

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend

## **FUEL**

# FLORY SWP-6634 SW-66 (S/N 3046327)

**Diesel Engine** 

PETRO CANADA 15W40 (--- GAL)



#### **DIAGNOSIS**

#### Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

#### Wear

All component wear rates are normal.

#### Contamination

Light fuel dilution occurring. No other contaminants were detected 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   PCA0118113     Sample Date   Client Info   12 Mar 2024         Sample Date   Client Info   2235         Silver   ppm   ASTM D5185m   20   21           STM D5185m   20   21             STM D5185m   20   21					Mar2024		
Sample Date	SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   2235             Oil Age   hrs   Client Info   250           Oil Changed   Client Info   Changed         Sample Status     MARGINAL         CONTAMINATION   method   limit/base   current   history1   history2     Water   WC Method   NEG         Glycol   WC Method   NEG         WEAR METALS   method   limit/base   current   history1   history2     Iron   ppm   ASTM DS185m   >100   12         Chromium   ppm   ASTM DS185m   >20   <1         Nickel   ppm   ASTM DS185m   >20   <1         Titanium   ppm   ASTM DS185m   >20   <1         Titanium   ppm   ASTM DS185m   >20   2         Lead   ppm   ASTM DS185m   >15   <1         Vanadium   ppm   ASTM DS185m   >15   <1         Vanadium   ppm   ASTM DS185m   0         ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM DS185m   0         ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM DS185m   0         ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM DS185m   59           CONTAMINANTS   method   limit/base   current   history1   history2     Solitur   ppm   ASTM DS185m   225   4         CONTAMINANTS   method   limit/base   current   history1   history2     Solitur   ppm   ASTM DS185m   20   2           CONTAMINANTS   method   limit/base   current   history1   history2     Solitur   ppm   ASTM DS185m   20   2           CONTAMINANTS   method   limit/base   current   history1   history2     Solituration   Abs/tmm   ASTM DS185m   20   6.0           Fluil D DEGRADATION   method   lim	Sample Number		Client Info		PCA0118113		
Machine Age   hrs   Client Info   2235	Sample Date		Client Info		12 Mar 2024		
Contamped   Client Info   Changed   Client Info   Changed   Client Info   Changed   Contample Status   Co		hrs	Client Info		2235		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		250		
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         NEG             Glycol         WC Method         NEG            WEAR METALS         method         limit/base         current         history1           Iron         ppm         ASTM D5185m         >100         12            Chromium         ppm         ASTM D5185m         >20         <1	Oil Changed		Client Info		Changed		
Water         WC Method         >0.2         NEG             Glycol         WC Method         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         12             Chromium         ppm         ASTM D5185m         >20         <1             Nickel         ppm         ASTM D5185m         >4         <1             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         2             Aluminum         ppm         ASTM D5185m         >20         2             Lead         ppm         ASTM D5185m         >40         3             Copper         ppm         ASTM D5185m         >15         <1             Lead         ppm         ASTM D5185m         0	Sample Status				MARGINAL		
WEAR METALS	CONTAMINATION	ON	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >10 0         12             Chromium         ppm         ASTM D5185m         >20         <1	Water		WC Method	>0.2	NEG		
Common	Glycol		WC Method		NEG		
Chromium   ppm   ASTM D5185m   >20   <11         Nickel   ppm   ASTM D5185m   >4   <1         Titanium   ppm   ASTM D5185m   >3   0       Silver   ppm   ASTM D5185m   >20   2       Lead   ppm   ASTM D5185m   >20   2       Lead   ppm   ASTM D5185m   >20   2       Lead   ppm   ASTM D5185m   >30   -1       Copper   ppm   ASTM D5185m   >330   <1       Tin   ppm   ASTM D5185m   >15   <1       Vanadium   ppm   ASTM D5185m   0       Cadmium   ppm   ASTM D5185m   0       ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   0       Barium   ppm   ASTM D5185m   0       Malydenum   ppm   ASTM D5185m   59       Magnaesium   ppm   ASTM D5185m   59       Magnaesium   ppm   ASTM D5185m   884       Calcium   ppm   ASTM D5185m   1062       Phosphorus   ppm   ASTM D5185m   927       Zinc   ppm   ASTM D5185m   927       Zinc   ppm   ASTM D5185m   2850       Sulfur   ppm   ASTM D5185m   2850       CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   20   2       Sodium   ppm   ASTM D5185m   20   2       Sodium   ppm   ASTM D5185m   20   2       INFRA-RED   method   limit/base   current   history1   history2     Soot % % 'ASTM D7844   >3   0.2       FLUID DEGRADATION   method   limit/base   current   history1   history2     FUID DEGRADATION   method   limit/base   current   history1   history2     FUID DEGRADATION   method   limit/base   current   history1   history2     FUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/1mm 'ASTM D7414   >25   15.2	WEAR METALS	3	method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >20         <1             Nickel         ppm         ASTM D5185m         >4         <1	Iron	mag	ASTM D5185m	>100	12		
Nickel	Chromium						
STIVEN   STIM D5185m   STIM							
Silver	Titanium						
Aluminum	Silver			>3	0		
Lead         ppm         ASTM D5185m         >40         3             Copper         ppm         ASTM D5185m         >330         <1					-		
Copper         ppm         ASTM D5185m         >330         <1             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         3             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         59              Manganese         ppm         ASTM D5185m         \$1              Magnesium         ppm         ASTM D5185m         \$84              Calcium         ppm         ASTM D5185m         927              Phosphorus         ppm         ASTM D5185m         927	Lead		ASTM D5185m	>40	3		
Tin ppm ASTM D5185m >15 <1	Copper		ASTM D5185m	>330	<1		
Vanadium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         3             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         59             Manganese         ppm         ASTM D5185m         41             Magnesium         ppm         ASTM D5185m         1062             Calcium         ppm         ASTM D5185m         1157             Phosphorus         ppm         ASTM D5185m         2850             Zinc         ppm         ASTM D5185m         2850             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         2<			ASTM D5185m	>15	<1		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         3             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         59             Magnesium         ppm         ASTM D5185m         884             Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         2850             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Solium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         0         2	Vanadium		ASTM D5185m		0		
Boron ppm ASTM D5185m 0	Cadmium		ASTM D5185m		0		
Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         59             Manganese         ppm         ASTM D5185m         884             Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         927             Sulfur         ppm         ASTM D5185m         927             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         0             Fuel         %         ASTM D5185m         0	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         59             Manganese         ppm         ASTM D5185m         <1             Magnesium         ppm         ASTM D5185m         884             Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         927             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history1         history2           Soot %         % <th< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>3</td><td></td><td></td></th<>	Boron	ppm	ASTM D5185m		3		
Manganese         ppm         ASTM D5185m         <1             Magnesium         ppm         ASTM D5185m         884             Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         927             Sulfur         ppm         ASTM D5185m         92850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >20         2             Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot % <t< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>0</td><td></td><td></td></t<>	Barium	ppm	ASTM D5185m		0		
Magnesium         ppm         ASTM D5185m         884             Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         1157             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         2             Fuel         %	Molybdenum	ppm	ASTM D5185m		59		
Calcium         ppm         ASTM D5185m         1062             Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         1157             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >20         2             Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7	Manganese	ppm	ASTM D5185m		<1		
Phosphorus         ppm         ASTM D5185m         927             Zinc         ppm         ASTM D5185m         1157             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         2            Fuel         %         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2 <t< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>884</td><td></td><td></td></t<>	Magnesium	ppm	ASTM D5185m		884		
Zinc         ppm         ASTM D5185m         1157             Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0              Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Calcium	ppm	ASTM D5185m		1062		
Sulfur         ppm         ASTM D5185m         2850             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0              Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25	Phosphorus	ppm	ASTM D5185m		927		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         2            Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Zinc	ppm	ASTM D5185m		1157		
Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         0              Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Sulfur	ppm	ASTM D5185m		2850		
Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	CONTAMINANT	ΓS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         2             Fuel         %         ASTM D3524         >5         ▲ 4.8             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Silicon	ppm	ASTM D5185m	>25	4		
Fuel	Sodium	ppm	ASTM D5185m		0		
INFRA-RED	Potassium	ppm	ASTM D5185m	>20	2		
Soot %         *ASTM D7844         >3         0.2             Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Fuel	%	ASTM D3524	>5	<b>4.8</b>		
Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	INFRA-RED		method	limit/base	current	history1	history2
Nitration         Abs/cm         *ASTM D7624         >20         6.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         18.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.2	Soot %	%	*ASTM D7844	>3	0.2		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.2	Nitration	Abs/cm	*ASTM D7624	>20	6.0		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.7		
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.4	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2		
	Base Number (BN)	mg KOH/g	ASTM D2896		8.4		



#### **OIL ANALYSIS REPORT**





Laboratory Sample No.

Lab Number

**Unique Number** : 10936155

: PCA0118113 : 06122004

**Tested** Diagnosed

Received

: 21 Mar 2024 : 21 Mar 2024 - Wes Davis Test Package: MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

45499 W PANOCHE RD FIREBAUGH, CA US 93622 Contact: SPENCER COOPER

To discuss this sample report, contact Customer Service at 1-800-237-1369.

spencer.cooper@trinitasfarming.com T: (209)493-2999

Contact/Location: SPENCER COOPER - TRIFIR

\* - 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)

: 19 Mar 2024

F: