

# **OIL ANALYSIS REPORT**

#### Sample Rating Trend







Machine Id **1705** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 40 (--- GAL)** 

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm. 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.

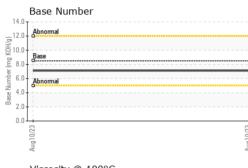
# Fluid Condition

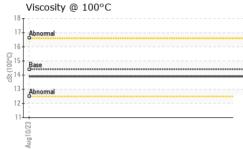
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0844945		
Sample Date		Client Info		10 Aug 2023		
Machine Age	mls	Client Info		122150		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4		
Chromium	ppm	ASTM D5185m	>20	+ <1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m	- 1	۰ <1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	4		
Lead	ppm	ASTM D5185m	>40			
Copper	ppm	ASTM D5185m	>330	۰ <1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m	210	0		
Cadmium	ppm	ASTM D5185m		0		
	PP			•		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	20		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	20 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	20 0 84		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	20 0 84 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	20 0 84 <1 285		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	20 0 84 <1 285 2025	  	   
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	250 10 100 450 3000 1150	20 0 84 <1 285 2025 1058		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	20 0 84 <1 285 2025 1058 1318	    	   
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	250 10 100 450 3000 1150	20 0 84 <1 285 2025 1058		
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	250 10 100 450 3000 1150 1350	20 0 84 <1 285 2025 1058 1318	    	   
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	250 10 100 450 3000 1150 1350 4250	20 0 84 <1 285 2025 1058 1318 4240		
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 <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	20 0 84 <1 285 2025 1058 1318 4240 current	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	20 0 84 <1 285 2025 1058 1318 4240 current 5	     history1 	     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 <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	20 0 84 <1 285 2025 1058 1318 4240 current 5 10	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	20 0 84 <1 285 2025 1058 1318 4240 current 5 10 <1	     history1  	     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	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >216 >216 >20	20 0 84 <1 285 2025 1058 1318 4240 current 5 10 <1 <1	    history1   history1	     history2   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	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3	20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 <i>current</i> 0.3	     history1   history1 	     history2  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	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >216 >20 <b>Iimit/base</b> >3 >20	20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 <i>current</i> 0.3 9.5	     history1   history1  	history2 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	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >20 <b>imit/base</b> >3 >20 >3	20 0 84 <1 285 2025 1058 1318 4240 <u>current</u> 5 10 <1 5 10 <1 0.3 9.5 20.0	      history1  history1  history1	    history2  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 D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 225 >216 >20 >20 >30 >30 Simit/base	20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 5 10 <1 0.3 9.5 20.0 <i>current</i>	history1 history1 history1	    history2  history2  history2  history2  history2



# **OIL ANALYSIS REPORT**





	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt		*Visual	NONE	NONE		
0/23 -	Appearance	scalar	*Visual	NORML	NORML		
Aug10/23	Odor		*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water		*Visual		NEG		
				Provide Research		In the transmission	
	FLUID PROPERT		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	14.4	13.9		
	GRAPHS						
	Ferrous Alloys						
	10 iron ]						
	8 - nickel						
1	6- E						
i	4 4						
	2-						
	0			******			
	Aug 10/23			Aug 10/23			
	Aug1			Aug1			
	Non-ferrous Meta	s					
	10 copper 1						
	8-						
	0 *						
	••••••••••••••••••••••••••••••••••••••						
	6						
	6-						
	6						
ł	6						
	6 6 4 2						
	6 6 4 2 0 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			Aug10/23			
				Aug10/23	Base Number		
	Viscosity @ 100°C			Aug 10/23			
	Viscosity @ 100°C			14.0	T ;		
	Viscosity @ 100°C			14.0	T ;		
	Viscosity @ 100°C			14.0	Abnormal		
	Viscosity @ 100°C			14.0	Abnormal		
	Viscosity @ 100°C			14.0	Abnormal Base		
	Viscosity @ 100°C			Aug 10/23	Abnormal Base		
	Viscosity @ 100°C			14.0 12.0 (b)HO10.0 (b)HO10.0 (b)HO10.0 (c)HO1	Abnormal Base Abnormal		
	Viscosity @ 100°C			14.0 12.0 (b)HO10.0 (b)HO10.0 (b)HO10.0 (c)HO1	Abnormal Base Abnormal		
	6 4 2 0 E2000 Wiscosity @ 100°C 16 6 6 17 6 6 10 15 8 8 8 8 8 8 8 8 8 8 8 8 8			EZ/01 Bmy 14.0 (B/HOX) Bul, Jack Hold Hox Hours Hours How Hours How Hours How Hours How Hours How Hours How Hours How Hours Ho	Abnormal Base		
Laboratory Sample No. Lab Number Unique Number	Viscosity @ 100°C	2	son Ave., Ca 1 : 24 / 2 <b>d</b> : 25 /	14.0. 12.0. (b)H00 K00 K00 (b)H00 K00 (b)H00 K00 (c)H00 K00 (c)H000 K00 (c)H00 K00 (c)H00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K0	Abnormal Base Abnormal	6900 M CH	<b>CHAPEL HII</b> MILLHOUSE F APEL HILL, N US 275
Laboratory Sample No. Lab Number	Viscosity @ 100°C	501 Madis Received Diagnosti	on Ave., Ca I : 24 / ed : 25 / ician : We	14.0 14.0 12.0 ()HO3 (0) 12.0 ()HO3 (0) ()HO3 (0	Abnormal Base Abnormal	6900 M CH	IILLHOUSE F APEL HILL, N US 275 Lisa DePasq

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