

OIL ANALYSIS REPORT





INTERNATIONAL 8502

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (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 INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0051801	PCA0073398	PCA0044364
Sample Date		Client Info		22 Dec 2023	17 Nov 2022	16 Apr 2022
Machine Age	mls	Client Info		603800	495500	445500
Oil Age	mls	Client Info		34000	32600	29700
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
WEAR METAL	\$	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>165	32 1	63	22 1
Chromium	ppm	ASTM D5185m	>5		▲ 5	
Nickel	ppm	ASTM D5185m	>4	<1	1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m		8	4 4	4
Lead	ppm	ASTM D5185m	>150	0	6	2
Copper	ppm		>90	6	12	<1
Tin	ppm	ASTM D5185m	>5	0	3	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	28	history1 32	0
	ppm ppm	ASTM D5185m		28 0	32 0	0
Boron		ASTM D5185m	2	28	32	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	28 0	32 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	28 0 12	32 0 122	0 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	28 0 12 0	32 0 122 3	0 0 63 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	28 0 12 0 796	32 0 122 3 747	0 0 63 <1 988
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	28 0 12 0 796 1363	32 0 122 3 747 1768	0 0 63 <1 988 1154
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	2 0 50 0 950 1050 995	28 0 12 0 796 1363 772	32 0 122 3 747 1768 761	0 0 63 <1 988 1154 1072
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	2 0 50 950 1050 995 1180	28 0 12 0 796 1363 772 934	32 0 122 3 747 1768 761 988	0 0 63 <1 988 1154 1072 1277
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	2 0 50 950 1050 995 1180 2600	28 0 12 0 796 1363 772 934 3103	32 0 122 3 747 1768 761 988 2804	0 0 63 <1 988 1154 1072 1277 2685
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	2 0 50 950 1050 995 1180 2600	28 0 12 0 796 1363 772 934 3103 current	32 0 122 3 747 1768 761 988 2804 history1	0 0 63 <1 988 1154 1072 1277 2685 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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >35	28 0 12 0 796 1363 772 934 3103 current 4	32 0 122 3 747 1768 761 988 2804 kistory1 20	0 0 63 <1 988 1154 1072 1277 2685 history2 3
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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >35	28 0 12 0 796 1363 772 934 3103 current 4 <	32 0 122 3 747 1768 761 988 2804 history1 20 2	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1
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	2 0 50 950 1050 995 1180 2600 imit/base >35	28 0 12 0 796 1363 772 934 3103 current 4 < 4 <1 4	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0
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	2 0 50 0 950 1050 995 1180 2600 Imit/base >35 -20 Imit/base	28 0 12 0 796 1363 772 934 3103 current 4 <1 4 current	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117 history1	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0 history2
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	2 0 50 0 950 1050 995 1180 2600 limit/base >35 >20 limit/base >7.5	28 0 12 0 796 1363 772 934 3103 current 4 <1 4 current 0.5	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117 20 2 117	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0 history2 0.7
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	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >35 >20 <i>imit/base</i> >7.5 >20	28 0 12 0 796 1363 772 934 3103 <i>current</i> 4 <1 4 <1 4 <i>current</i> 0.5 9.4	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117 20 2 117 0.9 14.1	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0 history2 0.7 10.8
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	2 0 50 950 1050 995 1180 2600 imit/base >35 20 imit/base >7.5 >20 >30	28 0 12 0 796 1363 772 934 3103 current 4 <1 4 current 0.5 9.4 21.8	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117 20 2 117 history1 0.9 14.1 29.7	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0 history2 0.7 10.8 22.9
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 ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 950 1050 995 1180 2600 imit/base >35 20 imit/base >7.5 >20 >30	28 0 12 0 796 1363 772 934 3103 current 4 <1 4 <1 4 current 0.5 9.4 21.8 current	32 0 122 3 747 1768 761 988 2804 history1 20 2 2 117 20 2 2 117 0.9 14.1 29.7 history1	0 0 63 <1 988 1154 1072 1277 2685 history2 3 <1 0 history2 0.7 10.8 22.9 history2

Contact/Location: FRANK DIETZ - MIDFAR



cSt (100°C)

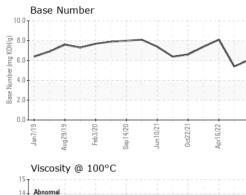
Abnorma

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