

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



#### Area SCHTRUCK Machine Id 6407 [SCHTRUCK] Component

Diesel Engine

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		SBP0005728	SBP0004404	SBP0003905
Sample Date		Client Info		25 Sep 2023	05 Jun 2023	28 Feb 2023
Machine Age	mls	Client Info		292649	252384	214556
Oil Age	mls	Client Info		40265	37828	37431
Oil Changed		Client Info		Changed	Changed	Changed
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
		un atta a d			biotom d	la i at a m . O
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	17	15	17
Chromium	ppm	ASTM D5185m	>5	1	1	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	5	5	11
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m		6	9	17
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 1	history2 4
	ppm ppm					
Boron		ASTM D5185m	0	<1	1	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 <1	1 0	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 <1 65	1 0 63	4 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 <1 65 <1	1 0 63 <1	4 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 <1 65 <1 994	1 0 63 <1 916	4 0 62 <1 853
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 <1 65 <1 994 1112	1 0 63 <1 916 1155	4 0 62 <1 853 1297
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	<1 <1 65 <1 994 1112 1037	1 0 63 <1 916 1155 994	4 0 62 <1 853 1297 930
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	<1 <1 65 <1 994 1112 1037 1297	1 0 63 <1 916 1155 994 1281	4 0 62 <1 853 1297 930 1191
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 <1 65 <1 994 1112 1037 1297 2404	1 0 63 <1 916 1155 994 1281 2827	4 0 62 <1 853 1297 930 1191 2816
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 <1 65 <1 994 1112 1037 1297 2404 current	1 0 63 <1 916 1155 994 1281 2827 history1	4 0 62 <1 853 1297 930 1191 2816 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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	0 0 0 1010 1070 1150 1270 2060 kimit/base >20	<1 <1 65 <1 994 1112 1037 1297 2404 current 3	1 0 63 <1 916 1155 994 1281 2827 history1 4	4 0 62 <1 853 1297 930 1191 2816 history2 4
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >20	<1 <1 65 <1 994 1112 1037 1297 2404 current 3 2	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1	4 0 62 <1 853 1297 930 1191 2816 history2 4 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >20 <b>imit/base</b>	<1 <1 65 <1 994 1112 1037 1297 2404 <i>current</i> 3 2 9	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12	4 0 62 <1 853 1297 930 1191 2816 history2 4 1 23
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220 220 220	<1 <1 65 <1 994 1112 1037 1297 2404 <i>current</i> 3 2 9 9	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12 12 history1	4 0 62 <1 853 1297 930 1191 2816 history2 4 1 23 kistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220 220 220	<1 <1 65 <1 994 1112 1037 1297 2404 <i>current</i> 3 2 9 9 <i>current</i> 0.7	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12 history1 0.6	4 0 62 <1 853 1297 930 1191 2816 history2 4 1 23 history2 0.5
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	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	<1 <1 65 <1 994 1112 1037 1297 2404 <i>current</i> 3 2 9 <i>current</i> 0.7 11.0	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12 history1 0.6 9.8	4 0 62 <1 853 1297 930 1191 2816 history2 4 1 23 history2 0.5 9.8
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	0 0 0 1010 1070 1150 1270 2060 2060 220 20 20 320 320 33 220 330	<1 <1 65 <1 994 1112 1037 1297 2404 <i>current</i> 3 2 9 <i>current</i> 0.7 11.0 23.0	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12 history1 0.6 9.8 22.8	4 0 62 <1 853 1297 930 1191 2816 <b>history2</b> 4 1 23 <b>history2</b> 0.5 9.8 21.9
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 D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 2060 20 20 20 20 20 20 20 30 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 <1 65 <1 994 1112 1037 1297 2404  Current 3 2 9  Current 0.7 11.0 23.0  Current	1 0 63 <1 916 1155 994 1281 2827 history1 4 <1 12 history1 0.6 9.8 22.8 history1	4 0 62 <1 853 1297 930 1191 2816 history2 4 1 23 history2 0.5 9.8 21.9 history2



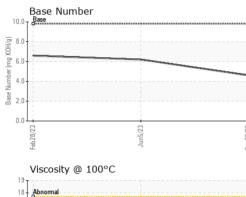
17 () 16 () 15 14 Base

> 13 Abnormal 12 11

Feb28/23

# **OIL ANALYSIS REPORT**

VISUAL



		19         Abnormal           17         Asse           17         Base           16         Base           17         Annormal           18         Annormal           17         Annormal           18         Annormal           12         Annormal           11         CZ 200 gr 4           11         CZ 200 gr 4	Jun5/23		10.0 8.0 6.0 9.0 8aes (Mumper (m) 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Base	Jun5/23 -	
		19 18 Ahnormal 17 5 16 Base 3 14 13 Ahnormal 15 14 13 Ahnormal			.6. (b)HO) B (b)HO) asse	Base		
		19 18 <b>Abnormal</b> 17				Base		
		<sup>19</sup>	1		10.0	Base		
		Viscosity @ 100°	°C			Base Number		
		Feb28/23	Jun5/23		Sep25/23 -			
		4 2						
		6			_			
		16 - copper 14 - copper						
		Non-ferrous Met			ŏ			
		ep 58/23	Jun5/23		Sep 25/23			
		4 - 2 -						
		E <sup>10</sup> 8 6						
hun		14 nickel						
Jun5/23		18 16			_			
		GRAPHS Ferrous Alloys						
		Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.1	13.9
		FLUID PROPER		method	limit/base	current	history1	history2
		Emulsified Water Free Water	scalar scalar	*Visual *Visual	>0.2	NEG NEG	NEG NEG	NEG NEG
ř	Ser	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Jun5/23	Sep 25/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
		Silt	scalar		NONE	NONE	NONE	NONE
		Yellow Metal Precipitate	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE	NONE NONE
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE

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