

OIL ANALYSIS REPORT

Sample Rating Trend





OKLAHOMA/3
Machine Id
39.63 [OKLAHOMA^3]

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

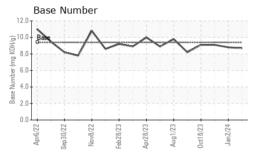
Fluid Condition

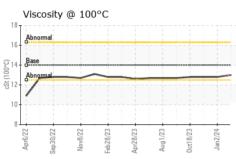
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 4901 4819 4226 252 Oil Age hrs Client Info 4819 4226 252 Oil Changed Client Info N/A Changed Changed Sample Status Client Info N/A Changed	Sample Number		Client Info		WC0873965	WC0886970	WC0857301
Oil Age hrs Client Info 4819 4226 252 Oil Changed Client Info N/A Changed Changed Sample Status Client Info N/A Changed Changed CONTAMINATION method limit/base current history2 Fuel WC Method >5 <1.0	Sample Date		Client Info		24 Jan 2024	02 Jan 2024	19 Oct 2023
Oil Changed Sample Status Client Info N/A Changed NORMAL NO	Machine Age	hrs	Client Info		4901	4819	4226
Sample Status	Oil Age	hrs	Client Info		4819	4226	252
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <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 >100 3 17 19 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 2 <1 <1 Lead ppm ASTM D5185m >330 2 2 2 1 <t< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>N/A</th><th>Changed</th><th>Changed</th></t<>	Oil Changed		Client Info		N/A	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method Imit/base current Limit/base NEG NEG NEG NEG WEAR METALS method Imit/base current Limit/base NEG NEG NEG NEG WEAR METALS method Imit/base current Limitory1 history1 history2 Iron ppm ASTM D5185m >20 <1	CONTAMINATION	١	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >2 0 0 0 Titanium ppm ASTM D5185m >2 <1	Iron	nnm	ASTM D5185m	>100	3	17	19
Nickel							
Titanium ppm ASTM D5185m >2 <1 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1 <1 Lead ppm ASTM D5185m >40 0 1 0 Copper ppm ASTM D5185m >330 2 2 1 Tin ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 <th></th> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>							
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Aluminum							
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Copper ppm ASTM D5185m >330 2 2 1 Tin ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 53 26 26 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 39 39 41 Manganese ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 1563 1725 1726 Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 2647 2545 2572					_		
Tin ppm ASTM D5185m >15 0 <1					-		
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 53 26 26 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 39 39 41 Manganese ppm ASTM D5185m 0 <1					_	_	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 53 26 26 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 39 39 41 Manganese ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 1563 1725 1726 Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 1 0 0				>15			
ADDITIVES					-		
Boron		ppm					
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 39 39 41 Manganese ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 1563 1725 1726 Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 <t< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 39 39 41 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0			26
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 0 448 490 520 Calcium ppm ASTM D5185m 1563 1725 1726 Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 830 902 944 Sulfur ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm "ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm "ASTM D7415 >30 21.1 21.5 22.7	Molybdenum	ppm	ASTM D5185m	0	39	39	41
Calcium ppm ASTM D5185m 1563 1725 1726 Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 830 902 944 Sulfur ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 <td< th=""><th>Manganese</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th></th><th><1</th></td<>	Manganese	ppm	ASTM D5185m		0		<1
Phosphorus ppm ASTM D5185m 771 824 711 Zinc ppm ASTM D5185m 830 902 944 Sulfur ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >20 1 0 0 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current <td< th=""><th>Magnesium</th><th>ppm</th><th>ASTM D5185m</th><th>0</th><th>448</th><th>490</th><th>520</th></td<>	Magnesium	ppm	ASTM D5185m	0	448	490	520
Zinc ppm ASTM D5185m 830 902 944 Sulfur ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Calcium	ppm	ASTM D5185m		1563	1725	1726
Sulfur ppm ASTM D5185m 2647 2545 2572 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >20 1 0 0 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Phosphorus	ppm	ASTM D5185m		771	824	711
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m >0 4 3 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Zinc	ppm	ASTM D5185m		830	902	944
Silicon ppm ASTM D5185m >25 4 4 5 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Sulfur	ppm	ASTM D5185m		2647	2545	2572
Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0		ppm		>25			
INFRA-RED	Sodium	ppm	ASTM D5185m		0	4	3
Soot % % *ASTM D7844 >3 0.1 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Potassium	ppm	ASTM D5185m	>20	1	0	0
Nitration Abs/cm *ASTM D7624 >20 6.2 8.5 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.1 21.5 22.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Soot %	%	*ASTM D7844	>3	0.1	0.3	0.4
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.4 20.4 22.0	Nitration	Abs/cm	*ASTM D7624	>20	6.2	8.5	9.1
Oxidation	Sulfation		*ASTM D7415	>30	21.1	21.5	22.7
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	20.4	22.0



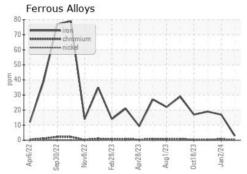
OIL ANALYSIS REPORT

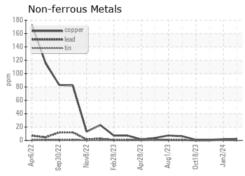


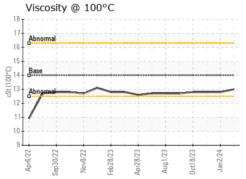


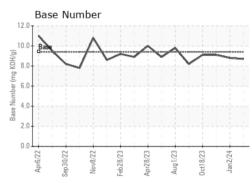
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	14	13.0	12.8	12.8













Laboratory Sample No. Lab Number : 06076678

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0873965

Unique Number: 10858769

Received **Tested** Diagnosed

: 01 Feb 2024 : 02 Feb 2024

: 02 Feb 2024 - Wes Davis

SHERWOOD CONSTRUCTION CO INC

3219 WEST MAY ST WICHITA, KS US 67213

Contact: SHAWN SOUTH shawn.south@sherwood.net

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)

T: x:

F: x: