

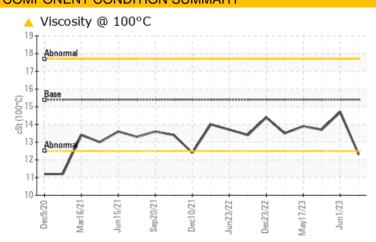
PROBLEM SUMMARY

Sample Rating Trend

PETRO CANADA DURON SHP 15W40 (--- GAL) COMPONENT CONDITION SUMMARY

Machine Id 911015 Component Diesel Engine

Fluid



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS							
Sample Status				ATTENTION	NORMAL	NORMAL	
Visc @ 100°C	cSt	ASTM D445	15.4	<u> </u>	14.7	13.7	

Customer Id: GFL657 Sample No.: GFL0058046 Lab Number: 05945441 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

RECOMMEND	ED ACTIONS	ACTIONS					
Action	Status	Date	Done By	Description			
Change Fluid			?	Oil and filter change at the time of sampling has been noted.			
Change Filter			?	Oil and filter change at the time of sampling has been noted.			

HISTORICAL DIAGNOSIS



01 Jun 2023 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.







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17 May 2023 Diag: Wes Davis





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view report

view report





OIL ANALYSIS REPORT

Sample Rating Trend

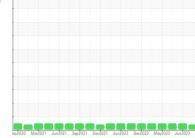




Machine Id 911015 Component

Diesel Engine Fluid

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



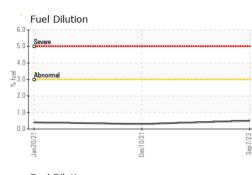


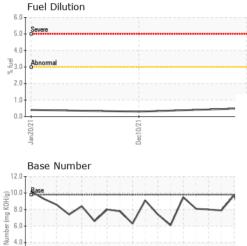
Necommendation Sample Number Client Info GPL0058046 GPL0070310 OpL002209 JUD 2020 JUD 2020 <thjud 2020<="" th=""> JUD 2020 JUD</thjud>	DIAGNOSIS	SAMPLE INFOR		method	limit/base	current	history1	history2
Oil and filter change at he time of samping has here noted. Resample at the next service interval to monior. Oil Ange Ins Client Info 6792 2023 01 Jun 2023 0.0 Jun 2023 War All component wear rates are normal. Oil Ange hrs< Client Info 360 0 0 Contamination Contamination in the oil. Samgle Status Client Info 360 NA NA Paid Contition Paid Status Client Info Samgle Status Current NEG NEG NEG Paid Contition CONTAMINATION method imitbase current Netory Netory Table of stacosity is lower than normal. The BN result indicates that there is sublabe akkalnity remaining inditates that there is sublabe akkalnity remaining indicates that th	A Recommendation					GFL0058046	GFL0070918	GFL0082509
bean noted. Resample at the next service interval. Wear All component wear rates are normal. Contamination read contain neighigble. There is no indication of read contain neighigble. There is no indication of the ison of read contain neighigble. There is no indication of the ison of read contain neighigble. The read contain of the ison of read contain neighigble. The read contain of the ison of read contain of the of read contain of the ison of th				Client Info		07 Sep 2023	01 Jun 2023	01 Jun 2023
In work of the set of t			hrs	Client Info		•		
Ware I company I company 	to monitor.	-		Client Info		360	0	0
All component wear rates are normal. Sample Status Image of the second of any contamination medication of any contamination in the oil. NORMAL NORMAL NORMAL NORMAL Pluid Contamination in the oil. Pluid Contamination in the oil. Gloyd WCM WEG WEG NEG NEG The oil viscesity is lower than normal. The BH result indicates that there is suitable alkalinity remaining in the oil. Contirm oil type. METHONS Seal of the second	Wear	-				Changed	N/A	N/A
Fuel content negligible. There is no indication of any contamination in the oil. CON TAMINA TION method imitbase current filtstory1 Metsory2 Puid Condition The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Ppm ASTM 05166m >120 6 2 7 Chromium ppm ASTM 05166m >20 0 <1	All component wear rates are normal.	Sample Status				-	NORMAL	NORMAL
any containation in the oil. Gigod WC Method NEG NEG NEG NEG I bedi viscosity is lower than normal. The BNr etail indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Imm mm MRHO MRHO G 2 7 Nickel pm ASTM 05886 >20 G 2 7 Nickel pm ASTM 05886 >20 G 1 3 Nickel pm ASTM 05886 >20 G 0 1 Nickel pm ASTM 05886 >20 G 0 1 Auminum pm ASTM 05886 >20 G 0 1 Lead pm ASTM 05886 >300 1 0 1 Vandum pm ASTM 05886 >3030 1 0 1 Vandum pm ASTM 05886 >3030 1 0 1 Vandum pm ASTM 05886 >3030 1 0 0 0 Vandum pm ASTM 05886 >400 2 6 6 Baron pm ASTM 05886 100 404 1010 10500 Mapaenee pm ASTM 05		CONTAMINAT	ION	method	limit/base	current	history1	history2
