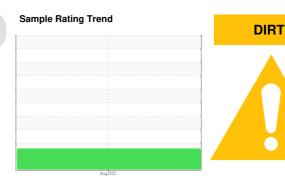


OIL ANALYSIS REPORT



Not GIVEN PCA0105665 (S/N NO INFO ON SIF/BOTTLE)

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal.

Fluid Condition

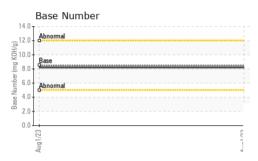
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

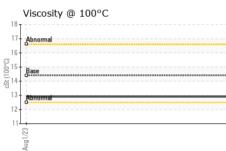
SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105665		
Sample Date		Client Info		01 Aug 2023		
Machine Age	hrs	Client Info		9993		
Oil Age	hrs	Client Info		250		
Oil Changed		Client Info		N/A		
Sample Status				ABNORMAL		
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	3		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	1		
Lead	ppm	ASTM D5185m	>40	1		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 4	history1	history2
	ppm ppm					
Boron		ASTM D5185m	250	4		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	4 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	4 0 36		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	4 0 36 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	4 0 36 <1 632		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	4 0 36 <1 632 1251	 	
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	250 10 100 450 3000 1150	4 0 36 <1 632 1251 921	 	
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	250 10 100 450 3000 1150 1350	4 0 36 <1 632 1251 921 1097	 	
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	250 10 100 450 3000 1150 1350 4250	4 0 36 <1 632 1251 921 1097 2689		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	4 0 36 <1 632 1251 921 1097 2689 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >158 >20 iimit/base	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1 <1	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >158 >158 >20 iimit/base	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1 <1 current 0.1	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINAM Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >158 >20 iimit/base >3 >20	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1 <1 current 0.1 4.9	 history1 history1 	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1 <1 current 0.1 4.9 16.9	 history1 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solfur Solicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 iimit/base >25 >158 >20 iimit/base >3 >20 >30	4 0 36 <1 632 1251 921 1097 2689 current ▲ 46 1 <1 <1 current 0.1 4.9 16.9 current	 history1 history1 history1 history1	 history2 history2 history2 history2

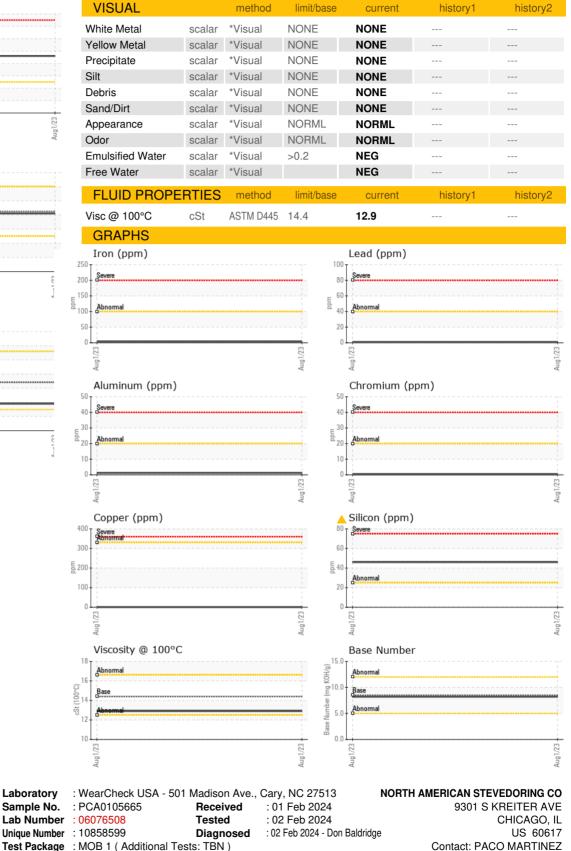


OIL ANALYSIS REPORT









Test Package : MOB 1 (Additional Tests: TBN) Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. paco.martinez@gsl.com * - 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)

Laboratory

Sample No.

T:

F: