

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 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

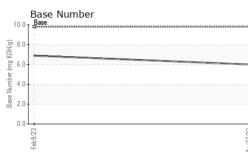
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

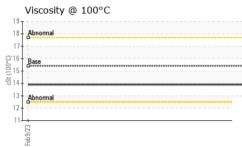
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0070785	GFL0047418	
Sample Date		Client Info		27 Apr 2023	09 Feb 2023	
Machine Age	hrs	Client Info		5106	4523	
Oil Age	hrs	Client Info		600	600	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	10	15	
Chromium	ppm	ASTM D5185m	>20	0	<1	
Nickel	ppm	ASTM D5185m	>2	3	5	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm		>20	2	2	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm		>330	1	5	
Tin	ppm	ASTM D5185m	>15	0	<1	
Vanadium	ppm	ASTM D5185m	>15	0	0	
Cadmium		ASTM D5185m		0	0	
	ppm	ASTIM D3103III		0	0	
						D. material
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	12	1	nistory2
	ppm ppm		0	12 0	1 0	
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	12 0 78	1 0 62	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	0 0 60	12 0 78 <1	1 0 62 <1	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	12 0 78	1 0 62 <1 942	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	12 0 78 <1	1 0 62 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	12 0 78 <1 703	1 0 62 <1 942	
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	12 0 78 <1 703 1664	1 0 62 <1 942 1079	
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	12 0 78 <1 703 1664 1043	1 0 62 <1 942 1079 968	
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	12 0 78 <1 703 1664 1043 1390	1 0 62 <1 942 1079 968 1204	
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 0 1010 1070 1150 1270 2060	12 0 78 <1 703 1664 1043 1390 3536	1 0 62 <1 942 1079 968 1204 3090	
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	12 0 78 <1 703 1664 1043 1390 3536 current	1 0 62 <1 942 1079 968 1204 3090 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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 kimit/base >25	12 0 78 <1 703 1664 1043 1390 3536 current 3	1 0 62 <1 942 1079 968 1204 3090 history1 3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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 kimit/base >25	12 0 78 <1 703 1664 1043 1390 3536 current 3 2	1 0 62 <1 942 1079 968 1204 3090 history1 3 4	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	12 0 78 <1 703 1664 1043 1390 3536 current 3 2 2	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 limit/base	12 0 78 <1 703 1664 1043 1390 3536 current 3 2 2 2 2	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3 4 3 <i>h</i> istory1	 history2 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	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	12 0 78 <1 703 1664 1043 1390 3536 <u>current</u> 3 2 2 2 2 <u>current</u>	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3 4 3 <i>history1</i> 0.6	 history2 history2 history2
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 limit/base >25 >20 limit/base >20	12 0 78 <1 703 1664 1043 1390 3536 current 3 2 2 current 0.5 8.2	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3 4 3 <i>history1</i> 0.6 8.8	 history2 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 imit/base >25 imit/base >6 >20 >30	12 0 78 <1 703 1664 1043 1390 3536 <u>current</u> 3 2 2 2 <u>current</u> 0.5 8.2 18.6	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3 4 3 history1 0.6 8.8 20.0	 history2 history2 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 D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 /////////////////////////////////	12 0 78 <1 703 1664 1043 1390 3536 current 3 2 2 2 current 0.5 8.2 18.6 current	1 0 62 <1 942 1079 968 1204 3090 history1 3 4 3 3 history1 0.6 8.8 20.0 history1	 history2 history2 history2 history2

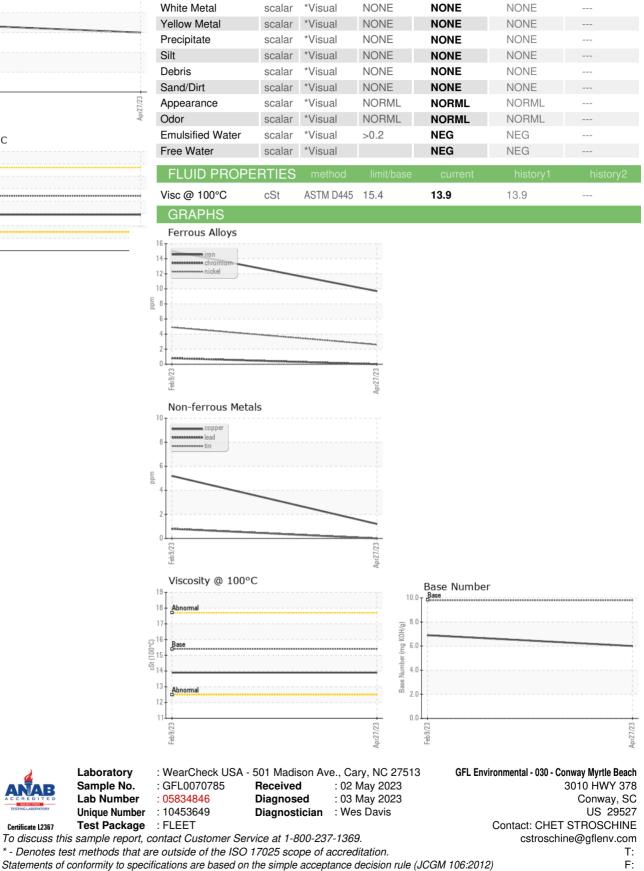


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VISUAL







Certificate L2367

Submitted By: CHET STROSCHINE