

OIL ANALYSIS REPORT



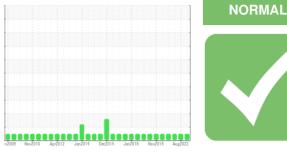


Area G.LOPES CONSTRUCTION INC./Off-Road **D676**

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION method



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.

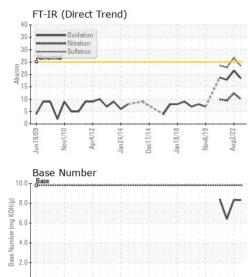
Fluid Condition

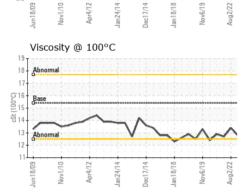
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		PCA0122946	PCA0071935	PCA0059499
Sample Date		Client Info		12 Jun 2024	02 Aug 2022	02 Nov 2021
Machine Age	hrs	Client Info		12521	12187	11506
Oil Age	hrs	Client Info		11573	11920	267
Oil Changed		Client Info		N/A	N/A	N/A
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	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	26	31	15
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm		>25	2	2	1
Lead	ppm	ASTM D5185m	>40	1	4	3
Copper	ppm	ASTM D5185m	>330	3	4	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 7	history1 10	history2 15
	ppm ppm		0			
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7	10	15
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	7 0	10 0 67 <1	15 0 61 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 66 <1 1001	10 0 67 <1 956	15 0 61 <1 928
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 66 <1 1001 1407	10 0 67 <1 956 1510	15 0 61 <1 928 1349
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 66 <1 1001 1407 1142	10 0 67 <1 956 1510 1154	15 0 61 <1 928 1349 1106
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 66 <1 1001 1407 1142 1412	10 0 67 <1 956 1510 1154 1415	15 0 61 <1 928 1349 1106 1286
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	0 0 60 0 1010 1070 1150	7 0 66 <1 1001 1407 1142	10 0 67 <1 956 1510 1154	15 0 61 <1 928 1349 1106
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	7 0 66 <1 1001 1407 1142 1412	10 0 67 <1 956 1510 1154 1415	15 0 61 <1 928 1349 1106 1286
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	7 0 66 <1 1001 1407 1142 1412 3604	10 0 67 <1 956 1510 1154 1415 4379	15 0 61 <1 928 1349 1106 1286 3241
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	7 0 66 <1 1001 1407 1142 1412 3604 current	10 0 67 <1 956 1510 1154 1415 4379 history1	15 0 61 <1 928 1349 1106 1286 3241 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 kimit/base >25	7 0 66 <1 1001 1407 1142 1412 3604 <i>current</i> 4	10 0 67 <1 956 1510 1154 1415 4379 history1 3	15 0 61 <1 928 1349 1106 1286 3241 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 method ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	7 0 66 <1 1001 1407 1142 1412 3604 <u>current</u> 4 3	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2	15 0 61 <1 928 1349 1106 1286 3241 history2 3 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 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25	7 0 66 <1 1001 1407 1142 1412 3604 <u>current</u> 4 3 2	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0	15 0 61 <1 928 1349 1106 1286 3241 history2 3 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 limit/base >3	7 0 66 <1 1001 1407 1142 1412 3604 <i>current</i> 4 3 2 <i>current</i>	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0 0 history1	15 0 61 <1 928 1349 1106 1286 3241 history2 3 2 <1 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 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 66 <1 1001 1407 1142 1412 3604 <i>current</i> 4 3 2 <i>current</i> 0.6	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0 history1 0.8	15 0 61 <1 928 1349 1106 1286 3241 history2 3 2 <1 history2 0.4
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 <i>limit/base</i> >25 20 <i>limit/base</i> >3 >20	7 0 66 <1 1001 1407 1142 1412 3604 <i>current</i> 4 3 2 <i>current</i> 0.6 10.0	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0 history1 0.8 12.4	15 0 61 <1 928 1349 1106 1286 3241 history2 3 2 <1 history2 0.4 9.5
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 >3 >20	7 0 66 <1 1001 1407 1142 1412 3604 <u>current</u> 4 3 2 <u>current</u> 0.6 10.0 23.2	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0 history1 0.8 12.4 26.6	15 0 61 <1 928 1349 1106 1286 3241 history2 3 2 <1 history2 0.4 9.5 22.8
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 20 1imit/base 23 20 330	7 0 66 <1 1001 1407 1142 1412 3604 <i>current</i> 4 3 2 <i>current</i> 0.6 10.0 23.2 <i>current</i>	10 0 67 <1 956 1510 1154 1415 4379 history1 3 2 0 history1 0.8 12.4 26.6 history1	15 0 61 <1 928 1349 1106 1286 3241 history2 3 2 <1 history2 0.4 9.5 22.8 history2

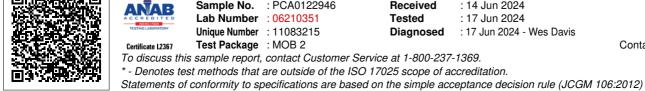


OIL ANALYSIS REPORT





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er	WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0122946 Received : 14 Jun 2024 06210351 Tested : 17 Jun 2024 11083215 Diagnosed : 17 Jun 2024 - Wes Davis								G LOPES CONSTRUCTIO 565 WINTHROP S TAUNTON, M US 0278 Contact: BUTCH MCGBAT									
		MOB 2 ontact Customer Service at 1-800-237-1369.										Contact: BUTCH MCGRAT bmcgrath@glopes.co						
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> Submitted By: MATT MANOLI Page 2 of 2

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