

(P618025)

10755 Component Diesel Engine

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend





e-2018 Aug2019 Dec2019 Mag2019 Ju2220 Feb2021 Mac2022 Feb2023 F



PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Fluic

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

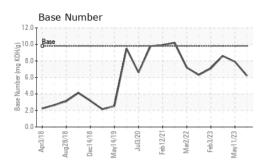
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

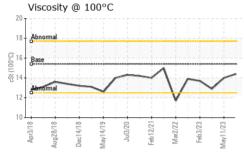
SAMPLE INFOR		method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		GFL0082197	GFL0080071	GFL0071379
Sample Date		Client Info		09 Jun 2023	11 May 2023	28 Mar 2023
Machine Age	hrs	Client Info		2974	2627	2215
Oil Age	hrs	Client Info		2974	2627	2215
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
-				-		
CONTAMINAT	ION	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		NEG	NEG	NEG
WEAR METAL	c	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	31	16	15
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		mathad	limit/base		In the transmission	history2
ADDITIVES		method	IIIIII/Dase	current	history1	TIStoryz
Boron	ppm	ASTM D5185m	0	current 7	nistory i 8	14
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	7	8	14
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	7 0	8 0	14 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 61	8 0 59	14 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 61 <1	8 0 59 0	14 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 61 <1 914	8 0 59 0 879	14 0 52 <1 691
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 61 <1 914 1170	8 0 59 0 879 1103	14 0 52 <1 691 1070
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	7 0 61 <1 914 1170 1002	8 0 59 0 879 1103 965	14 0 52 <1 691 1070 876
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	7 0 61 <1 914 1170 1002 1231	8 0 59 0 879 1103 965 1181	14 0 52 <1 691 1070 876 1071
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	7 0 61 <1 914 1170 1002 1231 3572	8 0 59 0 879 1103 965 1181 3339	14 0 52 <1 691 1070 876 1071 2616
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	7 0 61 <1 914 1170 1002 1231 3572 current 8	8 0 59 0 879 1103 965 1181 3339 history1 6	14 0 52 <1 691 1070 876 1071 2616 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8	8 0 59 0 879 1103 965 1181 3339 history1	14 0 52 <1 691 1070 876 1071 2616 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8 6	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8 6 current	8 0 59 0 879 1103 965 1181 3339 history1 6 6 3 3 history1	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8 6 current 0.9	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3 3 history1 0.8	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	7 0 61 <1 914 1170 1002 1231 3572 <i>current</i> 8 8 8 6 <i>current</i> 0.9 11.4	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3 8 history1 0.8 10.9	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3 11.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >3	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8 6 current 0.9	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3 3 history1 0.8	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	7 0 61 <1 914 1170 1002 1231 3572 <i>current</i> 8 8 8 6 <i>current</i> 0.9 11.4	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3 8 history1 0.8 10.9	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3 11.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	7 0 61 <1 914 1170 1002 1231 3572 <u>current</u> 8 8 8 6 <u>current</u> 0.9 11.4 26.4	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 3 history1 0.8 10.9 23.7	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3 11.0 21.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20 imit/base >3 >20	7 0 61 <1 914 1170 1002 1231 3572 current 8 8 8 6 current 0.9 11.4 26.4 current	8 0 59 0 879 1103 965 1181 3339 history1 6 6 6 6 3 history1 0.8 10.9 23.7 history1	14 0 52 <1 691 1070 876 1071 2616 history2 4 7 5 history2 1.3 11.0 21.9 history2

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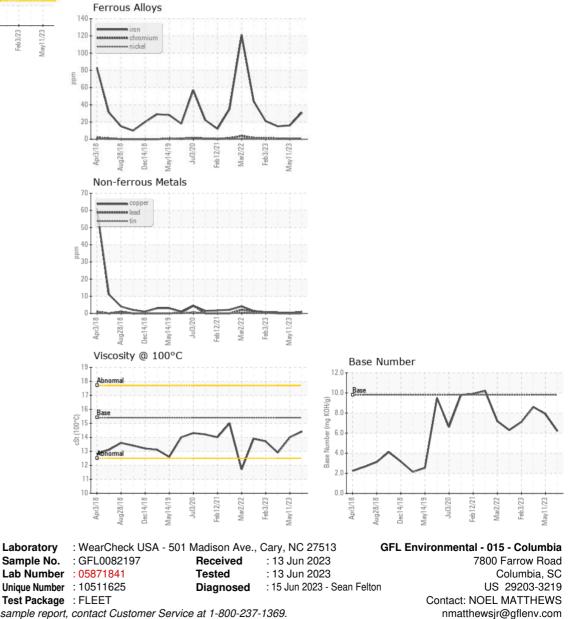


OIL ANALYSIS REPORT





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	14.4	14.0	12.9
GRAPHS						



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)

Certificate L2367

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