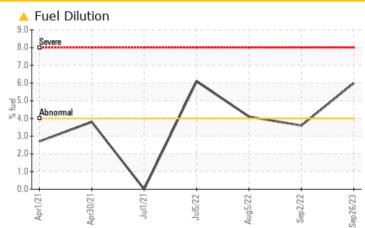


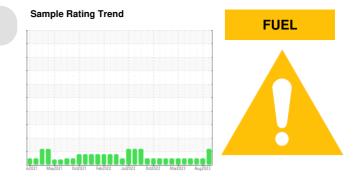
PROBLEM SUMMARY

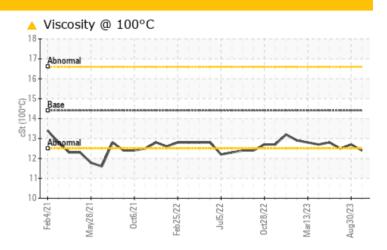
Tri State Machine Id [Tri State] Oil - Starboard Main Engine Component

Starboard Main Engine Fluid DIESEL ENGINE OIL SAE 15W40 (37 GAL)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor. (Customer Sample Comment: To be changed 9-27-23)

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	NORMAL	NORMAL		
Fuel	%	ASTM D3524	>4.0	<u> </u>	<1.0	<1.0		
Visc @ 100°C	cSt	ASTM D445	14.4	12.4	12.7	12.5		

Customer Id: MARCAT Sample No.: WC0805317 Lab Number: 05966527 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 don.b505@comcast.net

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

RECOMMENDED ACTIONS						
Action	Status	Date	Done By	Description		
Check Fuel/injector System			?	We advise that you check the fuel injection system.		

HISTORICAL DIAGNOSIS





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

27 Jul 2023 Diag: Don Baldridge

30 Aug 2023 Diag: Sean Felton



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.



29 Jun 2023 Diag: Sean Felton

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.







OIL ANALYSIS REPORT

Tri State [Tri State] Oil - Starboard Main Engine Component

Starboard Main Engine Fluid

DIESEL ENGINE OIL SAE 15W40 (37 GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Resample at the next service interval to monitor. (Customer Sample Comment: To be changed 9-27-23)

Wear

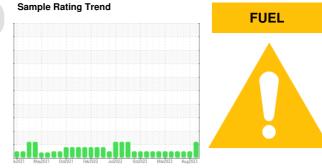
All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil.

Fluid Condition

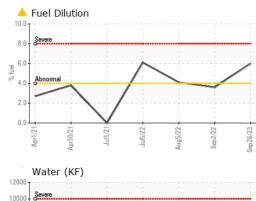
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

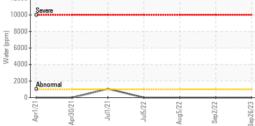


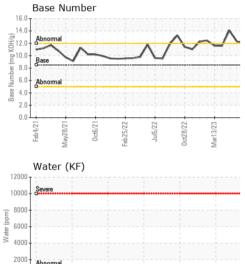
Sample NumberClient InfoWC0805317WC0805267WC0769158Sample DateClient Info26 Sep 202330 Aug 202327 Jul 2023Machine AgehrsClient Info189161840417681Oil AgehrsClient InfoNot ChangdOil AddedChangedSample StatusClient InfoNot ChangdOil AddedChangedSample StatusWCMethodNorMALNORMALNORMALCONTAMINATIONmethodImit/basecurrenthistory1history2GlycolWC MethodNEGNEGNEGNEGChromiumppmASTM 05165>75534ChromiumppmASTM 05165>76<1<1<1NickelppmASTM 05165>76<1<1<1NickelppmASTM 05165>3<1<1<1<1SilverppmASTM 05165>18<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<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<1<1<1<1<1<1<1<1<1<1<1<1<1<1<	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Date Into Ze Sep 2023 30 Aug 2023 27 Jul 2023 Machine Age hrs Client Info 18916 18404 17681 Oil Age hrs Client Info 1234 723 1024 Oil Changed Client Info Not Changed Oil Addeed Changed Sample Status Imit Mase current History1 NetGo NEG Glycol WC Method Imit/base current History1 history2 KEAR METALS method Imit/base current History1 history2 Iron ppm ASTM D518m >5 5 3 4 Chromium ppm ASTM D518m >2 0 0 0 Nickel ppm ASTM D518m >2 0 0 1 1 Autominum ppm ASTM D518m >18 <1 1 1 1 Lead ppm ASTM D518m >18 <1 1 1	Sample Number		Client Info		WC0805317	WC0805267	WC0769158
Machine AgeIrssClient Info189161840417681Oil AgeIrssClient Info12347231024Oil ChangedCNot ChangedOil AddedChangedSample StatusIdImit/basEurontNoRMALNoRMALCONTAMINATIONmethodImit/basCurrentNistory!Nistory!GlycolWC MethodImit/basCurrentNistory!Nistory!GlycolWC MethodSitM D518m>75534ChromiumppmASTM D518m>72000NickelppmASTM D518m>2000ItaniumppmASTM D518m>2000SilverppmASTM D518m>2000AuminumppmASTM D518m>15<11<1117ItaniumppmASTM D518m>14<1<<110CopperppmASTM D518m>14<1<<11<11CopperppmASTM D518m100000ADDITIVESppmASTM D518m100000MagneseppmASTM D518m20242324BariumppmASTM D518m10010000MolybelnumppmASTM D518m100101110110MagnesiumppmASTM D518m100101110110Ma			Client Info		26 Sep 2023	30 Aug 2023	27 Jul 2023
Oil ChangedClient InfoNot ChangedOil AddedChangedSample StatusIIImil/basecurrentMistory1MORMALCONTAMINATIONWC MethodNEGNEGNEGGlycolWC MethodNEGNEGNEGWEAR METALSmethodlimit/basecurrenthistory1history1IronppmASTM D5185m>75534ChromiumppmASTM D5185m>2000NickelppmASTM D5185m>2000NitkelppmASTM D5185m>2000NuminumppmASTM D5185m>15<1<11CopperppmASTM D5185m>14<101CadmiumppmASTM D5185m144<1<10VanadiumppmASTM D5185m100000ADDITIVESmethodlimil/basecurrenthistory1history2BoronppmASTM D5185m100636362MagnaganeseppmASTM D5185m450157215501474CalciumppmASTM D5185m4201101109337PhosphorusppmASTM D5185m420157215501474CalciumppmASTM D5185m150157215501474CalciumppmASTM D5185m150157215501474	Machine Age	hrs	Client Info		-	18404	17681
Sample Status Image ABNORIAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Glycol WC Method Imit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 3 4 Chromium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >3 <1 <1 <1 <1 Silver ppm ASTM D5185m >3 <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 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Oil Age	hrs	Client Info		1234	723	1024
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 >75 5 3 4 Chromium ppm ASTM D5185m >2 0 0 Nickel ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >2 0 0 Aluminum ppm ASTM D5185m >15 <1 <1 <1 Lead ppm ASTM D5185m >14 <1 0 1 <1 Cadmium ppm ASTM D5185m 10 0 0 0 0 Adadium ppm ASTM D5185m 100 633 63 62 43 Cadmium ppm ASTM D5185m 100 0 0 0 0 Adadium ppm ASTM D5185m 100 633 63	Oil Changed		Client Info		Not Changd	Oil Added	Changed
Glycol WC Method NEG NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >75 5 3 4 Chromium ppm ASTM D5185m >2 0 0 0 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >18 <1 <1 <1 Gopper ppm ASTM D5185m >18 <1 0 1 Copper ppm ASTM D5185m >14 <1 <1 <1 Cadmium ppm ASTM D5185m >14 <1 <1 0 Cadmium ppm ASTM D5185m >14 <1 <1 <1 <1 Boron ppm ASTM D5185m 100 0 0 0 0 Magneseu ppm ASTM D5185m 100 63 63 62 1474 Gadium ppm ASTM D5185m <td< th=""><th>Sample Status</th><th></th><th></th><th></th><th>ABNORMAL</th><th>NORMAL</th><th>NORMAL</th></td<>	Sample Status				ABNORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 3 4 Chromium ppm ASTM D5185m >2 0 0 0 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 1 Copper ppm ASTM D5185m >15 <1 <1 <1 1 Lead ppm ASTM D5185m >16 <1 0 1 7 Tin ppm ASTM D5185m 15 <1 <1 0 0 0 0 Cadmium ppm ASTM D5185m 160 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 </th <th>CONTAMINATION</th> <th>N</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATION	N	method	limit/base	current	history1	history2
Iron ppm ASTM D5185m >75 5 3 4 Chromium ppm ASTM D5185m >8 <1 <1 <1 Nickel ppm ASTM D5185m >2 0 0 0 Titanium ppm ASTM D5185m >3 <1 <1 <1 Silver ppm ASTM D5185m >15 <1 <1 <1 <1 Lead ppm ASTM D5185m >15 <1 <1 0 1 Copper ppm ASTM D5185m >14 <1 <1 0 0 Cadmium ppm ASTM D5185m 14 <1 <1 0 0 Cadmium ppm ASTM D5185m 10 0 0 0 0 0 ASTM D5185m 10 0 63 63 62 3 62 3 62 3 62 3 62 3 62 3 62	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >8 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 0 0 Titanium ppm ASTM D5185m >3 <1 <1 <1 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >15 <1 <1 <1 Lead ppm ASTM D5185m >18 <1 0 17 Copper ppm ASTM D5185m >80 3 1 7 Tin ppm ASTM D5185m >14 <1 <1 0 Cadmium ppm ASTM D5185m 10 0 0 0 ADDITIVES method limit/base current history1 history2 Barium ppm ASTM D5185m 100 63 63 62 Magnaese ppm ASTM D5185m 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 <	Iron	ppm	ASTM D5185m	>75	5	3	4
Titanium ppm ASTM D5185m >3 <1	Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
SilverppmASTM D5185m>2000AluminumppmASTM D5185m>15<1<1<1<1LeadppmASTM D5185m>18<101CopperppmASTM D5185m>803177TinppmASTM D5185m>14<1<100VanadiumppmASTM D5185m>14<1<1<1<1CadmiumppmASTM D5185m0<1<1<1<1CadmiumppmASTM D5185m25024292424BoronppmASTM D5185m1006363626362MarganeseppmASTM D5185m10063636214741461098PhosphorusppmASTM D5185m1501572155014741691098PhosphorusppmASTM D5185m13501262119011691169SulfurppmASTM D5185m125035254035376626 <td>Nickel</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>2</td> <th>0</th> <td>0</td> <td>0</td>	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >15 <1	Titanium	ppm	ASTM D5185m	>3	<1	<1	<1
Lead ppm ASTM D5185m >18 <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >80 3 1 7 Tin ppm ASTM D5185m >14 <1 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 <1 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 24 29 24 Barium ppm ASTM D5185m 100 0 0 0 Molydenum ppm ASTM D5185m 100 63 63 62 Manganese ppm ASTM D5185m 100 63 63 62 Valcium ppm ASTM D5185m 100 63 63 62 Manganese ppm ASTM D5185m 1572 1550 1474 Calcium ppm ASTM D5185m 1262 1190	Aluminum	ppm	ASTM D5185m	>15	<1	<1	<1
Tin ppm ASTM D5185m >14 <1		ppm		>18		0	
Vanadium ppm ASTM D5185m 0 <1	Copper	ppm		>80	3	1	7
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 24 29 24 Barium ppm ASTM D5185m 10 0 0 0 0 Molybdenum ppm ASTM D5185m 100 63 63 62 0 Magnaese ppm ASTM D5185m 100 63 63 62 1474 Calcium ppm ASTM D5185m 100 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 220 2 2 2 Sodium ppm	Tin	ppm	ASTM D5185m	>14		<1	0
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m250242924BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100636362ManganeseppmASTM D5185m100636362MagnesiumppmASTM D5185m450157215501474CalciumppmASTM D5185m3000112411261098PhosphorusppmASTM D5185m150126211901169SulfurppmASTM D5185m1350126211901169SulfurppmASTM D5185m>20222SodiumppmASTM D5185m>20222SodiumppmASTM D5185m>20<1<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1<1.0NitrationAbs/cm*ASTM D745>3019.919.119.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/Itm*ASTM D7414>2517.114.916.0		ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 250 24 29 24 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 63 63 62 Manganese ppm ASTM D5185m 100 63 63 62 Magnesium ppm ASTM D5185m 100 63 63 62 Magnesium ppm ASTM D5185m 100 63 63 62 Magnesium ppm ASTM D5185m 450 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m >20 2 2 2 Soliton ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m <t< th=""><th>Cadmium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th>0</th><th>0</th></t<>	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 63 63 62 Manganese ppm ASTM D5185m 100 63 63 62 Magnesium ppm ASTM D5185m 450 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 4250 3525 4035 3766 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 <1.0 <1.0 INFRA-RED method limit/base<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 100 63 63 62 Manganese ppm ASTM D5185m < 1 <1 <1 Magnesium ppm ASTM D5185m 450 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 20 2 2 2 Sodium ppm ASTM D5185m >20 <1 3 2 Fuel % ASTM D524 >4.0 €.0 <1.0 <1.0 INFRA-RED method limit/base	Boron	ppm	ASTM D5185m	250	24	29	24
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m	10	0	0	0
Magnesium ppm ASTM D5185m 450 1572 1550 1474 Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1150 992 971 937 Zinc ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 4250 3525 4035 3766 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 <1.0 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844	Molybdenum	ppm		100	63		62
Calcium ppm ASTM D5185m 3000 1124 1126 1098 Phosphorus ppm ASTM D5185m 1150 992 971 937 Zinc ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 4250 3525 4035 3766 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 <1.0 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D784	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 992 971 937 Zinc ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 4250 3525 4035 3766 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 <1.0 <1.0 INFRA-RED Method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7414 >20 10.0 8.6 9.7 Sulfation Abs/Imm *ASTM D7415 >30	-				-		
Zinc ppm ASTM D5185m 1350 1262 1190 1169 Sulfur ppm ASTM D5185m 4250 3525 4035 3766 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >158 1 1 3 Potassium ppm ASTM D5185m >20 <1 <1 2 Fuel % ASTM D5185m >20 <1 <1 2 Fuel % ASTM D5185m >20 <1 <1 2 Fuel % ASTM D5185m >20 <1 <1< 0.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 10.0 8.6 9.7 Sulfation Abs/.mm< *ASTM D7415 >30 19.9							
SulfurppmASTM D5185m4250352540353766CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20222SodiumppmASTM D5185m>158113PotassiumppmASTM D5185m>20<1<12Fuel%ASTM D5185m>20<1<1.0<1.0INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.10.10.1NitrationAbs/cm*ASTM D7624>2010.08.69.7SulfationAbs/lmm*ASTM D7415>3019.919.119.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/lmm*ASTM D7414>2517.114.916.0							
Note: N		ppm					
Silicon ppm ASTM D5185m >20 2 2 2 Sodium ppm ASTM D5185m >158 1 1 3 Potassium ppm ASTM D5185m >20 <1	Sulfur	ppm		4250	3525	4035	3766
Sodium ppm ASTM D5185m >158 1 1 3 Potassium ppm ASTM D5185m >20 <1 <1 2 Fuel % ASTM D3524 >4.0 ▲ 6.0 <1.0 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 10.0 8.6 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.1 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0			method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1	Silicon		ASTM D5185m	>20	2	2	2
Fuel % ASTM D3524 >4.0 ▲ 6.0 <1.0	Sodium	ppm	ASTM D5185m	>158	1	1	3
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 10.0 8.6 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.1 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0							
Soot % % *ASTM D7844 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 10.0 8.6 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.1 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0	Fuel	%	ASTM D3524	>4.0	<u> </u>	<1.0	<1.0
Nitration Abs/cm *ASTM D7624 >20 10.0 8.6 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.1 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.1 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0	Soot %	%	*ASTM D7844		0.1	0.1	0.1
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0	Nitration	Abs/cm	*ASTM D7624	>20	10.0	8.6	9.7
Oxidation Abs/.1mm *ASTM D7414 >25 17.1 14.9 16.0	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	19.1	19.4
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.5 11.98 12.12 12.29	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	14.9	16.0
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	11.98	12.12	12.29



OIL ANALYSIS REPORT







Al

Inr1/7

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	12.4	12.7	12.5
GRAPHS						

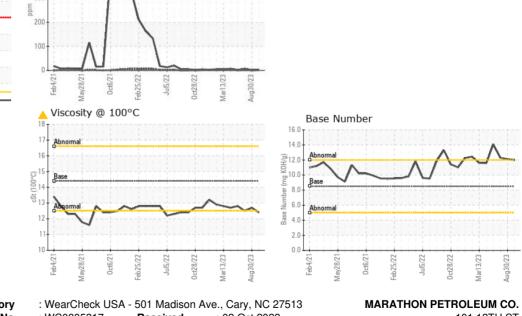


500

400

300

lead



Laboratory Sample No. : WC0805317 Received : 02 Oct 2023 101 12TH ST Lab Number : 04 Oct 2023 CATLETTSBURG, KY : 05966527 Diagnosed : 10673078 US 41169 Unique Number Diagnostician : Don Baldridge Test Package : IND 2 (Additional Tests: FuelDilution, KF, PercentFuel) Contact: CORY GUMBERT Certificate L2367 cagumbert@marathonpetroleum.com 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. T: (606)585-3950 F: x: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: MARCAT [WUSCAR] 05966527 (Generated: 10/04/2023 13:40:31) Rev: 1

Sep2/22 .

Aug5/22

15/22