

## **OIL ANALYSIS REPORT**

Sample Rating Trend

**VISUAL METAL** 

### Machine Id KENWORTH 701

Component Front Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (11 GAL)

#### DIAGNOSIS

#### A Recommendation

Resample at the next service interval to monitor.

#### 🔺 Wear

Moderate concentration of visible metal present. All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### **Fluid Condition**

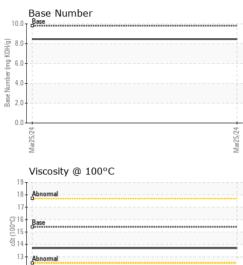
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				Mar2024		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0007030		
Sample Date		Client Info		25 Mar 2024		
Machine Age	mls	Client Info		507774		
Oil Age	mls	Client Info		24000		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	15		
Chromium	ppm	ASTM D5185m	>20	2		
Nickel	ppm	ASTM D5185m	>2	<1		
Titanium	ppm	ASTM D5185m	>2	0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>20	4		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	0		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		0		
	ppm	ASTIVI DOTOSIII		U		
Cadmium	ppm	ASTM D5185m		0		
			limit/base	-		
Cadmium		ASTM D5185m	limit/base	0		
ADDITIVES Boron	ppm	ASTM D5185m method		0 current	 history1	 history2
Cadmium ADDITIVES Boron Barium	ppm ppm	ASTM D5185m method ASTM D5185m	0	0 current 2	 history1 	 history2 
Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	0	0 current 2 0	 history1 	 history2 
Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 current 2 0 60	 history1  	 history2  
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 current 2 0 60 <1	 history1  	 history2  
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 current 2 0 60 <1 957	 history1   	 history2   
Cadmium ADDITIVES Boron	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 current 2 0 60 <1 957 1054	 history1    	 history2     
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 current 2 0 60 <1 957 1054 1051	 history1      	 history2     
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	0 current 2 0 60 <1 957 1054 1051 1278	 history1       	 history2       
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 current 2 0 60 <1 957 1054 1051 1278 3505	 history1       	 history2        -
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 current 2 0 60 <1 957 1054 1051 1278 3505 current	 history1       history1	 history2       history2
Cadmium ADDITIVES Boron Barium Molybdenum Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3	 history1        history1 	 history2        history2 
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Iimit/base >25	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2	 history1        history1  history1	 history2        history2  history2
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2 5	 history1        history1  	 history2        history2  history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2 5 current	 history1       history1    history1	history2 history2 history2 history2 history2
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2 5 current 0.3	 history1      history1   history1  	history2 i i i i i i i i history2 i i i history2 i
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 20 limit/base >20	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2 5 current 0.3 8.4	 history1       history1    history1  	history2 i i i i i i i i history2 i i i history2 i
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Iimit/base</b> >25 <b>S</b> <b>S</b> S S S S S S S S S S S S S S S S	0 current 2 0 60 <1 957 1054 1051 1278 3505 current 3 2 5 current 0.3 8.4 19.8	 history1        history1   history1	history2 i <p< td=""></p<>



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# **OIL ANALYSIS REPORT**



	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	A MODER		
	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		
Mai25/24	Appearance	scalar	*Visual	NORML	NORML		
Mai	Odor	scalar	*Visual	NORML	NORML		
°C	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	IES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.7		
	GRAPHS						
	Ferrous Alloys						
5	16 14						
	12 - neesee chromium						
P.4	10						
	E 8						
	6-						
	4						
	2						
	0			4			
	Mar25/24			Mar25/24			
				M			
	Non-ferrous Metal	s					
	copper						
	8 - in tin						
	6-						
	шdd						
	4						
	2						
	0			/24			
	Mar25/24			Mar25/24			
	– Viscosity @ 100°C			-			
	<sup>19</sup>			10	Base Numbe	r	
	18 - Abnormal				1		
	17			8 6 8 8 8 8 8 8 8 8 8 2	.0		
	0,16 Base 15			Di Ko	.0 -		
	0015-			ber (n			
	8 14			4 N a	.0+		
	13 - Abnormal			ee 2	.0-		
	12						
	114			0			24
	Mar25/24			Mar25/24	Mar25/24		Mar25/24
Laboratory Sample No. Lab Number Unique Number Test Package To discuss this sample report,	: 10954604 : FLEET	Rece Teste Diagi	ived : 01 ed : 02 nosed : 04	Apr 2024 2 Apr 2024 Apr 2024 - Jona	athan Hester	889 C	AN TRUCKING OUNTY RD 12 ITHACA, NE US 68033 DY BERGMAN ng@yahoo.com
* - Denotes test methods that Statements of conformity to sp					n rule (JCGM 10		(402)443-8919 F: