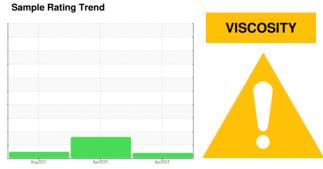


OIL ANALYSIS REPORT

RP-101 [10024147044] **B57006**

Component **Gearbox**

PETRO CANADA SYNDURO SHB ISO 460 (--- QTS)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

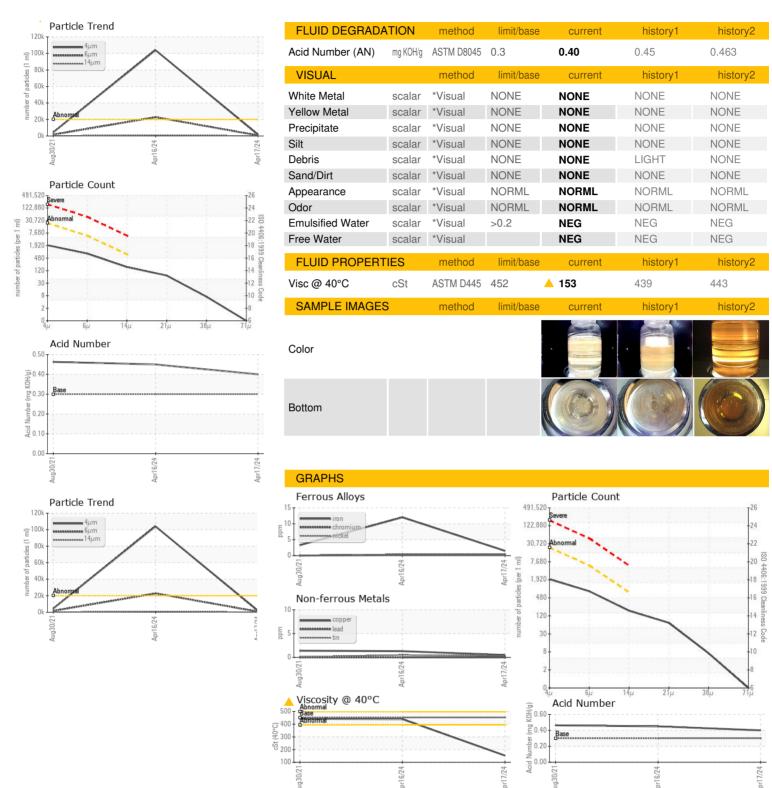
Fluid Condition

Viscosity of sample indicates oil is within ISO 150 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

Sample Number	Q13)		Auj	12021	Aprzuz4 Aprzu	27	
Sample Date Client Info 17 Apr 2024 16 Apr 2024 30 Aug 2021 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Cilient Info N/A N/A N/A N/A Sample Status Client Info N/A ANA N/A N/A CONTAMINATION method Imitibase Current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method Imitibase current history1 history2 Iron ppm ASTM D5185m >200 2 12 3 Iron ppm ASTM D5185m >15 <1	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date Client Info 17 Apr 2024 16 Apr 2024 30 Aug 2021 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info N/A N/A N/A N/A Oil Changed Client Info N/A ABNORMAL NORMAL NORMAL Contamina Medical Particles Current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >15 <1	Sample Number		Client Info		WC0923594	WC0907990	WC0593486
Oil Age Oil Changed hrs Client Info N/A PASTM D7647 Particles > 2µµµ ASTM D7647 ASTM D7647 ASTM D7647 N/A Particles > 3µµµµ N/A			Client Info		17 Apr 2024	16 Apr 2024	30 Aug 2021
Oil Changed Sample Status Client Info N/A Patrony N/A N/A N/A N/A N/A N/A N/A N/A Patrony Patrony Patrony Patrony Patrony Patrony Patrony N/A N/A N/A N/A N/A N/A N/A Patrony Patrony ASTM DST ASTM DST N/A	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 2 12 3 Chromium ppm ASTM D5185m >15 <1	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 2 12 3 Chromium ppm ASTM D5185m >15 <1	Sample Status				ABNORMAL	ABNORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 2 12 3 Chromium ppm ASTM D5185m >15 <1 <1 0 Nickel ppm ASTM D5185m >15 <1 <1 0 Titanium ppm ASTM D5185m >25 <2 2 0 Aluminum ppm ASTM D5185m >25 <2 2 0 Lead ppm ASTM D5185m >100 0 0 0 Copper ppm ASTM D5185m >200 <1 1 1 Tin ppm ASTM D5185m >25 <1 <1 <1 Antimony ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m <1 <1 <1 0 ADDITIVES method limit/base current history1<	CONTAMINATION	J	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium ppm ASTM D5185m >15 <1 <1 0 Nickel ppm ASTM D5185m >15 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	2	12	3
Titanium	Chromium	ppm	ASTM D5185m	>15	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>15	<1	<1	0
Aluminum ppm ASTM D5185m >2.25 2 2 0 Lead ppm ASTM D5185m >100 0 0 0 Copper ppm ASTM D5185m >200 <1	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead ppm ASTM D5185m >100 0 0 0 Copper ppm ASTM D5185m >200 <1 1 1 Tin ppm ASTM D5185m >25 <1 <1 <1 Antimony ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m <1 <1 0 0 Cadmium ppm ASTM D5185m <1 <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 5.0 0 0 0 0 Manganesium ppm ASTM D5185m 5.0 0 0 0 0 Calcium ppm ASTM D5185m 5.0	Silver	ppm	ASTM D5185m		0	0	<1
Copper ppm ASTM D5185m >200 <1 1 1 Tin ppm ASTM D5185m >25 <1	Aluminum	ppm	ASTM D5185m	>25	2	2	0
Tin ppm ASTM D5185m >25	Lead	ppm	ASTM D5185m	>100	0	0	0
Antimony ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>200			1
Vanadium ppm ASTM D5185m <1 <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 3 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>25	<1	<1	<1
Cadmium ppm ASTM D5185m <1 <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 3 Barium ppm ASTM D5185m 5.0 0 0 0 Molybdenum ppm ASTM D5185m 5.0 0 0 <1	Antimony	ppm	ASTM D5185m	>5			0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 3 Barium ppm ASTM D5185m 5.0 0 0 0 Molybdenum ppm ASTM D5185m 5.0 0 0 <1	Vanadium	ppm	ASTM D5185m		<1	<1	0
Boron	Cadmium	ppm	ASTM D5185m		<1	<1	0
Barium ppm ASTM D5185m 5.0 0 0 0 Molybdenum ppm ASTM D5185m <1 <1 0 Manganese ppm ASTM D5185m 5.0 <1 <1 0 Magnesium ppm ASTM D5185m 5.0 <1 <1 0 Calcium ppm ASTM D5185m 5.0 0 0 0 Phosphorus ppm ASTM D5185m 5.0 0 0 91 Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 2 11 Sodium ppm ASTM D5185m >20	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1 <1 0 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 5.0 <1 <1 0 Calcium ppm ASTM D5185m 5.0 0 0 0 0 Phosphorus ppm ASTM D5185m 60 286 100 91 Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >20000 1752 1039	Boron	ppm	ASTM D5185m		0	0	3
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 5.0 <1	Barium	ppm	ASTM D5185m	5.0	0	0	0
Magnesium ppm ASTM D5185m 5.0 <1 <1 0 Calcium ppm ASTM D5185m 5.0 0 0 0 Phosphorus ppm ASTM D5185m 5.0 0 0 91 Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 2 11 Sodium ppm ASTM D5185m >0 <1 0 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >20000 1752 103921 4369 Particles >6µm ASTM D7647 >	Molybdenum	ppm	ASTM D5185m		<1	<1	0
Calcium ppm ASTM D5185m 5.0 0 0 0 Phosphorus ppm ASTM D5185m 60 286 100 91 Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m >20 1 1 0 Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >20000 1752 △ 103921 4369 Particles >6µm ASTM D7647 >640 157 814 174 Particles >21µm ASTM D7647 >4	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus ppm ASTM D5185m 60 286 100 91 Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m >20 1 1 0 Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 1752 Δ 103921 4369 Particles >6μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >40	Magnesium	ppm	ASTM D5185m	5.0	<1	<1	0
Zinc ppm ASTM D5185m 5.0 0 0 5 Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 2 11 Sodium ppm ASTM D5185m >0 <1 0 Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 1752 103921 4369 Particles >6μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0 <td>Calcium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>5.0</td> <th>0</th> <td>0</td> <td>0</td>	Calcium	ppm	ASTM D5185m	5.0	0	0	0
Sulfur ppm ASTM D5185m 1900 1214 2278 2101 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m 0 <1	Phosphorus	ppm	ASTM D5185m	60	286	100	91
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m 0 <1	Zinc	ppm	ASTM D5185m	5.0	0	0	5
Silicon ppm ASTM D5185m >50 2 2 11 Sodium ppm ASTM D5185m 0 <1 0 Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >20000 1752 ▲ 103921 4369 Particles >6µm ASTM D7647 >5000 698 ▲ 22779 1628 Particles >14µm ASTM D7647 >640 157 814 174 Particles >21µm ASTM D7647 >160 62 201 43 Particles >38µm ASTM D7647 >40 6 10 1 Particles >71µm ASTM D7647 >10 0 0 0	Sulfur	ppm	ASTM D5185m	1900	1214	2278	2101
Sodium ppm ASTM D5185m 0 <1 0 Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 1752 Δ 103921 4369 Particles >6μm ASTM D7647 >5000 698 Δ 22779 1628 Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 1752 ▲ 103921 4369 Particles >6μm ASTM D7647 >5000 698 ▲ 22779 1628 Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0	Silicon	ppm	ASTM D5185m	>50	2	2	11
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 1752 Δ 103921 4369 Particles >6μm ASTM D7647 >5000 698 Δ 22779 1628 Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0	Sodium	ppm	ASTM D5185m		0	<1	0
Particles >4μm ASTM D7647 >20000 1752 Δ 103921 4369 Particles >6μm ASTM D7647 >5000 698 Δ 22779 1628 Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0	Potassium	ppm	ASTM D5185m	>20	1	1	0
Particles >6μm ASTM D7647 >5000 698 Δ 22779 1628 Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >640 157 814 174 Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0	Particles >4µm		ASTM D7647	>20000	1752	<u></u> 103921	4369
Particles >21μm ASTM D7647 >160 62 201 43 Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0	Particles >6µm		ASTM D7647	>5000	698	<u>^</u> 22779	1628
Particles >38μm ASTM D7647 >40 6 10 1 Particles >71μm ASTM D7647 >10 0 0 0	Particles >14µm		ASTM D7647	>640	157	814	174
Particles >71μm ASTM D7647 >10 0 0	Particles >21µm		ASTM D7647	>160	62	201	43
·	Particles >38µm			>40	6	10	1
	Particles >71µm		ASTM D7647	>10	0	0	0
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OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0923594 Lab Number : 06157669

Received **Tested** Unique Number : 10993092 Diagnosed

: 24 Apr 2024 : 25 Apr 2024 - Angela Borella Test Package : IND 2 (Additional Tests: PrtCount)

: 23 Apr 2024

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)

HORMEL FOODS - AUSTIN

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F: (507)437-9805 Contact/Location: RYAN LOWE - HORAUS