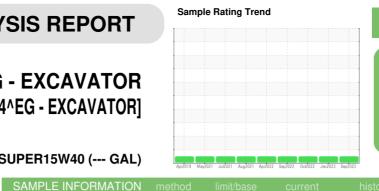


# **OIL ANALYSIS REPORT**

# KANSAS/44/EG - EXCAVATOR 54.102L [KANSAS^44^EG - EXCAVATOR] Component

**Diesel Engine** Fluic

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)





NORMAL

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

#### 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	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0833855	WC0745918	WC0741718
Sample Date		Client Info		26 Sep 2023	31 Jan 2023	14 Oct 2022
Machine Age	hrs	Client Info		933	850	767
Oil Age	hrs	Client Info		767	767	32
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method	20	NEG	NEG	NEG
, ,				NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	9	14
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>40	<1	1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	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 65	history1 62	history2 69
	ppm ppm					
Boron		ASTM D5185m	0	65	62	69
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	65 0	62 0	69 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	65 0 37	62 0 37	69 0 35
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	65 0 37 <1	62 0 37 <1	69 0 35 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	65 0 37 <1 529	62 0 37 <1 538	69 0 35 <1 531
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	65 0 37 <1 529 1653	62 0 37 <1 538 1669	69 0 35 <1 531 1646
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	65 0 37 <1 529 1653 737	62 0 37 <1 538 1669 750	69 0 35 <1 531 1646 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	65 0 37 <1 529 1653 737 893	62 0 37 <1 538 1669 750 956	69 0 35 <1 531 1646 772 854
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 limit/base	65 0 37 <1 529 1653 737 893 2723	62 0 37 <1 538 1669 750 956 3264	69 0 35 <1 531 1646 772 854 3037
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 limit/base	65 0 37 <1 529 1653 737 893 2723 current	62 0 37 <1 538 1669 750 956 3264 history1	69 0 35 <1 531 1646 772 854 3037 history2
Boron Barium Molybdenum Maganese 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 ASTM D5185m <b>method</b> ASTM D5185m	0 0 0 0 limit/base >25	65 0 37 <1 529 1653 737 893 2723 2723 current 11	62 0 37 <1 538 1669 750 956 3264 history1 6	69 0 35 <1 531 1646 772 854 3037 history2 7
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 <b>method</b> ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25	65 0 37 <1 529 1653 737 893 2723 current 11 2 0	62 0 37 <1 538 1669 750 956 3264 history1 6 2	69 0 35 <1 531 1646 772 854 3037 history2 7 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 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	65 0 37 <1 529 1653 737 893 2723 current 11 2 0	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1	69 0 35 <1 531 1646 772 854 3037 history2 7 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	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	65 0 37 <1 529 1653 737 893 2723 <u>current</u> 11 2 0 <u>current</u> 0.1	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1 0.1	69 0 35 <1 531 1646 772 854 3037 history2 7 2 0 history2 0.1
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 ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	65 0 37 <1 529 1653 737 893 2723 current 11 2 0 0	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1	69 0 35 <1 531 1646 772 854 3037 history2 7 2 0 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	65 0 37 <1 529 1653 737 893 2723 current 11 2 0 0 current 0.1 6.4	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1 0.1 6.3	69 0 35 <1 531 1646 772 854 3037 history2 7 2 0 history2 0.1 6.5 22.6
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 D7844	0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	65 0 37 <1 529 1653 737 893 2723 Current 11 2 0 Current 0.1 6.4 20.9 Current	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1 0.1 6.3 20.9 history1	69 0 35 <1 531 1646 772 854 3037 history2 7 2 0 history2 0.1 6.5 22.6 history2
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	65 0 37 <1 529 1653 737 893 2723 <b>current</b> 11 2 0 <b>current</b> 0.1 6.4 20.9	62 0 37 <1 538 1669 750 956 3264 history1 6 2 2 2 history1 0.1 6.3 20.9	69 0 35 <1 531 1646 772 854 3037 history2 7 2 0 history2 0.1 6.5 22.6

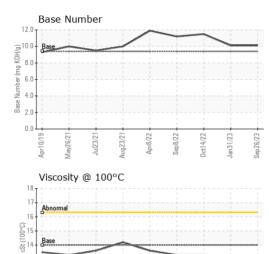


Base 13 Abnorma

12

Apr10/19

# **OIL ANALYSIS REPORT**



Apr8/22 Can 8/77

un23/71

VISUAL		method				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	13.1	13.1	13.3
GRAPHS						

Ferrous Alloys 35 an31/73 30 25 20 10 5 η. Apr10/19 Aug23/21 lav26/21 Apr8/22 en8/77 en 26/23 Non-ferrous Metals 12 10 lead bpm 0 ep8/73 ct14/77 en 26/73 1073/2 Apr1 Viscosity @ 100°C Base Number 18 12.0 17 10. (mg KOH/g) 16 8 ( cSt (100°C) 14 6.0 Der Ba 4.0 13 Base Abnorma 2 ( 12 0.0 Apr10/19 0ct14/22 -Sep26/23 -Aug23/21 Apr10/19 Apr8/22 Jan31/23 Sep 26/23 Apr8/22 Jan31/23 Aug23/21 Mav26/21 Sen8/77 Mav26/21 Sep 8/22 0ct14/22 SHERWOOD CONSTRUCTION CO INC Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0833855 Received : 03 Oct 2023 3219 WEST MAY ST Lab Number : 05967515 Diagnosed : 04 Oct 2023 WICHITA, KS Unique Number : 10674066 Diagnostician : Wes Davis US 67213 Contact: DOUG KING doug.king@sherwood.net

Report Id: SHEWIC [WUSCAR] 05967515 (Generated: 10/05/2023 04:14:08) Rev: 1

Test Package : CONST (Additional Tests: TBN) Certificate L2367 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)

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