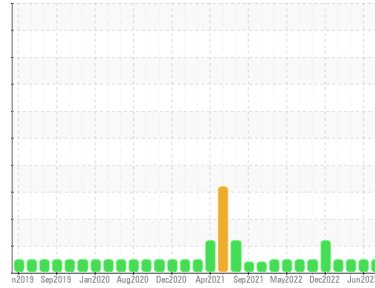




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Mt. Vernon
 Machine Id
[Mt. Vernon] Oil - Port Genset
 Component
Port Genset
 Fluid
DIESEL ENGINE OIL SAE 15W40 (35 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Ronnie Wilbanks)

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		WC0735754	WC0683523	WC0683520
Sample Date	Client Info		09 Sep 2023	13 Jun 2023	17 May 2023
Machine Age	hrs	Client Info	13866	12744	12340
Oil Age	hrs	Client Info	1122	1459	1055
Oil Changed	Client Info		Not Chngd	Changed	Not Chngd
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	>50	16	18	15
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		12	12	11
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	<1	5
Lead	ppm	ASTM D5185m	>17	<1	0	0
Copper	ppm	ASTM D5185m	>70	<1	<1	8
Tin	ppm	ASTM D5185m	>15	<1	<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	250	49	40	54
Barium	ppm	ASTM D5185m	10	2	0	0
Molybdenum	ppm	ASTM D5185m	100	28	34	33
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	450	627	636	670
Calcium	ppm	ASTM D5185m	3000	1694	1714	1770
Phosphorus	ppm	ASTM D5185m	1150	725	701	740
Zinc	ppm	ASTM D5185m	1350	896	900	891
Sulfur	ppm	ASTM D5185m	4250	3291	3456	3674

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	5	5	4
Sodium	ppm	ASTM D5185m	>158	6	8	10
Potassium	ppm	ASTM D5185m	>20	3	2	2

INFRA-RED

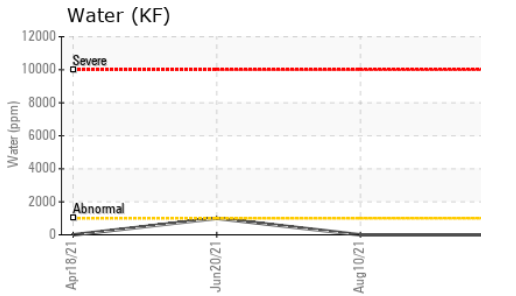
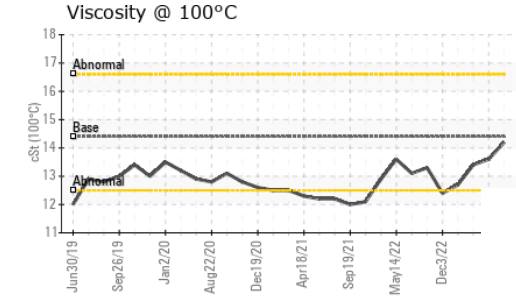
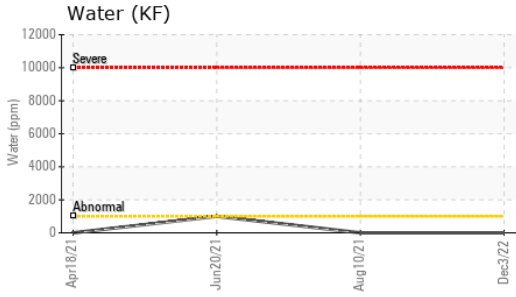
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.8	11.7	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	22.7	22.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	22.9	21.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.07	8.13	8.23



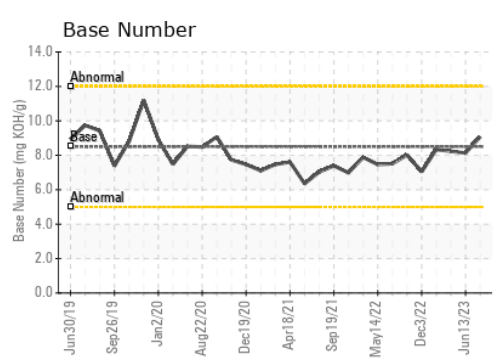
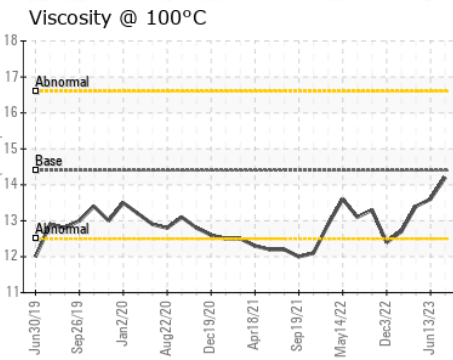
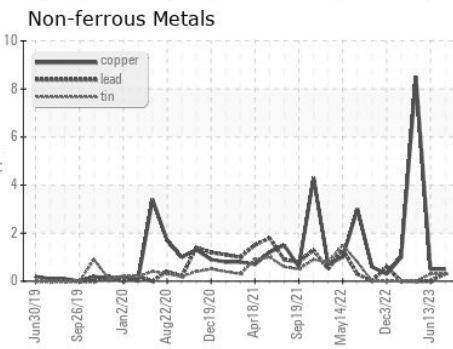
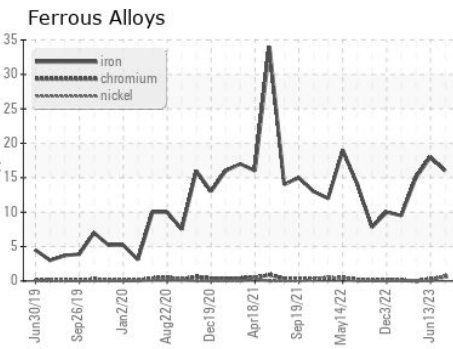
OIL ANALYSIS REPORT



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	14.4	14.2	13.6	13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0735754 **Received** : 25 Sep 2023
Lab Number : 05960780 **Diagnosed** : 27 Sep 2023
Unique Number : 10661993 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: CORY GUMBERT
 cagumbert@marathonpetroleum.com
 T: (606)585-3950
 F: x:

Certificate L2367
 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)