



As part of a preventative maintenance programme at Ancon Building Products Test Department in Sheffield, FA-ST Ltd supplied and fitted a bypass filtration system to the 700 Litre hydraulic oil storage tank of the company Losenhausen 100 Tonne test machine in 2005.

The test machine hydraulics are controlled by a "MOOG" servo control valve which had previously caused expensive machine down time due to dirty oil contaminating this valve resulting in costly repairs and interruptions to the test program.

Since the installation of this bypass filtration and the use of the FA-ST Ltd oil sampling service, the test machine hydraulic control has been much more reliable and the incidence of unexpected break downs between planned service maintenance has quite noticeably decreased, this leading to less interruptions to the testing programme.

The oil condition is regularly monitored as clean oil is paramount to the satisfactory operation of the "MOOG" valve.

It is difficult to quantify specific cost benefits to the Test machine but some are listed below:-

- Protection of the expensive Servo Valve and savings in expensive repairs.
- A decrease in unplanned machine down time allowing for increased test through put.
- The use of much cheaper filters in the bypass system rather than expensive in line pressure filters.
- With the ever rising cost of oil maximising the life of hydraulic oil between changes due to regular monitoring of oil condition is a must.

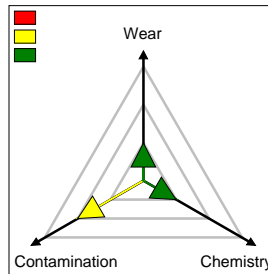
Bob Scott
Ancon Limited
Ancon Building Products

Sample Date	08/05/2008	14/04/2008	02/01/2008	08/11/2007	01/08/2007
Sample #	1333829	1324536	1284539	1264226	1225440
Unit Usage					
Oil Usage					
Oil Added					

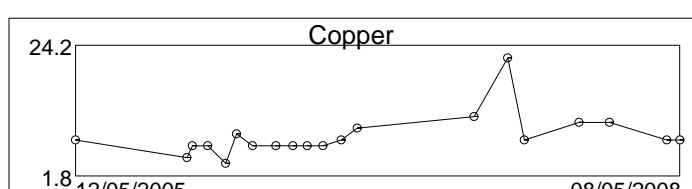
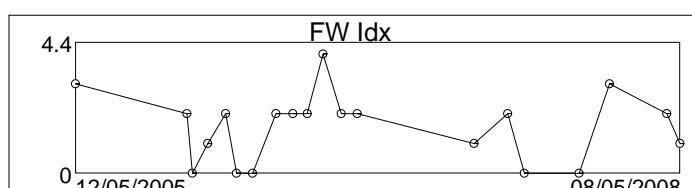
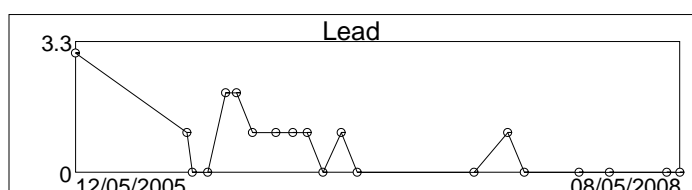
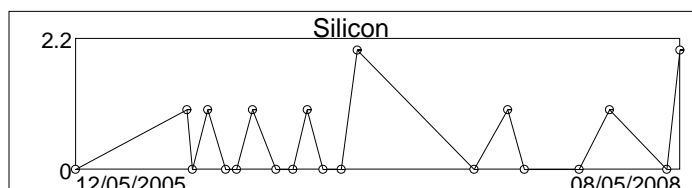
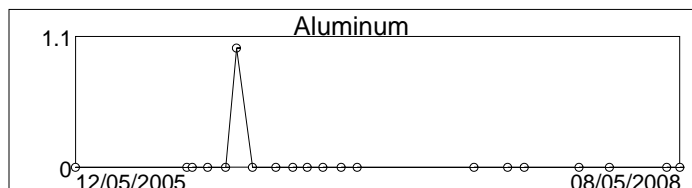
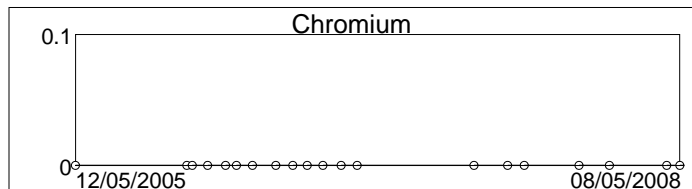
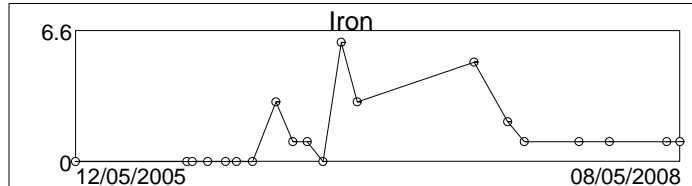
Wear	0	0	0	0	0
Aluminum	0.00	0.00	0.00	0.00	0.00
Chromium	0.00	0.00	0.00	0.00	0.00
Copper	8.00	8.00	11.00	11.00	8.00
Iron	1.0	1.0	1.0	1.0	1.0
Lead	0.00	0.00	0.00	0.00	0.00
Silver	0.00	0.00	0.00	0.00	0.00
Tin	2.00	1.00	2.00	0.00	0.00
FW Idx	1	2	3	0	0

Contamination	10	0	0	0	0
Boron	4.00	0.00	0.00	0.00	1.00
Silicon	2.00	0.00	1.00	0.00	0.00
Sodium	5.00	3.00	4.00	5.00	6.00
Cnts >5	269	162	187	131	153
Cnts >10	65	49	56	49	61
Cnts >15	30	24	30	28	36
Cnts >25	7	8	10	12	12
Cnts >30	4	5	7	7	7
Cnts >50	0	1	2	1	2
Cnts >75	.1	.4	.4	.4	.9
Cnts >100	0.0	.1	.1	.2	.3
ISO >5	15	15	15	14	14
ISO >15	12	12	12	12	12
Water K.Fish	0.0	0.0	0.0	0.0	0.0

Chemistry	0	0	0	0	0
Calcium	10.00	22.00	61.00	8.00	40.00
Magnesium	7.00	3.00	1.00	0.00	3.00
Molybdenum	0.00	0.00	0.00	0.00	0.00
Phosphorus	417.00	400.00	406.00	499.00	365.00
Zinc	435.00	432.00	470.00	504.00	389.00
Manganese	0.00	0.00	0.00	0.00	0.00
Visc 40C	42.2	42.2	44.0	43.8	42.9



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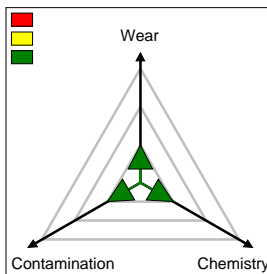
WE NOTE YOU ARE LOOKING AT AN ISO CODE OF 14/11 OR BETTER TO BE ACCEPTABLE WEAR LEVELS ARE FINE BUT THE OIL IS JUST SLIGHTLY DIRTIER AT ISO 15/12 THAN YOUR DESIRED VALUE. CONSIDER AN EARLIER THAN SCHEDULED FILTER CHANGE. RESAMPLE AFTER ACTIONS TO MONITOR CLEANLINESS.

Sample Date	02/07/2007	02/05/2007	03/10/2006	04/09/2006	02/08/2006
Sample #	1213421	1190739	1114505	1103822	1092629
Unit Usage					
Oil Usage					
Oil Added					

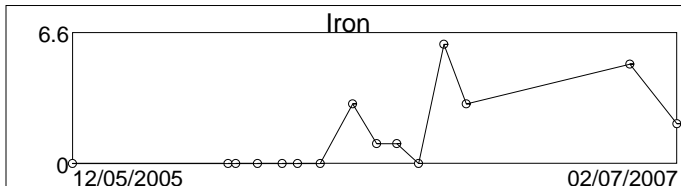
Wear	0	0	0	0	0
Aluminum	0.00	0.00	0.00	0.00	0.00
Chromium	0.00	0.00	0.00	0.00	0.00
Copper	22.00	12.00	10.00	8.00	7.00
Iron	2.0	5.0	3.0	6.0	0.0
Lead	1.00	0.00	0.00	1.00	0.00
Silver	1.00	0.00	1.00	0.00	0.00
Tin	3.00	0.00	2.00	0.00	0.00
FW Idx	2	1	2	2	4

Contamination	0	0	0	0	0
Boron	0.00	0.00	0.00	7.00	1.00
Silicon	1.00	0.00	2.00	0.00	0.00
Sodium	6.00	5.00	1.00	6.00	1.00
Cnts >5	154	458	56	30	68
Cnts >10	49	110	15	10	19
Cnts >15	23	55	6	6	7
Cnts >25	8	20	1	0	1
Cnts >30	5	16	0	0	0
Cnts >50	1	9	0	0	0
Cnts >75	.4	7.1	0.0	0.0	0.0
Cnts >100	.1	6.5	0.0	0.0	0.0
ISO >5	14	16	13	12	13
ISO >15	12	13	10	10	10
Water K.Fish	0.0	0.0	0.0	0.0	0.0

Chemistry	0	0	0	0	0
Calcium	6.00	6.00	6.00	58.00	11.00
Magnesium	1.00	0.00	0.00	0.00	2.00
Molybdenum	0.00	0.00	1.00	0.00	0.00
Phosphorus	354.00	357.00	341.00	355.00	365.00
Zinc	366.00	347.00	360.00	422.00	395.00
Manganese	0.00	0.00	0.00	0.00	0.00
Visc 40C	44.0	34.6	41.5	42.3	41.9



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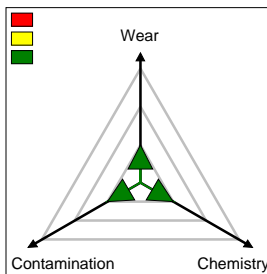


Sample Date	05/07/2006	09/06/2006	09/05/2006	28/03/2006	27/02/2006
Sample #	1081722	1071801	1059810	1046411	1032805
Unit Usage					
Oil Usage					
Oil Added					

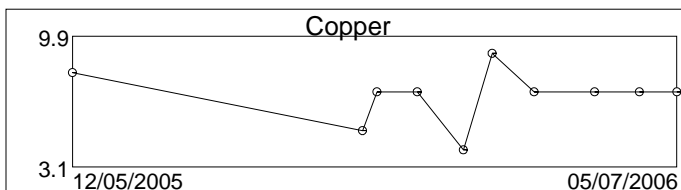
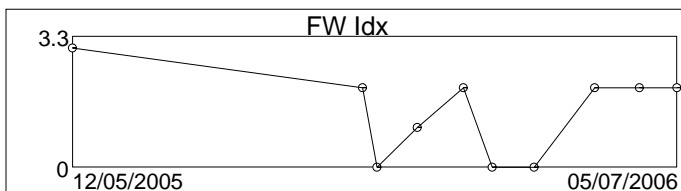
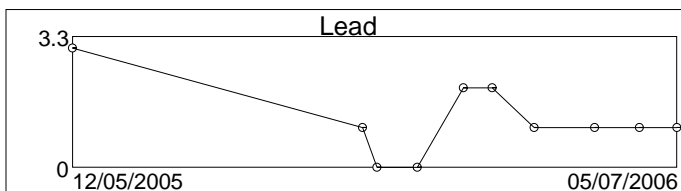
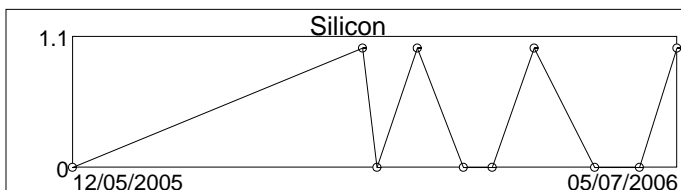
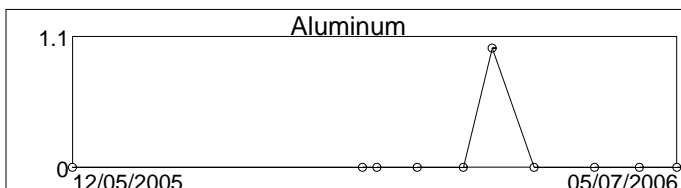
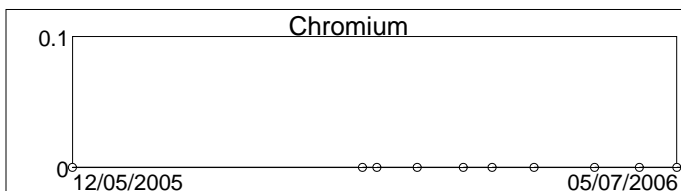
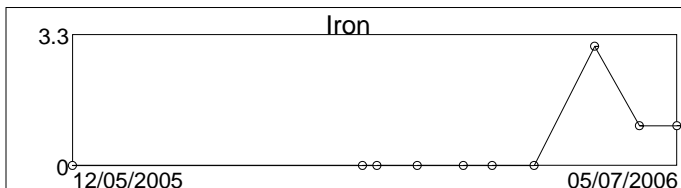
Wear	0	0	0	0	0
Aluminum	0.00	0.00	0.00	0.00	1.00
Chromium	0.00	0.00	0.00	0.00	0.00
Copper	7.00	7.00	7.00	7.00	9.00
Iron	1.0	1.0	3.0	0.0	0.0
Lead	1.00	1.00	1.00	1.00	2.00
Silver	1.00	0.00	0.00	0.00	1.00
Tin	1.00	0.00	0.00	0.00	0.00
FW Idx	2	2	2	0	0

Contamination	0	0	0	0	0
Boron	1.00	1.00	0.00	4.00	0.00
Silicon	1.00	0.00	0.00	1.00	0.00
Sodium	4.00	4.00	1.00	1.00	3.00
Cnts >5	32	50	96	15	86
Cnts >10	9	5	27	12	24
Cnts >15	3	6	10	6	9
Cnts >25	0	0	2	0	2
Cnts >30	0	0	0	0	0
Cnts >50	0	0	0	0	0
Cnts >75	0.0	0.0	0.0	0.0	0.0
Cnts >100	0.0	0.0	0.0	0.0	0.0
ISO >5	12	13	14	11	14
ISO >15	9	10	10	10	10
Water K.Fish	0.0	0.0	0.0	0.0	0.0

Chemistry	0	0	0	0	0
Calcium	34.00	6.00	6.00	19.00	7.00
Magnesium	11.00	5.00	6.00	7.00	5.00
Molybdenum	0.00	0.00	0.00	0.00	0.00
Phosphorus	412.00	327.00	322.00	352.00	411.00
Zinc	375.00	349.00	321.00	401.00	483.00
Manganese	0.00	0.00	0.00	0.00	0.00
Visc 40C	43.6	45.4	45.1	43.1	44.8



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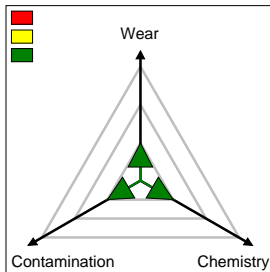
THE WEAR RATE IS STABLE AND THE OIL HAS COUNTED CLEAN. RESAMPLE AS NORMAL.

Sample Date	07/02/2006	06/01/2006	09/12/2005	29/11/2005	12/05/2005
Sample #	1023534	1011616	1002636	997725	917440
Unit Usage					
Oil Usage					
Oil Added				205	

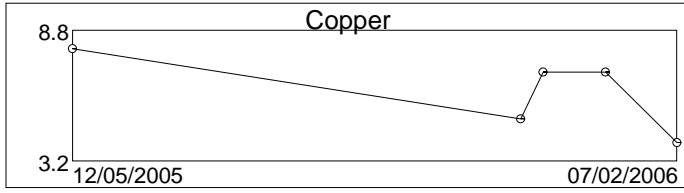
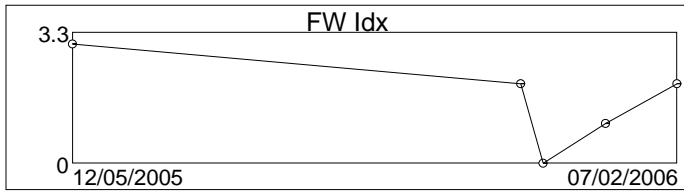
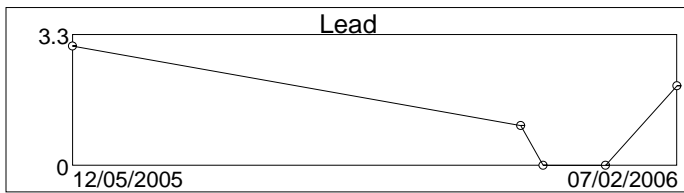
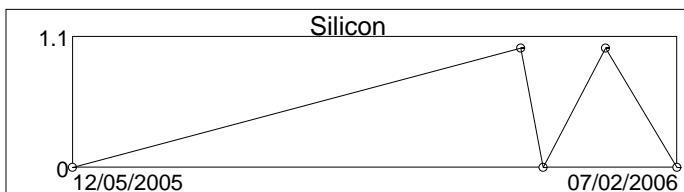
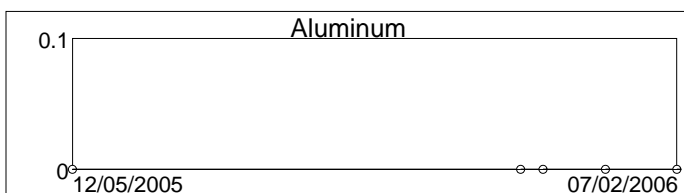
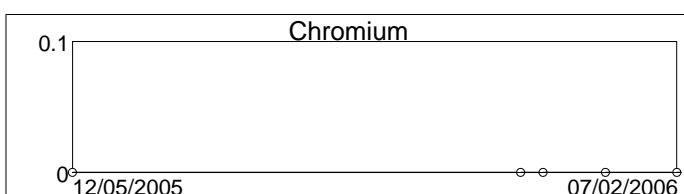
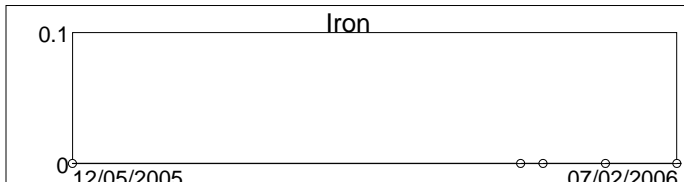
Wear	0	0	0	0	0
Aluminum	0.00	0.00	0.00	0.00	0.00
Chromium	0.00	0.00	0.00	0.00	0.00
Copper	4.00	7.00	7.00	5.00	8.00
Iron	0.0	0.0	0.0	0.0	0.0
Lead	2.00	0.00	0.00	1.00	3.00
Silver	0.00	0.00	0.00	0.00	42.00
Tin	3.00	1.00	0.00	0.00	0.00
FW Idx	2	1	0	2	3

Contamination	0	0	10	55	30
Boron	1.00	1.00	2.00	2.00	0.00
Silicon	0.00	1.00	0.00	1.00	0.00
Sodium	4.00	0.00	0.00	2.00	6.00
Cnts >5	46	172	506	854	4,574
Cnts >10	13	48	141	238	1,274
Cnts >15	4	18	54	91	488
Cnts >25	1	4	12	21	117
Cnts >30	0	1	4	7	40
Cnts >50	0	0	1	2	11
Cnts >75	0.0	0.0	0.0	0.0	2.0
Cnts >100	0.0	0.0	0.0	0.0	0.0
ISO >5	13	15	16	17	19
ISO >15	9	11	13	14	16
Water K.Fish	0.0	0.0	0.0	0.0	0.0

Chemistry	0	0	0	0	10
Calcium	23.00	16.00	21.00	19.00	14.00
Magnesium	2.00	0.00	2.00	1.00	0.00
Molybdenum	0.00	0.00	0.00	0.00	0.00
Phosphorus	404.00	374.00	372.00	374.00	373.00
Zinc	408.00	416.00	391.00	368.00	389.00
Manganese	0.00	0.00	0.00	0.00	0.00
Visc 40C	44.9	44.6	43.2	43.7	45.7



FA-ST
 How clean is your oil?
 Ancon Building Products
 President Park
 Sheffield
 Bob Scott
 E Mail



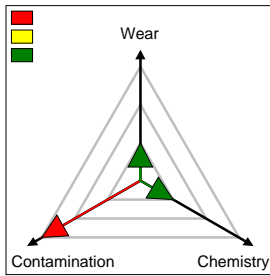
THESE RESULTS GIVE NO CAUSE FOR CONCERN. THE OIL HAS COUNTED VERY CLEAN. RESAMPLE AS NORMAL.

Sample Date	29/11/2005	12/05/2005		
Sample #	997725	917440		
Unit Usage				
Oil Usage				
Oil Added	205			

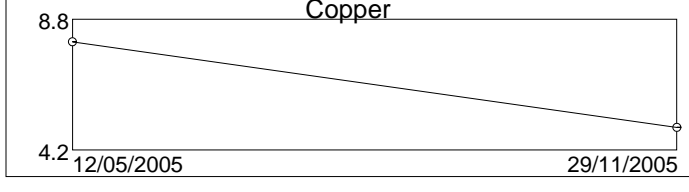
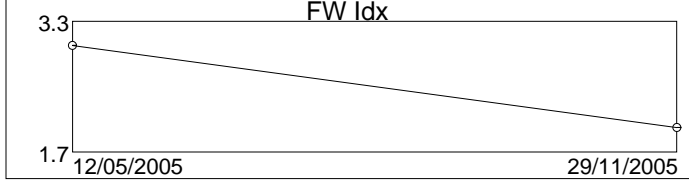
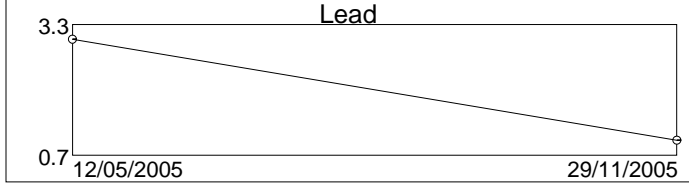
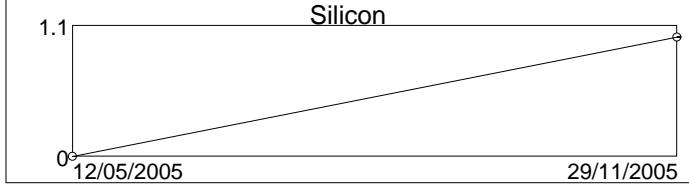
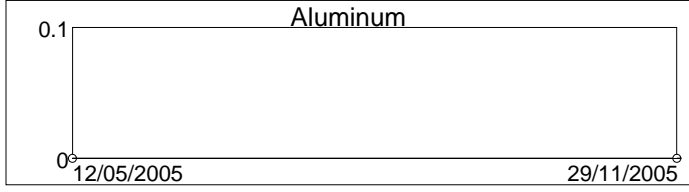
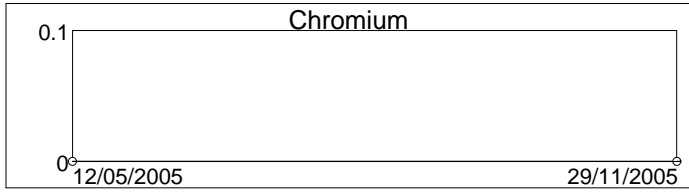
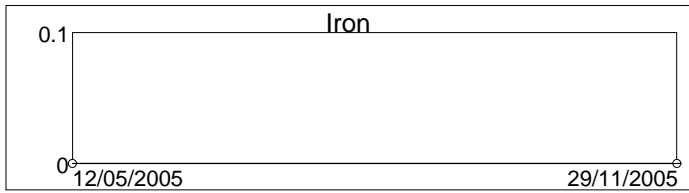
Wear	0	0		
Aluminum	0.00	0.00		
Chromium	0.00	0.00		
Copper	5.00	8.00		
Iron	0.0	0.0		
Lead	1.00	3.00		
Silver	0.00	42.00		
Tin	0.00	0.00		
FW Idx	2	3		

Contamination	55	30		
Boron	2.00	0.00		
Silicon	1.00	0.00		
Sodium	2.00	6.00		
Cnts >5	854	4,574		
Cnts >10	238	1,274		
Cnts >15	91	488		
Cnts >25	21	117		
Cnts >30	7	40		
Cnts >50	2	11		
Cnts >75	0.0	2.0		
Cnts >100	0.0	0.0		
ISO >5	17	19		
ISO >15	14	16		
Water K.Fish	0.0	0.0		

Chemistry	0	10		
Calcium	19.00	14.00		
Magnesium	1.00	0.00		
Molybdenum	0.00	0.00		
Phosphorus	374.00	373.00		
Zinc	368.00	389.00		
Manganese	0.00	0.00		
Visc 40C	43.7	45.7		



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 Sheffield
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WEAR LEVELS ARE FINE BUT THE OIL HAS COUNTED MUCH DIRTIER THAN THE SPECIFICATION (16/14/11) THAT YOU WORK TO. THE OIL WILL REQUIRE FILTERING IF AN ACCEPTABLE CLEANLINESS SPEC IS TO BE ACHIEVED.