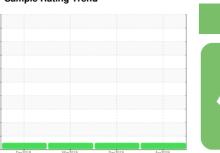


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

FSP133922 (S/N 1FVHCSCY6EHFA8753)

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

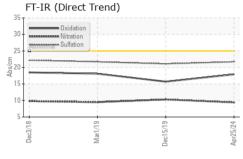
Fluid Condition

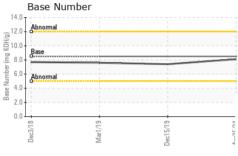
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

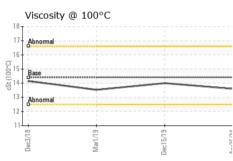
SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info WC0903100 WC0409152 WCMFC36953 Sample Date Client Info 25 Apr 2024 15 Dec 2019 01 Mar 2019 Machine Age mls Client Info 0 237835 205195 Oil Age mls Client Info 60000 10662 10000 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 <td< th=""></td<>
Sample Number Client Info WC0903100 WC0409152 WCMFC36953 Sample Date Client Info 25 Apr 2024 15 Dec 2019 01 Mar 2019 Machine Age mls Client Info 0 237835 205195 Oil Age mls Client Info 60000 10662 10000 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >2 <1
Sample Date Client Info 25 Apr 2024 15 Dec 2019 01 Mar 2019 Machine Age mls Client Info 0 237835 205195 Oil Age mls Client Info 60000 10662 10000 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Titanium ppm ASTM D5185m <21
Machine Age mls Client Info 0 237835 205195 Oil Age mls Client Info 60000 10662 10000 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m >2 <1 0 <1
Oil Age mls Client Info 60000 10662 10000 Oil Changed Client Info Changed Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
Oil Changed Sample Status Client Info Changed NORMAL NORMAL NEG
Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
Fuel WC Method >5 <1.0
Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 <1 Titanium ppm ASTM D5185m <1 1 <1
Iron ppm ASTM D5185m >80 22 12 11 Chromium ppm ASTM D5185m >5 2 <1
Chromium ppm ASTM D5185m >5 2 <1
Nickel ppm ASTM D5185m >2 <1
Titanium ppm ASTM D5185m <1
Silver ppm ASTM D5185m >3 0 0 0
The state of the s
Aluminum ppm ASTM D5185m >30 7 3 3
Lead ppm ASTM D5185m >30 1 1 <1
Copper ppm ASTM D5185m >150 2 1 1
Tin ppm ASTM D5185m >5 <1 0 0
Antimony ppm ASTM D5185m 0
Vanadium ppm ASTM D5185m <1
Cadmium ppm ASTM D5185m <1
ADDITIVES method limit/base current history1 history2
Boron ppm ASTM D5185m 250 4 23 48
Barium ppm ASTM D5185m 10 0 0 0
Molybdenum ppm ASTM D5185m 100 66 28 56
Manganese ppm ASTM D5185m <1 <1 <1
Magnesium ppm ASTM D5185m 450 575 266 406
Magnesium ppm ASTM D5185m 450 575 266 406 Calcium ppm ASTM D5185m 3000 1644 2224 2000
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072
Calcium ppm ASTM D5185m 3000 1644 2224 2000
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072
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Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3 Potassium ppm ASTM D5185m >20 9 0 4
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3 Potassium ppm ASTM D5185m >20 9 0 4 INFRA-RED method limit/base current history1 history2
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3 Potassium ppm ASTM D5185m >20 9 0 4 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.5 0.4
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3 Potassium ppm ASTM D5185m >20 9 0 4 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.5 0.4 Nitration Abs/cm *ASTM D7624 >20 9.4 10.3 9.5
Calcium ppm ASTM D5185m 3000 1644 2224 2000 Phosphorus ppm ASTM D5185m 1150 1245 997 1072 Zinc ppm ASTM D5185m 1350 1315 1199 1290 Sulfur ppm ASTM D5185m 4250 4086 2805 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 7 5 Sodium ppm ASTM D5185m >158 4 6 3 Potassium ppm ASTM D5185m >20 9 0 4 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.5 0.4 Nitration Abs/cm *ASTM D7415 >30 21.7 21.1 21.7



OIL ANALYSIS REPORT



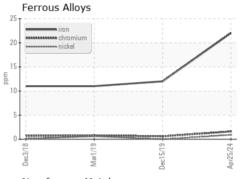


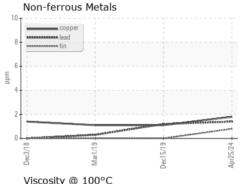


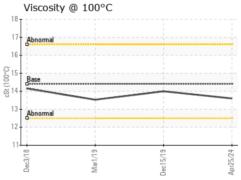
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

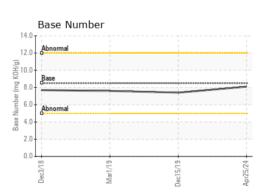
FLUID PROPER	TILO	memod			riistory i	History2
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	14.0	13.53

GRAPHS













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0903100 Lab Number : 06161103 Unique Number : 10996526 Test Package : FLEET

Received **Tested**

: 25 Apr 2024 : 29 Apr 2024

Diagnosed : 29 Apr 2024 - Wes Davis

FRESHPOINT 8801 EXCHANGE DRVIE ORLANDO, FL US 32809

Contact: CRAIG EVANS evans_craig@sbcglobal.net

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)

Report Id: FREORL [WUSCAR] 06161103 (Generated: 04/29/2024 10:16:27) Rev: 1

Contact/Location: CRAIG EVANS - FREORL

T:

F: