

WASKADA UNIT NO. 4 - PM 58

Waterflood Progress Report 2020

Prepared for:

Manitoba Industry, Economic Development and Mines

Petroleum Branch

Prepared by:



TUNDRA OIL & GAS

Date: 2021-08-26

Introduction

Waskada Unit No. 4 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Board Order No. PM58 effective June 1984. The Unit area contains wells in 33 LSDs in Township 1 Range 26 W1. The Unit contains 52 wells. 13 producers, 0 injectors, and 39 abandoned/suspended/other.

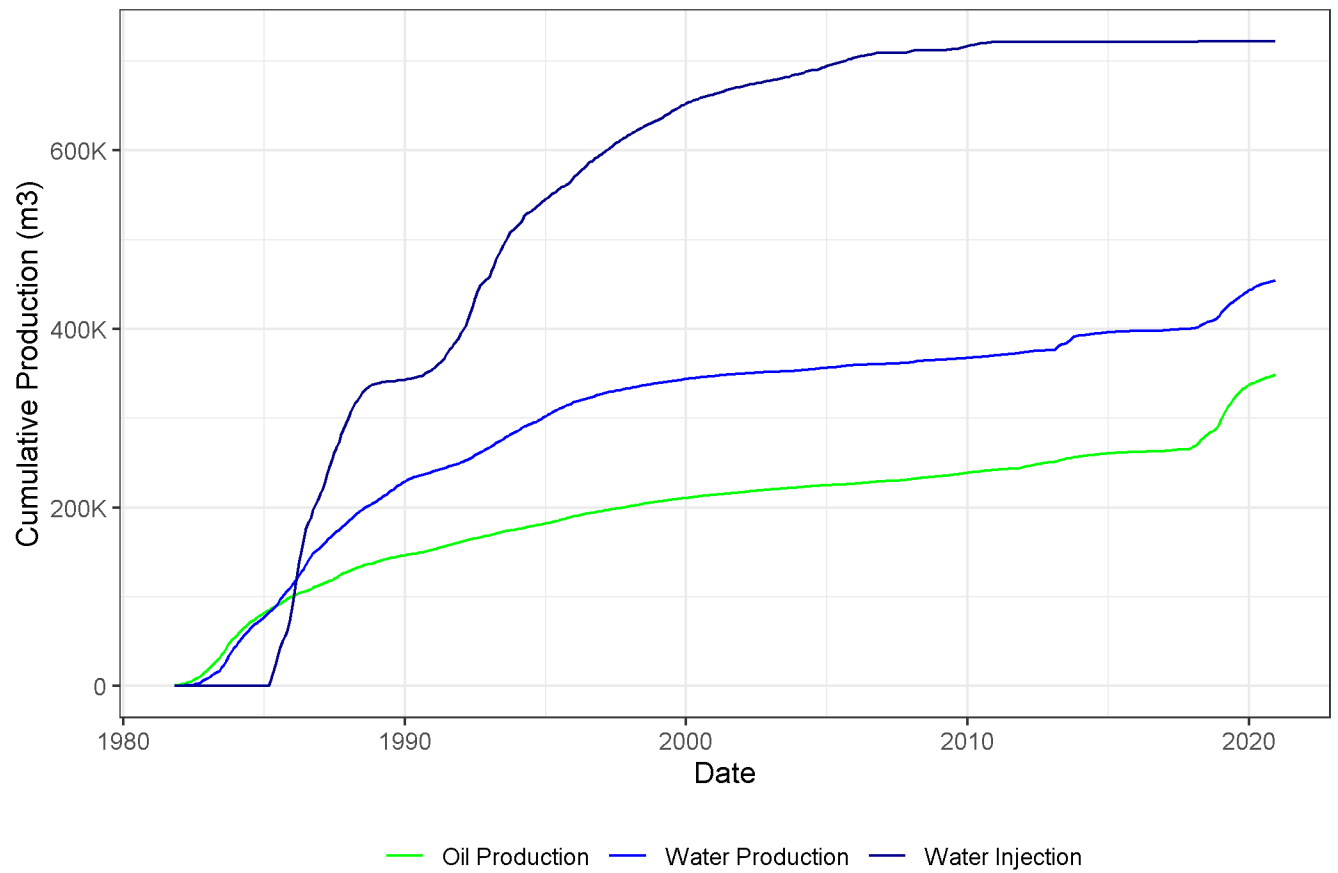
Monthly oil and water production rates, injection rate, GOR and WOR

MONTH	Cal Day Oil m3/d	Cal Day Water m3/d	Cal Day Injection m3/d	WOR	GOR
JAN 2020	47.54	48.18	0	1.01	0
FEB 2020	36.33	42.38	0	1.17	0
MAR 2020	42.93	59.19	0	1.38	0
APR 2020	43.87	46.91	0	1.07	0
MAY 2020	25.29	27.63	0	1.09	0
JUN 2020	37.77	37.70	0	1.00	0
JUL 2020	31.37	28.11	0	0.90	0
AUG 2020	32.53	27.50	0	0.85	0
SEP 2020	24.90	19.64	0	0.79	0
OCT 2020	22.17	21.19	0	0.96	0
NOV 2020	26.39	22.52	0	0.85	0
DEC 2020	59.36	35.60	0	0.60	0
Average	35.87	34.71	0		

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

Categories	m3
Oil Production	13,138
Water Production	12,703
Gas Production	0
Water Injection	0
Cumulative Oil	349,215
Cumulative Water	454,645
Cumulative Injection	721,969

Cumulative Production and Injection



Monthly Wellhead Pressure

NO INJECTION

Monthly Injected Volumes

NO INJECTION

Voidage

All Volumes are in m3 Oil Formation Volume Factor (Rm3/Sm3) = 1.17								
MONTH	Oil	Water	Injection	Cumulative Oil	Cumulative Water	Cumulative Injection	VRR	Cumulative VRR
JAN 2020	1,474	1,494	0	337,552	443,437	721,969	0	0.861
FEB 2020	1,054	1,229	0	338,606	444,666	721,969	0	0.859
MAR 2020	1,331	1,835	0	339,937	446,501	721,969	0	0.855
APR 2020	1,316	1,407	0	341,253	447,908	721,969	0	0.852
MAY 2020	784	857	0	342,037	448,765	721,969	0	0.850
JUN 2020	1,133	1,131	0	343,170	449,896	721,969	0	0.848
JUL 2020	973	871	0	344,143	450,767	721,969	0	0.846
AUG 2020	1,008	852	0	345,151	451,619	721,969	0	0.844
SEP 2020	747	590	0	345,898	452,209	721,969	0	0.843
OCT 2020	687	657	0	346,585	452,866	721,969	0	0.841
NOV 2020	791	676	0	347,376	453,542	721,969	0	0.840
DEC 2020	1,840	1,104	0	349,216	454,646	721,969	0	0.836

Workovers

UWI	Date	Description
102.02-24-001-26W1.00	2020-12-14	Rigless Acid Stimulation
102.07-24-001-26W1.00	2020-11-30	Rigless Acid Stimulation
102.09-14-001-26W1.00	2020-12-04	Open Heel Side Ports
102.16-14-001-26W1.00	2020-11-13	Rigless Acid Stimulation
103.03-24-001-26W1.00	2020-12-14	Rigless Acid Stimulation
103.04-13-001-26W1.00	2020-12-17	Rigless Acid Stimulation
103.08-23-001-26W1.00	2020-12-08	Rigless Acid Stimulation
103.16-14-001-26W1.00	2020-02-28	Cleanout & Selective Acid

Well List

UWI	Type	Status
100.16-11-001-26W1.00	Vertical	Abandoned
100.14-12-001-26W1.00	Vertical	Abandoned
100.01-13-001-26W1.00	Vertical	Abandoned
100.02-13-001-26W1.00	Vertical	Abandoned
100.03-13-001-26W1.00	Vertical	Abandoned
100.04-13-001-26W1.00	Vertical	Abandoned
102.04-13-001-26W1.00	Horizontal	Producing
103.04-13-001-26W1.00	Horizontal	Producing
100.05-13-001-26W1.00	Vertical	Abandoned
100.06-13-001-26W1.00	Vertical	Abandoned
102.06-13-001-26W1.00	Horizontal	Suspended
100.07-13-001-26W1.00	Vertical	Abandoned
100.08-13-001-26W1.00	Vertical	Abandoned
100.10-13-001-26W1.00	Vertical	Abandoned
100.11-13-001-26W1.00	Vertical	Abandoned
100.12-13-001-26W1.00	Vertical	Abandoned Zone
102.12-13-001-26W1.00	Horizontal	Producing
100.13-13-001-26W1.00	Vertical	Abandoned
100.14-13-001-26W1.00	Vertical	Abandoned
100.15-13-001-26W1.00	Vertical	Abandoned
100.08-14-001-26W1.00	Vertical	Abandoned
102.08-14-001-26W1.00	Horizontal	Producing
100.09-14-001-26W1.00	Vertical	Abandoned
102.09-14-001-26W1.00	Horizontal	Producing
100.10-14-001-26W1.00	Vertical	Abandoned
100.15-14-001-26W1.00	Vertical	Abandoned
100.16-14-001-26W1.00	Vertical	Abandoned
102.16-14-001-26W1.00	Horizontal	Producing
103.16-14-001-26W1.00	Horizontal	Producing
100.01-23-001-26W1.00	Vertical	Abandoned
100.02-23-001-26W1.00	Vertical	Abandoned
100.07-23-001-26W1.02	Vertical	Abandoned
102.08-23-001-26W1.00	Vertical	Abandoned
103.08-23-001-26W1.00	Horizontal	Producing
1A0.08-23-001-26W1.00	Vertical	Abandoned
102.01-24-001-26W1.00	Vertical	Abandoned
100.02-24-001-26W1.00	Vertical	Abandoned Zone
102.02-24-001-26W1.00	Horizontal	Producing
1B0.02-24-001-26W1.00	Vertical	Abandoned
100.03-24-001-26W1.00	Vertical	Abandoned
102.03-24-001-26W1.00	Horizontal	Producing
103.03-24-001-26W1.00	Horizontal	Producing
1C0.03-24-001-26W1.00	Vertical	Abandoned

UWI	Type	Status
100.04-24-001-26W1.00	Vertical	Abandoned
1C0.04-24-001-26W1.00	Dir/Dev	Abandoned
100.05-24-001-26W1.00	Vertical	Abandoned
100.06-24-001-26W1.00	Vertical	Abandoned Zone
102.06-24-001-26W1.00	Horizontal	Producing
1A0.06-24-001-26W1.00	Vertical	Abandoned Zone
100.07-24-001-26W1.00	Vertical	Abandoned
102.07-24-001-26W1.00	Horizontal	Producing
102.08-24-001-26W1.00	Vertical	Abandoned