

### **OIL ANALYSIS REPORT**

Sample Rating Trend



# ABBOTT OAKS

Component Liquid Petroleum Gas Fluid SHELL ROTELLA T 15W40 (--- QTS)

#### 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 acceptable for the time in service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0887904	WC0311719	
Sample Date		Client Info		19 Feb 2024	28 Jan 2019	
Machine Age	hrs	Client Info		350	255	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	3	2	
Chromium	ppm	ASTM D5185m	>10	<1	0	
Nickel	ppm	ASTM D5185m	>5	<1	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>5	0	0	
Aluminum	ppm	ASTM D5185m	>20	4	3	
Lead	ppm	ASTM D5185m	>40	2	<1	
Copper	ppm	ASTM D5185m	>300	2	<1	
Tin	ppm	ASTM D5185m	>10	1	0	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		1	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 316	current 84	history1 7	history2
	ppm ppm					
Boron		ASTM D5185m	316	84	7	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	316 0.0	84 <1	7 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0	84 <1 89	7 0 61	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2	84 <1 89 <1	7 0 61 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24	84 <1 89 <1 138	7 0 61 0 987	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292	84 <1 89 <1 138 2259	7 0 61 0 987 1138	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064	84 <1 89 <1 138 2259 1121	7 0 61 0 987 1138 974	
Boron Barium 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	316 0.0 1.2 24 2292 1064 1160	84 <1 89 <1 138 2259 1121 1219 3827	7 0 61 0 987 1138 974 1212	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996	84 <1 89 <1 138 2259 1121 1219 3827	7 0 61 0 987 1138 974 1212 2763	
Boron Barium 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	316 0.0 1.2 24 2292 1064 1160 4996	84 <1 89 <1 138 2259 1121 1219 3827 current	7 0 61 0 987 1138 974 1212 2763 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	316 0.0 1.2 24 2292 1064 1160 4996 Limit/base >25	84 <1 89 <1 138 2259 1121 1219 3827 current 20	7 0 61 0 987 1138 974 1212 2763 history1 11	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 Limit/base >25	84 <1 89 <1 138 2259 1121 1219 3827 current 20 2 2 2	7 0 61 0 987 1138 974 1212 2763 history1 11 1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <b>limit/base</b> >25	84 <1 89 <1 138 2259 1121 1219 3827 current 20 2 2 2	7 0 61 0 987 1138 974 1212 2763 history1 11 11 1 1 <1	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <b>limit/base</b> >25 >20	84 <1 89 <1 138 2259 1121 1219 3827 current 20 2 2 2 2 current	7 0 61 0 987 1138 974 1212 2763 history1 11 1 1 1 1 <1 ×1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <b>limit/base</b> >25 >20	84 <1 89 <1 138 2259 1121 1219 3827 <u>current</u> 20 2 2 2 <u>current</u> 0	7 0 61 0 987 1138 974 1212 2763 history1 11 11 1 <1 <1 history1 0	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base	84 <1 89 <1 138 2259 1121 1219 3827 <u>current</u> 20 2 2 2 <u>current</u> 0 8.6 19.5	7 0 61 0 987 1138 974 1212 2763 history1 11 11 1 <1 <1 ×1 history1 0 5.7	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <b>limit/base</b> >25 <b>limit/base</b> >20 <b>limit/base</b> >20	84 <1 89 <1 138 2259 1121 1219 3827 current 20 2 2 2 current 0 8.6 19.5 current	7 0 61 0 987 1138 974 1212 2763 history1 11 1 1 <1 <1 history1 0 5.7 18.3 history1	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <b>i</b> mit/base >25 >20 <b>i</b> mit/base >20 >30	84 <1 89 <1 138 2259 1121 1219 3827 <u>current</u> 20 2 2 2 <u>current</u> 0 8.6 19.5	7 0 61 0 987 1138 974 1212 2763 history1 11 1 1 <1 <1 kistory1 0 5.7 18.3	    history2  history2  history2  history2  history2



30

2!

Abs/cm

10

12.

(mg KOH/g)

6.0

4 ( Base

> 20 18

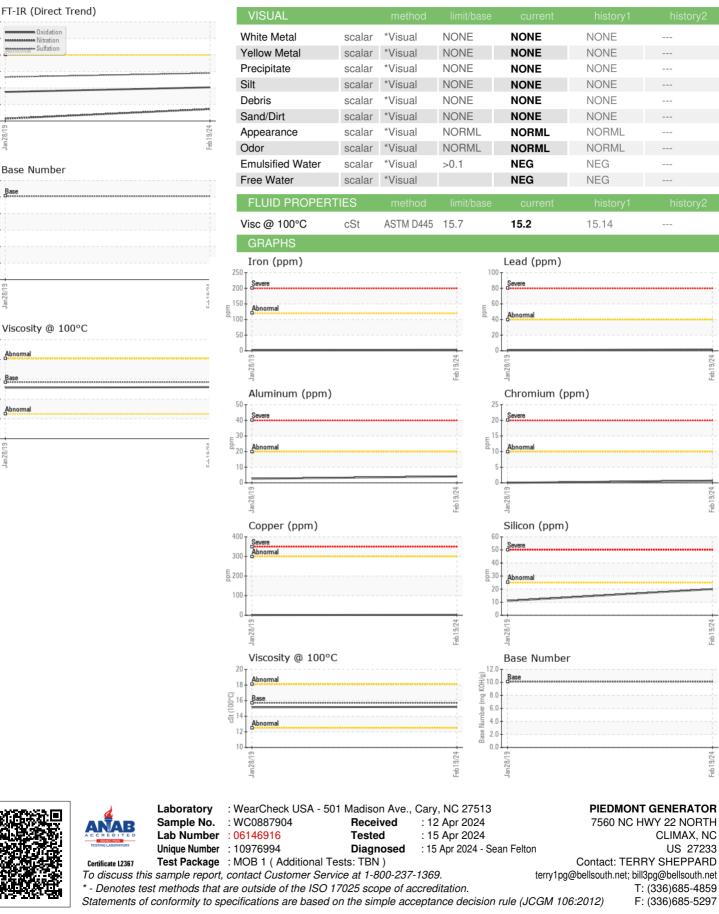
cSt (100°C) Ba

> 10 Jan28/

Abnorma

Base

## **OIL ANALYSIS REPORT**



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