

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 844004

Component **Natural Gas Engine**

PETRO CANADA DURON GEO LD 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.

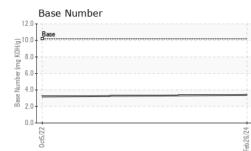
Fluid Condition

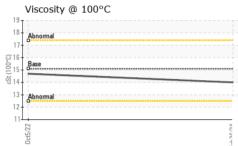
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

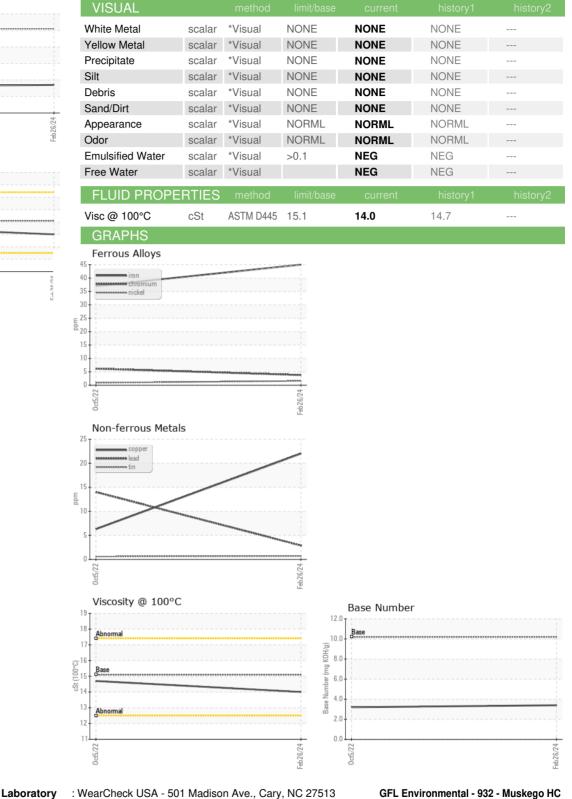
			0ct2022	Feb2024		
SAMPLE INFORM	/ ATION	method				history2
Sample Number		Client Info		GFL0098081	GFL0056056	
Sample Date		Client Info		26 Feb 2024	05 Oct 2022	
Machine Age	hrs	Client Info		23856	20324	
Oil Age	hrs	Client Info		23856	20324	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	45	37	
Chromium	ppm	ASTM D5185m	>4	4	6	
Nickel	ppm	ASTM D5185m	>2	2	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>9	6	6	
Lead	ppm	ASTM D5185m	>30	3	14	
Copper	ppm	ASTM D5185m	>35	22	6	
Tin	ppm	ASTM D5185m	>4	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	Method ASTM D5185m	limit/base	current 3	history1 0	history2
	ppm ppm					
Boron		ASTM D5185m	50	3	0	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	3 0	0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	3 0 57	0 0 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	3 0 57 <1	0 0 60 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	3 0 57 <1 680	0 0 60 <1 595	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	3 0 57 <1 680 2005	0 0 60 <1 595 1658	
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	50 5 50 0 560 1510 780	3 0 57 <1 680 2005 773	0 0 60 <1 595 1658 774	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	3 0 57 <1 680 2005 773 1157	0 0 60 <1 595 1658 774 1008	
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	50 50 00 560 1510 780 870 2040	3 0 57 <1 680 2005 773 1157 2720	0 0 60 <1 595 1658 774 1008 2496	
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	50 50 50 560 1510 780 870 2040 >+100	3 0 57 <1 680 2005 773 1157 2720 current	0 0 60 <1 595 1658 774 1008 2496 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	3 0 57 <1 680 2005 773 1157 2720 current 6	0 0 60 <1 595 1658 774 1008 2496 history1 7	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	3 0 57 <1 680 2005 773 1157 2720 current 6 16	0 0 60 <1 595 1658 774 1008 2496 history1 7 31	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	50 50 0 560 1510 780 870 2040 limit/base >+100	3 0 57 <1 680 2005 773 1157 2720 current 6 16 16 1	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2	 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	50 50 0 560 1510 780 870 2040 Imit/base >+100 520 Imit/base	3 0 57 <1 680 2005 773 1157 2720 current 6 16 1 1 2	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	50 50 0 560 1510 780 870 2040 Imit/base >+100 520 Imit/base	3 0 57 <1 680 2005 773 1157 2720 <u>current</u> 6 16 1 1 1 <u>current</u> 0	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2 history1 0.1	 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 rS ppm ppm ppm ppm spm ppm ppm spm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 imit/base >+100 >20 imit/base	3 0 57 <1 680 2005 773 1157 2720 current 6 16 16 1 1 current 0 14.2	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2 history1 0.1 15.8	 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 rS ppm ppm ppm ppm spm ppm ppm spm	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >20 Imit/base >20 Imit/base	3 0 57 <1 680 2005 773 1157 2720 current 6 16 1 1 current 0 14.2 27.6	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2 <u>history1</u> 0.1 15.8 30.5	 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 D7844	50 50 50 150 780 870 2040 imit/base >+100 20 imit/base >20 imit/base >30	3 0 57 <1 680 2005 773 1157 2720 current 6 16 16 1 1 current 0 14.2 27.6	0 0 60 <1 595 1658 774 1008 2496 history1 7 31 2 history1 0.1 15.8 30.5 history1	 history2 history2 history2 history2



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Unique Number : 10902422 : 02 Mar 2024 - Don Baldridge US 53150 Diagnosed Test Package : FLEET Contact: Brian Schlomann Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. brian.schlomann@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (262)510-4586 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: 29 Feb 2024

:01 Mar 2024

Received

Tested

Sample No.

Lab Number : 06104192

: GFL0098081

F:

Muskego, WI

W144 S6400 College Ct.