

## OKLAHOMA/3/EG - OTHER SERVICE 88.53L [OKLAHOMA^3^EG - OTHER SERVICE] Component

**Diesel Engine** 

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)





NORMAL

	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
	Sample Number		Client Info		WC0857507	WC0807977	WC0808012
or.	Sample Date		Client Info		27 Oct 2023	16 Aug 2023	28 Apr 2023
	Machine Age	hrs	Client Info		5059	4869	4664
	Oil Age	hrs	Client Info		9335	205	4264
	Oil Changed		Client Info		Changed	Changed	Changed
the	Sample Status				NORMAL	NORMAL	NORMAL
	CONTAMINATION	I	method	limit/base	current	history1	history2
	Fuel		WC Method	>5	<1.0	<1.0	<1.0
the	Glycol		WC Method		NEG	NEG	NEG
	WEAR METALS		method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>100	19	7	9
	Chromium	ppm	ASTM D5185m	>20	2	<1	<1
	Nickel	ppm	ASTM D5185m	>2	0	0	<1
	Titanium	ppm	ASTM D5185m	>2	<1	0	0
	Silver	ppm	ASTM D5185m	>2	0	0	0
	Aluminum	ppm	ASTM D5185m	>25	5	1	0
	Lead	ppm	ASTM D5185m	>40	0	0	<1
	Copper	ppm	ASTM D5185m	>330	3	1	2
	Tin	ppm	ASTM D5185m	>15	<1	<1	1
	Vanadium	ppm	ASTM D5185m		<1	0	<1
	Cadmium	ppm	ASTM D5185m		0	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	0	40	42	36
	Barium	ppm	ASTM D5185m	0	0	2	0
	Molybdenum	ppm	ASTM D5185m	0	40	42	45
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m	0	484	542	542
	Calcium	ppm	ASTM D5185m		1696	1771	1713
	Phosphorus	ppm	ASTM D5185m		670	774	775
	-						110
	Zinc	ppm	ASTM D5185m		862	912	948
	Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m				
				limit/base	862	912	948
	Sulfur		ASTM D5185m	limit/base	862 2373	912 2903	948 3117
	Sulfur CONTAMINANTS	ppm	ASTM D5185m method		862 2373 current	912 2903 history1	948 3117 history2
	Sulfur CONTAMINANTS Silicon	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m		862 2373 current 24	912 2903 history1 5	948 3117 history2 6
	Sulfur CONTAMINANTS Silicon Sodium	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	>25	862 2373 current 24 4 0	912 2903 history1 5 2	948 3117 history2 6 2
	Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20	862 2373 current 24 4 0	912 2903 history1 5 2 0	948 3117 history2 6 2 2
	Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	>25 >20 limit/base >3	862 2373 current 24 4 0 current	912 2903 history1 5 2 0 history1	948 3117 history2 6 2 2 2 history2
	Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	>25 >20 limit/base >3 >20	862 2373 current 24 4 0 current 0.3	912 2903 history1 5 2 0 history1 0.3	948 3117 history2 6 2 2 history2 0.3
	Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm pm v v v k bs/cm Abs/cm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	>25 >20 limit/base >3 >20	862 2373 current 24 4 0 current 0.3 7.0	912 2903 history1 5 2 0 history1 0.3 7.6	948 3117 history2 6 2 2 history2 0.3 8.6
	Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm pm v v v k bs/cm Abs/cm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	>25 >20 limit/base >3 >20 >30	862 2373 current 24 4 0 current 0.3 7.0 21.4	912 2903 history1 5 2 0 history1 0.3 7.6 22.4	948 3117 history2 6 2 2 history2 0.3 8.6 22.7

DIAGNOSIS

### Recommendation

Resample at the next service interval to m

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contaminatio oil.

### Fluid Condition

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



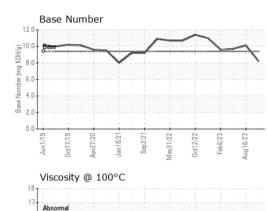
16 cSt (100°C) Base 13 Ab

12

0ct17/19

Anr77/7/ an 18/21

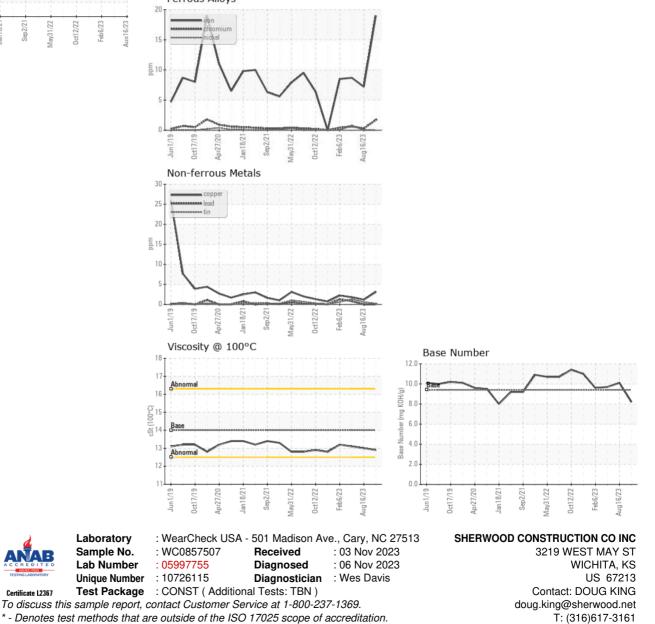
# **OIL ANALYSIS REPORT**



en2/21 Mav31/22

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 PROPERT	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	12.9	13.0	13.1
GRAPHS						

Ferrous Alloys



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





Submitted By: GARRETT ADAMS

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