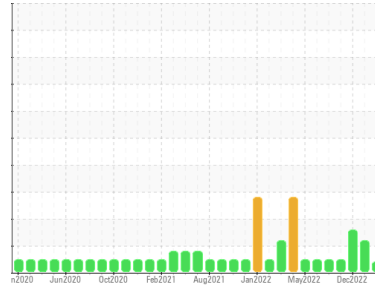




PROBLEM SUMMARY

Sample Rating Trend



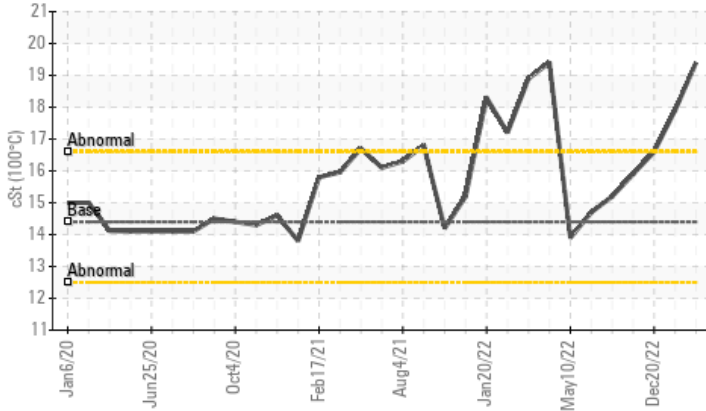
VISCOSITY



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

COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

No corrective action is recommended at this time.
 Resample at the next service interval to monitor. (Customer Sample Comment: Top Up Amount: 1 GAL)

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 19.4	▲ 17.9	16.6

Customer Id: MARCAT
 Sample No.: WC0735782
 Lab Number: 05999218
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

15 Feb 2023 Diag: Doug Bogart

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The iron level is abnormal. There is no indication of any contamination in the oil. The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report



20 Dec 2022 Diag: Don Baldrige

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. Cylinder, crank, or cam shaft wear is indicated. Bearing wear is indicated. 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 suitable for further service.

view report



01 Aug 2022 Diag: Jonathan Hester

NORMAL



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 suitable for further service.

view report



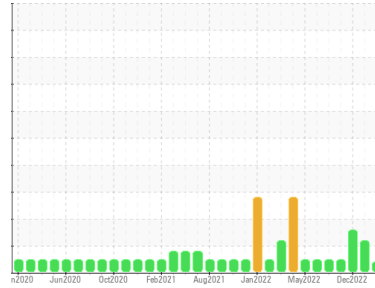


OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY

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



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Top Up Amount: 1 GAL)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0735782	WC0719430	WC0659435
Sample Date	Client Info		21 Oct 2023	15 Feb 2023	20 Dec 2022
Machine Age	hrs	Client Info	11143	20000	20000
Oil Age	hrs	Client Info	884	19700	19700
Oil Changed	Client Info		Oil Added	Oil Added	Oil Added
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

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	46	▲ 49	▲ 38
Chromium	ppm	ASTM D5185m >4	2	1	1
Nickel	ppm	ASTM D5185m >2	<1	0	<1
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >12	3	2	2
Lead	ppm	ASTM D5185m >17	<1	<1	2
Copper	ppm	ASTM D5185m >70	2	2	▲ 37
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	42	115	95
Barium	ppm	ASTM D5185m 10	2	0	0
Molybdenum	ppm	ASTM D5185m 100	56	51	56
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	742	557	561
Calcium	ppm	ASTM D5185m 3000	2098	2384	2305
Phosphorus	ppm	ASTM D5185m 1150	1062	1078	995
Zinc	ppm	ASTM D5185m 1350	1379	1385	1274
Sulfur	ppm	ASTM D5185m 4250	3196	3294	3792

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	8	4
Sodium	ppm	ASTM D5185m >158	5	3	4
Potassium	ppm	ASTM D5185m >20	6	5	1

INFRA-RED

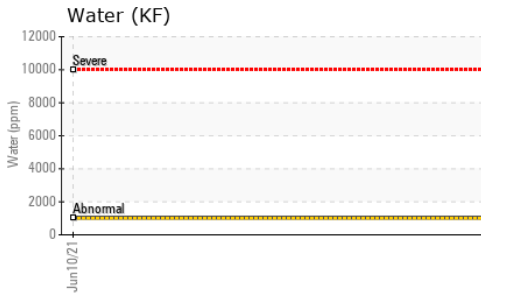
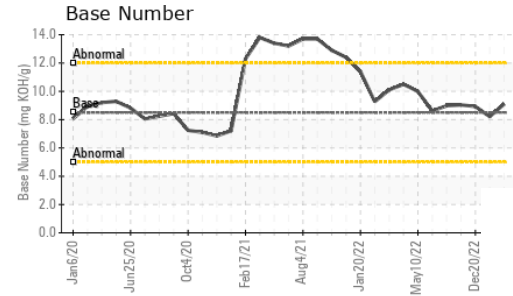
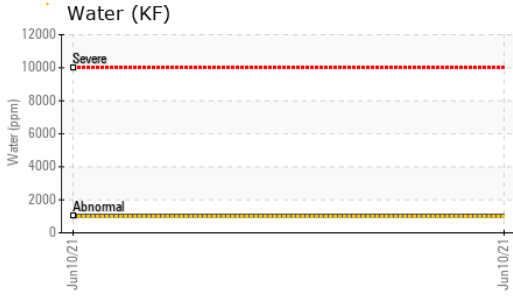
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	1	1.1	0.7
Nitration	Abs/cm	*ASTM D7624 >20	16.5	14.3	13.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	29.5	28.5	27.3

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	31.8	31.1	29.1
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.10	8.21	8.93



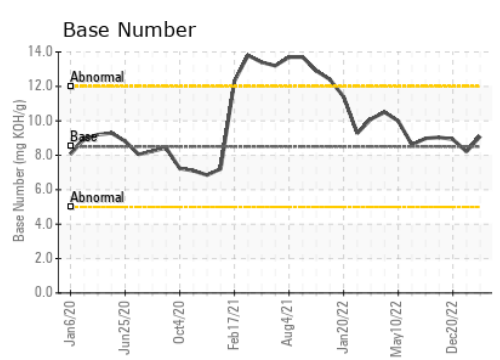
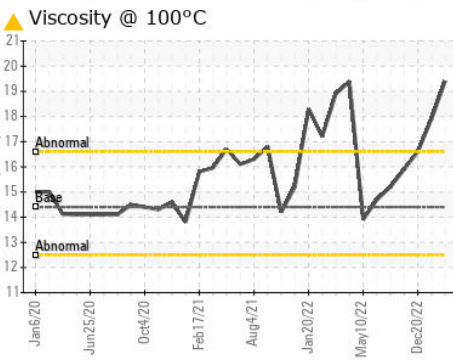
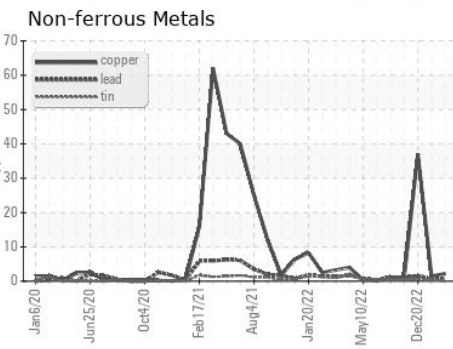
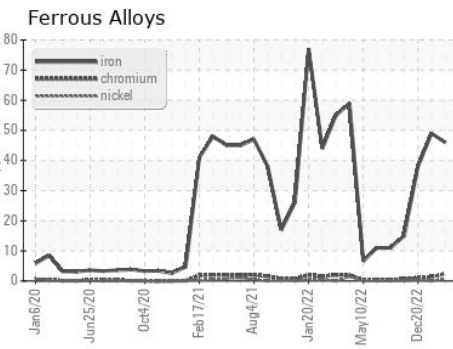
OIL ANALYSIS REPORT



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	▲ 19.4	▲ 17.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0735782 **Received** : 06 Nov 2023
Lab Number : 05999218 **Diagnosed** : 08 Nov 2023
Unique Number : 10727578 **Diagnostician** : Jonathan Hester
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:

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)