

## **OIL ANALYSIS REPORT**

Sample Rating Trend





MACK 429119-SW4913 Diesel Engine

# MOBIL DELVAC ELITE 15W40 (--- GAL)

### 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.

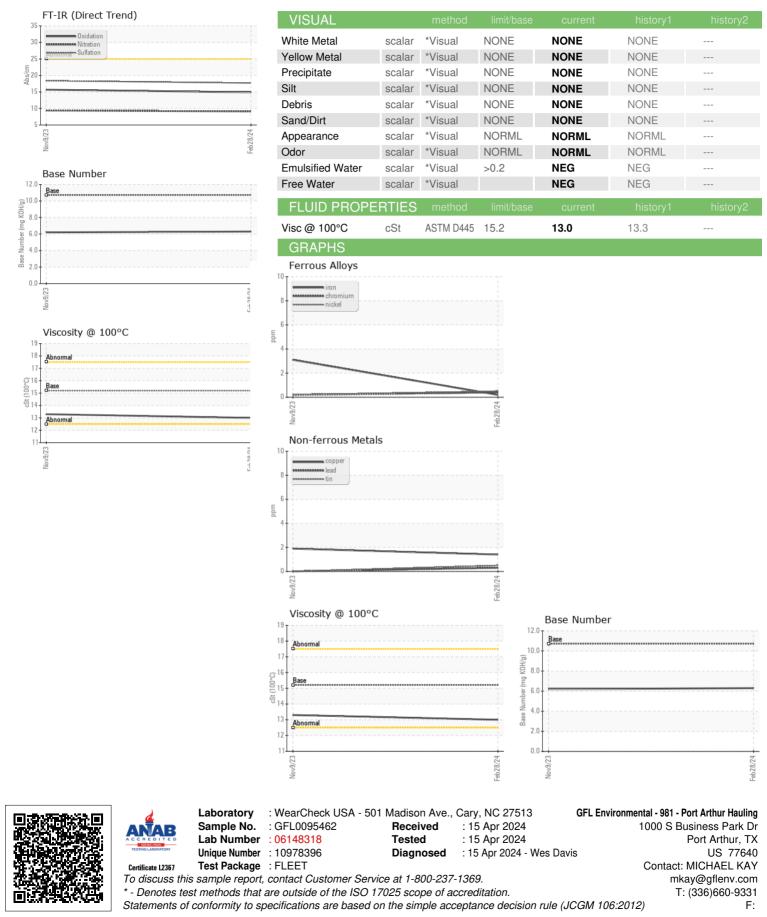
#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0095462	GFL0095439	
Sample Date		Client Info		28 Feb 2024	09 Nov 2023	
Machine Age	hrs	Client Info		6362	6092	
Oil Age	hrs	Client Info		0	500	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	<1	3	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>5	<1	<1	
Titanium	ppm	ASTM D5185m	>2	<1	<1	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm	ASTM D5185m	>20	4	2	
Lead	ppm	ASTM D5185m	>40	<1	0	
Copper	ppm	ASTM D5185m	>330	1	2	
Tin	ppm	ASTM D5185m	>15	<1	0	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		<1	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 133	history1 89	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	133	89	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	133 <1	89 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133	89 0 111	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1	89 0 111 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1 685	89 0 111 <1 620	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1 685 1310	89 0 1111 <1 620 1246	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1 685 1310 744	89 0 1111 <1 620 1246 674	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1 685 1310 744 867	89 0 1111 <1 620 1246 674 823	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	133 <1 133 <1 685 1310 744 867 3522	89 0 1111 <1 620 1246 674 823 3685 history1 4	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	133 <1 133 <1 685 1310 744 867 3522 current	89 0 111 <1 620 1246 674 823 3685 history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	133 <1 133 <1 685 1310 744 867 3522 current 4	89 0 1111 <1 620 1246 674 823 3685 history1 4	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	133 <1 133 <1 685 1310 744 867 3522 current 4 2 6 current	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >4	133 <1 133 <1 685 1310 744 867 3522 current 4 2 6 current 0.1	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 history1 0.2	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >4 >20	133 <1 133 <1 685 1310 744 867 3522 current 4 2 6 current 0.1 9.1	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 history1 0.2 9.4	    history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >4	133 <1 133 <1 685 1310 744 867 3522 current 4 2 6 current 0.1	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 history1 0.2	    history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >4 >20	133 <1 133 <1 685 1310 744 867 3522 current 4 2 6 current 0.1 9.1	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 history1 0.2 9.4	      history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >25 >20 Imit/base >20 >4 >20 >30	133 <1 133 <1 685 1310 744 867 3522 <u>current</u> 4 2 6 <u>current</u> 0.1 9.1 17.7	89 0 1111 <1 620 1246 674 823 3685 history1 4 <1 3 <u>history1</u> 0.2 9.4 18.4	     history2  history2  history2



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Report Id: GFL981 [WUSCAR] 06148318 (Generated: 04/15/2024 18:35:37) Rev: 1

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