


SINCLAIR UNIT NO. 8
Waterflood Progress Report 2020

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

Prepared by:
 **TUNDRA OIL & GAS**

Date: 2021-08-26

Introduction

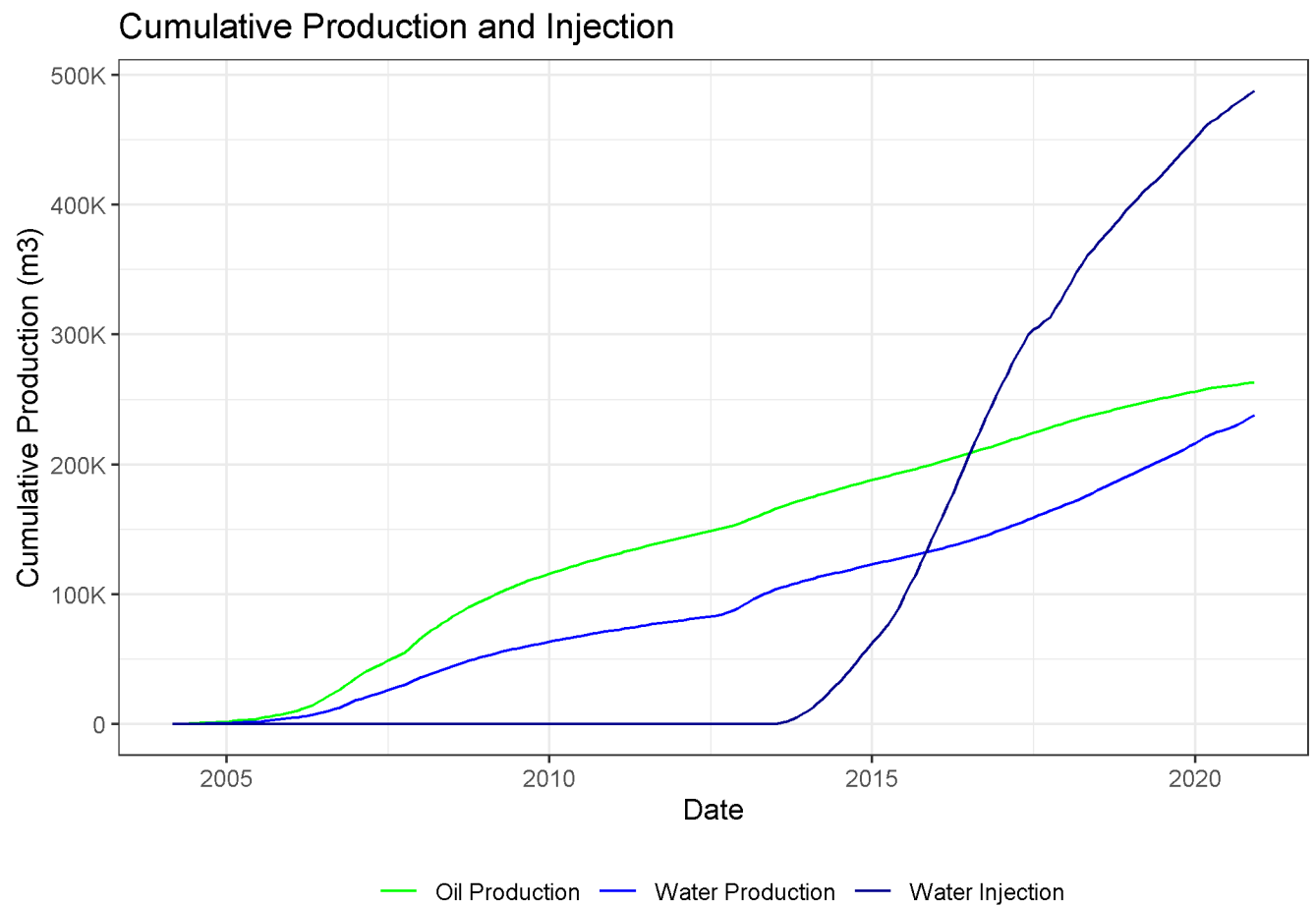
Sinclair Unit No. 8 Enhanced Oil Recovery (EOR) Waterflood Project was approved under Waterflood Order No. 25 effective July 1, 2013 with Tundra Oil and Gas (Tundra) as Operator. The Unit area contains wells in 38 LSDs in Township 7 Range 29 W1. The Unit contains 48 wells. 38 producers, 9 injectors, and 1 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	30.26	76.72	151.94	2.54	0
FEB 2020	29.94	72.84	151.72	2.43	0
MAR 2020	29.01	76.59	151.58	2.64	0
APR 2020	28.34	76.83	115.50	2.71	0
MAY 2020	23.72	60.48	87.81	2.55	0
JUN 2020	12.26	34.20	104.87	2.79	0
JUL 2020	12.73	33.81	101.03	2.66	0
AUG 2020	14.79	44.92	98.06	3.04	0
SEP 2020	22.56	76.67	96.27	3.40	0
OCT 2020	24.01	76.77	95.42	3.20	0
NOV 2020	19.58	74.40	93.93	3.80	0
DEC 2020	18.65	77.19	93.84	4.14	0
Average	22.15	65.12	111.83		

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

Categories	m3
Oil Production	8,097
Water Production	23,816
Gas Production	0
Water Injection	40,887
Cumulative Oil	263,446
Cumulative Water	237,980
Cumulative Injection	487,634



Monthly Wellhead Pressure

All readings are in kPa

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
102.04-33-007-29W1.00	4,874	5,087	5,290	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,284
102.05-33-007-29W1.00	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131	7,131
102.07-28-007-29W1.00	6,568	6,567	6,563	6,565	6,565	6,566	6,568	6,585	6,985	6,568	6,571	6,569	6,603
102.12-28-007-29W1.00	6,561	6,566	6,569	6,571	6,570	6,563	6,566	6,561	6,567	6,570	6,568	6,568	6,567
102.12-32-007-29W1.00	6,442	6,434	6,565	6,565	6,566	6,568	6,570	6,589	6,946	6,476	6,566	6,560	6,571
102.13-33-007-29W1.00	6,569	6,567	6,567	6,564	6,563	6,556	6,562	6,469	6,568	6,566	6,566	6,569	6,557
102.16-33-007-29W1.00	6,465	6,514	6,554	6,561	6,566	6,567	6,571	6,586	6,954	6,655	6,568	6,570	6,594
103.05-33-007-29W1.00	6,577	6,565	6,567	6,572	6,572	6,572	6,572	6,572	6,572	6,572	6,572	6,572	6,571
103.07-28-007-29W1.00	6,566	6,566	6,568	6,562	6,561	6,563	6,567	6,584	6,962	6,565	6,569	6,570	6,600

Monthly Injected Volumes

All Volumes are in m3

UWI	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
102.04-33-007-29W1.00	763	715	761	202									2,441
102.07-28-007-29W1.00	391	360	381	364	314	381	376	365	346	354	340	348	4,320
102.12-28-007-29W1.00	442	411	434	415	412	403	417	407	388	399	385	395	4,908
102.12-32-007-29W1.00	566	542	629	582	483	599	595	566	532	578	539	552	6,763
102.13-33-007-29W1.00	633	584	617	589	596	595	616	587	580	555	526	565	7,043
102.16-33-007-29W1.00	512	500	530	507	399	542	518	503	472	480	460	467	5,890
103.05-33-007-29W1.00	781	712	755	196									2,444
103.07-28-007-29W1.00	311	288	296	305	259	313	305	306	285	296	284	291	3,539
Grand Total	4,399	4,112	4,403	3,160	2,463	2,833	2,827	2,734	2,603	2,662	2,534	2,618	37,348

