

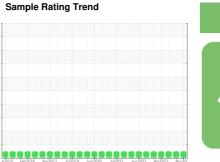
OIL ANALYSIS REPORT

OKLAHOMA/102/EG - OTHER SERVICE 54.16L [OKLAHOMA^102^EG - OTHER SERVICE] Component

Diesel Engine

DIAGNOSIS Recommendation

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)





NORMAL

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0819898	WC0819993	WC0819937
Sample Date		Client Info		09 Nov 2023	18 Sep 2023	29 Jul 2023
Machine Age	hrs	Client Info		8544	8474	8469
Oil Age	hrs	Client Info		8243	8243	8243
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	DN .	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	>150	2	4	4
Chromium	ppm	ASTM D5185m		- <1	0	<1
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	1	2
Lead		ASTM D5185m	>20	، <1	0	0
	ppm			<1	1	0
Copper Tin	ppm	ASTM D5185m ASTM D5185m	>30	<1 0	0	0
Vanadium	ppm		>10	0	0	0
Cadmium	ppm	ASTM D5185m ASTM D5185m		0	0	0
ADDITIVES	ppm		limit/base	-	-	-
		method		current	history1	history2
Boron	ppm	ASTM D5185m	0	74	79	57
Barium	ppm	ASTM D5185m	0	0	12	0
Molybdenum	ppm	ASTM D5185m	0			
Manganese			0	41	41	33
Maria a strategy	ppm	ASTM D5185m	0	41 <1	0	33 <1
Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	0	<1 544		
Calcium		ASTM D5185m		<1	0	<1
•	ppm	ASTM D5185m ASTM D5185m		<1 544	0 543	<1 477
Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		<1 544 1730	0 543 1683	<1 477 1481
Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 544 1730 674	0 543 1683 764	<1 477 1481 676
Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 544 1730 674 930	0 543 1683 764 923	<1 477 1481 676 848
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	<1 544 1730 674 930 2662	0 543 1683 764 923 2852	<1 477 1481 676 848 2750
Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 limit/base	<1 544 1730 674 930 2662 current	0 543 1683 764 923 2852 history1	<1 477 1481 676 848 2750 history2
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm ppm ppm ppm S	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	0 limit/base >25	<1 544 1730 674 930 2662 current 8	0 543 1683 764 923 2852 history1 15	<1 477 1481 676 848 2750 history2 6
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 limit/base >25	<1 544 1730 674 930 2662 current 8 3	0 543 1683 764 923 2852 history1 15 5	<1 477 1481 676 848 2750 history2 6 <1
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	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 limit/base >25 >20	<1 544 1730 674 930 2662 current 8 3 0	0 543 1683 764 923 2852 <u>history1</u> 15 5 11	<1 477 1481 676 848 2750 history2 6 <1 2
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm s ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 limit/base >25 >20 limit/base	<1 544 1730 674 930 2662 current 8 3 0 current 0	0 543 1683 764 923 2852 history1 15 5 11 history1	<1 477 1481 676 848 2750 history2 6 <1 2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854	0 limit/base >25 >20 limit/base >3	<1 544 1730 674 930 2662 current 8 3 0 Current	0 543 1683 764 923 2852 history1 15 5 11 history1 0	<1 477 1481 676 848 2750 history2 6 <1 2 history2 0.1
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *ASTM D7844	0 limit/base >25 >20 limit/base >3 >20	<1 544 1730 674 930 2662 <u>current</u> 8 3 0 <u>current</u> 0 5.0	0 543 1683 764 923 2852 history1 15 5 11 history1 0 5.0	<1 477 1481 676 848 2750 history2 6 <1 2 history2 0.1 5.5
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm s ppm ppm ppm pp	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 1 1 1 1 2 2 3 2 0 1 1 1 1 2 0 1 1 1 1 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1	<1 544 1730 674 930 2662 current 8 3 0 current 0 5.0 21.5 current	0 543 1683 764 923 2852 history1 15 5 11 history1 0 5.0 21.2 history1	<1 477 1481 676 848 2750 history2 6 <1 2 history2 0.1 5.5 20.9 history2
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854 *ASTM D7844 *ASTM D7624	0 limit/base >25 >20 limit/base >3 >20 >30	<1 544 1730 674 930 2662 <u>current</u> 8 3 0 <u>current</u> 0 5.0 21.5	0 543 1683 764 923 2852 history1 15 5 11 history1 0 5.0 21.2	<1 477 1481 676 848 2750 history2 6 <1 2 history2 0.1 5.5 20.9

Customer Sample Comment: 8544 hrs) Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

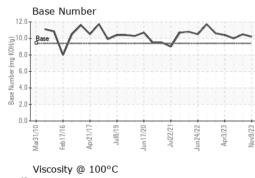
Resample at the next service interval to monitor. (

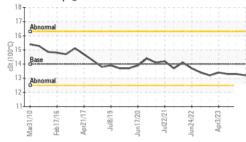
Fluid Condition

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

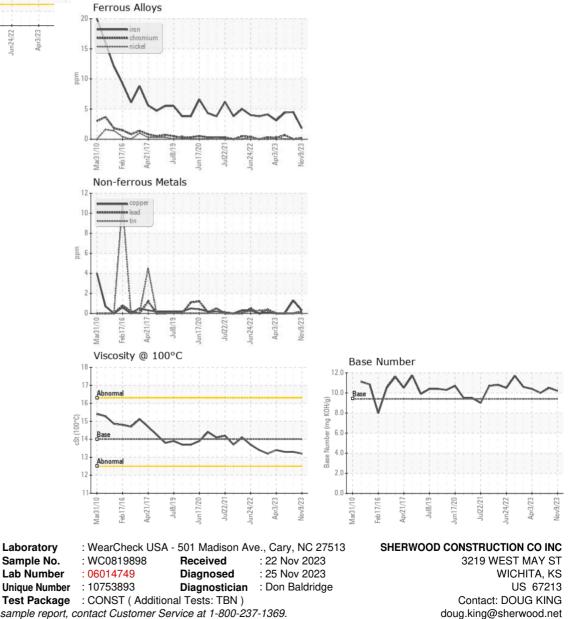


OIL ANALYSIS REPORT





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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	13.2	13.3	13.3
GRAPHS						





 Certificate 12367
 Test Package
 : CONST (Additional Tests: TBN)

 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)

Submitted By: LOUIS BRESHEARS

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