

# OIL ANALYSIS REPORT



**RAVEN 502618 NORTHERN LIGHTS 6732-60369 - GENSET**

**Sample No:** VPA058487

**Oil Type:** JOHN DEERE ENGINE OIL PLUS 50 II 10W30

## SAMPLE INFORMATION

Sample Number	<b>VPA058487</b>	VPA027030	---	---
Sample Date	<b>02 Apr 2024</b>	16 Feb 2023	---	---
Machine Hours	<b>128</b>	67	---	---
Oil Hours	<b>60</b>	67	---	---
Oil Changed	<b>Changed</b>	Changed	---	---
Sample Status	<b>NORMAL</b>	NORMAL	---	---

**North Harbor Diesel Inc**  
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 US 98221  
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 T:  
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## OIL CONDITION

Visc @ 100°C	cSt	<b>9.7</b>	9.7	---	---
Base Number (BN)	mg KOH/g	<b>10.2</b>	8.3	---	---
Oxidation (PA)	%	<b>57</b>	28	---	---

## CONTAMINATION

Water	%	<b>NEG</b>	NEG	---	---
Soot %	%	<b>0.1</b>	0.1	---	---
Nitration (PA)	%	<b>54</b>	41	---	---
Sulfation (PA)	%	<b>53</b>	38	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	<b>&lt;1.0</b>	<1.0	---	---
Silicon	ppm	<b>10</b>	13	---	---
Sodium	ppm	<b>4</b>	4	---	---
Potassium	ppm	<b>2</b>	4	---	---

## Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. 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.

## WEAR METALS

Iron	ppm	<b>21</b>	30	---	---
Copper	ppm	<b>10</b>	21	---	---
Lead	ppm	<b>4</b>	8	---	---
Tin	ppm	<b>&lt;1</b>	<1	---	---
Aluminum	ppm	<b>10</b>	9	---	---
Chromium	ppm	<b>1</b>	2	---	---
Molybdenum	ppm	<b>220</b>	50	---	---
Nickel	ppm	<b>&lt;1</b>	0	---	---
Titanium	ppm	<b>&lt;1</b>	<1	---	---
Silver	ppm	<b>0</b>	0	---	---
Manganese	ppm	<b>&lt;1</b>	3	---	---
Vanadium	ppm	<b>&lt;1</b>	0	---	---

## ADDITIVES

Calcium	ppm	<b>1555</b>	1648	---	---
Magnesium	ppm	<b>802</b>	286	---	---
Zinc	ppm	<b>1165</b>	1106	---	---
Phosphorus	ppm	<b>938</b>	852	---	---
Barium	ppm	<b>3</b>	<1	---	---
Boron	ppm	<b>242</b>	1	---	---

**Depot:** VP179089  
**Unique No:** 10970492  
**Signed:** Don Baldrige  
**Report Date:** 14 Apr 2024

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# VOLVO PENTA

## GRAPHS

