



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id  
**BRAD PENN RAILROAD OIL 9124**

Component  
**New (Unused) Oil**  
Fluid  
**{not provided} (--- QTS)**

## RECOMMENDATION

This is a baseline read-out on the submitted sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0033596</b>	DC0032558	DC0031372
Sample Date		Client Info		<b>25 Jun 2024</b>	01 Nov 2023	13 Oct 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	ABNORMAL	ATTENTION

## WEAR

Iron	ppm	ASTM D5185m		<b>2</b>	0	2
Chromium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m		<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m		<b>3</b>	1	2
Lead	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

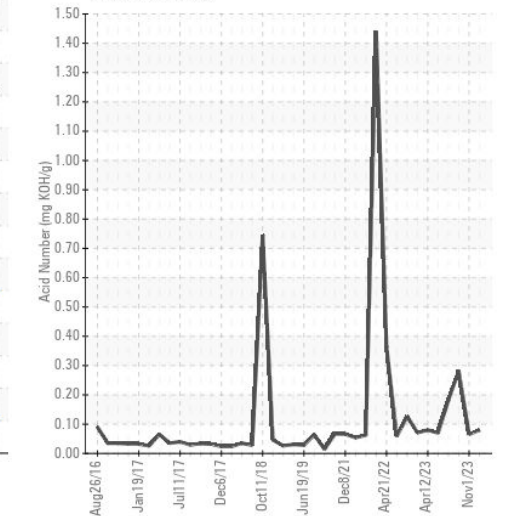
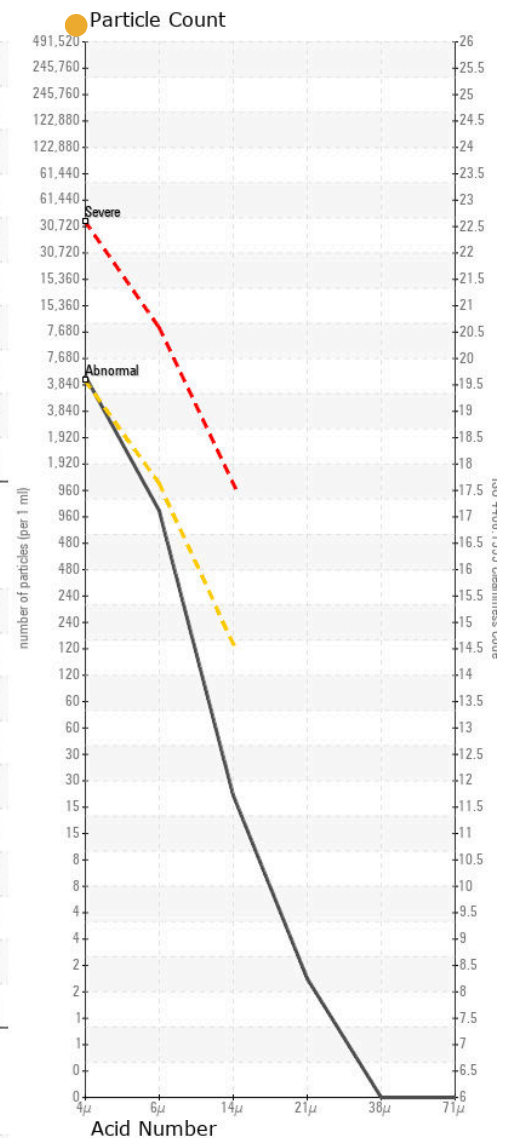
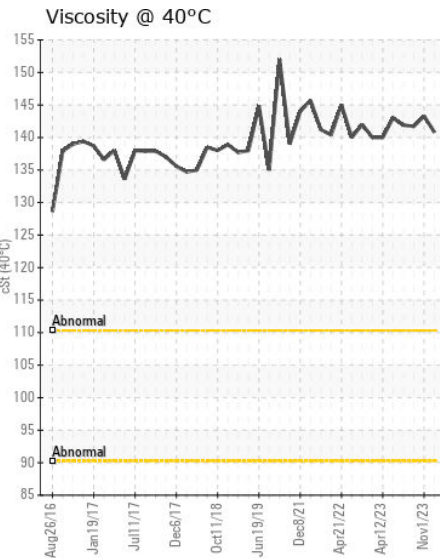
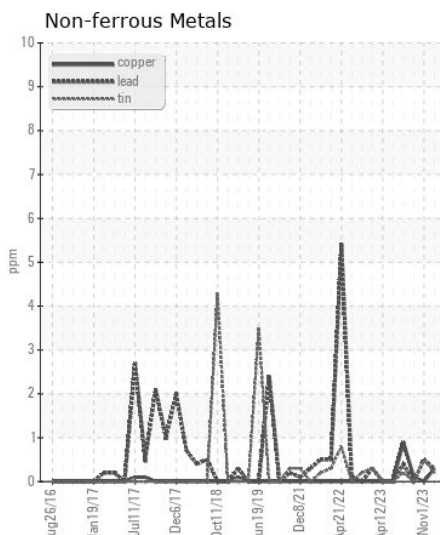
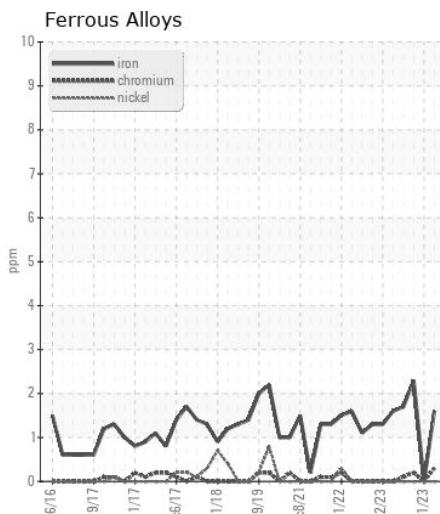
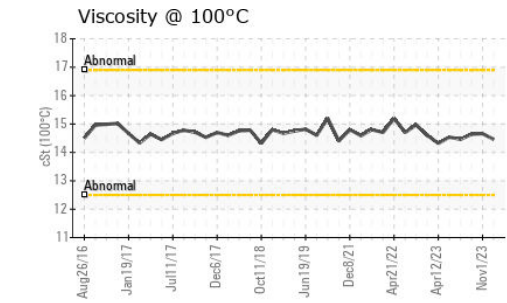
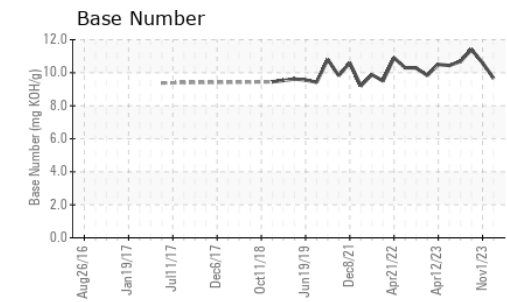
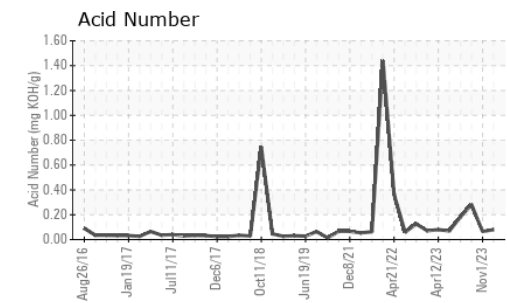
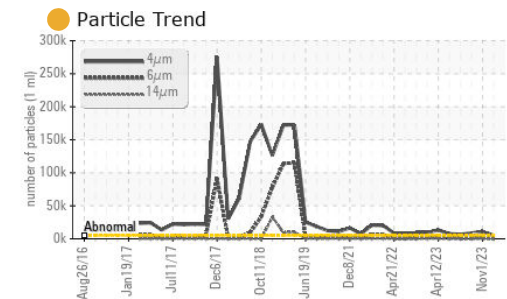
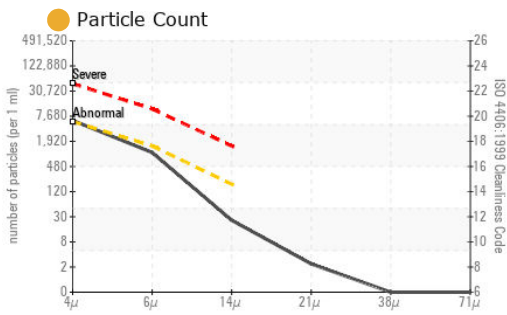
## CONTAMINATION

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m		<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	2
Water		WC Method		<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>5301</b>	▲ 10779	● 8817
Particles >6µm		ASTM D7647	>1300	<b>910</b>	● 1724	● 1446
Particles >14µm		ASTM D7647	>160	<b>22</b>	103	66
Particles >21µm		ASTM D7647	>40	<b>2</b>	23	10
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>20/17/12</b>	▲ 21/18/14	● 20/18/13
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

## FLUID CONDITION

Sodium	ppm	ASTM D5185m		<b>0</b>	<1	0
Boron	ppm	ASTM D5185m		<b>46</b>	45	52
Barium	ppm	ASTM D5185m		<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m		<b>37</b>	39	48
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>8</b>	9	8
Calcium	ppm	ASTM D5185m		<b>3100</b>	3172	3568
Phosphorus	ppm	ASTM D5185m		<b>26</b>	5	14
Zinc	ppm	ASTM D5185m		<b>14</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2263</b>	2276	2812
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.08</b>	0.065	0.282
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.66</b>	10.6	11.40
Visc @ 40°C	cSt	ASTM D445		<b>140.8</b>	143.3	141.7
Visc @ 100°C	cSt	ASTM D445		<b>14.46</b>	14.66	14.64
Viscosity Index (VI)	Scale	ASTM D2270		<b>100</b>	101	102



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0033596  
**Lab Number** : 06232671  
**Unique Number** : 11116164  
**Test Package** : MOB 2 ( Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, TBN, Viscosity )

**THE UNITED OIL COMPANY - OPERATIONS**  
 4405 E. BALTIMORE ST  
 BALTIMORE, MD  
 US 21224  
 Contact: MICHELLE HORNING

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)

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