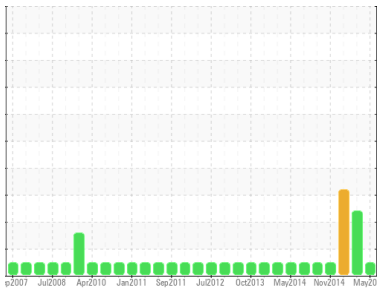
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
LEWCO RIG 77-B MUD PUMP 3 (S/N 026561)
Component
Gearbox
Fluid
ROYAL PURPLE SYNERGY 140/320 (105 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 component.

Fluid Condition
The TAN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP177019**	RP159268	RP165161
Sample Date		Client Info		**31 May 2018**	18 Apr 2015	02 Feb 2015
Machine Age	hrs	Client Info		**11529**	11158	11010
Oil Age	hrs	Client Info		**11529**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**12**	125	▲ 150
Chromium	ppm	ASTM D5185m	>15	**<1**	5	6
Nickel	ppm	ASTM D5185m	>15	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	1	1
Silver	ppm	ASTM D5185m		**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>25	**2**	▲ 24	▲ 26
Lead	ppm	ASTM D5185m	>100	**<1**	2	1
Copper	ppm	ASTM D5185m	>200	**3**	18	23
Tin	ppm	ASTM D5185m	>25	**0**	0	0
Antimony	ppm	ASTM D5185m		**29**	799	1151
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	<1	<1
Barium	ppm	ASTM D5185m		**7**	189	167
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	2	3
Magnesium	ppm	ASTM D5185m		**<1**	8	4
Calcium	ppm	ASTM D5185m		**16**	80	66
Phosphorus	ppm	ASTM D5185m	200	**92**	195	228
Zinc	ppm	ASTM D5185m		**4**	23	20

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**5**	▲ 64	▲ 63
Sodium	ppm	ASTM D5185m		**4**	29	38
Potassium	ppm	ASTM D5185m	>20	**0**	11	7
Water	%	ASTM D6304	>0.2	**0.011**	0.016	0.014
ppm Water	ppm	ASTM D6304	>2000	**110**	160.	140

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	**0.214**	0.765	0.749

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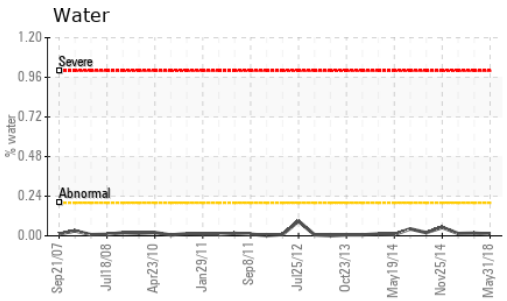
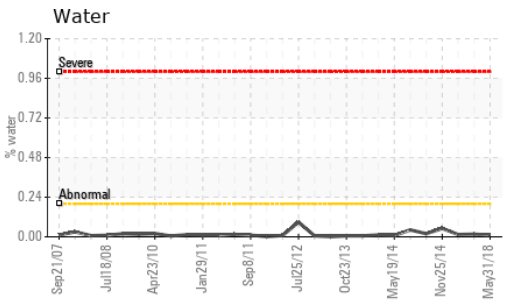
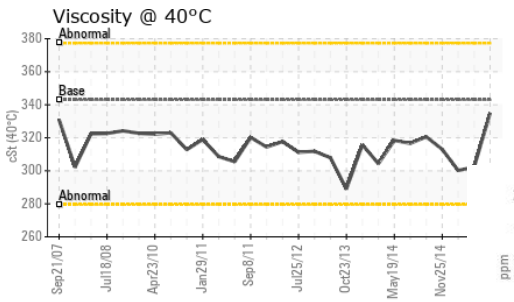
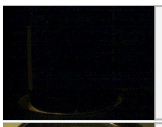
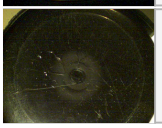




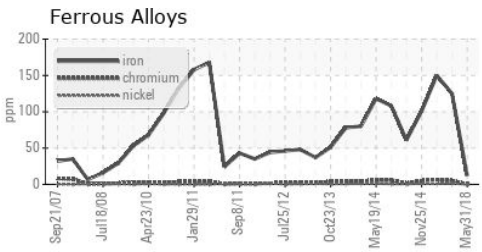


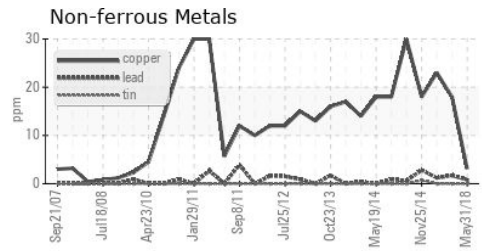
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**LIGHT**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

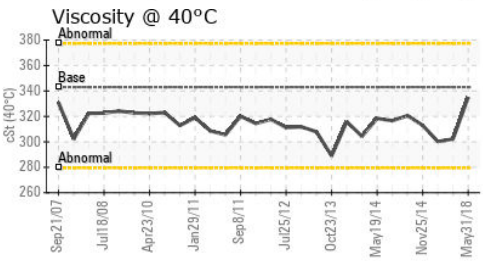
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	343	**334.9**	302.2	300.2

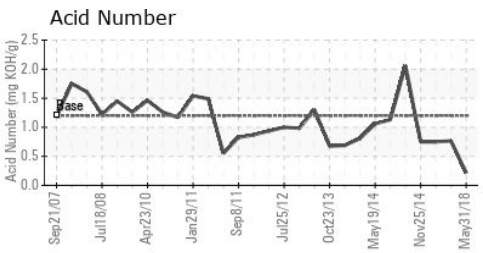
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP177019 **Received** : 11 Jun 2018
Lab Number : 04487862 **Diagnosed** : 13 Jun 2018
Unique Number : 8226643 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: PrtCount)

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)

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