



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area

HPP

Machine Id

VESEL 5 PUMP 1 (S/N B47137)

Component

Hydraulic System

Fluid

PETRO CANADA PURITY FG AW HYDRAULIC 46 (90 GAL)

RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0947156	WC0929994	WC0802555
Sample Date		Client Info		26 Jun 2024	31 May 2024	03 May 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>40	0	0	0
Chromium	ppm	ASTM D5185m	>4	0	0	<1
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>4	0	0	0
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>60	0	0	0
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

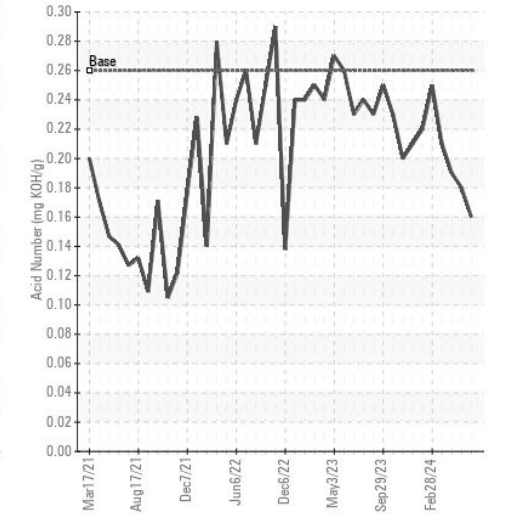
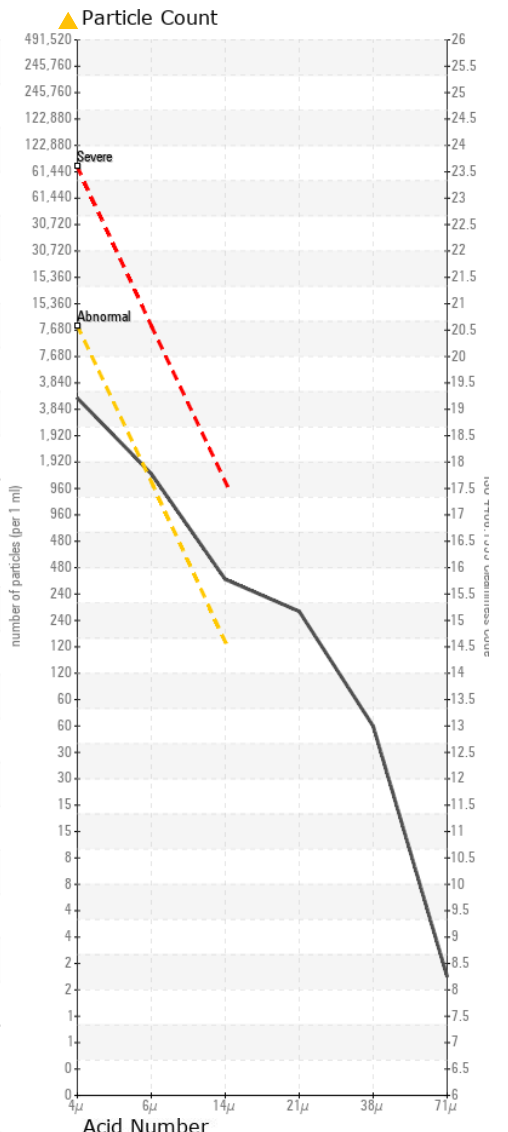
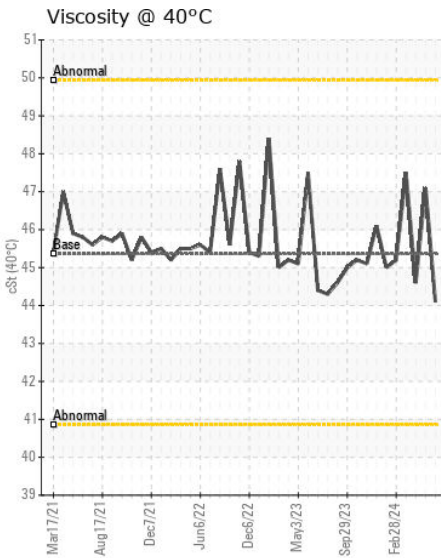
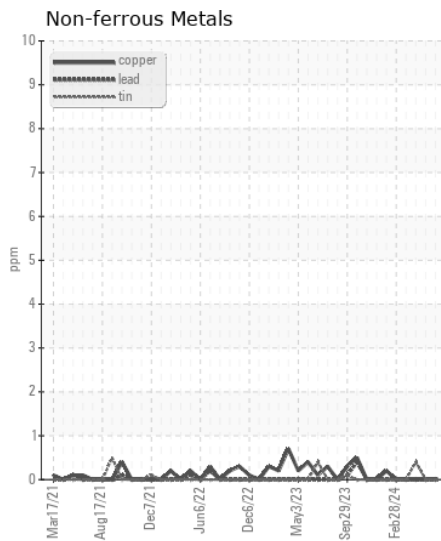
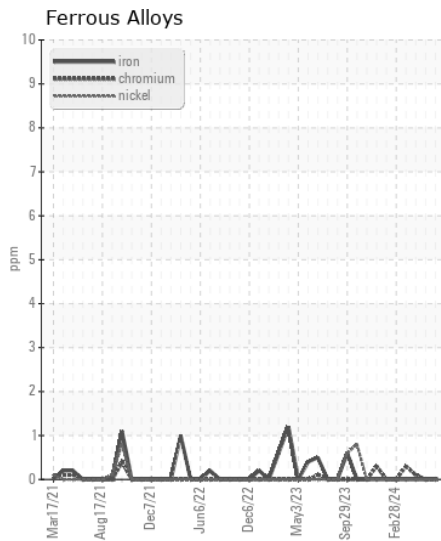
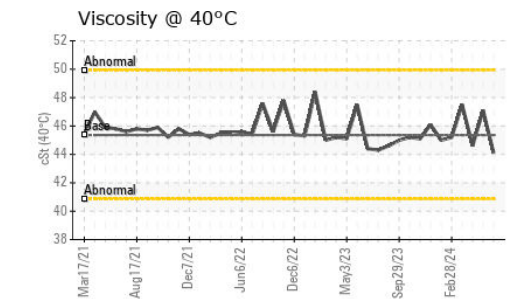
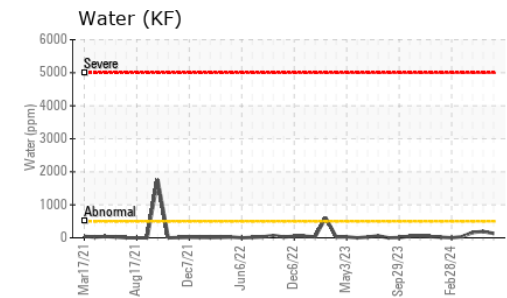
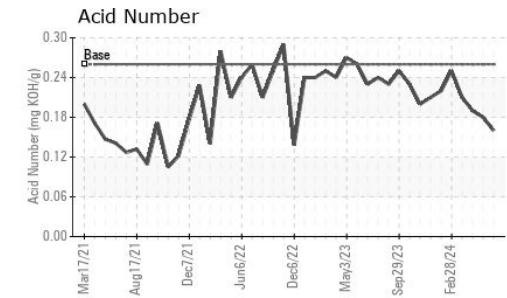
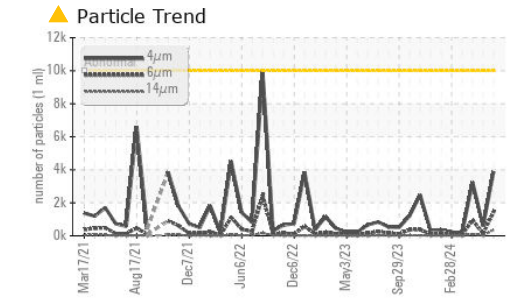
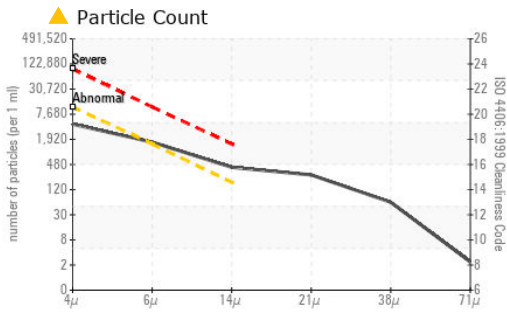
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Silicon	ppm	ASTM D5185m	>20	3	3	3
Potassium	ppm	ASTM D5185m	>20	0	2	0
Water	%	ASTM D6304	>0.05	0.013	0.019	0.016
ppm Water	ppm	ASTM D6304	>500	133	190	163
Particles >4µm		ASTM D7647	>10000	3878	594	3246
Particles >6µm		ASTM D7647	>1300	1441	136	954
Particles >14µm		ASTM D7647	>160	362	15	88
Particles >21µm		ASTM D7647	>40	238	4	24
Particles >38µm		ASTM D7647	>10	53	0	0
Particles >71µm		ASTM D7647	>3	2	0	0
Oil Cleanliness		ISO 4406 (c)	>20/17/14	19/18/16	16/14/11	19/17/14
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		<1	2	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		0	0	0
Calcium	ppm	ASTM D5185m		0	0	0
Phosphorus	ppm	ASTM D5185m		458	437	457
Zinc	ppm	ASTM D5185m		0	6	0
Sulfur	ppm	ASTM D5185m		594	578	482
Acid Number (AN)	mg KOH/g	ASTM D8045	0.26	0.16	0.18	0.19
Visc @ 40°C	cSt	ASTM D445	45.36	44.1	47.1	44.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0947156 **Received** : 03 Jul 2024
Lab Number : 06227404 **Tested** : 10 Jul 2024
Unique Number : 11110897 **Diagnosed** : 10 Jul 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KF)

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Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)