

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

ORIN CONTRACTORS **Diesel Engine** PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

166

Fluid

A Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0952926	WC0872935	WC0873054
Sample Date		Client Info		09 Jul 2024	19 Dec 2023	27 Oct 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	26	17	23
Chromium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	7	4	4
Lead	ppm	ASTM D5185(m)	>40	1	1	10
Copper	ppm	ASTM D5185(m)	>330	2	<1	2
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		2	2	11
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		58	58	56
Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m)		58 <1	58 0	56 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		58 <1 933	58 0 963	56 <1 903
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		58 <1 933 976	58 0 963 1036	56 <1 903 1061
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		58 <1 933 976 1017	58 0 963 1036 1003	56 <1 903 1061 1003
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		58 <1 933 976 1017 1137	58 0 963 1036 1003 1157	56 <1 903 1061 1003 1187
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		58 <1 933 976 1017 1137 2476	58 0 963 1036 1003 1157 2656	56 <1 903 1061 1003 1187 2246
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	linit/boos	58 <1 933 976 1017 1137 2476 <1	58 0 963 1036 1003 1157 2656 <1	56 <1 903 1061 1003 1187 2246 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	58 <1 933 976 1017 1137 2476 <1 current	58 0 963 1036 1003 1157 2656 <1 history1	56 <1 903 1061 1003 1187 2246 <1 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	limit/base	58 <1 933 976 1017 1137 2476 <1 current 4	58 0 963 1036 1003 1157 2656 <1 history1 4	56 <1 903 1061 1003 1187 2246 <1 kistory2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>25	58 <1 933 976 1017 1137 2476 <1 current 4 3	58 0 963 1036 1003 1157 2656 <1 history1 4 2	56 <1 903 1061 1003 1187 2246 <1 2246 <1 history2 4 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20	58 <1 933 976 1017 1137 2476 <1 current 4 3 6	58 0 963 1036 1003 1157 2656 <1 history1 4 2 3	56 <1 903 1061 1003 1187 2246 <1 2246 <1 history2 4 4 6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20 >5	58 <1 933 976 1017 1137 2476 <1 current 4 3 6 ▲ 3.2	58 0 963 1036 1003 1157 2656 <1 history1 4 2 3 3 <1.0	56 <1 903 1061 1003 1187 2246 <1 2246 <1 history2 4 4 4 6 <1.0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20 >5 limit/base	58 <1 933 976 1017 1137 2476 <1 current 4 3 6 ▲ 3.2 current	58 0 963 1036 1003 1157 2656 <1 history1 4 2 3 <1.0 history1	56 <1 903 1061 1003 1187 2246 <1 history2 4 4 4 6 <1.0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593*	>25 >20 >5 limit/base >3	58 <1 933 976 1017 1137 2476 <1 current 4 3 6 3.2 current 1.2	58 0 963 1036 1003 1157 2656 <1 history1 4 2 3 <1.0 history1 1.3	56 <1 903 1061 1003 1187 2246 <1 history2 4 4 4 6 <1.0 history2 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20 >5 limit/base	58 <1 933 976 1017 1137 2476 <1 current 4 3 6 ▲ 3.2 current	58 0 963 1036 1003 1157 2656 <1 history1 4 2 3 <1.0 history1	56 <1 903 1061 1003 1187 2246 <1 history2 4 4 4 6 <1.0 history2



40

35

Abs/cm

15

11

10.0

8.0

% fuel %

0.

41

40

35

25 Abno

10

Jan7/23

FT-IR (Direct Trend)

xidation

pr1/23

pr1/23

FT-IR (Direct Trend)

Oxidation

Apr1/23

Oct27/23

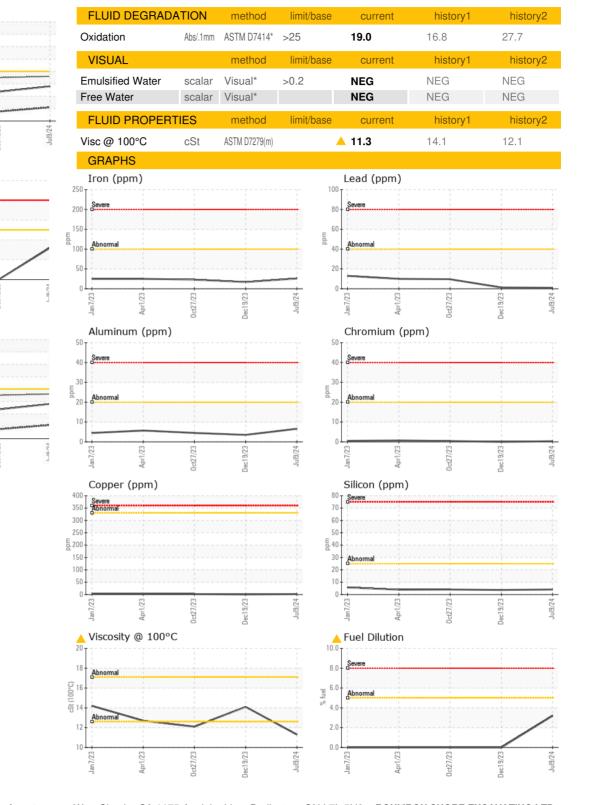
Jec19/73

Fuel Dilution

50/LC+1

lec19/73

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 RONI/IRON SHORE EXCAVATING LTD. CALA : WC0952926 Sample No. Received : 17 Jul 2024 100 MACINTOSH BLVD Lab Number : 02648414 Tested : 18 Jul 2024 VAUGHAN, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5813966 Diagnosed : 18 Jul 2024 - Kevin Marson CA L4K 4P3 Test Package : MOBCE (Additional Tests: FuelDilution, PercentFuel) Contact: Service Team To discuss this sample report, contact Customer Service at 1-800-268-2131. service.team@roni.ca Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Т: Validity of results and interpretation are based on the sample and information as supplied. F:

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Contact/Location: Service Team - RONVAU Page 2 of 2