

CONTAMINATION OIL CONDITION WEAR NORMAL NORMAL

ZBF123165 - Hydraulic System

Unit Make : CASE INTERATIONAL

Unit Model : 535 STEIGER Serial No : ZBF123165 Date Rec'd : Nov 17, 2016

Comp Make : {n/a} Cust. Ref No. : {n/a} Sample Date : Nov 8, 2016

Comp Model : {n/a} Stub No. : KL-M2320621 Diagnostician : Jonathan Hester

RECOMMENDATION Sample Date 0.4/28/16/07/26/16/09/06/16 Current Illim on Unit 0.351 6604 6828 7171 hrs Illim on Illim o	Comp Model: {n/a}	Stub No. : KL-M2320621 Diagnostician : Jonathan H					Hester	
Time on Oil	RECOMMENDATION		Sample Date	04/28/16	07/26/16	09/06/16	Current	UOM
Illing on Oil			Time on Unit	6351	6604	6828	7171	hrs
CONTAMINATION Filter Maint. not chg n/a not chg n/a changed n/a changed not chg changed not chg not chg changed not chg no	Resample at the next service interval to monitor.		Time on Oil	247	6604	6828	7171	hrs
Filter Maint. changed n/a changed not ehg			Time on Fltr	247	208	224	343	hrs
Sample Date 04/28/16/07/26/16/09/06/16 Current Silicon 30 31 26 38 20 20 20 20 20 20 20 2			Oil Maint.	not chg	n/a	not chg	not chg	
Silicon 30 31 26 38 20 Potassium 0.0 0.0 0.0 0.7 20 Water (%) <0.1 <0.1 <0.1 <0.1 >4µm(c) 378 226 288 172 >6µm(c) 206 123 155 93 1300 >14µm(c) 38 21 26 18 160 >21µm(c) 38 21 26 18 160 >21µm(c) 31 26 38 20 >20 123 155 93 1300 >14µm(c) 38 21 26 18 160 >21µm(c) 31 11 1 0 >70µm(c) 0 0 0 0 >70µm(c) 0 0 0 0 So 4406(c) 15/12 14/12 14/11 14/11 >70IL CONDITION Sample Date 04/28/16/07/26/16/09/06/16 Current Barium 0.0 0.0 0.0 0.1 Calcium 3593 3577 3314 2955 Magnesium 47 39 32 228 Molybdenum 0.2 0.2 0.2 0.2 Phosphorus 1011 984 1016 912 Sulfur 4758 4713 4866 4286 Zinc 1199 1227 1096 985 Visc 40°C (eSt) 44.16 44.48 44.7 40.53 Visc 100°C (eSt) Nimg/KOH/g) WEAR Sample Date 04/28/16/07/26/16/09/06/16 Current PQ Iron 56 54 46 52 20 Nickel 0.9 0.6 0.5 0.4 Chromium 9.6 8.7 7.3 6.8 10 Titanium 0.0 0.1 0.0 0.0 Titanium 70 43 35 29 Tin 8.8 5.0 0.0 0.0 Tin 8.8 5.0 0.0 0.0 Tin Tin 10 10 10 Tin 10 10 10 Tin Tim Tim Tin Tim Tim Tim Tim Tim Tim Tin Tim			Filter Maint.	changed	n/a	changed	not chg	
Silicon 30 31 26 38 20	CONTAMINATION		Sample Date	04/28/16	07/26/16	09/06/16	Current	Abn
Pollas Stiff 0.0 0.0 0.0 0.7 0.7 0.1	There is no indication of any contamination in the component. The		Silicon	30	31	26	38	20
Water (%) <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <			Potassium	0.0	0.0	0.0	0.7	20
Semple Date 04/28/16/07/26/16/09/06/16 Current Base Calcium Soy 35 35 35 36 36 36 36 36			Water (%)	< 0.1	< 0.1	< 0.1	< 0.1	0.1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			>4μm(c)	378	226	285	172	
S21\tm(c)			>6μm(c)	206	123	155	93	1300
S38µm(c) 1 1 1 0 0 0 0 0 0 0			>14µm(c)	35	21	26	15	160
Solution Solution			>21µm(c)	11	7	8	5	
SO 4406(c) 15/12 14/12 14/12 14/11 >17/14 >17/14 >17/14 >17/14 >17/14			>38µm(c)	1	1	1	0	
Sample Date 04/28/16/07/26/16/09/06/16 Current Boron 53 61 62 53 53 53 53 53 53 53 5			>70µm(c)	0	0	0	0	
Boron 53 61 62 53			ISO 4406(c)	15/12	14/12	14/12	14/11	>17/14
Boron 53 61 62 53	OIL CONDITION		Sample Date	04/28/16	07/26/16	09/06/16	Current	Base
Calcium 3593 3577 3314 2955 suitable for further service. Calcium 3593 3577 3314 2955 Magnesium 47 39 32 28 Molybdenum 0.2 0.2 0.2 0.2 0.2 Phosphorus 1011 984 1016 912 Sulfur 4758 4713 4866 4286 Sulfur 4758 4713 4866 4286 Zinc 1190 1227 1096 985 Visc 40°C (cSt) 44.16 44.48 44.7 40.53 AN (mg/KOH/g) 1.96 2.07 1.900 1.650 BN (mg/KOH/g) AN (mg/KOH/g) Iron 56 54 46 52 20 Nickel 0.9 0.6 0.5 0.4 Iron 56 54 46 52 20 Nickel 0.9 0.6 0.5 0.4 Chromium 9.6 8.7 7.3 6.8 10 Titanium 0.0 0.1 0.0 0.0 Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 0.0 10			Boron	53	61	62	53	
Magnesium 47 39 32 28 Molybdenum 0.2 0.2 0.2 0.2 Phosphorus 1011 984 1016 912 Sulfur 4758 4713 4866 4286 27 1096 985 27 1096 985 28 28 28 28 Molybdenum 0.2	Oil Type: 90 GAL of MIX OF JD/	TRC/KENDALL HYD OIL	Barium	0.0	0.0	0.0	0.1	
Magnesium 47 39 32 28 Molybdenum 0.2 0.2 0.2 0.2 0.2 Molybdenum 0.2 0.2 0.2 0.2 0.2 0.2 Molybdenum 0.2 0	The AN level is acceptable for this fluid. The condition of the oil is		Calcium	3593	3577	3314	2955	
Phosphorus 1011 984 1016 912	-		Magnesium	47	39	32	28	
Sulfur			Molybdenum	0.2	0.2	0.2	0.2	
Zinc 1190 1227 1096 985 Visc 40°C (cSt) 44.16 44.48 44.7 40.53 Visc 100°C (cSt)			Phosphorus	1011	984	1016	912	
Visc 40°C (cSt)			Sulfur	4758		4866	4286	
Visc 100°C (cSt)			Zinc	1190	1227			
AN (mg/KOH/g) 1.96 2.07 1.900 1.650			Visc 40°C (cSt)	44.16	44.48	44.7	40.53	
BN (mg/KOH/g) WEAR			Visc 100°C (cSt)					
Sample Date 04/28/16/07/26/16/09/06/16 Current Abn				1.96	2.07	1.900	1.650	
All component wear rates are normal. PQ			BN (mg/KOH/g)					
All component wear rates are normal. Iron 56 54 46 52 20 Nickel 0.9 0.6 0.5 0.4 Chromium 9.6 8.7 7.3 6.8 10 Titanium 0.0 0.1 0.0 0.0 Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10	WEAR		Sample Date	04/28/16	07/26/16	09/06/16	Current	Abn
Nickel 0.9 0.6 0.5 0.4 Chromium 9.6 8.7 7.3 6.8 10 Titanium 0.0 0.1 0.0 0.0 Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10	All common out visces notes and manual		PQ					
Chromium 9.6 8.7 7.3 6.8 10 Titanium 0.0 0.1 0.0 0.0 Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10	An component weat rates are normal.		Iron		54			20
Titanium 0.0 0.1 0.0 0.0 Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10								
Copper 241 241 171 163 75 Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10								10
Aluminum 7.0 4.3 3.5 2.9 10 Tin 8.8 5.0 0.0 0.0 10								
Tin 8.8 5.0 0.0 0.0 10								
Lead 0.0 1.1 0.6 0.4 10					5.0			
			Lead	0.0	1.1	0.6	0.4	10