

WASKADA UNIT NO. 2 - 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. 2 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Board Order No. PM58 effective January 1984. The Unit area contains wells in 35 LSDs in Township 1 Range 26 W1. The Unit contains 62 wells. 7 producers, 2 injectors, and 53 abandoned/suspended/other.

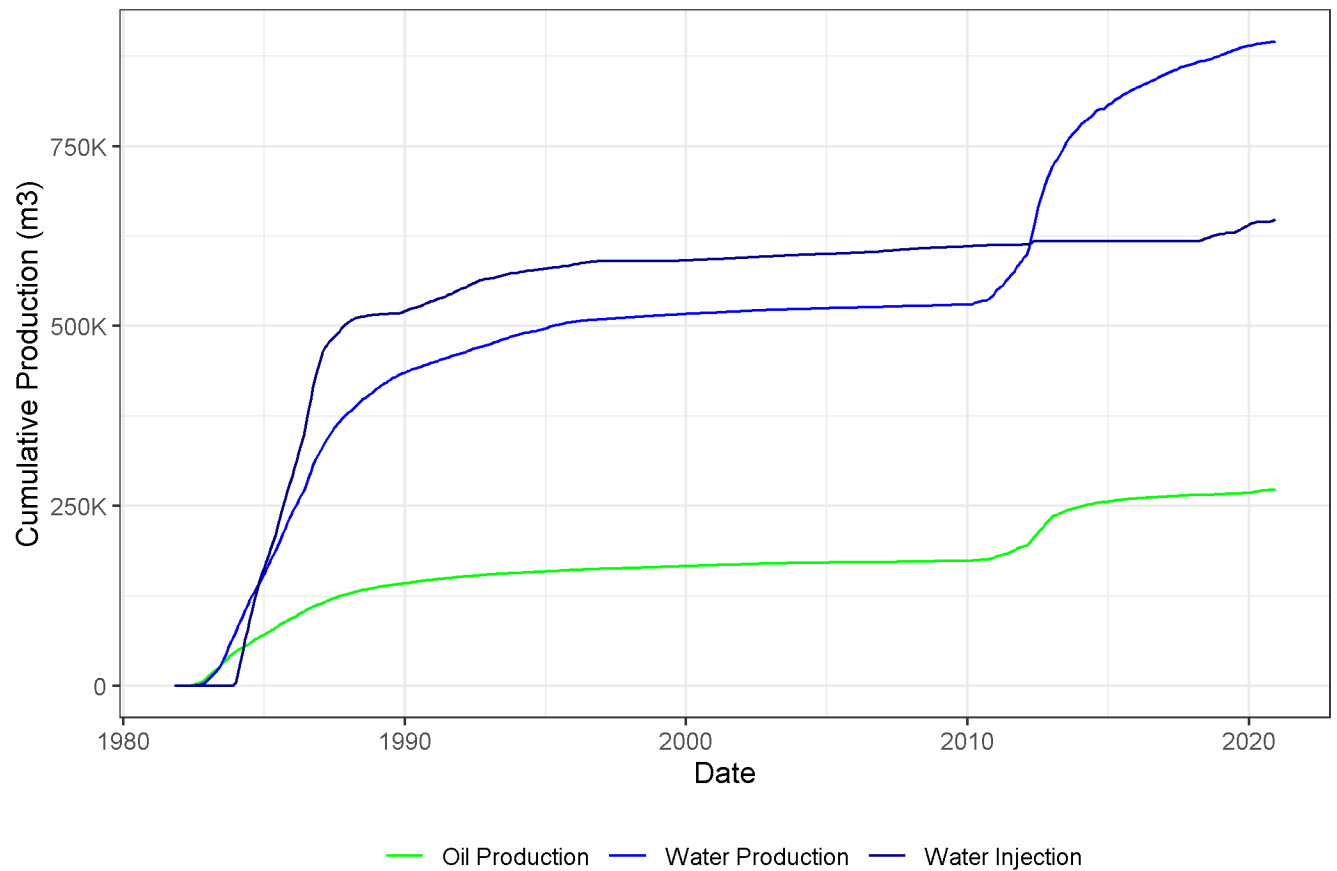
Monthly oil and water production rates, injection rate, GOR and WOR

MONTH	Cal Day Oil m3/d	Cal Day Water m3/d	Cal Day Injection m3/d	WOR	GOR
JAN 2020	3.58	18.81	57.58	5.25	0
FEB 2020	20.87	23.82	43.69	1.14	0
MAR 2020	27.33	29.00	56.26	1.06	0
APR 2020	21.04	23.80	16.50	1.13	0
MAY 2020	18.22	11.72	0.00	0.64	0
JUN 2020	15.90	12.15	2.53	0.76	0
JUL 2020	11.33	15.33	8.26	1.35	0
AUG 2020	14.40	11.54	0.00	0.80	0
SEP 2020	11.77	9.47	0.00	0.80	0
OCT 2020	10.22	15.04	20.42	1.47	0
NOV 2020	4.79	15.27	29.80	3.19	0
DEC 2020	7.11	12.97	44.61	1.82	0
Average	13.88	16.58	23.30		

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

Categories	m3
Oil Production	5,068
Water Production	6,057
Gas Production	0
Water Injection	8,533
Cumulative Oil	273,100
Cumulative Water	895,348
Cumulative Injection	647,965

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
103.02-35-001-26W1.00	3,120	3,428	3,203	3,729	3,730	3,682	1,652	1,465	1,465	1,111	3,017	3,772	2,781
105.02-35-001-26W1.00	2,498	2,809	2,784	2,994	2,995	2,887	81	-107	-107	-83	-89	1,784	1,537

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	JUN	JUL	OCT	NOV	DEC	Total
103.02-35-001-26W1.00	775	258	868	104	76	163	493	593	566	3,896
105.02-35-001-26W1.00	1,010	1,009	876	391		93	140	301	817	4,637
Grand Total	1,785	1,267	1,744	495	76	256	633	894	1,383	8,533

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	111	583	1,785	268,147	889,874	641,222	2.504	0.533
FEB 2020	605	691	1,267	268,752	890,565	642,489	0.906	0.533
MAR 2020	847	899	1,744	269,599	891,464	644,233	0.923	0.534
APR 2020	631	714	495	270,230	892,178	644,728	0.341	0.534
MAY 2020	565	363	0	270,795	892,541	644,728	0.000	0.533
JUN 2020	477	364	76	271,272	892,905	644,804	0.082	0.533
JUL 2020	351	475	256	271,623	893,380	645,060	0.289	0.533
AUG 2020	446	358	0	272,069	893,738	645,060	0.000	0.532
SEP 2020	353	284	0	272,422	894,022	645,060	0.000	0.532
OCT 2020	316	466	633	272,738	894,488	645,693	0.757	0.532
NOV 2020	144	458	894	272,882	894,946	646,587	1.427	0.533
DEC 2020	221	402	1,383	273,103	895,348	647,970	2.094	0.533

Workovers

UWI	Date	Description
103.12-27-001-26W1.00	2020-01-26	Open Heel Side Ports

Well List

UWI	Type	Status
100.14-22-001-26W1.00	Vertical	Abandoned
100.16-22-001-26W1.00	Vertical	Abandoned
100.13-23-001-26W1.00	Vertical	Abandoned
100.14-23-001-26W1.00	Vertical	Abandoned
100.03-26-001-26W1.00	Vertical	Abandoned Zone
102.03-26-001-26W1.00	Horizontal	Producing
103.03-26-001-26W1.00	Horizontal	Producing
104.03-26-001-26W1.00	Horizontal	Suspended
100.04-26-001-26W1.00	Vertical	Abandoned Zone
100.05-26-001-26W1.00	Vertical	Abandoned
100.06-26-001-26W1.00	Vertical	Abandoned
102.06-26-001-26W1.00	Horizontal	Suspended
103.06-26-001-26W1.00	Horizontal	Producing
104.06-26-001-26W1.00	Horizontal	Suspended
105.06-26-001-26W1.00	Horizontal	Suspended
100.11-26-001-26W1.00	Vertical	Abandoned Zone
103.11-26-001-26W1.00	Horizontal	Suspended
104.11-26-001-26W1.00	Horizontal	Suspended
105.11-26-001-26W1.00	Horizontal	Producing
106.11-26-001-26W1.00	Horizontal	Producing
102.12-26-001-26W1.00	Vertical	Abandoned
100.13-26-001-26W1.00	Vertical	Abandoned
100.14-26-001-26W1.00	Vertical	Abandoned
102.14-26-001-26W1.00	Horizontal	Producing
103.14-26-001-26W1.00	Horizontal	Suspended
104.14-26-001-26W1.00	Horizontal	Producing
105.14-26-001-26W1.00	Horizontal	Suspended
100.01-27-001-26W1.00	Vertical	Abandoned
103.01-27-001-26W1.00	Horizontal	Producing
100.02-27-001-26W1.00	Vertical	Abandoned
100.03-27-001-26W1.00	Vertical	Abandoned
102.03-27-001-26W1.02	Vertical	Abandoned
100.04-27-001-26W1.00	Vertical	Abandoned
102.04-27-001-26W1.00	Horizontal	Producing
100.05-27-001-26W1.00	Vertical	Abandoned
102.05-27-001-26W1.00	Horizontal	Producing
103.05-27-001-26W1.00	Horizontal	Suspended
102.06-27-001-26W1.00	Vertical	Abandoned
100.07-27-001-26W1.00	Vertical	Abandoned
100.08-27-001-26W1.00	Vertical	Abandoned
102.08-27-001-26W1.00	Horizontal	Producing
100.09-27-001-26W1.00	Vertical	Abandoned
102.09-27-001-26W1.02	Vertical	Abandoned

UWI	Type	Status
100.10-27-001-26W1.00	Vertical	Abandoned Zone
102.11-27-001-26W1.00	Vertical	Abandoned
100.12-27-001-26W1.00	Vertical	Abandoned
103.12-27-001-26W1.00	Horizontal	Producing
102.13-27-001-26W1.00	Vertical	Abandoned
102.14-27-001-26W1.00	Vertical	Abandoned
102.15-27-001-26W1.00	Vertical	Abandoned
102.16-27-001-26W1.00	Vertical	Abandoned
100.02-34-001-26W1.02	Vertical	Abandoned
100.08-34-001-26W1.00	Vertical	Abandoned
100.02-35-001-26W1.00	Vertical	Abandoned
102.02-35-001-26W1.00	Horizontal	Suspended
103.02-35-001-26W1.00	Horizontal	Injection
104.02-35-001-26W1.00	Horizontal	Producing
105.02-35-001-26W1.00	Horizontal	Injection
100.03-35-001-26W1.02	Vertical	Abandoned
100.05-35-001-26W1.00	Vertical	Abandoned
100.06-35-001-26W1.00	Vertical	Abandoned
100.12-35-001-26W1.00	Vertical	Abandoned