

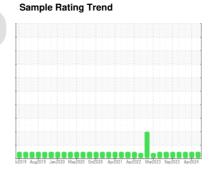
# **OIL ANALYSIS REPORT**



OKLAHOMA/3/EG - TRUCK-OFF-HWY-HEAVY HAUL 69.12 [OKLAHOMA^3^EG - TRUCK-OFF-HWY-HEAVY HAUL]

**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

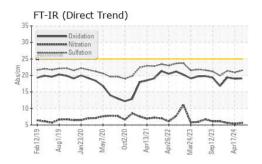
## **Fluid Condition**

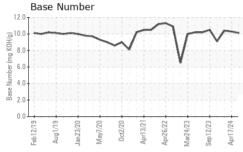
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

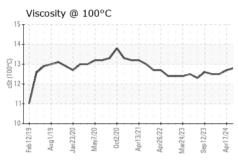
Company   Comp	SAMPLE INFORMA	ATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         11208         11066         10847           Oil Age         hrs         Client Info         300         18966         10847           Oil Changed         Client Info         Not Changed         Changed         Changed           Sample Status         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         Imitibase         current         history1         history2           Fuel         WC Method         NEG         NEG         NEG         NEG           Water         WC Method         NEG         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Ifon         ppm         ASTM D5185m         2         0         2           Chromium         ppm         ASTM D5185m         0         0         0           S	Sample Number		Client Info		WC0908873	WC0914452	WC0887015
Oil Changed	Sample Date		Client Info		29 May 2024	17 Apr 2024	02 Feb 2024
Oil Changed	Machine Age	hrs	Client Info		11208	11066	10847
Client Info   Not Changed   Changed   NORMAL   NORMAL   NORMAL   NORMAL   NORMAL		hrs	Client Info		300	18966	10847
NORMAL   NORMAL   NORMAL   NORMAL	-		Client Info		Not Changd	Changed	Changed
Fuel					•		
Water         WC Method         NEG         NEG         NEG           Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         0         0         0         0           Nickel         ppm         ASTM D5185m         0         0         0         -1           Titanium         ppm         ASTM D5185m         0         0         0         0           Sliver         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m         0         0         0         0           Copper         ppm         ASTM D5185m         0         0         -1         -1           Tin         ppm         ASTM D5185m         0         0         0         -1         -1         -1         0           Vanadium         ppm         ASTM D5185m         0         0         0         0         0         0         0         0         0         0         0         0         0         0	CONTAMINATION		method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method		<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method		NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         0         0         0           Nickel         ppm         ASTM D5185m         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0           Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         0         0         0           Lead         ppm         ASTM D5185m         0         0         0           Copper         ppm         ASTM D5185m         0         0         0           Copper         ppm         ASTM D5185m         0         0         1           Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         1         0           Boron         ppm         ASTM D5185m         0         1         0           Molybdenum         ppm         ASTM D5185m         0         1         0           Magnesium         ppm         ASTM D5185m </th <th>WEAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m		2	0	2
Description	Chromium	ppm	ASTM D5185m		0	0	0
Titanium         ppm         ASTM D5185m         0         0         0           Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         -1         1         1           Lead         ppm         ASTM D5185m         0         0         0         0           Copper         ppm         ASTM D5185m         0         0         0         -1         1           Vanadium         ppm         ASTM D5185m         0         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         -1         0         0           ADDITIVES         method         limit/base         current         history1         history2           Barium         ppm         ASTM D5185m         0         -1         0         -1         0           Barium         ppm         ASTM D5185m         38         41         38	Nickel	ppm	ASTM D5185m		0	0	<1
Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         <1			ASTM D5185m		0	0	0
Aluminum         ppm         ASTM D5185m         <1         1         1           Lead         ppm         ASTM D5185m         0         0         0           Copper         ppm         ASTM D5185m         0         0         <1			ASTM D5185m		0	0	0
Lead			ASTM D5185m			1	1
Copper         ppm         ASTM D5185m         0         0         <1           Tin         ppm         ASTM D5185m         0         <1						0	
Tin							
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         <1         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         74         72         62           Barium         ppm         ASTM D5185m         0         <1         0           Molybdenum         ppm         ASTM D5185m         38         41         38           Manganese         ppm         ASTM D5185m         0         0         <1           Magnesium         ppm         ASTM D5185m         483         572         472           Calcium         ppm         ASTM D5185m         1791         1848         1529           Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         hist							
Cadmium         ppm         ASTM D5185m         0         <1         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         74         72         62           Barium         ppm         ASTM D5185m         0         <1							
ADDITIVES							
Boron		ррпп		limit/bass			
Barium         ppm         ASTM D5185m         0         <1				IIIIII/base			
Molybdenum         ppm         ASTM D5185m         38         41         38           Manganese         ppm         ASTM D5185m         0         0         <1           Magnesium         ppm         ASTM D5185m         483         572         472           Calcium         ppm         ASTM D5185m         1791         1848         1529           Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         *ASTM D7844         0.1         0.1 <t< td=""><td></td><td></td><td></td><td></td><th></th><td></td><td></td></t<>							
Manganese         ppm         ASTM D5185m         0         0         <1           Magnesium         ppm         ASTM D5185m         483         572         472           Calcium         ppm         ASTM D5185m         1791         1848         1529           Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9		ppm					
Magnesium         ppm         ASTM D5185m         483         572         472           Calcium         ppm         ASTM D5185m         1791         1848         1529           Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current							
Calcium         ppm         ASTM D5185m         1791         1848         1529           Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus         ppm         ASTM D5185m         782         866         711           Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm <td< td=""><td>Magnesium</td><td>ppm</td><td></td><td></td><th></th><td></td><td></td></td<>	Magnesium	ppm					
Zinc         ppm         ASTM D5185m         946         1005         839           Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Calcium	ppm	ASTM D5185m		1791	1848	1529
Sulfur         ppm         ASTM D5185m         3018         3200         2300           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Phosphorus	ppm	ASTM D5185m		782	866	711
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Zinc	ppm	ASTM D5185m		946	1005	839
Silicon         ppm         ASTM D5185m         4         4         3           Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Sulfur	ppm	ASTM D5185m		3018	3200	2300
Sodium         ppm         ASTM D5185m         2         2         3           Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         0         2         1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Silicon	ppm	ASTM D5185m		4	4	
INFRA-RED	Sodium	ppm	ASTM D5185m		2	2	3
Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Potassium	ppm	ASTM D5185m		0	2	1
Nitration         Abs/cm         *ASTM D7624         5.6         5.4         5.6           Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION method limit/base current history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Soot %	%	*ASTM D7844		0.1	0.1	0.1
Sulfation         Abs/.1mm         *ASTM D7415         21.5         20.9         21.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         19.1         19.0         19.4	Nitration	Abs/cm	*ASTM D7624		5.6	5.4	5.6
Oxidation Abs/.1mm *ASTM D7414 <b>19.1</b> 19.0 19.4							
	FLUID DEGRADATION method limit/base current history1 history2						history2
	Oxidation	Abs/.1mm	*ASTM D7414		19.1	19.0	19.4



