IND II LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	SEVERE

Machine Id
SKIMM P-12
Component
Hydraulic System
Fluid
PETRO CANADA TURBOFLO R&O 46 (--- GAL)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

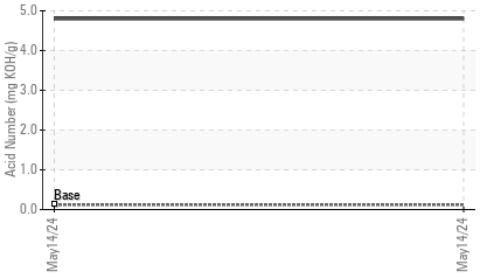
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

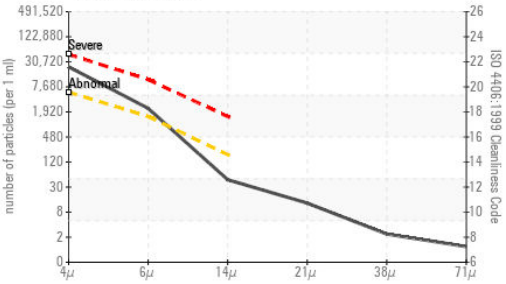
The oil viscosity is higher than normal. The high AN level of the oil indicates the presence of oxi-polymerized products. The AN level is much higher than the recommended limit. The viscosity of the oil is higher than normal, possibly indicating the addition of a heavier grade of oil. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC	---	---
Sample Date		Client Info		14 May 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---
Iron	ppm	ASTM D5185(m)	>20	4	---	---
Chromium	ppm	ASTM D5185(m)	>20	0	---	---
Nickel	ppm	ASTM D5185(m)	>20	0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	0	---	---
Lead	ppm	ASTM D5185(m)	>20	0	---	---
Copper	ppm	ASTM D5185(m)	>20	<1	---	---
Tin	ppm	ASTM D5185(m)	>20	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Silicon	ppm	ASTM D5185(m)	>15	0	---	---
Potassium	ppm	ASTM D5185(m)	>20	1	---	---
Water		WC Method	>0.05	NEG	---	---
Particles >4µm		ASTM D7647	>5000	▲ 20157	---	---
Particles >6µm		ASTM D7647	>1300	● 2044	---	---
Particles >14µm		ASTM D7647	>160	40	---	---
Particles >21µm		ASTM D7647	>40	11	---	---
Particles >38µm		ASTM D7647	>10	2	---	---
Particles >71µm		ASTM D7647	>3	1	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/18/12	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.05	NEG	---	---
Sodium	ppm	ASTM D5185(m)		<1	---	---
Boron	ppm	ASTM D5185(m)		<1	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		<1	---	---
Calcium	ppm	ASTM D5185(m)	0	<1	---	---
Phosphorus	ppm	ASTM D5185(m)	3	● 137	---	---
Zinc	ppm	ASTM D5185(m)	0	12	---	---
Sulfur	ppm	ASTM D5185(m)		● 1016	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.12	▲ 4.80	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	44.4	▲ 50.1	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	6.72	▲ 10.4	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	104	▲ 202	---	---

