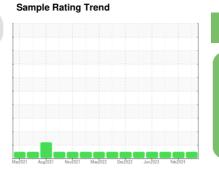


# **OIL ANALYSIS REPORT**

OKLAHOMA/102 05.58 [OKLAHOMA^102]

**Diesel Engine** 

MOBIL DELVAC 1300 SUPER15W40 (5 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

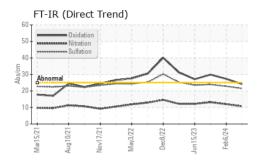
## **Fluid Condition**

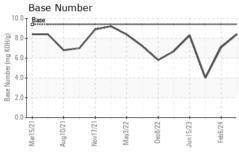
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

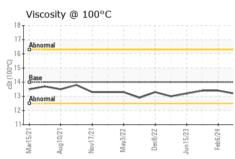
Sample Number		history1	his	current	limit/hase	method	ΙΔΤΙΩΝΙ	SAMDLE INFORM
Sample Date	Oct 2023 68			ourront	III III Dasc	memou	I/ (TIOI)	SAMPLE INFORM
Machine Age         hrs         Client Info         12155         11660         10968           Oil Age         hrs         Client Info         495         350         396           Oil Changed         Client Info         Changed         Changed         Changed         Changed           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         his           Fuel         WC Method         >5         <1.0	68	0886878 WC	WC088	WC0873876		Client Info		Sample Number
Oil Age         hrs         Client Info         495         350         396           Oil Changed         Client Info         Changed         Changed<		eb 2024 25	06 Feb	17 Apr 2024		Client Info		Sample Date
Contained   Client Info   Changed   Normal   N		30 109	11660	12155		Client Info	hrs	Machine Age
NORMAL   NORMAL   NORMAL   NORMAL   NORMAL		396	350	195		Client Info	hrs	Oil Age
NORMAL   NORMAL   NORMAL   NORMAL   NORMAL	inged	nged Cha	Change	Changed		Client Info		-
Fuel	RMAL							-
Water         WC Method         >0.2         NEG         NEG         NEG           Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         his           Iron         ppm         ASTM D5185m         >100         11         17         37           Chromium         ppm         ASTM D5185m         >20         <1	history2	history1	his	current	limit/base	method	1	CONTAMINATION
WEAR METALS	1.0	1.0	<1.0	<1.0	>5	WC Method		Fuel
WEAR METALS         method         limit/base         current         history1         his           Iron         ppm         ASTM D5185m         >100         11         17         37           Chromium         ppm         ASTM D5185m         >20         <1	IEG	EG N	NEC	NEG	>0.2	WC Method		Water
	IEG	EG N	NEC	NEG		WC Method		Glycol
Chromium         ppm         ASTM D5185m         >20         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         0         O         CTItanium         ppm         ASTM D5185m         >4         <1         <1         0         0         0         0         O         D         D         D         D         D	history2	history1	his	current	limit/base	method		WEAR METALS
Nickel	7	7 3	17	11	>100	ASTM D5185m	ppm	Iron
Titanium	:1	1 <	<1	<1	>20	ASTM D5185m	ppm	Chromium
Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >20         2         4         6           Lead         ppm         ASTM D5185m         >40         <1         0         0           Copper         ppm         ASTM D5185m         >330         1         <1         1           Tin         ppm         ASTM D5185m         >15         <1         <1         0           Vanadium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         0         44         38         23           Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         0         495         485         500           Calcium         ppm         ASTM D5185m         1656         1552         1638           Phosphor	į	1 (	<1	<1	>4	ASTM D5185m	ppm	Nickel
Aluminum         ppm         ASTM D5185m         >20         2         4         6           Lead         ppm         ASTM D5185m         >40         <1		(	0	<1		ASTM D5185m	ppm	Titanium
Lead	1	(	0	0	>3	ASTM D5185m	ppm	Silver
Copper         ppm         ASTM D5185m         >330         1         <1         1           Tin         ppm         ASTM D5185m         >15         <1	,	6	4	2	>20	ASTM D5185m	ppm	Aluminum
Tin         ppm         ASTM D5185m         >15         <1         <1         0           Vanadium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0           ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1         <1         0         0           Magnesium         ppm         ASTM D5185m         <1         <1         <1         0           Calcium         ppm         ASTM D5185m         1656         1552         1638         755           Phosphorus         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS<	i	(	0	<1	>40	ASTM D5185m	ppm	Lead
Vanadium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0           ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1		1 1	<1	1	>330	ASTM D5185m	ppm	Copper
Cadmium         ppm         ASTM D5185m         <1         0         0           ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1	i	1 (	<1	<1	>15	ASTM D5185m	ppm	Tin
ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1	i	(	0	<1		ASTM D5185m	ppm	Vanadium
Boron         ppm         ASTM D5185m         0         44         38         23           Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         0         495         485         500           Calcium         ppm         ASTM D5185m         1656         1552         1635           Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         >20         4         6         13	J	(	0	<1		ASTM D5185m	ppm	Cadmium
Barium         ppm         ASTM D5185m         0         2         0         0           Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1	history2	history1	his	current	limit/base	method		ADDITIVES
Molybdenum         ppm         ASTM D5185m         0         43         38         43           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         0         495         485         500           Calcium         ppm         ASTM D5185m         1656         1552         1638           Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         >20         4         6         13	:3	8 2	38	44	0	ASTM D5185m	ppm	Boron
Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         0         495         485         500           Calcium         ppm         ASTM D5185m         1656         1552         1638           Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1		(	0	2	0	ASTM D5185m	ppm	Barium
Magnesium         ppm         ASTM D5185m         0         495         485         500           Calcium         ppm         ASTM D5185m         1656         1552         1638           Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1         5         4           Potassium         ppm         ASTM D5185m         >20         4         6         13	3	8 4	38	43	0	ASTM D5185m	ppm	Molybdenum
Calcium         ppm         ASTM D5185m         1656         1552         1638           Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1		1 (	<1	<1		ASTM D5185m	ppm	Manganese
Phosphorus         ppm         ASTM D5185m         806         732         755           Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1	00	85 5	485	495	0	ASTM D5185m	ppm	Magnesium
Zinc         ppm         ASTM D5185m         914         860         915           Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1	635	552	1552	1656		ASTM D5185m	ppm	Calcium
Sulfur         ppm         ASTM D5185m         2701         2270         2666           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1	55	32 7	732	806		ASTM D5185m	ppm	Phosphorus
CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1	15	60	860	914		ASTM D5185m	ppm	Zinc
Silicon         ppm         ASTM D5185m         >25         5         5         9           Sodium         ppm         ASTM D5185m         <1         5         4           Potassium         ppm         ASTM D5185m         >20         4         6         13	666	270 2	2270	2701		ASTM D5185m	ppm	Sulfur
Sodium         ppm         ASTM D5185m         <1         5         4           Potassium         ppm         ASTM D5185m         >20         4         6         13	history2	history1	his	current	limit/base	method		CONTAMINANTS
Potassium         ppm         ASTM D5185m         >20         4         6         13	ł	Ś		5	>25	ASTM D5185m	ppm	Silicon
***		2	5	<1		ASTM D5185m	ppm	Sodium
INFRA-RED method limit/base current history1 his	3	1	6	4	>20	ASTM D5185m	ppm	Potassium
	history2	history1	his	current	limit/base	method		INFRA-RED
Soot %	.6	.4 (	0.4	0.3	>3	*ASTM D7844	%	Soot %
Nitration   Abs/cm   *ASTM D7624   >20   <b>10.7</b>   12.0   13.2	3.2	2.0	12.0	10.7	>20	*ASTM D7624	Abs/cm	Nitration
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.8         23.9	3.9	2.8	22.8	21.5	>30	*ASTM D7415	Abs/.1mm	Sulfation
FLUID DEGRADATION method limit/base current history1 his	history2	history1	his	current	limit/base	method	TION	FLUID DEGRADA
Oxidation Abs/.1mm *ASTM D7414 >25 <b>24.2</b> 27.3 29.9	9.9		27.3	24.2	>25	*ASTM D7414	Abs/.1mm	Oxidation
	.0	7.3 2						



# **OIL ANALYSIS REPORT**



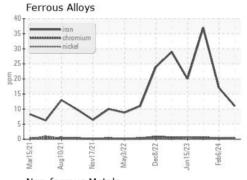


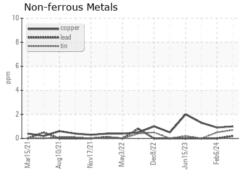


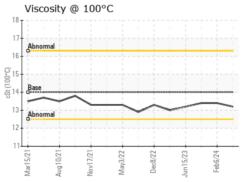
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

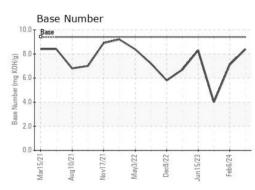
FLUID PROPER	TIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	14	13.2	13.4	13.4

## **GRAPHS**













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0873876 Lab Number : 06176464 Unique Number : 11022517

Received **Tested** Diagnosed

: 10 May 2024 : 13 May 2024

: 13 May 2024 - Wes Davis

SHERWOOD CONSTRUCTION CO INC 3219 WEST MAY ST WICHITA, KS US 67213

Contact: DOUG KING Doug.King@sherwood.net T:

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.

Test Package : CONST ( Additional Tests: TBN )

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

F: