

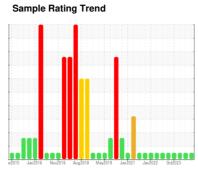
OIL ANALYSIS REPORT



KEMP QUARRIES / RIVER VALLEY BACKBONE **WL088**

Front Differential

MOBIL MOBILTRANS HD 50 (--- 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

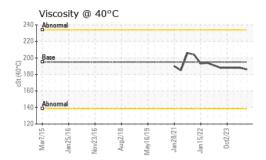
Fluid Condition

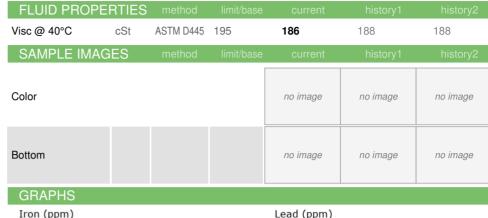
The condition of the oil is acceptable for the time in service.

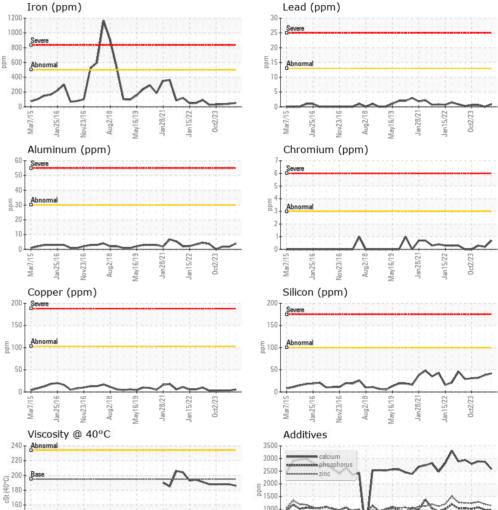
Sample Number Client Info PCA0108603 PCA0069722 PCA006482 Sample Date Client Info 23 May 2024 30 Jan 2024 10 Nov 2023 Machine Age hrs Client Info 900 1200 900 1200 900 1200 900 1200 900 1200 900 Not Changd NORMAL NORMAL	HD 50 (GAL)		ท2015 Jan20	016 Nov2016 Aug2018	May2019 Jan2021 Jan2022	0ct2023	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		PCA0108603	PCA0069722	PCA0084824
Machine Age hrs Client Info 43799 43499 6716 Oil Age hrs Client Info 900 1200 900 Oil Changed Client Info Not Changed	Sample Date		Client Info		23 May 2024	30 Jan 2024	10 Nov 2023
Oil Changed	•	hrs			-	43499	6716
Oil Changed Sample Status Client Info Not Changd NORMAL Not Changed NORMAL	Oil Age	hrs	Client Info		900	1200	900
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method fimit/base current history1 history2 NEG	•		Client Info		Not Changd	Changed	Not Changd
Water WC Method .2 NEG NEG NEG WEAR METALS method limit/base current history? Iron ppm ASTM D5185m >5000 53 41 35 Chromium ppm ASTM D5185m >3 <1 <1 <1 Nickel ppm ASTM D5185m >3 <1 0 <1 Silver ppm ASTM D5185m >2 <1 0 <1 Aluminum ppm ASTM D5185m >2 <1 0 <1 Aluminum ppm ASTM D5185m >30 4 2 2 2 Lead ppm ASTM D5185m >103 5 4 4 4 Copper ppm ASTM D5185m >103 5 4 4 4 Tin ppm ASTM D5185m >5 <1 0 <1 Caddhum ppm ASTM D5185m <1 <th< td=""><td>Sample Status</td><td></td><td></td><td></td><th>NORMAL</th><td>NORMAL</td><td>NORMAL</td></th<>	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
	Water		WC Method	>.2	NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>500	53	41	35
Titanium	Chromium	ppm	ASTM D5185m	>3	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Lead	Silver	ppm	ASTM D5185m	>2	1	0	0
Lead	Aluminum	ppm	ASTM D5185m	>30	4	2	2
Tin	Lead	ppm	ASTM D5185m	>13	<1	0	<1
Trin	Copper	ppm	ASTM D5185m	>103	5	4	4
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron 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			ASTM D5185m	>5	<1	0	0
Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1 <1 <1 <1 Barium ppm ASTM D5185m 0 5 0 Molybdenum ppm ASTM D5185m 1 0 <1 Manganese ppm ASTM D5185m 12 12 12 13 Calcium ppm ASTM D5185m 2583 2868 2888 Phosphorus ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium	Vanadium		ASTM D5185m		<1	0	0
Boron	Cadmium						<1
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 1 0 <1 Manganese ppm ASTM D5185m 1 0 <1	Boron	ppm	ASTM D5185m		<1	<1	<1
Manganese ppm ASTM D5185m 1 0 <1 Magnesium ppm ASTM D5185m 12 12 13 Calcium ppm ASTM D5185m 2583 2868 2888 Phosphorus ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 1141 1196 1292 Sulfur ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 VISUAL method limit/base current history1	Barium	ppm	ASTM D5185m		0	5	0
Magnesium ppm ASTM D5185m 12 12 13 Calcium ppm ASTM D5185m 2583 2868 2888 Phosphorus ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 42 38 32 VISUAL method limit/base current history1 history2 White Metal <th< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>1</th><td>0</td><td><1</td></th<>	Molybdenum	ppm	ASTM D5185m		1	0	<1
