

## **OIL ANALYSIS REPORT**

Sample Rating Trend





# Component

**Diesel Engine** 

### MOBIL DELVAC 1300 SUPER15W40 (--- QTS)

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

Metal levels are typical for a new component breaking in.

#### 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 INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0031156	IL0028199	IL0023505
Sample Date		Client Info		20 May 2023	04 Oct 2022	12 Oct 2021
Machine Age	mls	Client Info		169330	151405	116824
Oil Age	mls	Client Info		17925	34581	16500
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	89	<b>A</b> 235	50
Chromium	ppm	ASTM D5185m	>20	1	3	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	7	14	9
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	2	4	1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	7	25	27
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	7 0	25 0	27 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	7 0 66	25 0 48	27 0 46
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	7 0 66 1	25 0 48 2	27 0 46 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	7 0 66 1 1005	25 0 48 2 501	27 0 46 <1 588
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 0 0	7 0 66 1 1005 1311	25 0 48 2 501 1946	27 0 46 <1 588 1889
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 0	7 0 66 1 1005 1311 1104	25 0 48 2 501 1946 784	27 0 46 <1 588 1889 738
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0	7 0 66 1 1005 1311 1104 1360	25 0 48 2 501 1946 784 972	27 0 46 <1 588 1889 738 907
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	0 0 0 0	7 0 66 1 1005 1311 1104 1360 3675	25 0 48 2 501 1946 784 972 2552	27 0 46 <1 588 1889 738 907 3666
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	7 0 66 1 1005 1311 1104 1360 3675 current	25 0 48 2 501 1946 784 972 2552 history1	27 0 46 <1 588 1889 738 907 3666 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4 ppm 4	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	7 0 66 1 1005 1311 1104 1360 3675 <u>current</u> 6	25 0 48 2 501 1946 784 972 2552 history1 11	27 0 46 <1 588 1889 738 907 3666 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 2 5	7 0 66 1 1005 1311 1104 1360 3675 <u>current</u> 6 2	25 0 48 2 501 1946 784 972 2552 history1 11 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 <u>1</u> 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	7 0 66 1 1005 1311 1104 1360 3675 <u>current</u> 6 2 6	25 0 48 2 501 1946 784 972 2552 history1 11 1 1 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 3 17
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	7 0 66 1 1005 1311 1104 1360 3675 <i>current</i> 6 2 6 <i>current</i>	25 0 48 2 501 1946 784 972 2552 history1 11 1 1 1 1 1 1 1 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 17 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 0 66 1 1005 1311 1104 1360 3675 <i>current</i> 6 2 6 <i>current</i> 1	25 0 48 2 501 1946 784 972 2552 history1 11 1 1 1 1 1 1 1 1 1 1 1 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 17 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 0 66 1 1005 1311 1104 1360 3675 <u>current</u> 6 2 6 2 6 <u>current</u> 1 1 5.7	25 0 48 2 501 1946 784 972 2552 history1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 17 history2 0.6 12.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	7 0 66 1 1005 1311 1104 1360 3675 <u>current</u> 6 2 6 2 6 2 6 1 1 15.7 26.9	25 0 48 2 501 1946 784 972 2552 history1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 17 history2 0.6 12.2 23.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Solicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 0 66 1 1005 1311 1104 1360 3675 <i>current</i> 6 2 6 2 6 <i>current</i> 1 15.7 26.9	25 0 48 2 501 1946 784 972 2552 history1 11 11 11 11 11 11 11 11 11 122.7 36.2 history1	27 0 46 <1 588 1889 738 907 3666 history2 6 3 17 history2 0.6 12.2 23.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Solium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Coxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7614	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 0 66 1 1005 1311 1104 1360 3675 <i>current</i> 6 2 6 2 6 <i>current</i> 1 15.7 26.9 <i>current</i> 27.2	25 0 48 2 501 1946 784 972 2552 history1 11 11 11 11 11 11 11 12 11 12 7 22.7 36.2 history1 46.2	27 0 46 <1 588 1889 738 907 3666 <b>bistory2</b> 6 3 17 <b>bistory2</b> 0.6 12.2 23.2 <b>bistory2</b>

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# **OIL ANALYSIS REPORT**



		VISUAL		method	limit/base	current	history1	history2
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
$\checkmark$	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	
27/19	t12/21	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sep	0c May	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
C		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROPER	TIES	method	limit/base	current	history1	history2
	$\wedge$	Visc @ 100°C	cSt	ASTM D445	14	14.3	15.8	12.9
		GRAPHS						
		Ferrous Alloys						
Dec2// Sep11/	Oct12.	200 chromum 150 chromum 100 c	Decc///Job Dis	Octi221	May20/23			
		0 8///2017 Viscosity @ 100°(	Ducc///19	0et12/21	Wa/20/23	Base Number		
		17- Abnormal			8.0		$\sim$	
		0		1	KOH			
		Base		/	E 0.0			$\sim$
				/	4.0 N	)+		
		Abnorma			2 n	)		
		12-			2.0			
			20	21-	0.0		719	23
		Jul27, Vlay31,	Sep11/	0ct12	May20,	Jul27. May31,	Dec27, Sep11,	0ct12 May20/
Certificate L2367	Laboratory Sample No. Lab Number Unique Number Test Package	: WearCheck USA - : IL0031156 : 05900566 : 10561922 : FLEET	501 Madis Received Diagnose Diagnost	son Ave., Ca I : 17 c ed : 19 c ician : Wes	ry, NC 27513 Jul 2023 Jul 2023 s Davis	13 RUSH TRUCK LEASING - CLEVELAND IDEALEASE 5 ACORN DR OAKWOOD VILLAGE, OH US 44146-5550 Contact: JOHN FOSTER		
To discuss this	s sample report, o	contact Customer Serv	vice at 1-8	00-237-1369	). 	Fo	sterJ4@RushE	nterprises.com
- Denotes te Statements of o	st methods that a conformity to spec	are outside of the ISO ifications are based on t	17025 sco the simple	pe of accred acceptance o	litation. decision rule (	JCGM 106:2012)	T: F:	(440)359-7000 (440)439-565



Submitted By: TECHNICIAN ACCOUNT