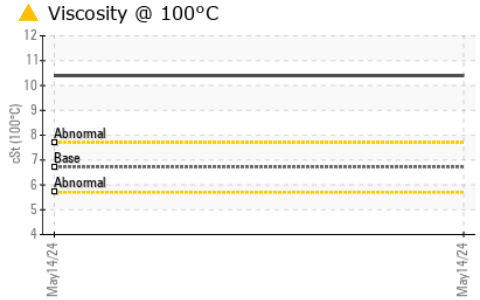
Acid Number



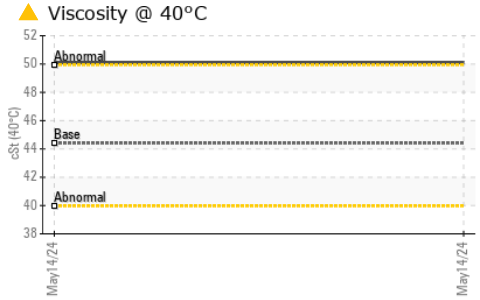
Particle Count



Viscosity @ 100°C

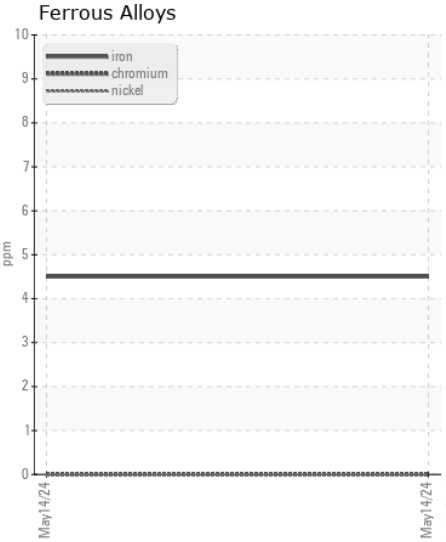


Viscosity @ 40°C

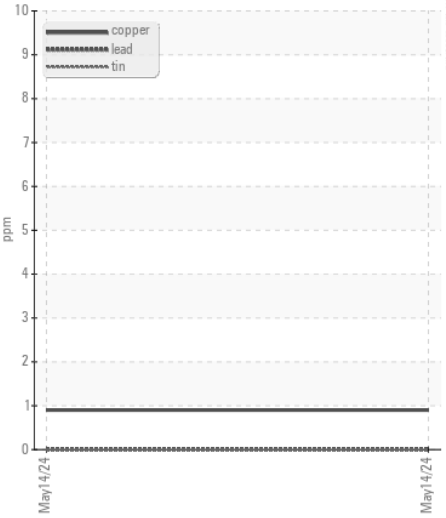


Particle Trend

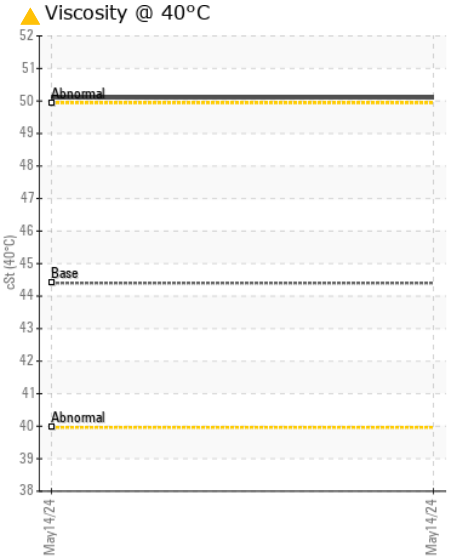
Ferrous Alloys



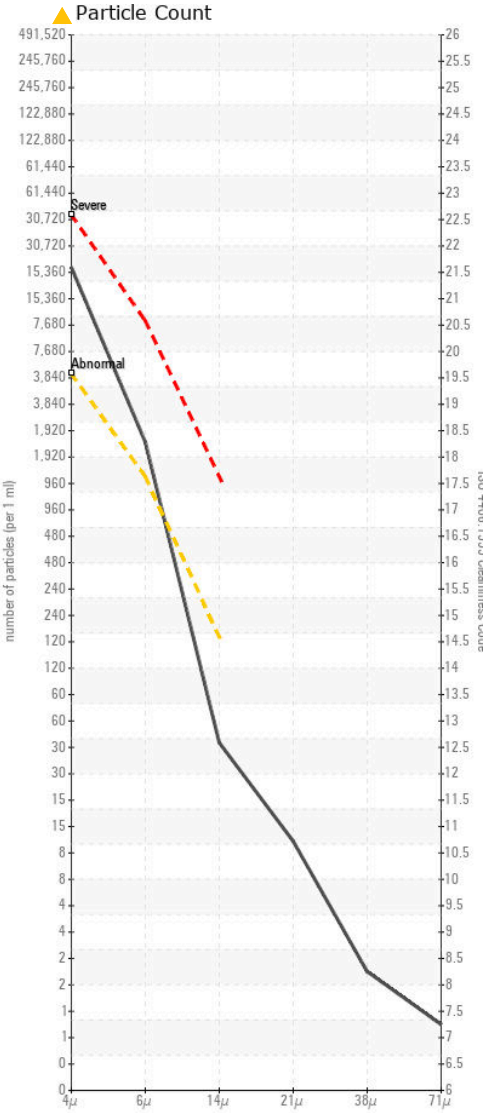
Non-ferrous Metals



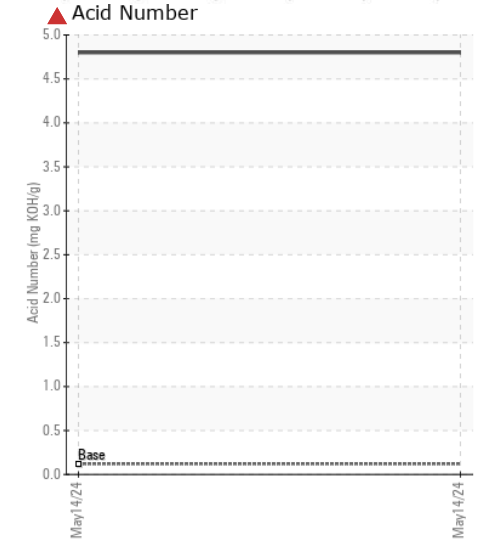
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Petro-Canada Technical/Behshad Sabah**
Sample No. : PC **Received** : 15 May 2024
Lab Number : 02635709 **Tested** : 21 May 2024 Mississauga, ON
Unique Number : 5776862 **Diagnosed** : 21 May 2024 - Kevin Marson CA L5J 1K2
Test Package : IND 2 (Additional Tests: KV100, TAN Man, VI) Contact: Behshad Sabah
Behshad.Sabah@hfsinclair.com
T: (905)716-2158
F: (905)403-6740

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.