

EWART UNIT NO. 1

Waterflood Progress Report 2020

Prepared for:

Manitoba Industry, Economic Development and Mines

Petroleum Branch

Prepared by:



TUNDRA OIL & GAS

Date: 2021-08-26

Introduction

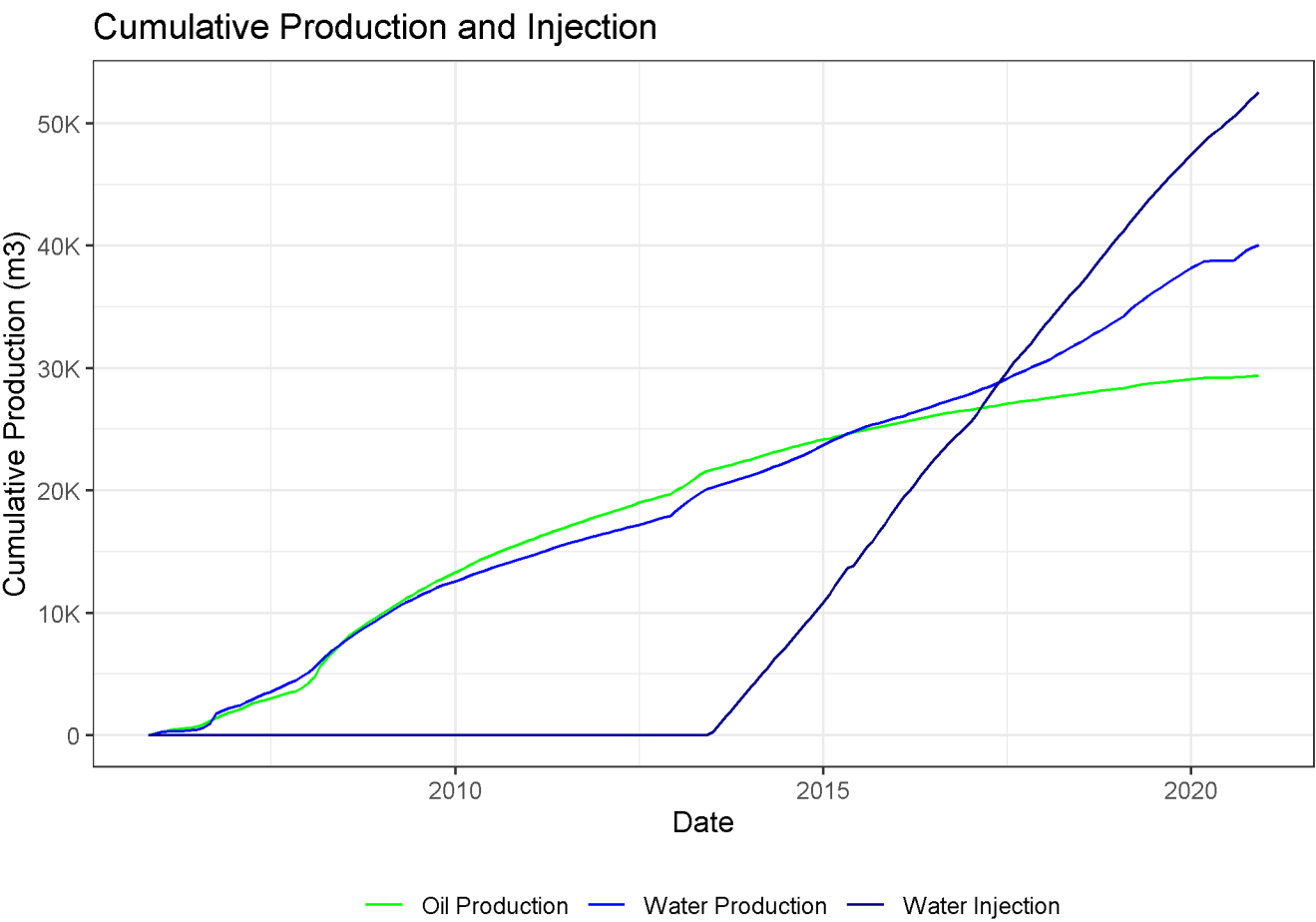
Ewart Unit No. 1 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 23, effective March 1, 2013 with Tundra Oil and Gas (Tundra) as Operator. The Unit area contains wells in 8 LSDs in Township 8 Range 28 W1. The Unit contains 9 wells. 6 producers, 1 injectors, and 2 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	1.91	9.20	17.45	4.82	0
FEB 2020	1.88	9.11	16.45	4.85	0
MAR 2020	1.79	8.98	16.94	5.02	0
APR 2020	0.16	0.83	16.00	5.19	0
MAY 2020	0.00	0.00	12.35		
JUN 2020	0.00	0.00	12.07		
JUL 2020	0.00	0.00	14.55		
AUG 2020	0.42	2.69	13.45	6.40	0
SEP 2020	1.41	13.40	15.50	9.50	0
OCT 2020	1.50	12.42	17.61	8.28	0
NOV 2020	1.40	9.08	17.00	6.49	0
DEC 2020	1.21	6.34	14.29	5.24	0
Average	0.97	6.00	15.30		

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

Categories	m3
Oil Production	356
Water Production	2,192
Gas Production	0
Water Injection	5,600
Cumulative Oil	29,406
Cumulative Water	40,079
Cumulative Injection	52,528



Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
102.08-09-008-28W1.00	6,120	6,019	6,041	6,096	6,096	5,776	6,079	6,225	7,908	6,410	6,562	6,639	6,331

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
102.08-09-008-28W1.00	541	477	525	480	383	362	451	417	465	546	510	443	5,600
Grand Total	541	477	525	480	383	362	451	417	465	546	510	443	5,600

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	60	285	541	29,113	38,170	47,469	1.549	0.684
FEB 2020	54	264	477	29,167	38,434	47,946	1.482	0.688
MAR 2020	56	278	525	29,223	38,712	48,471	1.553	0.692
APR 2020	5	25	480	29,228	38,737	48,951	15.813	0.699
MAY 2020	0	0	383	29,228	38,737	49,334	Inf	0.704
JUN 2020	0	0	362	29,228	38,737	49,696	Inf	0.710
JUL 2020	0	0	451	29,228	38,737	50,147	Inf	0.716
AUG 2020	13	83	417	29,241	38,820	50,564	4.302	0.721
SEP 2020	42	402	465	29,283	39,222	51,029	1.040	0.723
OCT 2020	46	385	546	29,329	39,607	51,575	1.257	0.726
NOV 2020	42	272	510	29,371	39,879	52,085	1.609	0.730
DEC 2020	38	196	443	29,409	40,075	52,528	1.872	0.734

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
100.01-09-008-28W1.00	Vertical	Producing
100.02-09-008-28W1.00	Vertical	Producing
100.03-09-008-28W1.00	Vertical	Producing
100.04-09-008-28W1.00	Vertical	Producing
100.05-09-008-28W1.00	Vertical	Producing
100.06-09-008-28W1.00	Vertical	Producing
100.07-09-008-28W1.00	Vertical	Producing
100.08-09-008-28W1.00	Vertical	Producing
102.08-09-008-28W1.00	Horizontal	Injection