

OIL ANALYSIS REPORT

Area OKLAHOMA/102/EG - OTHER SERVICE 99.96L [OKLAHOMA^102^EG - OTHER SERVICE] Component

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

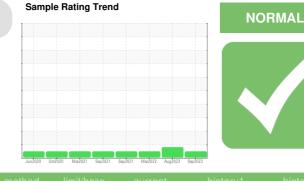
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

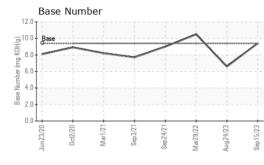
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

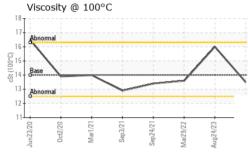


SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0849004	WC0821745	WC0678904
Sample Date		Client Info		15 Sep 2023	24 Aug 2023	29 Mar 2022
Machine Age	hrs	Client Info		1848	1800	1343
Oil Age	hrs	Client Info		48	457	197
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATIO	N	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	nom	ASTM D5185m	>100	42	▲ 152	20
Chromium	ppm ppm	ASTM D5185m	>20	42 <1	5	20
Nickel		ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m	~4	0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	2
Aluminum	ppm ppm	ASTM D5185m ASTM D5185m	>3 >20	1	9	4
Lead		ASTM D5185m	>20	0	8	4
	ppm	ASTM D5185m		8	o 18	4
Copper	ppm			0	2	
Tin	ppm	ASTM D5185m	>15			<1
Antimony Vanadium	ppm	ASTM D5185m ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
Caumium	ppm	ASTIN DOTODII		U	0	< 1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	62	history1 41	history2 55
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	62 12 45	41	55
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	62 12	41 0 53 2	55 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	62 12 45 0 565	41 0 53 2 668	55 0 39 <1 573
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	62 12 45 0	41 0 53 2	55 0 39 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	62 12 45 0 565	41 0 53 2 668 2267 884	55 0 39 <1 573 1820 772
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	62 12 45 0 565 1799	41 0 53 2 668 2267	55 0 39 <1 573 1820 772 935
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	62 12 45 0 565 1799 782	41 0 53 2 668 2267 884	55 0 39 <1 573 1820 772
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	0 0 0	62 12 45 0 565 1799 782 957	41 0 53 2 668 2267 884 1182	55 0 39 <1 573 1820 772 935
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 ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 Imit/base	62 12 45 0 565 1799 782 957 2737	41 0 53 2 668 2267 884 1182 2671	55 0 39 <1 573 1820 772 935 2209
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 Imit/base	62 12 45 0 565 1799 782 957 2737 current	41 0 53 2 668 2267 884 1182 2671 kistory1	55 0 39 <1 573 1820 772 935 2209 history2
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 method ASTM D5185m	0 0 0 0 0 	62 12 45 0 565 1799 782 957 2737 2737 current 5	41 0 53 2 668 2267 884 1182 2671 history1 10	55 0 39 <1 573 1820 772 935 2209 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 0 0 0 	62 12 45 0 565 1799 782 957 2737 2737 current 5 6	41 0 53 2 668 2267 884 1182 2671 history1 10 6	55 0 39 <1 573 1820 772 935 2209 history2 5 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 <u>limit/base</u> >25 >20	62 12 45 0 565 1799 782 957 2737 current 5 6 14	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2	55 0 39 <1 573 1820 772 935 2209 history2 5 2 2 0
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 limit/base >25 >20 limit/base >3	62 12 45 0 565 1799 782 957 2737 current 5 6 14 current	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2 2 history1	55 0 39 <1 573 1820 772 935 2209 history2 5 2 2 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	62 12 45 0 565 1799 782 957 2737 current 5 6 14 20.4	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2 2 history1 1.3	55 0 39 <1 573 1820 772 935 2209 history2 5 2 2 0 history2 0.4
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	ASTM D5185m ASTM D5185m	0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	62 12 45 0 565 1799 782 957 2737 <i>current</i> 5 6 14 <i>current</i> 0.4 8.0	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2 7 history1 1.3 1.3 15.2	55 0 39 <1 573 1820 772 935 2209 history2 5 2209 history2 0 history2 0.4 9.0
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 0 0 0 0 0 0 0 0 0 0 0 0 0 0	62 12 45 0 565 1799 782 957 2737 current 5 6 14 current 0.4 8.0 23.0	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2 2 history1 1.3 15.2 26.5	55 0 39 <1 573 1820 772 935 2209 history2 5 2 2 0 history2 0.4 9.0 24.4
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 D7844 *ASTM D7624 *ASTM D7615	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	62 12 45 0 565 1799 782 957 2737 current 5 6 14 current 0.4 8.0 23.0 current	41 0 53 2 668 2267 884 1182 2671 history1 10 6 2 history1 1.3 15.2 26.5 history1	55 0 39 <1 573 1820 772 935 2209 history2 5 2 2 0 history2 0.4 9.0 24.4 history2

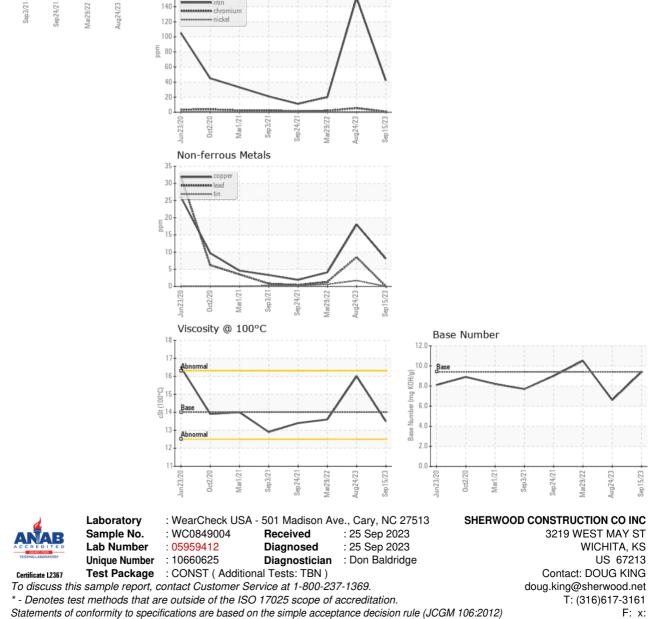


OIL ANALYSIS REPORT





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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	13.5	16.0	13.6
GRAPHS						
Ferrous Alloys						
iron 1		٨				
to - chromium						



Submitted By: RUSTY RILEY

Page 2 of 2