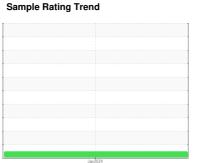


# **OIL ANALYSIS REPORT**



**NORMAL** 



# INTERNATIONAL 196

Component

**Diesel Engine** 

Diesel Engine Oil (--- GAL)

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: New Unit to us, 1st oil change)

## Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

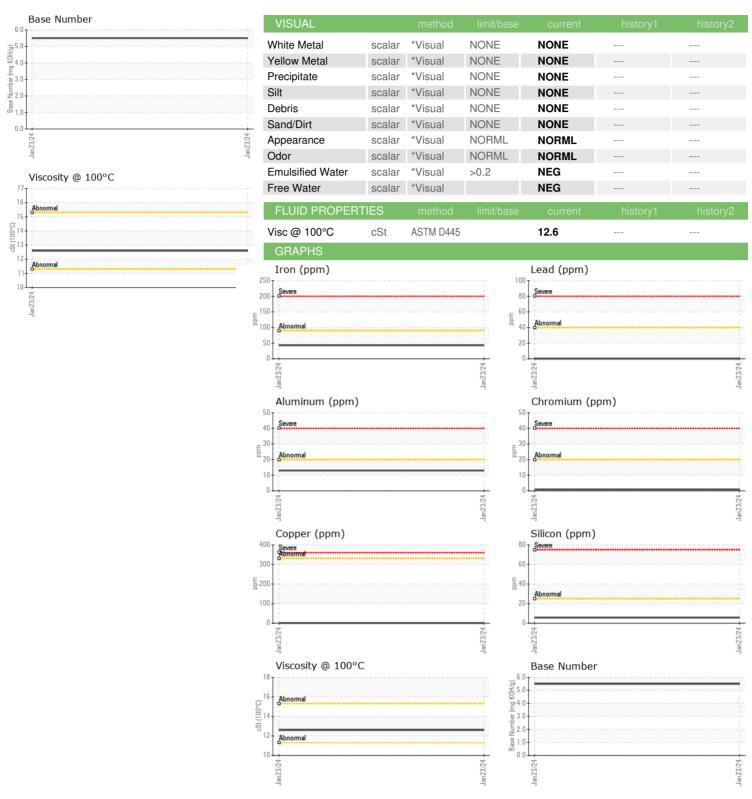
### **Fluid Condition**

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

SAMPLE INFORMATION   method   limit/base   current   history1   history2							
Sample Number					Jan 2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		WC0875464		
Machine Age         hrs         Client Info         472			Client Info		23 Jan 2024		
Oil Changed Sample Status         Client Info         Changed NORMAL	·	hrs	Client Info		7081		
Sample Status	Oil Age	hrs	Client Info		472		
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >3.0         <1.0	Oil Changed		Client Info		Changed		
Fuel	Sample Status				NORMAL		
Water Glycol         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >90         43             Chromium         ppm         ASTM D5185m         >20         <1	CONTAMINATION	١	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0		
WEAR METALS	Water		WC Method	>0.2	NEG		
Iron	Glycol		WC Method		NEG		
Chromium         ppm         ASTM D5185m         >20         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	-	ppm		>90	43		
Titanium         ppm         ASTM D5185m         >2         0             Silver         ppm         ASTM D5185m         >2         0             Aluminum         ppm         ASTM D5185m         >20         13             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >15         0             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1		ppm	ASTM D5185m	>20			
Silver         ppm         ASTM D5185m         >2         0             Aluminum         ppm         ASTM D5185m         >20         13             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >330         <1             Vanadium         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         63             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         202             Manganesium         ppm         ASTM D5185m         202             Calcium         ppm <t< td=""><td>Nickel</td><td>ppm</td><td></td><td>&gt;2</td><th>&lt;1</th><td></td><td></td></t<>	Nickel	ppm		>2	<1		
Aluminum		ppm			-		
Lead							
Copper         ppm         ASTM D5185m         >330         <1             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1		ppm	ASTM D5185m	>20	-		
Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         63             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         202             Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         750             Phosphorus         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         >25         6		ppm	ASTM D5185m	>40	0		
Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         63             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         202             Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         750             Phosphorus         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         25         6             CONTAMINANTS         method         limit/base         current         <							
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         63             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Magnesium         ppm         ASTM D5185m         202             Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         750             Phosphorus         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         25         6             Sodium         ppm         ASTM D5185m         22             Potassium         ppm         ASTM D5185m         20         <				>15	-		
Boron							
Boron   ppm   ASTM D5185m   63	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         202             Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         1874             Phosphorus         ppm         ASTM D5185m         750             Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         20         18             Potassium         ppm         ASTM D7844         >6         0.3             INFRA-RED         method         limit/base         current         history1         history2           Soot %         "ASTM D7844	Boron	ppm	ASTM D5185m		63		
Manganese         ppm         ASTM D5185m         <1             Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         1874             Phosphorus         ppm         ASTM D5185m         750             Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Sulfation         Abs/.1mm	Barium	ppm	ASTM D5185m		0		
Magnesium         ppm         ASTM D5185m         202             Calcium         ppm         ASTM D5185m         1874             Phosphorus         ppm         ASTM D5185m         750             Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         "ASTM D7844         >6         0.3             Nitration         Abs/cm         "ASTM D7415         >30         20.4             FLUID DEGRADATION <td< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>66</th><td></td><td></td></td<>	Molybdenum	ppm	ASTM D5185m		66		
Calcium         ppm         ASTM D5185m         1874             Phosphorus         ppm         ASTM D5185m         750             Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2	Manganese	ppm	ASTM D5185m		<1		
Phosphorus         ppm         ASTM D5185m         750             Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/.1mm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1	<u> </u>	ppm					
Zinc         ppm         ASTM D5185m         931             Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/.1mm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8         <		ppm					
Sulfur         ppm         ASTM D5185m         3175             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/.mm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8		ppm					
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8		ppm					
Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         2              Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8			ASTM D5185m		3175		
Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8				limit/base		history1	history2
Potassium         ppm         ASTM D5185m         >20         18             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8				>25			
INFRA-RED							
Soot %         %         *ASTM D7844         >6         0.3             Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8	Potassium	ppm	ASTM D5185m	>20	18		
Nitration         Abs/cm         *ASTM D7624         >20         9.3             Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         20.4             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.8	Soot %	%	*ASTM D7844	>6	0.3		
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 14.8	Nitration	Abs/cm	*ASTM D7624	>20	9.3		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 5.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8		
	Base Number (BN)	mg KOH/g	ASTM D2896		5.5		



## **OIL ANALYSIS REPORT**







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: WC0875464 : 06074450 : 10856541

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

: 30 Jan 2024 : 01 Feb 2024 Diagnostician : Jonathan Hester

Test Package : MOB 1 (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.

mechanic@benciccone.com

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

**BEN CICCONE** 151 DALEY RD

POUGHKEEPSIE, NY US Contact: PETE BROWN

T:

F: