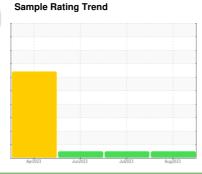


# **OIL ANALYSIS REPORT**

# (16085Z) Walgreens [Walgreens] 136A61262

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)





# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

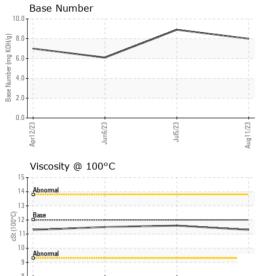
## **Fluid Condition**

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

Sample Date   Client Info   11 Aug 2023   05 Jul 2023   06 Jun 2023   07 Jun 2024   07 Jun 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   197   50000   44000   A4000   Coli Changed   Client Info   Changed   C	Sample Number		Client Info		PCA0093569	PCA0093819	PCA0093800
Oil Age	Sample Date		Client Info		11 Aug 2023	05 Jul 2023	06 Jun 2023
Client Info   Changed   NORMAL   NEG   NEG	Machine Age	hrs	Client Info		5184	308081	303305
NORMAL   NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1   history2   history3   hi	Oil Age	hrs	Client Info		197	50000	44000
NORMAL   NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1   history2   history3   hi	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL		NORMAL
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >80     11     9     24       Chromium     ppm     ASTM D5185m     >5     <1	Fuel		WC Method	>5	<1.0	<1.0	<1.0
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	11	9	24
Titanium     ppm     ASTM D5185m     6     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >30     2     3     6       Lead     ppm     ASTM D5185m     >30     0     0     0       Copper     ppm     ASTM D5185m     >150     0     2     6       Tin     ppm     ASTM D5185m     >5     <1	Chromium	ppm	ASTM D5185m	>5	<1	<1	1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		6	0	0
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper     ppm     ASTM D5185m     >150     0     2     6       Tin     ppm     ASTM D5185m     >5     <1	Aluminum	ppm	ASTM D5185m	>30	2	3	6
Tin	Lead	ppm	ASTM D5185m	>30	0	0	0
Tin	Copper	ppm	ASTM D5185m	>150	0	2	6
Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     2     11     12     0       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     48     64     62       Manganese     ppm     ASTM D5185m     0     <1	Tin	ppm	ASTM D5185m	>5	<1	0	0
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     2     11     12     0       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     48     64     62       Manganese     ppm     ASTM D5185m     0     <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     48     64     62       Manganese     ppm     ASTM D5185m     0     <1     0     <1       Magnesium     ppm     ASTM D5185m     950     850     1042     966       Calcium     ppm     ASTM D5185m     1050     1055     1146     1192       Phosphorus     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     cur	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     50     48     64     62       Manganese     ppm     ASTM D5185m     0     <1     0     <1       Magnesium     ppm     ASTM D5185m     950     850     1042     966       Calcium     ppm     ASTM D5185m     1050     1055     1146     1192       Phosphorus     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon      ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base	Boron	ppm	ASTM D5185m	2	11	12	0
Manganese     ppm     ASTM D5185m     0     <1     0     <1       Magnesium     ppm     ASTM D5185m     950     850     1042     966       Calcium     ppm     ASTM D5185m     1050     1055     1146     1192       Phosphorus     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium     ppm     ASTM D5185m     950     850     1042     966       Calcium     ppm     ASTM D5185m     1050     1055     1146     1192       Phosphorus     ppm     ASTM D5185m     1050     1055     1119     991       Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/:nm     *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	48	64	62
Calcium     ppm     ASTM D5185m     1050     1055     1146     1192       Phosphorus     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION     *ASTM D7	Manganese	ppm	ASTM D5185m	0	<1	0	<1
Phosphorus     ppm     ASTM D5185m     995     985     1119     991       Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION     method<	Magnesium	ppm	ASTM D5185m	950	850	1042	966
Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     <1	Calcium	ppm	ASTM D5185m	1050	1055	1146	1192
Zinc     ppm     ASTM D5185m     1180     1214     1369     1295       Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     4       Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm	Phosphorus	ppm	ASTM D5185m	995	985	1119	991
Sulfur     ppm     ASTM D5185m     2600     3789     3985     3258       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     >20     2     1     13       Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Zinc		ASTM D5185m	1180	1214	1369	1295
Silicon     ppm     ASTM D5185m     >20     2     4     8       Sodium     ppm     ASTM D5185m     <1     <1     13       Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Sulfur		ASTM D5185m	2600	3789	3985	3258
Sodium     ppm     ASTM D5185m     <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium     ppm     ASTM D5185m     >20     2     1     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method limit/base current history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Silicon	ppm	ASTM D5185m	>20	2	4	8
INFRA-RED	Sodium	ppm	ASTM D5185m		<1	<1	13
Soot %     *ASTM D7844     >3     0.6     0.2     0.5       Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method limit/base current history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Potassium	ppm	ASTM D5185m	>20	2	1	4
Nitration     Abs/cm     *ASTM D7624     >20     6.9     6.1     8.6       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method limit/base current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method limit/base current history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Soot %	%	*ASTM D7844	>3	0.6	0.2	0.5
Sulfation     Abs/.1mm     *ASTM D7415     >30     17.9     18.3     21.5       FLUID DEGRADATION method limit/base current history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     13.6     13.8     18.6	Nitration	Abs/cm	*ASTM D7624	>20	6.9	6.1	8.6
Oxidation Abs/.1mm *ASTM D7414 >25 <b>13.6</b> 13.8 18.6	Sulfation		*ASTM D7415	>30		18.3	
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
<b>Base Number (BN)</b> mg KOH/g ASTM D2896 <b>8.0</b> 8.9 6.1	Ovidation	Abs/.1mm	*ASTM D7414	>25	13.6	13.8	18.6
	Oxidation		7101111111111	/	. 0.0		10.0



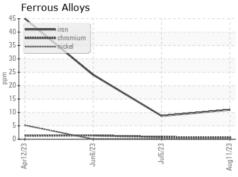
# **OIL ANALYSIS REPORT**

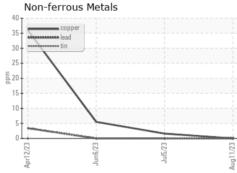


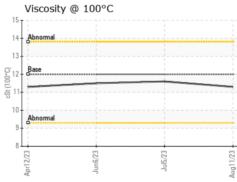
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

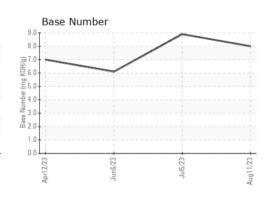
L LOID PROPE	THIES	method			riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	12.00	11.3	11.6	11.5

## **GRAPHS**













Certificate L2367

Laboratory Sample No.

Lab Number Unique Number : 10629310 Test Package : FLEET

: PCA0093569 : 05938698

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 30 Aug 2023 Diagnosed : 31 Aug 2023

Diagnostician : Wes Davis

Transervice - Shop 1365 - Berkeley-Nazareth

6813 Chrisphalt Drive Bath Borough, PA US 18014

Contact: Stephen Mackes smackes@transervice.com

T: (610)837-8103 F: (610)837-8105

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)