


EBOR UNIT NO. 3
Waterflood Progress Report 2020

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

Prepared by:
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Introduction

Ebor Unit No. 3 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Board Order No. 62 effective October 2017. The Unit area contains wells in Townships 8 & 9, Ranges 29 W1. The Unit contains 62 wells. 36 producers, 10 injectors, and 16 abandoned/suspended/other.

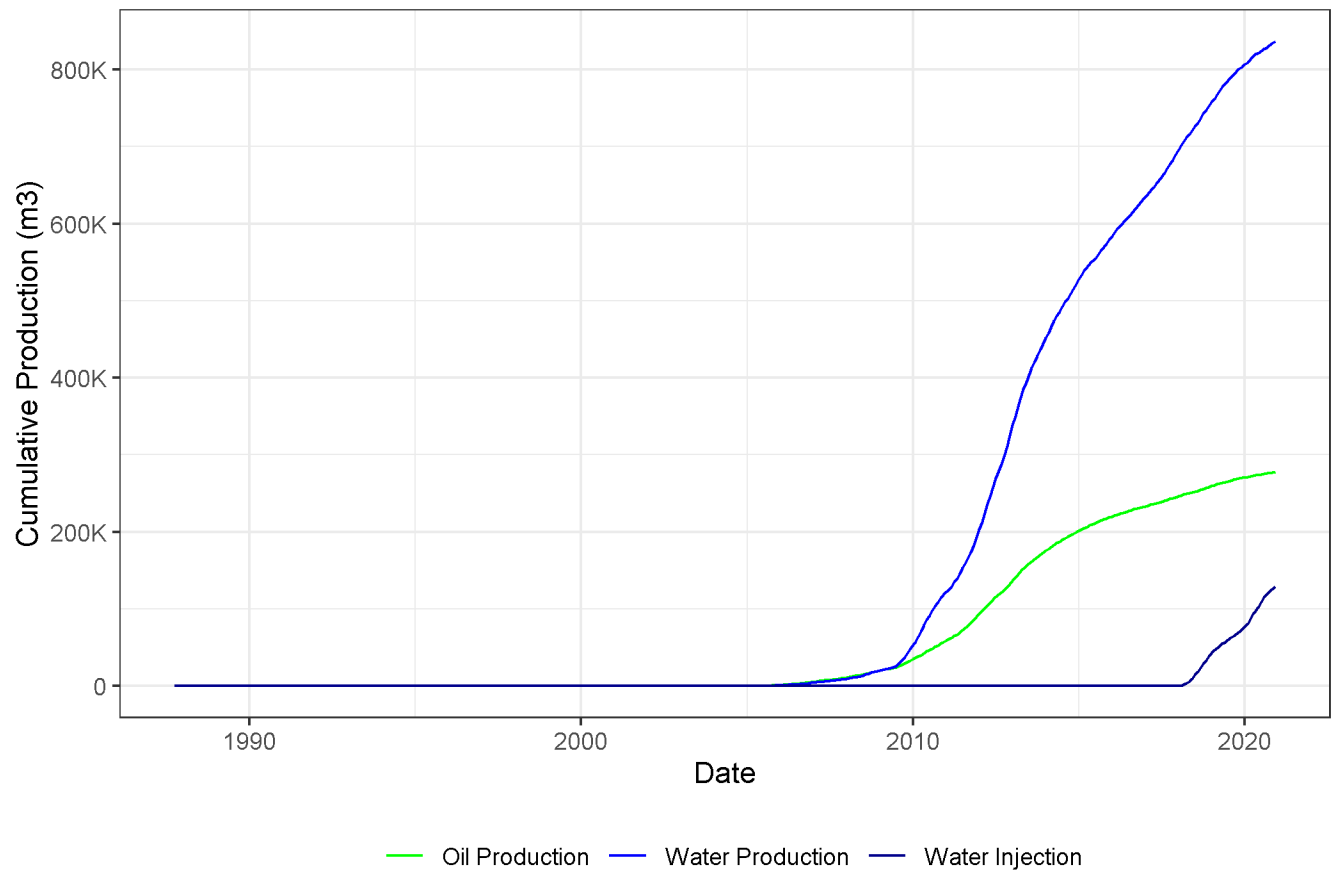
Monthly oil and water production rates, injection rate, GOR and WOR

MONTH	Cal Day Oil m3/d	Cal Day Water m3/d	Cal Day Injection m3/d	WOR	GOR
JAN 2020	22.98	100.07	125.07	4.35	0.00
FEB 2020	22.01	108.75	140.01	4.94	0.00
MAR 2020	23.09	124.98	178.84	5.41	0.87
APR 2020	25.67	123.64	213.08	4.82	0.00
MAY 2020	21.56	93.98	152.24	4.36	0.00
JUN 2020	15.54	59.76	192.88	3.85	0.00
JUL 2020	17.43	68.98	190.33	3.96	0.00
AUG 2020	17.51	72.90	166.33	4.16	0.00
SEP 2020	22.06	80.42	135.82	3.65	0.00
OCT 2020	22.51	87.20	124.25	3.87	0.00
NOV 2020	20.91	83.82	116.40	4.01	0.00
DEC 2020	18.95	76.05	92.99	4.01	0.00
Average	20.85	90.05	152.35		

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

Categories	m3
Oil Production	7,627
Water Production	32,929
Gas Production	1
Water Injection	55,737
Cumulative Oil	277,689
Cumulative Water	836,360
Cumulative Injection	128,825

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
100.04-18-009-29W1.00	-96	-96	94	1,595	1,992	2,880	3,068	3,621	3,979	3,954	3,973	2,835	2,317
100.05-07-009-29W1.00	4,470	4,456	4,486	4,362	4,129	4,027	4,084	2,477	2,571	2,570	2,509	1,629	3,481
100.05-18-009-29W1.02			16	-92	-27	1,613	2,954	2,979	3,024	2,956	2,980	2,984	1,939
100.09-29-008-29W1.00	4,471	4,475	4,490	4,478	4,069	4,305	4,372	4,760	4,979	4,973	4,994	4,991	4,613
100.13-07-009-29W1.00	3,979	3,969	3,849	4,007	3,913	3,919	4,293	4,740	4,974	4,957	4,973	4,973	4,379
102.01-32-008-29W1.00	-84	-95	-92	-94	-95	-94	-40	27	-93	-94	-94	-94	-78
102.04-07-009-29W1.00	-94	721	2,584	2,986	2,953	2,954	3,683	3,980	3,975	3,929	3,811	1,921	2,784
102.05-29-008-29W1.00	4,472	4,469	4,477	4,480	4,187	4,424	4,482	4,748	4,980	4,968	4,972	5,012	4,639
102.12-07-009-29W1.00	4,472	4,511	4,485	4,335	4,122	4,214	4,602	4,294	4,974	4,948	5,003	5,430	4,616
103.08-32-008-29W1.00	-63	-94	-94	-94	-95	-93	440	419	-92	-93	-93	-93	-4

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
100.04-18-009-29W1.00	458	686	1,133	1,196	836	906	729	759	614	528	442	192	8,479
100.05-07-009-29W1.00	591	506	512	411	269	147	33	151	148	152	131		3,051
100.05-18-009-29W1.02			6	494	599	826	745	494	379	321	262	244	4,370
100.09-29-008-29W1.00	470	366	301	236	146	153	147	154	151	149	153	141	2,567
100.13-07-009-29W1.00	489	442	460	433	320	441	559	609	562	530	479	465	5,789
102.01-32-008-29W1.00	453	518	812	1,169	838	1,092	1,228	859	542	565	591	598	9,265
102.04-07-009-29W1.00	449	589	907	692	443	497	576	500	409	368	286		5,716
102.05-29-008-29W1.00	306	252	286	326	228	258	235	321	299	244	198	192	3,145
102.12-07-009-29W1.00	353	322	339	288	202	360	416	416	371	368	355	448	4,238
103.08-32-008-29W1.00	308	378	789	1,148	839	1,106	1,231	893	599	626	596	602	9,115
Grand Total	3,877	4,059	5,545	6,393	4,720	5,786	5,899	5,156	4,074	3,851	3,493	2,882	55,735

