

## **OIL ANALYSIS REPORT**

## Area Ewing Hauling Machine Id PETERBILT 2588

Component Diesel Engine Fluid

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

## DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor.

#### Wear

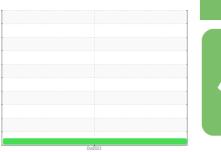
All component wear rates are normal.

#### 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 Rating Trend

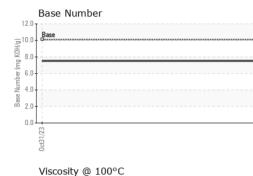


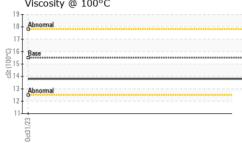
NORMAL

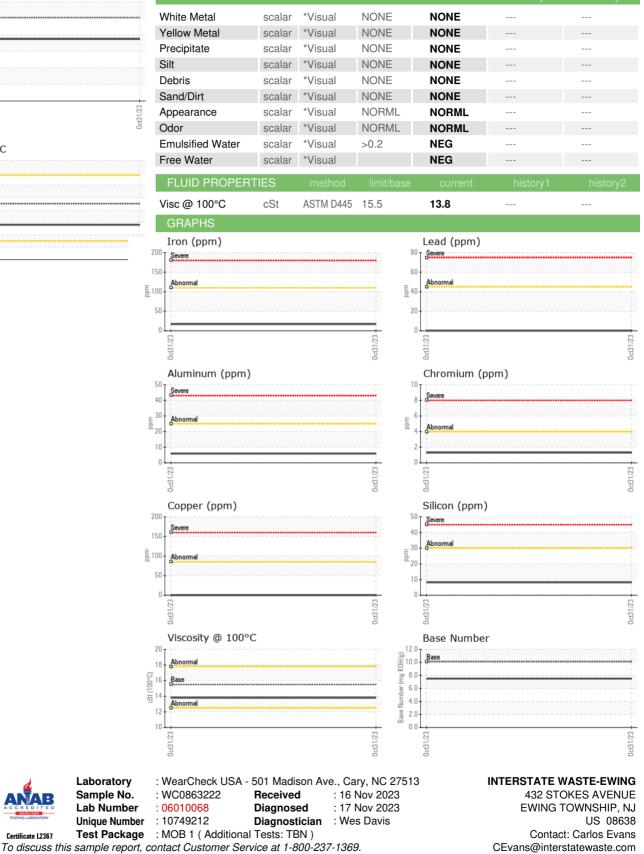
				Oct2023		
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0863222		
Sample Date		Client Info		31 Oct 2023		
Machine Age	hrs	Client Info		18946		
Oil Age	hrs	Client Info		450		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	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	>110	17		
Chromium	ppm	ASTM D5185m	>4	1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	6		
Lead	ppm	ASTM D5185m	>45	0		
Copper	ppm	ASTM D5185m	>85	0		
Tin	ppm	ASTM D5185m	>4	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
	1-1-			•		
ADDITIVES	1- 1-	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		history1	history2
			limit/base	current		-
Boron	ppm	ASTM D5185m	limit/base	current 8		
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		current 8 0		
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		current 8 0 58		
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66	current 8 0 58 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000	current 8 0 58 <1 609		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050	Current 8 0 58 <1 609 1422	  	  
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	66 1000 1050 1150	Current 8 0 58 <1 609 1422 1002	   	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	66 1000 1050 1150 1270 limit/base	current     8     0     58     <1     609     1422     1002     1192	    	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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	66 1000 1050 1150 1270	current     8     0     58     <1     609     1422     1002     1192     3199     current     8		
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	66 1000 1050 1150 1270 limit/base >30	current     8     0     58     <1     609     1422     1002     1192     3199     current     8     0	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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	66 1000 1050 1150 1270 limit/base >30	current     8     0     58     <1     609     1422     1002     1192     3199     current     8	     history1 	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm 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	66 1000 1050 1150 1270 limit/base >30	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 <b>limit/base</b> >30	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current   0.7	     history1  	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 <b>limit/base</b> >30 >20 <b>limit/base</b>	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current	     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	66 1000 1050 1150 1270 limit/base >30 >20 limit/base >3	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current   0.7	     history1   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	66 1000 1050 1150 1270 1270 imit/base >30 >20 imit/base >3 >20	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current   0.7   8.6	     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 D5185m	66 1000 1050 1150 1270 270 imit/base >30 20 imit/base >3 >20 >3 >20	current   8   0   58   <1   609   1422   1002   1192   3199   current   8   0   2   current   0.7   8.6   19.5	      history1  history1  history1	    history2  history2  history2



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\* - 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)

Certificate L2367

Laboratory

Sample No.

Lab Number

T:

F: