

OIL ANALYSIS REPORT

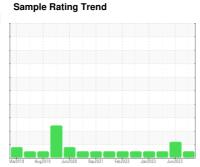


422027-402279

Component

Diesel Engine

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





DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

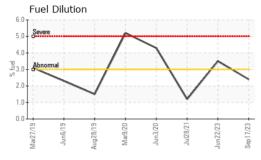
Fluid Condition

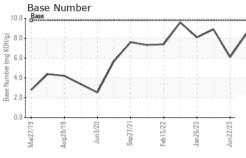
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

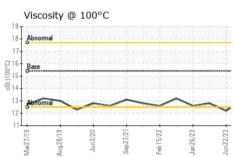
SAMPLE INFOR		Warzu19 Au	ngzura aunzuzu aepz	OLI TODEDEL OUNEDED		
	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0086374	GFL0074761	GFL0046815
Sample Date		Client Info		17 Sep 2023	22 Jun 2023	15 Mar 2023
Machine Age	hrs	Client Info		23240	22804	22429
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>120	7	14	6
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Γitanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	8	4
_ead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	1	4	2
Γin	ppm	ASTM D5185m	>15	<1	<1	<1
/anadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	9	8	8
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	63	55	56
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010			
		AO HVI DO TOOTII	1010	905	648	716
•	ppm	ASTM D5185m		905 1175	648 1349	716 1192
Calcium	ppm ppm		1070 1150			
Calcium Phosphorus Zinc	ppm	ASTM D5185m	1070	1175	1349	1192 946
Calcium Phosphorus Zinc		ASTM D5185m ASTM D5185m	1070 1150	1175 1041	1349 983	1192
Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1175 1041 1245	1349 983 1210	1192 946 1151 3537
Calcium Phosphorus Zinc Gulfur CONTAMINAN	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060	1175 1041 1245 3681	1349 983 1210 3462	1192 946 1151 3537
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	1175 1041 1245 3681 current	1349 983 1210 3462 history1	1192 946 1151 3537 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1070 1150 1270 2060 limit/base	1175 1041 1245 3681 current	1349 983 1210 3462 history1	1192 946 1151 3537 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ITS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1175 1041 1245 3681 current 8	1349 983 1210 3462 history1 9	1192 946 1151 3537 history2 6 <1
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm lTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1175 1041 1245 3681 current 8 4 <1	1349 983 1210 3462 history1 9 5	1192 946 1151 3537 history2 6 <1 0 <1.0
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm lTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	1070 1150 1270 2060 limit/base >25 >20 >3.0	1175 1041 1245 3681 current 8 4 <1	1349 983 1210 3462 history1 9 5 3	1192 946 1151 3537 history2 6 <1 0 <1.0
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ITS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	1070 1150 1270 2060 limit/base >25 >20 >3.0	1175 1041 1245 3681 current 8 4 <1 2.4	1349 983 1210 3462 history1 9 5 3 • 3.5 history1	1192 946 1151 3537 history2 6 <1 0 <1.0
Calcium Phosphorus Zinc Gulfur CONTAMINAN Gilicon Godium Potassium Fuel INFRA-RED Goot % Nitration	ppm ppm ppm ITS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844	1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4	1175 1041 1245 3681 current 8 4 <1 2.4 current	1349 983 1210 3462 history1 9 5 3 • 3.5 history1 0.3	1192 946 1151 3537 history2 6 <1 0 <1.0 history2
Calcium Phosphorus Zinc Gulfur CONTAMINAN Gilicon Godium Potassium Fuel INFRA-RED Goot % Nitration	ppm ppm ppm ITS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method *ASTM D7844 *ASTM D7624 *ASTM D76145	1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20	1175 1041 1245 3681 current 8 4 <1 2.4 current 0.1 5.7	1349 983 1210 3462 history1 9 5 3 • 3.5 history1 0.3 8.5	1192 946 1151 3537 history2 6 <1 0 <1.0 history2 0.2 6.2 17.7
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ITS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method *ASTM D7844 *ASTM D7624 *ASTM D76145	1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30	1175 1041 1245 3681 current 8 4 <1 2.4 current 0.1 5.7 17.6	1349 983 1210 3462 history1 9 5 3 A 3.5 history1 0.3 8.5 20.2	1192 946 1151 3537 history2 6 <1 0 <1.0 history2 0.2 6.2



OIL ANALYSIS REPORT



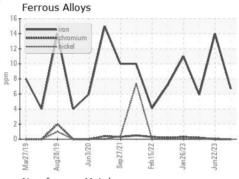


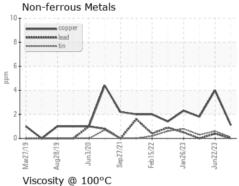


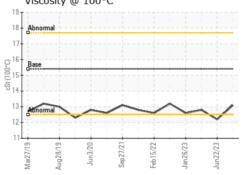
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

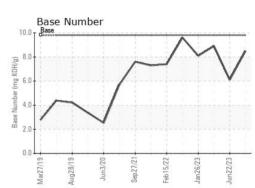
FLUID PROP	EHILO	method			riistory i	History
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	<u> </u>	12.8

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: GFL0086374 : 05954656 : 10655869

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Sep 2023 Diagnosed

: 20 Sep 2023 Diagnostician : Wes Davis

Test Package : FLEET (Additional Tests: PercentFuel) 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)

GFL Environmental - 816 - WCA of South Arkansas

3083 Smackover Hwy El Dorado, AR US 71730

Contact: Mike Howell mike.howell@gflenv.com

T:

F: