



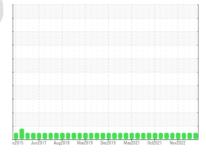


KEMP QUARRIES / RIVER VALLEY BACKBONE **WL100** 

Component

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)



Sample Rating Trend



**NORMAL** 

# 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

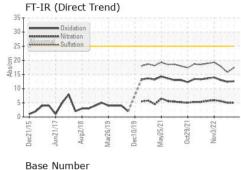
## **Fluid Condition**

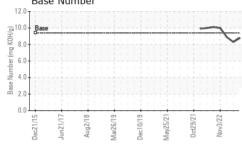
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

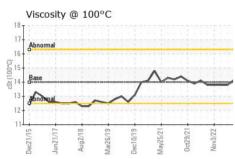
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0034498	PCA0037177	PCA0037128
Sample Date		Client Info		28 Jun 2024	06 Apr 2023	13 Jan 2023
Machine Age	hrs	Client Info		37291	36257	35941
Oil Age	hrs	Client Info		330	316	325
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	5	33
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	0	7
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	6	3	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1	history2
	ppm ppm		0			
Boron		ASTM D5185m	0	<1	3	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	<1 0	3	13 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	<1 0 59	3 0 56	13 0 46
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	<1 0 59	3 0 56 <1	13 0 46 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	<1 0 59 0 1022	3 0 56 <1 884	13 0 46 <1 542
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	<1 0 59 0 1022 1176	3 0 56 <1 884 1070	13 0 46 <1 542 1612
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	<1 0 59 0 1022 1176 1135	3 0 56 <1 884 1070 991	13 0 46 <1 542 1612 774
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	<1 0 59 0 1022 1176 1135	3 0 56 <1 884 1070 991 1182	13 0 46 <1 542 1612 774 940
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	<1 0 59 0 1022 1176 1135 1338 3863	3 0 56 <1 884 1070 991 1182 2816	13 0 46 <1 542 1612 774 940 1926
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	<1 0 59 0 1022 1176 1135 1338 3863 current	3 0 56 <1 884 1070 991 1182 2816 history1	13 0 46 <1 542 1612 774 940 1926 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25	<1 0 59 0 1022 1176 1135 1338 3863 current	3 0 56 <1 884 1070 991 1182 2816 history1	13 0 46 <1 542 1612 774 940 1926 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25	<1 0 59 0 1022 1176 1135 1338 3863 current 2	3 0 56 <1 884 1070 991 1182 2816 history1 3	13 0 46 <1 542 1612 774 940 1926 history2 6 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1 <1	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1 <1	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1 history1 0.2	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13 history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D7415	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1 <1 current 0.4 5.0	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1 history1 0.2 5.0	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13 history2 0.3 5.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D7415	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1 <1 current 0.4 5.0 17.4	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1 history1 0.2 5.0	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13 history2 0.3 5.6 17.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m  Method  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D7415  Method	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30 limit/base	<1 0 59 0 1022 1176 1135 1338 3863 current 2 1 <1 current 0.4 5.0 17.4 current	3 0 56 <1 884 1070 991 1182 2816 history1 3 2 <1 history1 0.2 5.0 15.8	13 0 46 <1 542 1612 774 940 1926 history2 6 <1 13 history2 0.3 5.6 17.9



# **OIL ANALYSIS REPORT**







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
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

L LOID PROPI	EHILO	memoa			riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	14	14.1	13.8	13.8

GF	RAPI	HS														
Iro	n (pp	m)						100		d (pp	m)					
Sev	ere							80	Seve	re						
Abr								Ed 40								
1.1	normal							40	Abn	ormal	++++					
0							_^	20								
Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21	Oct29/21-	Nov3/22		Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21-	Oct29/21	Nov3/22 -
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0	+++	9	61	19	21	21-	- <u>^</u>	0		⇡	18	<u></u>	10 to	712	21	22
Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21	Oct29/21	Nov3/22		Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21	Oct29/21	Nov3/22
Vis	cosity	@ 10							Bas	se Nu	mber					
Abr	normal							12.0 € 10.0	Base							
					^			Base Number (mg KOH/g) 0.0 0.1 0.2	Q							
461	iocmal			J			~	Jag 6.0								
12-							11 11	Base N	+++							
10 12	1/17	81/2	91/8	91/0	5/21	9/21	Nov3/22	0.0		1/17	81/2	61/9	91/0	5/21	9/21	Nov3/22
Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21	Oct29/21	Nov		Dec21/15	Jun21/17	Aug2/18	Mar26/19	Dec10/19	May25/21	Oct29/21	Nov





Certificate 12367

Sample No. : PCA0034498

Lab Number : 06231033 Unique Number : 11114526

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

Received : 08 Jul 2024 **Tested** : 10 Jul 2024 : 10 Jul 2024 - Don Baldridge Diagnosed

Kemp Quarries - River Valley - Backbone 5600 S Hwy 253 Huntington, AR

US 72940 Contact: backbone@rivervalleyquarries.com

Test Package : MOB 1 ( Additional Tests: TBN ) 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] 06231033 (Generated: 07/10/2024 14:43:49) Rev: 1

Submitted By:

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