

# **OIL ANALYSIS REPORT**

### **→** Sam









## PETRO CANADA SENTRON CG 40 (145 GAL)

## DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: Total oil added 105 gal )

#### Wear

All component wear rates are normal.

#### Contamination

Fuel content negligible. Elemental level of silicon (Si) above normal.

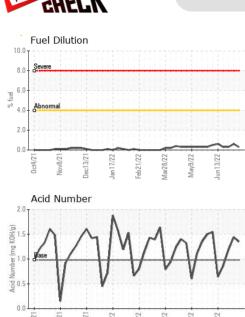
### **Fluid Condition**

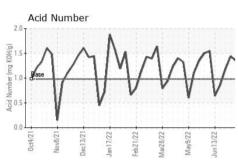
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

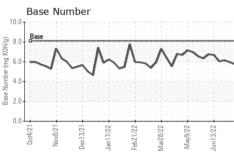
Sample Number   Client Info   WC0699031   WC0699033   WC0699028   WC06999028   WC06999028   WC06999028   WC06999028   WC06999028   WC06999028   WC06999028   WC06999028   WC06999028   WC0699028   WC06999028   WC0699028   WC0699028   WC0699028   WC0699028   WC06999028   WC0699028   WC0699028	RON CG 40 (145	GAL)	±2021 Nov20	21 Dec2021 Jan2022	Feb2022 Mar2022 May2022	Jun2022	
Sample Date   Client Info   11 Jul 2022   27 Jun 2022   27 Jun 2022   27 Jun 2022   27 Jun 2022   37 Jun 2022	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   115981   115870   115649     Dit Age   hrs   Client Info   763   652   431     Dit Age   hrs   Client Info   763   652   431     Dit Age   hrs   Client Info   N/A   Not Changd   N/A     Sample Status	Sample Number		Client Info		WC0699031	WC0699033	WC0699026
Dil Age	Sample Date		Client Info		11 Jul 2022	06 Jul 2022	27 Jun 2022
Dil Changed   Client Info   N/A   ABNORMAL   ABNORMA	Machine Age	hrs	Client Info		115981	115870	115649
CONTAMINATION	Oil Age	hrs	Client Info		763	652	431
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         NEG         NEG         NEG           Gilycol         WC Method         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           ron         ppm         ASTM D5185m         -45         7         7         5           Chromium         ppm         ASTM D5185m         -2         <1	Oil Changed		Client Info		N/A	Not Changd	N/A
Water         WC Method         NEG         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           fron         ppm         ASTM D5185m         -45         7         7         5           Chromium         ppm         ASTM D5185m         -2         <1	Sample Status				ABNORMAL	ABNORMAL	ABNORMA
WEAR METALS	CONTAMINATION	٧	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM DS185m         >45         7         7         5           Chromium         ppm         ASTM DS185m         >2         -1         <1	Water		WC Method	>0.1	NEG	NEG	NEG
Prop	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	ron	ppm		>45	7	7	5
Description	Chromium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >10 4 3 3 3 Lead ppm ASTM D5185m >5 2 2 1 Copper ppm ASTM D5185m >5 2 2 1 Tin ppm ASTM D5185m >14 3 3 2 Tin ppm ASTM D5185m >13 6 5 4 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Barium ppm ASTM D5185m 1 2 0 <1 Wolybdenum ppm ASTM D5185m 1 2 0 <1 Wolybdenum ppm ASTM D5185m 1 2 0 <1 Wolybdenum ppm ASTM D5185m 1 <1 <1 <1 <1 Wanganese ppm ASTM D5185m 1 <1 <1 <1 <1 Wanganese ppm ASTM D5185m 9 12 10 16 Calcium ppm ASTM D5185m 2712 3041 2769 3064 Phosphorus ppm ASTM D5185m 292 298 269 318 Zinc ppm ASTM D5185m 2575 3959 3713 3644  CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m ≥20	Titanium	ppm	ASTM D5185m		0	0	0
Lead         ppm         ASTM D5185m         >5         2         2         1           Copper         ppm         ASTM D5185m         >14         3         3         2           Tin         ppm         ASTM D5185m         >13         6         5         4           Vanadium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         2         4         3           Boron         ppm         ASTM D5185m         1         2         0         <1           Boron         ppm         ASTM D5185m         1         2         0         <1           Boron         ppm         ASTM D5185m         1         2         0         <1           Boron         ppm         ASTM D5185m         2         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1	Silver	ppm	ASTM D5185m		0	<1	0
Copper         ppm         ASTM D5185m         >14         3         3         2           Fin         ppm         ASTM D5185m         >13         6         5         4           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         4         3           Boron         ppm         ASTM D5185m         1         2         0         <1	Aluminum	ppm	ASTM D5185m	>10	4	3	3
Tin	Lead	ppm	ASTM D5185m	>5	2	2	1
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         4         3           Barium         ppm         ASTM D5185m         1         2         0         <1         1           Molybdenum         ppm         ASTM D5185m         1         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	Copper	ppm	ASTM D5185m	>14	3	3	2
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         2         4         3           Barium         ppm         ASTM D5185m         1         2         0         <1	Tin	ppm	ASTM D5185m	>13	6	5	4
ADDITIVES  method limit/base current history1 history3 Boron ppm ASTM D5185m 0 2 4 3 Barium ppm ASTM D5185m 1 2 0 < <1  Molybdenum ppm ASTM D5185m 1 2 0 < <1  Manganese ppm ASTM D5185m 1 < <1 < <1 < <1 < <1 < <1 < <1 < <1	√anadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 1 2 0 <1 1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         2         <1         <1         1           Manganese         ppm         ASTM D5185m         1         <1         <1         <1           Magnesium         ppm         ASTM D5185m         9         12         10         16           Calcium         ppm         ASTM D5185m         2712         3041         2769         3064           Phosphorus         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history3           Silicon         ppm         ASTM D5185m         >200         390         387         269           Solicon         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20	Boron	maa	ASTM D5185m	0	•		0
Manganese         ppm         ASTM D5185m         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         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1 <td></td> <td>1-1-</td> <td></td> <td></td> <td></td> <td></td> <td>3</td>		1-1-					3
Magnesium         ppm         ASTM D5185m         9         12         10         16           Calcium         ppm         ASTM D5185m         2712         3041         2769         3064           Phosphorus         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         342         378         333         399           Sulfur         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >200         390         387         269           Sodium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         curren	Barium						
Calcium         ppm         ASTM D5185m         2712         3041         2769         3064           Phosphorus         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         342         378         333         399           Sulfur         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >200         390         387         269           Sodium         ppm         ASTM D5185m         >20         1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1		ppm	ASTM D5185m	1	2	0	<1
Phosphorus         ppm         ASTM D5185m         292         298         269         318           Zinc         ppm         ASTM D5185m         342         378         333         399           Sulfur         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >200         390         387         269           Sodium         ppm         ASTM D5185m         >20         1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415 <td< td=""><td>Molybdenum</td><td>ppm ppm</td><td>ASTM D5185m ASTM D5185m</td><td>1 2</td><td>2 &lt;1</td><td>0 &lt;1</td><td>&lt;1 1</td></td<>	Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	1 2	2 <1	0 <1	<1 1
Zinc         ppm         ASTM D5185m         342         378         333         399           Sulfur         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >200         390         387         269           Sodium         ppm         ASTM D5185m         >20         1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1         0.1           Southation         Abs/.1mm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30 <td>Molybdenum Manganese</td> <td>ppm ppm</td> <td>ASTM D5185m ASTM D5185m ASTM D5185m</td> <td>1 2 1</td> <td>2 &lt;1 &lt;1</td> <td>0 &lt;1 &lt;1</td> <td>&lt;1 1 &lt;1</td>	Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1	2 <1 <1	0 <1 <1	<1 1 <1
Sulfur         ppm         ASTM D5185m         2575         3959         3713         3644           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >200         390         387         269           Sodium         ppm         ASTM D5185m         >20         1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         his	Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9	2 <1 <1 12	0 <1 <1 10	<1 1 <1 16
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >200         ▲ 390         ▲ 387         ▲ 269           Sodium         ppm         ASTM D5185m         >20         1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history3           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045	Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9 2712	2 <1 <1 12 3041	0 <1 <1 10 2769	<1 1 <1 16 3064
Silicon         ppm         ASTM D5185m         >200         ▲ 390         ▲ 387         ▲ 269           Sodium         ppm         ASTM D5185m         <1         0         1           Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history3           Soot %         %         *ASTM D7844         0.1         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9 2712 292	2 <1 <1 12 3041 298	0 <1 <1 10 2769 269	<1 1 <1 16 3064 318
Sodium	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9 2712 292 342	2 <1 <1 12 3041 298 378	0 <1 <1 10 2769 269 333	<1 1 <1 16 3064 318 399
Potassium         ppm         ASTM D5185m         >20         1         2         0           Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9 2712 292 342 2575	2 <1 <1 12 3041 298 378 3959	0 <1 <1 10 2769 269 333 3713	<1 1 <1 16 3064 318 399
Fuel         %         ASTM D3524         >4.0         0.3         0.6         0.3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base	2 <1 <1 12 3041 298 378 3959	0 <1 <1 10 2769 269 333 3713 history1	<1 1 <1 16 3064 318 399 3644 history2
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base	2 <1 <1 12 3041 298 378 3959  current  390	0 <1 <1 10 2769 269 333 3713 history1 387	<1 1 1 41 16 3064 318 399 3644 history2
Soot %         %         *ASTM D7844         0.1         0.1         0.1           Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history1           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base >200	2 <1 <1 12 3041 298 378 3959  current  ▲ 390 <1	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0	<1 1 1 <1 16 3064 318 399 3644 history2  ▲ 269 1
Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION method limit/base current history1         history1         history1           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Gulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base >200	2 <1 <1 12 3041 298 378 3959  current  ▲ 390 <1 1	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0 2	<1 1 1 <1 16 3064 318 399 3644 history2  ▲ 269 1 0
Nitration         Abs/cm         *ASTM D7624         >20         7.0         6.3         5.9           Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION method limit/base current history1         history1         history1           Dxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0	2 <1 <1 12 3041 298 378 3959  current  390 <1 1 0.3	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0 2 0.6	<1 1 1 41 16 3064 318 399 3644 history2  269 1 0 0.3
Sulfation         Abs/.1mm         *ASTM D7415         >30         25.4         22.9         21.3           FLUID DEGRADATION         method         limit/base         current         history1         history2           Dxidation         Abs/.1mm         *ASTM D7414         >25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Gulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0	2 <1 <1 12 3041 298 378 3959  current  ▲ 390 <1 1 0.3  current	0 <1 <1 10 2769 269 333 3713 history1   ▲ 387 0 2 0.6 history1	<1 1 1 <1 16 3064 318 399 3644 history2  269 1 0 0.3 history2
Oxidation         Abs/.1mm         *ASTM D7414 > 25         16.1         14.5         12.9           Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0 limit/base	2 <1 <1 12 3041 298 378 3959  current	0 <1 <1 10 2769 269 333 3713 history1   ▲ 387 0 2 0.6 history1 0.1	<1 1 1 41 16 3064 318 399 3644 history2  269 1 0 0.3 history2 0.1
Acid Number (AN)         mg KOH/g         ASTM D8045         0.98         1.35         1.44         1.18	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  METHOD  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844  *ASTM D7844  *ASTM D7624	1 2 1 9 2712 292 342 2575 limit/base >200	2 <1 <1 12 3041 298 378 3959  current	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0 2 0.6 history1 0.1 6.3	<1 1 1 41 16 3064 318 399 3644 history2  ▲ 269 1 0 0.3 history2 0.1 5.9
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524  method  *ASTM D7844 *ASTM D7624 *ASTM D76145	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0 limit/base >20 >30	2 <1 <1 12 3041 298 378 3959  current	0 <1 <1 10 2769 269 333 3713 history1   ▲ 387 0 2 0.6 history1   0.1 6.3 22.9	<1 1 1 16 3064 318 399 3644 history2  ▲ 269 1 0 0.3 history2 0.1 5.9 21.3
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method ASTM D5185m ASTM D7624 *ASTM D7624 *ASTM D7624 *ASTM D7615  method	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0 limit/base >20 >30 limit/base	2 <1 <1 12 3041 298 378 3959  current  390 <1 1 0.3  current  0.1 7.0 25.4  current	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0 2 0.6 history1 0.1 6.3 22.9 history1	<1 1 1 16 3064 318 399 3644 history2  ▲ 269 1 0 0.3 history2  0.1 5.9 21.3 history2
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D78124  *ASTM D7844  *ASTM D7844	1 2 1 9 2712 292 342 2575 limit/base >200 >4.0 limit/base >20 >30 limit/base >25	2 <1 <1 12 3041 298 378 3959  current  ▲ 390 <1 1 0.3  current  7.0 25.4  current  16.1	0 <1 <1 10 2769 269 333 3713 history1 ▲ 387 0 2 0.6 history1 0.1 6.3 22.9 history1 14.5	<pre>&lt;1 1 1 16 3064 318 399 3644 history2  ▲ 269 1 0 0.3 history2 0.1 5.9 21.3 history2 12.9</pre>

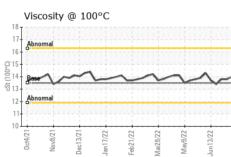


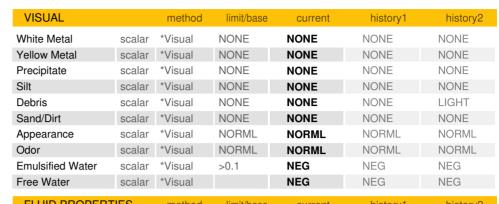
## **OIL ANALYSIS REPORT**





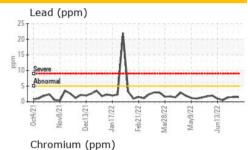


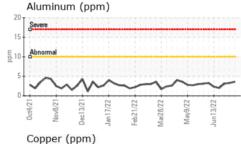


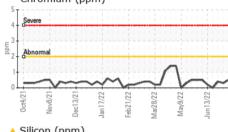


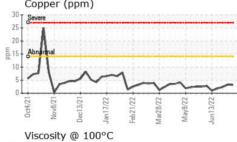
FLUID FROFE	TILO	memod	IIIIII/Dase	Current	HISTORY	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	13.5	14.0	13.8	13.8

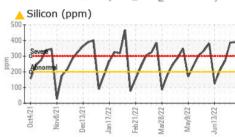
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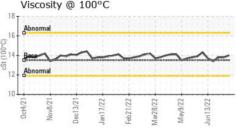


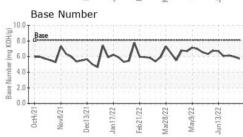














Laboratory Sample No. Lab Number **Unique Number** : 10050199

: WC0699031

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05590752

: 13 Jul 2022 **Tested** Diagnosed

: 15 Jul 2022

: 15 Jul 2022 - Jonathan Hester

Certificate L2367 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.

Test Package : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

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

bmiddleton@archaea.energy T: (541)481-3232

Contact: Blain Middleton

**FINLEY BIOENERGY** 

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74265 Bombing Range Road

F: