

## **OIL ANALYSIS REPORT**

## Area Ewing Hauling Machine Id PETERBILT 2596

Component Diesel Engine Fluid

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

## DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor.

#### Wear

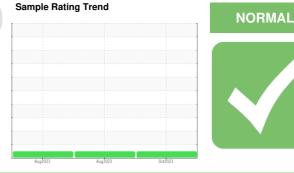
All component wear rates are normal.

#### 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.

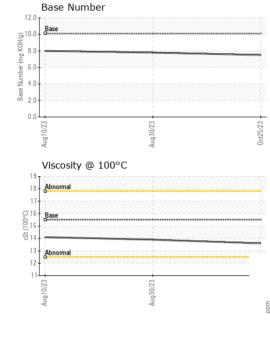


SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0863206	WC0840470	WC0830857
Sample Date		Client Info		25 Oct 2023	30 Aug 2023	10 Aug 2023
Machine Age	hrs	Client Info		14590	14111	13939
Oil Age	hrs	Client Info		450	450	150
Oil Changed		Client Info		Changed	Changed	Filtered
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	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	>110	5	7	5
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	0	<1
Lead	ppm	ASTM D5185m	>45	0	<1	<1
Copper	ppm	ASTM D5185m	>85	0	1	1
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		10	14	15
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	66	59	64	66
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	1000	590	853	828
Calcium	ppm	ASTM D5185m	1050	1468	1531	1332
Phosphorus	ppm	ASTM D5185m	1150	976	1036	1051
Zinc	ppm	ASTM D5185m	1270	1199	1296	1255
Sulfur	ppm	ASTM D5185m		3198	4020	3906
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	10	5	4
Sodium	ppm	ASTM D5185m		<1	4	3
Potassium	ppm	ASTM D5185m	>20	0	2	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.5	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.1	8.2	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	18.0	18.2

Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	18.0	18.2
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	13.3	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.5	7.8	8.0



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	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		
Aug30/23	Appearance	scalar *	Visual	NORML	NORML	NORML	NORML		
Aug	<sup>B</sup> Odor	scalar *	Visual	NORML	NORML	NORML	NORML		
	Emulsified Water	scalar *	Visual	>0.2	NEG	NEG	NEG		
	Free Water	scalar *	Visual		NEG	NEG	NEG		
	FLUID PROPERT	TIES	method	limit/base	current	history1	history2		
	Visc @ 100°C	cSt A	STM D445	15.5	13.6	13.9	14.1		
	GRAPHS								
	Iron (ppm)				Lead (ppm)				
	200 Severe	+		80	Severe				
Aug30/23	150			60	1				
Au	톱 100 - Abnormal			톱 40	Abnormal				
	50								
	0								
	Aug 10/23	Aug30/23		0ct25/23	Aug10/23	Aug30/23			
	Aug1	20ng		0ct2	Augl	Aug3			
	Aluminum (ppm)				Chromium (	ppm)			
	Severe			10	Severe				
	40			8					
	E 30 Abnormal			udd d	Abnormal				
	10			2					
	0								
	Aug10/23	Aug30/23 -		0ct25/23	Aug10/23	Aug30/23 -			
	Aug	Aug		Octi	Bny	Aug			
	Copper (ppm)			50	Silicon (ppm	)			
	200 Severe			50	Severe				
	150			40	Ab				
	and the second s			E 20		1			
	50-			10					
	0								
	0/23	Aug30/23 -		0ct25/23	0/23	0/23 -			
	Aug10/23	Aug3		0ct2	Aug10/23	Aug30/23			
	Viscosity @ 100°C	2			Base Numbe	er			
	20 18 Abnormal				Base				
	i e			0.00 8.0 4.0 4.0 882 882 802 822 802 802 802 802 802 80					
	3016 - <b>Base</b> 5314 - <b>Base</b>				-				
	Abnormal			4.0 % 2.0	1				
	10			0.0	· +				
	Aug10/23	Aug30/23		0ct25/23	Aug 10/23	Aug30/23			
	Aug	Aug		Octi	Bny	Aug			
Laboratory					}				
Sample No		Received Diagnosed		Nov 2023 Nov 2023			OKES AVENU OWNSHIP, 1		
Lah Numb							US 086		
Lab Number Unique Num	ber : 10749268	Test Package : MOB 1 (Additional Tests: TBN)					Contact: Carlos Eva		
Cate L2367 Test Packa	ge : MOB 1 ( Additional )	Tests: TBN	)						
Cate L2367 Unique Num cate L2367 Test Packa iscuss this sample repo		Tests: TBN	) )-237-1369	).		Contac CEvans@inters			

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