

OIL ANALYSIS REPORT

Area Kentucky [Kentucky] Oil - Port Genset

Fluid DIESEL ENGINE OIL SAE 15W40 (7 GAL)

Recommendation

Resample at the next service interval to monitor.

Wear

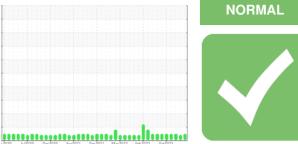
All component wear rates are normal.

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.

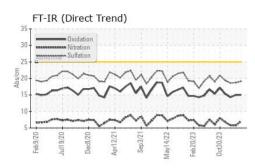


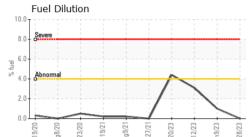
Sample Rating Trend

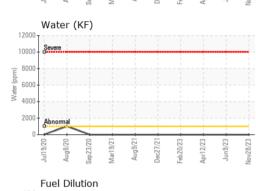
	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age Oil Age Oil Age Oil Age Oil ChangedNorClient Info196461901118580Oil Age Sample StatusClient InfoNot Changed NORMALNot Changed ABNORMALNot Changed ABNORMALNot Changed ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal Normal ABNORMALNormal AB	Sample Number		Client Info		WC0845802	WC0874825	WC0859935
Oil Age hrs Client Info 184 49 49 Oil Changed Client Info Not Changed Not Changed Not Changed Sample Status Image Not Changed Not Changed Not Changed Glycol WC Method Imit/base current history1 history2 Glycol WC Method NEG NEG NEG Chromium ppm ASTM D5155m >4 3 2 Chromium ppm ASTM D5155m >4 -1 0 Nickel ppm ASTM D5155m >4 -1 -1 0 Silver ppm ASTM D5155m >5 -1 -1 -1 Aduminum ppm ASTM D5155m >70 1 -1 2 Lead ppm ASTM D5155m >15 -1 -1 1 Vanadium ppm ASTM D5155m >5 -1 -1 1 Vanadium ppm ASTM D5155m >15 -1 -1 1 ADDITIVES method Imit/base current history1 history2 Boron ppm ASTM D5155m 5 1 -1 1 <tr< th=""><th>Sample Date</th><th></th><th>Client Info</th><th></th><th>25 Apr 2024</th><th>16 Mar 2024</th><th>20 Jan 2024</th></tr<>	Sample Date		Client Info		25 Apr 2024	16 Mar 2024	20 Jan 2024
Oil Changed Sample StatusClient InfoNot Changd NORMALChanged ABNORMALNot Changed ABNORMALCONTAMINATIONmethodimit/basecurrenthistory1history2GlycolWC MethodNEGNEGNEGWEAR METALSmethodimit/basecurrenthistory1history2IronppmASTM D5185m>50432ChromiumppmASTM D5185m>2<1<10NickelppmASTM D5185m>5<1<1<1OlickelppmASTM D5185m>5<1<1<1SilverppmASTM D5185m>122211LeadppmASTM D5185m>1222111CopperppmASTM D5185m>15<1<1111VanadiumppmASTM D5185m>15<1<1<1111ADDITIVESmethodimit/basecurrenthistory1history2BoronppmASTM D5185m10<1<100MolybdenumppmASTM D5185m450232413921247AdagneseppmASTM D5185m150718160PhosphorusppmASTM D5185m150176711871047PhosphorusppmASTM D5185m150208212981239SulfurppmASTM D5185m	Machine Age	hrs	Client Info		19646	19011	18580
Sample Status NORMAL ABNORMAL NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Glycol WC Method NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185n >50 4 3 2 Iron ppm ASTM D5185n >50 4 -1 -1 0 Nickel ppm ASTM D5185n >5 <1 <1 1 -1 0 Silver ppm ASTM D5185n >12 2 2 1 -1 -1 -1 -1 2 -1 1 -1 -1 1 1 -1 1 -1 <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>184</th> <th>49</th> <th>49</th>	Oil Age	hrs	Client Info		184	49	49
CONTAMINATION method limit/base current history1 history2 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 4 3 2 Chromium ppm ASTM D5185m >5 4 1 0 Nickel ppm ASTM D5185m >5 <1 <1 0 Silver ppm ASTM D5185m >5 <1 <1 1 1 Lead ppm ASTM D5185m >17 2 <1 3 2 Vanadium ppm ASTM D5185m >17 2 <1 3 2 Vanadium ppm ASTM D5185m >15 <1 <1 1 1 Vanadium ppm ASTM D5185m 250 15 7 18 Barium ppm ASTM D5185m 250 </th <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Not Changd</th> <th>Changed</th> <th>Not Changd</th>	Oil Changed		Client Info		Not Changd	Changed	Not Changd
