

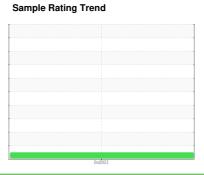
**OIL ANALYSIS REPORT** 

<sup>Area</sup> [817347] 188031

Component

Diesel Engine

Fluid





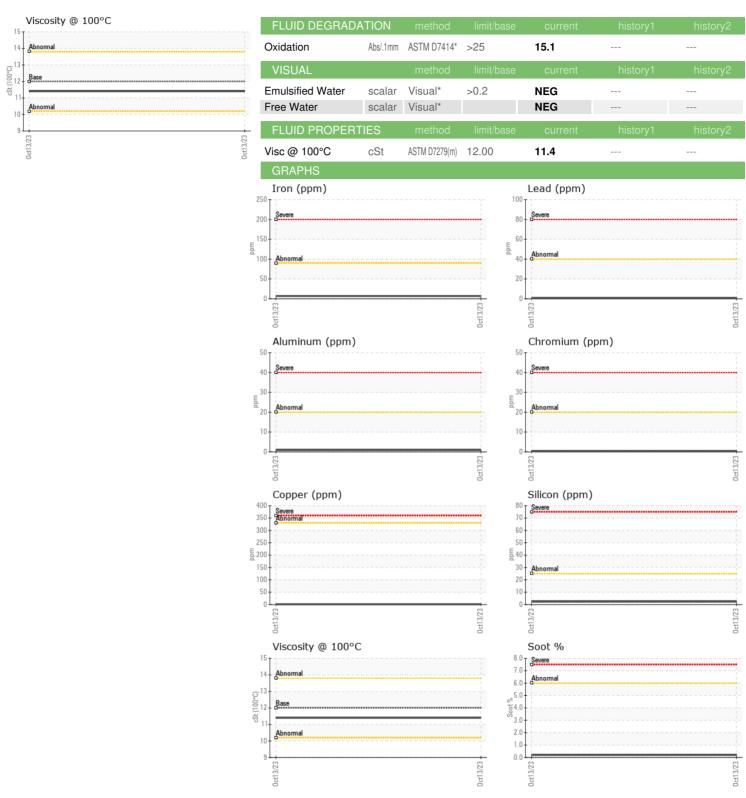
PETRO CANADA DURON SHP 10W30 (	GAL)				0ct2023		
DIAGNOSIS	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		CU0021206		
Resample at the next service interval to monitor.	Sample Date		Client Info		13 Oct 2023		
Wear	Machine Age	hrs	Client Info		9108		
All component wear rates are normal.	Oil Age	hrs	Client Info		180		
Contamination	Oil Changed		Client Info		Changed		
There is no indication of any contamination in the	Sample Status				NORMAL		
oil.	CONTAMINATION	V	method	limit/base	current	history1	history2
Fluid Condition The condition of the oil is acceptable for the time in	Fuel		WC Method	>3.0	<1.0		
service.	Water		WC Method	>0.2	NEG		
	Glycol		WC Method		NEG		
	WEAR METALS		method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185(m)	>90	7		
	Chromium	ppm	ASTM D5185(m)	>20	<1		

Oil Changed         hrs         Client Info         Changed	Machine Age	1115	Ciletit IIIIO		9100		
Sample Status	Oil Age	hrs	Client Info		180		
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >3.0         <1.0             Water         WC Method         NEG             Glycol         WC Method         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >90         7             Chromium         ppm         ASTM D5185(m)         >20         <1             Nickel         ppm         ASTM D5185(m)         >2         0             Sliver         ppm         ASTM D5185(m)         >2         0             Aluminum         ppm         ASTM D5185(m)         >2         1             Lead         ppm         ASTM D5185(m)         >20         <1             Copper         ppm         ASTM D5185(m)         >15         0             Tin	Oil Changed		Client Info		Changed		
Fuel	Sample Status				NORMAL		
Water Glycol         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >90         7             Chromium         ppm         ASTM D5185(m)         >20         <1	CONTAMINATION	١	method	limit/base	current	history1	history2
Water Glycol         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >90         7             Chromium         ppm         ASTM D5185(m)         >20         <1	Fuel		WC Method	>3.0	<1.0		
WEAR METALS							
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM 05185(m)         >90         7             Nickel         ppm         ASTM 05185(m)         >20         <1             Nickel         ppm         ASTM 05185(m)         >2         0             Titanium         ppm         ASTM 05185(m)         >2         0             Silver         ppm         ASTM 05185(m)         >2         0             Aluminum         ppm         ASTM 05185(m)         >20         <1             Lead         ppm         ASTM 05185(m)         >20         <1             Lead         ppm         ASTM 05185(m)         >20         <1             Lead         ppm         ASTM 05185(m)         >30         <1             Tin         ppm         ASTM 05185(m)         0              Vanadium         ppm         ASTM 05185(m)         0 </th <th></th> <th></th> <th></th> <th>7 0.2</th> <th></th> <th></th> <th></th>				7 0.2			
Iron				limit/base		history1	hictory?
Chromium						HISTOLAL	HISTOLYZ
Nickel	-		. ,				
Titanium         ppm         ASTM D5185(m)         >2         0             Silver         ppm         ASTM D5185(m)         >2         <1			. ,				
Silver		ppm	. ,				
Aluminum			( )				
Lead	Silver	ppm	. ,	>2	<1		
Copper	Aluminum	ppm	,	>20			
Tin	Lead	ppm	ASTM D5185(m)	>40	<1		
Antimony         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         <-1	Copper	ppm	ASTM D5185(m)	>330	<1		
Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         <-1             Barium         ppm         ASTM D5185(m)         0         <-1             Molybdenum         ppm         ASTM D5185(m)         50         60             Manganese         ppm         ASTM D5185(m)         50         60             Magnesium         ppm         ASTM D5185(m)         950         954             Calcium         ppm         ASTM D5185(m)         1050         1037             Phosphorus         ppm         ASTM D5185(m)         1180         1182             Sulfur         ppm         ASTM D5185(m)         2600         2588	Tin	ppm	ASTM D5185(m)	>15	0		
Beryllium	Antimony	ppm	ASTM D5185(m)		0		
Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         2         3             Barium         ppm         ASTM D5185(m)         0         <-1	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron	Cadmium	ppm	ASTM D5185(m)		0		
Barium         ppm         ASTM D5185(m)         0         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185(m)         50         60             Manganese         ppm         ASTM D5185(m)         0         0             Magnesium         ppm         ASTM D5185(m)         950         954             Calcium         ppm         ASTM D5185(m)         1050         1037             Phosphorus         ppm         ASTM D5185(m)         995         1002             Zinc         ppm         ASTM D5185(m)         2600         2588             Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         26         2             CONTAMINANTS         method         limit/base         current         history1         history2           Sodium         ppm         ASTM D5185(m)         >25         2             Sodium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method	Boron	ppm	ASTM D5185(m)	2	3		
Manganese         ppm         ASTM D5185(m)         0         0             Magnesium         ppm         ASTM D5185(m)         950         954             Calcium         ppm         ASTM D5185(m)         1050         1037             Phosphorus         ppm         ASTM D5185(m)         995         1002             Zinc         ppm         ASTM D5185(m)         1180         1182             Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         <1	Barium	ppm	ASTM D5185(m)	0	<1		
Magnesium         ppm         ASTM D5185(m)         950         954             Calcium         ppm         ASTM D5185(m)         1050         1037             Phosphorus         ppm         ASTM D5185(m)         995         1002             Zinc         ppm         ASTM D5185(m)         1180         1182             Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         <1	Molybdenum	ppm	ASTM D5185(m)	50	60		
Calcium         ppm         ASTM D5185(m)         1050         1037             Phosphorus         ppm         ASTM D5185(m)         995         1002             Zinc         ppm         ASTM D5185(m)         1180         1182             Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         <1	Manganese	ppm	ASTM D5185(m)	0	0		
Phosphorus         ppm         ASTM D5185(m)         995         1002             Zinc         ppm         ASTM D5185(m)         1180         1182             Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         <1	Magnesium	ppm	ASTM D5185(m)	950	954		
Zinc	Calcium	ppm	ASTM D5185(m)	1050	1037		
Sulfur         ppm         ASTM D5185(m)         2600         2588             Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >25         2             Sodium         ppm         ASTM D5185(m)         3             Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Phosphorus	ppm	ASTM D5185(m)	995	1002		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >25         2             Sodium         ppm         ASTM D5185(m)         3             Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Zinc	ppm	ASTM D5185(m)	1180	1182		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >25         2             Sodium         ppm         ASTM D5185(m)         3             Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Sulfur	ppm	ASTM D5185(m)	2600	2588		
Silicon         ppm         ASTM D5185(m)         >25         2             Sodium         ppm         ASTM D5185(m)         3             Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Lithium	ppm	ASTM D5185(m)		<1		
Sodium         ppm         ASTM D5185(m)         3             Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Silicon	ppm	ASTM D5185(m)	>25	2		
Potassium         ppm         ASTM D5185(m)         >20         0             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8	Sodium		ASTM D5185(m)		3		
Soot %         %         ASTM D7844*         >6         0.2             Nitration         Abs/cm         ASTM D7624*         >20         6.8				>20			
Nitration   Abs/cm   ASTM D7624*   >20   <b>6.8</b>	INFRA-RED		method	limit/base	current	history1	history2
Nitration   Abs/cm   ASTM D7624*   >20   <b>6.8</b>	Soot %	%	ASTM D7844*	>6	0.2		
				>20			

Silicon	ppm	ASTM D5185(m)	>25	2		
Sodium	ppm	ASTM D5185(m)		3		
Potassium	ppm	ASTM D5185(m)	>20	0		
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%		limit/base >6	current 0.2	history1 	history2
	% Abs/cm					,



## **OIL ANALYSIS REPORT**





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5669110 Test Package : MOB 1

: CU0021206 : 02592031

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received Diagnosed

Diagnostician : Wes Davis

: 26 Oct 2023

: 26 Oct 2023

**CITY OF TORONTO** 120 DISCO ROAD TORONTO, ON CA M9W 1M4 Contact: DAVE C

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Validity of results and interpretation are based on the sample and information as supplied.

T: (905)670-5100 F: (905)670-7869