

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



Machine Id #2 Component New (Unused) Oil Fluid

## PETRO CANADA DURON UHP E6 10W40 (--- GAL)

### DIAGNOSIS

#### Recommendation

This is the baseline readout on this new (unused) oil. The fluid is suitable for service. Resample at the next service interval to monitor.

#### Wear

{not applicable}

#### Contamination

There is no indication of any contamination in the new (unused) oil.

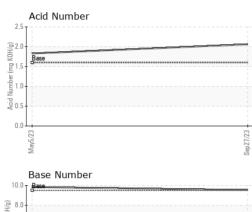
#### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for service.

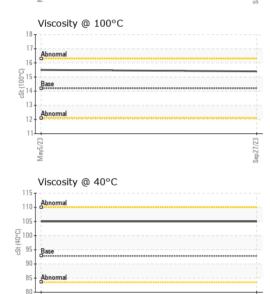
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0080894	PC0076074	
Sample Date		Client Info		27 Sep 2023	05 May 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)		<1	<1	
Chromium	ppm	ASTM D5185(m)		0	0	
Nickel	ppm	ASTM D5185(m)		0	<1	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		<1	0	
Aluminum	ppm	ASTM D5185(m)		<1	<1	
Lead	ppm	ASTM D5185(m)		0	0	
Copper	ppm	ASTM D5185(m)		<1	0	
Tin	ppm	ASTM D5185(m)		0	0	
Antimony	ppm	ASTM D5185(m)		0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base 0	current 2	history1 2	history2
	ppm ppm		0		, , , , , , , , , , , , , , , , , , ,	· · · · · ·
Boron		ASTM D5185(m)	0	2	2	
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0	2 <1	2 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	2 <1 60	2 0 61	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0	2 <1 60 0	2 0 61 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 80	2 <1 60 0 1030	2 0 61 <1 990	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 80 2400	2 <1 60 0 1030 1060	2 0 61 <1 990 1040	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750	2 <1 60 0 1030 1060 1100	2 0 61 <1 990 1040 1060	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840	2 <1 60 0 1030 1060 1100 1230	2 0 61 <1 990 1040 1060 1160	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840	2 <1 60 0 1030 1060 1100 1230 2930	2 0 61 <1 990 1040 1060 1160 2880	     
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130	2 <1 60 0 1030 1060 1100 1230 2930 <1	2 0 61 <1 990 1040 1060 1160 2880 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130	2 <1 60 0 1030 1060 1100 1230 2930 <1 current	2 0 61 <1 990 1040 1060 1160 2880 <1 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130 limit/base	2 <1 60 0 1030 1060 1100 1230 2930 <1 current 5	2 0 61 <1 990 1040 1060 1160 2880 <1 history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130 limit/base	2 <1 60 0 1030 1060 1100 1230 2930 <1 <u>current</u> 5 2	2 0 61 <1 990 1040 1060 1160 2880 <1 <b>history1</b> 5 1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130 limit/base	2 <1 60 0 1030 1060 1100 1230 2930 <1 current 5 2 2 7	2 0 61 <1 990 1040 1060 1160 2880 <1 <b>history1</b> 5 1 0	      history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130 limit/base	2 <1 60 0 1030 1060 1100 1230 2930 <1 current 5 2 7 2 7 current 0	2 0 61 <1 990 1040 1060 1160 2880 <1 <b>history1</b> 5 1 0 <b>history1</b> 0	      history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 80 2400 750 840 2130 limit/base	2 <1 60 0 1030 1060 1100 1230 2930 <1 current 5 2 7 current	2 0 61 <1 990 1040 1060 1160 2880 <1 <b>history1</b> 5 1 0 <i>history</i> 1	      history2  history2  history2



# **OIL ANALYSIS REPORT**







Mav5/23

FLUID CLEANL	INESS	method	limit/base	current	history1	history2
		ASTM D7647	11111/0430	47397	60630	
Particles >4µm		ASTM D7647 ASTM D7647		47397 9872	14883	
Particles >6µm Particles >14µm		ASTM D7647 ASTM D7647		73	235	
Particles >21µm		ASTM D7647 ASTM D7647	>0	9	31	
Particles >38µm		ASTM D7647 ASTM D7647	>0	9 2	1	
Particles >71µm		ASTM D7647		1	1	
Oil Cleanliness		ISO 4406 (c)	20	23/20/13	23/21/15	
FLUID DEGRAD			limit/base	current	history1	history2
			IIIIII/Dase		· · · · ·	mstory2
Oxidation	Abs/.1mm	ASTM D7414*		12.1	12.7	
Acid Number (AN)	mg KOH/g	ASTM D974*	1.6	2.06	1.83	
Base Number (BN)	mg KOH/g	ASTM D2896*	9.5	9.54	9.84	
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	
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*		NEG	NEG	
Free Water	scalar	Visual*		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	92.8	105	105	
Visc @ 100°C	cSt	ASTM D7279(m)	14.2	15.4	15.5	
Viscosity Index (VI)	Scale	ASTM D2270*	157	154	156	
SAMPLE IMAG	iES	method	limit/base	current	history1	history2
Color						no image

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 PETRONOR INC Laboratory CALA Sample No. : PC0080894 Received : 04 Oct 2023 2920 RTE 111 EST Lab Number : 02586744 Diagnosed : 10 Oct 2023 AMOS, QC ISO 17025:2017 Accredited Laboratory Unique Number : 5655810 Diagnostician : Kevin Marson CA J9T 3A1 Test Package : IND 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, TAN Man, TBN, VI) Contact: Gaston To discuss this sample report, contact Customer Service at 1-800-268-2131. entretien@petronor.ca Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (819)732-5334 Validity of results and interpretation are based on the sample and information as supplied. F:

Bottom

Sep27/23 -

no image