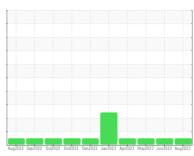


# **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id
C-18
Component
Diesel Engine

**DIESEL ENGINE OIL SAE 40 (--- QTS)** 

#### 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.

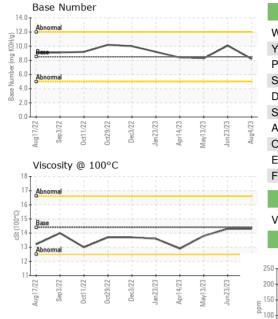
### **Fluid Condition**

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

Augž022 Sepž022 Osž022 Osž022 Osč022 Jenž023 Aprž023 Menž023 Junž023 Augž023							
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		WC0745284	WC0774795	WC0725581	
Sample Date		Client Info		04 Aug 2023	23 Jun 2023	13 May 2023	
Machine Age	hrs	Client Info		11662	11400	11147	
Oil Age	hrs	Client Info		0	0	0	
Oil Changed		Client Info		N/A	N/A	N/A	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINATIO	V	method	limit/base	current	history1	history2	
Fuel		WC Method	>5	<1.0	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	5	4	4	
Chromium	ppm	ASTM D5185m	>20	0	<1	0	
Nickel	ppm	ASTM D5185m	>4	0	<1	0	
Titanium	ppm	ASTM D5185m		<1	0	0	
Silver	ppm	ASTM D5185m	>3	0	0	0	
Aluminum	ppm	ASTM D5185m	>20	0	<1	<1	
Lead	ppm	ASTM D5185m	>40	1	<1	<1	
Copper	ppm	ASTM D5185m	>330	2	2	2	
Tin	ppm	ASTM D5185m	>15	<1	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
				•	0		
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base			history2	
				current	history1		
Boron	ppm	ASTM D5185m	250	current 2	history1	59	
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	250 10	current 2 0	history1 8 0	59 0	
Boron Barium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 2 0 59	history1  8  0  57	59 0 65	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 2 0 59 <1	history1  8  0  57  <1	59 0 65	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current 2 0 59 <1 1000	history1  8  0  57  <1  846	59 0 65 0 792	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	current 2 0 59 <1 1000 1245	history1  8 0 57 <1 846 1130	59 0 65 0 792 1224	
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 ASTM D5185m	250 10 100 450 3000 1150	current 2 0 59 <1 1000 1245 1086	history1  8  0  57  <1  846  1130  997	59 0 65 0 792 1224 1011	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	current 2 0 59 <1 1000 1245 1086 1369	history1  8  0  57  <1  846  1130  997  1182	59 0 65 0 792 1224 1011 1250	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	250 10 100 450 3000 1150 1350 4250	current 2 0 59 <1 1000 1245 1086 1369 4046	history1  8  0  57  <1  846  1130  997  1182  3215	59 0 65 0 792 1224 1011 1250 3693	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	current  2  0  59  <1  1000  1245  1086  1369  4046  current	history1  8  0  57  <1  846  1130  997  1182  3215  history1	59 0 65 0 792 1224 1011 1250 3693 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	current  2  0  59  <1  1000  1245  1086  1369  4046  current  3	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4	59 0 65 0 792 1224 1011 1250 3693 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	current  2  0  59  <1  1000  1245  1086  1369  4046  current  3  2	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4  <1	59 0 65 0 792 1224 1011 1250 3693 history2 3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	current  2  0  59  <1 1000 1245 1086 1369 4046  current  3  2 1	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4  <1  1	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3	current 2 0 59 <1 1000 1245 1086 1369 4046 current 3 2 1 current 0.2	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4  <1  1  history1  0.2	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2	
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  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3	current  2  0 59 <1 1000 1245 1086 1369 4046  current 3 2 1 current	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4  <1  1	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2 history2 0.1	
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  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	current  2  0  59  <1  1000  1245  1086  1369  4046  current  3  2  1  current  0.2  6.2	history1  8  0  57  <1 846  1130  997  1182  3215  history1  4  <1  1  history1  0.2  6.2	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2 history2 0.1 6.3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D5185m  ASTM D5185m ASTM D5185m  ASTM D5185m  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D7415  Method	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30 limit/base	current  2 0 59 <1 1000 1245 1086 1369 4046  current 3 2 1  current 0.2 6.2 18.3	history1  8  0  57  <1 846  1130  997  1182  3215  history1  4  <1  1  history1  0.2  6.2  19.2  history1	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2 history2 0.1 6.3 19.4 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  Method  ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D76145	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30	current  2  0  59  <1 1000 1245 1086 1369 4046  current  3  2  1  current  0.2 6.2 18.3  current	history1  8  0  57  <1  846  1130  997  1182  3215  history1  4  <1  1  history1  0.2  6.2  19.2	59 0 65 0 792 1224 1011 1250 3693 history2 3 0 2 history2 0.1 6.3 19.4	



# **OIL ANALYSIS REPORT**

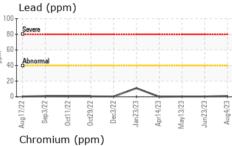


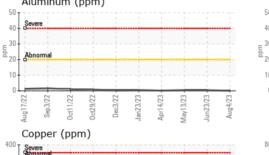
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FILID PROPERTIES		method	limit/hasa	current	history1	history2

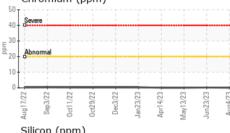
Visc @ 100°C	cSt	ASTM D445	14.4	14.3	14.3	13.8

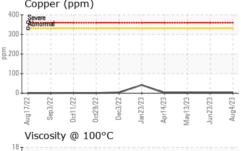
Irc	n (p	pm)								
200 - Sev	vere									
150 100 Ab	normal	<u> </u>		<u> </u>				<del></del>		
50-										
22	22	22	22	22	23+	23	- 53	- 52	23	
Aug17/22	Sep3/22	Oct11/22	Oct29/22	Dec3/22	Jan23/23	Apr14/23	May13/23	Jun23/23	Aug4/23	
	ıminı	um (	ppm)	)			_			
50 Sev	vere									
40						1				
30 - Ab	normal									

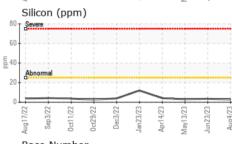
**GRAPHS** 

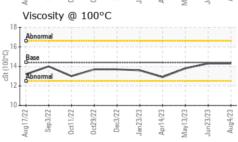


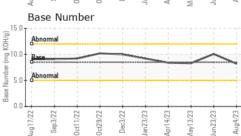














Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : MOB 1 (Additional Tests: TBN)

: 05923976 : 10603923

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0745284

Received Diagnosed

: 14 Aug 2023 : 15 Aug 2023

Diagnostician : Wes Davis

**ADEN SLATE LLC** 22 MCBRIDE RD STATE HILL, NY US 10973

Contact: Service Manager SAFTETY@ADENAGGREGATE.COM

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)

T:

F: