

EWART UNIT NO. 7

Waterflood Progress Report 2020

Prepared for:

Manitoba Industry, Economic Development and Mines

Petroleum Branch

Prepared by:



TUNDRA OIL & GAS

Date: 2021-08-26

Introduction

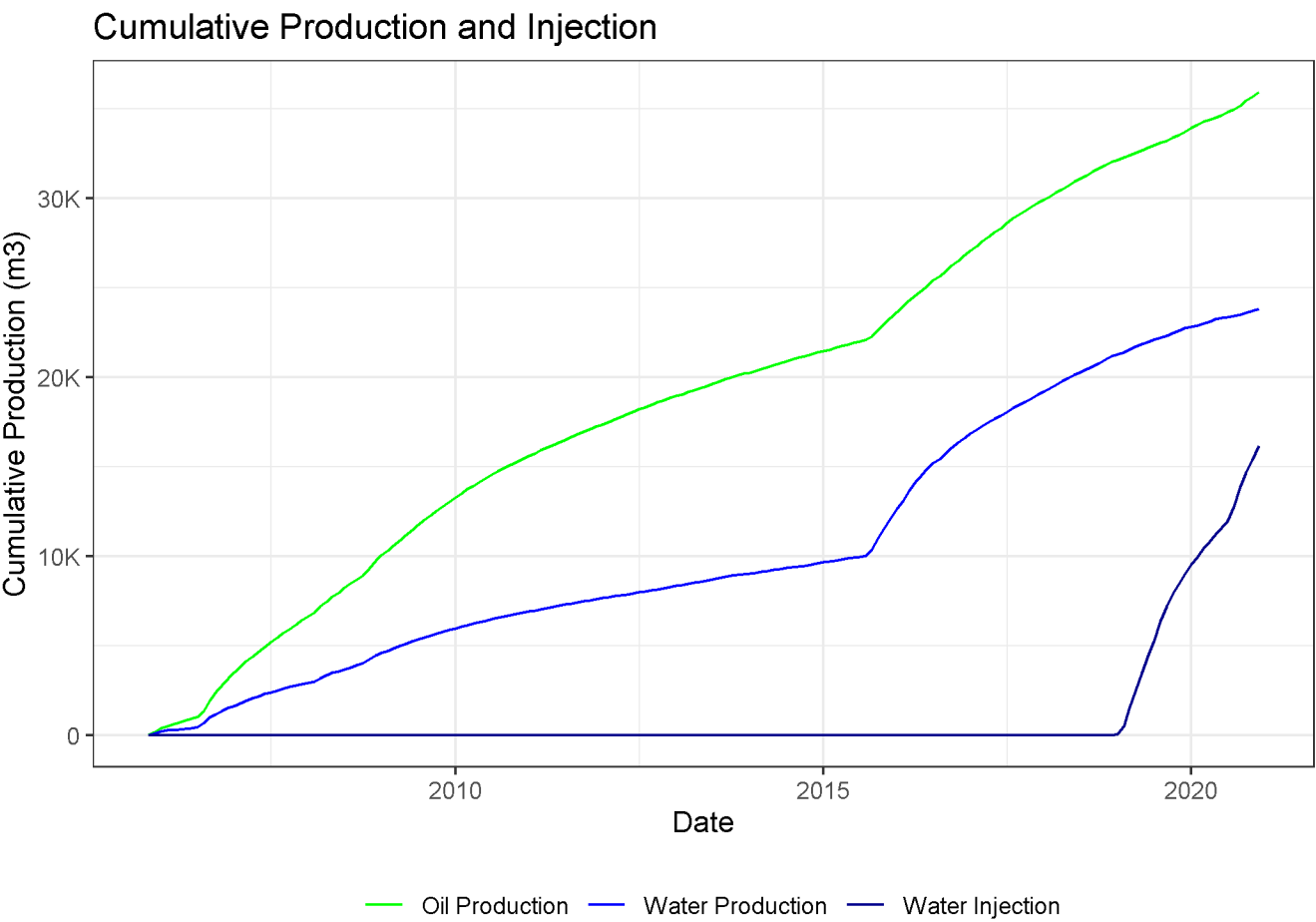
Ewart Unit No. 7 Enhanced Oil Recovery (EOR) Waterflood Project was approved on May 1, 2015 with Tundra Oil and Gas (Tundra) as Operator. The EOR Unit area contains wells in 8 LSDs in Township 8 Range 28 W1. The Unit contains 8 wells. 7 producers, 1 injectors, and 0 abandoned/suspended/other.

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	6.92	2.62	16.26	0.38	0
FEB 2020	6.88	2.62	15.34	0.38	0
MAR 2020	5.04	3.48	14.48	0.69	0
APR 2020	4.04	3.41	13.63	0.84	0
MAY 2020	4.02	4.19	12.97	1.04	0
JUN 2020	4.60	2.79	12.37	0.61	0
JUL 2020	4.79	1.09	11.84	0.23	0
AUG 2020	5.40	1.46	26.52	0.27	0
SEP 2020	7.41	3.10	36.43	0.42	0
OCT 2020	8.20	3.76	26.26	0.46	0
NOV 2020	7.91	3.33	23.63	0.42	0
DEC 2020	7.31	3.20	24.48	0.44	0
Average	6.04	2.92	19.52		

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

Categories	m3
Oil Production	2,210
Water Production	1,069
Gas Production	0
Water Injection	7,144
Cumulative Oil	35,900
Cumulative Water	23,814
Cumulative Injection	16,160



Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
103.12-09-008-28W1.00	2,946	2,976	3,083	3,006	3,006	2,543	2,979	3,884	4,938	4,968	5,071	5,350	3,729

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
103.12-09-008-28W1.00	504	445	449	409	402	371	367	822	1,093	814	709	759	7,144
Grand Total	504	445	449	409	402	371	367	822	1,093	814	709	759	7,144

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	215	82	504	33,905	22,829	9,520	1.614	0.161
FEB 2020	199	76	445	34,104	22,905	9,965	1.539	0.168
MAR 2020	156	108	449	34,260	23,013	10,414	1.632	0.174
APR 2020	121	103	409	34,381	23,116	10,823	1.758	0.181
MAY 2020	124	130	402	34,505	23,246	11,225	1.530	0.186
JUN 2020	138	84	371	34,643	23,330	11,596	1.601	0.192
JUL 2020	149	34	367	34,792	23,364	11,963	1.896	0.197
AUG 2020	168	46	822	34,960	23,410	12,785	3.638	0.210
SEP 2020	222	93	1,093	35,182	23,503	13,878	3.304	0.227
OCT 2020	254	117	814	35,436	23,620	14,692	2.092	0.239
NOV 2020	237	100	709	35,673	23,720	15,401	2.004	0.249
DEC 2020	226	99	759	35,899	23,819	16,160	2.226	0.260

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
103.05-09-008-28W1.00	Horizontal	Producing
100.10-09-008-28W1.00	Vertical	Producing
100.11-09-008-28W1.00	Vertical	Producing
100.12-09-008-28W1.00	Vertical	Producing
103.12-09-008-28W1.00	Horizontal	Injection
100.13-09-008-28W1.00	Vertical	Producing
100.14-09-008-28W1.00	Vertical	Producing
100.15-09-008-28W1.00	Vertical	Producing