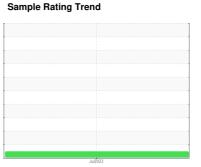


# **OIL ANALYSIS REPORT**



NORMAL



Machine Id 41

Component **Diesel Engine** 

PETRO CANADA DURON HP 15W40 (--- GA

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

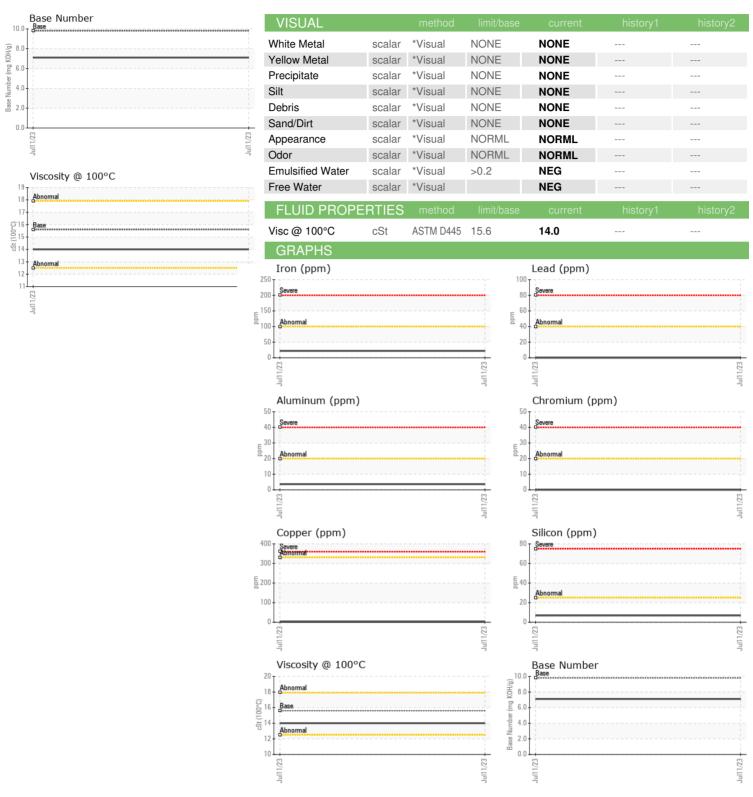
### **Fluid Condition**

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

SAMPLE INFORMATION   method   limit/base   current   history1   history1   history1   Sample Number   Client Info   PCA0096642	AL)				Jui2023		
Sample Date   Client Info   260730	SAMPLE INFOR	MATION	method	limit/base		history1	history2
Sample Date         Client Info         11 Jul 2023	Sample Number		Client Info		PCA0096642		
Oil Age         mls         Client Info         32242			Client Info		11 Jul 2023		
Oil Changed Sample Status         Client Info         Changed NORMAL	Machine Age	mls	Client Info		260730		
Sample Status	Oil Age	mls	Client Info		32242		
CONTAMINATION         method         limit/base         current         history1         hi           Fuel         WC Method         >5         <1.0	Oil Changed		Client Info		Changed		
Fuel	Sample Status				NORMAL		
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
Iron	Fuel		WC Method	>5	<1.0		
Iron	Glycol		WC Method		NEG		
Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Titanium         ppm         ASTM D5185m         >3         0             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         4             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >30         1             Vanadium         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         >1             Cadmium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0 <td< td=""><td>WEAR METAL</td><td>S</td><td>method</td><td>limit/base</td><td>current</td><td>history1</td><td>history2</td></td<>	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >20         0             Nickel         ppm         ASTM D5185m         >4         0             Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >20         4             Aluminum         ppm         ASTM D5185m         >20         4             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >40         0             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1	Iron	ppm	ASTM D5185m	>100	22		
Nickel	Chromium			>20	0		
Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         4             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >330         1             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1	Nickel		ASTM D5185m	>4	0		
Aluminum         ppm         ASTM D5185m         >20         4             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >330         1             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1	Titanium	ppm	ASTM D5185m		0		
Ast   Aluminum	Silver		ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >330         1             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1	Aluminum		ASTM D5185m	>20	4		
Copper         ppm         ASTM D5185m         >330         1             Tin         ppm         ASTM D5185m         >15         0             Vanadium         ppm         ASTM D5185m         <1	Lead	ppm	ASTM D5185m	>40	0		
Tin	Copper		ASTM D5185m	>330	1		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         hi           Boron         ppm         ASTM D5185m         2             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         1053             Magnesium         ppm         ASTM D5185m         1269             Calcium         ppm         ASTM D5185m         1092             Phosphorus         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             Sulfur         ppm         ASTM D5185m         25         7             Sodium         ppm         ASTM D5185m         20         8             Potassium         ppm         ASTM D5185m         >20	Tin	ppm	ASTM D5185m	>15	0		
ADDITIVES         method         limit/base         current         history1         hi           Boron         ppm         ASTM D5185m         2             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         1053             Magnesium         ppm         ASTM D5185m         1269             Calcium         ppm         ASTM D5185m         1092             Phosphorus         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             Sulfur         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         20         8	Vanadium	ppm	ASTM D5185m		<1		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         1053             Magnesium         ppm         ASTM D5185m         1269             Calcium         ppm         ASTM D5185m         1092             Phosphorus         ppm         ASTM D5185m         1376             Zinc         ppm         ASTM D5185m         3093             Sulfur         ppm         ASTM D5185m         3093             Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         20         8             INFRA-RED         method         limit/base         current         history1         his           Soot %         %         *ASTM D7624         >20	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         66             Manganese         ppm         ASTM D5185m         <1             Magnesium         ppm         ASTM D5185m         1053             Calcium         ppm         ASTM D5185m         1269             Phosphorus         ppm         ASTM D5185m         1092             Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         22             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         % ASTM D7624         >20         10.6	Boron	ppm	ASTM D5185m		2		
Manganese         ppm         ASTM D5185m         <1             Magnesium         ppm         ASTM D5185m         1053             Calcium         ppm         ASTM D5185m         1269             Phosphorus         ppm         ASTM D5185m         1092             Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         history1         history1         history2           Silicon         ppm         ASTM D5185m         22              Sodium         ppm         ASTM D5185m         20         8             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7624         >20         10.6         <	Barium	ppm	ASTM D5185m		0		
Magnesium         ppm         ASTM D5185m         1053             Calcium         ppm         ASTM D5185m         1269             Phosphorus         ppm         ASTM D5185m         1092             Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7415         >30         21.7             FLUID DEGRADATION </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>66</td> <td></td> <td></td>	Molybdenum	ppm	ASTM D5185m		66		
Calcium         ppm         ASTM D5185m         1269             Phosphorus         ppm         ASTM D5185m         1092             Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         hi           Silicon         ppm         ASTM D5185m         25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1         history1 <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>&lt;1</td> <td></td> <td></td>	Manganese	ppm	ASTM D5185m		<1		
Phosphorus         ppm         ASTM D5185m         1092             Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	Magnesium	ppm	ASTM D5185m		1053		
Zinc         ppm         ASTM D5185m         1376             Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	Calcium	ppm	ASTM D5185m		1269		
Sulfur         ppm         ASTM D5185m         3093             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	Phosphorus	ppm	ASTM D5185m		1092		
CONTAMINANTS         method         limit/base         current         history1         history1         history1         history1         history1         history1         history1         history1         history1         history2                                                                                        <	Zinc	ppm	ASTM D5185m		1376		
Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         history1         history1         history1           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	Sulfur	ppm	ASTM D5185m		3093		
Sodium         ppm         ASTM D5185m         2             Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         history1         history1           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         8             INFRA-RED         method         limit/base         current         history1         hi           Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	Silicon	ppm	ASTM D5185m	>25	7		
INFRA-RED         method         limit/base         current         history1	Sodium	ppm	ASTM D5185m		2		
Soot %         %         *ASTM D7844         >3         0.6             Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         his	Potassium	ppm	ASTM D5185m	>20	8		
Nitration         Abs/cm         *ASTM D7624         >20         10.6             Sulfation         Abs/.1mm         *ASTM D7415         >30         21.7             FLUID DEGRADATION         method         limit/base         current         history1         history1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.7  FLUID DEGRADATION method limit/base current history1 his	Soot %	%	*ASTM D7844	>3	0.6		
FLUID DEGRADATION method limit/base current history1 his	Nitration	Abs/cm	*ASTM D7624	>20	10.6		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7		
Oxidation	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4		
Base Number (BN)         mg KOH/g         ASTM D2896         9.8         7.1	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.1		



## **OIL ANALYSIS REPORT**







Laboratory Sample No. Lab Number

**Unique Number** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

: 05968577 : 10675128

: PCA0096642

Received : 04 Oct 2023 : 04 Oct 2023 Diagnosed Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

AREA WIDE TRANSPORTATION

3085 IL RT 71 OTTAWA, IL US 61350 Contact: JEFF jeff@driveawt.com T: (815)587-2947

Report Id: AREOTT [WUSCAR] 05968577 (Generated: 10/04/2023 16:39:41) Rev: 1

Contact/Location: JEFF - AREOTT

F: