

OIL ANALYSIS REPORT

Action Newark PETERBILT 2469

Component **Diesel Engine**

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

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



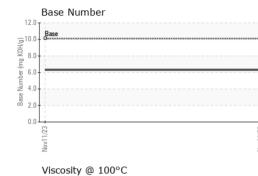
NORMAL

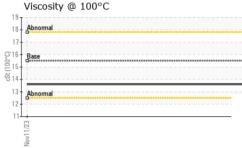
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0831036		
Sample Date		Client Info		11 Nov 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
			11 11 11			
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	11		
Chromium	ppm	ASTM D5185m	>4	<1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>25	11		
Lead	ppm	ASTM D5185m	>45	<1		
Copper	ppm	ASTM D5185m	>85	2		
Tin	ppm	ASTM D5185m	>4	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
	1. 1			•		
ADDITIVES	le le	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	-	history1	history2
		method	limit/base	current		
Boron	ppm	method ASTM D5185m	limit/base	current		
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m		current 10 0		
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m		current 10 0 71		
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66	current 10 0 71 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000	current 10 0 71 <1 570		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050	current 10 0 71 <1 570 1530	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150	current 10 0 71 <1 570 1530 966	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150	current 10 0 71 <1 570 1530 966 1245	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270	Current 10 0 71 <1 570 1530 966 1245 3342		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method 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 10 0 71 <1 570 1530 966 1245 3342 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	66 1000 1050 1150 1270 limit/base	current 10 0 71 <1 570 1530 966 1245 3342 current 5	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18	 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	method ASTM D5185m	66 1000 1050 1150 1270 limit/base >30 >20 limit/base	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18 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	method ASTM D5185m	66 1000 1050 1150 1270 limit/base >30 >20 limit/base >3	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18 current 0.4	 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	method ASTM D5185m	66 1000 1050 1150 1270 imit/base >30 >20 imit/base >3 >20	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18 current 0.4 9.1	 history1 history1 history1	 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	method ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 270 limit/base >30 limit/base >3 >20 >3	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18 current 0.4 9.1 21.0	 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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	66 1000 1050 1150 1270 imit/base >30 20 imit/base >3 >20 >30	current 10 0 71 <1 570 1530 966 1245 3342 current 5 2 18 current 0.4 9.1 21.0	 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





	VISUAL		methoa	iimit/base		nistory i	nistory∠
	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		
Nov11/23	Appearance	scalar	*Visual	NORML	NORML		
Nov	Odor	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		13.6		
	_	COL	A3110 D443	15.5	13.0		
	GRAPHS						
	Ferrous Alloys						
	iron						
	10 - chromium						
	8-						
	E 6						
	4						
	2						
	0						
	Vov11/23			Nov11/23			
	<u>-</u>	_		No			
	Non-ferrous Meta	ls					
	copper						
	8 - tin						
	6						
	udd						
	0						
	4						
	4						
	4						
	2						
	2						
	4 2 0 5 27 1 100 8 27 1 100 8			Nov11/23			
	Viscosity @ 100°C				Base Number		
	Viscosity @ 100°C						
	4 0 E2/11/100 Viscosity @ 100°C			EZ/11/00N 12.0			
	4 2 0 EZ/1149 Viscosity @ 100°C 19 18 Abnomal			EZ/11/00N 12.0	I		
	4 2 0 EZ/1149 Viscosity @ 100°C 19 18 Abnomal			EZ/11/00N 12.0	I		
	4 2 0 EZ/1149 Viscosity @ 100°C 19 18 Abnomal			EZ/11/00N 12.0	I		
	Viscosity @ 100°C			EZ/11/00N 12.0	I		
	Viscosity @ 100°C			12.0 (0)H 0)X 8.0 (0)H 0)X 8.0	I		
	Viscosity @ 100°C			12.0 (0)HOX 8.0 (0)HOX	I		
	Viscosity @ 100°C			12.0 (0)HOX BU HOX BU H	Base		
	Viscosity @ 100°C			12.0 (0)HOX Bul a 6.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 1	I		
Laboratory Sample No. Lab Number	Viscosity @ 100°C	501 Madis Received	son Ave., Ca	EZ/11/nov (0)HOX Duu) 12.0 (0)HOX Duu) 8.0 Duu) 9888 2.0 EZ/11/nov 0.0	EZTITIVON	ERSTATE WA 10 EVERGREI	STE-NEWAR EN AVE, BAY
Laboratory Sample No.	Viscosity @ 100°C	501 Madis	son Ave., Ca 1 : 21 l 24 : 22 l	EZITIVON 12.0 10	EZTITIVON		STE-NEWAR
Laboratory Sample No. Lab Number	Viscosity @ 100°C Viscosity @ 100°C bonomal bonomal control bonomal control bonomal c	501 Madis Received Diagnost	son Ave., Ca I : 21 l ed : 22 l ician : Wea	12.0 10.0	EZTITION INT 1	10 EVERGREI	STE-NEWAR EN AVE, BAY NEWARK, N US 0711 Robert Wityns

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