-20-007-28W1.00	6,563	6,538	6,567	6,568	6,567	5,797	5,912	6,572	6,558	6,560	5,947	6,523	6,389
100.09-20-007-28W1.00	6,508	6,478	6,437	6,433	6,455	6,079	5,807	6,573	6,558	6,537	6,579	6,535	6,415

## Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
100.08-20-007-28W1.00	261	239	252	242	241	231	243	252	254	258	245	247	2,965
100.09-20-007-28W1.00	332	302	310	305	298	267	278	303	285	286	274	278	3,518
Grand Total	593	541	562	547	539	498	521	555	539	544	519	525	6,483

## Voidage

All Volumes are in m3 Oil Formation Volume Factor (Rm3/Sm3) = 1.071								
MONTH	Oil	Water	Injection	Cumulative Oil	Cumulative Water	Cumulative Injection	VRR	Cumulative VRR
JAN 2020	254	523	593	63,047	71,396	47,632	0.746	0.343
FEB 2020	251	466	541	63,298	71,862	48,173	0.736	0.345
MAR 2020	215	504	562	63,513	72,366	48,735	0.765	0.347
APR 2020	214	475	547	63,727	72,841	49,282	0.777	0.349
MAY 2020	177	428	539	63,904	73,269	49,821	0.873	0.352
JUN 2020	96	284	498	64,000	73,553	50,319	1.287	0.354
JUL 2020	85	397	521	64,085	73,950	50,840	1.068	0.357
AUG 2020	110	470	555	64,195	74,420	51,395	0.944	0.359
SEP 2020	231	689	539	64,426	75,109	51,934	0.576	0.360
OCT 2020	177	571	544	64,603	75,680	52,478	0.715	0.362
NOV 2020	203	523	519	64,806	76,203	52,997	0.701	0.364
DEC 2020	196	445	525	65,002	76,648	53,522	0.802	0.366

## Workovers

UWI	Date	Description
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## Well List

UWI	Type	Status
100.01-20-007-28W1.00	Vertical	Producing
100.02-20-007-28W1.00	Vertical	Producing
100.03-20-007-28W1.00	Vertical	Producing
100.04-20-007-28W1.00	Vertical	Producing
102.04-20-007-28W1.00	Horizontal	Producing
102.05-20-007-28W1.00	Vertical	Producing
103.05-20-007-28W1.00	Horizontal	Producing
100.08-20-007-28W1.00	Horizontal	Injection
100.09-20-007-28W1.00	Horizontal	Injection
100.12-20-007-28W1.00	Vertical	Producing
100.13-20-007-28W1.00	Vertical	Producing
100.16-20-007-28W1.00	Vertical	Suspended
102.16-20-007-28W1.00	Horizontal	Producing