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	937	2,379	4,710	256,287	216,546	451,457	1.392	0.919
FEB 2020	869	2,113	4,400	257,156	218,659	455,857	1.446	0.923
MAR 2020	898	2,374	4,699	258,054	221,033	460,556	1.409	0.926
APR 2020	849	2,304	3,465	258,903	223,337	464,021	1.078	0.927
MAY 2020	735	1,875	2,722	259,638	225,212	466,743	1.022	0.927
JUN 2020	368	1,026	3,146	260,006	226,238	469,889	2.215	0.931
JUL 2020	395	1,048	3,132	260,401	227,286	473,021	2.129	0.935
AUG 2020	458	1,392	3,040	260,859	228,678	476,061	1.615	0.937
SEP 2020	677	2,300	2,888	261,536	230,978	478,949	0.955	0.937
OCT 2020	744	2,380	2,958	262,280	233,358	481,907	0.931	0.937
NOV 2020	588	2,232	2,818	262,868	235,590	484,725	0.985	0.937
DEC 2020	579	2,393	2,909	263,447	237,983	487,634	0.965	0.938

Workovers

UWI	Date	Description
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Well List

UWI	Type	Status
102.02-28-007-29W1.00	Vertical	Producing
100.03-28-007-29W1.00	Vertical	Producing
100.04-28-007-29W1.00	Vertical	Producing
100.05-28-007-29W1.00	Vertical	Producing
100.06-28-007-29W1.00	Vertical	Producing
100.07-28-007-29W1.00	Vertical	Producing
102.07-28-007-29W1.00	Horizontal	Injection
103.07-28-007-29W1.00	Horizontal	Injection
100.09-28-007-29W1.00	Vertical	Producing
100.10-28-007-29W1.00	Vertical	Producing
100.11-28-007-29W1.00	Vertical	Producing
102.11-28-007-29W1.00	Horizontal	Producing
100.12-28-007-29W1.00	Vertical	Producing
102.12-28-007-29W1.00	Horizontal	Injection
100.13-28-007-29W1.00	Vertical	Producing
100.14-28-007-29W1.00	Vertical	Producing
100.15-28-007-29W1.00	Vertical	Producing
100.16-28-007-29W1.00	Vertical	Producing
100.09-32-007-29W1.00	Vertical	Producing
100.10-32-007-29W1.00	Vertical	Producing
100.11-32-007-29W1.00	Vertical	Producing
100.12-32-007-29W1.00	Vertical	Producing
102.12-32-007-29W1.00	Horizontal	Injection
100.13-32-007-29W1.00	Vertical	Producing
100.14-32-007-29W1.00	Vertical	Producing
100.15-32-007-29W1.00	Vertical	Producing
100.16-32-007-29W1.00	Vertical	Producing
100.01-33-007-29W1.00	Vertical	Producing
100.02-33-007-29W1.00	Vertical	Producing
100.03-33-007-29W1.00	Vertical	Producing
100.04-33-007-29W1.00	Vertical	Producing
102.04-33-007-29W1.00	Horizontal	Injection
100.05-33-007-29W1.00	Vertical	Producing
102.05-33-007-29W1.00	Horizontal	Injection
103.05-33-007-29W1.00	Horizontal	Injection
100.06-33-007-29W1.00	Vertical	Producing
100.07-33-007-29W1.00	Vertical	Producing
100.08-33-007-29W1.00	Vertical	Producing
100.09-33-007-29W1.00	Vertical	Producing
100.10-33-007-29W1.00	Vertical	Producing
100.11-33-007-29W1.00	Vertical	Producing
100.12-33-007-29W1.00	Vertical	Producing
100.13-33-007-29W1.00	Vertical	Producing

UWI	Type	Status
102.13-33-007-29W1.00	Horizontal	Injection
100.14-33-007-29W1.00	Vertical	Producing
100.15-33-007-29W1.00	Vertical	Producing
100.16-33-007-29W1.00	Vertical	Producing
102.16-33-007-29W1.00	Horizontal	Injection