

# **OIL ANALYSIS REPORT**

Sample Rating Trend



## SPARTAN 27026 A312 Component

**Right Diesel Engine** CASTROL 15W40 (30 LTR)

### 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.

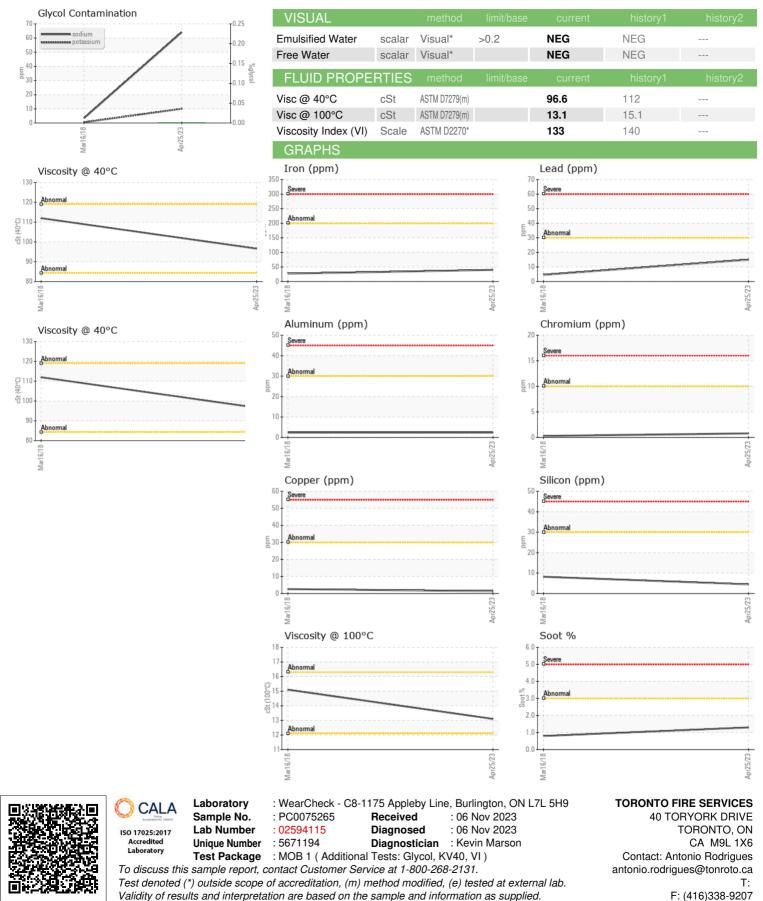
## Fluid Condition

The condition of the oil is acceptable for the time in service.

			Mar2018	Apr2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0075265	AP105597	
Sample Date		Client Info		25 Apr 2023	16 Mar 2018	
Machine Age	mths	Client Info		0	144352	
Oil Age	mths	Client Info		6	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>200	40	27	
Chromium	ppm	ASTM D5185(m)	>10	<1	<1	
Nickel	ppm	ASTM D5185(m)	>4	0	<1	
Titanium	ppm	ASTM D5185(m)	>2	0	<1	
Silver	ppm	ASTM D5185(m)	>2	<1	0	
Aluminum	ppm	ASTM D5185(m)	>30	2	2	
Lead	ppm	ASTM D5185(m)	>30	15	5	
Copper	ppm	ASTM D5185(m)	>30	1	3	
Tin	ppm	ASTM D5185(m)	>4	<1	<1	
Antimony	ppm	ASTM D5185(m)		0	2	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 18	history1 33	history2
	ppm ppm		limit/base			
Boron		ASTM D5185(m)	limit/base	18	33	
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	18 0	33 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65	33 0 2	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0	33 0 2 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0 1029	33 0 2 <1 9	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0 1029 1019	33 0 2 <1 9 2377	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0 1029 1019 1010	33 0 2 <1 9 2377 924	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	Imit/base	18 0 65 0 1029 1019 1010 1221	33 0 2 <1 9 2377 924 1189	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0 1029 1019 1010 1221 2586	33 0 2 <1 9 2377 924 1189 3173	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		18 0 65 0 1029 1019 1010 1221 2586 <1	33 0 2 <1 9 2377 924 1189 3173 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	18 0 65 0 1029 1019 1010 1221 2586 <1 current	33 0 2 <1 9 2377 924 1189 3173 <1 history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)	limit/base	18 0 65 0 1029 1019 1010 1221 2586 <1 <b>current</b> 4	33 0 2 <1 9 2377 924 1189 3173 <1 history1 8	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	limit/base >30 >406	18 0 65 0 1029 1019 1010 1221 2586 <1 <u>current</u> 4 64	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3	        history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >30 >406	18 0 65 0 1029 1019 1010 1221 2586 <1 <u>current</u> 4 64 10	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3 <1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >30 >406 >20	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3 <1 NEG	      history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m)	Iimit/base >30 >406 >20 Iimit/base iimit/base >3	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0 <i>current</i> 1.3	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3 <1 NEG <b>history1</b> 0.8	      history2     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >30 >406 >20 limit/base	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3 <1 NEG history1	      history2     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7844* ASTM D7624*	Imit/base >30 >406 >20 Imit/base >30 >20 S3 >20 >30	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0 <i>current</i> 1.3 10.4 24.4	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 3 <1 NEG <b>history1</b> 0.8 8.8 22.8	       history2  history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7844* ASTM D7844* ASTM D7844*	Iimit/base >30 >406 >20 Iimit/base >3 >20 >30 >30 >30 >30 >30 >30 >30 >30 >30 >30 >30 >30	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0 <i>current</i> 1.3 10.4 24.4	33 0 2 <1 9 2377 924 1189 3173 <1 history1 8 3 3 <1 NEG history1 0.8 8.8 22.8 history1	       history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7844* ASTM D7624*	Iimit/base >30 >406 >20 Iimit/base >3 >20 Iimit/base >33 >20 Iimit/base >33 >20	18 0 65 0 1029 1019 1010 1221 2586 <1 <i>current</i> 4 64 10 0.0 <i>current</i> 1.3 10.4 24.4 <i>current</i> 1.3	33 0 2 <1 9 2377 924 1189 3173 <1 <b>history1</b> 8 3 <1 <b>history1</b> 0.8 8.8 22.8 <b>history1</b> 18.8	       history2  history2  history2  history2



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