

# **OIL ANALYSIS REPORT**

# Area **OKLAHOMA/012/UNKNOWN** 86.101 [OKLAHOMA^012^UNKNOWN]

**Diesel Engine** 

Fluid MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## Wear

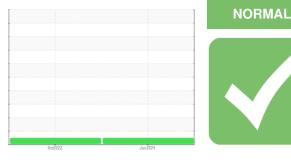
All component wear rates are normal.

#### 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 Rating Trend



SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0935115	WC0713162	
Sample Date		Client Info		13 Jun 2024	10 Oct 2022	
Machine Age	hrs	Client Info		12377	1027	
Oil Age	hrs	Client Info		1027	250	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	70	65	
Chromium	ppm	ASTM D5185m	>20	1	2	
Nickel	ppm	ASTM D5185m	>20	، <1	<1	
Titanium	ppm	ASTM D5185m	~	<1	<1	
Silver	ppm	ASTM D5185m	>3	0	2	
Aluminum	ppm	ASTM D5185m	>20	2	5	
Lead	ppm	ASTM D5185m	>40	2	9	
Copper	ppm	ASTM D5185m	>330	8	27	
Tin	ppm	ASTM D5185m	>15	0	2	
Vanadium	ppm	ASTM D5185m	210	<1	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	-	-	historv2
ADDITIVES	ppm	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	current 44	history1 9	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	current 44 0	history1 9 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	current 44 0 42	history1 9 0 2	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 44 0 42 <1	history1 9 0 2 2	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	current 44 0 42 <1 545	history1 9 0 2 2 15	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current           44           0           42           <1           545           2007	history1 9 0 2 2 15 2558	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	Current 44 0 42 <1 545 2007 835	history1 9 0 2 2 15 2558 909	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current           44           0           42           <1           545           2007	history1 9 0 2 2 15 2558	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current           44           0           42           <1           545           2007           835           996	history1 9 0 2 2 15 2558 909 1253	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 Imit/base	Current 44 0 42 <1 545 2007 835 996 2852	history1 9 0 2 2 15 2558 909 1253 3625	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 Imit/base	current           44           0           42           <1           545           2007           835           996           2852           current	history1 9 0 2 2 15 2558 909 1253 3625 history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	current           44           0           42           <1           545           2007           835           996           2852           current           11	history1           9           0           2           15           2558           909           1253           3625           history1           8	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	current           44           0           42           <1           545           2007           835           996           2852           current           11           4	history1           9           0           2           15           2558           909           1253           3625           history1           8           5	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	current           44           0           42           <1           545           2007           835           996           2852           current           11           4           2           current	history1         9         0         2         2         15         2558         909         1253         3625         history1         8         5         2         history1	      history2
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	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	current           44           0           42           <1           545           2007           835           996           2852           current           11           4           2           current           23	history1         9         0         2         15         2558         909         1253         3625         history1         8         5         2         history1         0         0.5	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	current           44           0           42           <1           545           2007           835           996           2852           current           11           4           2           current	history1         9         0         2         2         15         2558         909         1253         3625         history1         8         5         2         history1	     history2   history2
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	ASTM D5185m ASTM D5185m	0 0 0 0 imit/base >25 >20 imit/base >3 >20	current           44           0           42           <1           545           2007           835           996           2852           current           11           4           2           current           21           current           10.2	history1           9           0           2           15           2558           909           1253           3625           history1           8           5           2           history1           0.5           13.4	     history2   history2
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	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	current           44           0           42           <1           545           2007           835           996           2852           current           11           4           2           current           11.1           4           2           current           1.1           4           2           current           2.3           10.2           27.2	history1         9         0         2         15         2558         909         1253         3625         history1         8         5         2         history1         0.5         13.4         27.9	    history2  history2  history2



41 35 30 Abs/cm Abnor

20 15 10

10.0 Base

.0 8.0 6.0 6.0

0.5 Base Number (r

0.0

18-17 Abnom 16 (0-015 14 14 Base 13 Abnor 12

# **OIL ANALYSIS REPORT**

FT-IR (Direct Trend)	VISUAL		method	limit/base	current	history1	history2
0 Oxidation		oogler					
5 - Nitration Sulfation	White Metal	scalar	*Visual	NONE	NONE	NONE	
Abnomal	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate Silt	scalar	*Visual *Visual	NONE NONE	NONE	NONE	
0-	Debris	scalar scalar	*Visual	NONE	NONE	NONE	
5	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
55	Appearance	scalar	*Visual	NORML	NORML	NORML	
0ct10/22 Jun 13/24	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Base Number	Free Water	scalar	*Visual	>0.2	NEG	NEG	
0 Base				limit/booo			_
0	FLUID PROPERT		method	limit/base	current	history1	history2
a	Visc @ 100°C	cSt	ASTM D445	14	13.2	16.3	
0	GRAPHS						
	Ferrous Alloys						
0ct10/22 -	60 - chromium						
00	50 - nickel						
Viscosity @ 100°C	≜ <sup>40</sup> - 30-						
7+	1						
Abnomal	20						
5	10						
4 Base	0			3/24			
Abnormal	0ct10/22			Jun13/24			
1	Non-ferrous Metals	s					
0ct10/22	30 copper						
00	25 - Reserves lead						
	20-						
	<u>ال</u> 15-						
	10 -			/			
	5	and a day in the local day in the	a in the data in the local division of the l	*****			
	52			24			
	0ct10/22			Jun 13/24			
	∽ Viscosity @ 100°C			-			
	<sup>18</sup>		10.0	Base Number			
	17- Abnormal				0	*****	
	Abnormal 16			(B/H)	) +		
	ຍີ 15			Q 6.0			
	0 15 15 14 Base			nber (i			
	12			6.0 6.1 Base Number (mg KOH/g)			
	13 Abnormal			2.0			
	11						
	0ct10/22				0ct10/22		Jun13/24 -
	0ct1			Jun13/24	0ct1		Jun1
Laboratory	: WearCheck USA - 501				SHERWO	OD CONSTRUC	
Sample No. Lab Number	: WC0935115 : 06215617	Recei Teste		) Jun 2024 Jun 2024			VEST MAY ST WICHITA, KS
Testing Laboratory Unique Number		Diagn		Jun 2024 - W	les Davis		US 67213

Test Package : CONST ( Additional Tests: TBN ) Certificate L2367 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)

Report Id: SHEWIC [WUSCAR] 06215617 (Generated: 06/25/2024 16:11:48) Rev: 1

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