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November 18, 2022

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

**Re: Monthly Water Use Report for October 2022
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. All water license conditions were met during the month of October.

If you require further information please contact myself at 587-476-2878 or benjamin.fraser@esso.ca.

Sincerely,

A handwritten signature in black ink, appearing to read "Benjamin Fraser".

Benjamin Fraser
Environment and Regulatory Advisor
Imperial

cc: T.Morton CIRNAC, Yellowknife

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF DAILY VOLUMES
October 2022

| 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 | 6,800 | 6,132 | 669 | 4,434 | 5,103 | 10.5 | 17.1 | 0.00 |
| 2 | 6,800 | 5,983 | 817 | 4,607 | 5,425 | 9.7 | 16.8 | 0.00 |
| 3 | 6,801 | 6,028 | 772 | 4,556 | 5,329 | 9.8 | 17.3 | 0.02 |
| 4 | 6,800 | 5,934 | 867 | 4,551 | 5,417 | 8.9 | 16.2 | 0.00 |
| 5 | 6,619 | 5,817 | 803 | 4,254 | 5,057 | 9.2 | 16.9 | 0.00 |
| 6 | 6,600 | 5,870 | 730 | 4,206 | 4,936 | 9.2 | 17.3 | 0.01 |
| 7 | 6,054 | 5,363 | 692 | 4,364 | 5,056 | 9.5 | 18.1 | 0.00 |
| 8 | 6,000 | 5,313 | 688 | 4,602 | 5,290 | 9.7 | 18.4 | 0.00 |
| 9 | 6,000 | 5,230 | 771 | 4,637 | 5,408 | 9.7 | 18.2 | 0.00 |
| 10 | 6,000 | 5,220 | 780 | 4,487 | 5,267 | 7.4 | 13.4 | 0.02 |
| 11 | 5,962 | 5,175 | 787 | 4,436 | 5,223 | 7.0 | 13.9 | 0.01 |
| 12 | 5,800 | 5,039 | 761 | 4,533 | 5,294 | 6.3 | 13.5 | 0.01 |
| 13 | 5,800 | 4,952 | 849 | 4,555 | 5,403 | 4.9 | 11.5 | 0.01 |
| 14 | 5,800 | 4,941 | 859 | 4,646 | 5,505 | 5.1 | 11.6 | 0.02 |
| 15 | 5,834 | 4,789 | 1,046 | 4,566 | 5,612 | 4.6 | 10.6 | 0.01 |
| 16 | 5,801 | 4,772 | 1,030 | 4,567 | 5,597 | 4.7 | 11.8 | 0.00 |
| 17 | 5,901 | 4,788 | 1,112 | 4,434 | 5,547 | 5.4 | 12.9 | 0.01 |
| 18 | 5,901 | 4,794 | 1,106 | 4,435 | 5,541 | 5.7 | 13.7 | 0.01 |
| 19 | 5,901 | 4,797 | 1,103 | 4,390 | 5,493 | 5.3 | 12.6 | 0.01 |
| 20 | 5,901 | 4,807 | 1,093 | 4,423 | 5,516 | 4.9 | 12.1 | 0.01 |
| 21 | 5,901 | 4,954 | 947 | 4,626 | 5,573 | 4.9 | 12.2 | 0.01 |
| 22 | 5,901 | 5,135 | 766 | 4,497 | 5,262 | 5.0 | 12.4 | 0.01 |
| 23 | 5,901 | 4,969 | 931 | 4,434 | 5,365 | 4.4 | 12.2 | 0.02 |
| 24 | 5,901 | 5,057 | 844 | 4,516 | 5,360 | 4.2 | 11.5 | 0.00 |
| 25 | 5,721 | 4,882 | 840 | 4,534 | 5,373 | 3.5 | 10.6 | 0.01 |
| 26 | 5,700 | 4,760 | 941 | 4,444 | 5,384 | 2.7 | 9.1 | 0.00 |
| 27 | 5,700 | 4,875 | 825 | 4,541 | 5,367 | 2.6 | 9.6 | 0.01 |
| 28 | 5,700 | 4,813 | 887 | 4,452 | 5,340 | 2.6 | 9.9 | 0.00 |
| 29 | 5,700 | 4,820 | 880 | 4,519 | 5,399 | 2.7 | 10.2 | 0.02 |
| 30 | 5,700 | 4,719 | 981 | 4,474 | 5,456 | 2.5 | 10.5 | 0.00 |
| 31 | 5,622 | 4,597 | 1,025 | 4,491 | 5,516 | 2.6 | 9.1 | 0.01 |
| TOTAL | 186,526 | 159,325 | 27,201 | 139,212 | 166,413 | | | |
| AVG | 6,017 | 5,140 | 877 | 4,491 | 5,368 | 6.0 | 13.3 | 0.01 |
| HIGH | 6,801 | 6,132 | 1,112 | 4,646 | 5,612 | 10.5 | 18.4 | 0.02 |

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007
CPF MONTHLY VOLUMES SUMMARY
October 2022

Water Injection Volumes (m³)

| | | |
|-------------------------------|----------------|----------------|
| Total fresh water injected | 27,201 | |
| Total produced water injected | 139,212 | |
| Total Monthly | 166,413 | Total Injected |

CPF Water Volumes (m³)

| | | |
|---|------------------|------------------------------|
| Total CPF intake water S13L1-007-01 | 186,526 | |
| Total CPF effluent water S13L1-007-02 | 159,325 | |
| Highest daily water intake S13L1-007-01 | 6,801 | Max. Allow. 16,000 m3/day. |
| YTD water intake S13L1-007 | 1,877,794 | Max. Allow. 3,500,000 m3/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 | 18,235 |
| LT 11 Impound Basin | 1,307 |
| Refinery Water flood Basin | 0 |
| CPF Impound Basin | 19,180 |
| Misc. Mainland Impound Areas | 1,733 |
| Misc. Bear Island Impound Areas | 0 |
| Misc. Goose Island Impound Areas | 19 |
| Total - YTD Surface Runoff | 40,474 |

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-1
QUARTERLY CPF WATER INLET DATA
October 2022

| SNP S13L1-007-1 (Intake Water) | | | | | |
|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------------------|
| Parameter | Q1 2022 (mg/L) | Q2 2022 (mg/L) | Q3 2022 (mg/L) | Q4 2022 (mg/L) | YTD Avg. (mg/L) |
| pH | 6.32 | 7.50 | 7.13 | | 6.98 |
| Phenols | <0.0015 | <0.0015 | <0.0015 | | <0.0015 |
| Dissolved Sodium | 8.6 | 6.2 | 8.8 | | 7.9 |
| Total Sodium | 8.2 | 6.5 | 8.8 | | 7.8 |
| Dissolved Potassium | 1.1 | 0.91 | 0.96 | | 0.99 |
| Total Potassium | 0.85 | 1.2 | 2.2 | | 1.42 |
| Dissolved Sulphate | 28 | 39 | 38 | | 35 |
| Dissolved Chloride | 10 | 4.6 | 9.8 | | 8.1 |
| Dissolved Calcium | 27 | 35 | 33 | | 31.7 |
| Total Calcium | 24 | 39 | 60 | | 41.0 |
| Dissolved Magnesium | 9.8 | 8.9 | 9.4 | | 9.4 |
| Total Magnesium | 8.5 | 9.2 | 18 | | 11.9 |
| Total Alkalinity | 44 | 93 | 85 | | 74.0 |
| Specific Conductivity | 240 | 270 | 280 | | 263.3 |
| Total Suspended Solids | <1.0 | 14 | 6.3 | | 7.1 |
| Total Dissolved Solids | 160 | 160 | 170 | | 163.3 |
| Total Petroleum | <2.0 | <2.0 | <2.0 | | <2.0 |
| Total Phosphorus | <0.1 | <0.1 | 0.33 | | 0.2 |
| Total Hardness | 110 | 120 | 120 | | 116.7 |

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY CPF WATER EFFLUENT DATA
October 2022

| SNP S13L1-007-2 (Effluent Water) | | | | | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|------------------------|
| Parameter | Q1 2022 (mg/L) | Q2 2022 (mg/L) | Q3 2022 (mg/L) | Q4 2022 (mg/L) | YTD Avg. (mg/L) |
| pH | 7.61 | 7.53 | 7.11 | | 7.42 |
| Phenols | <0.0015 | <0.0015 | <0.0015 | | <0.0015 |
| Dissolved Sodium | 8.6 | 6.8 | 9.1 | | 8.2 |
| Total Sodium | 8.5 | 6.6 | 9.1 | | 8.1 |
| Dissolved Potassium | 0.95 | 0.93 | 0.92 | | 0.93 |
| Total Potassium | 0.90 | 1.1 | 1.4 | | 1.1 |
| Dissolved Sulphate | 28 | 36 | 38 | | 34.0 |
| Dissolved Chloride | 9.9 | 7.2 | 11 | | 9.4 |
| Dissolved Calcium | 27 | 33 | 33 | | 31.0 |
| Total Calcium | 25 | 33 | 41 | | 33.0 |
| Dissolved Magnesium | 10 | 8.9 | 9.3 | | 9.4 |
| Total Magnesium | 8.8 | 9.0 | 11 | | 9.6 |
| Total Alkalinity | 75 | 86 | 91 | | 84.0 |
| Specific Conductivity | 240 | 260 | 270 | | 256.7 |
| Total Suspended Solids | <1.0 | 8 | 6 | | 4.9 |
| Total Dissolved Solids | 140 | 160 | 180 | | 160.0 |
| Total Petroleum | <2.0 | <2.0 | <2.0 | | <2.0 |
| Total Phosphorus | <0.1 | <0.1 | <0.1 | | <0.1 |
| Total Hardness | 110 | 120 | 120 | | 116.7 |

IMPERIAL - NORMAN WELLS OPERATIONS
WATER LICENCE S13L1-007-2
QUARTERLY ACUTE LETHALITY
October 2022

| 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 2022

| 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 2022

| 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 | | | | |