

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id 912103 Component

Diesel Engine

### PETRO CANADA DURON SHP 15W40 (36 QTS)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a components first oil change.

#### 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 INFOR	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0084968			
Sample Date		Client Info		26 Sep 2023			
Machine Age	hrs	Client Info		7356			
Oil Age	hrs	Client Info		7356			
Oil Changed		Client Info		N/A			
Sample Status				NORMAL			
· · ·			11 11 11				
CONTAMINAT	ION	method	limit/base	current	history1	history2	
Fuel		WC Method	>3.0	<1.0			
Glycol		WC Method		NEG			
WEAR METAL	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	40			
Chromium	ppm	ASTM D5185m	>20	2			
Nickel	ppm	ASTM D5185m	>5	1			
Titanium	ppm	ASTM D5185m	>2	0			
Silver	ppm	ASTM D5185m	>2	0			
Aluminum	ppm	ASTM D5185m	>20	6			
Lead	ppm	ASTM D5185m	>40	2			
Copper	ppm	ASTM D5185m	>330	1			
Tin	ppm	ASTM D5185m	>15	1			
Vanadium	ppm	ASTM D5185m		<1			
Cadmium	ppm	ASTM D5185m		0			
ADDITIVES		method	limit/base	current	historv1	historv2	
ADDITIVES Boron	maa	method ASTM D5185m	limit/base 0	current	history1	history2	
Boron	ppm	ASTM D5185m	0	3			
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	3 0			
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 61			
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 61 <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	3 0 61 <1 939			
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	3 0 61 <1 939 1080			
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	3 0 61 <1 939 1080 1040	  	  	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 61 <1 939 1080 1040 1288	   		
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	3 0 61 <1 939 1080 1040 1288 2984			
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 60 1010 1070 1150 1270 2060	3 0 61 <1 939 1080 1040 1288 2984 current	    		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 0 60 1010 1070 1150 1270 2060	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12	    history1	     history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	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 Limit/base >25	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31	     history1	     history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 0 60 1010 1070 1150 1270 2060 Limit/base >25	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12	    history1	     history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	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 Limit/base >25	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31	     history1	     history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <b>limit/base</b> >25	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31 15	     history1  	     history2  	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25 >20 <b>Imit/base</b>	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31 15 <u>current</u>	    history1   history1	     history2   history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25 >20 <b>Imit/base</b>	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31 15 <u>current</u>	     history1   history1  history1	     history2  history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 limit/base >25 >20 limit/base >20	3 0 61 <1 939 1080 1040 1288 2984 <i>current</i> 12 31 15 <i>current</i> 1.7 1.7 12.9	     history1   history1  	history2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <b>imit/base</b> >25 <b>imit/base</b> >4 >20	3 0 61 <1 939 1080 1040 1288 2984 <u>current</u> 12 31 15 <u>current</u> 1.7 12.9 24.1	     history1  history1  history1	      history2  history2  history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 /////////////////////////////////	3 0 61 <1 939 1080 1040 1288 2984 <i>current</i> 12 31 15 <i>current</i> 1.7 12.9 24.1 <i>current</i>	     history1  history1  history1	history2 history2	

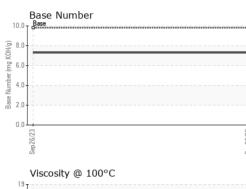


18 - Abnormal

17-() 16 - Base 0015 -<sup>3</sup>3 14 -

# **OIL ANALYSIS REPORT**

VISUAL



	VISUAL		method	iinii/base	current	nistory i	riistory2
	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		
6/23	Appearance	scalar	*Visual	NORML	NORML		
Sep 26/23	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
°C	Free Water	scalar	*Visual		NEG		
			·	11 11 11			
	FLUID PROPE	RHES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	14.6		
	GRAPHS						
	Ferrous Alloys						
	40 iron						
	35 assesses chromium						
	30 - nickel						
	25						
	Ē 20						
	15-						
	10						
	6/23			6/23 -			
	Sep26/23			Sep26/23			
	Non-ferrous Metal	s					
	10 copper						
	8						
	tin tin						
	6						
	2 -						
	0						
	6/23 .			6/23 .			
	Sep26/23			Sep26/23			
	Viscosity @ 100°C	;			Base Number		
	19 T :			10	Dase Number		
	18 - Abnormal						
	17-			(B/H)	B.0 -		
	C 16 Base 00 15			Base Number (mg KOH/g)	6.0 -		
	E 15						
				4 N a	4.0		
	13 Abnormal			ee 2	2.0 -		
	12-						
	114				0.0		23 +
	Sep 26/23			Sep 26/23	Sep 26/23		Sep 26/23
Laboratory Sample No. Lab Number Unique Number Unique Number Test Package To discuss this sample report, of * - Denotes test methods that a	: WearCheck USA - 5 : GFL0084968 I : 05974697 I : 10686647 I : FLEET contact Customer Servi re outside of the ISO 1	Received Diagnose Diagnose ice at 1-8 7025 sco	d : 10 ( ed : 11 ( tician : We 200-237-1369 ope of accred	ry, NC 2751 Oct 2023 Oct 2023 s Davis 9. Jitation.		3900 Contact:	Michigan West 0 Van Born Rd Wayne, MI US 48184 Tony Esquina a@gflenv.com T:
Statements of conformity to spec	itications are based on th	he simple	acceptance of	lecision rule	(JCGM 106:2012)		F: