



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**22417 MAIN PROPULSION GEARBOX (S/N 12/240 379)**

Component  
**Gearbox**

Fluid  
**PETRO CANADA ENDURATEX EP 150 (400 LTR)**

## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## WEAR

All component wear rates are normal.

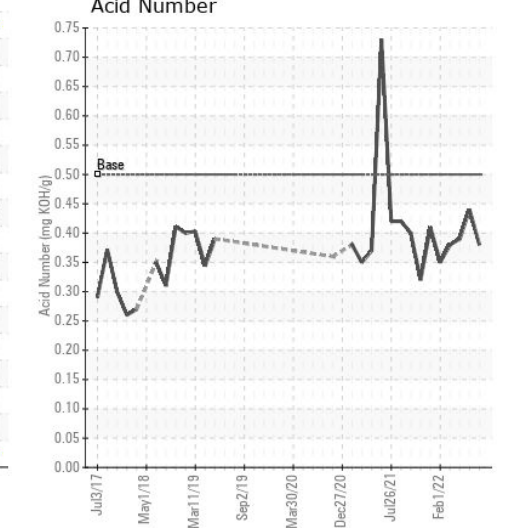
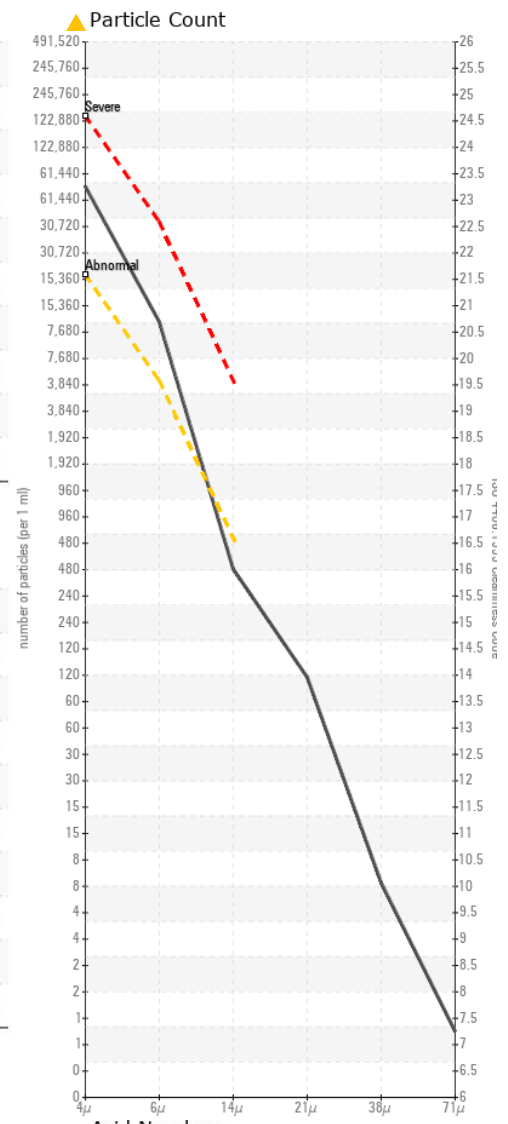
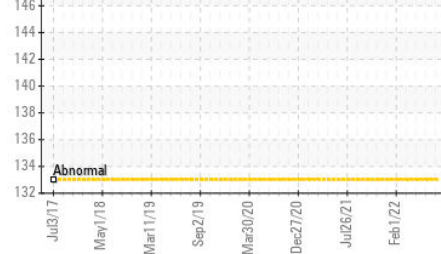
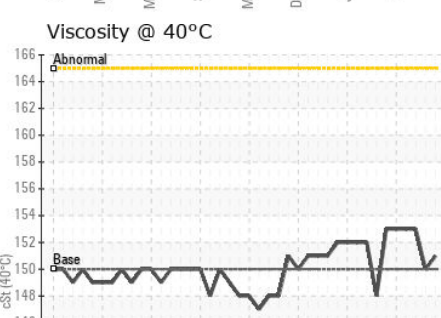
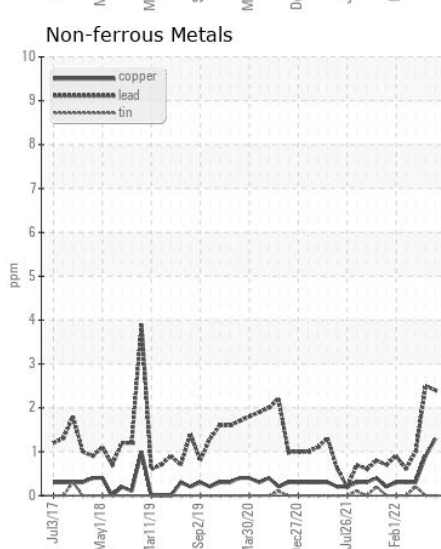
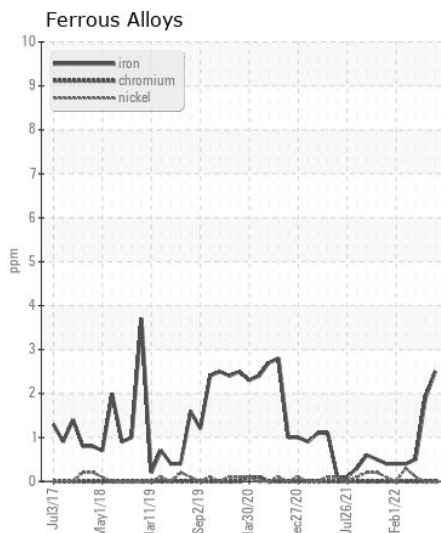
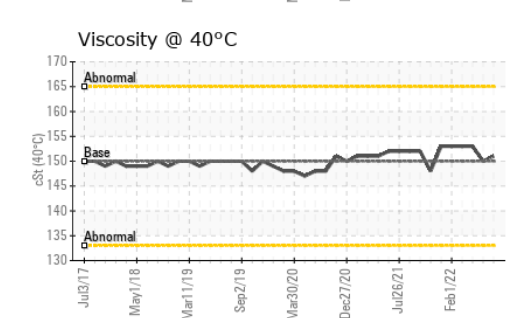
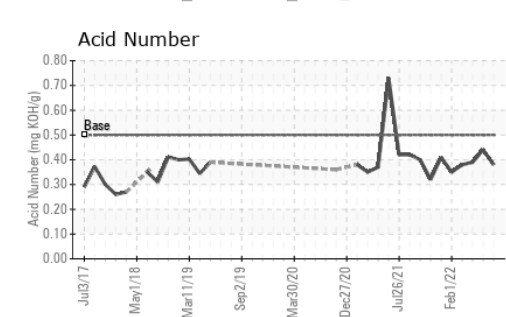
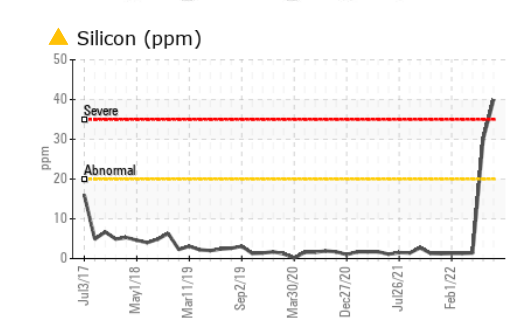
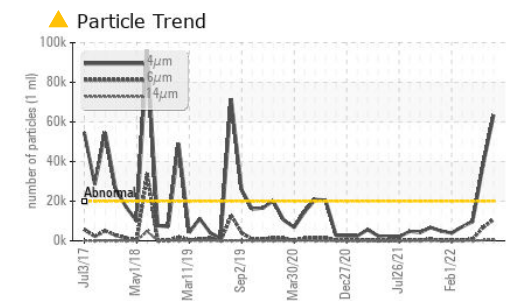
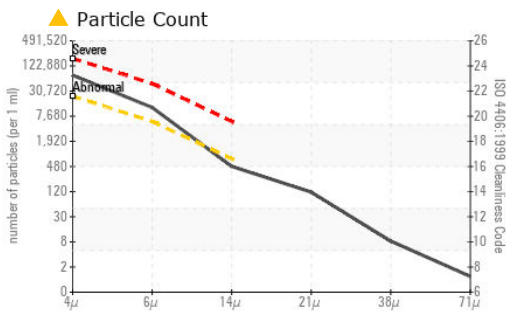
## CONTAMINATION

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate concentration of dirt present in the oil. Abnormal element levels due to process contamination.

## FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0867277	WC0668737	WC0668724
Sample Date		Client Info		02 Apr 2024	03 Feb 2024	28 Mar 2022
Machine Age	hrs	Client Info		500	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		500	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>150	2	2	<1
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>5	0	<1	0
Lead	ppm	ASTM D5185(m)	>65	2	2	1
Copper	ppm	ASTM D5185(m)	>80	1	<1	<1
Tin	ppm	ASTM D5185(m)	>8	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>20	▲ 40	▲ 30	1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 63509	● 38213	9730
Particles >6µm		ASTM D7647	>5000	▲ 10791	● 6796	749
Particles >14µm		ASTM D7647	>640	425	282	20
Particles >21µm		ASTM D7647	>160	103	68	5
Particles >38µm		ASTM D7647	>40	7	5	1
Particles >71µm		ASTM D7647	>10	1	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/21/16	● 22/20/15	20/17/11
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	VLITE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		9	10	<1
Boron	ppm	ASTM D5185(m)	55	49	50	61
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	2	2	2	1
Calcium	ppm	ASTM D5185(m)	6	3	2	2
Phosphorus	ppm	ASTM D5185(m)	250	233	247	259
Zinc	ppm	ASTM D5185(m)	3	4	3	3
Sulfur	ppm	ASTM D5185(m)	7500	4364	5304	4936
Acid Number (AN)	mg KOH/g	ASTM D974*	0.5	0.38	0.44	0.39
Visc @ 40°C	cSt	ASTM D7279(m)	150.0	151	150	153



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0867277  
**Lab Number** : 02628295  
**Unique Number** : 5761427  
**Test Package** : MAR 2  
**Received** : 11 Apr 2024  
**Tested** : 12 Apr 2024  
**Diagnosed** : 12 Apr 2024 - Kevin Marson

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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.