



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**SPARTAN 4020**  
Component  
**Front Hydraulic System**  
Fluid  
**PETRO CANADA ATF D3M (14 LTR)**

## RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0895858</b>	WC0702354	PC0041711
Sample Date		Client Info		<b>01 May 2024</b>	20 Apr 2022	24 Feb 2021
Machine Age	hrs	Client Info		<b>920</b>	832	790
Oil Age	hrs	Client Info		<b>75</b>	75	23
Filter Age	hrs	Client Info		<b>75</b>	75	23
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	<b>6</b>	2	1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>75	<b>3</b>	3	2
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

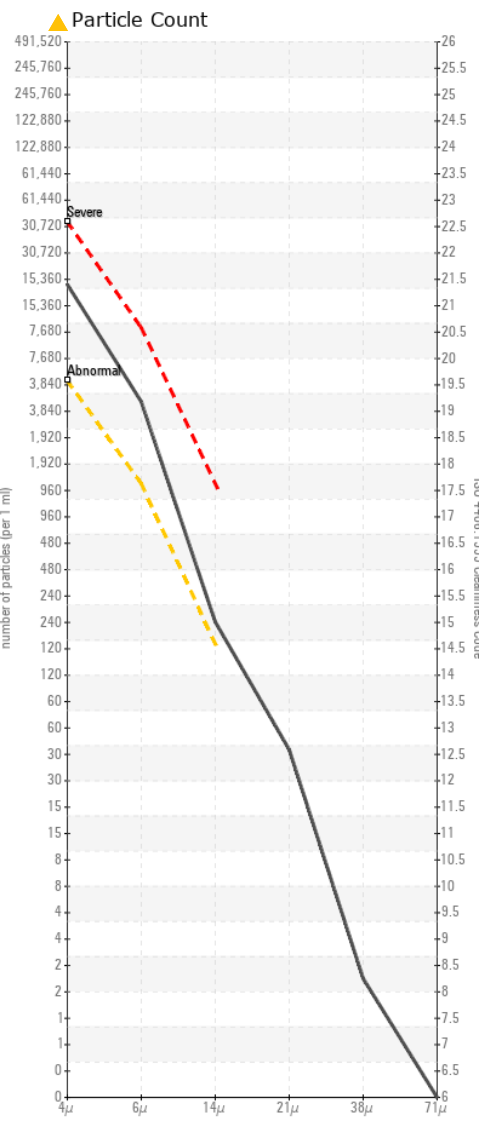
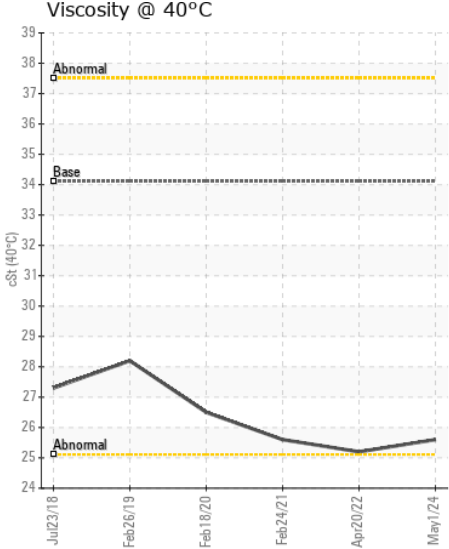
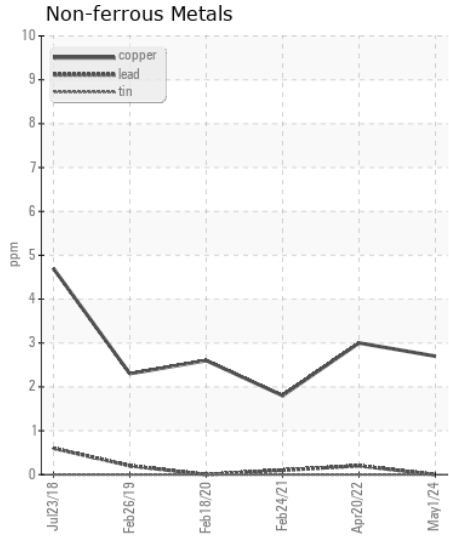
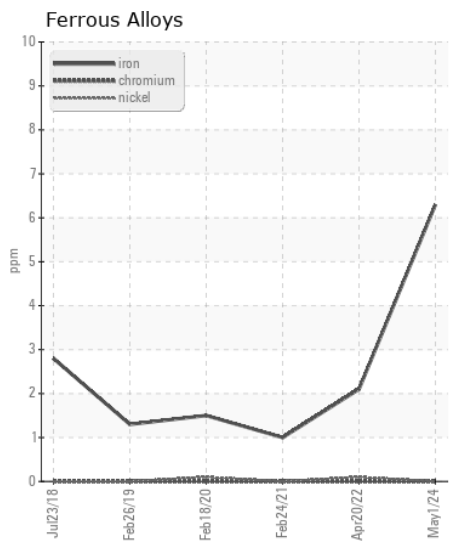
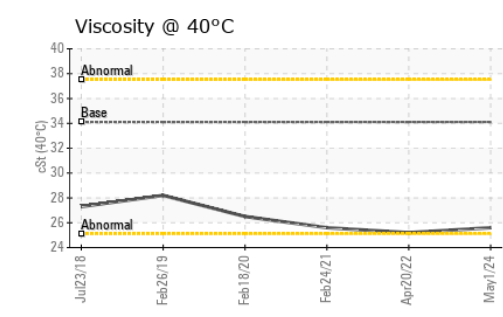
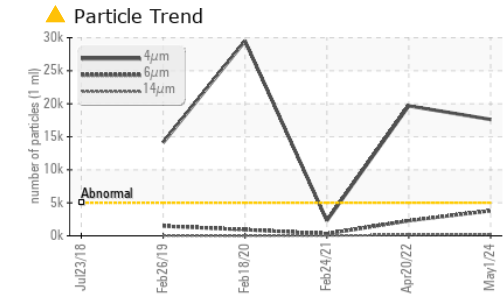
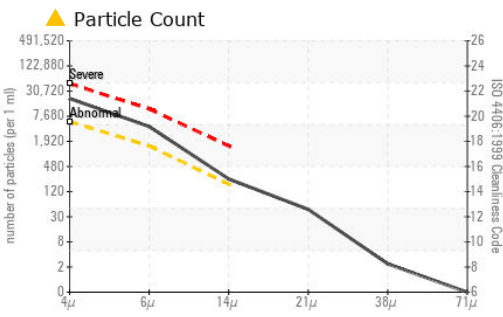
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	3	2
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>▲ 17615</b>	▲ 19681	2304
