

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL



### Area Ewing Hauling Machine Id MACK 2569

Component Diesel Engine

## GIBRALTAR 15W/40 SUPER S-3 LX (11)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

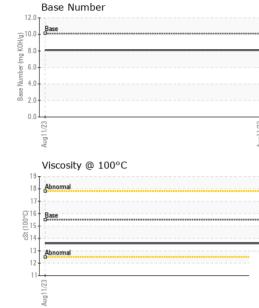
### Fluid Condition

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	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0830855		
Sample Date		Client Info		11 Aug 2023		
Machine Age	hrs	Client Info		7309		
Oil Age	hrs	Client Info		150		
Oil Changed		Client Info		Filtered		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>5	0		
Titanium	ppm	ASTM D5185m	>2	0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>20	1		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	Method ASTM D5185m	limit/base	current 16	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base 660	16		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		16 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		16 0 64		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	660	16 0 64 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	660 1000	16 0 64 <1 811		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	660 1000 1050	16 0 64 <1 811 1308	  	  
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	660 1000 1050 1150	16 0 64 <1 811 1308 1027	   	
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	660 1000 1050 1150	16 0 64 <1 811 1308 1027 1206	    	
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	660 1000 1050 1150 1270	16 0 64 <1 811 1308 1027 1206 3844		
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 ASTM D5185m	660 1000 1050 1150 1270 limit/base	16 0 64 <1 811 1308 1027 1206 3844 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> ASTM D5185m	660 1000 1050 1150 1270 limit/base	16 0 64 <1 811 1308 1027 1206 3844 <i>current</i> 4	     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	660 1000 1050 1150 1270 limit/base >25	16 0 64 <1 811 1308 1027 1206 3844 <u>current</u> 4 2	     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	660 1000 1050 1150 1270 imit/base >25 >20	16 0 64 <1 811 1308 1027 1206 3844 current 4 2 0	     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 ppm ppm	ASTM D5185m ASTM D5185m	660 1000 1050 1150 1270 <b>limit/base</b> >25 >20 <b>limit/base</b>	16 0 64 <1 811 1308 1027 1206 3844 <u>current</u> 4 2 0 0 <u>current</u> 0.7	     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	ASTM D5185m ASTM D5185m	660 1000 1050 1150 1270 limit/base >25 >20 limit/base >20	16 0 64 <1 811 1308 1027 1206 3844 current 4 2 0 0	     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	660 1000 1050 1150 1270 1270 imit/base >25 >20 imit/base >4 >20	16 0 64 <1 811 1308 1027 1206 3844 <i>current</i> 4 2 0 <i>current</i> 0.7 6.4	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	660 1000 1050 1150 1270 225 225 220 220 imit/base >4 >20 >30	16 0 64 <1 811 1308 1027 1206 3844 <i>current</i> 4 2 0 <i>current</i> 0.7 6.4 18.0	      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 D7624 *ASTM D7415	660 1000 1050 1150 1270 225 >25 >20 <b>imit/base</b> >4 >20 >30	16 0 64 <1 811 1308 1027 1206 3844 <u>current</u> 4 2 0 <u>current</u> 0.7 6.4 18.0	history1 history1 history1 history1 history1	    history2  history2  history2  history2



# **OIL ANALYSIS REPORT**



	VISUAL		method	limit/base	current	history1	history2
	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	scalar	*Visual	NONE	NONE		
Aug 11/23	Appearance	scalar	*Visual	NORML	NORML		
Aug	0001	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.5	13.6		
	GRAPHS						
	10 8 6 4 2 0 C2 10 10 10 10 10 10 10 10 10 10			Aug11/23			
	Non-ferrous Meta	Ils					
	Non-ferrous Meta			Aug11/23	Base Numbe	r	
	Non-ferrous Meta				Base Numbe	r	
	Non-ferrous Meta			EZ/11/0my 12.0-	Base Numbe	r	
	Non-ferrous Meta			EZ/11/0my 12.0-	Base Numbe	r	
	Non-ferrous Meta			EZ/11/0my 12.0-	Base Numbe	r	
	Non-ferrous Meta			EZ/11/0my 12.0-	Base Numbe	r	
	Non-ferrous Meta			EZ/11/0my 12.0-	Base Numbe	r	
	Non-ferrous Meta			12.0- 10.0-1	Base Numbe	r	
	Non-ferrous Meta			12.0 10.0	Base	r	
	Non-ferrous Meta			12.0 10.0	Base	r 	
	Non-ferrous Meta			12.0- (0)HOX 000 10.0- (0)HOX 000 10.0-	Base Numbe	r	
Laboratory Sample No. Lab Number Unique Number Unique Number Test Package discuss this sample report	Non-ferrous Meta	501 Madia Received Diagnos	d : 22 / ed : 23 / tician : Wes	EZULI EZULI EZULI EXECUTION 10.0	Base	INTERSTATE V 432 STO EWING T	VASTE-EWIN DKES AVENU FOWNSHIP, N US 0863 t: Carlos Evar