GlycolWC MethodNEGNEGNEGWEAR METALSmethodlimil/basecurrenthistory1history2IronppmASTM D5185m>50432ChromiumppmASTM D5185m>2<1<10NickelppmASTM D5185m>2<1<10SilverppmASTM D5185m>5<1<1<10SilverppmASTM D5185m>122211LeadppmASTM D5185m>172<132CopperppmASTM D5185m>15<1<1010CadmiumppmASTM D5185m>15<1<1000CadmiumppmASTM D5185m10<1<1<111ADDITIVESmethodimit/basecurrenthistory1history2BoronppmASTM D5185m10<1<122ManganeseppmASTM D5185m10097615939ManganeseppmASTM D5185m1009711871147147CalciumppmASTM D5185m150176711871147147CalciumppmASTM D5185m1502062129832513251ONTAMINANTSmethodimit/basecurrenthistory1history2SiliconppmASTM D5185m>	Sample Status				NORMAL	ABNORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 4 3 2 Chromium ppm ASTM D5185m >4 -1 -1 0 Nickel ppm ASTM D5185m >2 -1 <1 -1 Titanium ppm ASTM D5185m >5 <1 <1 -1 Aluminum ppm ASTM D5185m >12 2 2 1 Lead ppm ASTM D5185m >17 2 <1 3 Copper ppm ASTM D5185m >15 <1 <1 1 0 Cadmium ppm ASTM D5185m >15 <1 <1 0 0 Cadmium ppm ASTM D5185m 10 <1 0 0 0 Boron ppm ASTM D5185m 100 97 61 59 Magnesium ppm ASTM D5185m <th>CONTAMINATION</th> <th>١</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATION	١	method	limit/base	current	history1	history2
Iron ppm ASTM D5185m >50 4 3 2 Chromium ppm ASTM D5185m >4 <1 <1 0 Nickel ppm ASTM D5185m >2 <1 <1 <1 Titanium ppm ASTM D5185m >5 <1 <1 <1 Aluminum ppm ASTM D5185m >5 <1 <1 <1 Aluminum ppm ASTM D5185m >12 2 2 1 Lead ppm ASTM D5185m >70 1 <1 2 1 Lead ppm ASTM D5185m >70 1 <1 <1 0 0 Cadmium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 1 1 1	Glycol		WC Method		NEG	NEG	NEG
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Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Silver ppm ASTM D5185m >5 <1	Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum ppm ASTM D5185m >12 2 2 1 Lead ppm ASTM D5185m >17 2 <1 3 Copper ppm ASTM D5185m >70 1 <1 2 Tin ppm ASTM D5185m >15 <1 <1 1 Vanadium ppm ASTM D5185m <1 <1 0 0 Cadmium ppm ASTM D5185m <50 15 7 18 Boron ppm ASTM D5185m 250 15 7 18 Barium ppm ASTM D5185m 10 <1 0 0 Molybdenum ppm ASTM D5185m 10 <1 1 2 Magnesium ppm ASTM D5185m 100 97 61 59 Magnesium ppm ASTM D5185m 150 1767 1187 1047 Zinc ppm ASTM D5185m 156 3	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead ppm ASTM D5185m >17 2 <1	Silver	ppm	ASTM D5185m	>5	<1	<1	<1
Copper ppm ASTM D5185m >70 1 <1	Aluminum	ppm	ASTM D5185m	>12	2	2	1
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>17	2	<1	3
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>70	1	<1	2
Cadmium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>15	<1	<1	1
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Barium ppm ASTM D5185m 10 <1	ADDITIVES		method	limit/base	current	history1	history2
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Sodium ppm ASTM D5185m >158 3 1 4 Potassium ppm ASTM D5185m >20 2 2 3 Fuel % ASTM D5324 >4.0 <1.0 <1.0 <1.0 Water % ASTM D6304 >0.1 NEG NEG NEG INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 7.0 5.8 5.8 Sulfation Abs/.imm *ASTM D7415 >30 19.1 18.7 18.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.imm *ASTM D7414 >25 15.0 15.0 14.3	CONTAMINANTS		method	limit/base	current	history1	history2
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Fuel % ASTM D3524 >4.0 <1.0	Sodium	ppm	ASTM D5185m	>158	3	1	4
Water % ASTM D6304 >0.1 NEG NEG NEG INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 7.0 5.8 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 18.7 18.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.0 15.0 14.3							
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Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 7.0 5.8 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 18.7 18.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.0 15.0 14.3	Water	%	ASTM D6304	>0.1	NEG	NEG	NEG
Nitration Abs/cm *ASTM D7624 >20 7.0 5.8 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 18.7 18.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.0 15.0 14.3	INFRA-RED		method	limit/base	current	history1	history2
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FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.0 15.0 14.3	Nitration	Abs/cm	*ASTM D7624	>20	7.0	5.8	5.8
Oxidation Abs/.1mm *ASTM D7414 >25 15.0 15.0 14.3	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	18.7	18.6
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.5 12.42 11.83 11.82	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	15.0	14.3
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	12.42	11.83	11.82

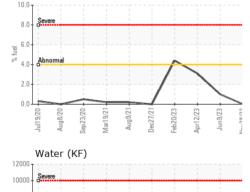


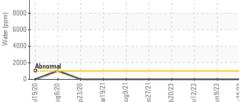
OIL ANALYSIS REPORT

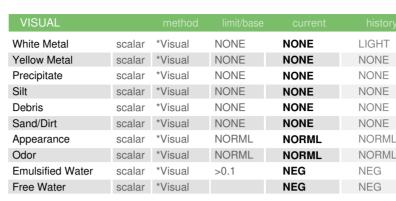












ASTM D445

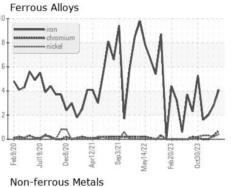
14.4

12.2

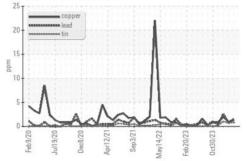
FLUID PROPERTIES Visc @ 100°C

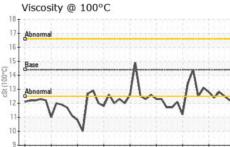




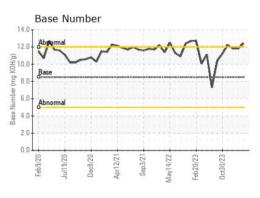


cSt





unr12/2 en3/7









: 06181554 Unique Number : 11032880 Test Package : IND 2 (Additional Tests: FuelDilution, KF)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 16 May 2024 Tested : 17 May 2024 Diagnosed : 17 May 2024 - Jonathan Hester

1av14/77 ah 20/73

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.

Feb9/20 ul19/20

: WC0845802

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: MARCAT [WUSCAR] 06181554 (Generated: 05/17/2024 15:17:22) Rev: 1

Submitted By: M/V KENTUCKY

cagumbert@marathonpetroleum.com

MARATHON PETROLEUM CO.

Page 2 of 2

101 12TH ST

T: (606)585-3950

US 41169

F: x:

CATLETTSBURG, KY

Contact: CORY GUMBERT

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

12.8

12.5