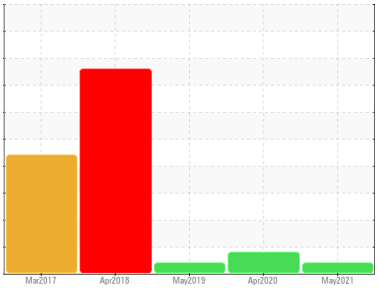
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
SPARTAN 4024
Component
Hydraulic System
Fluid
PETRO CANADA ATF D3M (9 LTR)

DIAGNOSIS

▲ Recommendation
The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0041410**	PC0026554	PC428730
Sample Date		Client Info		**20 May 2021**	16 Apr 2020	16 May 2019
Machine Age	hrs	Client Info		**869**	836	794
Oil Age	hrs	Client Info		**33**	43	53
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ATTENTION**	ABNORMAL	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>10	**0**	0	0
Nickel	ppm	ASTM D5185(m)		**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	<1	0
Lead	ppm	ASTM D5185(m)	>10	**<1**	<1	1
Copper	ppm	ASTM D5185(m)	>75	**3**	3	3
Tin	ppm	ASTM D5185(m)	>10	**<1**	<1	0
Antimony	ppm	ASTM D5185(m)		**<1**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

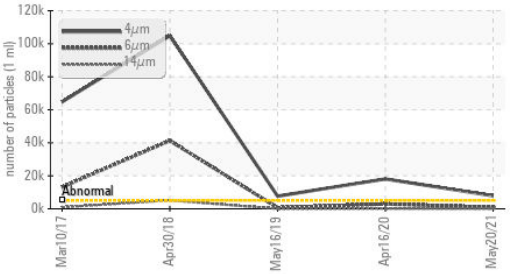
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	98	**115**	105	86
Barium	ppm	ASTM D5185(m)	<0.00	**<1**	<1	<1
Molybdenum	ppm	ASTM D5185(m)		**<1**	<1	<1
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	<1	**2**	2	4
Calcium	ppm	ASTM D5185(m)	70	**49**	54	71
Phosphorus	ppm	ASTM D5185(m)	220	**257**	241	205
Zinc	ppm	ASTM D5185(m)		**21**	20	26
Sulfur	ppm	ASTM D5185(m)	710	**865**	823	816
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**2**	2	1
Sodium	ppm	ASTM D5185(m)		**1**	0	1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

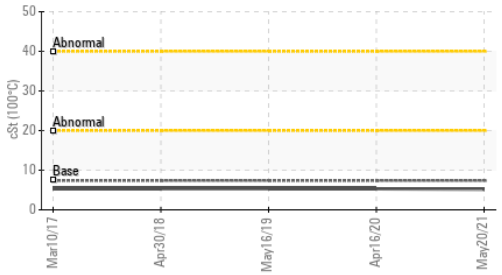
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **7898**	▲ 18092	▲ 7662
Particles >6µm		ASTM D7647	>1300	**915**	▲ 2922	657
Particles >14µm		ASTM D7647	>160	**44**	133	41
Particles >21µm		ASTM D7647	>40	**16**	34	11
Particles >38µm		ASTM D7647	>10	**3**	1	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **20/17/13**	▲ 21/19/14	▲ 20/17/13

OIL ANALYSIS REPORT

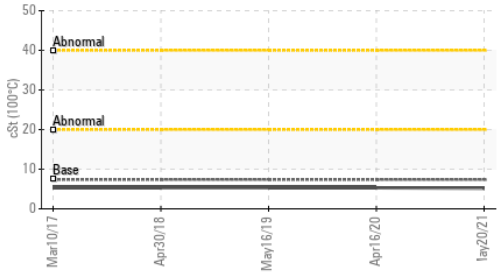
Particle Trend



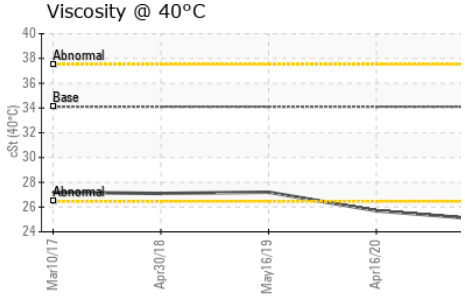
Viscosity @ 100°C



Viscosity @ 100°C

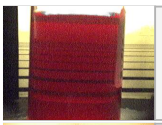


Viscosity @ 40°C



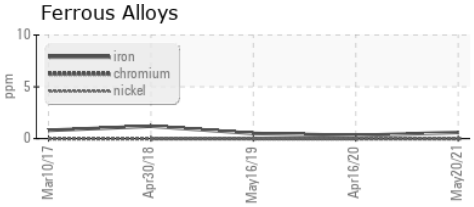
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	34.11	**25.0**	25.7	27.2
Visc @ 100°C	cSt	ASTM D7279(m)	7.37	**5.2**	5.3	5.3
Viscosity Index (VI)	Scale	ASTM D2270*	190	**144**	144	130

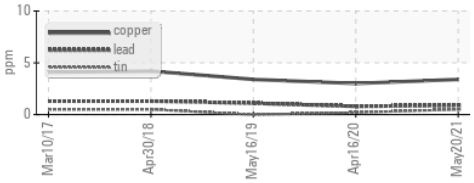
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	
Bottom				no image	

GRAPHS

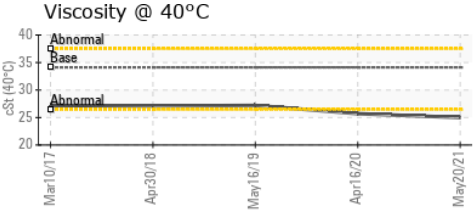
Ferrous Alloys



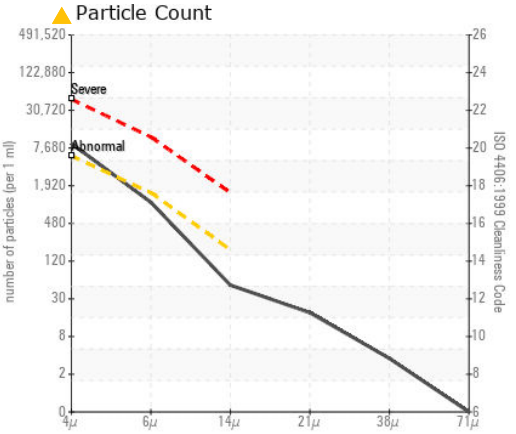
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0041410 **Received** : 25 May 2021
Lab Number : 02423254 **Diagnosed** : 26 May 2021
Unique Number : 5226754 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KV100, VI)

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.

City of Windsor
2885 Kew Drive
Windsor, ON
CA N8T 3B7
Contact: Brent Paisley
bpaisley@citywindsor.ca
T: (519)945-7395
F: (519)948-9095