

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



### Area SCHTRUCK Machine Id 7071 [SCHTRUCK] Component

Diesel Engine

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

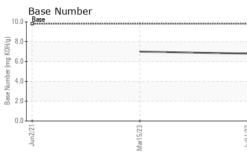
#### Fluid Condition

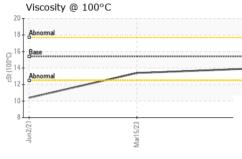
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

·				Mar2023 Jul20:		
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0004729	SBP0004167	SBP55343037
Sample Date		Client Info		11 Jul 2023	15 Mar 2023	02 Jun 2021
Machine Age	mls	Client Info		245084	205416	38414
Oil Age	mls	Client Info		39668	33713	38414
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	SEVERE
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	0.36
Glycol		WC Method		NEG	NEG	0.0
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	23	32	12
Chromium	ppm	ASTM D5185m	>5	2	3	1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		2	10	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>30	9	14	7
Lead	ppm	ASTM D5185m	>30	0	1	0
Copper	ppm	ASTM D5185m	>150	17	21	2
Tin	ppm	ASTM D5185m	>5	2	1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
			11 11 11			
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	limit/base		history1 20	14
	ppm ppm	ASTM D5185m	0	current 3 0		
Boron Barium	ppm		0	3	20	14
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 66	20 0	14 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 66 <1	20 0 42 2	14 0 2 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 66 <1 1022	20 0 42 2 524	14 0 2 0 606
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	3 0 66 <1	20 0 42 2 524 1721	14 0 2 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150	3 0 66 <1 1022 1374 1075	20 0 42 2 524 1721 647	14 0 2 0 606 964 662
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	3 0 66 <1 1022 1374	20 0 42 2 524 1721	14 0 2 0 606 964
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	3 0 66 <1 1022 1374 1075 1385	20 0 42 2 524 1721 647 961	14 0 2 0 606 964 662 598
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 66 <1 1022 1374 1075 1385 3342	20 0 42 2 524 1721 647 961 2468	14 0 2 0 606 964 662 598
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 66 <1 1022 1374 1075 1385 3342 current	20 0 42 2 524 1721 647 961 2468 history1	14 0 2 0 606 964 662 598  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 66 <1 1022 1374 1075 1385 3342 current 5	20 0 42 524 1721 647 961 2468 history1 7	14 0 2 0 606 964 662 598  history2 3
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 <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	3 0 66 <1 1022 1374 1075 1385 3342 current 5 2	20 0 42 524 1721 647 961 2468 history1 7 4	14 0 2 0 606 964 662 598  history2 3 3 3
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	3 0 66 <1 1022 1374 1075 1385 3342 current 5 2 2 10	20 0 42 524 1721 647 961 2468 history1 7 4 19	14 0 2 0 606 964 662 598  history2 3 3 3 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b> >20	3 0 66 <1 1022 1374 1075 1385 3342 current 5 2 10 	20 0 42 2 524 1721 647 961 2468 history1 7 4 19 	14 0 2 0 606 964 662 598  history2 3 3 3 7 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220 220	3 0 66 <1 1022 1374 1075 1385 3342 current 5 2 10  Current	20 0 42 524 1721 647 961 2468 history1 7 4 19  history1	14 0 2 0 606 964 662 598  history2 3 3 7 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >20 20 <i>limit/base</i>	3 0 66 <1 1022 1374 1075 1385 3342 <i>current</i> 5 2 10  <i>current</i> 0.7	20 0 42 524 1721 647 961 2468 history1 7 4 19  19  history1 0.6	14 0 2 0 606 964 662 598  history2 3 3 3 7 0 0 history2 0.81
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine 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	3 0 66 <1 1022 1374 1075 1385 3342 <u>current</u> 5 2 10  5 2 10  0.7 10.2	20 0 42 2 524 1721 647 961 2468 history1 7 4 19  history1 0.6 10.9	14 0 2 0 606 964 662 598  history2 3 3 3 7 0 0 history2 0.81
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 <b>imit/base</b>	3 0 66 <1 1022 1374 1075 1385 3342 current 5 2 10  current 0.7 10.2 22.8 current	20 0 42 2 524 1721 647 961 2468 history1 7 4 19  history1 0.6 10.9 23.2 history1	14 0 2 0 606 964 662 598  history2 3 3 3 7 0 0 history2 0.81 
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine 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 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 <b>imit/base</b> >30	3 0 66 <1 1022 1374 1075 1385 3342 <u>current</u> 5 2 10  <u>current</u> 0.7 10.2 22.8	20 0 42 524 1721 647 961 2468 history1 7 4 19  19  history1 0.6 10.9 23.2	14 0 2 0 606 964 662 598  history2 3 3 3 7 0 0 history2 0.81  0.81  history2



