

# (TEMP) Walgreens - Yard Horse [Walgreens - Yard Horse] 136A81259 Component

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

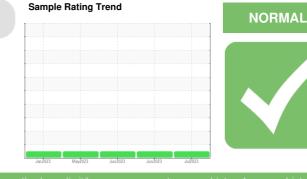
All component wear rates are normal.

#### 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 Number         Client Info         PCA0091552         PCA0091523         PCA001152         PCA0091523         PCA0091523         PCA001152         PCA001153         PCA0110         PCA001153         PCA0110         PCA0110 <th>SAMPLE INFORI</th> <th>MATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         4600         4467         4329           Oil Age         hrs         Client Info         150         100         152           Oil Anged         Client Info         Oil Added         Oil Added         Oil Added         Oil Added           Sample Status         Imit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0         <1.0           Glycol         WC Method         >5         <1.0         <1.0         <1.0           Silver         ppm         ASTM D5185m<><10         21         16         9           Chromium         ppm         ASTM D5185m<><20         3         4         1           Silver         ppm         ASTM D5185m<><3         0         0         <1           Silver         ppm         ASTM D5185m<><1         0         <1         1	Sample Number		Client Info		PCA0091552	PCA0091523	PCA0091514
Oil Age         hrs         Client Info         150         100         152           Oil Changed         Client Info         Oil Added         Oil Added         Oil Added         Oil Added           Sample Status         Imit/base         current         history1         NoRMAL         NORMAL           CONTAMINATION         method         Imit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0         <1.0           Glycol         WC Method         >5         <1.0         <1.0         <1.0           Glycol         WC Method         >5         <1.0         <1.0         <1.0           WEAR METALS         method         Imit/base         current         history1         history2           Iron         ppm         ASTM D5185m<>100         21         16         9           Chromium         ppm         ASTM D5185m<>20         3         4         1         1           Nickel         ppm         ASTM D5185m<>30         0         0         0         0           Bistory         ppm         ASTM D5185m<>20         3         41         1         1           Lead <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>28 Jul 2023</th> <th>28 Jun 2023</th> <th>02 Jun 2023</th>	Sample Date		Client Info		28 Jul 2023	28 Jun 2023	02 Jun 2023
Oil Added Sample StatusClient InfoOil Added NORMALOil Added NORMALOil Added NORMALCONTAMINATIONmethodlimit/basecurrenthistory1history2FuelWC Method>5<1.0<1.0<1.0GlycolWC MethodNEGNEGNEGWEAR METALSmethodImit/basecurrenthistory1history2IronppmASTM D5185m>10021169ChromiumppmASTM D5185m>2011<1NickelppmASTM D5185m>2011<1NickelppmASTM D5185m>20341LeadppmASTM D5185m>20341LeadppmASTM D5185m>20341LeadppmASTM D5185m>20341CadmiumppmASTM D5185m>330<1<1<1TinppmASTM D5185m>15<10<1CadmiumppmASTM D5185m2010BoronppmASTM D5185m20100MolybdenumppmASTM D5185m95636062MagnesiumppmASTM D5185m95199210171077ZincppmASTM D5185m95199210171077ZincppmASTM D5185m9519921017	Machine Age	hrs	Client Info		4600	4467	4329
Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0         <1.0           Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >4         2         0         3           Silver         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         >5         63         60         62           Mangaium	Oil Age	hrs	Client Info		150	100	152
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0         <1.0         <1.0           Glycol         WC Method         NEG         NEG         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         21         16         9           Chromium         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >3         0         0         <1           Silver         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         0         0         0         <1           Vanadium         ppm         ASTM D5185m         0         63         6	Oil Changed		Client Info		Oil Added	Oil Added	Oil Added
Fuel         WC Method         >5         <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Glycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         21         16         9           Chromium         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >20         3         0         0         <11           Nickel         ppm         ASTM D5185m         >20         3         4         1           Silver         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Copper         ppm         ASTM D5185m         >40         0         0         <1           Cadmium         ppm         ASTM D5185m         >30         <1         <1         <1           Cadmium         ppm         ASTM D5185m         0         0         0         <1         <1           Cadmium         ppm         ASTM D5185m         0         63         60	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         21         16         9           Chromium         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >4         2         0         3           Titanium         ppm         ASTM D5185m         >3         0         0         <1           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >30         <1         <1         <1           Lead         ppm         ASTM D5185m         >30         <1         <1         <1           Lead         ppm         ASTM D5185m         >30         <1         <1         <1           Vanadium         ppm         ASTM D5185m         >30         <1         <1         <1           Cadmium         ppm         ASTM D5185m         >0         0         <1         0           Barium         ppm         ASTM D5185m         0         0         <1	Fuel		WC Method	>5	<1.0	<1.0	<1.0
Iron         ppm         ASTM D5185m         >100         21         16         9           Chromium         ppm         ASTM D5185m         >20         1         1         <1           Nickel         ppm         ASTM D5185m         >4         2         0         3           Titanium         ppm         ASTM D5185m         >3         0         0         <1           Silver         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >330         <1         <1         <1           Tin         ppm         ASTM D5185m         >330         <1         0         <1           Cadmium         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         0         0         0         <1         <1           Boron         ppm         ASTM D5185m         0         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         <1	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >20         1         1         <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >4         2         0         3           Titanium         ppm         ASTM D5185m         >3         0         0         <1           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >40         0         0         0           Copper         ppm         ASTM D5185m         >15         <1         0         <1           Vanadium         ppm         ASTM D5185m           0         0         <1           Cadmium         ppm         ASTM D5185m         2         0         1         0         0           Boron         ppm         ASTM D5185m         0         <1         <1         <1         1           Magnaese         ppm         ASTM D5185m         50	Iron	ppm	ASTM D5185m	>100	21	16	9
Titanium         ppm         ASTM D5185m         0         0         <1	Chromium	ppm	ASTM D5185m	>20	1	1	<1
Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >40         0         0         0           Copper         ppm         ASTM D5185m         >330         <1         <1         <1           Tin         ppm         ASTM D5185m         >15         <1         0         <1           Vanadium         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         0         0         0         <1           Boron         ppm         ASTM D5185m         0         63         60         62           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         1092         1	Nickel	ppm	ASTM D5185m	>4	2	0	3
Aluminum         ppm         ASTM D5185m         >20         3         4         1           Lead         ppm         ASTM D5185m         >40         0         0         0           Copper         ppm         ASTM D5185m         >330         <1         <1         <1           Tin         ppm         ASTM D5185m         >15         <1         0         <1           Vanadium         ppm         ASTM D5185m         >15         <1         0         <1           Cadmium         ppm         ASTM D5185m         2         0         0         <1           Cadmium         ppm         ASTM D5185m         2         0         1         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         0         1         0           Marganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         1992         101	Titanium	ppm	ASTM D5185m		0	0	<1
Lead         ppm         ASTM D5185m         >40         0         0         0           Copper         ppm         ASTM D5185m         >330         <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper         ppm         ASTM D5185m         >330         <1	Aluminum	ppm	ASTM D5185m	>20	3	4	1
Tin         ppm         ASTM D5185m         >15         <1	Lead	ppm	ASTM D5185m	>40	0	0	0
Vanadium         ppm         ASTM D5185m         <1	Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Cadmium         ppm         ASTM D5185m         0         0         <1	Tin	ppm	ASTM D5185m	>15	<1	0	<1
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         0         1         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         63         60         62           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         1092         1017         1077           Zinc         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron         ppm         ASTM D5185m         2         0         1         0           Barium         ppm         ASTM D5185m         0         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         63         60         62           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         1050         1185         1040         1159           Phosphorus         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         2600         3726         3073         3776           Sulfur         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         <1           Potassium         ppm         ASTM D5185m	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium         ppm         ASTM D5185m         0         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         63         60         62           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         950         1185         1040         1159           Phosphorus         ppm         ASTM D5185m         1050         1185         1040         1159           Phosphorus         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         <1           INFRA-RED         method	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         63         60         62           Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	2	0	1	0
Manganese         ppm         ASTM D5185m         0         <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium         ppm         ASTM D5185m         950         994         866         1041           Calcium         ppm         ASTM D5185m         1050         1185         1040         1159           Phosphorus         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         995         1345         1185         1339           Sulfur         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844	Molybdenum	ppm	ASTM D5185m	50	63	60	62
Calcium         ppm         ASTM D5185m         1050         1185         1040         1159           Phosphorus         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         1180         1345         1185         1339           Sulfur         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus         ppm         ASTM D5185m         995         1092         1017         1077           Zinc         ppm         ASTM D5185m         1180         1345         1185         1339           Sulfur         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         <1	Magnesium	ppm	ASTM D5185m	950	994	866	1041
Zinc         ppm         ASTM D5185m         1180         1345         1185         1339           Sulfur         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         1           Potassium         ppm         ASTM D5185m         >20         0         1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.7         0.6         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	Calcium	ppm	ASTM D5185m	1050	1185	1040	1159
Sulfur         ppm         ASTM D5185m         2600         3726         3073         3776           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         >20         0         1         1           Potassium         ppm         ASTM D5185m         >20         0         1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.7         0.6         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	Phosphorus	ppm	ASTM D5185m	995	1092	1017	1077
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25654SodiumppmASTM D5185m301PotassiumppmASTM D5185m>2001<1INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.70.60.4NitrationAbs/cm*ASTM D7624>209.68.98.2	7						1000
Silicon         ppm         ASTM D5185m         >25         6         5         4           Sodium         ppm         ASTM D5185m         3         0         1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	ZINC	ppm	ASTM D5185m	1180	1345	1185	1339
Sodium         ppm         ASTM D5185m         3         0         1           Potassium         ppm         ASTM D5185m         >20         0         1         <1           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.7         0.6         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	-						
Potassium         ppm         ASTM D5185m         >20         0         1         <1	Sulfur	ppm	ASTM D5185m	2600	3726	3073	3776
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.7         0.6         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	Sulfur CONTAMINAN	ppm TS	ASTM D5185m method	2600 limit/base	3726 current	3073 history1	3776 history2
Soot %         %         *ASTM D7844         >3         0.7         0.6         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	Sulfur CONTAMINAN Silicon	ppm TS ppm	ASTM D5185m method ASTM D5185m	2600 limit/base	3726 current 6	3073 history1 5	3776 history2 4
Nitration         Abs/cm         *ASTM D7624         >20         9.6         8.9         8.2	Sulfur CONTAMINAN Silicon Sodium	ppm TS ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2600 limit/base >25	3726 current 6 3	3073 history1 5 0	3776 history2 4 1
	Sulfur CONTAMINAN Silicon Sodium Potassium	ppm TS ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2600 limit/base >25 >20	3726 current 6 3 0	3073 history1 5 0 1	3776 history2 4 1 <1
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.8         20.1         18.7	Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	2600 limit/base >25 >20 limit/base	3726 current 6 3 0 current	3073 history1 5 0 1 history1	3776 history2 4 1 <1 <1 history2
	Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm TS ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	2600 limit/base >25 >20 limit/base >3	3726 current 6 3 0 current 0.7	3073 history1 5 0 1 1 history1 0.6	3776 history2 4 1 <1 <1 history2 0.4

16.9

7.2

FLUID DEGRADATION method limit/base

Base Number (BN) mg KOH/g ASTM D2896

Oxidation

Abs/.1mm \*ASTM D7414 >25

14.8

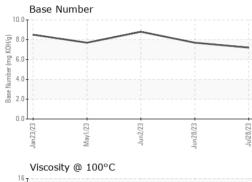
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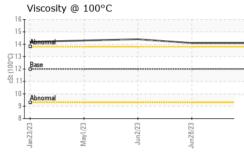
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7.7

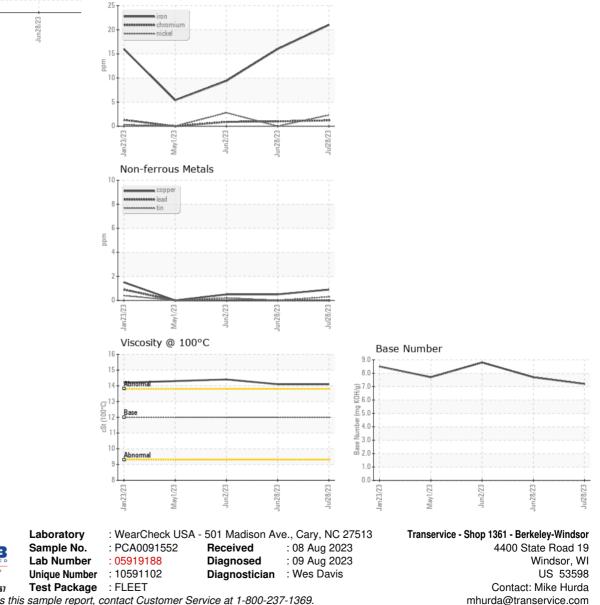


# OIL ANALYSIS REPORT





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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	14.1	14.1	14.4
GRAPHS						
Ferrous Alloys						





 Certificate 12307
 Test Package
 : FLEET

 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)

T: (608)846-2726

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