

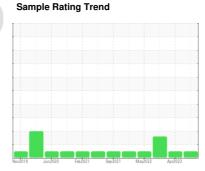
# **OIL ANALYSIS REPORT**



OKLAHOMA/102/EG - EXCAVATOR 20.143L [OKLAHOMA^102^EG - EXCAVATOR]

**Diesel Engine** 

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)





## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the

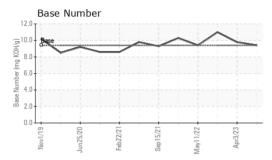
### **Fluid Condition**

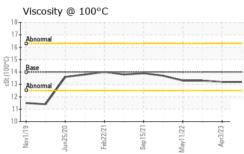
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0833966	WC0746788	WC0746301
Sample Date		Client Info		15 Aug 2023	03 Apr 2023	08 Dec 2022
Machine Age	hrs	Client Info		3370	3346	2988
Oil Age	hrs	Client Info		312	2988	190
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	33	29	<u></u> 112
Chromium	ppm	ASTM D5185m	>20	1	1	4
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	9	8	<u>^</u> 22
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	10	64
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
		AOTAL DELOE		_	_	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES ADDITIVES	ppm	method	limit/base	current	0 history1	history2
	ppm		limit/base			
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 29	history1	history2
ADDITIVES Boron Barium	ppm	method ASTM D5185m ASTM D5185m	0	current 29	history1 41 2	history2 23 0
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 29 0 41	history1 41 2 42	history2 23 0 49
ADDITIVES  Boron  Barium  Molybdenum  Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 29 0 41 <1	history1 41 2 42 <1	history2 23 0 49 2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium	ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 29 0 41 <1 567	history1 41 2 42 <1 461	history2 23 0 49 2 472
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 29 0 41 <1 567 1766	history1 41 2 42 <1 461 1673	history2 23 0 49 2 472 1753
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0	current 29 0 41 <1 567 1766 771	history1  41 2 42 <1 461 1673 739	history2 23 0 49 2 472 1753 756
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0	current 29 0 41 <1 567 1766 771 946	history1  41 2 42 <1 461 1673 739 897	history2 23 0 49 2 472 1753 756 944
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0 0	current 29 0 41 <1 567 1766 771 946 2958	history1  41 2 42 <1 461 1673 739 897 2465	history2 23 0 49 2 472 1753 756 944 2792
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 0	current  29  0  41  <1  567  1766  771  946  2958  current	history1  41  2  42  <1  461  1673  739  897  2465  history1	history2  23  0 49  2 472 1753 756 944 2792 history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 0 Iimit/base	current 29 0 41 <1 567 1766 771 946 2958 current 6	history1  41  2  42  <1  461  1673  739  897  2465  history1  6	history2  23  0 49  2 472 1753 756 944 2792 history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0 0 Iimit/base	current 29 0 41 <1 567 1766 771 946 2958 current 6 2	history1  41 2 42 <1 461 1673 739 897 2465 history1 6 7	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50
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	0 0 0 0 limit/base >25 >20	current 29 0 41 <1 567 1766 771 946 2958 current 6 2 0	history1  41  2  42  <1  461  1673  739  897  2465  history1  6  7	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50  3
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINANTS  Silicon  Sodium  Potassium  INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m  method	0 0 0 0 0 limit/base >25 >20 limit/base >3	current 29 0 41 <1 567 1766 771 946 2958 current 6 2 0 current	history1  41  2  42  <1  461  1673  739  897  2465  history1  6  7  2  history1	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50  3  history2
ADDITIVES  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	method ASTM D5185m method ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	current 29 0 41 <1 567 1766 771 946 2958 current 6 2 0 current 0.3	history1  41  2  42  <1  461  1673  739  897  2465  history1  6  7  2  history1  0.3	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50  3  history2
ADDITIVES  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	method  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	current 29 0 41 <1 567 1766 771 946 2958 current 6 2 0 current 0.3 8.2	history1  41  2  42  <1  461  1673  739  897  2465  history1  6  7  2  history1  0.3  7.3	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50  3  history2  1  9.4
ADDITIVES 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	method  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	current 29 0 41 <1 567 1766 771 946 2958 current 6 2 0 current 0.3 8.2 22.0	history1  41  2  42  <1  461  1673  739  897  2465  history1  6  7  2  history1  0.3  7.3  22.3	history2  23  0 49  2 472  1753  756  944  2792  history2  12  50  3  history2  1  9.4  25.4



## **OIL ANALYSIS REPORT**



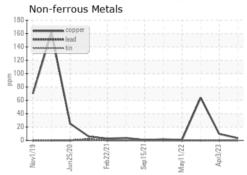


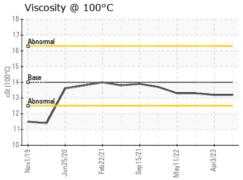
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

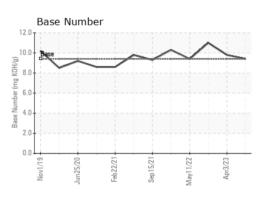
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	14	13.2	13.2	13.3

#### **GRAPHS**

# Ferrous Alloys 120 E 60











Laboratory Sample No. Lab Number

**Unique Number** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0833966 : 05937123 : 10622394

Received Diagnosed

: 29 Aug 2023 Diagnostician : Wes Davis

: 29 Aug 2023

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.

SHERWOOD CONSTRUCTION CO INC

3219 WEST MAY ST WICHITA, KS US 67213 Contact: DOUG KING

doug.king@sherwood.net

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

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