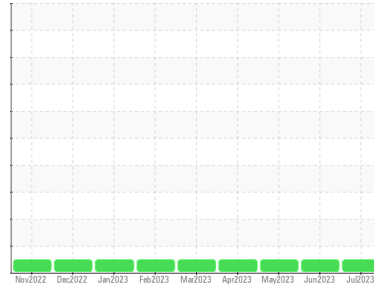




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
West Virginia
 Machine Id
[West Virginia] Oil - Port Genset
 Component
Port Genset
 Fluid
MARATHON 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Thurman Richardson)

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 suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0769148	WC0769152	WC0735655
Sample Date	Client Info			10 Jul 2023	06 Jun 2023	15 May 2023
Machine Age	hrs Client Info			24929	24619	0
Oil Age	hrs Client Info			1329	1004	511
Oil Changed	Client Info			N/A	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method		>4.0	<1.0	<1.0	<1.0
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>25	14	10	8
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>10	1	<1	0
Lead	ppm	ASTM D5185m	>10	<1	1	<1
Copper	ppm	ASTM D5185m	>20	<1	<1	0
Tin	ppm	ASTM D5185m	>5	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		47	55	49
Barium	ppm	ASTM D5185m		0	0	11
Molybdenum	ppm	ASTM D5185m		83	83	77
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		1077	1067	930
Calcium	ppm	ASTM D5185m		1679	1696	1400
Phosphorus	ppm	ASTM D5185m		909	937	849
Zinc	ppm	ASTM D5185m		1163	1156	959
Sulfur	ppm	ASTM D5185m		4362	4330	3467

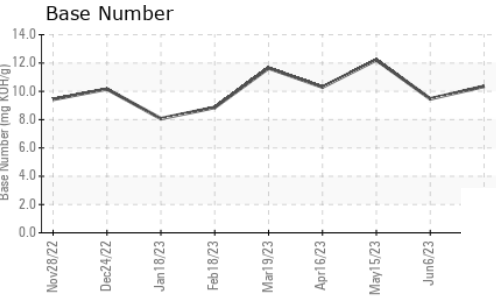
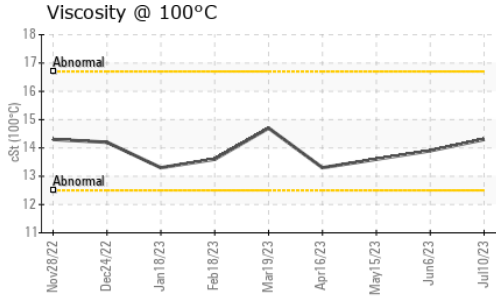
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	3	4
Sodium	ppm	ASTM D5185m		6	7	4
Potassium	ppm	ASTM D5185m	>20	<1	0	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.3	11.0	8.6
Sulfation	Abs.1mm	*ASTM D7415	>30	22.8	21.2	19.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs.1mm	*ASTM D7414	>25	22.1	19.5	15.9
Base Number (BN)	mg KOH/g	ASTM D2896		10.35	9.47	12.22



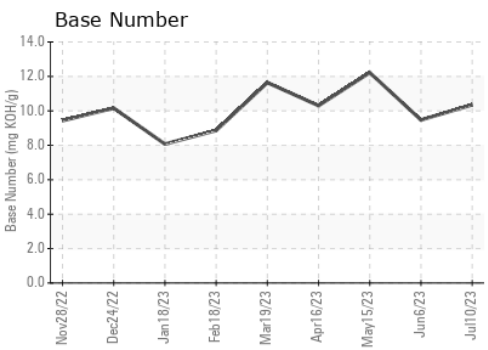
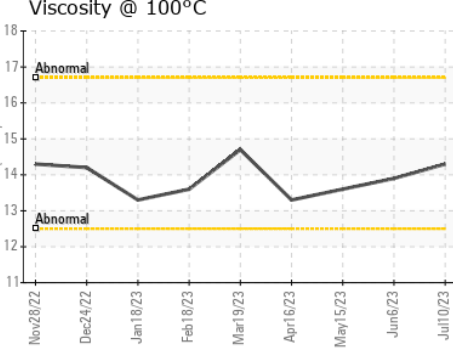
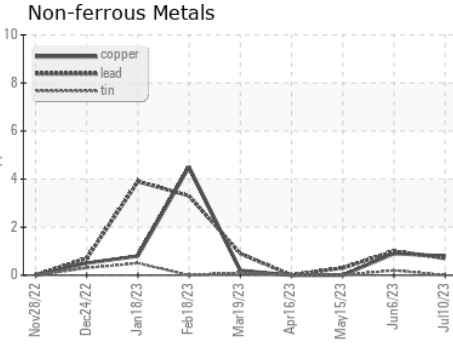
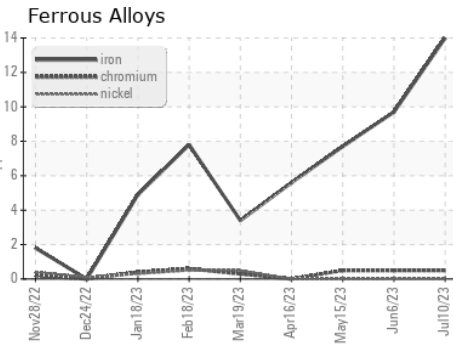
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.3	13.9	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0769148 **Received** : 17 Jul 2023
Lab Number : **05900174** **Diagnosed** : 19 Jul 2023
Unique Number : 10561530 **Diagnostician** : Angela Borella
Test Package : IND 2

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 CATLETTSBURG, KY
 US 41169
 Contact: CORY GUMBERT
 cagumbert@marathonpetroleum.com
 T: (606)585-3950
 F: x:

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)