

OIL ANALYSIS REPORT

Sample Number

hrs

Sample Date

Machine Age

Area (44J6UM) 720023-310080 Component

Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

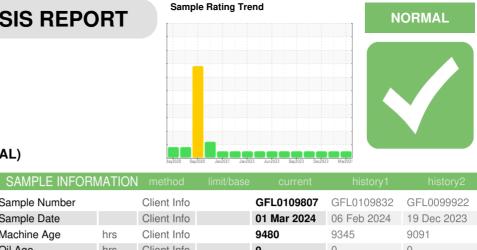
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

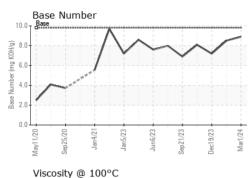
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

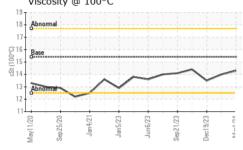


CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >20 <1 <1 <1 Nickel ppm ASTM 05185m >20 <1 <1 0 Titanium ppm ASTM 05185m >30 0 <1 0 Silver ppm ASTM 05185m >30 0 1 <1 <1 Tin ppm ASTM 05185m >30 0 1 <1 <1 Copper ppm ASTM 05185m >40 0 <1 <1 Copper ppm ASTM 05185m >30 0 <1 <	Oil Age	hrs	Client Info		0	0	0
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 0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >20 <1 <1 0 Titanium ppm ASTM D5185m >20 2 1 3 Lead ppm ASTM D5185m >30 0 0 0 Copper ppm ASTM D5185m >30 0 1 <1 Tin ppm ASTM D5185m 0 0 0 <10 Copper ppm ASTM D5185m 0 0 0 0 Cadmium </th <th>-</th> <th></th> <th>Client Info</th> <th></th> <th>v</th> <th>0</th> <th>Ũ</th>	-		Client Info		v	0	Ũ
Fuel WC Method >5 <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imil/base current history1 history2 Iron ppm ASTM D5185m >100 15 7 8 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 15 7 8 Chromium ppm ASTM D5185m >20 <1	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 15 7 8 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron ppm ASTM 05185m >100 15 7 8 Chromium ppm ASTM 05185m >20 <1	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >4 0 <1 0 Titanium ppm ASTM D5185m -3 0 0 0 Silver ppm ASTM D5185m >20 2 1 3 Lead ppm ASTM D5185m >40 0 <1	Iron	ppm	ASTM D5185m	>100	15	7	8
Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 3 Lead ppm ASTM D5185m >330 0 1 0 Copper ppm ASTM D5185m >330 0 1 <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 3 Lead ppm ASTM D5185m >330 0 1 <1 Copper ppm ASTM D5185m >330 0 1 <1 Tin ppm ASTM D5185m >15 <1 <1 <1 Vanadium ppm ASTM D5185m >15 <1 <1 <1 Qadmium ppm ASTM D5185m 0 0 0 <1 <1 ADD1TIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Magnessum ppm ASTM D5185m 0 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 928 917 820 Calcium ppm ASTM D5185m	Nickel	ppm	ASTM D5185m	>4	0	<1	0
Aluminum ppm ASTM D5185m >20 2 1 3 Lead ppm ASTM D5185m >40 0 <1	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >40 0 <1 0 Copper ppm ASTM D5185m >330 0 1 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 0 1 <1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	2	1	3
Tin ppm ASTM D5185m >15 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 <1	Lead	ppm	ASTM D5185m	>40	0	<1	0
Vanadium ppm ASTM D5185m 0 <1 <1 Cadmium ppm ASTM D5185m 0 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 10 7 10 Barium ppm ASTM D5185m 0 0 0 0 0 0 Maynese ppm ASTM D5185m 0 0 0 <1 <1 Magnese ppm ASTM D5185m 0 0 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 928 917 820 Calcium ppm ASTM D5185m 1070 1235 1144 1223 Phosphorus ppm ASTM D5185m 1570 1057 1012 988 Zinc ppm ASTM D5185m 1270 1326 3003 2180 Sulfur ppm	Copper	ppm	ASTM D5185m	>330	0	1	<1
Cadmium ppm ASTM D5185m 0 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 10 7 10 Barium ppm ASTM D5185m 0 0 0 0 0 Mayanese ppm ASTM D5185m 0 0 <1	Tin	ppm	ASTM D5185m	>15	<1	<1	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 10 7 10 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 57 60 56 Magnesium ppm ASTM D5185m 0 0 <1	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 10 7 10 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 60 57 60 56 Manganese ppm ASTM D5185m 0 0 -<1	Cadmium	ppm	ASTM D5185m		0	<1	<1
Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 60 57 60 56 Manganese ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 57 60 56 Manganese ppm ASTM D5185m 0 0 -1 <1	Boron	ppm	ASTM D5185m	0	10	7	10
Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 928 917 820 Calcium ppm ASTM D5185m 1070 1235 1144 1223 Phosphorus ppm ASTM D5185m 1070 1235 1144 1223 Phosphorus ppm ASTM D5185m 1150 1057 1012 988 Zinc ppm ASTM D5185m 1270 1226 1226 1180 Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 928 917 820 Calcium ppm ASTM D5185m 1070 1235 1144 1223 Phosphorus ppm ASTM D5185m 1150 1057 1012 988 Zinc ppm ASTM D5185m 1270 1226 1226 1180 Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/.mm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.mm *ASTM D741	Molybdenum	ppm	ASTM D5185m	60	57	60	56
Calcium ppm ASTM D5185m 1070 1235 1144 1223 Phosphorus ppm ASTM D5185m 1150 1057 1012 988 Zinc ppm ASTM D5185m 1270 1226 1226 1180 Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 225 3 4 4 Sodium ppm ASTM D5185m 226 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.tmm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method <	Manganese	ppm	ASTM D5185m	0	0	<1	<1
Phosphorus ppm ASTM D5185m 1150 1057 1012 988 Zinc ppm ASTM D5185m 1270 1226 1226 1180 Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.tmm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/ba	Magnesium	ppm	ASTM D5185m	1010	928	917	820
Zinc ppm ASTM D5185m 1270 1226 1226 1180 Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.imm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.imm *ASTM D7414 <td>Calcium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>1070</td> <th>1235</th> <td>1144</td> <td>1223</td>	Calcium	ppm	ASTM D5185m	1070	1235	1144	1223
Sulfur ppm ASTM D5185m 2060 3144 3125 3003 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >25 3 4 4 Potassium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.1mm *ASTM D7624 >20 8.6 6.7 9.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Phosphorus	ppm	ASTM D5185m	1150	1057	1012	988
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>25344SodiumppmASTM D5185m2402PotassiumppmASTM D5185m>20023INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>31.40.30.4NitrationAbs/cm*ASTM D7624>208.66.79.2SulfationAbs/.1mm*ASTM D7415>3021.518.719.9FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2515.514.517.9	Zinc	ppm	ASTM D5185m	1270	1226	1226	1180
Silicon ppm ASTM D5185m >25 3 4 4 Sodium ppm ASTM D5185m >20 24 0 2 Potassium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.tmm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 15.5 14.5 17.9	Sulfur	ppm	ASTM D5185m	2060	3144	3125	3003
Sodium ppm ASTM D5185m 24 0 2 Potassium ppm ASTM D5185m<>20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844<>3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624<>20 8.6 6.7 9.2 Sulfation Abs/.1mm *ASTM D7415<>30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414<>25 15.5 14.5 17.9	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Silicon	ppm	ASTM D5185m	>25	3	4	4
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.tmm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 15.5 14.5 17.9	Sodium	ppm	ASTM D5185m		24	0	2
Soot % % *ASTM D7844 >3 1.4 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Potassium	ppm	ASTM D5185m	>20	0	2	3
Nitration Abs/cm *ASTM D7624 >20 8.6 6.7 9.2 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.5 18.7 19.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Soot %	%	*ASTM D7844	>3	1.4	0.3	0.4
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Nitration		*ASTM D7624	>20	8.6	6.7	9.2
Oxidation Abs/.1mm *ASTM D7414 >25 15.5 14.5 17.9	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	18.7	19.9
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.9 8.5 7.2	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	14.5	17.9
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.9	8.5	7.2

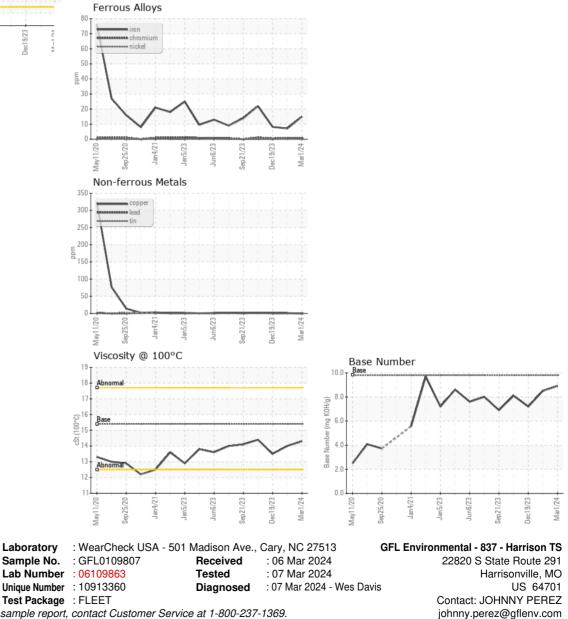


OIL ANALYSIS REPORT





VISUAL		method				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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.0	13.5
GRAPHS						





Test Package : FLEET Certificate L2367 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)