

DALY UNIT NO. 12

Waterflood Progress Report 2020

Prepared for:

Manitoba Industry, Economic Development and Mines

Petroleum Branch

Prepared by:



TUNDRA OIL & GAS

Date: 2021-08-26

Introduction

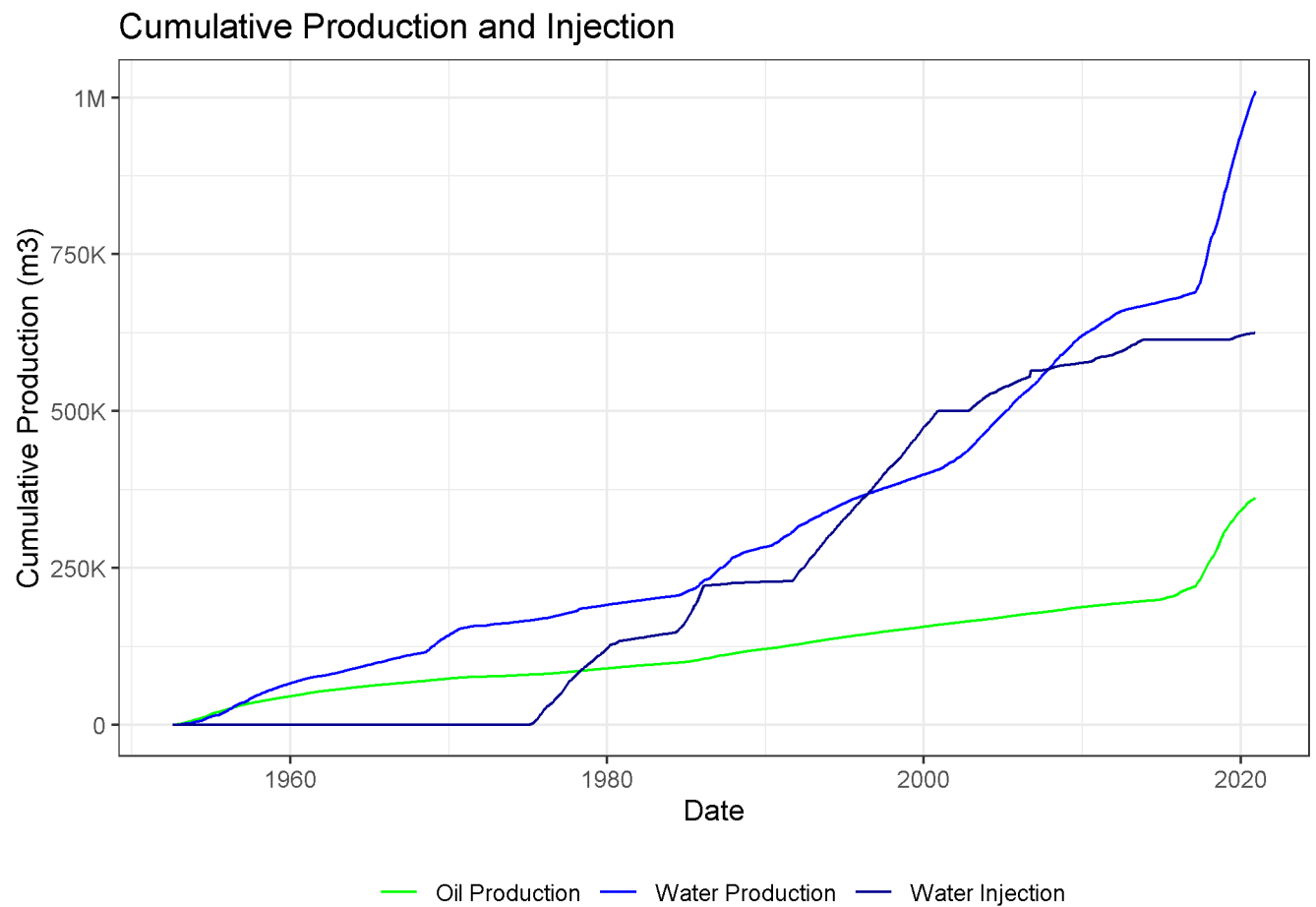
Daly Unit No. 12 Enhanced Oil Recovery (EOR) Waterflood Project was approved on January 1, 2016 with Tundra Oil and Gas (Tundra) as Operator. The EOR project area contains wells in 65 LSDs in Townships 9-10, Range 28W1. The Unit contains 61 wells. 19 producers, 1 injectors, and 41 abandoned/suspended/other.

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	75.01	266.13	16.42	3.55	0
FEB 2020	68.18	246.12	18.83	3.61	0
MAR 2020	68.09	197.59	18.61	2.90	0
APR 2020	75.11	217.54	18.47	2.90	0
MAY 2020	74.20	193.02	15.10	2.60	0
JUN 2020	68.70	212.73	13.30	3.10	0
JUL 2020	66.50	199.02	12.68	2.99	0
AUG 2020	55.09	199.31	11.94	3.62	0
SEP 2020	50.45	208.18	11.12	4.13	0
OCT 2020	43.80	209.51	10.50	4.78	0
NOV 2020	51.00	191.10	11.13	3.75	0
DEC 2020	50.81	177.38	15.90	3.49	0
Average	62.25	209.80	14.50		

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

Categories	m3
Oil Production	22,772
Water Production	76,725
Gas Production	0
Water Injection	5,302
Cumulative Oil	362,039
Cumulative Water	1,010,145
Cumulative Injection	625,159



Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
103.01-26-009-28W1.00	2,973	3,544	4,227	4,896	4,946	4,930	4,954	4,973	4,965	4,971	5,041	5,933	4,696

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
103.01-26-009-28W1.00	509	546	577	554	468	399	393	370	334	325	334	493	5,302
Grand Total	509	546	577	554	468	399	393	370	334	325	334	493	5,302

Voidage

All Volumes are in m3 Oil Formation Volume Factor (Rm3/Sm3) = 1.05								
MONTH	Oil	Water	Injection	Cumulative Oil	Cumulative Water	Cumulative Injection	VRR	Cumulative VRR
JAN 2020	2,326	8,250	509	341,593	941,684	620,374	0.048	0.477
FEB 2020	1,978	7,137	546	343,571	948,821	620,920	0.059	0.474
MAR 2020	2,110	6,125	577	345,681	954,946	621,497	0.069	0.472
APR 2020	2,253	6,526	554	347,934	961,472	622,051	0.062	0.469
MAY 2020	2,300	5,983	468	350,234	967,455	622,519	0.056	0.466
JUN 2020	2,060	6,382	399	352,294	973,837	622,918	0.047	0.464
JUL 2020	2,061	6,170	393	354,355	980,007	623,311	0.047	0.461
AUG 2020	1,708	6,179	370	356,063	986,186	623,681	0.046	0.459
SEP 2020	1,514	6,246	334	357,577	992,432	624,015	0.043	0.456
OCT 2020	1,357	6,495	325	358,934	998,927	624,340	0.041	0.454
NOV 2020	1,530	5,733	334	360,464	1,004,660	624,674	0.046	0.452
DEC 2020	1,575	5,498	493	362,039	1,010,158	625,167	0.069	0.450

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
102.01-26-009-28W1.00	Horizontal	Producing
103.01-26-009-28W1.00	Horizontal	Injection
104.01-26-009-28W1.00	Horizontal	Producing
102.08-26-009-28W1.00	Horizontal	Producing
100.12-26-009-28W1.00	Vertical	Producing
100.13-26-009-28W1.00	Vertical	Abandoned Zone
100.14-26-009-28W1.00	Vertical	Abandoned Zone
100.03-27-009-28W1.00	Vertical	Suspended
102.05-27-009-28W1.00	Horizontal	Producing
102.13-27-009-28W1.00	Horizontal	Producing
100.10-28-009-28W1.00	Vertical	Abandoned
100.11-28-009-28W1.00	Vertical	Abandoned
100.13-28-009-28W1.00	Vertical	Abandoned
100.14-28-009-28W1.00	Vertical	Producing
100.15-28-009-28W1.00	Vertical	Abandoned
100.09-29-009-28W1.00	Vertical	Abandoned Zone
102.09-29-009-28W1.00	Vertical	Abandoned Zone
102.10-29-009-28W1.00	Vertical	Abandoned
100.16-29-009-28W1.00	Vertical	Abandoned
102.16-29-009-28W1.00	Vertical	Abandoned Zone
100.01-33-009-28W1.00	Vertical	Producing
100.02-33-009-28W1.00	Vertical	Commingled
100.03-33-009-28W1.00	Vertical	Producing
100.05-33-009-28W1.00	Vertical	Abandoned
100.06-33-009-28W1.00	Vertical	Abandoned
102.06-33-009-28W1.00	Vertical	Commingled
100.08-33-009-28W1.00	Vertical	Producing
100.09-33-009-28W1.00	Vertical	Abandoned
100.09-33-009-28W1.02	Vertical	Abandoned Zone
100.10-33-009-28W1.00	Vertical	Abandoned
100.15-33-009-28W1.00	Vertical	Abandoned Zone
100.16-33-009-28W1.00	Vertical	Abandoned Zone
102.04-34-009-28W1.00	Horizontal	Producing
102.05-34-009-28W1.00	Horizontal	Producing
100.11-34-009-28W1.00	Vertical	Abandoned
102.11-34-009-28W1.00	Horizontal	Producing
100.12-34-009-28W1.00	Vertical	Abandoned Zone
100.13-34-009-28W1.00	Vertical	Abandoned Zone
102.13-34-009-28W1.00	Horizontal	Producing
100.14-34-009-28W1.00	Vertical	Abandoned Zone
102.14-34-009-28W1.00	Horizontal	Producing
100.15-34-009-28W1.00	Vertical	Abandoned
100.16-34-009-28W1.00	Vertical	Abandoned

UWI	Type	Status
100.01-03-010-28W1.00	Vertical	Abandoned
102.01-03-010-28W1.00	Vertical	Producing
100.02-03-010-28W1.00	Vertical	Abandoned Zone
100.03-03-010-28W1.00	Vertical	Abandoned Zone
100.04-03-010-28W1.00	Vertical	Abandoned
102.04-03-010-28W1.00	Horizontal	Producing
103.04-03-010-28W1.00	Horizontal	Producing
100.05-03-010-28W1.00	Vertical	Abandoned
102.05-03-010-28W1.00	Horizontal	Producing
103.05-03-010-28W1.00	Horizontal	Producing
100.06-03-010-28W1.00	Vertical	Abandoned
100.07-03-010-28W1.00	Vertical	Abandoned Zone
100.08-03-010-28W1.00	Vertical	Producing
100.09-03-010-28W1.00	Vertical	Suspended
100.10-03-010-28W1.00	Vertical	Abandoned
100.15-03-010-28W1.00	Vertical	Abandoned Zone
100.16-03-010-28W1.00	Vertical	Abandoned Zone
102.16-03-010-28W1.00	Horizontal	Producing