

# **OIL ANALYSIS REPORT**



#### Machine Id **222** Component **Diesel Engine** Fluid **MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

#### DIAGNOSIS

### 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		RW0004903	RW0002960	
Sample Date		Client Info		19 Dec 2023	22 Sep 2023	
Machine Age	hrs	Client Info		610	604	
Oil Age	hrs	Client Info		403	400	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ATTENTION	
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.6	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	28	
Chromium	ppm	ASTM D5185m	>20	0	<1	
Nickel	ppm	ASTM D5185m	>4	0	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	<1	1	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	<1	5	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	nnm	ASTM D5185m		0	<1	
oudinium	pp	No fill Boroom		U		
ADDITIVES	pp	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 94	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 56 <1	history1 94 9	history2 
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 56 <1 41	history1 94 9 9	history2  
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 56 <1 41 <1	history1 94 9 9 1	history2   
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current           56           <1           41           <1           582	history1 94 9 9 1 639	history2   
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	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	current 56 <1 41 <1 582 1928	history1 94 9 9 1 639 1249	history2    
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current           56           <1           41           <1           582           1928           872	history1 94 9 9 1 639 1249 680	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current           56           <1           41           <1           582           1928           872           1039	history1 94 9 9 1 639 1249 680 755	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm 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	limit/base 0 0 0 0	current           56           <1           41           <1           582           1928           872           1039           3432	history1 94 9 9 1 639 1249 680 755 3042	history2
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 ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1	current         56         <1         41         <1         582         1928         872         1039         3432	history1 94 9 9 1 639 1249 680 755 3042 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	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         56         <1         41         <1         582         1928         872         1039         3432         current         6	history1           94           9           9           1           639           1249           680           755           3042           history1           15	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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         56         <1         41         <1         582         1928         872         1039         3432         current         6         2	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1	history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	Method           ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7	history2 history2
ADDITIVES 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	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         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         courrent         current	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method           ASTM D5185m	<pre>limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</pre>	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         0.2	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1         0.2	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium 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         1         1         1         1         2         20         20         23         20	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         0.2         6.7	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1         0.2         7.4	history2   history2                        history2         history2
ADDITIVES 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	Norm Dotion           method           ASTM D5185m           ASTM D7844           *ASTM D7624	imit/base          0          0          0         0 <th>current         56         &lt;1         41         &lt;1         582         1928         872         1039         3432         current         6         2         &lt;1         current         0.2         6.7         21.7</th> <th>history1         94         9         9         1         639         1249         680         755         3042         history1         15         &lt;1         7         history1         0.2         7.4         18.0</th> <th>history2  history2            history2                  history2  </th>	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         0.2         6.7         21.7	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1         0.2         7.4         18.0	history2  history2            history2                  history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method         ASTM D5185m         ASTM D7844         *ASTM D7624         *ASTM D7415         method	limit/base 0 0 0 0 0 1 0 1 1 1 2 2 1 2 2 0 1 2 2 0 1 2 2 0 1 2 2 0 2 2 0 2 2 0 2 2 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         0.2         6.7         21.7         current	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1         0.2         7.4         18.0         history1	history2   history2               history2            history2            history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method         ASTM D5185m         ASTM D7844         *ASTM D7844         *ASTM D7415         method         *ASTM D7414	imit/base   0 <tr< th=""><th>current         56         &lt;1         41         &lt;1         582         1928         872         1039         3432         current         6         2         &lt;1         current         6         2         &lt;1         current         0.2         6.7         21.7         current         20.1</th><th>history1         94         9         9         1         639         1249         680         755         3042         history1         15         &lt;1         7         history1         0.2         7.4         18.0         history1         13.0</th><th>history2   history2               history2                  history2               history2</th></tr<>	current         56         <1         41         <1         582         1928         872         1039         3432         current         6         2         <1         current         6         2         <1         current         0.2         6.7         21.7         current         20.1	history1         94         9         9         1         639         1249         680         755         3042         history1         15         <1         7         history1         0.2         7.4         18.0         history1         13.0	history2   history2               history2                  history2               history2



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31

2!

Abs/cm

10

12.

(mg KOH/g) B

6.0

4 ( Base

202 mat

18 17

12

10 Sep22/23

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# **OIL ANALYSIS REPORT**



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Contact/Location: DENNIS ONDRAJKA - HOMIML