

EWART UNIT NO. 6

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. 6 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 42, effective January 1, 2015 with Tundra Oil and Gas (Tundra) as Operator. The EOR Unit area, outlined in blue, contains 5 producing horizontal wells and 3 water injection wells, in 24 LSDs in Township 7 Range 28 W1 as shown in Figure 1. The Unit contains 7 wells. 4 producers, 5 injectors, and -2 abandoned/suspended/other.

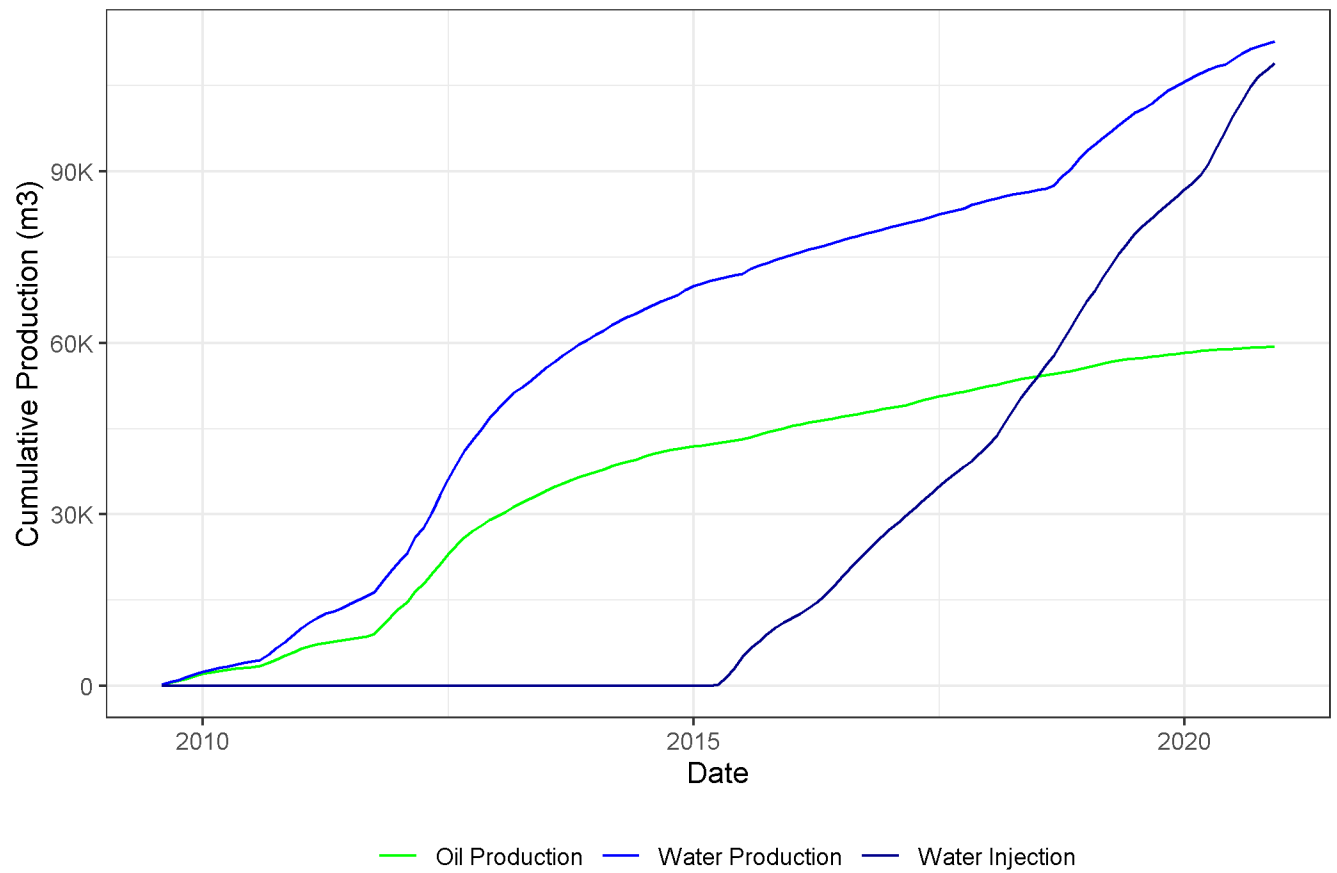
Monthly oil and water production rates, injection rate, GOR and WOR

MONTH	Cal Day Oil m3/d	Cal Day Water m3/d	Cal Day Injection m3/d	WOR	GOR
JAN 2020	5.70	25.50	41.71	4.47	0
FEB 2020	6.04	26.03	40.76	4.31	0
MAR 2020	3.84	21.34	39.87	5.56	0
APR 2020	4.52	20.13	74.60	4.45	0
MAY 2020	3.76	21.11	92.68	5.61	0
JUN 2020	1.75	8.75	90.43	5.00	0
JUL 2020	2.80	28.99	84.61	10.35	0
AUG 2020	3.03	34.72	84.94	11.46	0
SEP 2020	2.68	26.58	82.57	9.92	0
OCT 2020	2.48	14.35	55.39	5.79	0
NOV 2020	0.97	12.50	38.70	12.89	0
DEC 2020	3.29	13.76	38.97	4.18	0
Average	3.40	21.15	63.77		

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

Categories	m3
Oil Production	1,245
Water Production	7,746
Gas Production	0
Water Injection	23,354
Cumulative Oil	59,347
Cumulative Water	112,705
Cumulative Injection	108,921

Cumulative Production and Injection



Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
100.01-28-007-28W1.00	-95	-95	-95	-95	-95	-95	-95	-95	-95	-95	-95	-95	-95
100.08-21-007-28W1.00			116	-92	-92	-82	283	1,623	2,610	2,704	1,429	1,161	966
100.09-21-007-28W1.00			-81	-93	761	2,262	2,847	2,989	2,990	2,887	2,868	2,837	2,027
100.16-21-007-28W1.00	6,193	6,040	6,056	6,067	6,059	5,985	6,031	6,071	6,130	6,331	6,450	6,479	6,158
102.08-28-007-28W1.00	2,451	2,365	2,326	2,624	2,709	3,502	3,223	3,376	3,484	1,432	708	708	2,409

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
100.08-21-007-28W1.00				449	846	879	988	1,070	1,032	682	291	309	6,546
100.09-21-007-28W1.00			116	585	926	869	637	495	393	321	294	305	4,941
100.16-21-007-28W1.00	538	467	424	466	421	401	485	521	515	580	576	594	5,988
102.08-28-007-28W1.00	755	715	696	738	680	564	513	547	537	134			5,879
Grand Total	1,293	1,182	1,236	2,238	2,873	2,713	2,623	2,633	2,477	1,717	1,161	1,208	23,354

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	177	791	1,293	58,281	105,750	86,859	1.319	0.516
FEB 2020	175	755	1,182	58,456	106,505	88,041	1.254	0.521
MAR 2020	119	662	1,236	58,575	107,167	89,277	1.566	0.525
APR 2020	136	604	2,238	58,711	107,771	91,515	2.985	0.536
MAY 2020	117	654	2,873	58,828	108,425	94,388	3.687	0.551
JUN 2020	53	262	2,713	58,881	108,687	97,101	8.511	0.565
JUL 2020	87	898	2,623	58,968	109,585	99,724	2.646	0.577
AUG 2020	94	1,076	2,633	59,062	110,661	102,357	2.238	0.589
SEP 2020	80	798	2,477	59,142	111,459	104,834	2.803	0.600
OCT 2020	77	445	1,717	59,219	111,904	106,551	3.255	0.608
NOV 2020	29	375	1,161	59,248	112,279	107,712	2.859	0.613
DEC 2020	102	426	1,208	59,350	112,705	108,920	2.257	0.618

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
100.01-21-007-28W1.00	Horizontal	Producing
100.08-21-007-28W1.00	Horizontal	Injection
100.09-21-007-28W1.00	Horizontal	Injection
100.16-21-007-28W1.00	Horizontal	Injection
102.16-21-007-28W1.00	Horizontal	Producing
100.01-28-007-28W1.00	Horizontal	Injection
102.08-28-007-28W1.00	Horizontal	Injection