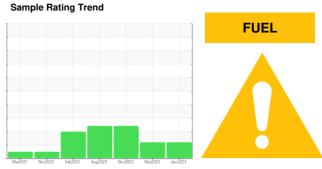


# **OIL ANALYSIS REPORT**

# **SCHTRUCK 6328 [SCHTRUCK]**

**Front Diesel Engine** 

PETRO CANADA DURON SHP 15W40 (--- GAL)



### DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

All component wear rates are normal.

### Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

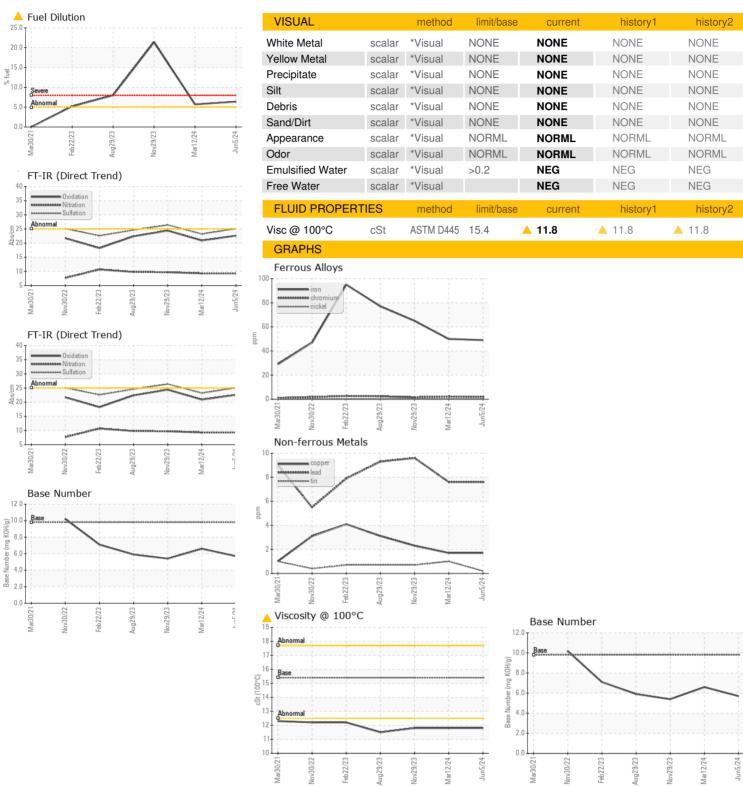
### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

	AL)		INIATZUZ I	N0VZUZZ F6DZUZ3	AUGZUZ3 NOVZUZ3 WIAIZUZ4	Junzuz4	
Sample Date     Client Info     05 Jun 2024   12 Mar 2024   29 Nov 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         mls         Client Info         680415         657194         633565           Oil Age         mls         Client Info         23221         23629         21003           Oil Changed         Client Info         Changed         Change	Sample Number		Client Info		SBP0007245	SBP0006999	SBP0006008
Oil Age         mls         Client Info         23221         23629         21003           Oil Changed         Client Info         Changed         C	Sample Date		Client Info		05 Jun 2024	12 Mar 2024	29 Nov 2023
Client Info	Machine Age	mls	Client Info		680415	657194	633565
ABNORMAL   ABNORMAL	Oil Age	mls	Client Info		23221	23629	21003
Water	Oil Changed		Client Info		Changed	Changed	Changed
Water         WC Method         >0.2         NEG         NEG         NEG         NEG           Glycol         WC Method         Ilmil/base         current         history1         history2           WEAR METALS         method         limil/base         current         history1         history2           Iron         ppm         ASTM D5185m         >5         2         2         2           Chromium         ppm         ASTM D5185m         >5         2         2         2           Nickel         ppm         ASTM D5185m         >2         0         <1         <1           Silver         ppm         ASTM D5185m         >2         0         0         0           Silver         ppm         ASTM D5185m         >30         2         2         <1           Silver         ppm         ASTM D5185m         >30         8         8         10           Copper         ppm         ASTM D5185m         >50         2         2         2         2           Tin         ppm         ASTM D5185m         >5         <1         1         <1         <1           Vanadium         ppm         ASTM D5185m         0	Sample Status				ABNORMAL	ABNORMAL	SEVERE
WEAR METALS	CONTAMINATION	١	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         49         50         65           Chromium         ppm         ASTM D5185m         >5         2         2         2         2           Nickel         ppm         ASTM D5185m         >2         0         <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >5         2         2         2         2         Nickel         ppm         ASTM D5185m         >2         0         <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         <	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	49	50	65
STIM D5185m	Chromium	ppm	ASTM D5185m	>5	2	2	2
Silver	Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum   ppm   ASTM D5185m   >30   2   2   2   2   Lead   ppm   ASTM D5185m   >30   8   8   10   Copper   ppm   ASTM D5185m   >150   2   2   2   Tin   ppm   ASTM D5185m   >5   <1   1   <1   Vanadium   ppm   ASTM D5185m   >5   <1   1   <1   Vanadium   ppm   ASTM D5185m   0   0   0   ADDITIVES   method   limit/base   current   history1   history2   Boron   ppm   ASTM D5185m   0   0   0   0   Barium   ppm   ASTM D5185m   0   0   0   0   Molybdenum   ppm   ASTM D5185m   0   0   0   0   Manganese   ppm   ASTM D5185m   00   <1   <1   <1   Magnesium   ppm   ASTM D5185m   1010   940   989   870   Calcium   ppm   ASTM D5185m   1070   1099   1109   986   Phosphorus   ppm   ASTM D5185m   1270   1199   1262   1100   Sulfur   ppm   ASTM D5185m   2060   3281   3344   2321    CONTAMINANTS   method   limit/base   current   history1   history2   Silicon   ppm   ASTM D5185m   >20   5   6   3   Sodium   ppm   ASTM D5185m   >20   4   3   <1   Fuel   %   ASTM D5185m   >20   9.3   9.3   9.7   Sulfation   Abs/lmm   'ASTM D7624   >20   9.3   9.3   9.7   Sulfation   Abs/lmm   'ASTM D7414   >25   22.6   20.9   24.4	Titanium	ppm	ASTM D5185m		<1	0	0
Lead         ppm         ASTM D5185m         >30         8         8         10           Copper         ppm         ASTM D5185m         >150         2         2         2           Tin         ppm         ASTM D5185m         >5         <1         1         <1           Vanadium         ppm         ASTM D5185m         0         0         0         <1           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         59         60         49           Manganese         ppm         ASTM D5185m         0         -1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper         ppm         ASTM D5185m         >150         2         2         2           Tin         ppm         ASTM D5185m         >5         <1	Aluminum	ppm	ASTM D5185m	>30	2	2	<1
Tin ppm ASTM D5185m >5 <1 1 1 <1 Vanadium ppm ASTM D5185m >5 <1 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0  ADDITIVES method limit/base current history1 history2  Boron ppm ASTM D5185m 0 0 0 0  Barium ppm ASTM D5185m 0 0 0 0  Molybdenum ppm ASTM D5185m 60 59 60 49  Manganese ppm ASTM D5185m 1010 940 989 870  Calcium ppm ASTM D5185m 1070 1099 1109 986  Phosphorus ppm ASTM D5185m 1150 997 1106 872  Zinc ppm ASTM D5185m 1270 1199 1262 1100  Sulfur ppm ASTM D5185m 2060 3281 3344 2321  CONTAMINANTS method limit/base current history1 history2  Silicon ppm ASTM D5185m 9 8 8  Potassium ppm ASTM D5185m 9 8 8  Potassium ppm ASTM D5185m 9 8 8  Potassium ppm ASTM D5185m 20 4 3 <1  INFRA-RED method limit/base current history1 history2  Soot % % "ASTM D7844 >3 2.1 1.5 2.3  Nitration Abs/:mm "ASTM D7415 >30 25.1 23.2 26.4  FLUID DEGRADATION method limit/base current history1 history2  Coxidation Abs/:mm "ASTM D7415 >25 22.6 20.9 24.4	Lead	ppm	ASTM D5185m	>30	8	8	10
Vanadium         ppm         ASTM D5185m         <1         0         <1           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         0         0           Barium         ppm         ASTM D5185m         0         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0         0           Manganese         ppm         ASTM D5185m         0         <1         <1         <1         <1           Magnesium         ppm         ASTM D5185m         1010         940         989         870           Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base	Copper	ppm	ASTM D5185m	>150	2	2	2
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         <1         <1         <1           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         1010         940         989         870           Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5	Tin	ppm	ASTM D5185m	>5	<1	1	<1
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         <1	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron ppm ASTM D5185m 0 2 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 59 60 49 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 940 989 870 Calcium ppm ASTM D5185m 1070 1099 1109 986 Phosphorus ppm ASTM D5185m 1270 1199 1262 1100 Sulfur ppm ASTM D5185m 2060 3281 3344 2321  CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 6 3 Sodium ppm ASTM D5185m >20 4 3 <1 Fuel % ASTM D585m >20 4 3 <1 Fuel % ASTM D585m >20 9.3 9.3 9.7 Sulfation Abs/tmm *ASTM D7415 >30 25.1 23.2 26.4  FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/tmm *ASTM D7414 >25 22.6 20.9 24.4	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         60         59         60         49           Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         1010         940         989         870           Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1150         997         1106         872           Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         60         59         60         49           Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	0	2	0	0
Manganese         ppm         ASTM D5185m         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         1010         940         989         870           Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1150         997         1106         872           Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium         ppm         ASTM D5185m         1010         940         989         870           Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1150         997         1106         872           Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Molybdenum	ppm	ASTM D5185m	60	59	60	49
Calcium         ppm         ASTM D5185m         1070         1099         1109         986           Phosphorus         ppm         ASTM D5185m         1150         997         1106         872           Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus         ppm         ASTM D5185m         1150         997         1106         872           Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Magnesium	ppm	ASTM D5185m	1010	940	989	870
Zinc         ppm         ASTM D5185m         1270         1199         1262         1100           Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Calcium	ppm	ASTM D5185m	1070	1099	1109	986
Sulfur         ppm         ASTM D5185m         2060         3281         3344         2321           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Phosphorus	ppm	ASTM D5185m	1150	997	1106	872
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         5         6         3           Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	Zinc	ppm	ASTM D5185m	1270	1199	1262	1100
Silicon       ppm       ASTM D5185m       >20       5       6       3         Sodium       ppm       ASTM D5185m       9       8       8         Potassium       ppm       ASTM D5185m       >20       4       3       <1         Fuel       %       ASTM D3524       >5       ▲ 6.4       ▲ 5.7       ▲ 21.4         INFRA-RED       method       limit/base       current       history1       history2         Soot %       %       *ASTM D7844       >3       2.1       1.5       2.3         Nitration       Abs/cm       *ASTM D7624       >20       9.3       9.3       9.7         Sulfation       Abs/.1mm       *ASTM D7415       >30       25.1       23.2       26.4         FLUID DEGRADATION       method       limit/base       current       history1       history2         Oxidation       Abs/.1mm       *ASTM D7414       >25       22.6       20.9       24.4	Sulfur	ppm	ASTM D5185m	2060	3281	3344	2321
Sodium         ppm         ASTM D5185m         9         8         8           Potassium         ppm         ASTM D5185m         >20         4         3         <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         4         3         <1           Fuel         %         ASTM D3524         >5         ▲ 6.4         ▲ 5.7         ▲ 21.4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         2.1         1.5         2.3           Nitration         Abs/cm         *ASTM D7624         >20         9.3         9.3         9.7           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         22.6         20.9         24.4	Silicon	ppm	ASTM D5185m	>20	5	6	3
Fuel % ASTM D3524 >5 ▲ 6.4 ▲ 5.7 ▲ 21.4  INFRA-RED method limit/base current history1 history2  Soot % *ASTM D7844 >3 2.1 1.5 2.3  Nitration Abs/cm *ASTM D7624 >20 9.3 9.3 9.7  Sulfation Abs/.1mm *ASTM D7415 >30 25.1 23.2 26.4  FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 22.6 20.9 24.4	Sodium	ppm	ASTM D5185m		9	8	8
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         2.1         1.5         2.3           Nitration         Abs/cm         *ASTM D7624         >20         9.3         9.3         9.7           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         22.6         20.9         24.4	Potassium	ppm	ASTM D5185m	>20	4	3	<1
Soot %         *ASTM D7844         >3         2.1         1.5         2.3           Nitration         Abs/cm         *ASTM D7624         >20         9.3         9.3         9.7           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         22.6         20.9         24.4	Fuel	%	ASTM D3524	>5	<b>△</b> 6.4	<u>▲</u> 5.7	▲ 21.4
Nitration         Abs/cm         *ASTM D7624         >20         9.3         9.3         9.7           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         22.6         20.9         24.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         22.6         20.9         24.4	Soot %	%	*ASTM D7844	>3	2.1	1.5	2.3
Sulfation         Abs/.1mm         *ASTM D7415 >30         25.1         23.2         26.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         22.6         20.9         24.4	Nitration	Abs/cm	*ASTM D7624	>20	9.3	9.3	9.7
Oxidation Abs/.1mm *ASTM D7414 >25 <b>22.6</b> 20.9 24.4				0.0		00.0	00.4
	Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1	23.2	26.4
					-		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2



## **OIL ANALYSIS REPORT**







Certificate 12367

Laboratory Sample No.

: SBP0007245 Lab Number : 06211150 Unique Number : 11084014

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

: 14 Jun 2024 **Tested** Diagnosed Test Package : FLEET ( Additional Tests: PercentFuel )

: 19 Jun 2024 : 19 Jun 2024 - Wes Davis

Plattsmouth, NE US 68048 Contact: NICK DOTY doty@liquidtrucking.com T: (402)949-9398

**SCHMIDT TRANSPORTATION - 605449** 

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.

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

108 E Bay Road