

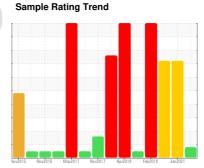
OIL ANALYSIS REPORT

Area KEMP QUARRIES / PRYOR STONE

WL091

Rear Right Final Drive

MOBIL MOBILTRANS HD 50 (--- GAL)





DIAGNOSIS

Recommendation

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

A Wear

The iron level has decreased, but is still abnormal. Gear wear is indicated.

Contamination

There is no indication of any contamination in the oil

Fluid Condition

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

Sample Date Client Info 13 Jan 2023 23 Jan 2021 04 Mar 2020 Machine Age hrs Client Info 24686 23316 22863 Oil Age hrs Client Info 0 0 432 Oil Changed Client Info Not Changd Not Changd N/A Sample Status ABNORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >500 1285 2554 2072 Chromium ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m <1 <1 <1 <1 Silver ppm ASTM D5185m >25 8 9 3 Lead ppm ASTM D5185m >25 1 2 <1 Copper ppm ASTM D5185m >10 2 <1 Tin ppm ASTM D5185			Nov2015 No	ov2016 May2017 Nov	v2017 Apr2018 Feb2019	Jan2021	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 24686 23316 22863 Oil Age hrs Client Info 0 0 4322 Oil Changed Client Info Not Changd Not Changd N/A Sample Status Bashormal SEVERE SEVERE WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >500 1285 2554 2072 Chromium ppm ASTM D5185m >500 1285 2554 2072 Chromium ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m >10 2 4 3 Silver ppm ASTM D5185m >25 8 9 3 3 Lead ppm ASTM D5185m >22 8 5 1 2 <1	Sample Number		Client Info		PCA0086187	PCA0034853	PCA0010884
Oil Age hrs Client Info Not Changd Not Changd N/A Sample Status Method Ilmit/base Current history1 history2 Iron ppm ASTM D5185m >500 1285 2554 2072 Chromium ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 25 8 9 3 ALead ppm ASTM D5185m >25 1 2 1 Copper ppm ASTM D5185m >25 2 8 5 Tin ppm ASTM D5185m >10 2 2 1 Copper ppm ASTM D5185m >10 2 2 1 Aphoticus ppm ASTM D5185m -1 1 1	Sample Date		Client Info		13 Jan 2023	23 Jan 2021	04 Mar 2020
Client Info	Machine Age	hrs	Client Info		24686	23316	22863
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >500 ▲ 1285 2554 ● 2072 Chromium ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m <1	Oil Age	hrs	Client Info		0	0	432
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5000 1285 ● 2554 ● 2072 Chromium ppm ASTM D5185m -10 2 4 3 Nickel ppm ASTM D5185m -11 <1	Oil Changed		Client Info		Not Changd	Not Changd	N/A
Pron	Sample Status				ABNORMAL	SEVERE	SEVERE
Chromium ppm ASTM D5185m >10 2 4 3 Nickel ppm ASTM D5185m <1 <1 <1 <1 Tittanium ppm ASTM D5185m <4 4 4 2 Siliver ppm ASTM D5185m >25 8 9 3 Aluminum ppm ASTM D5185m >25 1 2 <1 Copper ppm ASTM D5185m >50 22 8 5 Tin ppm ASTM D5185m >10 2 2 <1 Antimony ppm ASTM D5185m -1 2 2 <1 Vanadium ppm ASTM D5185m -1 <1 <1 0 Cadmium ppm ASTM D5185m -1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>500	1285	2554	2072
Titanium ppm ASTM D5185m	Chromium	ppm	ASTM D5185m	>10	2	4	3
Silver	Nickel	ppm	ASTM D5185m		<1	<1	<1
Aluminum ppm ASTM D5185m >25 8 9 3 Lead ppm ASTM D5185m >25 1 2 <1	Titanium	ppm	ASTM D5185m		4	4	2
Lead ppm ASTM D5185m >25 1 2 Copper ppm ASTM D5185m >50 22 8 5 Tin ppm ASTM D5185m >10 2 2 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 22 8 5 Tin ppm ASTM D5185m >10 2 2 <1	Aluminum	ppm	ASTM D5185m	>25	8	9	3
Tin ppm ASTM D5185m >10 2 2 0 0 0 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m -1 0 1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 3179 542 453 Sulfur ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 4 4 5 Potassium ppm ASTM D5185m 20 1 0 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Sand/Dirt Scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt *Visual NONE NORML	Lead	ppm	ASTM D5185m	>25	1	2	<1
Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>50	22	8	5
Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 17 117 115 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 <	Tin	ppm	ASTM D5185m	>10	2	2	<1
Cadmium ppm ASTM D5185m <1 <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 17 117 115 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m <t< td=""><td>Antimony</td><td>ppm</td><td>ASTM D5185m</td><td></td><th></th><td>0</td><td>0</td></t<>	Antimony	ppm	ASTM D5185m			0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 17 117 115 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <	Vanadium	ppm	ASTM D5185m		<1	<1	0
Boron	Cadmium	ppm	ASTM D5185m		<1	<1	<1
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 2 4 0 Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1 0 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER MODER Yellow Metal scalar </td <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>17</th> <td>117</td> <td>115</td>	Boron	ppm	ASTM D5185m		17	117	115
Manganese ppm ASTM D5185m 10 18 14 Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 30 57 30 Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m		2	4	0
Calcium ppm ASTM D5185m 3179 542 453 Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		10	18	14
Phosphorus ppm ASTM D5185m 914 1028 912 Zinc ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m		30	57	30
Zinc ppm ASTM D5185m 1178 265 229 Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m 20 <1	Calcium	ppm	ASTM D5185m		3179	542	453
Sulfur ppm ASTM D5185m 7248 23944 16975 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m		914	1028	912
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m 4 4 5 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m		1178	265	229
Silicon ppm ASTM D5185m >75 69 72 42 Sodium ppm ASTM D5185m 4 4 5 Potassium ppm ASTM D5185m >20 <1 0 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER MODER 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 NORML NORML NORML NORML Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual	Sulfur	ppm	ASTM D5185m		7248	23944	16975
Sodium ppm ASTM D5185m 4 4 5 Potassium ppm ASTM D5185m >20 <1 0 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER MODER 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 NORML NORML NORML NORML NORML Appearance scalar *Visual NORML NORML NORML NORML NORML Codor scalar *Visual >0.2 NEG NEG NEG	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 <1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Silicon	ppm	ASTM D5185m	>75	69	72	42
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER MODER 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 NORML NORML NORML NORML Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual >0.2 NEG NEG NEG	Sodium	ppm	ASTM D5185m		4	4	5
White Metal scalar *Visual NONE NONE MODER MODER 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 >0.2 NEG NEG NEG	Potassium	ppm	ASTM D5185m	>20	<1	0	<1
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	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 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 >0.2 NEG NEG NEG							
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 >0.2 NEG NEG NEG		scalar					
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

Test Package : MOB 1

: PCA0086187 : 05777841 : 10357511

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

: 27 Feb 2023 : 28 Feb 2023 Diagnostician : Don Baldridge Kemp Quarries - Pryor Stone - Pryor 1050 E 520 Rd Pryor, OK

US 74361 Contact:

pryor@pryorstone.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)