

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (60 QTS)

SAMPLE INFORMATION method



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.

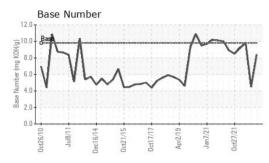
Fluid Condition

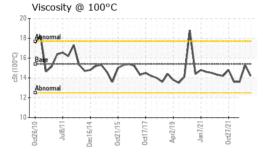
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Sample Date Machine Age Oil Age Oil Changed Sample Status	hrs hrs	Client Info Client Info Client Info Client Info		GFL0047436 14 Jun 2023 437990 600 Changed NORMAL	GFL0070790 03 Mar 2023 437990 600 Changed ABNORMAL	GFL0041935 06 May 2022 32539 444 Not Changd NORMAL
CONTAMINAT Fuel	ION	method WC Method	limit/base	current	history1 <1.0	history2 <1.0
Glycol		WC Method	20.0	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	16	48	8
Chromium	ppm	ASTM D5185m	>20	<1	2	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m		2	4	4
Lead	ppm	ASTM D5185m	>40	3	8	<1
Copper	ppm	ASTM D5185m	>330	3	5	<1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ррпп	AOTIVI DOTODIII		-		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	method ASTM D5185m	limit/base 0	5	history1 1	334
	ppm ppm					
Boron		ASTM D5185m	0	5	1	334
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	5 0	1 0	334 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 58	1 0 58	334 0 110
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 58 1	1 0 58 <1	334 0 110 <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	5 0 58 1 969	1 0 58 <1 903	334 0 110 <1 649
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	5 0 58 1 969 1106	1 0 58 <1 903 1101	334 0 110 <1 649 1485
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	5 0 58 1 969 1106 1035	1 0 58 <1 903 1101 980	334 0 110 <1 649 1485 684
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	5 0 58 1 969 1106 1035 1299	1 0 58 <1 903 1101 980 1210	334 0 110 <1 649 1485 684 788
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	5 0 58 1 969 1106 1035 1299 3769	1 0 58 <1 903 1101 980 1210 2704	334 0 110 <1 649 1485 684 788 2152
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	5 0 58 1 969 1106 1035 1299 3769 current	1 0 58 <1 903 1101 980 1210 2704 history1	334 0 110 <1 649 1485 684 788 2152 history2
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	5 0 58 1 969 1106 1035 1299 3769 current 4	1 0 58 <1 903 1101 980 1210 2704 history1 10	334 0 110 <1 649 1485 684 788 2152 history2 6
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 ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	5 0 58 1 969 1106 1035 1299 3769 current 4 1	1 0 58 <1 903 1101 980 1210 2704 history1 10 4	334 0 110 <1 649 1485 684 788 2152 history2 6 2
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	5 0 58 1 969 1106 1035 1299 3769 current 4 1 2	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5	334 0 110 <1 649 1485 684 788 2152 history2 6 2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	5 0 58 1 969 1106 1035 1299 3769 current 4 1 2 2 current	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5 5 history1	334 0 110 <1 649 1485 684 788 2152 history2 6 2 <1 ×1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	5 0 58 1 969 1106 1035 1299 3769 <i>current</i> 4 1 2 <i>current</i> 2.4	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5 5 history1 ▲ 4.6	334 0 110 <1 649 1485 684 788 2152 history2 6 2 <1 kistory2 1.1
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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	5 0 58 1 969 1106 1035 1299 3769 current 4 1 2 current 2.4 8.3	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5 history1 ∧ 4.6 12.0	334 0 110 <1 649 1485 684 788 2152 history2 6 2 2 <1 history2 1.1 6.3
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 ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	5 0 58 1 969 1106 1035 1299 3769 current 4 1 2 current 2.4 8.3 22.9 current	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5 history1 ▲ 4.6 12.0 27.6 history1	334 0 110 <1 649 1485 684 788 2152 history2 6 2 <1 kistory2 1.1 6.3 25.2 history2
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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 imit/base >20 imit/base >20	5 0 58 1 969 1106 1035 1299 3769 <i>current</i> 4 1 2 <i>current</i> 2.4 8.3 22.9	1 0 58 <1 903 1101 980 1210 2704 history1 10 4 5 5 history1 ▲ 4.6 12.0 27.6	334 0 110 <1 649 1485 684 788 2152 history2 6 2 <1 kistory2 1.1 6.3 25.2

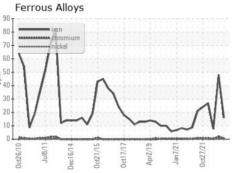


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	14.2	15.3	13.6
GRAPHS						





4 40 35

Oct26/10

Laboratory

Sample No.

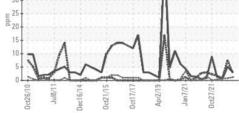
Lab Number

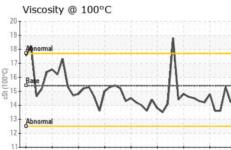
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Jul8/11 Dec16/14 0ct21/15

: GFL0047436

: 05874324





Apr2/19 Jan7/21

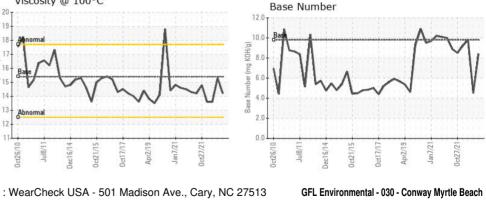
Diagnostician : Wes Davis

: 15 Jun 2023

: 15 Jun 2023

Received

Diagnosed



3010 HWY 378 Conway, SC US 29527 Contact: CHET STROSCHINE cstroschine@gflenv.com Т: F:



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)

Submitted By: CHET STROSCHINE