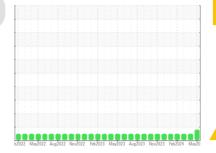


OIL ANALYSIS REPORT

Area
OKLAHOMA 6794

Diesel Engine

MYSTIK JT-8 SYN SUPER HD 15W40 (--- GAL)



Sample Rating Trend



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the

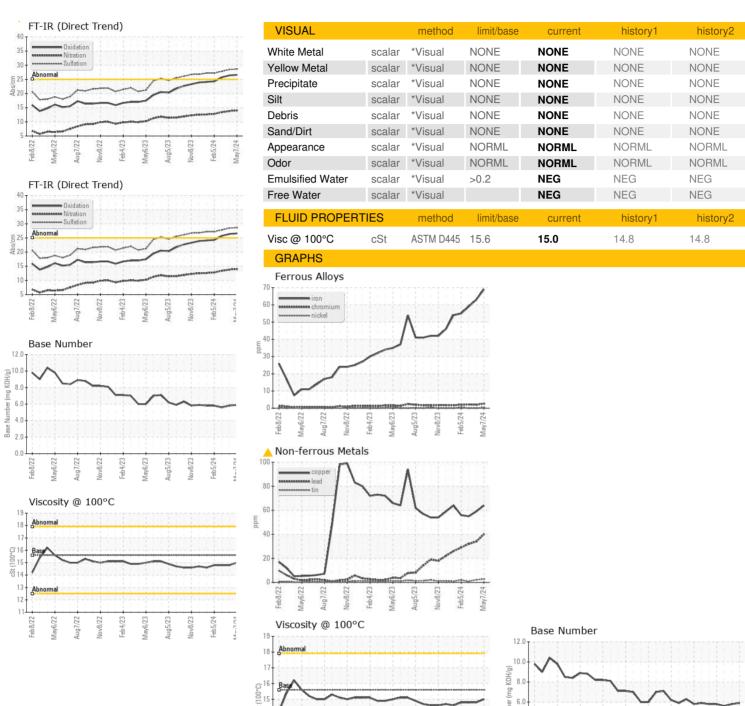
Fluid Condition

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

Client Info							
Sample Date Client Info 07 May 2024 09 Apr 2024 06 Mar 2024 Machine Age hrs Client Info 5832 5835 5532	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 3692 5695 3558 3395	Sample Number		Client Info		WC0929924	WC0899609	WC0899617
Oil Age	Sample Date		Client Info		07 May 2024	09 Apr 2024	06 Mar 2024
Colient Info	Machine Age	hrs	Client Info		5832	5695	5532
ABNORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2	Oil Age	hrs	Client Info		3695	3558	3395
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Fuel	Sample Status				ABNORMAL	NORMAL	NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 69 63 59 Chromium ppm ASTM D5185m >20 3 2 2 Nickel ppm ASTM D5185m >4 <1 0 0 Silver ppm ASTM D5185m >4 <1 0 0 Silver ppm ASTM D5185m >4 <1 0 0 Silver ppm ASTM D5185m >20 9 8 8 Lead ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m <1 0 <td< th=""><th>CONTAMINATION</th><th>J</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	CONTAMINATION	J	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 69 63 59 Chromium ppm ASTM D5185m >20 3 2 2 Nickel ppm ASTM D5185m >4 <1 0 0 Siliver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >330 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1 0 0 Vanadium ppm ASTM D5185m <1 2 2 1 2 2 2 Barium ppm ASTM D5185m	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 69 63 59 Chromium ppm ASTM D5185m >20 3 2 2 Nickel ppm ASTM D5185m >4 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Description Description	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 3 2 2 Nickel ppm ASTM D5185m >4 <1 0 0 Titanium ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >20 9 8 8 Lead ppm ASTM D5185m >30 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 1 2 2 2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0<	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	69	63	59
Titanium ppm ASTM D5185m <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >3 <1 0 0 ALead ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >330 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 2 2 2 Barium ppm ASTM D5185m 22 20 19 4 4 4 4 4 4 4 4 4 4 4 4 <t< td=""><td>Chromium</td><td>ppm</td><td>ASTM D5185m</td><td>>20</td><th>3</th><td>2</td><td>2</td></t<>	Chromium	ppm	ASTM D5185m	>20	3	2	2
Titanium ppm ASTM D5185m <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >20 9 8 8 Lead ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >30 64 59 55 55 Tin ppm ASTM D5185m >15 3 2 <1 0 0 Vanadium ppm ASTM D5185m >15 3 2 <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Beron ASTM D5185m 1 2 2 2 2 2 0 0 0 0 0 0 0 0 0 0 0	Nickel				<1	0	
Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >20 9 8 8 Lead ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >330 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 2 2 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 22 20 19 Manganesium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m </td <td>Titanium</td> <td></td> <td>ASTM D5185m</td> <td></td> <th><1</th> <td>0</td> <td>0</td>	Titanium		ASTM D5185m		<1	0	0
Aluminum			ASTM D5185m	>3	<1	0	
Lead ppm ASTM D5185m >40 40 34 32 Copper ppm ASTM D5185m >330 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 2 2 2 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 22 20 19 Manganese ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method lim	Aluminum		ASTM D5185m	>20	9	8	8
Copper ppm ASTM D5185m >330 64 59 55 Tin ppm ASTM D5185m >15 3 2 <1	Lead		ASTM D5185m	>40	4 0	34	32
Tin	Copper		ASTM D5185m	>330	64	59	55
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 2 2 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 22 20 19 Manganese ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185m 20 23 <t< td=""><td></td><td></td><td></td><td></td><th>3</th><td></td><td></td></t<>					3		
ADDITIVES	Vanadium		ASTM D5185m			0	0
Boron	Cadmium				<1		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 22 20 19 Manganese ppm ASTM D5185m 1 1 <1 Magnesium ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m >20 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>1</th> <td>2</td> <td>2</td>	Boron	ppm	ASTM D5185m		1	2	2
Manganese ppm ASTM D5185m 1 1 <1 Magnesium ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m >20 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot %	Barium	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 1 1 <1 Magnesium ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m >23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/:1mm <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>22</th> <td>20</td> <td>19</td>	Molybdenum	ppm	ASTM D5185m		22	20	19
Magnesium ppm ASTM D5185m 808 883 867 Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/:mm *ASTM D7624 >20 14.0 13.8 13.4 Sulfati	•	• •	ASTM D5185m		1	1	<1
Calcium ppm ASTM D5185m 1236 1322 1302 Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/:mm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/:1mm *ASTM D7415 >30 28.6 28.5 27.8 <td>Magnesium</td> <td></td> <td>ASTM D5185m</td> <td></td> <th>808</th> <td>883</td> <td>867</td>	Magnesium		ASTM D5185m		808	883	867
Phosphorus ppm ASTM D5185m 997 1141 1037 Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 h	-		ASTM D5185m		1236	1322	1302
Zinc ppm ASTM D5185m 1272 1420 1316 Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6	Phosphorus		ASTM D5185m		997	1141	1037
Sulfur ppm ASTM D5185m 2735 3009 2917 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Zinc					1420	
Silicon ppm ASTM D5185m >25 13 12 12 Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Sulfur					3009	2917
Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 23 22 19 Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Silicon	ppm	ASTM D5185m	>25	13	12	12
Potassium ppm ASTM D5185m >20 23 18 17 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Sodium	• •					
Soot % % *ASTM D7844 >3 1.6 1.6 1.6 Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Potassium	ppm	ASTM D5185m	>20	23	18	17
Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 14.0 13.8 13.4 Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	Soot %	%	*ASTM D7844	>3	1.6	1.6	1.6
Sulfation Abs/.1mm *ASTM D7415 >30 28.6 28.5 27.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7							
Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7							
Oxidation Abs/.1mm *ASTM D7414 >25 26.6 26.4 25.7	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	26.6	26.4	
	Base Number (BN)	mg KOH/g	ASTM D2896		5.9	5.8	5.6



OIL ANALYSIS REPORT







Certificate 12367

Laboratory

Sample No. : WC0929924 Lab Number : 06178213 Unique Number : 11029539

₹ 1.

12

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 May 2024 **Tested** : 15 May 2024 : 15 May 2024 - Sean Felton

Diagnosed Test Package : FLEET

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)

LIBERTY DISPOSAL

6401 S EASTERN AVE OKLAHOMA CITY, OK US 73149

Contact: M Rutherford M.Rutherford@ldi89.com

T: F:

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