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. VickAN MC1 PLCS Interior Conf Conf <thconf< th=""> Conf Conf<!--</td--><td></td><td>Glycol</td><td></td><td>WC Method</td><td></td><td>NEG</td><td>NEG</td><td>NEG</td></thconf<>		Glycol		WC Method		NEG	NEG	NEG
Indicates that there is suitable alkalinity remaining in dicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Iron ppm ASTU 05185m >20 6 2 7 Nickel ppm ASTU 05185m >20 0 <1	Fluid Condition The oil viscosity is lower than normal. The BN result	WEAR METAL	.S	method	limit/base	current	history1	history2
the oil. Confirm oil type. Chromium ppm ASTM D5185m >20 0 <1	•	Iron	ppm	ASTM D5185m	>120	6	2	7
Titanium ppm ASTM D5165m >2 0 0 4 Silver pm ASTM D515m >2 0 0 -1 Aluminum ppm ASTM D515m >40 <1		Chromium		ASTM D5185m	>20	0	<1	<1
Silver ppm ASTM 0518m >2 0 0 <1 Aluminum ppm ASTM 0518m >20 2 0 1 Lead ppm ASTM 0518m >330 1 0 <1 Copper ppm ASTM 0518m >333 1 0 <1 Tin ppm ASTM 0518m >15 <1 <1 <1 Vanadium ppm ASTM 0518m >15 <1 <1 <1 Qandium ppm ASTM 0518m 0 2 6 6 Barium ppm ASTM 0518m 0 2 1 110 1204 Manganese ppm ASTM 0518m 100 404 4105 <		Nickel	ppm	ASTM D5185m	>5	<1	1	2
Aluminum ppm ASTM D5185m >20 2 0 1 Lead ppm ASTM D5185m >330 1 0 <1		Titanium	ppm	ASTM D5185m	>2	0	0	0
Lead ppm ASTM 05185m >40 <1 0 <1 Copper ppm ASTM 05185m >33.0 1 0.0 <1		Silver	ppm	ASTM D5185m	>2	0	0	<1
Copper ppm ASTM D5185m >330 1 0 <1 Tin ppm ASTM D5185m >15 <1		Aluminum	ppm	ASTM D5185m	>20	2	0	1
Tin ppm ASTM D5185m >15 <1 <1 1 Vanadium ppm ASTM D5185m O 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m O 2 6 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 41 41 41 Galdium ppm ASTM D5185m 0 41 41 41 Magnesium ppm ASTM D5185m 1010 404 1016 996 Calabium ppm ASTM D5185m 1070 2012 1110 1224 Phosphorus ppm ASTM D5185m 1270 1203 1424 14061 Sulfur ppm ASTM D5185m 200 3944 337 31 CONTAMINANTS method limit/base cur		Lead	ppm	ASTM D5185m	>40	<1	0	0
Vanadium pm ASTM D5185m		Copper	ppm	ASTM D5185m	>330	1	0	<1
CadmiumppmASTM D5168m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0266BariumppmASTM D5185m0000MolybdenumppmASTM D5185m60306164ManganeseppmASTM D5185m10104041016996CalciumppmASTM D5185m1070201211101204PhosphorusppmASTM D5185m12701203142441406SulfurppmASTM D5185m12701203142441406SulfurppmASTM D5185m2060394443794153SiliconppmASTM D5185m>204133PotasiumppmASTM D5185m204133Fuel%ASTM D5185m>204133Fuel%ASTM D5185m>204133Fuel%ASTM D5185m>204133Fuel%ASTM D5185m>204133Fuel%ASTM D5185m>306.16.14.1SodiumppmASTM D5185m>204133Fuel%ASTM D5185m>306.5<1.0		Tin	ppm	ASTM D5185m	>15	<1	<1	1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 6 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 30 61 64 Marganese ppm ASTM D5185m 0 201 <1		Vanadium	ppm	ASTM D5185m		<1	<1	<1
Boron ppm ASTM D5185m 0 2 6 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 30 61 64 Manganesse ppm ASTM D5185m 0		Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 30 61 64 Manganesse ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 404 1016 996 Calcium ppm ASTM D5185m 1070 2012 11100 1204 Phosphorus ppm ASTM D5185m 1270 1203 1424 1406 Sulfur ppm ASTM D5185m 2060 3944 4379 4153 CONTAMINANTS method imit/base current history1 history2 Silicon ppm ASTM D5185m >2.0 <1 3 3 Fuel % ASTM D5185m >2.0 <1.0 <1.0 <1.0 INFRA-RED wethod imit/base current history1 history2 Soot % % 'ASTM D5185m		ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 30 61 64 Manganese ppm ASTM D5185m 0 <1		Boron	ppm	ASTM D5185m	0	2	6	6
Marganese pm ASTM D5185m 0 <1 <1 <1 Magnesium pm ASTM D5185m 1010 404 1016 996 Calcium pm ASTM D5185m 1070 2012 1110 1204 Phosphorus ppm ASTM D5185m 1070 2012 1110 1204 Phosphorus ppm ASTM D5185m 1270 1203 1424 1406 Zinc ppm ASTM D5185m 2060 3944 4379 4153 CONTAMINAT method imit/base current history1 history2 Silicon ppm ASTM D5185m 2060 3044 40 3 Sodium ppm ASTM D5185m 2060 31 3 3 Potassium ppm ASTM D5185m 20.0 6.1 3.0 3.0 Fuel % ASTM D5185m 20.0 6.1 3.0 1.0 4.0 Soot % % %STM D5185m 20.0 8.1 5.1 8.2 2.0 IN		Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 404 1016 996 Calcium ppm ASTM D5185m 1070 2012 1110 1204 Phosphorus ppm ASTM D5185m 1150 960 1153 1118 Zinc ppm ASTM D5185m 1270 1203 1424 1406 Sulfur ppm ASTM D5185m 2060 3944 4379 4153 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 4 Sodium ppm ASTM D5185m >20 4 4 4 Sodium ppm ASTM D5185m >20 4 4 4 Potassium ppm ASTM D5185m >20 <10		Molybdenum	ppm	ASTM D5185m	60	30	61	64
Calcium ppm ASTM D5185m 1070 2012 1110 1204 Phosphorus ppm ASTM D5185m 1150 960 1153 1118 Zinc ppm ASTM D5185m 1270 1203 1424 1406 Sulfur ppm ASTM D5185m 2060 3944 4379 4153 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >25 4 4 3 Potassium ppm ASTM D5185m >20 <1		Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 960 1153 1118 Zinc ppm ASTM D5185m 1270 1203 1424 1406 Sulfur ppm ASTM D5185m 2060 3944 4379 4153 CONTAMINAT method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >25 4 4 3 Potassium ppm ASTM D5185m >20 <11 3 3 Fuel % ASTM D5185m >20 <1.0 <1.0 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.1 5.1 8.2 Sulfation Abs/cm *ASTM D7624 >20 8.1 5.1 8.2 Soot % % *ASTM D7624 >20 8.1 5.1 8.2 Sulfation Abs/cm *ASTM D76		Magnesium	ppm	ASTM D5185m	1010	404	1016	996
ZincppmASTM D5185m1270120314241406SulfurppmASTM D5185m2060394443794153CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25444SodiumppmASTM D5185m>20443PotassiumppmASTM D5185m>20<1		Calcium	ppm	ASTM D5185m	1070	2012	1110	1204
SulfurppmASTM D5185m2060394443794153CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25444SodiumppmASTM D5185m>20313PotassiumppmASTM D5185m>20<1		Phosphorus	ppm	ASTM D5185m	1150	960	1153	1118
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25444SodiumppmASTM D5185m>20313PotassiumppmASTM D5185m>20<1		Zinc	ppm	ASTM D5185m	1270	1203	1424	1406
SiliconppmASTM D5185m>25444SodiumppmASTM D5185m>20313PotassiumppmASTM D5185m>20<1		Sulfur	ppm	ASTM D5185m	2060	3944	4379	4153
SodiumppmASTM D5185m313PotassiumppmASTM D5185m>20<1		CONTAMINAN	ITS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>20<133Fuel%ASTM D3524>3.00.5<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.40.10.4NitrationAbs/cm*ASTM D7624>208.15.18.2SulfationAbs/1mm*ASTM D7415>3018.417.520.0FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2511.913.015.6		Silicon	ppm	ASTM D5185m	>25	4	4	4
Fuel%ASTM D3524>3.00.5<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.40.10.4NitrationAbs/cm*ASTM D7624>208.15.18.2SulfationAbs/1mm*ASTM D7415>3018.417.520.0FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2511.913.015.6		Sodium	ppm	ASTM D5185m		3	1	3
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.40.10.4NitrationAbs/cm*ASTM D7624>208.15.18.2SulfationAbs/.1mm*ASTM D7415>3018.417.520.0FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2511.913.015.6		Potassium	ppm	ASTM D5185m	>20	<1	3	3
Soot % % *ASTM D7844 >4 0.4 0.1 0.4 Nitration Abs/cm *ASTM D7624 >20 8.1 5.1 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 17.5 20.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 11.9 13.0 15.6		Fuel	%	ASTM D3524	>3.0	0.5	<1.0	<1.0
Nitration Abs/cm *ASTM D7624 >20 8.1 5.1 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 17.5 20.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 11.9 13.0 15.6		INFRA-RED		method	limit/base	current	history1	history2
NitrationAbs/cm*ASTM D7624>208.15.18.2SulfationAbs/.1mm*ASTM D7415>3018.417.520.0FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2511.913.015.6		Soot %	%	*ASTM D7844	>4	0.4	0.1	0.4
SulfationAbs/.1mm*ASTM D7415>3018.417.520.0FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2511.913.015.6		Nitration	Abs/cm				5.1	8.2
Oxidation Abs/.1mm *ASTM D7414 >25 11.9 13.0 15.6								
		FLUID DEGRAI		method	limit/base	current	history1	history2
		Oxidation	Abs/.1mm	*ASTM D7414	>25	11.9	13.0	15.6
						6.3	9.7	7.9

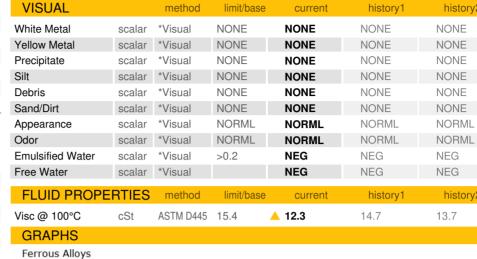
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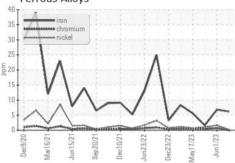


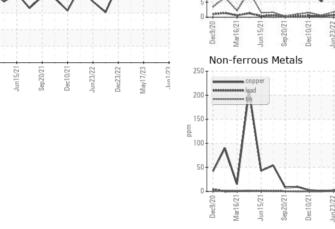
OIL ANALYSIS REPORT











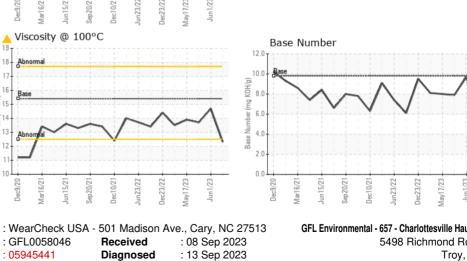
cSt (100°C)

Laboratory

Sample No.

Lab Number

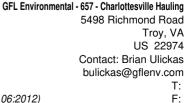
Unique Number



n1/23

027217

: 10636053 Diagnostician : Jonathan Hester





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Aar16/21

Base

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel) 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)

Submitted By: TECHNICIAN ACCOUNT

history2

history2