

OIL ANALYSIS REPORT

Sample Rating Trend







Area (99293V) Machine Id 428040-402374

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (10 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

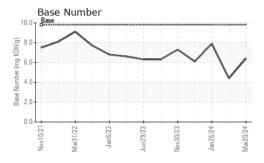
Fluid Condition

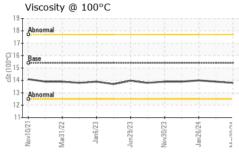
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date	ımber					
Machine Age hrs Client Info 15736 15558 1537 Oil Age hrs Client Info 577 399 219 Oil Changed Client Info Changed Not Changd Not Changd Sample Status Normal NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 Fuel WC Method >3.0 <1.0		Client Info		GFL0101843	GFL0101983	GFL0101980
Oil Age hrs Client Info 577 399 219 Oil Changed Client Info Changed Not Changd Not Changd Sample Status NormMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 Fuel WC Method >0.2 NEG NEG N Water WC Method >0.2 NEG NEG N Glycol WC Method NEG NEG N WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >120 8 5 4 Chromium ppm ASTM D5185m >20 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	ite	Client Info		20 Mar 2024	21 Feb 2024	26 Jan 2024
Oil Changed Sample Status Client Info Changed NORMAL Not Change NorMAL	ge hrs	Client Info		15736	15558	15378
Sample Status	hrs	Client Info		577	399	219
CONTAMINATION method limit/base current history1 Fuel WC Method >3.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	ed	Client Info		Changed	Not Changd	Not Changd
Fuel WC Method Sa.0 Cal.0 Ca	atus			NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG A Colority ASTM D5185m >20 <1	MINATION	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG N WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >120 8 5 4 Chromium ppm ASTM D5185m >20 <1		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >120 8 5 4 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >5 <1 0 0 Titanium ppm ASTM D5185m >2 <1 <1 <1 Silver ppm ASTM D5185m >2 0 0 0 0 Aluminum ppm ASTM D5185m >20 4 2 3 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <t< th=""><th></th><th>WC Method</th><th>>0.2</th><th>NEG</th><th>NEG</th><th>NEG</th></t<>		WC Method	>0.2	NEG	NEG	NEG
Iron		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	METALS	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >5 <1 0 0 Titanium ppm ASTM D5185m >2 <1	ppr	ASTM D5185m	>120	8	5	4
Titanium ppm ASTM D5185m >2 <1 <1 <1 Silver ppm ASTM D5185m >2 0 0 0 0 Aluminum ppm ASTM D5185m >20 4 2 3 Lead ppm ASTM D5185m >40 <1	ppr	ASTM D5185m	>20	<1	<1	<1
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 4 2 3 Lead ppm ASTM D5185m >40 <1 <1 Copper ppm ASTM D5185m >330 <1 <1 <1 Tin ppm ASTM D5185m 0 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 <1 2 2 Barium ppm ASTM D5185m 0 <1 2 2 2 Barium ppm ASTM D5185m 0 60 61 55 60 Manganese ppm ASTM D5185m 1010 949	ppr	ASTM D5185m	>5	<1	0	0
Aluminum ppm ASTM D5185m >20 4 2 3 Lead ppm ASTM D5185m >40 <1	ppr	ASTM D5185m	>2	<1	<1	<1
Lead ppm ASTM D5185m >40 <1 <1 <1 Copper ppm ASTM D5185m >330 <1	ppr	ASTM D5185m	>2	0	0	0
Lead ppm ASTM D5185m >40 <1 <1 <1 Copper ppm ASTM D5185m >330 <1	ppr	ASTM D5185m	>20	4	2	3
Copper ppm ASTM D5185m >330 <1 <1 <1 Tin ppm ASTM D5185m >15 <1			>40	<1	<1	<1
Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 <1 2 2 2 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 61 55 60 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1270 1275 1106 13 Zinc ppm ASTM D5185m 2060 3056		ASTM D5185m	>330	<1	<1	<1
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 <1				<1	<1	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 <1						
Boron ppm ASTM D5185m 0 <1 2 2 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 61 55 60 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32				-		
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 61 55 60 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32	VES	method	limit/base	current	history1	history2
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 61 55 60 Manganese ppm ASTM D5185m 0 <1	ppr	ASTM D5185m	0	<1	2	2
Molybdenum ppm ASTM D5185m 60 61 55 60 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	0	0	0	0
Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	60	61	55	60
Magnesium ppm ASTM D5185m 1010 949 836 10 Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	0	<1		
Calcium ppm ASTM D5185m 1070 1140 1024 11 Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32				949	836	1025
Phosphorus ppm ASTM D5185m 1150 1103 947 10 Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	1070	1140	1024	1133
Zinc ppm ASTM D5185m 1270 1275 1106 13 Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	1150	1103	947	1092
Sulfur ppm ASTM D5185m 2060 3056 2726 32		ASTM D5185m	1270	1275	1106	1329
		ASTM D5185m	2060	3056		3272
CONTAMINANTS method limit/base current history1	MINANTS	method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m >25 6 4 3	ppr	ASTM D5185m	>25	6	4	3
						<1
Potassium ppm ASTM D5185m >20 2 0 0	ppr	ASTM D5185m	>20	2	0	0
INFRA-RED method limit/base current history1	RED	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	0.3	0.3	0.2
Nitration Abs/cm *ASTM D7624 >20 9.3 7.2 6.	Abs	m *ASTM D7624	>20	9.3	7.2	6.9
			>30			18.2
	DEGRADAT	N method	limit/base	current	history1	history2
FLUID DEGRADATION method limit/base current history1	Ahs/	nm *ASTM D7414	>25	16.4	12.3	14.5
			-	- '	_	_



OIL ANALYSIS REPORT

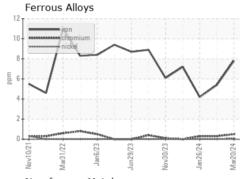


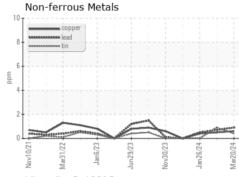


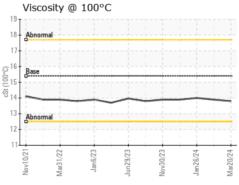
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

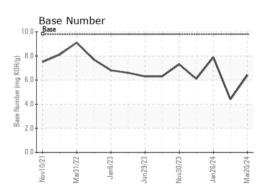
FLUID PROPE	RHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.9	14.0

GRAPHS













Laboratory Sample No.

Test Package : FLEET

: GFL0101843 Lab Number : 06125479 Unique Number : 10939630

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 21 Mar 2024

Tested : 22 Mar 2024 Diagnosed : 22 Mar 2024 - Wes Davis

GFL Environmental - 894 - Ada Hauling

1904 North Broadway, Suite D Ada, OK US 74820

Contact: Johnny Spurlock

jspurlock@gflenv.com

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. T: (405)664-4476 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)