



Jody Crawford
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February 22, 2021

Bonnie Bergsma
Sahtu Land and Water Board
P.O. Box 1
Fort Good Hope, NT
X0E 0H0

**Re: Monthly Water Use Report for January 2021
Water Licence S13L1-007, Annex A, Part D, Condition 1
Imperial Oil Resources N.W.T. Limited (Imperial)**

Dear Ms. Bergsma,

Imperial is submitting this report as per Water Licence S13L1-007, Annex A, Part D, Condition 1. Water licence requirements were met for the month of January.

If you require further information please contact Christine Wickens at 587-476-5007 or christine.a.wickens@exxonmobil.com.

Sincerely,

A handwritten signature in blue ink that reads "C Wickens".

Christine Wickens
Environment and Regulatory Advisor
Imperial

cc: D.Penney, CIRNAC, Yellowknife

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF DAILY VOLUMES
January 2021

Date	VOLUMES (m ³)					TEMP (C)		CHLORINE (mg/L)
	S13L1-007-1 CPF Intake Water	S13L1-007-2 CPF Effluent Water	Fresh Water Injection	Produced Water Injection	Total Water Injection	S13L1-007-1 CPF Intake Water	S13L1-007-2 CPF Effluent	S13L1-007-2 CPF Effluent Water
1	5000	2949	2051	4934	6986	2.5	5.8	0.01
2	5001	2948	2053	5180	7233	2.8	5.3	0.01
3	5001	2948	2052	5087	7140	2.7	5.7	0.01
4	5000	2955	2045	4944	6990	2.7	5.2	0.01
5	5000	2961	2040	4993	7033	2.5	6.3	0.01
6	5001	2966	2035	4994	7028	2.7	6.7	0.02
7	5001	2960	2040	4980	7021	2.6	7.6	0.01
8	5000	2958	2042	4961	7003	2.6	7.9	0.01
9	5001	2973	2027	4982	7009	2.6	8.1	0
10	5000	2966	2034	5082	7116	2.6	7.7	0.03
11	5001	2971	2029	5205	7234	2.6	7.7	0.01
12	5001	2957	2044	5159	7203	2.6	7.1	0.01
13	5001	2952	2049	4953	7002	2.5	6.7	0.01
14	5000	2951	2049	5056	7105	2.7	7.1	0.04
15	5001	2947	2054	5283	7337	2.5	7.1	0
16	5000	2937	2063	5303	7366	2.7	7.1	0
17	5001	2935	2065	5268	7333	2.7	6.7	0
18	5001	2916	2084	5289	7373	2.6	6.5	0.01
19	5001	2908	2093	5363	7456	2.6	6.1	0
20	5001	2863	2138	5420	7558	2.5	6.8	0.03
21	5000	2856	2144	5418	7562	2.7	8.3	0.02
22	5001	2839	2161	5359	7521	2.8	7.1	0.01
23	5001	2819	2182	5231	7412	2.7	6.0	0.01
24	5001	2858	2142	5357	7499	2.7	6.7	0.01
25	5000	2852	2149	5662	7811	2.7	6.5	0.01
26	5001	2886	2114	5483	7598	2.9	6.2	0.01
27	5001	2919	2082	5316	7397	2.7	5.7	0.01
28	5000	2915	2086	5543	7629	3.0	5.9	0.01
29	5001	2903	2098	5496	7594	2.5	5.9	0.01
30	5000	2893	2107	5354	7462	2.8	7.3	0.01
31	5001	2890	2111	5452	7563	2.9	7.4	0
TOTAL	155,016	90,551	64,465	162,107	226,572			
AVG	5,001	2,921	2,080	5,229	7,309	2.7	6.7	0.01
HIGH	5,001	2,973	2,182	5,662	7,811			

*Chloine injection non-opeartionaal from Jan

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF MONTHLY VOLUMES SUMMARY
January 2021

Water Injection Volumes (m³)

Total fresh water injected	64,465	
Total produced water injected	162,107	
Total Monthly	226,572	Total Injected

CPF Water Volumes (m³)

Total CPF intake water S13L1-007-01	155,016	
Total CPF effluent water S13L1-007-02	90,551	
Highest daily water intake S13L1-007-01	5,001	Max. Allow. 16,000 m3/day.
YTD water intake S13L1-007	155,016	Max. Allow. 3,500,000 m3/yr.

Alternate Water Usage Volumes (m³)

Alternate surface water usage	0
YTD Alternate surface water usage	0

Surface Runoff Water Release Volumes (m³)

Refinery Impound Basin	0
LT 11 Impound Basin	0
Refinery Water flood Basin	0
CPF Impound Basin	0
Misc. Mainland Impound Areas	0
Misc. Bear Island Impound Areas	0
Misc. Goose Island Impound Areas	0
Total - YTD Surface Runoff	0

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-1
QUARTERLY CPF WATER INLET DATA
January 2021

SNP S13L1-007-1 (Intake Water)					
Parameter	Q1 2021 (mg/L)	Q2 2021 (mg/L)	Q3 2021 (mg/L)	Q4 2021 (mg/L)	YTD Avg. (mg/L)
pH	-	-	-	-	-
Phenols	-	-	-	-	-
Dissolved Sodium	-	-	-	-	-
Total Sodium	-	-	-	-	-
Dissolved Potassium	-	-	-	-	-
Total Potassium	-	-	-	-	-
Dissolved Sulphate	-	-	-	-	-
Dissolved Chloride	-	-	-	-	-
Dissolved Calcium	-	-	-	-	-
Total Calcium	-	-	-	-	-
Dissolved Magnesium	-	-	-	-	-
Total Magnesium	-	-	-	-	-
Total Alkalinity	-	-	-	-	-
Specific Conductivity	-	-	-	-	-
Total Suspended Solids	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-
Total Petroleum Hydrocarbons	-	-	-	-	-
Total Phosphorus	-	-	-	-	-
Total Hardness	-	-	-	-	-

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY CPF WATER EFFLUENT DATA
January 2021

SNP S13L1-007-2 (Effluent Water)					
Parameter	Q1 2021 (mg/L)	Q1 2021 (mg/L)	Q1 2021 (mg/L)	Q1 2021 (mg/L)	YTD Avg. (mg/L)
pH	-	-	-	-	-
Phenols	-	-	-	-	-
Dissolved Sodium	-	-	-	-	-
Total Sodium	-	-	-	-	-
Dissolved Potassium	-	-	-	-	-
Total Potassium	-	-	-	-	-
Dissolved Sulphate	-	-	-	-	-
Dissolved Chloride	-	-	-	-	-
Dissolved Calcium	-	-	-	-	-
Total Calcium	-	-	-	-	-
Dissolved Magnesium	-	-	-	-	-
Total Magnesium	-	-	-	-	-
Total Alkalinity	-	-	-	-	-
Specific Conductivity	-	-	-	-	-
Total Suspended Solids	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-
Total Petroleum Hydrocarbons	-	-	-	-	-
Total Phosphorus	-	-	-	-	-
Total Hardness	-	-	-	-	-

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY ACUTE LETHALITY
January 2021

SNP S13L1-007-2 (Effluent Water)		
Date	Rainbow Trout (% Survival)	Daphnia Magna (% Survival)
Licence Criteria	> 50% Survival	> 50% Survival
Q1	100%	100%
Q2	-	-
Q3	-	-
Q4	-	-

**IMPERIAL - NORMAN WELLS OPERATIONS
 WATER LICENCE S13L1-007
 SURFACE WATER RUNOFF RELEASE REPORT
 January 2021**

Discharge Where Contamination Suspected										
	Date	Start/ Middle/ End	Total Discharge Volume (m ³)	Total Petroleum Hydrocarbons (mg/L)	Phenols (mg/L)	Chlorides (mg/L)	pH	Total Suspended Solids (mg/L)	Total Dissolved Solids (mg/L)	Specific Conductivity (uS/cm)
Max Grab Sample Limit				5	0.14	<500	6.0-9.0			
Mainland Areas										
			0							
Misc. Mainland Impound Areas										
			0							

**IMPERIAL - NORMAN WELLS OPERATIONS
 WATER LICENCE S13L1-007
 SURFACE WATER RUNOFF RELEASE REPORT
 January 2021**

Discharge Where No Contamination Suspected					
	Date	Total Discharge Volume (m ³)	Chlorides (mg/L)	pH	Sheen Y/N
Sample Limits			< 500	6.0-9.0	N
Mainland					
		0			
Bear Island					
		0			
Goose Island					
		0			