Particles >6µm		ASTM D7647	>1300	<b>▲ 3796</b>	● 2294	317
Particles >14µm		ASTM D7647	>160	<b>● 213</b>	138	34
Particles >21µm		ASTM D7647	>40	<b>40</b>	30	9
Particles >38µm		ASTM D7647	>10	<b>2</b>	2	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 21/19/15</b>	▲ 21/18/14	18/15/12
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Boron	ppm	ASTM D5185(m)	98	<b>109</b>	121	117
Barium	ppm	ASTM D5185(m)	<0.00	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<b>2</b>	2	2
Calcium	ppm	ASTM D5185(m)	70	<b>62</b>	47	46
Phosphorus	ppm	ASTM D5185(m)	220	<b>240</b>	268	246
Zinc	ppm	ASTM D5185(m)		<b>16</b>	14	10
Sulfur	ppm	ASTM D5185(m)	710	<b>733</b>	815	950
Visc @ 40°C	cSt	ASTM D7279(m)	34.11	<b>25.6</b>	25.2	25.6



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0895858 **Received** : 17 May 2024  
**Lab Number** : 02636385 **Tested** : 21 May 2024  
**Unique Number** : 5785547 **Diagnosed** : 21 May 2024 - Wes Davis  
**Test Package** : MOB 2

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.

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