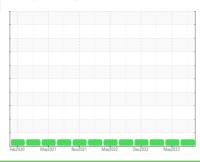


OIL ANALYSIS REPORT

STUFF Machine Id B44985 (S/N M11951-1)

Hydraulic System

PETRO CANADA PURITY FG HYDRAULIC AW 68 (--- GAL)



Sample Rating Trend



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

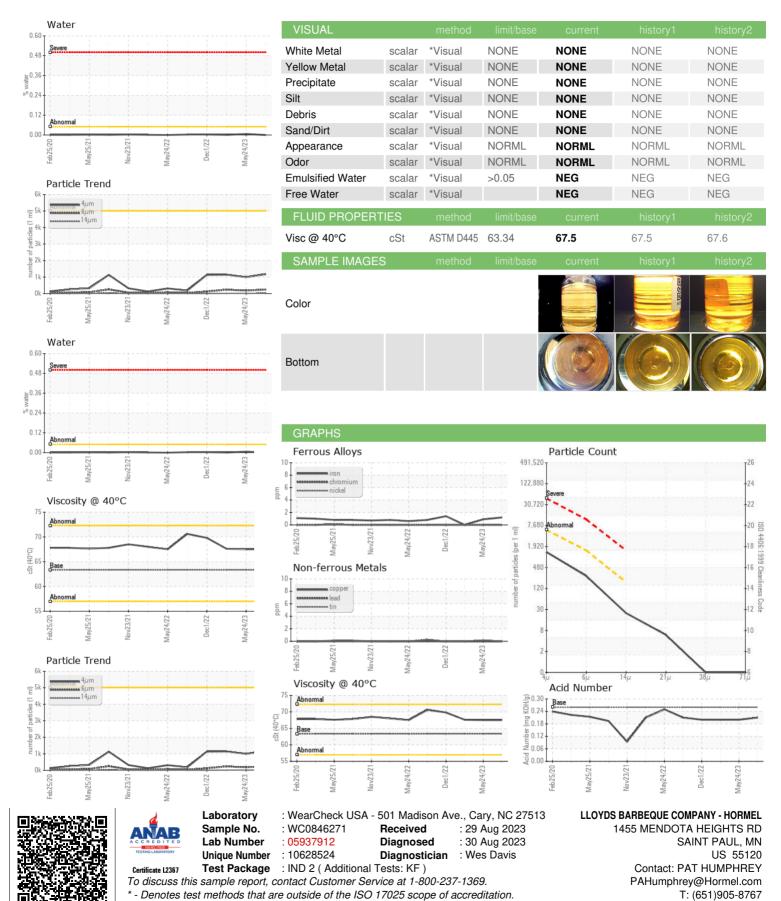
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 Sample Number Client Info WC0846271 WC0794802 Sample Date Client Info 25 Aug 2023 24 May 2023 Machine Age hrs Client Info 0 0 Oil Age hrs Client Info N/A Not Changd Oil Changed Client Info N/A Not Changd Sample Status NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1 Chromium ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >20 0 0 Copper ppm <td< th=""><th>history2 WC0762187 21 Feb 2023 0 0 Not Changd NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0 0 0</th></td<>	history2 WC0762187 21 Feb 2023 0 0 Not Changd NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Sample Date Client Info 25 Aug 2023 24 May 2023 Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A Not Changed Sample Status NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1 Chromium ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >20 <1 <1 Lead ppm ASTM D5185m >20 <0 0 Copper ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m 0 0	21 Feb 2023 0 0 Not Changd NORMAL history2 0 0 0 0 0 0
Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A Not Changd Sample Status NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1	0 0 Not Changd NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0
Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A Not Changd Sample Status NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1	0 Not Changd NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0
Oil Changed Sample Status Client Info N/A Not Changd WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1	Not Changd NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0 0
Sample Status method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1	NORMAL history2 0 0 0 0 0 0 0 0 0 0 0 0 0
WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >20 1 <1	history2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Iron ppm ASTM D5185m >20 1 <1 Chromium ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m >20 0 0 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 20 <1 <1 Aluminum ppm ASTM D5185m >20 <1 <1 Lead ppm ASTM D5185m >20 0 0 Copper ppm ASTM D5185m >20 0 0 Tin ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 <th< td=""><td>0 0 0 0 0 0 0</td></th<>	0 0 0 0 0 0 0
Chromium ppm ASTM D5185m >20 0 0 Nickel ppm ASTM D5185m >20 0 0 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >20 <1	0 0 0 0 0 0 0
Nickel ppm ASTM D5185m >20 0 0 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >20 <1	0 0 0 0 0 0
Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >20 <1 <1 Lead ppm ASTM D5185m >20 0 0 Copper ppm ASTM D5185m >20 0 0 Tin ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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Aluminum ppm ASTM D5185m >20 <1 <1 Lead ppm ASTM D5185m >20 0 0 Copper ppm ASTM D5185m >20 0 0 Tin ppm ASTM D5185m >20 0 <1	0 0 0 0 0 0
Lead ppm ASTM D5185m >20 0 0 Copper ppm ASTM D5185m >20 0 0 Tin ppm ASTM D5185m >20 0 <1	0 0 0
Copper ppm ASTM D5185m >20 0 0 Tin ppm ASTM D5185m >20 0 <1	0 0
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Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1	0
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1	
ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1	0
Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	
Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	history2
Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	0
Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	0
Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	0
Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	0
Phosphorus ppm ASTM D5185m 412 459 Zinc ppm ASTM D5185m 0 0	2
Zinc ppm ASTM D5185m 0 0	0
	406
Sulfur ppm ASTM D5185m 580 689	<1
	161
CONTAMINANTS method limit/base current history1	history2
Silicon ppm ASTM D5185m >15 4 4	3
Sodium ppm ASTM D5185m <1 <1	0
Potassium ppm ASTM D5185m >20 <1 <1	0
Water % ASTM D6304 >0.05 0.00 0.006	0.001
ppm Water ppm ASTM D6304 >500 0.00 65.7	9.4
FLUID CLEANLINESS method limit/base current history1	history2
Particles >4μm ASTM D7647 >5000 1172 991	1145
Particles >6μm ASTM D7647 >1300 241 180	233
Particles >14μm ASTM D7647 >160 21 14	
Particles >21μm ASTM D7647 >40 5 5	17
Particles >38μm ASTM D7647 >10 0 1	17 5
Particles >71μm	
Oil Cleanliness ISO 4406 (c) >19/17/14 17/15/12 17/15/11	5
FLUID DEGRADATION method limit/base current history1	5
Acid Number (AN) mg KOH/g ASTM D8045 0.26 0.21 0.20	5 0 0



OIL ANALYSIS REPORT



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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