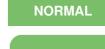


OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id **4669M** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

Machine AgemisClient Info1189751786417783Oil AgemisClient InfoO600600600Oil ChangedClient InfoNot ChangedChangedChangedChangedSample StatusImitbasecurrenthistory1history2FuelWC Method>5<1.0A.3.39.6WaterWC Method>0.2NEGNEGNEGGlycolWC Method>0.2NEGNEGNEGWEAR METALSmethodimitbasecurrenthistory1history2IronppmASTM 05185m>5<10<1NickelppmASTM 05185m>5<10<1NickelppmASTM 05185m>30000AluminumppmASTM 05185m>3000<1SilverppmASTM 05185m>5<1<1<1CopperppmASTM 05185m>5<1<1<1CadmiumppmASTM 05185m>5<1<1<1ParidutinumppmASTM 05185m000<1ASTM 05185m>5<1<1<1<1CadmiumppmASTM 05185m0000MagnasiumppmASTM 05185m000<1ASTM 05185m1010890886993<1<1CadmiumppmASTM 05185m <t< th=""><th>N SHP 15W40 (-</th><th> GAL)</th><th>Apr2022 J</th><th>ul2023 Sep2023 Dec</th><th>2023 Dec2023 Feb2024</th><th>Mar2024</th><th></th></t<>	N SHP 15W40 (-	GAL)	Apr2022 J	ul2023 Sep2023 Dec	2023 Dec2023 Feb2024	Mar2024	
Sample Date Client Info 15 Mar 2024 05 Mar 2024 26 Feb 2024 Machine Age mis Client Info 118975 17864 17783 Oil Age mis Client Info 0 600 600 600 Sample Status Client Info Not Changed Changed Changed Changed Changed Changed Changed Changed SEVERE CONTAMINATION method Imit/base current history1 history2 Fuel WC Method >5 <1.0 A 3.3 A 9.6 WEAR METALS method limit/base current history1 history2 fon ppm ASTM 05165m >80 5 <1 0 <1 fon ppm ASTM 05165m >30 0 0 <1 1 1 for ppm ASTM 05165m >30 0 0 <1 1 1 1 1 1 1 1 0 <t< th=""><th>SAMPLE INFOF</th><th>RMATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	SAMPLE INFOF	RMATION	method	limit/base	current	history1	history2
Machine Age mis Client Info 118975 17864 17783 Dil Aga mis Client Info 0 600 600 600 Sample Status Imit Dass Not Changed Changed Changed Severe CONTAMINATION method imit/bass current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0104438	GFL0104336	GFL0104331
Oil Age mis Client Info 0 600 600 Changed Sample Status Client Info NorRMAL MARGINAL SEVERE CONTAMINATION meihod imilibase current history1 history2 Fuel WC Method >5 <1.0	Sample Date		Client Info		15 Mar 2024	05 Mar 2024	26 Feb 2024
Oil Changed Sample Status Client Info Not Changd NORMAL Changed MARGINAL Changed SEVERE CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5.5 <1.0	Machine Age	mls	Client Info		118975	17864	17783
Sample Status NORMAL MARGINAL SEVERE CONTAMINATION method imit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Age	mls	Client Info		0	600	600
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Not Changd	Changed	Changed
Fuel WC Method >5 <1.0 A 3.3 A 9.6 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 <1	Sample Status				NORMAL	MARGINAL	SEVERE
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imil/base current history1 history2 Iron ppm ASTM D5185m >80 5 3 9 Chromium ppm ASTM D5185m >5 <1	CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 5 3 9 Chromium ppm ASTM D5185m >5 <1	Fuel		WC Method	>5	<1.0	A 3.3	9 .6
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 5 3 9 Chromium ppm ASTM D5185m >5 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron ppm ASTM D5185m >80 5 3 9 Chromium ppm ASTM D5185m >5 <1	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >5 <1 0 <1 Nickel ppm ASTM D5185m >2 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 <1 <1 <1 Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >30 2 2 3 Lead ppm ASTM D5185m >30 0 0 <1	Iron	ppm	ASTM D5185m	>80	5	3	9
Titanium ppm ASTM D5185m <1 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 2 2 3 Lead ppm ASTM D5185m >150 <1	Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 2 2 3 Lead ppm ASTM D5185m >30 0 0 <11 Copper ppm ASTM D5185m >5 <1 <1 <1 Vanadium ppm ASTM D5185m >5 <1 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 <1 Cadmium ppm ASTM D5185m 0 1 1 2 33 Boron ppm ASTM D5185m 0 1 1 2 33 Barium ppm ASTM D5185m 0 0 0 0 0 0 Magnessum ppm ASTM D5185m 0 0 0 33 34 Calcium ppm ASTM D5185m 1010 890 886 993	Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum ppm ASTM D5185m >30 2 2 3 Lead ppm ASTM D5185m >30 0 0 <1	Titanium	ppm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >30 0 0 <11 Copper ppm ASTM D5185m >150 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >150 <1 0 0 Tin ppm ASTM D5185m >5 <1	Aluminum	ppm	ASTM D5185m	>30	2	2	3
Copper ppm ASTM D5185m >150 <1 0 0 Tin ppm ASTM D5185m >5 <1	Lead	ppm	ASTM D5185m	>30	0	0	<1
Tin ppm ASTM D5185m >5 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 1 1 2 Boron ppm ASTM D5185m 0 1 1 2 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Magnese ppm ASTM D5185m 0 0 0 <1	Copper		ASTM D5185m	>150	<1	0	0
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 1 2 Barium ppm ASTM D5185m 0 0 0 0 0 Magnese ppm ASTM D5185m 0 0 0 <1			ASTM D5185m	>5		<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 1 2 Barium ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 <11 1 2 Magnesium ppm ASTM D5185m 0 0 0 <11 1 2 Magnesium ppm ASTM D5185m 0 0 0 <11 <1 2 Calcium ppm ASTM D5185m 1010 890 886 993 Calcium ppm ASTM D5185m 1070 1008 920 1050 Phosphorus ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134	Vanadium		ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 1 1 2 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 57 52 53 Manganese ppm ASTM D5185m 0 0 <1	Cadmium				0	0	
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 57 52 53 Manganese ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 57 52 53 Manganese ppm ASTM D5185m 0 0 <1	Boron	ppm	ASTM D5185m	0	1	1	2
Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 890 886 993 Calcium ppm ASTM D5185m 1070 1008 920 1050 Phosphorus ppm ASTM D5185m 1150 968 1006 987 Zinc ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 3 3 Sodium ppm ASTM D5185m >20 4 3 3 Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 890 886 993 Calcium ppm ASTM D5185m 1070 1008 920 1050 Phosphorus ppm ASTM D5185m 1070 1008 920 1050 Phosphorus ppm ASTM D5185m 1150 968 1006 987 Zinc ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 3 3 Sodium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/.m *ASTM D745 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>60</td> <th>57</th> <td>52</td> <td>53</td>	Molybdenum	ppm	ASTM D5185m	60	57	52	53
Calcium ppm ASTM D5185m 1070 1008 920 1050 Phosphorus ppm ASTM D5185m 1150 968 1006 987 Zinc ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 4 3 3 Sodium ppm ASTM D5185m >20 4 3 3 Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/.mm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.imm *ASTM D7415	Manganese	ppm	ASTM D5185m	0	0	<1	<1
Phosphorus ppm ASTM D5185m 1150 968 1006 987 Zinc ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 3 3 Sodium ppm ASTM D5185m >20 4 3 3 Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.tmm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit	Magnesium	ppm	ASTM D5185m	1010	890	886	993
Zinc ppm ASTM D5185m 1270 1185 1204 1333 Sulfur ppm ASTM D5185m 2060 3150 3048 3134 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 3 3 Sodium ppm ASTM D5185m >20 4 3 3 Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.tmm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414	Calcium	ppm	ASTM D5185m	1070	1008	920	1050
SulfurppmASTM D5185m2060315030483134CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20433SodiumppmASTM D5185m>20423PotassiumppmASTM D5185m>20347INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.20.10.2NitrationAbs/cm*ASTM D7624>206.77.212.6SulfationAbs/lim*ASTM D7415>3018.218.522.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.lim*ASTM D7414>2514.816.125.5	Phosphorus	ppm	ASTM D5185m	1150	968	1006	987
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>20433SodiumppmASTM D5185m20423PotassiumppmASTM D5185m>20347INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.20.10.2NitrationAbs/cm*ASTM D7624>206.77.212.6SulfationAbs/.1mm*ASTM D7415>3018.218.522.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2514.816.125.5	Zinc	ppm	ASTM D5185m	1270	1185	1204	1333
Silicon ppm ASTM D5185m >20 4 3 3 Sodium ppm ASTM D5185m >20 4 2 3 Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.tmm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 14.8 16.1 25.5	Sulfur	ppm	ASTM D5185m	2060	3150	3048	3134
Sodium ppm ASTM D5185m 4 2 3 Potassium ppm ASTM D5185m<>20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844<>3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624<>20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415<>30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414<>25 14.8 16.1 25.5	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 4 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Silicon	ppm	ASTM D5185m	>20	4	3	3
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Sodium	ppm	ASTM D5185m		4	2	3
Soot % % *ASTM D7844 >3 0.2 0.1 0.2 Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Potassium	ppm	ASTM D5185m	>20	3	4	7
Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 6.7 7.2 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Soot %	%	*ASTM D7844	>3	0.2	0.1	0.2
Sulfation Abs/.1mm *ASTM D7415 >30 18.2 18.5 22.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Nitration	Abs/cm		>20		7.2	12.6
Oxidation Abs/.1mm *ASTM D7414 >25 14.8 16.1 25.5	Sulfation						
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	16.1	25.5
	Base Number (BN)	mg KOH/q	ASTM D2896	9.8	8.7	8.6	6.7

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

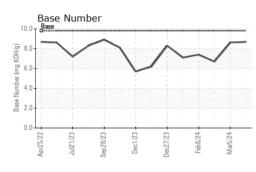
There is no indication of any contamination in the oil.

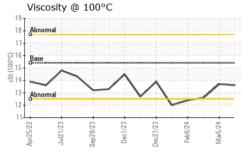
Fluid Condition

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

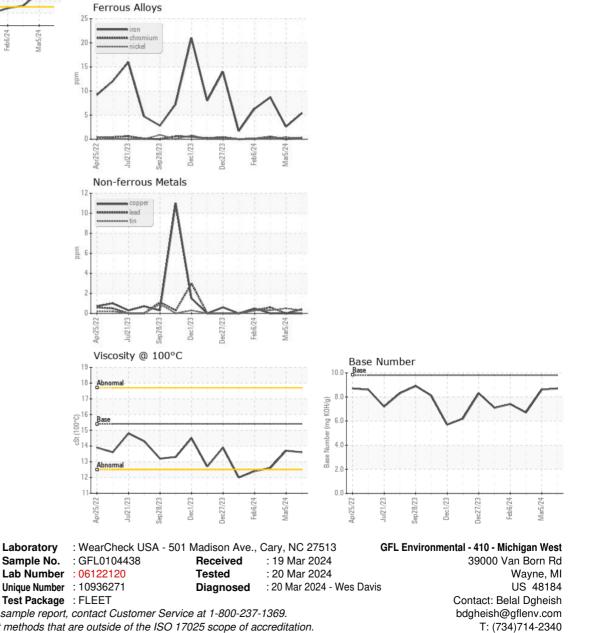


OIL ANALYSIS REPORT





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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.7	12.6
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)

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