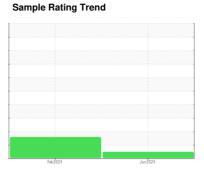


# **OIL ANALYSIS REPORT**

# (TEMP) Preferred Service-Tractor [Preferred Service-Tractor] 192A32040B

**Diesel Engine** 

PETRO CANADA DURON UHP 5W30 (36 QTS)





### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the

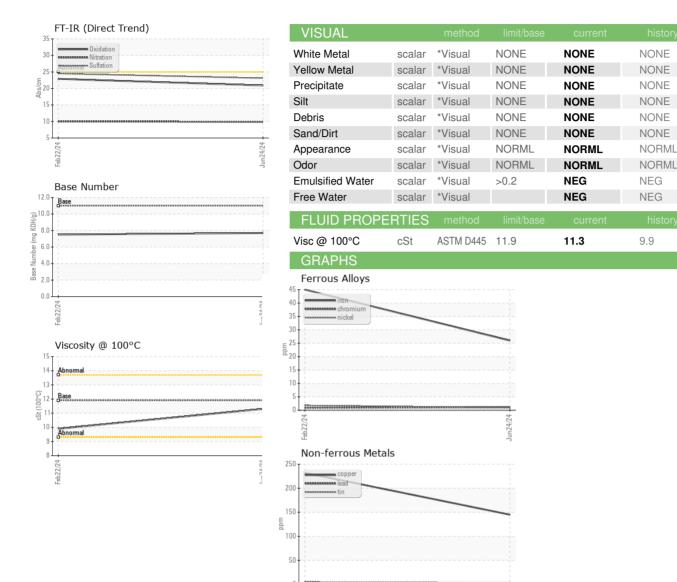
### **Fluid Condition**

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

Sample Number   Client Info   PCA0126927   PCA0116672	rs)			Feb 2024	Jun2024		
Client Info   24 Jun 2024   22 Feb 2024	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info	Sample Number		Client Info		PCA0126927	PCA0116672	
Dil Age	Sample Date		Client Info		24 Jun 2024	22 Feb 2024	
Contained   Client Info   Not Changed   Changed   Changed   ABNORMAL   Contained   Conta	Machine Age	mls	Client Info		36616	18898	
CONTAMINATION   method   limit/base   current   history1   history2   history2   water   WC Method   >6.0   <1.0   <1.0   <	Oil Age	mls	Client Info		17718	18898	
CONTAMINATION   method   limit/base   current   history1   history2	Oil Changed		Client Info		Not Changd	Changed	
Water	Sample Status				NORMAL	ABNORMAL	
Water Glycol         WC Method         >0.2         NEG         NEG	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>6.0	<1.0	<1.0	
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	
Chromium   ppm   ASTM D5185m   >20   1   <1	Glycol		WC Method		NEG	NEG	
Chromium	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	26	45	
Silver	Chromium	ppm	ASTM D5185m	>20	1	<1	
Silver	Nickel	ppm	ASTM D5185m	>2	<1	2	
Aluminum	Titanium	ppm	ASTM D5185m		<1	<1	
Lead	Silver	ppm	ASTM D5185m	>2	<1	<1	
Copper         ppm         ASTM D5185m         >330         145         232            Fin         ppm         ASTM D5185m         >15         3         5            Vanadium         ppm         ASTM D5185m         <1	Aluminum	ppm	ASTM D5185m	>25	7	16	
Tin	_ead	ppm	ASTM D5185m	>40	<1	<1	
Vanadium         ppm         ASTM D5185m         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1 <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;330</td> <td>145</td> <td>232</td> <td></td>	Copper	ppm	ASTM D5185m	>330	145	232	
ADDITIVES	Γin	ppm	ASTM D5185m	>15	3	5	
ADDITIVES	/anadium	ppm	ASTM D5185m		<1	<1	
Boron		ppm	ASTM D5185m		<1	<1	
Barium ppm ASTM D5185m 0 1 0  Molybdenum ppm ASTM D5185m 64 64 123  Manganese ppm ASTM D5185m 0 2 4  Magnesium ppm ASTM D5185m 1160 1098 695  Calcium ppm ASTM D5185m 820 918 1457  Phosphorus ppm ASTM D5185m 1160 947 753  Zinc ppm ASTM D5185m 1260 1281 934  Sulfur ppm ASTM D5185m 3000 2907 2586  CONTAMINANTS method limit/base current history1 history2  Silicon ppm ASTM D5185m >25 15 70  Sodium ppm ASTM D5185m 5 3  Potassium ppm ASTM D5185m >20 17 48  INFRA-RED method limit/base current history1 history2  Soot % "ASTM D7844 >3 0.5 0.5  Nitration Abs/cm "ASTM D7844 >20 9.9 10.0  Sulfation Abs/m "ASTM D7415 >30 23.1 24.5  FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm "ASTM D7414 >25 20.9 22.9	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         64         64         123            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         1160         1098         695            Calcium         ppm         ASTM D5185m         1160         947         753            Phosphorus         ppm         ASTM D5185m         1260         1281         934            Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D7844         >3 <td< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>26</td><td>240</td><td></td></td<>	Boron	ppm	ASTM D5185m	0	26	240	
Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         1160         1098         695            Calcium         ppm         ASTM D5185m         820         918         1457            Phosphorus         ppm         ASTM D5185m         1160         947         753            Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         >20         17         48            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844	Barium	ppm	ASTM D5185m	0	1	0	
Magnesium         ppm         ASTM D5185m         1160         1098         695            Calcium         ppm         ASTM D5185m         820         918         1457            Phosphorus         ppm         ASTM D5185m         1160         947         753            Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Sulfation         Abs/.1mm         *ASTM D7415         >30 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>64</td> <td>64</td> <td>123</td> <td></td>	Molybdenum	ppm	ASTM D5185m	64	64	123	
Calcium         ppm         ASTM D5185m         820         918         1457            Phosphorus         ppm         ASTM D5185m         1160         947         753            Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         <	•	ppm	ASTM D5185m	0	2	4	
Phosphorus         ppm         ASTM D5185m         1160         947         753            Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 <t< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>1160</td><td>1098</td><td></td><td></td></t<>	Magnesium	ppm	ASTM D5185m	1160	1098		
Zinc         ppm         ASTM D5185m         1260         1281         934            Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/.1mm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414	Calcium	ppm	ASTM D5185m	820	918	1457	
Sulfur         ppm         ASTM D5185m         3000         2907         2586            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         ^0         70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/.1mm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9	Phosphorus	ppm		1160	947		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         15         ▲ 70            Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9	Zinc	ppm	ASTM D5185m	1260	1281	934	
Solition   ppm   ASTM D5185m   >25   15			ASTM D5185m	3000	2907	2586	
Sodium         ppm         ASTM D5185m         5         3            Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         17         48            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9		ppm		>25			
INFRA-RED		ppm	ASTM D5185m		5	3	
Soot %         %         *ASTM D7844 >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624 >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415 >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         20.9         22.9	Potassium	ppm	ASTM D5185m	>20	17	48	
Nitration         Abs/cm         *ASTM D7624         >20         9.9         10.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         23.1         24.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.9         22.9	Soot %	%	*ASTM D7844	>3	0.5		
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 20.9 22.9	Vitration	Abs/cm	*ASTM D7624	>20	9.9	10.0	
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	24.5	
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN)         mg KOH/g         ASTM D2896         11.0         7.7         7.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.9	22.9	
	Base Number (BN)	mg KOH/g	ASTM D2896	11.0	7.7	7.5	



## **OIL ANALYSIS REPORT**







Certificate 12367

Laboratory Sample No. Lab Number : 06223153 Unique Number : 11101350 Test Package : FLEET

:St (100°C)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0126927 Received

: 28 Jun 2024 **Tested** : 28 Jun 2024 Diagnosed

: 28 Jun 2024 - Wes Davis

Base Number

12.

0.0

(mg K0H/g)

Melrose Park, IL US 60160 Contact: Tom Lindeman

Transervice - Shop 1920 - Preferred Service

tlindemann@transervice.com T: (630)376-8946

Submitted By: Tom Lindeman

1955 W. North Avenue, Bldg K

To discuss this sample report, contact Customer Service at 1-800-237-1369.  $^st$  - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Viscosity @ 100°C

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