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November 29, 2024

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

Re: Monthly Water Use Report for October 2024
Water Licence S13L1-007, Annex A, Part D, Condition 1
Imperial Oil Resources N.W.T. Limited (Imperial)

Dear Ms. Lippa,

Imperial is submitting this report as per Water Licence S13L1-007, Annex A, Part D, Condition 1. All water license conditions were met during the month of October.

If you require further information, please contact myself at 587-962-1131 or jaclyn.b.costley@esso.ca

Sincerely,

A handwritten signature in black ink, appearing to read "Jacki Costley".

Jacki Costley
Environment and Regulatory Advisor
Imperial

cc:

B. Bergsma SLWB
F. Youssef SLWB
M. Larose CIRNAC, Yellowknife

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF DAILY VOLUMES
October 2024

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 Water	S13L1-007-2 CPF Effluent Water
1	6,476	5,803	674	4,293	4,967	8.3	14.2	0.00
2	6,401	5,728	672	4,297	4,969	7.0	13.2	0.00
3	6,401	5,707	693	4,166	4,860	7.0	12.9	0.00
4	6,401	5,707	693	4,166	4,860	7.0	12.9	0.00
5	6,401	5,704	696	4,181	4,878	6.5	12.7	0.00
6	6,401	5,704	697	4,293	4,990	7.1	13.4	0.00
7	6,181	5,465	716	4,287	5,002	7.2	13.7	0.00
8	6,101	5,369	731	4,198	4,929	6.9	13.0	0.00
9	6,100	5,360	741	4,175	4,916	7.1	13.3	0.01
10	6,100	5,409	691	4,205	4,897	6.5	13.3	0.02
11	6,100	5,417	683	4,203	4,886	5.8	11.6	0.01
12	6,101	5,416	684	4,205	4,889	6.0	12.3	0.01
13	6,100	5,412	689	4,194	4,883	6.3	12.7	0.01
14	6,100	5,408	693	4,226	4,919	5.8	12.0	0.01
15	6,101	5,429	671	4,351	5,022	5.4	12.6	0.01
16	6,100	5,318	782	4,174	4,957	4.8	13.0	0.01
17	6,100	5,345	756	4,036	4,791	3.7	12.1	0.03
18	6,101	5,374	727	4,083	4,810	3.6	11.7	0.01
19	6,044	5,376	668	4,225	4,893	2.3	8.8	0.01
20	5,751	5,041	709	4,189	4,898	2.7	8.0	0.01
21	5,750	5,017	734	4,168	4,901	2.1	8.4	0.01
22	5,793	5,097	696	4,202	4,898	2.5	8.9	0.01
23	5,850	5,157	693	4,125	4,819	3.0	10.0	0.01
24	5,997	5,324	673	4,091	4,765	2.4	10.6	0.01
25	6,000	5,301	700	4,149	4,849	2.6	11.2	0.00
26	6,000	5,298	702	4,191	4,893	2.2	10.0	0.03
27	6,000	5,292	708	4,251	4,959	2.4	9.3	0.02
28	5,974	5,263	711	4,251	4,962	2.0	10.1	0.01
29	5,801	5,092	709	4,210	4,918	2.1	10.6	0.01
30	5,644	4,920	724	4,153	4,877	2.7	8.7	0.01
31	5,800	4,872	728	4,074	4,802	2.7	8.2	0.00
TOTAL	187,972	166,127	21,846	130,014	151,860			
AVG	6,064	5,359	705	4,194	4,899	4.6	11.4	0.01
HIGH	6,476	5,803	782	4,351	5,022	8.3	14.2	0.03

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF MONTHLY VOLUMES SUMMARY
October 2024

Water Injection Volumes (m³)

Total fresh water injected	21,846	
Total produced water injected	130,014	
Total Monthly	151,860	Total Injected

CPF Water Volumes (m³)

Total CPF intake water S13L1-007-01	187,972	
Total CPF effluent water S13L1-007-02	166,127	
Highest daily water intake S13L1-007-01	6,476	Max. Allow. 16,000 m ³ /day.
YTD water intake S13L1-007	1,863,204	Max. Allow. 3,500,000 m ³ /yr.

Alternate Water Usage Volumes (m³)

Alternate surface water usage	0
YTD Alternate surface water usage	0

YTD Surface Runoff Water Release Volumes (m³)

Refinery Impound Basin	2,976
LT 11 Impound Basin	0
Refinery Water flood Basin	0
CPF Impound Basin	1,860
Misc. Mainland Impound Areas	14
Misc. Bear Island Impound Areas	0
Misc. Goose Island Impound Areas	59
Total - YTD Surface Runoff	4,909

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-1
QUARTERLY CPF WATER INLET DATA
October 2024

SNP S13L1-007-1 (Intake Water)					
Parameter	Q1 2024 (mg/L)	Q2 2024 (mg/L)	Q3 2024 (mg/L)	Q4 2024 (mg/L)	YTD Avg. (mg/L)
pH	7.25	8.01	7.87		7.7
Phenols	<0.0015	<0.0015	<0.0015		<0.0015
Dissolved Sodium	9.2	8.0	11.0		9.4
Total Sodium	9.0	8.3	25.0		14.1
Dissolved Potassium	0.8	0.85	1.5		1.05
Total Potassium	0.8	1.3	2.6		1.6
Dissolved Sulphate	40	42	44		42.0
Dissolved Chloride	11	8.4	12		10.5
Dissolved Calcium	28	33	37		32.7
Total Calcium	28	39	74		47.0
Dissolved Magnesium	10	11	12		11.0
Total Magnesium	10	11	27		16.0
Total Alkalinity	83	110	110		101.0
Specific Conductivity	260	280	290		276.7
Total Suspended Solids	<1.0	24	63		29.3
Total Dissolved Solids	150	160	160		156.7
Total Petroleum	<2.0	<2.0	<2.0		<2.0
Total Phosphorus	<0.10	<0.10	0.50		0.2
Total Hardness	110	130	140		126.7

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY CPF WATER EFFLUENT DATA
October 2024

SNP S13L1-007-2 (Effluent Water)					
Parameter	Q1 2024 (mg/L)	Q2 2024 (mg/L)	Q3 2024 (mg/L)	Q4 2024 (mg/L)	YTD Avg. (mg/L)
pH	7.31	7.79	6.59		7.2
Phenols	<0.0015	<0.0015	0.0075		<0.0015
Dissolved Sodium	9.2	8.0	9.7		9.0
Total Sodium	8.9	8.2	9.7		8.9
Dissolved Potassium	0.79	0.82	0.9		0.84
Total Potassium	0.80	3.00	0.93		1.6
Dissolved Sulphate	39	42	48		43.0
Dissolved Chloride	12	8.6	11		10.5
Dissolved Calcium	28	33	32		31.0
Total Calcium	28	71	32		43.7
Dissolved Magnesium	11	11	11		11.0
Total Magnesium	10	21	11		14.0
Total Alkalinity	83	110	91		94.7
Specific Conductivity	260	280	290		277
Total Suspended Solids	<1.0	120	7.1		42.7
Total Dissolved Solids	150	160	170		160
Total Petroleum	<2.0	<2.0	<2.0		<2.0
Total Phosphorus	<0.1	<0.5	<0.1		0.2
Total Hardness	110	130	120		120.0

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY ACUTE LETHALITY
October 2024

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

**IMPERIAL - NORMAN WELLS OPERATIONS
 WATER LICENCE S13L1-007
 SURFACE WATER RUNOFF RELEASE REPORT
 October 2024**

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	N/A									
Misc. Mainland Impound Areas	N/A									

**IMPERIAL - NORMAN WELLS OPERATIONS
 WATER LICENCE S13L1-007
 SURFACE WATER RUNOFF RELEASE REPORT
 October 2024**

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	N/A				
Bear Island					
	N/A				
Goose Island					
	N/A				