

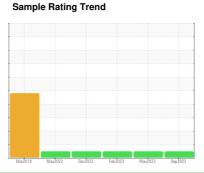
# **OIL ANALYSIS REPORT**

# KEMP QUARRIES / RIVER VALLEY OZARK **OHT082**

Component

**Transmission (Manual)** 

**MOBIL MOBILTRANS HD 30 (--- GAL)** 





### DIAGNOSIS

#### 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.

### **Fluid Condition**

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

Sample Date   Client Info   05 Sep 2023   23 May 2023   15 Feb 2023   Machine Age   hrs   Client Info   2841   2462   1881   2462   1881   2462   2182   22   24   2462   2482			Mar2019	MayZUZZ Dec2022	Feb2023 May2023	Sep2023	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         2841         2462         1881           Oil Age         hrs         Client Info         1237         1237         2172         2172           Oil Changed         Client Info         N/A         N/A         N/A         N/A         N/A           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           WEAR METALS         method         Imit blase         current         history1         history2           Iron         ppm         ASTM D5185m         >200         8         22         8           Chromium         ppm         ASTM D5185m         >5         0         0         0         0           Nickel         ppm         ASTM D5185m         >5         0         0         0         1         -1	Sample Number		Client Info		PCA0069816	PCA0084646	PCA0084680
Oil Age         hrs         Client Info         1237         1237         2172           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           WEAR METALS         method         limit/base         current         history1         history2           Iron         pp         ASTM D5185m         >200         8         22         8           Chromium         ppm         ASTM D5185m         >200         4         0         0           Nickel         ppm         ASTM D5185m         >5         0         0         0         1         4           Silver         ppm         ASTM D5185m         >5         0         0         0         0           Aluminum         ppm         ASTM D5185m         >7         0         0         0         0           Copper         ppm         ASTM D5185m         >225         3         2         2         2           Lead         ppm         ASTM D5185m         >225         7         4         3         3           Tin         ppm         A	Sample Date		Client Info		05 Sep 2023	23 May 2023	15 Feb 2023
Oil Changed   Client Info   N/A   N/A   N/A   N/A   NORMAL   NOR	Machine Age	hrs	Client Info		2841	2462	1881
NORMAL   NORMAL   NORMAL   NORMAL   WEAR METALS   method   limit/base   current   history1   history2   history2   limit   history3   limit   history2   limit   history3   limit   history4   limit   hi	Oil Age	hrs	Client Info		1237	1237	2172
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         8         22         8           Chromium         ppm         ASTM D5185m         >5         0         <1	Oil Changed		Client Info		N/A	N/A	N/A
Chromium	Sample Status				NORMAL	NORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >5         0         <1	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	8	22	8
Titanium	Chromium	ppm	ASTM D5185m	>5	0	<1	0
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	<1
Lead         ppm         ASTM D5185m         >45         <1         0         0           Copper         ppm         ASTM D5185m         >225         7         4         3           Tin         ppm         ASTM D5185m         >10         <1         1         <1         <1           Vanadium         ppm         ASTM D5185m         >10         <1         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           Boron         ppm         ASTM D5185m         5         5         4         4           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         3         2         2         2           Manganese         ppm         ASTM D5185m         25         25         19           Calcium         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         4383         4832         4371           CO	Silver	ppm	ASTM D5185m	>7	0	0	0
Copper         ppm         ASTM D5185m         >225         7         4         3           Tin         ppm         ASTM D5185m         >10         <1	Aluminum	ppm	ASTM D5185m	>25	3	2	2
Tin	Lead	ppm	ASTM D5185m	>45	<1	0	0
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         5         5         4           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         3         2         2           Manganese         ppm         ASTM D5185m         25         25         19           Calcium         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6	Copper	ppm	ASTM D5185m	>225	7	4	3
Cadmium         ppm         ASTM D5185m         <1         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         5         4           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         3         2         2         2           Manganese         ppm         ASTM D5185m         25         25         19         0         1         1         1         1         1         1         2         1         3 <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;10</td> <th>&lt;1</th> <td>1</td> <td>&lt;1</td>	Tin	ppm	ASTM D5185m	>10	<1	1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron   ppm   ASTM D5185m   D	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         3         2         2           Manganese         ppm         ASTM D5185m         <1         <1         <1         <1           Magnesium         ppm         ASTM D5185m         25         25         19           Calcium         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         1112         1199         1034           Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         >20         0         <1         <1           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow M	Boron	ppm	ASTM D5185m		5	5	4
Manganese         ppm         ASTM D5185m         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Barium	ppm	ASTM D5185m		0	0	0
Magnesium         ppm         ASTM D5185m         25         25         19           Calcium         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         1112         1199         1034           Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         >20         0         <1	Molybdenum	ppm	ASTM D5185m		3	2	2
Calcium         ppm         ASTM D5185m         2736         2762         2527           Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         1112         1199         1034           Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         >20         0         <1	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus         ppm         ASTM D5185m         895         957         862           Zinc         ppm         ASTM D5185m         1112         1199         1034           Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1	Magnesium	ppm	ASTM D5185m		25	25	19
Zinc         ppm         ASTM D5185m         1112         1199         1034           Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1	Calcium	ppm	ASTM D5185m		2736	2762	2527
Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1	Phosphorus	ppm	ASTM D5185m		895	957	862
Sulfur         ppm         ASTM D5185m         4383         4832         4371           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1	Zinc	ppm	ASTM D5185m		1112	1199	1034
Silicon         ppm         ASTM D5185m         >125         6         9         6           Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         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 </td <td>Sulfur</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>4383</th> <td>4832</td> <td>4371</td>	Sulfur	ppm	ASTM D5185m		4383	4832	4371
Sodium         ppm         ASTM D5185m         2         1         3           Potassium         ppm         ASTM D5185m         >20         0         <1         <1           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         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           Free Water         scalar         *Visua	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 <1 <1  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE 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 Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Silicon	ppm	ASTM D5185m	>125	6	9	6
White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		2	1	3
White Metal scalar *Visual NONE NONE NONE 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 Emulsified Water scalar *Visual >0.1 NEG NEG NEG NEG	Potassium	ppm	ASTM D5185m	>20	0	<1	<1
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE 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 >0.1 NEG NEG Free Water scalar *Visual NEG NEG NEG	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silt scalar *Visual NONE 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 >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE 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 >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water       scalar       *Visual       >0.1       NEG       NEG       NEG         Free Water       scalar       *Visual       NEG       NEG       NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
FLUID PROPERTIES method limit/base current history1 history2	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2

Visc @ 40°C

cSt

ASTM D445 100

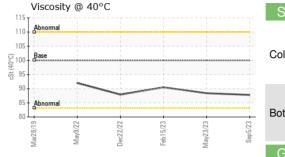
87.8

88.4

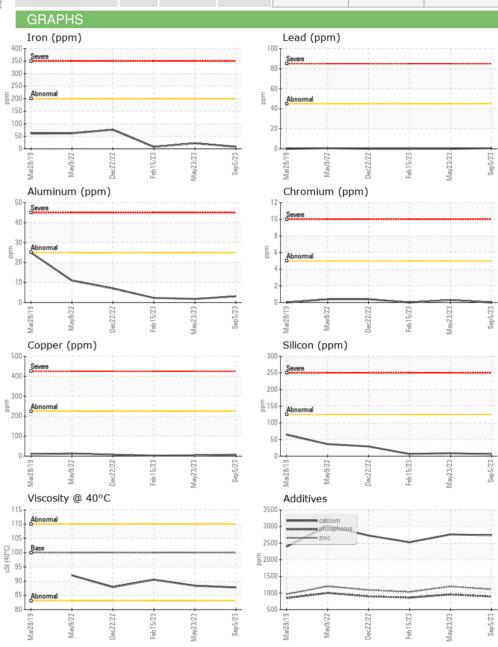
90.5



## **OIL ANALYSIS REPORT**









Certificate L2367

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

: 05950971

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: PCA0069816 : 10646930

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 Sep 2023 Diagnosed Diagnostician : Wes Davis

: 15 Sep 2023

Kemp Quarries - River Valley - Ozark 9446 N Hwy 309

Ozark, AR US 72949

Contact: ozark@rivervalleyquarries.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)

T:

F: