

OIL ANALYSIS REPORT

Sample Rating Trend

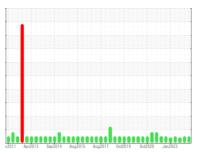
NORMAL



OKLAHOMA/3/EG - LOADER Machine Id 48.81L [OKLAHOMA^3^EG - LOADER]

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Moor

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

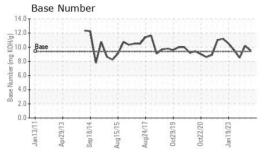
Fluid Condition

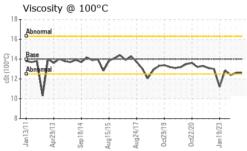
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0834059	WC0800744	WC0670239
Sample Date		Client Info		05 Aug 2023	09 May 2023	03 Mar 2023
Machine Age	hrs	Client Info		1353	891	629
Oil Age	hrs	Client Info		297	297	300
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	MARGINAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	1.6
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	29	18	18
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	<1	1
Lead	ppm	ASTM D5185m	>40	2	1	2
Copper	ppm	ASTM D5185m	>330	14	12	26
Tin	ppm	ASTM D5185m	>15	2	2	3
Vanadium	ppm	ASTM D5185m		0	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 43	history1 58	history2 56
	ppm					
Boron		ASTM D5185m	0	43	58	56
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	43 2	58 2	56 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	43 2 44	58 2 42	56 0 41
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	43 2 44 <1 482 1757	58 2 42 <1	56 0 41 <1 478 1651
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	43 2 44 <1 482 1757 759	58 2 42 <1 479 1651 744	56 0 41 <1 478
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	43 2 44 <1 482 1757 759 924	58 2 42 <1 479 1651 744 887	56 0 41 <1 478 1651 714 884
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 ASTM D5185m	0 0 0	43 2 44 <1 482 1757 759	58 2 42 <1 479 1651 744	56 0 41 <1 478 1651 714
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 ASTM D5185m	0 0 0	43 2 44 <1 482 1757 759 924	58 2 42 <1 479 1651 744 887	56 0 41 <1 478 1651 714 884
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	43 2 44 <1 482 1757 759 924 2713	58 2 42 <1 479 1651 744 887 2574	56 0 41 <1 478 1651 714 884 2933
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	43 2 44 <1 482 1757 759 924 2713 current	58 2 42 <1 479 1651 744 887 2574 history1	56 0 41 <1 478 1651 714 884 2933 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	43 2 44 <1 482 1757 759 924 2713 current	58 2 42 <1 479 1651 744 887 2574 history1	56 0 41 <1 478 1651 714 884 2933 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 Iimit/base	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 history1	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1
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 ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1 current	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 0.3	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1 history2 0.3
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	ASTM D5185m Method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 history1 0.3 6.9	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1 history2 0.3 7.1
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 ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1 current	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 0.3	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1 history2 0.3
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 Method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3 >20	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1 current 0.5 7.3	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 history1 0.3 6.9	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1 history2 0.3 7.1
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 Method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30	43 2 44 <1 482 1757 759 924 2713 current 9 0 <1 current 0.5 7.3 23.0	58 2 42 <1 479 1651 744 887 2574 history1 12 1 <1 0.3 6.9 22.8	56 0 41 <1 478 1651 714 884 2933 history2 16 3 <1 history2 0.3 7.1 22.7



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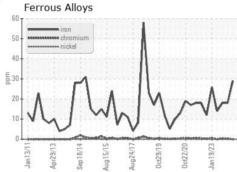


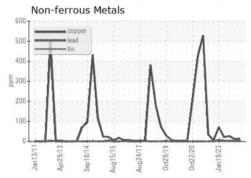


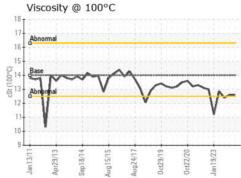
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

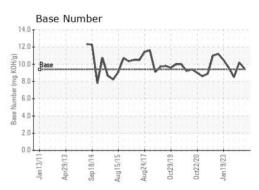
FLUID PROPERTIES		metnoa	ilmit/base	current	nistory i	nistory2	
Visc @ 100°C	cSt	ASTM D445	14	12.6	12.6	▲ 12.4	

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10603123

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0834059 : 05923176

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received Diagnosed Diagnostician : Wes Davis Test Package : CONST (Additional Tests: TBN)

: 14 Aug 2023

: 14 Aug 2023

WICHITA, KS US 67213 Contact: DOUG KING doug.king@sherwood.net

SHERWOOD CONSTRUCTION CO INC

T: (316)617-3161 F: x:

3219 WEST MAY ST

* - 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)