# **OIL ANALYSIS REPORT**





		SUAL		method	limit/base	current	history1	history2
	Whit	te Metal	scalar	*Visual	NONE	NONE	NONE	
	Yello	ow Metal	scalar	*Visual	NONE	NONE	NONE	
	Prec	cipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt		scalar	*Visual	NONE	NONE	NONE	
	Deb	ris	scalar	*Visual	NONE	NONE	NONE	
		d/Dirt	scalar	*Visual	NONE	NONE	NONE	
Mar15/23		earance	scalar	*Visual	NORML	NORML	NORML	
Ma	000		scalar	*Visual	NORML	NORML	NORML	
	Emu	ulsified Water	scalar	*Visual	>0.2	NEG	NEG	
	Free	e Water	scalar	*Visual		NEG	NEG	
		UID PROPER		method	limit/base	current	history1	history2
		:@100°C	cSt	ASTM D445	15.4	13.9	13.4	• 10.4
		RAPHS						
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	15 uud 10 5 0 172 10 10 10 10 10 10 10 10 10 10 10 10 10	scosity @ 1004		*****	10	.0 - Base	r	
	15 10 10 10 10 10 10 10 10 10 10 10 10 10	normal			10	.0 - Base	r	
	15 10 10 10 10 10 10 10 10 10 10	normal			10	.0 - Base	r	
	15 10 10 10 10 10 10 10 10 10 10	normal			10	.0 - Base .0	r	
	15 10 10 10 10 10 10 10 10 10 10	normal			10	.0 - Base	r	
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	15 10 10 10 10 10 10 10 10 10 10	normal			(0,4 %) (0,4 %	0 - Base	r	
	15 10 15 10 10 10 10 10 10 10 10 10 10	normal	°C		10 (0,8 (0),4 (0),	0 Base		
	Vis 15 0 10 10 10 10 10 10 10 10 10	normal			(0,4 %) (0,4 %	0 - Base	r Wart 5/23	
	Und 10 15 10 10 10 10 10 10 10 10 10 10	normal	<sup>D</sup> C		10 8 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	0 Base	Mart 5/23	
Labora	tory : Wea	normal	• C		10 8 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	0 Base	Mart 5/23	<b>TATION - 6054</b> 108 E Bay Ro
Labora Sample Lab Nu	tory : Wea	normal	<sup>D</sup> C	d :14.	10 (0,10,0,6,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	0 Base	Mart 5/23	RTATION - 6054 108 E Bay Ro Plattsmouth, N
Sample Lab Nu Unique	tory : Wer No. : SBF Number : 105	normal	PC	d :14. ed :17.	10 (0,10,10,10,10,10,10,10,10,10,10,10,10,10	0 Base	EZGJIHW DT TRANSPOF	108 E Bay Ro Plattsmouth, N US 680
Sample Lab Nu	tory : Wei No. : SBF Number : 105 ackage : FLE	normal se normal arCheck USA 20004729 99231 60587 ET	- 501 Madia Received Diagnos	d :14. ed :17. tician :We	(0,0) (0,0)	0 Base	EZGYINEW DT TRANSPOF	108 E Bay Ro Plattsmouth, I

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

Page 2 of 2

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