

Control #	064120120116	053320111120	054120110912	073320110728	080120110611
Date Taken	01/10/2012	11/18/2011	09/08/2011	07/22/2011	06/05/2011
Service Meter Reading	6610	6401	6016	5832	5411
Fluid Run Time	594	385	184	421	375
Fluid Added Gal / Qts	0 / 2	0 / 2	1 / 0	1 / 0	0 / 2
Fluid Status	Changed	Sampled	Changed	Changed	Changed
Filter Changed	Yes	Yes	Yes	Yes	Yes
Chrome (CR)	21	5	1	0	0
Copper (CU)	15	12	14	11	10
Iron (FE)	819	72	36	54	44
Lead (PB)	20	11	10	6	11
Tin (SN)	21	5	0	1	0
Aluminum (AL)	14	6	1	4	1
Silicon (SI)	27	12	4	7	3
Antimony (SB)	0	0	0	0	0
Barium (BA)	0	0	0	0	0
Potassium (K)	0	0	0	0	0
Boron (B)	36	35	34	32	30
Cadmium (CD)	0	0	0	0	0
Calcium (CA)	2796	2611	2412	2522	2671
Magnesium (MG)	238	236	241	236	235
Moly (MO)	236	221	220	231	228
Nickel (NI)	11	0	3	3	0
Manganese (MN)	943	0	0	0	0
Phosphorus (P)	0	951	936	941	922
Silver (AG)	0	0	0	0	0
Sodium (NA)	42	42	21	18	19
Titanium (TI)	0	0	0	0	0
Vanadium (V)	0	0	0	0	0
Zinc (ZN)	1246	1211	1139	1204	1169
Visc 100°C	16.8	13.8	14.2	13.9	14.3
Water	Negative	Negative	Negative	Negative	Negative
Fuel	Negative	Negative	Negative	Negative	Negative
Anti-Freeze	Negative	Negative	Negative	Negative	Negative
Soot	3.2	0.8	0.4	0.3	0.3
Oxidation	0.68	0.18	0.10	0.03	0.08
Nitration	0.65	0.03	0.02	0.02	0.06
Sulfation	0.68	0.06	0.08	0.04	0.01



## COMPLETE FLUIDS ANALYSIS

**Critical**

1 of 1

04/02/2012

### Make / Model

JOHN DEERE 310 SJ

### Unit Serial

510-8 T0310SJ516212

### Compartment

Diesel Engine

### Fluid Type

JOHN DEERE 15W40

### WO / Reference

### Current Interpretation

These readings are in the urgent range. High silicon (dirt) is causing abnormal wear. Silicon, Aluminum, Iron, chrome and Tin are all too high. Check air intake area for source of dirt leak. Oil condition is poor. Oil is thicker than normal, soot content is high. Oxidation is high. This is due to excessive usage on the oil. Check filter for visible metal. Check for abnormal noise/performance. Resample in 50 hrs following repairs. Emergency notification made or attempted.

TITAN LABORATORIES TEST ACCOUNT  
 Attn: Dawn J. Brown  
 1380 Zuni St.  
 Denver, CO 80204

**Interpretation from sample # 053320111120 ( Reportable )**

Chrome, Iron, Aluminum, and Silicon have increased. Check for leaks, especially on the air intake area; repair as necessary. Check to see if usage is excessive. Change oil and filters and resample in 150 hrs to monitor.

**Interpretation from sample # 054120110912 ( Normal )**

All readings appear to be within normal range. Resample at the normal interval.

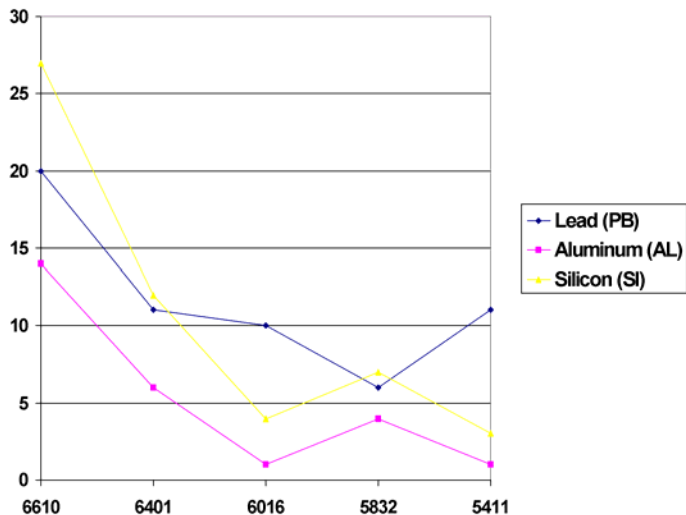
**Interpretation from sample # 073320110728 ( Normal )**

All readings appear to be within normal range. Resample at the normal interval.

**Interpretation from sample # 080120110611 ( Normal )**

All readings appear to be within normal range. Resample at the normal interval.

**Graph 1**



**Graph 2**