Calcium ppm ASTM D5185m 2583 2868 2888 Phosphorus ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 1141 1196 1292 Sulfur ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 4 0 0 Potassium ppm ASTM D5185m >20 2 2 2 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE	Manganese	ppm	ASTM D5185m		1	0	<1
Phosphorus ppm ASTM D5185m 962 976 1072 Zinc ppm ASTM D5185m 1141 1196 1292 Sulfur ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >20 2 2 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE Silt scalar	Magnesium	ppm	ASTM D5185m		12	12	13
Zinc ppm ASTM D5185m 1141 1196 1292 Sulfur ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >10 0 0 Potassium ppm ASTM D5185m >20 2 2 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual 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	Calcium	ppm	ASTM D5185m		2583	2868	2888
Sulfur ppm ASTM D5185m 4798 5392 5226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m >100 0 0 Potassium ppm ASTM D5185m >20 2 2 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE <td< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>962</th><td>976</td><td>1072</td></td<>	Phosphorus	ppm	ASTM D5185m		962	976	1072
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m		1141	1196	1292
Silicon ppm ASTM D5185m >100 42 38 32 Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 2 2 2 2 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 NORML NORML	Sulfur	ppm	ASTM D5185m		4798	5392	5226
Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 2 2 2 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 NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water sc	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 2 2 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 Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG NEG	Silicon	ppm	ASTM D5185m	>100	42	38	
White Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		<1	0	0
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 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 >.2 NEG NEG	Potassium	ppm	ASTM D5185m	>20	2	2	2
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.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 >.2 NEG NEG NEG	White Metal	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 >.2 NEG NEG NEG	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGNEG	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGNEG	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEGNEGNEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG NEG NEG	Appearance	scalar	*Visual	NORML		NORML	NORML
Emulsified Water scalar *Visual >.2 NEG NEG NEG	• •	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water						
	Free Water	scalar	*Visual		NEG	NEG	NEG



OIL ANALYSIS REPORT







500



Sample No. Lab Number : 06193081

140

120

: PCA0108603 Unique Number : 11049833

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 28 May 2024

Tested : 30 May 2024 Diagnosed : 30 May 2024 - Wes Davis

5600 S Hwy 253 Huntington, AR US 72940

Contact:

Kemp Quarries - River Valley - Backbone

backbone@rivervalleyquarries.com

Test Package : MOB 1 Certificate 12367 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: KEMHUN [WUSCAR] 06193081 (Generated: 05/30/2024 08:42:46) Rev: 1

Submitted By:

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