

## **OIL ANALYSIS REPORT**

Sample Rating Trend



**Keye** 

Machine Id 45.64L [] Component Diesel Engine

# MOBIL DELVAC 1300 SUPER15W40 (--- 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		WC0874020	WC0873911	WC0778301
Sample Date		Client Info		04 Jun 2024	23 Feb 2024	12 Dec 2023
Machine Age	hrs	Client Info		1349	1078	837
Oil Age	hrs	Client Info		512	241	287
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	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 METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	7	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	7	3	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	3	1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 42	history1 61	history2 58
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 42 0	history1 61 0	history2 58 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 42 0 41	history1 61 0 40	history2 58 0 41
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 42 0 41 <1	history1 61 0 40 0	history2 58 0 41 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0	current 42 0 41 <1 530	history1 61 0 40 0 486	history2 58 0 41 <1 503
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 0 0 0	current 42 0 41 <1 530 1922	history1 61 0 40 0 486 1582	history2 58 0 41 <1 503 1648
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	current           42           0           41           <1           530           1922           852	history1 61 0 40 0 486 1582 752	history2 58 0 41 <1 503 1648 733
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 0 0 0 0 0 0 0 0 0 0 0 0	current           42           0           41           <1           530           1922           852           1019	history1 61 0 40 0 486 1582 752 899	history2 58 0 41 <1 503 1648 733 904
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 0 0	Current 42 0 41 <1 530 1922 852 1019 3156	history1 61 0 40 0 486 1582 752 899 2635	history2 58 0 41 <1 503 1648 733 904 2746
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           42           0           41           <1           530           1922           852           1019           3156           current	history1 61 0 40 0 486 1582 752 899 2635 history1	history2         58         0         41         <1         503         1648         733         904         2746         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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           42           0           41           <1           530           1922           852           1019           3156           current           4	history1         61         0         40         0         486         1582         752         899         2635         history1         4	history2         58         0         41         <1         503         1648         733         904         2746         history2
ADDITIVES Boron Barium Molybdenum 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           42           0           41           <1           530           1922           852           1019           3156           current           4           3	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4 ppm 2 ppm 2 ppm 2 ppm 2	method           ASTM D5185m	limit/base 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0	current           42           0           41           <1           530           1922           852           1019           3156           current           4           3           2	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1
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	method           ASTM D5185m	limit/base 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0	current         42         0         41         <1         530         1922         852         1019         3156         current         4         3         2         current	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4 ppm 2 ppm 2 ppm 4 ppm 4	method           ASTM D5185m	<pre>limit/base 0 0 0 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1</pre>	current           42           0           41           <1           530           1922           852           1019           3156           current           4           3           2           current           0.3	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1         0.1	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2         0.2
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	<pre>limit/base 0 0 0 0 0 0 0 1 0 1 1 1 2 2 5 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</pre>	current           42           0           41           <1           530           1922           852           1019           3156           current           4           3           2           current           0.3           7.9	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1         0.1         6.2	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2         0         1         history2         0.2         6.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ррт ррт ррт ррт ррт ррт ррт ррт	method           ASTM D5185m           ASTM D7844           *ASTM D7624	<pre>limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</pre>	current         42         0         41         <1         530         1922         852         1019         3156         current         4         3         2         current         0.3         7.9         22.0	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         4         2         1         history1         0.1         6.2         21.5	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2         4         0         1         history2         6.4         21.7
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	method           ASTM D5185m           ASTM D5185m	limit/base   0 <t< th=""><th>current         42         0         41         &lt;1         530         1922         852         1019         3156         current         4         3         2         current         0.3         7.9         22.0         current</th><th>history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1         0.1         6.2         21.5         history1</th><th>history2         58         0         41         &lt;1         503         1648         733         904         2746         history2         4         0         1         history2         4         0         1         history2         0.2         6.4         21.7         history2</th></t<>	current         42         0         41         <1         530         1922         852         1019         3156         current         4         3         2         current         0.3         7.9         22.0         current	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1         0.1         6.2         21.5         history1	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2         4         0         1         history2         0.2         6.4         21.7         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ррт ррт ррт ррт ррт ррт ррт ррт	method           ASTM D5185m           ASTM D7844           *ASTM D7414	<pre>limit/base 0 0 0 0 0 0 0 1 0 1 0 1 1 1 1 1 1 1 1</pre>	current         42         0         41         <1         530         1922         852         1019         3156         current         4         3         2         current         0.3         7.9         22.0         current         20.9	history1         61         0         40         0         486         1582         752         899         2635         history1         4         2         1         history1         0.1         6.2         21.5         history1         20.4	history2         58         0         41         <1         503         1648         733         904         2746         history2         4         0         1         history2         4         0         1         history2         6.4         21.7         history2         20.4



# **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
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
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	12.7	12.8	12.8

GRAPHS Ferrous Alloys



Test Package : CONST (Additional Tests: TBN) Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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