Rotary Screw Air Compressor Maintenance Chart

Submission ID

4253862525717876917

Submission Date

02-07-2019 16:04:13

Name

Caleb Carpenter

Rig#

106

Start Date

02/07/2019

Completed Date

02/07/2019

Oil Type

Summit sh46

	OLD	NEW
#1 Compressor Style	✓	-
#2 Compressor Style	✓	-

	#1 Compressor	#2 Compressor
MODEL #:	50dg	50dg
SERIAL #:	040069	040070
ASSET #:	2-249	2-250
HOURS #:	18763	30110

	#1 Compressor	#2 Compressor
Changed Oil	✓.	✓.
Changed Oil Filter	✓	✓
Changed Air Filter	✓	✓.
Changed Seperator	✓	✓
Pull and wash cooler core	-	-
Added new oil sample valve	-	-
Check and inspect drive couplings	✓	✓.
Drain water from tank	✓	~
Open panel door and check to be secure	~	~
Check all signal lines (black plastic)	✓	✓
Ensure it is clean and wash with solvent	✓.	✓.

	Asset #	Hours #
Reading	2-1482	4

Cold Start Model

Kubota

Containment	Small				
			Ye	es	No
	Change Engine Oil				~
	Change Engine Oil Filter				~
	Change Air Filter				✓
	Change Fuel Filter				✓
	Took Oil Sample		-		✓
		Da	ate	Н	ours#
	MARK DATE AND HOURS ON FILTER				4
Action Items	#2 compressor hour meter bad needs replace #1 comp, brass nut on top of seperator need				

#1 comp, brass nut on top of seperator r

Mike Almond
David Baker
Caleb Carpenter
Frank Smith

Cold start new with only 4 hours
Cooler cores clean on compressors
Replaced drive coupling #1 compressor
Compressors really clean

Ticket Status Open



Engine Inspection Form

Rig#

106

Date Maintenance Started

Tuesday, February 26, 2019

Date Maintenance Completed

Tuesday, February 26, 2019

Name

Randy Reid

Total Hours:

10

Job Title

Engine mechanic

Additional Technicians

Yes

Check all that apply

Larry Bennet

Fuel Tank Sample

Yes

Action Items

#1 fanshaft +bearing #2 right side air shutoff won't trip

#1 Engine Antifreeze

Red

#1 Engine Freeze Point

-30

Aftercooler?

Yes

Aftercooler Antifreeze

Red

#1 AC- Freeze Point

-30

#2 Engine Antifreeze

Red

#2 Engine Freeze Point

-30

Aftercooler?

Yes

Aftercooler Antifreeze

Red

#2 AC- Freeze Point

-30

#3 Engine Antifreeze

Red

#3 Engine Freeze Point

-35

Aftercooler?

Yes

Aftercooler Antifreeze

Red

#3 AC- Freeze Point

-40

Generator

Email the following:

Mike Almond

Frank Smith

Nathan Arnett

Caleb Carpenter

David Baker

Work Order Status

Opened

Exciter Air Gap

	Тор	Bottom	Left Side.	Right Side
Gen. #1	.050	.070	.070	.040
Gen. #2	.040	.050	.040	.045
Gen. #3	.040	.045	.045	.050
Gen. #4				

	#1	#2	#3	#4
Grease and inspect for wear	✓	~	✓	
Clean generator and blow out if necessary	✓	~	✓	
Check and record exciter air gap	<u> </u>	✓	<u>~</u>	

Generator Asset Information

	Model Number	Gen. Asset	KW.	1 or 2 Brg.	RPM
#1 Generator	Aa27673008	24-425	1204	2	1200
#2 Generator	A2667100000	24-136	1204	2	1200
#3 Generator	Aa27098017	24-362	1204	2	1200
#4 Generator					
Top Drive					

Generator

	Kato	MTU	Cat	GE	Marathon	Spectrum	Magnamax	Baylor
#1 Generator	✓							
#2 Generator	✓							
#3 Generator	✓							
#4 Generator								
Top Drive								

Genset Engines

	#1 Genset	#2 Genset	#3 Genset	#4 Genset
Tighten pan bolts on D-379, D-398, D- 399				
Ensure D-3508 & D- 3512 individual gauge panels has been silicone to prevent water entry	✓	✓	✓	
Clean water passages on water cooled turbo's (one time only)				
Run overhead valve train	✓	✓	<u>~</u>	
Grease fan hub bearings and idler bearings	✓	<u>~</u>	✓	
Inspect and clean radiators. NOTE: Wash in opposite direction of air flow; (You should be able to see clearly through the radiators fins)				
Test shutdown system	✓	✓	<u>~</u>	
Installed new belts				
Check & clean auxiliary oil filter	✓	✓	✓	
Make sure crank case filters and being serviced (On 3508, 3512)	✓	<u>~</u>	✓	

Belt Information

	Belt Number	Radiator Fan Bearing	Idler Bearing	Pulley Size	Shaft Size: Idler Shaft	Shaft Size: Fan Shaft
Record Information	5vx1120	2 7/16 narrow	2 3/16 blower		2 3/16×19	2 7/16×67

#3 AC- Extended Life

Pass	Test
Fail	

#3 Extended Life

Pass	Test
Fail	

Belt Information

	Belt Number	Radiator Fan Bearing	Idler Bearing	Pulley Size	Shaft Size: Idler Shaft	Shaft Size: Fan Shaft
Record Information	5vx1120	2 7/16 narrow	2 3/16 blower		2 3/16×19	2 7/16×67

#2 AC- Extended Life

Pass	Test
Fail	

#2 Extended Life

Pass	Test
Fail	

Belt Information

	Belt Number	Radiator Fan Bearing	Idler Bearing	Pulley Size	Shaft Size: Idler Shaft	Shaft Size: Fan Shaft
Record Information	5vx1120	2 7/16- narrow	2 3/16 blower		2 3/16×19	2 7/16×67

#1 AC- Extended Life

Pass	Test
Fail	

#1 Extended Life

Pass	Test
Fail	

Genset Asset Information

	Asset #	Serial #	Hours	Manufacture	Model
#1 Engine	22-299	4aw	3058	Cat	3512b
#2 Engine	22-297	4aw	3073	Cat	3512b
#3 Engine	22-271	4aw	3024	Cat	3512b
#4 Engine					

Pump Inspection Form

Rig#

106

Date Maintenance Started

Friday, March 29, 2019

Date Maintenance Completed

Friday, March 29, 2019

Name

Chris Calvillo

Job Title

Mechanic

My E-mail

chris.calvillo@unitcorp.com

Check all that apply:

Cory Calvillo

Grant Bural

Robert Lovett

Travel Time to Rig:

From:

Shop

To:

Home

Total Hrs:

13

Action Items

Pump #1 needs plate on bullwheel to be able to roll pump by hand #2 7500lb dampner showing zero pressure on guage

Time at Rig:

10

Travel Time from Rig:

1.5

1

Pump Asset Info.

	Pump #1	Pump #2	Pump #3
Asset #	38-468	38-469	
Make	Import	Import	
Model	1600	1600	

1 Pump GENERAL INSPECTION CHECKLIST

	Inspect
Check all Oil Lines	✓
Check all tied Bolts	▽
Drain & Check Cleanouts	▽
Check & Clean, gear end with diesel if needed	
Pony Rod Alignment	✓
Check Pony Rods for Cracks & Wear (Replace if necessary)	▽
Check Piston Rods for Cracks & Wear (Replace if necessary)	▽
Check Clamps for Wear (Replace if necessary)	<u>✓</u>
Check all bearings with mirror for Pitting & Flaking	<u>✓</u>
Check all oil pump screen	<u>✓</u>
Check pillow block bearings on independent pump	
On inspection replace pony rod seals (Regardless if the rig says they have already been changed seals still need to be checked) replace gaskets if need do not use silicone unless need to fill a void. (do not use to excess because it gets into gear end)	✓

1 Pump "Continental Emsco" Checklist

	Inspect
Oil pressure and guage	<u>✓</u>
Check pony rod wiper if equipped, if not equipped with wiper, get parts to correct.	<u>✓</u>
Check to see if baffle plates are doweled in pump.	<u>✓</u>

1 Pump Action Items

Needs plate to be able to roll pump by hand

1 Pump Recommended Running Clearances

	Reading
Crosshead to slide - Left - Min .030 Max .045	.030
Crosshead to slide - Center - Min .030 Max .045	.027
Crosshead to slide - Right - Min .030 Max .045	.032
Main Bearing - Left - Min .005 Max .020	.012
Main Bearing - Right - Min .005 Max .020	.007
Pinion Shaft Bearing - Left - Min .002 Max .015	.010
Pinion Shaft Bearing - Right - Min .002 Max .015	.009
Crosshead Pin Bearing - Left - Min .002 Max .005	Good
Crosshead Pin Bearing - Center - Min .002 Max .005	Good
Crosshead Pin Bearing - Right - Min .002 Max .005	Good
Connecting Rod to Eccentric Bearing - Left - Min .002 Max .020	.007
Connecting Rod to Eccentric Bearing - Center - Min .002 Max .020	.008
Connecting Rod to Eccentric Bearing - Right - Min .002 Max .020	.013
Oil Pump Pinion Shaft to Main Gear, Backlash - Left - Min .010 Max .025	N/a
Pinion Shaft to Main Gear, Backlash - Right - Min .010 Max .050	.032
Bull Gear Wear - Findings	Good
Pinion Gear Wear - Findings	Good
Pinion Gear Wear - Findings	Good
Discharge Dampner Charge Pressure - PSI Reading	2000psi

#2 Pump GENERAL INSPECTION CHECKLIST

	Inspect
Check all Oil Lines	
Check all tied Bolts	▽
Drain & Check Cleanouts	<u>✓</u>
Check & Clean, gear end with diesel if needed	
Pony Rod Alignment	
Check Pony Rods for Cracks & Wear (Replace if necessary)	▽
Check Piston Rods for Cracks & Wear (Replace if necessary)	▽
Check Clamps for Wear (Replace if necessary)	▽
Check all bearings with mirror for Pitting & Flaking	▽
Check all oil pump screen	<u> </u>
Check pillow block bearings on independent pump	
On inspection replace pony rod seals (Regardless if the rig says they have already been changed seals still need to be checked) replace gaskets if need do not use silicone unless need to fill a void. (do not use to excess because it gets into gear end)	

2 Pump Action Items

Dampner showing zero pressure

2 Pump Recommended Running Clearances

· ·	
	Reading
Crosshead to slide - Left - Min .030 Max .045	.038
Crosshead to slide - Center - Min .030 Max .045	.032
Crosshead to slide - Right - Min .030 Max .045	.030
Main Bearing - Left - Min .005 Max .020	.014
Main Bearing - Right - Min .005 Max .020	.013
Pinion Shaft Bearing - Left - Min .002 Max .015	.003
Pinion Shaft Bearing - Right - Min .002 Max .015	.005
Crosshead Pin Bearing - Left - Min .002 Max .005	Good
Crosshead Pin Bearing - Center - Min .002 Max .005	Good
Crosshead Pin Bearing - Right - Min .002 Max .005	Good
Connecting Rod to Eccentric Bearing - Left - Min .002 Max .020	.005
Connecting Rod to Eccentric Bearing - Center - Min .002 Max .020	.004
Connecting Rod to Eccentric Bearing - Right - Min .002 Max .020	.009
Oil Pump Pinion Shaft to Main Gear, Backlash - Left - Min .010 Max .025	.020
Pinion Shaft to Main Gear, Backlash - Right - Min .010 Max .050	.034
Bull Gear Wear - Findings	Good
Pinion Gear Wear - Findings	Good

Pinion Gear Wear - Findings	Good
Discharge Dampner Charge Pressure - PSI Reading	0psi
Suction Dampner Charge Pressure - PSI Reading	32psi

2 Pump "Continental Emsco" Checklist

	Inspect
Oil pressure and guage	✓
Check pony rod wiper if equipped, if not equipped with wiper, get parts to correct.	✓
	6
Check to see if baffle plates are doweled in pump.	✓

Email the Following

Mike Almond

Frank Smith

Nathan Arnett

Ticket Status

Open



RIG	106

Rig Inspection

NAME	Robert Lovett 8	& Steve	_				
JOB TITLE			_	Work C	order No.		
DATE MAINTEN	ANCE STARTED:	3/15	5/2019	COMF	PLETED	3/21/2	:019
EQUIPMENT DESC	RIPTION:			N-95			
SERIAL NUMBER:			ASSE	ET#:		15-80	
					T		
Travel Time to Rig		FROM:	HOME		SHOP		
Time at Rig:		_					
			HOME		SHOP		
Time from Rig		_FROM:					
			NITEMS				
New slack adjusters a	nd double clevis and	pin (COMP	LETED)				
Repaired main bearing	g grease line D.S. (C	OMPLETE))				
Repositioned arm for	crown-o-matic cylinde	er to allow fo	r full lockdov	vn (COMF	PLETED)		

