



**FILTER
TECHNOLOGY**

cleaner fluids mean better business

CASE STUDY



Hydraulics

Case No : 8 - 6 - 12

FM2 Bypass Oil Filter and Metering Valve : JR Hale Contracting, Albuquerque, New Mexico

JR Hale Contracting, Albuquerque, New Mexico installed a Kleen System KS-100A-FM2 metering valve to FTA FM 2 bypass oil filter to their John Deere 330 LC Excavator.

The FM 2 was installed with 1542 hours on the Excavator, before installation the oil was at 21/19/15. JR Hale wish to see lower particle counts in all their machines as they understand the importance in reduced particle counts to component life and in turn machine availability, 100 hours after installing the KS-100A-FM2 a sample was taken from the hydraulic system and was found to at 17/15/13 a reduction in particulate contamination of 96%.

Between oil analysis and oil changes, JR Hale Contracting, has never been able to achieve the kind of results that Kleen Systems has achieved in less than 100hrs. With hydraulic oil maintained at these ISO codes we can realize thousands of dollars in savings over the life of the machine in both oil savings and component life.

Terrill Wade
Equipment Supervisor
JR Hale Contracting



Fluid Trend Analysis 01/25/2004		CASHMAN		CAT		600 Glendale Ave. • Sparks, NV 89431 • 775-332-2477				Normal				REPRINT		
Customer Unit ID 35-301		Make JOHN DEERE		Model 330C LC		Serial 082053		Compartment Hydraulic System								
Oil Sample Information				Miscellaneous				Infrared Analysis % Allowable				Prior Interpretation Codes				
Control #	Date Taken	Fluid Status	Fluid Add	SMR	Fluid Run Time	A/F	H2O	Viscosity 100C	Soot	Oxi	Nit	Sul				
E-																
D-																
C-																
B-15320040116	01/02/2004	Sampled	0.0	1542	1542	N	N	7.6	0	49	16	30	200			
A-22720040122	01/20/2004	Sampled	0.0	1636	0	N	N	7.7	0	35	11	0	Fluid Type / Grade: JOHN DEERE HYGARD 15W30			
Filter Changed ^				Wear Metals (Parts per Million)												
	Copper	Iron	Chrome	Lead	Alum	Silicon	Molybdm	Sodium	Magnesm	Tin	Zinc	Nickel	Potasum	Calcium	Phospor	
E-																
D-																
C-																
B-	15	6	0	0	1	3	1	5	18	0	529	0	4	1179	356	
A-	15	4	1	2	2	4	3	5	18	0	560	0	3	1374	379	
Overall Status		Particle Counts (per Milliliter)										Current Sample Interpretation				
		4u	6u	14u	20u	25u	50u	75u	100u	ISO	Current Sample is Line "A"					
												Normal Wear Indicated, Continue Sampling At Normal Interval				
E-																
D-																
C-																
B-	Normal	19776	4745	251	51	25	3	0	0	21/19/15						
A-	Normal	739	206	69	15	23	0	0	2	17/15/13						