

### **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# PETERBILT 14

#### Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

#### 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

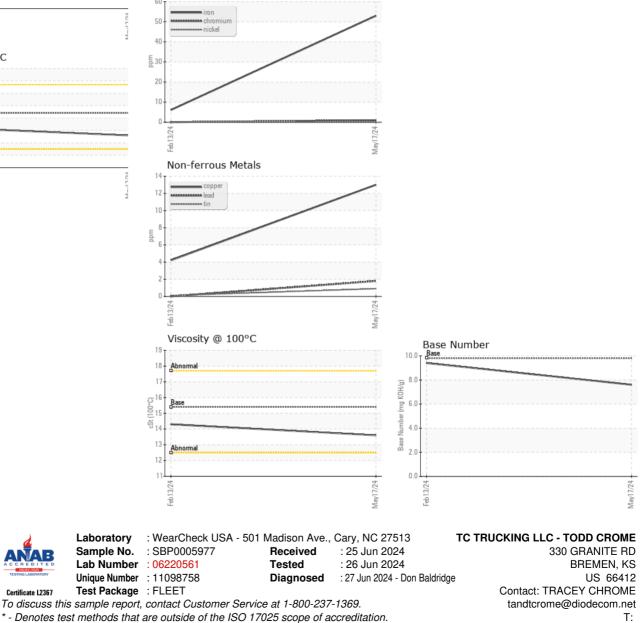
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0005977	SBP0005815	
Sample Date		Client Info		17 May 2024	13 Feb 2024	
Machine Age	mls	Client Info		274713	237062	
Oil Age	mls	Client Info		37651	24842	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	٨	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	53	6	
Chromium	ppm	ASTM D5185m	>20	1	0	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>25	2	<1	
Lead	ppm	ASTM D5185m	>40	2	0	
Copper	ppm	ASTM D5185m	>330	13	4	
Tin	ppm	ASTM D5185m	>15	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	2	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	60	62	60	
Manganese	ppm	ASTM D5185m	0	1	2	
MAR and a strength						
Magnesium	ppm	ASTM D5185m	1010	1048	954	
Calcium	ppm ppm	ASTM D5185m	1070	1156	1066	
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	1070 1150	1156 1077	1066 1062	
Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1156 1077 1372	1066 1062 1233	
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060	1156 1077 1372 3445	1066 1062 1233 3561	
Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	1156 1077 1372	1066 1062 1233 3561 history1	
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1070 1150 1270 2060 limit/base	1156 1077 1372 3445 current 5	1066 1062 1233 3561 history1 3	
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25	1156 1077 1372 3445 current 5 2	1066 1062 1233 3561 history1 3 <1	   history2
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25	1156 1077 1372 3445 current 5	1066 1062 1233 3561 history1 3	   history2 
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25	1156 1077 1372 3445 current 5 2	1066 1062 1233 3561 history1 3 <1	   history2 
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25 >20	1156 1077 1372 3445 current 5 2 3 3 current 0.4	1066 1062 1233 3561 history1 3 <1 0 history1 0.1	   history2  
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 D51854 ASTM D7844	1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	1156 1077 1372 3445 current 5 2 3 current 0.4 9.1	1066 1062 1233 3561 history1 3 <1 0 history1 0.1 4.6	  history2   history2
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 imit/base >25 >20 imit/base >3	1156 1077 1372 3445 current 5 2 3 3 current 0.4	1066 1062 1233 3561 history1 3 <1 0 history1 0.1	   history2   history2
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm pm spm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D51854 ASTM D7844	1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	1156 1077 1372 3445 current 5 2 3 current 0.4 9.1	1066 1062 1233 3561 history1 3 <1 0 history1 0.1 4.6	   history2   history2  history2
Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm pm spm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844	1070 1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >30	1156 1077 1372 3445 <u>current</u> 5 2 3 <u>current</u> 0.4 9.1 20.9	1066 1062 1233 3561 history1 3 <1 0 history1 0.1 4.6 17.5	   history2   history2  history2 

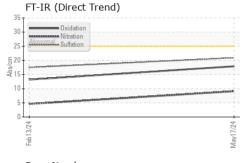


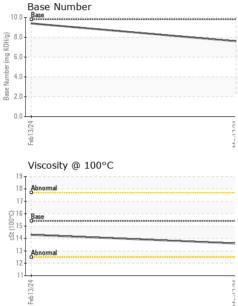
## **OIL ANALYSIS REPORT**

VISUAL		method	limit/base	current	history1	history2
White Metal	agalar	*Visual	NONE	NONE	NONE	
	scalar					
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	14.3	
GRAPHS						
Ferrous Alloys						



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





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