

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

MARION 8200 DL3127 - 1 (S/N 23266)

Front Hoist

{not provided} (100 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

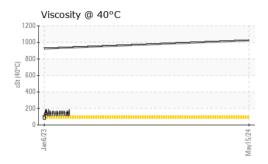
Fluid Condition

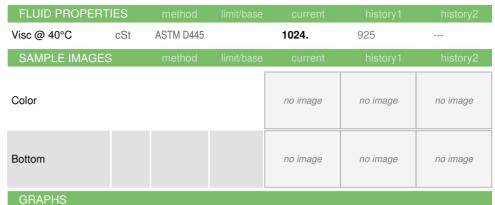
The condition of the oil is acceptable for the time in service.

Sample Number Client Info BRM001874 BRM001739 Client Info Is May 2024 06 Jan 2023 Client Info O O O Collent Info O O O Client Info N/A N/A N/A Client Info N/A N/A Client Info N/A N/A Client Info N/A N/A			L	Jan 2023	May2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 15 May 2024 08 Jan 2023	Sample Number		Client Info		BRM001874	BRM001739	
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	•						
Oil Age hrs Client Info 0 <		hrs			•		
Contained Client Info N/A N/	•						
NORMAL NORMAL CONTAMINATION method limit/base current history1 history2	•	0			-		
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG	-						
Water WC Method >0.05 NEG NEG	·	V	method	limit/base	current	history1	historv2
Chromium	Water					•	
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Chromium		nnm	ASTM D5185m	>20	49		
Nickel	-				-		
Description							
Silver				>			
ASTM D5185m >20 3							
Lead				√20	-		
Copper ppm ASTM D5185m >20 7 5 Tin ppm ASTM D5185m >20 1 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 89 71 Manganese ppm ASTM D5185m 1 <1					_		
Tin							
Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 0 Barium ppm ASTM D5185m 0 0 Manghanese ppm ASTM D5185m 89 71 Magnesium ppm ASTM D5185m 1 <1 Calcium ppm ASTM D5185m 8 3 Phosphorus ppm ASTM D5185m 580 479 Zinc ppm ASTM D5185m 8 6 Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history2 Silicon ppm ASTM D5185m 2 0 <t< td=""><td></td><td></td><td></td><td></td><th></th><td></td><td></td></t<>							
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 89 71 Manganese ppm ASTM D5185m 1 <1				>20			
ADDITIVES							
Boron		ppm					
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 89 71 Manganese ppm ASTM D5185m 1 <1	Boron				<u>-</u>		
Manganese ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 1 <1		ppm			•		
Magnesium ppm ASTM D5185m 1 <1 Calcium ppm ASTM D5185m 8 3 Phosphorus ppm ASTM D5185m 580 479 Zinc ppm ASTM D5185m 8 6 Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 18 9 Sodium ppm ASTM D5185m >20 7 <1	-						
Calcium ppm ASTM D5185m 8 3 Phosphorus ppm ASTM D5185m 580 479 Zinc ppm ASTM D5185m 8 6 Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 0 Sodium ppm ASTM D5185m 2 0 Sodium ppm ASTM D5185m >20 7 <1	Manganese	ppm	ASTM D5185m		-	<1	
Phosphorus ppm ASTM D5185m 580 479 Zinc ppm ASTM D5185m 8 6 Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 0 Sodium ppm ASTM D5185m 2 0 Potassium ppm ASTM D5185m 20 7 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE </td <td>Magnesium</td> <td>ppm</td> <td></td> <td></td> <th>-</th> <td></td> <td></td>	Magnesium	ppm			-		
Zinc ppm ASTM D5185m 8 6 Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 18 9 Sodium ppm ASTM D5185m 2 0 Potassium ppm ASTM D5185m 20 7 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER 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	Calcium	ppm	ASTM D5185m		8	3	
Sulfur ppm ASTM D5185m 7938 5878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 18 9 Sodium ppm ASTM D5185m 2 0 Potassium ppm ASTM D5185m 20 7 <1	Phosphorus	ppm	ASTM D5185m		580	479	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 18 9 Sodium ppm ASTM D5185m 2 0 Potassium ppm ASTM D5185m >20 7 <1	Zinc	ppm	ASTM D5185m		8	6	
Silicon	Sulfur	ppm	ASTM D5185m		7938	5878	
Sodium ppm ASTM D5185m 2 0 Potassium ppm ASTM D5185m >20 7 <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 7 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE MODER 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 NORM NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual >0.05 NEG NEG	Silicon	ppm	ASTM D5185m	>15	18	9	
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER 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 Appearance scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.05 NEG NEG	Sodium	ppm	ASTM D5185m		2	0	
White Metal scalar *Visual NONE NONE MODER 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 NORML NORML Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.05 NEG NEG	Potassium	ppm	ASTM D5185m	>20	7	<1	
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 >0.05 NEG NEG	VISUAL		method	limit/base	current	history1	history2
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 >0.05 NEG NEG	White Metal	scalar	*Visual	NONE	NONE	MODER	
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 NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.05 NEG NEG	Yellow Metal	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 >0.05 NEG NEG	Precipitate	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 >0.05 NEG NEG	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.05NEGNEG	Debris	scalar	*Visual	NONE	NONE	NONE	
Appearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.05NEGNEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.05 NEG NEG	Appearance	scalar	*Visual	NORML		NORML	
Emulsified Water scalar *Visual >0.05 NEG NEG	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water						
	Free Water		*Visual				

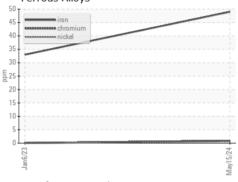


OIL ANALYSIS REPORT

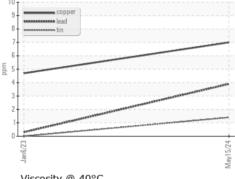


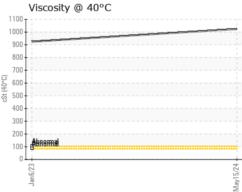


Ferrous Alloys



Non-ferrous Metals









Certificate 12367

Laboratory

Sample No. : BRM001874 Lab Number : 06207010 Unique Number : 11074471

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received Tested Diagnosed

: 11 Jun 2024 : 17 Jun 2024

: 18 Jun 2024 - Angela Borella

PO BOX 99 COLSTRIP, MT US 59323 Contact: RUSS ANZALONE

WESTMORELAND ROSEBUD MINING

Test Package : IND 1 To discuss this sample report, contact Customer Service at 1-800-237-1369. CANZALONE@WESTMORELAND.COM

* - 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)

Contact/Location: RUSS ANZALONE - WESCOLMT

Report Id: WESCOLMT [WUSCAR] 06207010 (Generated: 06/22/2024 10:06:25) Rev: 1

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