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	713	3,102	3,877	270,771	806,536	76,962	1.003	0.070
FEB 2020	638	3,154	4,060	271,409	809,690	81,022	1.058	0.074
MAR 2020	716	3,874	5,544	272,125	813,564	86,566	1.195	0.078
APR 2020	770	3,708	6,392	272,895	817,272	92,958	1.410	0.084
MAY 2020	668	2,913	4,719	273,563	820,185	97,677	1.301	0.088
JUN 2020	466	1,793	5,786	274,029	821,978	103,463	2.524	0.093
JUL 2020	540	2,138	5,900	274,569	824,116	109,363	2.172	0.098
AUG 2020	543	2,260	5,156	275,112	826,376	114,519	1.815	0.102
SEP 2020	662	2,413	4,075	275,774	828,789	118,594	1.305	0.105
OCT 2020	698	2,703	3,852	276,472	831,492	122,446	1.116	0.109
NOV 2020	627	2,514	3,492	277,099	834,006	125,938	1.096	0.111
DEC 2020	587	2,357	2,883	277,686	836,363	128,821	0.966	0.114

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
100.01-29-008-29W1.00	Vertical	Producing
100.04-29-008-29W1.00	Vertical	Producing
102.04-29-008-29W1.00	Horizontal	Producing
100.05-29-008-29W1.00	Horizontal	Producing
102.05-29-008-29W1.00	Horizontal	Injection
100.08-29-008-29W1.00	Vertical	Producing
100.09-29-008-29W1.00	Horizontal	Injection
100.11-29-008-29W1.00	Vertical	Producing
100.12-29-008-29W1.00	Vertical	Producing
100.13-29-008-29W1.00	Vertical	Abandoned Zone
100.14-29-008-29W1.00	Vertical	Abandoned Zone
100.16-29-008-29W1.00	Horizontal	Producing
100.04-30-008-29W1.00	Horizontal	Producing
100.05-30-008-29W1.00	Horizontal	Producing
100.12-30-008-29W1.00	Horizontal	Producing
100.13-30-008-29W1.00	Horizontal	Producing
100.04-31-008-29W1.00	Horizontal	Producing
100.05-31-008-29W1.00	Horizontal	Producing
100.06-31-008-29W1.00	Vertical	Abandoned
100.07-31-008-29W1.00	Vertical	Producing
100.10-31-008-29W1.00	Vertical	Producing
100.12-31-008-29W1.00	Horizontal	Producing
100.14-31-008-29W1.00	Vertical	Producing
100.15-31-008-29W1.00	Vertical	Producing
100.16-31-008-29W1.00	Vertical	Producing
100.01-32-008-29W1.00	Horizontal	Producing
102.01-32-008-29W1.00	Horizontal	Injection
100.08-32-008-29W1.00	Horizontal	Producing
103.08-32-008-29W1.00	Horizontal	Injection
100.09-32-008-29W1.00	Horizontal	Producing
103.09-32-008-29W1.00	Horizontal	Producing
100.16-32-008-29W1.00	Horizontal	Producing
100.01-05-009-29W1.00	Horizontal	Producing
100.04-05-009-29W1.00	Vertical	Producing
100.08-05-009-29W1.00	Horizontal	Producing
100.09-05-009-29W1.00	Vertical	Producing
102.09-05-009-29W1.00	Horizontal	Producing
100.12-05-009-29W1.02	Vertical	Abandoned
100.16-05-009-29W1.00	Horizontal	Producing
100.01-06-009-29W1.00	Vertical	Producing
100.02-06-009-29W1.00	Vertical	Abandoned Zone
100.04-06-009-29W1.02	Vertical	Abandoned Zone
102.04-06-009-29W1.00	Horizontal	Producing

UWI	Type	Status
100.05-06-009-29W1.02	Vertical	Abandoned Zone
100.07-06-009-29W1.02	Vertical	Abandoned Zone
100.08-06-009-29W1.00	Vertical	Abandoned Zone
100.12-06-009-29W1.00	Horizontal	Producing
100.13-06-009-29W1.00	Horizontal	Producing
100.04-07-009-29W1.00	Vertical	Abandoned Zone
102.04-07-009-29W1.00	Horizontal	Injection
100.05-07-009-29W1.00	Horizontal	Injection
100.12-07-009-29W1.00	Vertical	Suspended
102.12-07-009-29W1.00	Horizontal	Injection
100.13-07-009-29W1.00	Horizontal	Injection
102.01-08-009-29W1.00	Horizontal	Producing
100.08-08-009-29W1.00	Horizontal	Producing
100.09-08-009-29W1.00	Horizontal	Producing
100.16-08-009-29W1.00	Horizontal	Producing
100.04-18-009-29W1.00	Horizontal	Injection
100.05-18-009-29W1.02	Horizontal	Producing
100.12-18-009-29W1.00	Horizontal	Producing
100.13-18-009-29W1.00	Horizontal	Producing