

# **OIL ANALYSIS REPORT**

## Sample Rating Trend

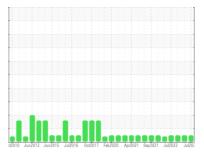
## NORMAL



# KEMP QUARRIES / RIVER VALLEY OZARK Machine Id WL033

Component Rear 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.

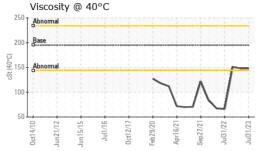
### **Fluid Condition**

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

Sample Number   Client Info   PCA0069693   PCA0084567   PCA0084668   Sample Date   Client Info   31 Jul 2023   23 May 2023   28 Feb 2023   Machine Age   hrs   Client Info   42005   41725   41433   Machine Age   hrs   Client Info   323556   0   41433   MA   N/A	SAMPLE INFORM	MATION		limit/base	17 Feb2020 Apr2021 Sep2021 Ju	history1	history2
Machine Age	Sample Number		Client Info		PCA0069693	PCA0084567	PCA0084668
Oil Age         hrs         Client Info         323556         0         41433           Oil Changed         Client Info         N/A         N/A         N/A         N/A         N/A           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL         NORMAL           WEAR METALS         method         limit/base         current         history2           Iron         ppm         ASTM D5185m         >800         69         104         90           Chromium         ppm         ASTM D5185m         >800         69         104         90           Chromium         ppm         ASTM D5185m         >50         0         0         0           Nickel         ppm         ASTM D5185m         >15         0         <1         <1           Silver         ppm         ASTM D5185m         >15         0         <1         <1           Silver         ppm         ASTM D5185m         >25         2         2         2         2           Lead         ppm         ASTM D5185m         >10         <1         <1         0           Copper         ppm         ASTM D5185m         0         <1         1	Sample Date		Client Info		31 Jul 2023	23 May 2023	28 Feb 2023
Oil Changed Status         Client Info         N/A NORMAL NORMAL         N/A NORMAL NORMAL         N/A NORMAL	Machine Age	hrs	Client Info		42005	41725	41433
Oil Changed Status         Client Info         N/A NORMAL NORMAL         N/A NORMAL NORMAL         N/A NORMAL         N/A NORMAL         N/A NORMAL         N/A NORMAL         N/A NORMAL         N/A NORMAL	Oil Age	hrs	Client Info		323556	0	41433
WEAR METALS	-		Client Info		N/A	N/A	N/A
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >10         <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>WEAR METALS</td> <td>S</td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >5         0         0         0           Titanium         ppm         ASTM D5185m         >15         0         <1	Iron	ppm	ASTM D5185m	>800	69	104	90
Titanium	Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Stilver	Nickel	ppm	ASTM D5185m	>5	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>15	0	<1	<1
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper         ppm         ASTM D5185m         >75         4         2         2           Tin         ppm         ASTM D5185m         >8         0         <1	Aluminum	ppm	ASTM D5185m	>75	2	2	2
Copper         ppm         ASTM D5185m         >75         4         2         2           Tin         ppm         ASTM D5185m         >8         0         <1	Lead	ppm	ASTM D5185m	>10	<1	<1	0
Tin	Copper		ASTM D5185m	>75			2
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         1         1         1         <1           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         2         2         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					0		
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         1         1         <1	Vanadium					0	0
Boron					-		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         2         2         1           Manganese         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         22         25         23           Calcium         ppm         ASTM D5185m         2076         2261         2194           Phosphorus         ppm         ASTM D5185m         894         935         813           Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >400         8         12         9	Boron	ppm	ASTM D5185m		1	1	<1
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         22         25         23           Calcium         ppm         ASTM D5185m         2076         2261         2194           Phosphorus         ppm         ASTM D5185m         894         935         813           Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >20         1         <1	Molybdenum	ppm	ASTM D5185m		2	2	1
Calcium         ppm         ASTM D5185m         2076         2261         2194           Phosphorus         ppm         ASTM D5185m         894         935         813           Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >0         <1		ppm	ASTM D5185m		<1	<1	<1
Phosphorus         ppm         ASTM D5185m         894         935         813           Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >0         <1	Magnesium	ppm	ASTM D5185m		22	25	23
Phosphorus         ppm         ASTM D5185m         894         935         813           Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         0         <1	Calcium	ppm	ASTM D5185m		2076	2261	2194
Zinc         ppm         ASTM D5185m         1070         1167         1018           Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         0         <1	Phosphorus		ASTM D5185m		894	935	813
Sulfur         ppm         ASTM D5185m         4122         5284         4601           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >400         8         12         9           Sodium         ppm         ASTM D5185m         >20         1         <1	•		ASTM D5185m		1070	1167	1018
Silicon ppm ASTM D5185m >400 8 12 9 Sodium ppm ASTM D5185m 0 <1 <1 <1 Potassium ppm ASTM D5185m >20 1 <1 0  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE MODER 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 Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Scalar *Visual NORML	-						
Sodium ppm ASTM D5185m 0 <1 <1 0  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 Silt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 <1 0  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE MODER 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 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 Free Water scalar *Visual NEG NEG NEG  FLUID PROPERTIES method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>400	8	12	9
VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE MODER 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 NORML NO	Sodium	ppm	ASTM D5185m		0	<1	<1
White Metal scalar *Visual NONE NONE MODER 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 NORML NORML NORML NORML Free Water scalar *Visual NORML NEG NEG NEG  FLUID PROPERTIES method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	1	<1	0
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	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 Free Water scalar *Visual NEG NEG NEG  FLUID PROPERTIES method limit/base current history1 history2	White Metal	scalar	*Visual	NONE	NONE	MODER	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 Free Water scalar *Visual NEG NEG NEG  FLUID PROPERTIES method limit/base current history1 history2	Yellow Metal	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 Free Water scalar *Visual NEG NEG NEG  FLUID PROPERTIES method limit/base current history1 history2	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG NEG Tree Water scalar *Visual NEG	Silt	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 Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water       scalar       *Visual       >0.2       NEG       NEG       NEG       NEG         Free Water       scalar       *Visual       NEG       NEG       NEG       NEG         FLUID PROPERTIES       method       limit/base       current       history1       history2	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water       scalar       *Visual       >0.2       NEG       NEG       NEG       NEG         Free Water       scalar       *Visual       NEG       NEG       NEG       NEG         FLUID PROPERTIES       method       limit/base       current       history1       history2	• •	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2							
	Free Water	scalar	*Visual		NEG	NEG	NEG
Visc @ 40°C	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	195	148	148	151



## **OIL ANALYSIS REPORT**



SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image

# **GRAPHS** Iron (ppm) Lead (ppm) 1400 25 1200 20 1000 E 15 800 600 400 Aluminum (ppm) Chromium (ppm) 25 20 E 15 Silicon (ppm) Copper (ppm) 100 150 600 틆 100 50 Viscosity @ 40°C Additives 3000 200 2500 cSt (40°C) 2000 1500 1000 100 500





Certificate L2367

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

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

: PCA0069693 : 05924547 : 10604494

Received Diagnosed Diagnostician

: 14 Aug 2023 : 15 Aug 2023 : Sean Felton

Kemp Quarries - River Valley - Ozark

9446 N Hwy 309 Ozark, AR US 72949

Contact: OZARK NOTIFICATIONS ozark@rivervalleyquarries.com

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)

T:

F: