

## **OIL ANALYSIS REPORT**

Sample Rating Trend



# JOHN DEERE John Deere

Diesel Engine

### PETRO CANADA DURON HP 15W40 (10 GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

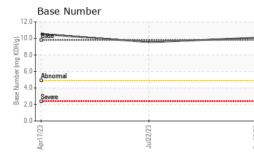
#### Fluid Condition

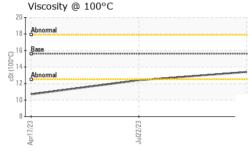
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

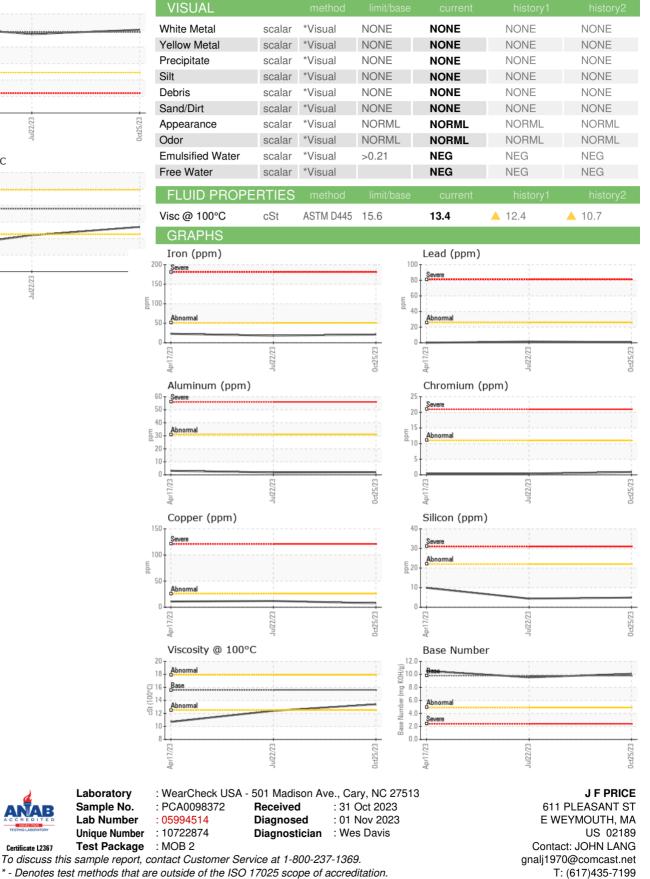
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0098372	PCA0090562	PCA0090595
Sample Date		Client Info		25 Oct 2023	22 Jul 2023	17 Apr 2023
Machine Age	hrs	Client Info		909	635	278
Oil Age	hrs	Client Info		274	357	278
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0	<1.0	0.2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	<u>\51</u>	21	18	23
Chromium	ppm ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m		7	3	2
Titanium	ppm	ASTM D5185m	20	/ <1	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>31	2	2	3
Lead	ppm	ASTM D5185m	>26	2 <1	2	0
Copper	ppm	ASTM D5185m		8	12	11
Tin		ASTM D5185m	>20	1	1	2
Vanadium	ppm ppm	ASTM D5185m	24	<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
	ррш	AGTIM DJTOJII			-	-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	10	34	237
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	10 0	34 0	237 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59	34 0 96	237 0 200
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59 <1	34 0 96 <1	237 0 200 2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59 <1 854	34 0 96	237 0 200 2 704
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59 <1 854 1022	34 0 96 <1 901 1272	237 0 200 2 704 1266
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	limit/base	10 0 59 <1 854 1022 993	34 0 96 <1 901 1272 1011	237 0 200 2 704 1266 720
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59 <1 854 1022 993 1086	34 0 96 <1 901 1272 1011 1225	237 0 200 2 704 1266 720 912
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	limit/base	10 0 59 <1 854 1022 993	34 0 96 <1 901 1272 1011	237 0 200 2 704 1266 720
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	10 0 59 <1 854 1022 993 1086	34 0 96 <1 901 1272 1011 1225	237 0 200 2 704 1266 720 912
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 ASTM D5185m	limit/base	10 0 59 <1 854 1022 993 1086 2781	34 0 96 <1 901 1272 1011 1225 3290	237 0 200 2 704 1266 720 912 2707
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	limit/base	10 0 59 <1 854 1022 993 1086 2781 current	34 0 96 <1 901 1272 1011 1225 3290 history1	237 0 200 2 704 1266 720 912 2707 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >22 >31	10 0 59 <1 854 1022 993 1086 2781 current 5	34 0 96 <1 901 1272 1011 1225 3290 history1 4	237 0 200 2 704 1266 720 912 2707 history2 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >22 >31	10 0 59 <1 854 1022 993 1086 2781 current 5 3	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2	237 0 200 2 704 1266 720 912 2707 history2 10 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base	10 0 59 <1 854 1022 993 1086 2781 current 5 3 3 3	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2	237 0 200 2 704 1266 720 912 2707 history2 10 4 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3	10 0 59 <1 854 1022 993 1086 2781 current 5 3 3 3	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2 2 history1	237 0 200 2 704 1266 720 912 2707 history2 10 4 5 5 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3	10 0 59 <1 854 1022 993 1086 2781 <i>current</i> 5 3 3 3 <i>current</i> 0.2	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2 2 history1 0.2	237 0 200 2 704 1266 720 912 2707 history2 10 4 5 <u>history2</u> 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3 >20	10 0 59 <1 854 1022 993 1086 2781 <i>current</i> 5 3 3 <i>current</i> 0.2 6.6	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2 history1 0.2 7.5	237 0 200 2 704 1266 720 912 2707 history2 10 4 5 <u>history2</u> 0.1 7.4
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 ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >22 >31 >20 Imit/base >3 >20 >30	10 0 59 <1 854 1022 993 1086 2781 <b>current</b> 5 3 3 3 <b>current</b> 0.2 6.6 18.5	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2 history1 0.2 7.5 20.1	237 0 200 2 704 1266 720 912 2707 history2 10 4 5 5 history2 0.1 7.4 21.4
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 ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	limit/base >22 >31 >20 limit/base >3 >20 >30	10 0 59 <1 854 1022 993 1086 2781 <i>current</i> 5 3 3 3 <i>current</i> 0.2 6.6 18.5	34 0 96 <1 901 1272 1011 1225 3290 history1 4 2 2 history1 0.2 7.5 20.1 history1	237 0 200 2 704 1266 720 912 2707 history2 10 4 5 history2 0.1 7.4 21.4 history2



## **OIL ANALYSIS REPORT**







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

Certificate L2367

Laboratory

Sample No.

Lab Number

F: (781)337-4150