

PROBLEM SUMMARY



INTERNATIONAL 441399

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (21 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS								
Sample Status				MARGINAL	NORMAL	NORMAL		
Fuel	%	ASTM D3524	>3.0	<u> </u>	<1.0	<1.0		

Customer Id: RUSCHA Sample No.: IL0030431 Lab Number: 05904162 Test Package: CONST



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

29 Aug 2022 Diag: Don Baldridge





Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

18 Feb 2022 Diag: Wes Davis



Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

08 Nov 2021 Diag: Don Baldridge



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.Metal levels are typical for a new component breaking in. Fuel content negligible. Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. The BN result indicates that there is suitable alkalinity remaining in the oil.



view report



OIL ANALYSIS REPORT



INTERNATIONAL 441399

Diesel Engine

Fluid MOBIL DELVAC 1300 SUPER15W40 (21 QTS)

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected 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.

	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0030431	IL0022899	IL0024308
Sample Date		Client Info		20 Jul 2023	29 Aug 2022	18 Feb 2022
Machine Age	mls	Client Info		65711	53352	30749
Oil Age	mls	Client Info		12359	22603	17000
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				MARGINAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	historv1	historv2
Glycol	-	WC Method		NEG	NEG	NEG
				NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	42	34	35
Chromium	ppm	ASTM D5185m	>20	3	2	2
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	31	20	28
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	8	<1	4
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base	current 3	history1 2	history2 42
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 3 0	history1 2 0	history2 42 0
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 3 0 63	history1 2 0 57	history2 42 0 45
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 3 0 63 <1	history1 2 0 57 <1	history2 42 0 45 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 3 0 63 <1 972	history1 2 0 57 <1 876	history2 42 0 45 1 643
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 3 0 63 <1 972 1173	history1 2 0 57 <1 876 1099	history2 42 0 45 1 643 1715
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958	history1 2 0 57 <1 876 1099 978	history2 42 0 45 1 643 1715 879
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260	history1 2 0 57 <1 876 1099 978 1154	history2 42 0 45 1 643 1715 879 1088
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798	history1 2 0 57 <1 876 1099 978 1154 3362	history2 42 0 45 1 643 1715 879 1088 2683
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798	history1 2 0 57 <1 876 1099 978 1154 3362	history2 42 0 45 1 643 1715 879 1088 2683
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 0 63 <1 972 1173 958 1260 3798 current	history1 2 0 57 <1 876 1099 978 1154 3362 history1	history2 42 0 45 1 643 1715 879 1088 2683 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 1 0 0 1 0 0 1 0 1 0 1 1 1 1	current 3 0 63 <1 972 1173 958 1260 3798 current 13	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6	history2 42 0 45 1 643 1715 879 1088 2683 history2 10
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 1 0 0 1 0 1 0 1 0 1 1 1 1 1	current 3 0 63 <1 972 1173 958 1260 3798 current 13 2	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 1.9	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 1.9 current	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm %	method ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 ▲ 1.9 current 0.8	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0 history1 0.2	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2 0.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 1.9 current 0.8 10.8	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0 history1 0.2 7.0	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2 0.3 8.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 1.9 current 0.8 10.8 22.2	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0 history1 0.2 7.0 20.4	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2 0.3 8.3 23.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D78424 *ASTM D7415 ASTM D7415	limit/base 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 ▲ 1.9 current 0.8 10.8 22.2	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0 history1 0.2 7.0 20.4 history1	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2 0.3 8.3 23.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D7844 *ASTM D7415	limit/base 0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1	Current 3 0 63 <1 972 1173 958 1260 3798 current 13 2 44 1.9 current 0.8 10.8 22.2 current	history1 2 0 57 <1 876 1099 978 1154 3362 history1 6 2 33 <1.0 history1 0.2 7.0 20.4 history1 16	history2 42 0 45 1 643 1715 879 1088 2683 history2 10 2 57 <1.0 history2 0.3 8.3 23.8 history2 21.6



OIL ANALYSIS REPORT





					00110111		
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
-	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
/23	Appearance	scalar	*Visual	NORMI	NORMI	NORMI	NORMI
Jul20	Odor	scalar	*Visual	NORMI	NORMI	NORMI	NORMI
	Emulsified Water	scalar	*Vieual		NEG	NEG	NEG
	Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
		TIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14	12 2	12.9	12.7
	GRAPHS	COL	AOTIM D440	14	12.2	12.5	12.7
	Ferrous Alloys						
129/22	70-						
Aur	60 -						
1	₽ ⁴⁰						
	20-						
	10						

	8/22 .		9/22 .	0/23 .			
	Nov Feb1		Aug2	Jul2			
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	Nov8/21		Aug29/22	Jul20/23			
	5 0 12780 0 100°C		Aug29/22	Jul20/23	Base Number		
	5 0 17 18 18 18 10 10 10 10 10 10 10 10 10 10	c	Aug29/22	ยะ ยะ 2002)ๆๆ ๆ 12.0 ⁻	Base Number		
	5 0 17 17 18 17 16 10 10 10 10 10 10 10 10 10 10		Aug29/22	EZ/0ZINF 12.0 10.0	Base Number		
	Viscosity @ 100°C	c	Aug29/22	EZ/02Jap 12.0 10.0 10.0 8.0	Base Number		
	5 0 12780 127	c	Aug29/22	12.0 10.0 (6)HOX 8.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 1	Base Number		
	5 0 12000 Viscosity @ 100°C 18 17 4 Abnormal 10 10 10 10 10 10 10 10 10 10	c	Aug29/22	12.0 10.0 (0)(0)(0) (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(Base Number		
	5 0 120000 Viscosity @ 100°C 18 17 16 20001 14 Base Abnormal 12 22 4 20 10 10 10 10 10 10 10 10 10 1		Aug29/22	E2002Jnn (b)H00 8.0 ase ase 4.0	Base Number		
	5 0 12000 Viscosity @ 100° 18 17 6 6 10 10 10 10 10 10 10 10 10 10		Aug29/22	12.0- 10.0- (0)HOX 8.0- 10.	Base Number		
	Viscosity @ 100°0		Aug29/22	12.0 10.0	Base Number		

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