# **OIL ANALYSIS REPORT**

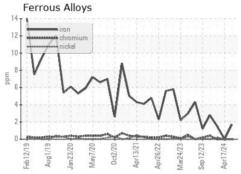


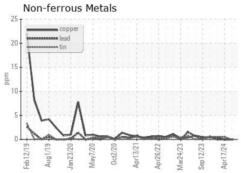


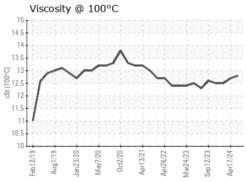


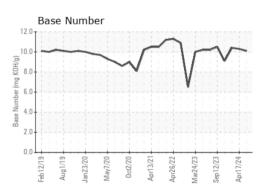
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

FLUID PROPERTIES		method			history2
Visc @ 100°C	cSt	ASTM D445	12.8	12.7	12.5













Certificate 12367

Laboratory Sample No.

Lab Number : 06199941 Unique Number : 11062064

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0908873

Received : 05 Jun 2024 **Tested** Diagnosed

: 06 Jun 2024 : 06 Jun 2024 - Wes Davis 3219 WEST MAY ST WICHITA, KS

SHERWOOD CONSTRUCTION CO INC

US 67213 Contact: DOUG KING doug.king@sherwood.net T: (316)617-3161

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)

F: x: