

OIL ANALYSIS REPORT

Sample Rating Trend

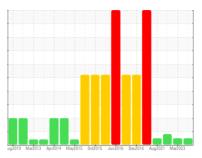
NORMAL



KEMP QUARRIES / RIVER VALLEY OZARK Machine Id WL053

Component
Front Right Final Drive

MOBIL MOBILTRANS HD 50 (--- GAL)





DIAGNOSIS

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 condition of the oil is suitable for further service.

	HD 50 (GAL)		лg2010 Mar20	13 Apr2014 May2015 Oct	2015 Jun2016 Dec2016 Aug2021	Mar2023	
Sample Date Client Info 12 Oct 2023 03 Mar 2023 18 Mar 2022 Machine Age hrs Client Info 38230 37915 37414 2014 37414 284 36919 36919 37414 284 36919 36919 37414 284 36919 36919 36919 37414 284 36919	SAMPLE INFORM	MOITAN	method	limit/base	current	history1	history2
Machine Age hrs Client Info 38230 37915 37414 Oil Age hrs Client Info 37414 284 36919 Oil Changed Client Info N/A N/A Changed Sample Status NORMAL NORMAL ABNORMAL WEAR METALS method Imitibase current history1 history2 Iron ppm ASTM D5185m >800 142 156 532 Chromium ppm ASTM D5185m >10 <1	Sample Number		Client Info		PCA0069744	PCA0084587	PCA0048235
Oil Age hrs Client Info 37414 284 36919 Oil Changed Client Info N/A N/A N/A Changed Sample Status NORMAL NORMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >800 142 156 532 Chromium ppm ASTM D5185m >10 -1 -1 -1 Nickel ppm ASTM D5185m >5 -1 0 0 Silver ppm ASTM D5185m >5 -1 0 -1 Aluminum ppm ASTM D5185m >2 0 0 -1 Lead ppm ASTM D5185m >75 2 2 2 2 Lead ppm ASTM D5185m >50 Vanadium ppm ASTM D5185m >50	Sample Date		Client Info		12 Oct 2023	03 Mar 2023	18 Mar 2022
Oil Changed Sample Status Client Info N/A N/A Changed NORMAL NORMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >800 142 156 ▲ 532 Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >5 <1 0 0 Titanium ppm ASTM D5185m >5 <1 0 <1 Aluminum ppm ASTM D5185m >2 0 0 <1 Aluminum ppm ASTM D5185m >75 2 2 2 Lead ppm ASTM D5185m >75 50 25 33 Tin ppm ASTM D5185m >8 2 <1 2 Copper ppm ASTM D5185m >60 0 0 0 Vandium ppm ASTM D5185m <td< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>38230</th><th>37915</th><th>37414</th></td<>	Machine Age	hrs	Client Info		38230	37915	37414
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >800 142 156 ▲ 532 Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >5 <1 0 0 Silver ppm ASTM D5185m >15 <1 0 <1 Silver ppm ASTM D5185m >15 <1 0 <1 Silver ppm ASTM D5185m >15 <1 0 <1 Aluminum ppm ASTM D5185m >75 2 2 2 Lead ppm ASTM D5185m >10 4 1 2 Copper ppm ASTM D5185m >10 4 1 2 Copper ppm ASTM D5185m 8 2 <1 2 Antimony ppm ASTM D5185m 0 0 0 <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>37414</th> <th>284</th> <th>36919</th>	Oil Age	hrs	Client Info		37414	284	36919
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185m >800 142 156 ▲ 532 Chromium ppm ASTM DS185m >5 <1 0 0 Nickel ppm ASTM DS185m >5 <1 0 0 Titanium ppm ASTM DS185m >5 <1 0 <1 Silver ppm ASTM DS185m >2 0 0 <1 Aluminum ppm ASTM DS185m >10 4 1 2 Lead ppm ASTM DS185m >10 4 1 2 Copper ppm ASTM DS185m >10 4 1 2 Lead ppm ASTM DS185m >8 2 <1 2 Copper ppm ASTM DS185m >50	Oil Changed		Client Info		N/A	N/A	Changed
Iron	Sample Status				NORMAL	NORMAL	ABNORMAL
Chromium ppm ASTM D5185m >10 <1	WEAR METAL:	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>800	142	156	▲ 532
Titanium	Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Silver ppm ASTM D5185m >2 0 0 <1 Aluminum ppm ASTM D5185m >75 2 2 2 Lead ppm ASTM D5185m >10 4 1 2 Copper ppm ASTM D5185m >75 50 25 33 Tin ppm ASTM D5185m >8 2 <1 2 Antimony ppm ASTM D5185m 50 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 ADDITIVES method limit/base current history1 history2 ADDITIVES method limit/base current history1 history2 ADDITIVES method limit/base current history1	Nickel	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>15	<1	0	<1
Lead ppm ASTM D5185m >10 4 1 2 Copper ppm ASTM D5185m >75 50 25 33 Tin ppm ASTM D5185m >8 2 <1 2 Antimony ppm ASTM D5185m >50 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m current history1 history2 Boron ppm ASTM D5185m 38 35 137 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Mangaese ppm ASTM D5185m 2 2 2 5 Magnesium ppm ASTM D5185m 17 15 5 Calcium ppm ASTM D5185m 798 872 1120 Zinc ppm <th>Silver</th> <td>ppm</td> <td>ASTM D5185m</td> <td>>2</td> <th>0</th> <td>0</td> <td><1</td>	Silver	ppm	ASTM D5185m	>2	0	0	<1
Copper ppm ASTM D5185m >75 50 25 33 Tin ppm ASTM D5185m >8 2 <1	Aluminum	ppm	ASTM D5185m	>75	2	2	2
Tin ppm ASTM D5185m >8 2 <1 2 Antimony ppm ASTM D5185m >50 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 <1 0 <1 ADDITIVES method limil/base current history1 history2 Boron ppm ASTM D5185m 38 35 137 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 2 2 2 5 Manganesium ppm ASTM D5185m 17 15 5 5 Calcium ppm ASTM D5185m 2174 2491 136 6 Phosphorus ppm ASTM D5185m 360 864 70 120	Lead	ppm	ASTM D5185m	>10	4	1	2
Antimony ppm ASTM D5185m >50 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>75	50	25	33
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 38 35 137 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>8	2	<1	2
Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 38 35 137 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Antimony	ppm	ASTM D5185m	>50			
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 38 35 137 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		<1	0	<1
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 2 2 5 Magnesium ppm ASTM D5185m 17 15 5 Calcium ppm ASTM D5185m 2174 2491 136 Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m >20 <1 0 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 2 2 5 Magnesium ppm ASTM D5185m 17 15 5 Calcium ppm ASTM D5185m 2174 2491 136 Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m >20 <1 0 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Vellow Metal sc	Boron	ppm	ASTM D5185m		38	35	137
Manganese ppm ASTM D5185m 2 2 5 Magnesium ppm ASTM D5185m 17 15 5 Calcium ppm ASTM D5185m 2174 2491 136 Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 17 15 5 Calcium ppm ASTM D5185m 2174 2491 136 Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 VISUAL ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m		0	<1	<1
Calcium ppm ASTM D5185m 2174 2491 136 Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 1 6 Sodium ppm ASTM D5185m 20 <1	Manganese	ppm	ASTM D5185m		2	2	5
Phosphorus ppm ASTM D5185m 798 872 1120 Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m >20 1 6 0 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m		17	15	5
Zinc ppm ASTM D5185m 860 864 70 Sulfur ppm ASTM D5185m 8264 9889 20296 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m 2 1 6 Potassium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m		2174	2491	136
SulfurppmASTM D5185m8264988920296CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>40012108SodiumppmASTM D5185m216PotassiumppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m		798	872	1120
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m 2 1 6 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m		860	864	70
Silicon ppm ASTM D5185m >400 12 10 8 Sodium ppm ASTM D5185m 2 1 6 Potassium ppm ASTM D5185m >20 <1	Sulfur	ppm	ASTM D5185m		8264	9889	20296
Sodium ppm ASTM D5185m 2 1 6 Potassium ppm ASTM D5185m >20 <1 0 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE MODER MODER NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE MODER MODER NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE VLITE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Silicon	ppm	ASTM D5185m	>400	12	10	8
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE MODER MODER 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 NORML	Sodium	ppm	ASTM D5185m		2	1	6
White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE MODER MODER 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	Potassium	ppm	ASTM D5185m	>20	<1	0	0
Yellow Metalscalar*VisualNONEMODERMODERNONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONEVLITESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE VLITE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE VLITE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Yellow Metal	scalar	*Visual	NONE	MODER	MODER	NONE
Debrisscalar*VisualNONENONENONEVLITESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	VLITE
Odor scalar *Visual NORML NORML NORML NORML	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	>0.2	NEG	NEG	NEG

NEG

NEG

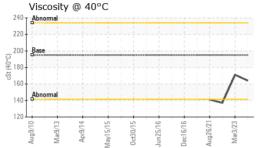
Free Water

scalar *Visual

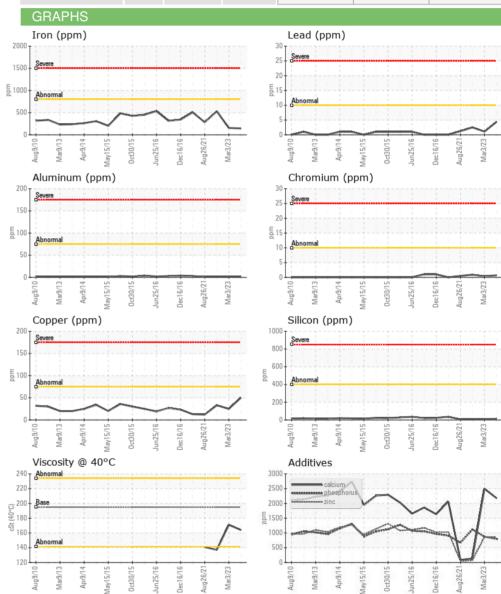
NEG



OIL ANALYSIS REPORT







: 20 Oct 2023

: 24 Oct 2023





Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : MOB 1

: 05985893 : 10708555

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0069744 Received Diagnosed

Diagnostician : Don Baldridge

Kemp Quarries - River Valley - Ozark

9446 N Hwy 309 Ozark, AR US 72949

Contact: ozark@rivervalleyquarries.com

T:

F:

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)

Report Id: KEMOZA [WUSCAR] 05985893 (Generated: 10/24/2023 16:26:59) Rev: 1

Submitted By: