

TelLab

Demo

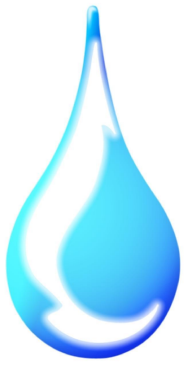
Location: Demo
 Unit ID: **FLL05A002**
 Model: Up/Down Drive - Filter Mechanism
 Machine Type: Hydraulic (A.A)



Appearance: Hazy
 High iron level suggests wear present.
 Elevated aluminium level present. Check for dirt contamination.
 Elevated copper level suggests bearing wear present. High silicon level present. Check for dirt contamination. Check air breathers. Viscosity is not consistent with the stated grade. ISO cleanliness code suggest oil should be cleaned or changed.
 Advise : Change oil if not changed when oil sample was taken.
 Re-sample at next service interval

KR, 10 Jun 2015

Oil	Castrol Hyspin AWS 68	Sample ID	4726CF (P5882)	37EAC6 (N4571)	29B40A (M4981)	1B4C17 (L6040)	D52CC (I6612)	
Note:	Sampled on		05 Jun 2015	30 Apr 2014	25 Apr 2013	01 Jun 2012	14 Jun 2011	
	Received on		09 Jun 2015	07 May 2014	01 May 2013	07 Jun 2012	21 Jun 2011	
	hrs Total							
	hrs Oil							
	Top up (l.)							
		Warning Limits	⊘	⊘	▲	⊘	▲	
ASTM D6595-00 WEAR METALS	Iron	ppm	25	128	60	43	26	38
	Chromium	ppm		<1	<1	<1	<1	<1
	Nickel	ppm		2	1	<1	<1	<1
	Molybdenum	ppm		<1	<1	<1	<1	<1
	Aluminium	ppm	10	13	11	11	8	15
	Lead	ppm	10	6	5	4	2	2
	Copper	ppm	15	26	18	7	9	11
	Tin	ppm	5	<1	<1	<1	<1	<1
	Silver	ppm		<1	<1	<1	<1	<1
	Titanium	ppm		<1	<1	<1	<1	<1
ASTM D6595-00 CONTAMINANTS	Silicon	ppm	5	8	<1	2	2	2
	Sodium	ppm		73	41	25	23	28
	Vanadium	ppm		<1	<1	<1	<1	<1
ASTM D6595-00 ADDITIVES	Calcium	ppm		8	7	25	3	4
	Magnesium	ppm		2	<1	1	<1	<1
	Phosphorus	ppm		119	204	231	116	174
	Zinc	ppm		6	13	42	11	15
	Barium	ppm		<1	<1	<1	<1	<1
	Boron	ppm		9	6	3	3	4
ASTM D445	Viscosity at 40°C	cSt	61 - 75	77	69	75	73	69
	ISO(>4Åµm)			24	23	20	24	20
	ISO(>6Åµm)			22	20	18	22	18
	ISO(>14Åµm)			17	15	13	18	15
	ISO 4406/99 Code			24/22/17	23/20/15	20/18/13	24/22/18	20/18/15
LaserNet Fines	Particles >4Åµm	part./ml		87830	46038	9621	97448	7032
	Particles >6Åµm	part./ml		23584	7010	1378	38578	1690
	Particles >14Åµm	part./ml		846	160	63	2469	197
	NAS 1638 Code			12	12	10	12	12
	Particles 5-15 Åµm	part./100		2273730	684946	131507	3610920	149307
	Cutting	part./ml		104.4	4.2	0.0	126.0	16.7
	Sliding	part./ml		96.1	25.0	16.7	281.3	30.1
	Fatigue	part./ml		87.7	20.9	16.7	361.1	83.5
	Non metallic	part./ml		593.2	83.5	25.0	2242.0	80.2
	Fiber count	part./ml		12.5	0.0	0.0	37.8	20.0
ASTM E2412	TAN	mg KOH/g		0.44	0.20	1.05	0.62	0.52
	Water	ppm	1000.0	517.6	69.0	41.7	58.2	37.8
	OX	abs/mm2		3.3	3.7	3.9	3.3	4.3



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	hrs Total						
	hrs Oil						
	Top up (l.)						
		<i>Warning Limits</i>	⊘	⊘	▲	⊘	▲
	Appearance Rating		30.0	30.0	10.0	10.0	10.0

Date 15 Sep 2015



Demo
Unit ID: **FLL05A002**
Model: Up/Down Drive - Filter Mechanism
Machine Type: Hydraulic (A.A)

Sample ID: 4726CF (P5882)
Sampled on: 05 Jun 2015
Received on: 09 Jun 2015

Particle analysis and shape classification with LaserNet Fines-C
Method: LaserNet Fines. Analysis refers to particles $\geq 20 \mu\text{m}$

Cutting particle count

(Possible causes: hard particles contamination giving surface engraving)

Scale 63:1
(1 cm equals to 158 μm)

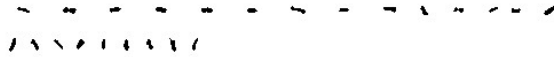


104.4 part./ml

Sliding particle count

(Possible causes: contact between metallic surfaces, high loads, insufficient lubrication)

Scale 63:1
(1 cm equals to 158 μm)



96.1 part./ml

Fatigue particle count

(Possible causes: overload, vibrations, mechanical shocks, long drain interval)

Scale 63:1
(1 cm equals to 158 μm)



87.7 part./ml



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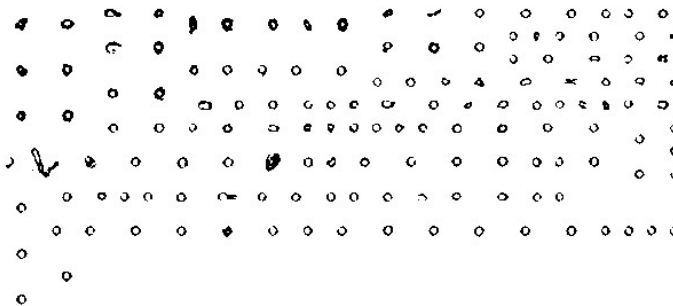
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Sampled on: 05 Jun 2015
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Method: LaserNet Fines. Analysis refers to particles $\geq 20 \mu\text{m}$

Non metallic particle count

(Oxides, crystals, amorphous material, tribopolymers and other solid contaminants)

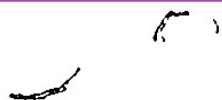
Scale 63:1
(1 cm equals to 158 μm)



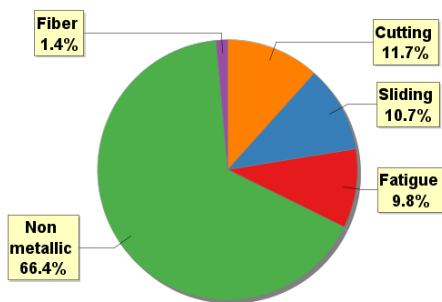
593.2 part./ml

Fiber count

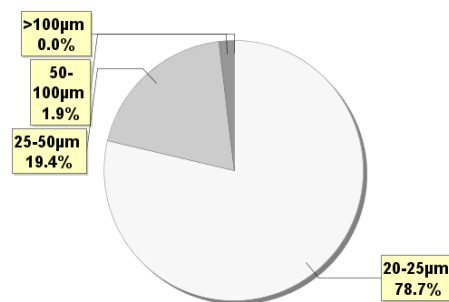
Scale 63:1
(1 cm equals to 158 μm)



12.5 part./ml



Shape classification



Size distribution