

RECOMMENDATION

WL108

KEMP QUARRIES / RIVER VALLEY ARKOMA

Component Hydraulic System

AW HYDRAULIC OIL ISO 68 (--- GAL)

Resample at the next service interval to monitor.	
WEAR	
All component wear rates are normal.	
CONTAMINATION	
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There is no indication of any contamination in the oil.	

FLUI	D C	CON	DITIO	ON

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

TestUOMMethodLimit/MCurrentHistory1History2Sample NumberClient InfoIPA0088974PCA0084375PCA0084220Sample DateClient InfoISA protect9 CA102330 Jan 202429 Cd 2023Machine AgehrsClient InfoI480714766347123Oil AgehrsClient InfoI0476630Gil ChangedClient InfoINot ChangeNot ChangeChangedFilter ChangedClient InfoNot ChangeNot ChangeNorMALNORMALFinter ChangedClient InfoNot ChangeNorMALNORMALNORMALIronppmASTM D51855>100G1-1-1NickelppmASTM D51855>100G1-10SilverppmASTM D51855>100G10-10SilverppmASTM D51855>100G010-1CapperppmASTM D51855>100G010-1LeadppmASTM D51855>100G010-1VanadiumppmASTM D51855>100G0-10-1VanadiumppmASTM D51855>200G1-10-1-1SiliconppmASTM D5185>200G1-1-1-1-1SiliconppmASTM D5185>200G1-1-1-1	GAL)							
Sample DateClient InfoIs 5 Apr 202Sub ancouxSub ancouxSub ancouxSub ancouxMachine AgehrsClient InfoI47634763345035Filter AgehrsClient InfoI71234766345035Filter ChangedIClient InfoINot ChangedChangedFilter ChangedIClient InfoINot ChangedChangedSample StatusClient InfoNot ChangedNot ChangedChangedIronppmASTM D5185>200350ChromiumppmASTM D5185>10001-1NickelppmASTM D5185>10001-1NickelppmASTM D5185>1000-10SilverppmASTM D5185>1000-10AuminumppmASTM D5185>1000-10CopperppmASTM D5185>100100CopperppmASTM D5185>10100VanadumppmASTM D5185>10100VanadumppmASTM D5185>10100VanadumppmASTM D5185>101010VanadumppmASTM D5185>101010VanadumppmASTM D5185>20ASTMNONENONESiliconppmASTM D5185>	Test	UOM	Method	Limit/Abn	Current	History1	History2	
Machine AgehrsClient Info480714766347123Oil AgehrsClient Info471234766345035Filter AgehrsClient InfoNo ChangedNo ChangedChangedFilter ChangedClient InfoNo ChangedNo ChangedChangedFilter ChangedClient InfoNo ChangedNo ChangedChangedSample StatusVientNo ChangedNo ChangedNo ChangedIronppmASTM D5185m>10412<1NickelppmASTM D5185m>1001<1TitaniumppmASTM D5185m>1001<1SilverppmASTM D5185m>10010AluminmppmASTM D5185m>10010QopperppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>200< <td><1</td> 1<VanadiumppmASTM D5185m>200<1<1Vanadiu	<1	Sample Number		Client Info		PCA0086974	PCA0084375	PCA0084220
OI AgehrsClient Info471234766345035Fiter AgehrsClient Info0476630Oil ChangedClient InfoNo ChangedNot ChangedChangedFiter ChangedIClient InfoNo ChangedNoRMALNORMALSample StatusStatusStatusStatusNoRMALNORMALIronppmASTM D518m>10I2<1NickelppmASTM D518m>10I<1<1NickelppmASTM D518mStatusI0<1<1TitaniumppmASTM D518m>10II0<10SilverppmASTM D518m>10II0III <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>15 Apr 2024</th> <th>30 Jan 2024</th> <th>29 Oct 2023</th>	Sample Date		Client Info		15 Apr 2024	30 Jan 2024	29 Oct 2023	
Filter Age OII ChangedIsolation <thisolation< th="">Isolation<t< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>48071</th><th>47663</th><th>47123</th></t<></thisolation<>	Machine Age	hrs	Client Info		48071	47663	47123	
Ol ChangedClient InfoNo ChangedNot ChangedChangedFilter ChangedClient InfoPChangedNot ChangedNorpMALSample StatusNorpMALNORMALNORMALNORMALNORMALIronppmASTM D5185>20350ChromiumppmASTM D5185>1001<1NickelppmASTM D5185>100<10SilverppmASTM D5185>100<10AluminumppmASTM D5185>1003<1LeadppmASTM D5185>10010CopperppmASTM D5185>10010VanadiumppmASTM D5185>10010VanadiumppmASTM D5185>10010Valow Metalscalar"VisualNONENONENONENONEValow Metalscalar"VisualNONEMONENONENONESiliconppmASTM D5185>200<1<1ValowvoMONENONENONENONENONESiliconppmASTM D5185>200<1<1QualowppmASTM D5185>10NONENONENONESiliconppmASTM D5185>10NONENONENONESoliconppmASTM D5185>0NONENONENONE<	Oil Age	hrs	Client Info		47123	47663	45035	
Filter Changed Sample StatusClient InfoChanged NORMALNormalNormalNormalIronppmASTM D5185m>20350ChromiumppmASTM D5185m>10<12<1NickelppmASTM D5185m>1001<1TitaniumppmASTM D5185m0<10SilverppmASTM D5185m0<10AluminumppmASTM D5185m10010LeadppmASTM D5185m>10010CopperppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>10010VanadiumppmASTM D5185m>200<121Vellow Metalscalar"VisualNONENONENONENONEVellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185m>200<1<1Sadd/Dirtscalar"VisualNONENONENONENONESolitscalar"VisualNONENONENONENONENONESolitscalar"VisualNORENONENONENONENONESolitscalar"Visual	Filter Age	hrs	Client Info		0	47663	0	
Sample StatusVORMALNORMALNORMALNORMALIronppmASTM D5185n>2035.00ChromiumppmASTM D5185n>1001<1NickelppmASTM D5185n>100<10SilverppmASTM D5185n0<10<110AluminumppmASTM D5185n>100<10AluminumppmASTM D5185n>10010CopperppmASTM D5185n>10010CopperppmASTM D5185n>100<10VanadiumppmASTM D5185n>100<10VanadiumppmASTM D5185n>100<10VanadiumppmASTM D5185n>200<10VanadiumppmASTM D5185n>20342Velow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185n>200<1<1VaterWC Method>.01NORENONENONENONESilitonscalar"VisualNONENONENONENONESolitscalar"VisualNORENONENONENONEAstm D5185nScalar"VisualNORENORENORENOREAppearancescalar"VisualNORENORENORENORE </th <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Not Changd</th> <th>Not Changd</th> <th>Changed</th>	Oil Changed		Client Info		Not Changd	Not Changd	Changed	
IronppmASTM D5185m>20350ChromiumppmASTM D5185m>10<12<1NickelppmASTM D5185m>1001<1TitaniumppmASTM D5185m<0<10SilverppmASTM D5185m>100<10AluminumppmASTM D5185m>1003<1LeadppmASTM D5185m>10010CopperppmASTM D5185m>10010VanadiumppmASTM D5185m>100<10VanadiumppmASTM D5185m>100<10VanadiumppmASTM D5185m>100<10VanadiumppmASTM D5185m>20342Velow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185m>20342PotassiumppmASTM D5185m>200<1<1Siliconkscalar"VisualNONENONENONENONESolitscalar"VisualNONENONENONENONESolitscalar"VisualNORMNORMNORMLNORMLAppearancescalar"VisualNORMNORMNORMLNORMLAppearancescalar"VisualNORMNORMNORMLNORML<	Filter Changed		Client Info		Changed	Not Changd	Changed	
ChromiumppmASTM D5185m>10<1	Sample Status				NORMAL	NORMAL	NORMAL	
ChromiumppmASTM D5185m>10<1				00	•	 	0	
NickelppmASTM D5185m>1001<1	-				-			
TitaniumppmASTM D5185m0<1								
SilverppmASTM D5185m00<1				>10	-			
AluminumppmASTM D5185m>1003<1								
LeadppmASTM D5185m>10010CopperppmASTM D5185m>7013<1TinppmASTM D5185m>10010VanadiumppmASTM D5185m>100<10White Metalscalar'VisualNONENONENONENONEYellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m>20342PotassiumppmASTM D5185m>200<1<1WaterWC Method>0.1NEGNEGNEGSilitscalar'VisualNONENONENONENONEDebrisscalar'VisualNONENONENONENONEAppearancescalar'VisualNORMNORMLNORMLNORMLAppearancescalar'VisualNORMNORMLNORMLNORMLBoronppmASTM D5185m5000BariumppmASTM D5185m5000MagneseppmASTM D5185m201192119CalciumppmASTM D5185m20105365368ZincppmASTM D5185m201105365368ZintppmASTM D5185m201105365368ZintppmASTM D5185m201105365 <td< th=""><th></th><th></th><th></th><th>10</th><th>-</th><th></th><th>-</th></td<>				10	-		-	
CopperppmASTM D5185m>7513<1								
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Yellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>20342PotassiumppmASTM D5185m>200<1<1WaterWC Method>0.1NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLCdorscalar*VisualNORMLNORMLNORMLNORMLBoronppmASTM D5185m5000BariumppmASTM D5185m5340ManganeseppmASTM D5185m5192119CalciumppmASTM D5185m2001059787PhosphorusppmASTM D5185m200105365388ZincppmASTM D5185m370465487513SulfurppmASTM D5185m25001133824980								
SiliconppmASTM D5185m>20342PotassiumppmASTM D5185m>200<1<1WaterWC Method>0.1NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLGodorscalar*VisualNORMNORMLNORMLNORMLBoronppmASTM D5185m5000BariumppmASTM D5185m5000ManganeseppmASTM D5185m20110MangensiumppmASTM D5185m201059787PhosphorusppmASTM D5185m20105388388ZincppmASTM D5185m370465487513SulfurppmASTM D5185m370465487513					-			
PotassiumppmASTM D5185m>200<1	Yellow Metal	scalar	^Visual	NONE	NONE	NONE	NONE	
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Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGSodiumppmASTM D5185m5000BoronppmASTM D5185m5000BariumppmASTM D5185m5000MalganeseppmASTM D5185m5340MagnesiumppmASTM D5185m25010597787PhosphorusppmASTM D5185m3003655365388ZincppmASTM D5185m370465487513SulfurppmASTM D5185m25001133824980	Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appearancescalar*VisualNORML<	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGSodiumppmASTM D5185m50<1BoronppmASTM D5185m5000BariumppmASTM D5185m5000MolybdenumppmASTM D5185m5010ManganeseppmASTM D5185m25192119CalciumppmASTM D5185m20010597787PhosphorusppmASTM D5185m3003655365388ZincppmASTM D5185m370465487513SulfurppmASTM D5185m250011338244980	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Emulsified Waterscalar*Visual>0.1NEGNEGNEGSodiumppmASTM D5185m<<10<1BoronppmASTM D5185m5000BariumppmASTM D5185m5000MolybdenumppmASTM D5185m5340ManganeseppmASTM D5185m25192119CalciumppmASTM D5185m20010597787PhosphorusppmASTM D5185m3003655365388ZincppmASTM D5185m370465487513SulfurppmASTM D5185m250011338244980	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Sodium ppm ASTM D5185m <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 3 4 0 Manganese ppm ASTM D5185m 25 19 21 19 Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 3655 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG	
Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 3 4 0 Manganese ppm ASTM D5185m 25 19 21 19 Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 3655 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Sodium	maa	ASTM D5185m		<1	0	<1	
Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 3 4 0 Manganese ppm ASTM D5185m 5 3 4 0 Magnesium ppm ASTM D5185m 25 19 21 19 Calcium ppm ASTM D5185m 200 105 977 87 Phosphorus ppm ASTM D5185m 300 3655 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980			ASTM D5185m	5				
Manganese ppm ASTM D5185m Co 1 0 Magnesium ppm ASTM D5185m 25 19 21 19 Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 365 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Barium		ASTM D5185m	5				
Manganese ppm ASTM D5185m C0 1 0 Magnesium ppm ASTM D5185m 25 19 21 19 Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 365 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Molybdenum	ppm	ASTM D5185m	5	3	4	0	
Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 365 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Manganese	ppm	ASTM D5185m		0	1	0	
Calcium ppm ASTM D5185m 200 105 97 87 Phosphorus ppm ASTM D5185m 300 365 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Magnesium	ppm	ASTM D5185m	25	19	21	19	
Phosphorus ppm ASTM D5185m 300 365 365 388 Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Calcium		ASTM D5185m	200	105	97	87	
Zinc ppm ASTM D5185m 370 465 487 513 Sulfur ppm ASTM D5185m 2500 1133 824 980	Phosphorus		ASTM D5185m	300	365	365	388	
Sulfur ppm ASTM D5185m 2500 1133 824 980	-		ASTM D5185m		465		513	
	Sulfur		ASTM D5185m			824	980	
	Visc @ 40°C		ASTM D445	68	66.0	65.7	65.7	

NORMAL

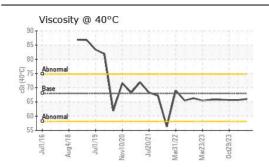
NORMAL

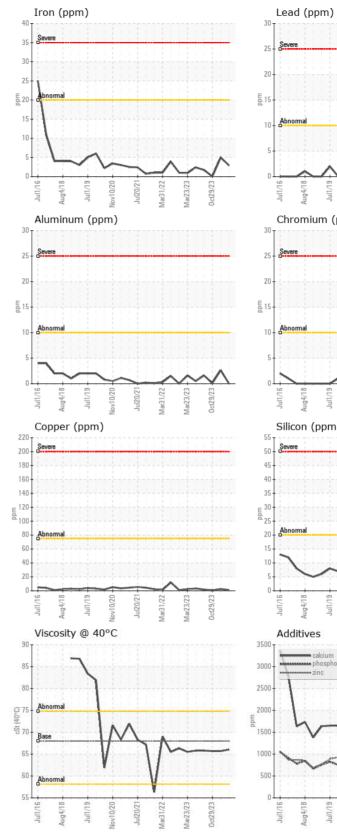
NORMAL

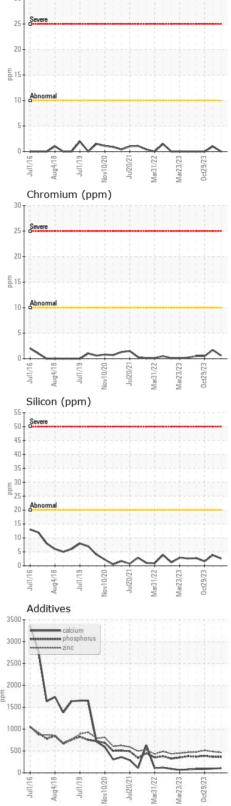
WEAR

CONTAMINATION

FLUID CONDITION









Unique Number : 10990860 : 22 Apr 2024 - Wes Davis Diagnosed Test Package : MOB 1 Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. arkomashop@kempquarries.net * - 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)

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

Received

Tested

: 19 Apr 2024

: 22 Apr 2024

Laboratory

Sample No.

Lab Number : 06155437

: PCA0086974

12971 HWY 9a

Shawnee, OK

US 74804

Contact:

Т:

F:

Kemp Quarries - River Valley - Arkoma