

OIL ANALYSIS REPORT

KANSAS/44/EG - EXCAVATOR 20.019L [KANSAS^44^EG - EXCAVATOR] MOBIL DELVAC 1300 SUPER15W40 (--- GAL)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Area

Fluid

Diesel Engine

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected 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	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0918141	WC0833816	WC0789932
Sample Date		Client Info		01 Apr 2024	23 Oct 2023	12 May 2023
Machine Age	hrs	Client Info		1063	7556	2276
Oil Age	hrs	Client Info		0	0	5553
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
		mothod	limit/bass	ourropt	biotonut	bioton/2
		methou	IIIIII/Dase	current	history	Thistory2
Iron	ppm	ASTM D5185m	>100	9	6	8
Chromium	ppm	ASTM D5185m	>20	1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	2	<1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	<1	<1
Tin	ppm	ASTM D5185m	>15	1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVE5		method	limit/base	current	history1	history2
Boron	ppm	Method ASTM D5185m	limit/base	current 53	history1 48	history2 55
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	limit/base 0 0	current 53 <1	history1 48 0	history2 55 0
Boron Barium Molybdenum	ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 53 <1 40	history1 48 0 39	history2 55 0 41
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0	current 53 <1 40 1	history1 48 0 39 0	history2 55 0 41 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 53 <1 40 1 483	history1 48 0 39 0 476	history2 55 0 41 <1 517
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 53 <1 40 1 483 1615	history1 48 0 39 0 476 1677	history2 55 0 41 <1 517 1747
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 53 <1 40 1 483 1615 767	history1 48 0 39 0 476 1677 786	history2 55 0 41 <1 517 1747 793
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0	current 53 <1 40 1 483 1615 767 902	history1 48 0 39 0 476 1677 786 878	history2 55 0 41 <1 517 1747 793 955
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707	history1 48 0 39 0 476 1677 786 878 2359	history2 55 0 41 <1 517 1747 793 955 2535
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 53 <1 40 1 483 1615 767 902 2707 current	history1 48 0 39 0 476 1677 786 878 2359 history1	history2 55 0 41 <1 517 1747 793 955 2535 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	limit/base 0 0 0 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1	current 53 <1 40 1 483 1615 767 902 2707 current 6	history1 48 0 39 0 476 1677 786 878 2359 history1 9	history2 55 0 41 <1 517 1747 793 955 2535 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 1 0 0 1 0 1 0 1 0 1 1 1 1	current 53 <1 40 1 483 1615 767 902 2707 current 6 3	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 ▲ 2.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <1.0	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 ▲ 2.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <1.0 history1	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 2 current 0.2	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <1.0 history1 0.2	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2 0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D52824	limit/base 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 ▲ 2.5 current 0.2 7.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <1.0 history1 0.2 6	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2 0.2 7.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 ▲ 2.5 current 0.2 7.5 22.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <10 history1 0.2 6.8 22.0	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2 0.2 7.0 22.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5244 *ASTM D7844	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 2 current 0.2 7.5 22.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <10 history1 0.2 6.8 22.0	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2 0.2 7.0 22.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 2.5 current 0.2 7.5 22.5 current	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <10 history1 0.2 6.8 22.0 history1	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <1.0 history2 0.2 7.0 22.5 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D78144	limit/base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current 53 <1 40 1 483 1615 767 902 2707 current 6 3 2 current 0.2 7.5 22.5 current 2.5	history1 48 0 39 0 476 1677 786 878 2359 history1 9 4 <1 <1.0 history1 0.2 6.8 22.0 history1 21.0	history2 55 0 41 <1 517 1747 793 955 2535 history2 5 3 <1 <10 history2 0.2 7.0 22.5 history2 22.5



OIL ANALYSIS REPORT







Aug23/22

lec23/21

Feb 8/23

/av12/23

0ct23/23

1 10

Sep3/20

nr73/7

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
		mothod	limit/booo	ourropt	historyd	history
	IEO	method	innit/base	current	riistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	14	12.2	12.5	12.7
GRAPHS						



Laboratory SHERWOOD CONSTRUCTION CO INC Sample No. 3219 WEST MAY ST 51 Lab Number : 06142891 Tested : 15 Apr 2024 WICHITA, KS Unique Number : 10967699 Diagnosed : 15 Apr 2024 - Wes Davis US 67213 Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN) Contact: DOUG KING Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. doug.king@sherwood.net * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (316)617-3161 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: x:

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Submitted By: JAMES MOORE

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