

# **OIL ANALYSIS R**









# KEMP QUARRIES / KEMP STONI **OHT042**

**Diesel Engine** 

**MOBIL DELVAC 1300 SUPER15** 

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-3 changed fluid and filters )

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

### Fluid Condition

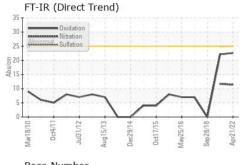
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

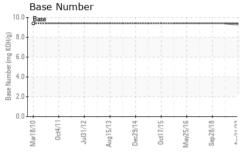
SIS REPORT				
MP STONE - FAIRLAND	### ### ### ### ### ### #### #########	Ju2012 Aug2013	Cer2014 Oct2015 May2016 Sep.	018 Aprilo
SAMPLE INFORMATION	method	limit/base	current	histor
Sample Number	Client Info		PCA0037559	PCA0025
Sample Date	Client Info		21 Apr 2022	24 Jan 20

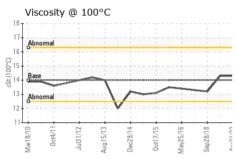
Sample Number		Client Info		PCA0037559	PCA0025433	PCA92317009
Sample Date		Client Info		21 Apr 2022	24 Jan 2022	28 Sep 2018
Machine Age	hrs	Client Info		26463	26022	25066
Oil Age	hrs	Client Info		26463	26022	372
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATI	ON	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	0.0
WEAR METALS	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	69	65	51
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>2	1	<1	1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>40	5	12	0
Copper	ppm	ASTM D5185m	>330	171	<u>▲</u> 647	2
Tin	ppm	ASTM D5185m	>15	3	3	0
Antimony	ppm	ASTM D5185m			<1	
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	
	le le	7.0 1.11. 20 100		U	U	
ADDITIVES	PP	method	limit/base	current	history1	history2
	ppm		limit/base		-	history2 28
ADDITIVES		method		current	history1	
ADDITIVES Boron	ppm	method ASTM D5185m	0	current	history1	28
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 3 0	history1 5 0	28
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 3 0 70	history1 5 0 73	28 0 45
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 3 0 70 <1	history1  5 0 73 <1	28 0 45
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium	ppm ppm ppm ppm	method  ASTM D5185m	0 0 0	current 3 0 70 <1 1078	history1  5 0 73 <1 1021	28 0 45  789
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium	ppm ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	current 3 0 70 <1 1078 1193	history1  5  0  73  <1  1021  1157	28 0 45  789 1203
ADDITIVES  Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0	current 3 0 70 <1 1078 1193 1161	history1  5  0  73  <1  1021  1157  1070	28 0 45  789 1203 779
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0	current  3  0  70  <1  1078  1193  1161  1488	history1  5 0 73 <1 1021 1157 1070 1332	28 0 45  789 1203 779 1057
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur	ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0	current  3 0 70 <1 1078 1193 1161 1488 2530	history1  5  0  73  <1  1021  1157  1070  1332  2529	28 0 45  789 1203 779 1057
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 0	current  3 0 70 <1 1078 1193 1161 1488 2530 current	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1	28 0 45  789 1203 779 1057  history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0 0	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10	28 0 45  789 1203 779 1057  history2
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium  Calcium  Phosphorus  Zinc  Sulfur  CONTAMINAN  Silicon  Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 0 0 limit/base >25	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87	28 0 45  789 1203 779 1057  history2 8 46
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 0 limit/base >25 >20	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26 1	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87 <1	28 0 45  789 1203 779 1057  history2 8 46 5
ADDITIVES 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	method  ASTM D5185m  method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26 1 current	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87 <1 history1	28 0 45  789 1203 779 1057  history2 8 46 5
ADDITIVES 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	method  ASTM D5185m method  ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26 1 current 1.1	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87 <1 history1 1.3	28 0 45  789 1203 779 1057  history2 8 46 5 history2
ADDITIVES 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	method  ASTM D5185m  method  ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m  *ASTM D5185m  *ASTM D5185m  *ASTM D76185m  *ASTM D76185m  *ASTM D7624  *ASTM D7624	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26 1 current 1.1	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87 <1 history1 1.3 11.7	28 0 45  789 1203 779 1057  history2 8 46 5 history2 1.28
ADDITIVES 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	method  ASTM D5185m  method  ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m  *ASTM D5185m  *ASTM D5185m  *ASTM D76185m  *ASTM D76185m  *ASTM D7624  *ASTM D7624	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30	current  3 0 70 <1 1078 1193 1161 1488 2530 current 6 26 1 current 1.1 11.4 25	history1  5 0 73 <1 1021 1157 1070 1332 2529 history1 10 87 <1 history1 1.3 11.7 24.9	28 0 45 789 1203 779 1057 history2 8 46 5 history2 1.28



# **OIL ANALYSIS REPORT**



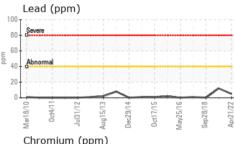


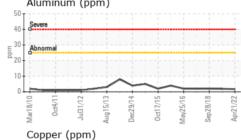


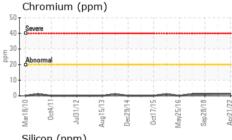
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	

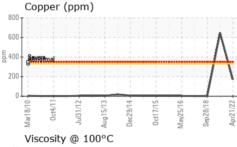
FLUID FROFI		memou			HISTOLAL	HISTOLYZ
Visc @ 100°C	cSt	ASTM D445	14	14.3	14.3	13.2

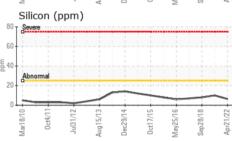
Severe								
0 - Severe								
0								
Abnor	rmal							
0 + 4						******		
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ر ا	)ct4/11+	131/12	15/13	29/14	417/15	y25/16	81/820	1772
Mar18/10	0ct4/11-	Jul31/12	Aug15/13	Dec29/14	Oct17/15	May25/16	Sep28/18	Apr21/22

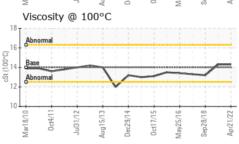


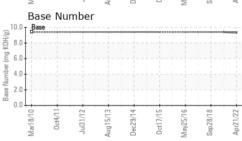
















Certificate 12367

Laboratory Sample No.

: PCA0037559 Lab Number : 05532339

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

: 29 Apr 2022 **Tested** :01 May 2022

Kemp Quarries - Kemp Stone - Fairland 18350 S 590 Rd Fairland, OK

Unique Number : 9956628 Diagnosed : 02 May 2022 - Jonathan Hester Test Package : MOB 1 ( Additional Tests: TBN )

Contact: fairland@kempstone.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)

US 74343

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