OU NEED TO HAVE SIGNATURE'S AND TIME FILLED OUT ON FIRST PAG

Rig:	106				
Date:	3/21/2019				
_		Scheduled Rig Inspection Chec	k List		
Air He	oist:	.			
<u> </u>	in air motor.		#1 ASSET	27- N/A	
	ase in gear case.		#2 ASSET	27- N/A	
✓ Grease thro	-		#3 ASSET	27-	
	ke system for wear.		<u> </u>		
	e for fraying.				
		Comments:			
Bloc					
Check groo	oves for wear.		ASSET#	5-	
	oothness of roll.		ASSET#	67- COMBO	
	olay in bearings.			COMBO	
	ts are in place.				
Grease all z	zerks.	Commente			
		Comments:			
		Sent in 4 year			
Brak	ces:				
		Hydromatic Brakes:			
√ Jack bearing	ngs.		ASSET#	66- 107	
✓ Inspect cou	uplings. DS	0.004	ODS	0.005	
✓ Grease all a	zerks.				
		Comments:			
		Electric Brakes:			
Electric Br	ake Only:			66-	
		nit Drillings Specifications) Note: contact the mainter	nance department for in	structions.	
Take air ga	ip reading. ss shifting collars susp	Reading:			
	ts are in place and cle				
Grease all z		DC	000		
☐ Inspect bea	aring clearance	DSComments:	005		
		N/A			

Eaton Brake						66-	
Grease all zerk		DC			ODS		
☐ Inspect bearin	ween reaction pl		X gap		gap	7	gap
Record Quanti	·	_	•	•	yap		gap
	rake Temp Gaug	Number of discs es Drillers Console	·		At the Bra	ko	
Function brake	s Auto Safety Sy						-4
		bing (leaks, cracks, kinks		ıı & nyulat	uiic vveeki <u>y</u>	Check She	ฮเ
	•	ing system for correct op					
☐ Inspect flow m	eter for correct o	operation. Record GPM:					
Tolerances:		•			Test wit	h 25 psi of a	ir pressure
Disc Size	Qty of WC Discs	X new	X max (Adjustment)	Y new	Y min	Z new	Z min
	1	0.12	0.54	2.75	2.31	-	
36	3	0.24 0.36	0.66 0.78	2.75	2.31	2.75	2.31
	4	0.48	0.78	2.75	2.31	2.75	2.31
			Comments	:			
			N/A				
Dry Coo	lor					78-	
		nbing (leaks, cracks, kinks	s, crushed)			70-	
☐ Inspect coolar	nt tank low coola	nt alarm for correct opera	ation. NOTE: Does system	m still need to I	be installed?	YES	NO
	ecord coolant leve	el in tank.		Coolant	Level:		
Check fresh w	ater pressures	Inlot					
Flush Heat Ex	-	IIIIet			Outlet		
Drawwoi	ks:						
			Drum Shaft:	400	"	45.00	
	=	ers and clean screens.		ASS	6EI#	15- 80	
		l & oil quality. Clean pick	up screens.				
	es for wear and a	•					
✓ Inspect tight n	nember teeth for	wear and grease.	bearing readings				
√ DS	2	Jack	0.005				
_	her		0.007 L .012				
	her		H .013				
	her		11.013				
OI	1101		Comments	:			
Brake Link	kage:						
✓ Grease all zerl	ks and insure link	cage is tight.				15- 80	
✓ Inspect break							
_		nsure bolts are tight.					
Uneck bi	ake block th k measurem	nickness, record	DS	NEW		ODS	NEW

MPI Inspection on brake Linkage (brake bands, slack adjusters, equalizer without removal).					

In	put Shaft:			
✓ Inspect for leaking seals.			15- 80	
	D0	Jack bearing readings		
✓ ✓	DS	0.005		
	ODS	0.006		
	Other	L .015		
✓	Other	Barrel .010 Comments:		
	utput Shaft:			
✓ Grea	ase all zerks and inspe			
	DC	Jack bearing readings		
✓	DS	0.005		
✓	ODS	0.007		
	Other	L .020		
\checkmark	Other	Barrel .015 Comments:		
		33		
R	otary Counter	Shaft:		
✓ Grea	ase all zerks and inspe	-		
		Jack Bearings (Findings)		
<u> </u>	DS	0.003		
\Box	ODS	0.006		
	Other	L .015		
$\overline{\checkmark}$	Other	L .010		
	Other	0.004		
✓	Other	Barrel .010 Comments:		
		Comments.		
(Cat Shaft:			
✓ Grea	ase all zerks and inspe	ect oil system.		
✓ Grea	ase cathead with 4 sho			
	DC	Jack bearing readings	A C C C T # A	CO N/A
✓	DS	0.006	ASSET # N	68- N/A
	ODS	0.007	ASSET # E	68- N/A
	Other			
\sqcup	Other			

Compound:		_	15- 80	
_	Engine shafts:			_
#1 DS	#1 ODS			
#2 DS	#2 ODS			
#3 DS	#3 ODS			
	Pump drive shaft:			
#1 DS	#1 ODS			
#2 DS	#2 ODS			
	Pump sheave shaft	:		
#1 DS	#1 ODS			
#2 DS	#2 ODS			
Grease all zerks and inspect	oil system.			
Inspect all chains for wear.				
Ensure all oil pumps are worl	king properly.			
Change all filters and clean s	creens.			
	Comment	is:		
	N/A			
Hook:		ASSET#	28-	
Check oil in snubber.		•		_
_		ASSET#	67- COMBO	_
Grease all zerks.			3323	
☐ Visually check for cracks or v				
Rotate hook and feel for smo				
Ensure lock is working prope				
	Comment	is:		
	N/A			
Kelly Spinner:				
Run spinner and check bearing	ngs.	ASSET#	69-	
Ensure air pressure is 90 PSI	i.			_
Grease all zerks.				
	Comment	s:		
	N/A			
Mud Pumps:				
✓ Fill out pump inspection repo	ort.	ASSET#	#1 38- 450	
✓ Check piston rods and replace		ASSET #	#2 38- 449	_
✓ Check rod clamps and replace		<u></u>		_
	Comment	ASSET #	#3 38-	_
	2.2.3.3.3.3.			

Independent Pump Drive #1:									
Inspect belts and sheave grooves for wear.									
☐ Inspect chains and chain sprockets for wear.									
Inspect clutch and clutch drum.									
Check air lines and record PSI.	PSI								
Record bearing play on engine side of shaft.	Reading								
Record bearing play on pump side of shaft.	Reading								
	Comments								
N/A									
Independent Pump Drive #2									
☐ Inspect belts and sheave grooves for wear.									
☐ Inspect chains and chain sprockets for wear.									
Inspect clutch and clutch drum.									
Check air lines and record PSI.	PSI								
Record bearing play on engine side of shaft.	Reading								
Record bearing play on pump side of shaft.	Reading								
	Comments:								
N/A									
Over running clutch:									
Roll clutch and check oil.									
✓ Check seals for leaks. Note: identify leak found in comments section.)									
Service clutch and grease splines.									
✓ Changed Oil									
	Comments:								
Pipe Spinners:									
Ensure Spinner is hung level with drill pipe.		ASSET#	41-						
☐ Inspect drive chains and rollers for wear. (clean if necessary)	1								
Grease all zerks and check hanger spring.									
	Comments:								
N/A									

Rotary Table:									
Pull top off and wash mud out of table.			ASSET#	44-					
☐ Inspect through bore.									
Record main bearing play.		Reading							
Record pinion bearing play.		Reading							
Record backlash play in gears.		Reading							
Check quality of oil									
Comments:									
Sent in									
Swivel:									
Clean mud accumulation around top seals	s and install mud guard.		ASSET#	50-					
Roll check swivel for smoothness of roll.									
Record endplay readings. Radial run out.		Reading							
Check quality of oil									
	Com	ments:							
N/A									
Crown:									
✓ Inspect grooves for wear.			ASSET#	10- 80					
✓ Check for play in bearings.			ASSET#	10- 60					
✓ Check for smoothness of roll.									
✓ Grease all zerks.									
Comments:									
Fail Cafe Custom									
Fail Safe System: Test System									
ST-80									
	Comments								
Test operation & check leaks									
Perform ST-80 Inspection Form									
Service ST-80 HPU									
HPU									
		Com	nments						
Run HPU & check leaks									
Change all filters									

UNIT DRILLING RIG 106 GENERAL LAYOUT

Last Revision: 4/28/2015

