

## **OIL ANALYSIS REPORT**

Sample Rating Trend

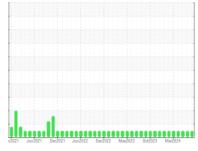


# Nashville

# [Nashville] Oil - Starboard Main Engine

**Starboard Main Engine** 

**MOBIL 15W40 (180 GAL)** 





### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

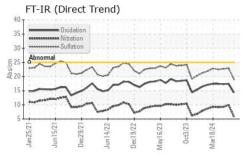
### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

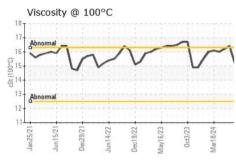
Sample Number         Client Info         WC0805256         WC0683379         WC0874906           Sample Date         Client Info         06 Jul 2024         09 Jun 2024         13 May 2024           Machine Age         hrs         Client Info         60857         60425         59942           Oil Age         hrs         Client Info         21         3738         3254           Oil Changed         Client Info         Changed         Not Changd         NorMAL	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Date							,
Machine Age         hrs         Client Info         60857         60425         59942           Oil Age         hrs         Client Info         21         3738         3254           Oil Changed         Client Info         Changed         Not Changd         Not Changd           Sample Status         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1           Fuel         WC Method         >4.0         <1.0	·						
Oil Age		hrs					,
Client Info   Changed   Not Changed   Not Changed   Normal   Nor							
NORMAL   NORMAL   NORMAL   NORMAL	-	1110					
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >4.0         <1.0						Ŭ	Ŭ.
Fuel			method	limit/base			
WEAR METALS		•				•	•
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >75         2         7         7           Chromium         ppm         ASTM D5185m         >2         0         0         -1           Nickel         ppm         ASTM D5185m         >2         0         -1         -1           Titanium         ppm         ASTM D5185m         >3         0         0         -1           Aluminum         ppm         ASTM D5185m         >15         -1         2         2           Lead         ppm         ASTM D5185m         >18         0         0         -1           Copper         ppm         ASTM D5185m         >14         0         0         -1           Vanadium         ppm         ASTM D5185m         0         0         -1           Cadmium         ppm         ASTM D5185m         0         0         -1           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         -1           Barium				74.0			
Iron					MEG		
Chromium         ppm         ASTM D5185m         >8         0         0         <1           Nickel         ppm         ASTM D5185m         >2         0         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel		ppm	ASTM D5185m	>75			7
Titanium	Chromium	ppm	ASTM D5185m	>8	0	0	<1
Silver	Nickel	ppm	ASTM D5185m	>2		<1	<1
Aluminum         ppm         ASTM D5185m         >15         <1         2         2           Lead         ppm         ASTM D5185m         >18         0         0         <1	Titanium	ppm	ASTM D5185m	>3	0	0	<1
Lead         ppm         ASTM D5185m         >18         0         0         <1           Copper         ppm         ASTM D5185m         >80         2         2         4           Tin         ppm         ASTM D5185m         >14         0         0         <1           Vanadium         ppm         ASTM D5185m         0         0         <1           Cadmium         ppm         ASTM D5185m         0         0         <1           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         37         36         40           Barium         ppm         ASTM D5185m         0         0         <1           Molybdenum         ppm         ASTM D5185m         51         46         49           Manganese         ppm         ASTM D5185m         0         <1         <1         11111           Calcium         ppm         ASTM D5185m         1315         1097         1111           Calcium         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         2	Silver	ppm	ASTM D5185m	>2	0		<1
Copper         ppm         ASTM D5185m         >80         2         2         4           Tin         ppm         ASTM D5185m         >14         0         0         <1	Aluminum	ppm	ASTM D5185m	>15	<1	2	2
Tin	Lead	ppm	ASTM D5185m	>18	0	0	<1
Vanadium         ppm         ASTM D5185m         0         0         <1           Cadmium         ppm         ASTM D5185m         0         0         <1           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         37         36         40           Barium         ppm         ASTM D5185m         0         0         <1           Molybdenum         ppm         ASTM D5185m         51         46         49           Manganese         ppm         ASTM D5185m         0         <1         <1           Magnesium         ppm         ASTM D5185m         1315         1097         1111           Calcium         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         <	Copper	ppm	ASTM D5185m	>80	2	2	4
Cadmium         ppm         ASTM D5185m         0         0         <1           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         37         36         40           Barium         ppm         ASTM D5185m         0         0         <1	Tin	ppm	ASTM D5185m	>14	0	0	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium         ppm         ASTM D5185m         0         0         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         51         46         49           Manganese         ppm         ASTM D5185m         0         <1         <1           Magnesium         ppm         ASTM D5185m         1315         1097         1111           Calcium         ppm         ASTM D5185m         1472         1641         1576           Phosphorus         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         m	Boron	ppm	ASTM D5185m		37	36	40
Manganese         ppm         ASTM D5185m         0         <1         <1           Magnesium         ppm         ASTM D5185m         1315         1097         1111           Calcium         ppm         ASTM D5185m         1472         1641         1576           Phosphorus         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >20         3         3         4           Potassium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D6185m         >20         2         5         4           Water         %         ASTM D634         >0.1         NEG         NEG         NEG           INFRA-RED         <	Davium		ACTM DE10E-		0	0	-1
Magnesium         ppm         ASTM D5185m         1315         1097         1111           Calcium         ppm         ASTM D5185m         1472         1641         1576           Phosphorus         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         5.8         9.9         9.3	Darium	ppm	MCQ1CG M11 CH			O	< 1
Calcium         ppm         ASTM D5185m         1472         1641         1576           Phosphorus         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D5185m         >20         2         5         4           Wate	Molybdenum				51		
Phosphorus         ppm         ASTM D5185m         1136         1082         1062           Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         <	Molybdenum	ppm	ASTM D5185m			46	49
Zinc         ppm         ASTM D5185m         1399         1338         1305           Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1 <td< td=""><td>Molybdenum Manganese</td><td>ppm ppm</td><td>ASTM D5185m ASTM D5185m</td><td></td><th>0</th><td>46 &lt;1</td><td>49 &lt;1</td></td<>	Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		0	46 <1	49 <1
Sulfur         ppm         ASTM D5185m         4377         3906         3299           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3 <td>Molybdenum Manganese Magnesium</td> <td>ppm ppm</td> <td>ASTM D5185m ASTM D5185m ASTM D5185m</td> <td></td> <th>0 1315</th> <td>46 &lt;1 1097</td> <td>49 &lt;1 1111</td>	Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 1315	46 <1 1097	49 <1 1111
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 1315 1472	46 <1 1097 1641	49 <1 1111 1576
Silicon         ppm         ASTM D5185m         >20         3         3         4           Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 1315 1472 1136	46 <1 1097 1641 1082	49 <1 1111 1576 1062
Sodium         ppm         ASTM D5185m         >118         1         4         4           Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 1315 1472 1136 1399	46 <1 1097 1641 1082 1338	49 <1 1111 1576 1062 1305
Potassium         ppm         ASTM D5185m         >20         2         5         4           Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 1315 1472 1136 1399 4377	46 <1 1097 1641 1082 1338 3906	49 <1 1111 1576 1062 1305 3299
Water         %         ASTM D6304         >0.1         NEG         NEG         NEG           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 1315 1472 1136 1399 4377	46 <1 1097 1641 1082 1338 3906 history1	49 <1 1111 1576 1062 1305 3299 history2
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	>20	0 1315 1472 1136 1399 4377 current	46 <1 1097 1641 1082 1338 3906 history1 3	49 <1 1111 1576 1062 1305 3299 history2
Soot %         %         *ASTM D7844         0.3         1.7         1.4           Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>20 >118	0 1315 1472 1136 1399 4377 current 3	46 <1 1097 1641 1082 1338 3906 history1 3 4	49 <1 1111 1576 1062 1305 3299 history2 4
Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>20 >118 >20	0 1315 1472 1136 1399 4377 current 3 1	46 <1 1097 1641 1082 1338 3906 history1 3 4 5	49 <1 1111 1576 1062 1305 3299 history2 4 4
Nitration         Abs/cm         *ASTM D7624         >20         5.8         9.9         9.3           Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>20 >118 >20 >0.1	0 1315 1472 1136 1399 4377 current 3 1	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.0         22.9         22.7           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         14.3         17.4         17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304	>20 >118 >20 >0.1	0 1315 1472 1136 1399 4377 current 3 1 2 NEG current	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG history1	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG history2
Oxidation Abs/.1mm *ASTM D7414 >25 <b>14.3</b> 17.4 17.3	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>20 >118 >20 >0.1 limit/base	0 1315 1472 1136 1399 4377 current 3 1 2 NEG current 0.3	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG history1 1.7	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG history2 1.4
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304  *ASTM D7624	>20 >118 >20 >0.1 limit/base	0 1315 1472 1136 1399 4377 current 3 1 2 NEG current 0.3 5.8	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG history1 1.7 9.9	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG history2 1.4 9.3
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304  *ASTM D7844  *ASTM D7624  *ASTM D76145	>20 >118 >20 >0.1 limit/base >20 >30	0 1315 1472 1136 1399 4377 current 3 1 2 NEG current 0.3 5.8 19.0	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG history1 1.7 9.9 22.9	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG history2 1.4 9.3 22.7
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304  *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415  method	>20 >118 >20 >0.1 limit/base >20 >30 limit/base	0 1315 1472 1136 1399 4377 current 3 1 2 NEG current 0.3 5.8 19.0 current	46 <1 1097 1641 1082 1338 3906 history1 3 4 5 NEG history1 1.7 9.9 22.9 history1	49 <1 1111 1576 1062 1305 3299 history2 4 4 NEG history2 1.4 9.3 22.7 history2

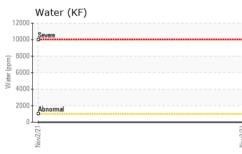


## **OIL ANALYSIS REPORT**



	12000 -	Water (KF)	
	10000	Severe	
(E	8000	ļi.	
Water (ppm)	6000		
Wa	4000		
	2000	Abnormal	
	0		
		Nov2/21	

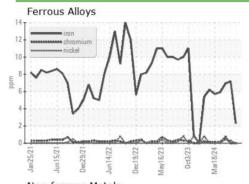


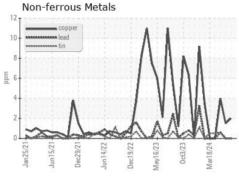


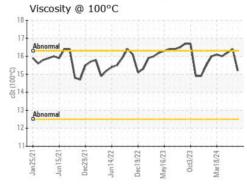
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

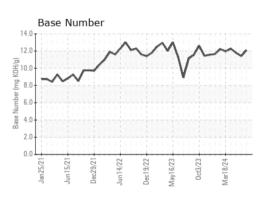
FLUID PROPERTIES		method			history2
Visc @ 100°C	cSt	ASTM D445	15.2	16.4	16.2

### **GRAPHS**













Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0805256 Lab Number : 06236254 Unique Number : 11125088

Received **Tested** Diagnosed

: 15 Jul 2024 : 16 Jul 2024

: 16 Jul 2024 - Sean Felton

MARATHON PETROLEUM CO. 101 12TH ST CATLETTSBURG, KY US 41169 Contact: CORY GUMBERT

cagumbert@marathonpetroleum.com T: (606)585-3950

Test Package : IND 2 ( Additional Tests: KF ) Certificate 12367 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)

F: x: