

## 4ALOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date Sunday 11-18-2018	Remote monitor Start: 7:00 AM Site Visit start 11:15 AM	Remote Monitor End: 11:30PM Site Visit end 12:45 PM
Condition: Temperature 31-56 we are 41 now at 5:00 PM	x <input type="checkbox"/> Partly cloudy to cloudy <input type="checkbox"/> Balmy		
Precip in the past 24 hrs: 0. inches	Wind: (mph): calm 4-10mph		

### PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored system remotely. 7:00 AM – 11:30 PM and whenever I wake during the night this goes on a 24–7 schedule as needed. The timers are working well with the restart of the Digester pumps. I am going to leave them as they are for now. I started the Gravity flow Flare and it is running 10+ CFM even though it does not seem to register on SCADA and I am glad because we had a shut down on Tuesday and Wednesday and died during the evening on Thursday and again after site visit on Friday. Monitored off and on Saturday Flare burned at 10+CFM all the time. We need to burn all the gas that we can the volume is high. Site visit to try and restart system I had to do a hard boot of the Skid and the MT before I could get the System to run properly. When I did the hard boot on the Skid the communication with SCADA came back?? We are running I am heading home with fingers crossed.

### ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

### CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

### MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
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Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

#### BIOGAS & POWER SYSTEMS OBSERVATIONS:

Equipment Observed:	Operational Status				
Unison Gas Skid <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
Microturbine <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
Biogas System	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

#### UNISON GAS CONDITIONING LOG

Pressure Data	PIT 311 -5 to 10 inWC -0.1	PIT 331 88 to 110psig 97.39	PIT 351 88 to 110 psig 91.8	Pressure Differential 2.0	Panel Door	HM 331 Hours 7060	
Temperature Data	TE 141 32 to 45 F 35.1	TE 311 40 to 115 F 83.1	TE 321 35 to 75 F 46.6	TE 331 80 to 220 F 186.5	TE 341 33 to 45 F 35.2	TE 342 65 to 90 F 88.3	TE 31 35 to 115 F
Glycol Piping	TI 141 32 to 45 F	PI 141 35 to 52 psig	FI 141 2.5 to 3.5 gpm	TI 142 35 to 50 F	PI 142 33 to 50 psig	TI 111 38 to 52 F	PI 111 30 to 48 psig
Oil Piping	PI 231 90 to 110 psig	TI 231 178 to 215 F	PI 232 85 to 105 psig	TI 232 130 to 180 F	PI 233 80 to 100 psig	TI 233 168 to 185 F	PI 234 78 to 100psig
Gas Piping	PIT 311 -10 to 10inWC	TI 311 40 to 115 F	TI 321 35 to 75 F	PDI 321 0 to 6 inWC	PI 331 90 to 110 psig	TI 331 80 to 220 F	PI 332 90 to 110psig
Gas Piping	TI 341 80 to 220 F	PI 341 90 to 110 psig	TI 342 115 to 155 F	PI 342 90 to 110 psig	TE 343 33 to 45 F	PI 343 90 to 110 psig	
Gas Piping	TI 351 65 to 90 F	PI 351 88 to 15 psig	Check Indicators	LI 721	LI 231	LI 741	

#### PERSONNEL PRESENT:

Name	Affiliation	Phone Number/Email

## 4ALOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

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Entry Made By: Marvin and Kevin	Date Monday 11-19-2018	Remote monitor Start: 7:00 AM Site Visit start 12:00 PM	Remote Monitor End: 11:30PM Site Visit end 4:00 PM
Condition: Temperature 44-65 we are 64 now at 3:00 PM	x <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Balmy		
Precip in the past 24 hrs: 0. inches	Wind: (mph): calm 4-10mph		

### PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored system remotely. 7:00 AM – 11:30 PM and whenever I wake during the night this goes on a 24–7 schedule as needed. The timers are working well with the restart of the Digester pumps. I am going to leave them as they are for now. I started the Gravity flow Flare and it is running 10+ CFM even though it does not seem to register on SCADA and I am glad because we had a shut down on Tuesday and Wednesday and died during the evening on Thursday and again after site visit on Friday. Monitored off and on Saturday Flare burned at 10+CFM all the time. We need to burn all the gas that we can the volume is high. Site visit to try and restart system Kevin restarted and was able to re-establish the communication Skid to SCADA by resetting at the panel several times. The MT started as it should at 12:52 PM. We started the flare through the conditioner and opened 2 vents at 1:45 PM. We had a shutdown at 3:16 PM and a quick restart. We shut the vents off at 3:45 venting for 2 hours. I cut the flare off coming through the Skid and restarted the Gravity flow Flare and it is running 10+ CFM.

### ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

### CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

**MOTOR DATA:**

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

Equipment Observed:	Operational Status				
<b>Unison Gas Skid</b> <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
<b>Microturbine</b> <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

Name	Affiliation	Phone Number/Email



# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

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Entry Made By: Kevin and Marvin	Date Tuesday 11-20-2018	Remote monitor Start: 7:00 AM Site Visit start 10:00 PM	Remote Monitor End: 11:30PM Site Visit end 4:30 PM
Condition: Temperature 44-65 we are 64 now at 3:00 PM	x <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Balmy		
Precip in the past 24 hrs: 0. inches	Wind: (mph): calm 4-10mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Took quarterly water samples Had to reset the comms on the unison panel shut down yesterday, acting like power is lost on the panel or something is going bad, was able to restart Skid and MT at 10:30. Let unison know the issues hopefully get it fix and or a site visit soon. Think we have 2 bad level switches on the skid, they keep tripping off and one for 5- 30 sec, once they are one for 30 sec the alarm is tripped, one is a high level switch and is causing a shut down, again let unison know. We installed the new camera and set it up on team viewer. We did a walk around and up on top to check for leaks

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

#### BIOGAS & POWER SYSTEMS OBSERVATIONS:

Equipment Observed:	Operational Status				
Unison Gas Skid <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
Microturbine <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
Biogas System	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

#### UNISON GAS CONDITIONING LOG

Pressure Data	PIT 311 -5 to 10 inWC -0.1	PIT 331 88 to 110psig 97.39	PIT 351 88 to 110 psig 91.8	Pressure Differential 2.0	Panel Door	HM 331 Hours 7060	
Temperature Data	TE 141 32 to 45 F 35.1	TE 311 40 to 115 F 83.1	TE 321 35 to 75 F 46.6	TE 331 80 to 220 F 186.5	TE 341 33 to 45 F 35.2	TE 342 65 to 90 F 88.3	TE 31 35 to 115 F
Glycol Piping	TI 141 32 to 45 F	PI 141 35 to 52 psig	FI 141 2.5 to 3.5 gpm	TI 142 35 to 50 F	PI 142 33 to 50 psig	TI 111 38 to 52 F	PI 111 30 to 48 psig
Oil Piping	PI 231 90 to 110 psig	TI 231 178 to 215 F	PI 232 85 to 105 psig	TI 232 130 to 180 F	PI 233 80 to 100 psig	TI 233 168 to 185 F	PI 234 78 to 100psig
Gas Piping	PIT 311 -10 to 10inWC	TI 311 40 to 115 F	TI 321 35 to 75 F	PDI 321 0 to 6 inWC	PI 331 90 to 110 psig	TI 331 80 to 220 F	PI 332 90 to 110psig
Gas Piping	TI 341 80 to 220 F	PI 341 90 to 110 psig	TI 342 115 to 155 F	PI 342 90 to 110 psig	TE 343 33 to 45 F	PI 343 90 to 110 psig	
Gas Piping	TI 351 65 to 90 F	PI 351 88 to 15 psig	Check Indicators	LI 721	LI 231	LI 741	

#### PERSONNEL PRESENT:

Name	Affiliation	Phone Number/Email

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

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Entry Made By: Marvin	Date Wednesday 11-21-2018	Remote monitor Start: 7:00 AM Site Visit start 6:15 PM	Remote Monitor End: 11:30PM Site Visit end 7:30 PM
Condition: Temperature 32-59 we are 46 now at 7:17 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip in the past 24 hrs: 0. inches	Wind: (mph): calm 4-10mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Took quarterly water samples Had to reset the comms on the unison panel shut down yesterday, acting like power is lost on the panel or something is going bad, was able to restart Skid and MT at 10:30. Let unison know the issues hopefully get it fix and or a site visit soon. Think we have 2 bad level switches on the skid, they keep tripping off and one for 5- 30 sec, once they are one for 30 sec the alarm is tripped, one is a high level switch and is causing a shut down, again let unison know. We did a site visit to restart same problem shutdown for condensate that is not there and faults out so we can not restart remotely but have to go to site to manually restart. Gravity Flare is burning at 10+ CFM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

#### BIOGAS & POWER SYSTEMS OBSERVATIONS:

Equipment Observed:	Operational Status				
Unison Gas Skid <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
Microturbine <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
Biogas System	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

#### UNISON GAS CONDITIONING LOG

Pressure Data	PIT 311 -5 to 10 inWC -0.1	PIT 331 88 to 110psig 97.39	PIT 351 88 to 110 psig 91.8	Pressure Differential 2.0	Panel Door	HM 331 Hours 7060	
Temperature Data	TE 141 32 to 45 F 35.1	TE 311 40 to 115 F 83.1	TE 321 35 to 75 F 46.6	TE 331 80 to 220 F 186.5	TE 341 33 to 45 F 35.2	TE 342 65 to 90 F 88.3	TE 31 35 to 115 F
Glycol Piping	TI 141 32 to 45 F	PI 141 35 to 52 psig	FI 141 2.5 to 3.5 gpm	TI 142 35 to 50 F	PI 142 33 to 50 psig	TI 111 38 to 52 F	PI 111 30 to 48 psig
Oil Piping	PI 231 90 to 110 psig	TI 231 178 to 215 F	PI 232 85 to 105 psig	TI 232 130 to 180 F	PI 233 80 to 100 psig	TI 233 168 to 185 F	PI 234 78 to 100psig
Gas Piping	PIT 311 -10 to 10inWC	TI 311 40 to 115 F	TI 321 35 to 75 F	PDI 321 0 to 6 inWC	PI 331 90 to 110 psig	TI 331 80 to 220 F	PI 332 90 to 110psig
Gas Piping	TI 341 80 to 220 F	PI 341 90 to 110 psig	TI 342 115 to 155 F	PI 342 90 to 110 psig	TE 343 33 to 45 F	PI 343 90 to 110 psig	
Gas Piping	TI 351 65 to 90 F	PI 351 88 to 15 psig	Check Indicators	LI 721	LI 231	LI 741	

#### PERSONNEL PRESENT:

Name	Affiliation	Phone Number/Email

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Entry Made By: Marvin	Date Thursday thru Monday morning 11-22-26-2018	Remote monitor Start: 7:00 AM Site Visit start PM	Remote Monitor End: 11:30PM Site Visit end PM
Condition: Temperature 31-56 we are 41 now at 5:00 PM	x <input type="checkbox"/> Cloudy and raining <input type="checkbox"/> Balmy		
Precip in the past 24 hrs: 0. inches		Wind: (mph): calm 4-10mph	

### PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored system remotely. 7:00 AM – 11:30 PM and whenever I wake during the night this goes on a 24–7 schedule as needed. The timers are working well with the restart of the Digester pumps. I am going to leave them as they are for now. I started the Gravity flow Flare and it is running 10+ CFM even though it does not seem to register on SCADA and I am glad because we had a shut down on Tuesday and Wednesday and died during the evening on Thursday and again after site visit on Friday. Monitored off and on Saturday Flare burned at 10+CFM all the time. We need to burn all the gas that we can the volume is high.

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Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

### CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

### MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
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Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

#### BIOGAS & POWER SYSTEMS OBSERVATIONS:

Equipment Observed:	Operational Status				
Unison Gas Skid <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
Microturbine <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
Biogas System	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

#### UNISON GAS CONDITIONING LOG

Pressure Data	PIT 311 -5 to 10 inWC -0.1	PIT 331 88 to 110psig 97.39	PIT 351 88 to 110 psig 91.8	Pressure Differential 2.0	Panel Door	HM 331 Hours 7060	
Temperature Data	TE 141 32 to 45 F 35.1	TE 311 40 to 115 F 83.1	TE 321 35 to 75 F 46.6	TE 331 80 to 220 F 186.5	TE 341 33 to 45 F 35.2	TE 342 65 to 90 F 88.3	TE 31 35 to 115 F
Glycol Piping	TI 141 32 to 45 F	PI 141 35 to 52 psig	FI 141 2.5 to 3.5 gpm	TI 142 35 to 50 F	PI 142 33 to 50 psig	TI 111 38 to 52 F	PI 111 30 to 48 psig
Oil Piping	PI 231 90 to 110 psig	TI 231 178 to 215 F	PI 232 85 to 105 psig	TI 232 130 to 180 F	PI 233 80 to 100 psig	TI 233 168 to 185 F	PI 234 78 to 100psig
Gas Piping	PIT 311 -10 to 10inWC	TI 311 40 to 115 F	TI 321 35 to 75 F	PDI 321 0 to 6 inWC	PI 331 90 to 110 psig	TI 331 80 to 220 F	PI 332 90 to 110psig
Gas Piping	TI 341 80 to 220 F	PI 341 90 to 110 psig	TI 342 115 to 155 F	PI 342 90 to 110 psig	TE 343 33 to 45 F	PI 343 90 to 110 psig	
Gas Piping	TI 351 65 to 90 F	PI 351 88 to 15 psig	Check Indicators	LI 721	LI 231	LI 741	

#### PERSONNEL PRESENT:

Name	Affiliation	Phone Number/Email

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date Monday 11-26-2018	Remote monitor Start: 7:00 AM Site Visit start 4:00 PM	Remote Monitor End: 11:30PM Site Visit end 7:30 PM
Condition: Temperature 28-59 we are 46 now at 7:17 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip since Wednesday 11-21-18 0.80 inches	Wind: (mph): calm 4-10mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Had to reset the comms on the unison panel shut down yesterday, acting like power is lost on the panel or something is going bad, was able to restart Skid and MT at 4:00PM. I emailed unison about the issues site and asked for a site visit hopefully get it fix as soon as possible. Think we have 2 bad level switches on the skid, they keep tripping off We did a site visit to restart same problem shutdown for condensate that is not there and faults out so we can not restart remotely but have to go to site to manually restart. Gravity Flare is burning at 10+ CFM Started venting at two vents at 4:05 PM and closed them at 5:05 PM By the time I got home at 8 it shut down

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

**MOTOR DATA:**

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

Equipment Observed:	Operational Status				
<b>Unison Gas Skid</b> <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
	20.9				
<b>Microturbine</b> <i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

Name	Affiliation	Phone Number/Email



# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date Tuesday 11-27-2018	Remote monitor Start: 7:00 AM Site Visit start 10:00 AM	Remote Monitor End: 11:30PM Site Visit end 2:10 PM
Condition: Temperature 30-44 we are PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip since Wednesday 11-21- 0.80 inches	Wind: (mph): calm 5-15 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored all during the night to see if flare was continuing to burn at 10 CFM Site visit today to restart the system. I shut off the Gravity Flare at 11:00 AM and opened the valve and flared with gas through the skid at feed=28.4 and flow = 21.4 CFM The skid is running with the fault light showing on SCADA but the MT and skid are running full. I know when it shuts down I will have to be here to restart. At 2:00 PM I went back to Gravity Flare at 10+ CFM. The skid and Mt have been running 4 hours. The red fault light is still showing on SCADA but the system is running and it will fault out if I mess with it and we need to burn gas and make KWs. System shutdown at 3:10PM Flare continued to burn at 10+ CFM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	

<b>Jet Motive Pump # 2</b>		<b>60Hz</b>	
<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date Wednesday 11-28-2018	Remote monitor Start: 7:00 AM Site Visit start 1:20 PM	Remote Monitor End: 11:30PM Site Visit end 10:30 PM
Condition: Temperature 30-42 we are 39 at 1:51 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip since Wednesday 11-21- 0.80 inches	Wind: (mph): calm 5-15 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored all during the night to see if flare was continuing to burn at 10 CFM Site visit today to restart the system. I shut off the Gravity Flare at 2:38 PM and opened the valve and flared with gas through the skid at feed=30.4 and flow = 25.4 CFM The skid is running with the fault light showing on SCADA but the MT and skid are running full. At 2:00 PM I shut system down and did a hard boot and this time the fault light on SCADA picture of the skid went off and the Unison screen started registering data. At 2:08 we are running full bore. back to Gravity Flare at 10+ CFM. The skid and Mt have been running 4 hours. The red fault light is still showing on SCADA but the system is running and it will fault out if I mess with it and we need to burn gas and make KWs. System shutdown at 3:10PM re-fired at 4:10-shutdown@5:27 restart at 8:57-shutdown@11:57 Flare continued to burn at 10+ CFM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	

<b>Jet Motive Pump # 2</b>		<b>60Hz</b>	
<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

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Entry Made By: Marvin	Date: Thursday 11-29-2018	Remote monitor Start: 7:00 AM Site Visit start 12:45 PM	Remote Monitor End: 11:30PM Site Visit end 3:30 PM
Condition: Temperature 24-51 we are 49 at 1:51 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored all during the night to see if flare was continuing to burn at 10 CFM Site visit today to restart the system. I shut off the Gravity Flare at 1:21 PM and opened the valve and flared with gas through the skid at feed=30.4 and flow = 25.4 CFM The skid is running with the fault light showing on SCADA. At 12:50 PM I did a hard boot and this time the fault light on SCADA picture of the skid went off and the Unison screen started registering data. Shut down @2:52PM; Re-start; shut down-restart@3:01 I reset the Flare to burn at 10+ CFM at 3:00 P I opened 2 vents at 1:15 PM and closed them @3:15 PM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	

<b>Jet Motive Pump # 2</b>		<b>60Hz</b>	
<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Friday-Sunday 11-30-Dec.2-2018	Remote monitor Start: 7:00 AM Site Visit start 12:45 PM	Remote Monitor End: 11:30PM Site Visit end 3:30 PM
Condition: Temperature 24-51 we are 49 at 1:51 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored all during the night to see if flare was continuing to burn at 10 CFM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	

<b>Jet Motive Pump # 2</b>		<b>60Hz</b>	
<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Monday December 03- 2018	Remote monitor Start: 7:00 AM Site Visit start 11:45 AM	Remote Monitor End: 11:30PM Site Visit end 4:00 PM
Condition: Temperature 46 to 63 we are 61 at 4:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.30 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored all during the night to see if flare was continuing to burn at 10 CFM Site visit to restart system started at 11:45 AM--Flared using skid at 24CFM 12:45 until 3:50 PM. Reset gravity Flare at 10+ CFM for the night

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	

<b>Jet Motive Pump # 2</b>		<b>60Hz</b>	
<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Tuesday 12-04-2018	Remote monitor Start: 7:00 AM Site Visit start 10:00 AM	Remote Monitor End: 11:30PM Site Visit end 3:30 PM
Condition: Temperature 28 to 46 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches		Wind: (mph): calm 5-8 mph	

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored during the night to see if flare was continuing to burn at 10 CFM Site visit to meet with tech from Unison. Worked with Curt Schiesl of Unison to try and fix our problem with the skid I shut the flare off at 9: AM He changed out switches and tried all kinds of things to keep us running. He had to overnight parts and will continue tomorrow.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			

Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

Equipment Observed:	Operational Status				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<i>Name</i>	<i>Affiliation</i>	<i>Phone Number/Email</i>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Wednesday 12-05-2018	Remote monitor Start: 7:00 AM Site Visit start AM	Remote Monitor End: 11:30PM Site Visit PM
Condition: Temperature 28 to 46 we are PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored with Curt Schiesl of Unison by computer and phone as he continued to try and fix our problem with the skid. He left for his home stating that he thought the problem was the Phase converters were overheating. We had a shut down and panel fault as before.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	
Blower		30Hz	
Anaerobic			

Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

Equipment Observed:	Operational Status				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<i>Name</i>	<i>Affiliation</i>	<i>Phone Number/Email</i>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Thursday 12-06-2018	Remote monitor Start: 7:00 AM Site Visit start 10:00 AM	Remote Monitor End: 11:30PM Site Visit end 2:00 PM
Condition: Temperature 24 to 46 we are at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches		Wind: (mph): calm 5-8 mph	

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to restart the system and found we had a shutdown but no loss of power to panel it just faulted as before all I had to do to start the skid and MT running was to press the start button. I still do not have any data on skid panel screen but we are running. We had a shutdown and showing no power to Unison panel. I did a hard boot to PC and after a short pause the Unison panel lit up with information it ran for about 30 minutes and shutdown still showing power to the Unison panel I restarted without any numbers and it is running if and when we have a shutdown it will have to be restarted by onsite visit I started the Gravity Flare burning at 10+ CFM and plan for it to run until Monday regardless of what the Skid and or the MT does

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Tuesday 12-11-2018	Remote monitor Start: 7:00 AM Site Visit start 10:30 AM	Remote Monitor End: 11:30PM Site Visit end 2:00 PM
Condition: Temperature 24 to 36 we are at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches		Wind: (mph): calm 5-8 mph	

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to restart the system and found we had a shutdown but no loss of power to panel. The Gravity Flare has been burning at 10+ CFM continuously since I left on 12-06. I met with Norman and Bryan of ProPump and plan for it to run until Monday regardless of what the Skid and or the MT does

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Wednesday 12-12-2018	Remote monitor Start: 7:00 AM Site Visit start 10:30 AM	Remote Monitor End: 11:30PM Site Visit end 2:30 PM
Condition: Temperature 24 to 36 we are at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to restart the system and found we had a shutdown but no loss of power to panel. The Gravity are has been burning at 10+ CFM continuously since I left on 12-06 . Met with Folks from ProPump and we continued to trouble shoot along with Doug from Unisom.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Thursday 12-13-2018	Remote monitor Start: 7:00 AM Site Visit start 10:30 AM	Remote Monitor End: 11:30PM Site Visit end 2:30 PM
Condition: Temperature 24 to 36 we are at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to restart the system and found we had a shutdown but no loss of power to panel. The Gravity are has been burning at 10+ CFM continuously since I left on 12-06 . Met with Bryan from ProPump and we continued to trouble shoot along with Doug from Unisom. We added some new parts and it seemed to be fixed. Then in the evening we continued to have shut downs. Flare still running.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Friday 12-14-2018	Remote monitor Start: 7:00 AM Site Visit start 11:30 AM	Remote Monitor End: 11:30PM Site Visit end 2:30 PM
Condition: Temperature 24 to 36 we are at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy and showers <input type="checkbox"/> Balmy		
Precip Last 24Hrs. 0.00 inches		Wind: (mph): calm 5-8 mph	

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

The Gravity are has been burning at 10+ CFM continuously since I left on 12-06 . Bryan from ProPump came to site and he installed a part and we were running. I monitored and sent text to Norman, Bryan/ ProPump, and Doug from Unisom. We added some new parts and it seemed to be fixed. Then in the evening we continued to have shut downs. Flare still running. I monitored all weekend during that time I lost communication due to a power Failure by Surry-Yadkin, Flare continued to burn.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

Blower		30Hz	
Anaerobic			
Mixing Pump 4A		60 Hz	
Mixing Pump 4B		60 Hz	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

Equipment Observed:	Operational Status				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

Name	Affiliation	Phone Number/Email

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Monday 12-17-2018	Remote monitor Start: 7:00 AM Site Visit start 10:30 AM	Remote Monitor End: 11:30PM Site Visit end 2:00 PM
Condition: Temperature 30 to 60 we are 59 at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 48 Hrs. 1.40 inches		Wind: (mph): calm 5-8 mph	

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to restart the system and found we had a shutdown but no loss of power to panel. The Gravity Flare continued to burn all weekend. At 10.0+ CFM. I met with Bryan of ProPump and we spent the day troubleshooting system with concentration on Phase converter. With the help of a conventional fan we were able to cool Phase converter enough to run until we could get parts to repair. Started running at 10:50 AM. We shut the gravity flare off on the restart of the Skid and MT and ran the flare hard until 3:15 PM

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Tuesday 12-18-2018	Remote monitor Start: 7:00 AM Site Visit start AM	Remote Monitor End: 11:30PM Site Visit end PM
Condition: Temperature 30 to 60 we are 59 at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 40Hrs. 0.0 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Monitored system remotely by SCADA and Camera The system has been running from 11:00 AM Monday without a shut down. Gravity Flare is off.

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>

# LOYD RAY FARMS INSPECTION, OPERATIONS & MAINTENANCE LOG SHEET

**IMPORTANT: AN INSPECTION, OPERATIONS & MAINTENANCE LOG SHOULD BE COMPLETED FOR EVERY SITE VISIT; PLEASE REVIEW PREVIOUS LOG ENTRY AND PROVIDE INFORMATION TO UPDATE OR RESOLVE ANY ONGOING ISSUES NOTED (INCLUDING BUT NOT LIMITED TO MAINTENANCE, REPAIRS, OR CORRECTIVE ACTIONS).**

Entry Made By: Marvin	Date: Wednesday 12-19-2018	Remote monitor Start: 7:00 AM Site Visit start 11:45 AM	Remote Monitor End: 11:30PM Site Visit end 3:15 PM
Condition: Temperature 30 to 60 we are 59 at 1:00 PM	x <input type="checkbox"/> Clear to Partly Cloudy <input type="checkbox"/> Balmy		
Precip Last 40Hrs. 0.0 inches	Wind: (mph): calm 5-8 mph		

## PURPOSE OF VISIT/ITEMS INSPECTED, OPERATIONS

Site visit to do a system check the parts did not come so after the check and repair a small leak I traveled home to return tomorrow. Gravity Flare is off

## ENVIRONMENTAL SYSTEM OBSERVATIONS:

Equipment Observed:	Operational Status
Fluidyne Aeration System, Including:	
Jet Motive Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Blower	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault:
CP-1 (Control Panel)	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Flush Pumps	<input type="checkbox"/> Auto <input checked="" type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault
Digester Mixing Pumps	<input checked="" type="checkbox"/> Auto <input type="checkbox"/> Hand On <input type="checkbox"/> Off <input type="checkbox"/> In Fault

## CP-1 DATA & SET POINTS;

Cycles	Set Point	Current	Modified Set Pt	Notes
Static	60	60		
Anoxic	90	90		
Aerobic	180	180		
Blower	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Cycle			
Jet Motive Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Pump #1 <input type="checkbox"/> Pump # 2			
Digester Pumps	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Both <input type="checkbox"/> Sequential			

## MOTOR DATA:

Aerobic	Run Time	Set Speed	Notes
Jet Motive Pump # 1		60Hz	
Jet Motive Pump # 2		60Hz	

<b>Blower</b>		<b>30Hz</b>	
<b>Anaerobic</b>			
<b>Mixing Pump 4A</b>		<b>60 Hz</b>	
<b>Mixing Pump 4B</b>		<b>60 Hz</b>	

**BIOGAS & POWER SYSTEMS OBSERVATIONS:**

<b>Equipment Observed:</b>	<b>Operational Status</b>				
<b>Unison Gas Skid</b>	Flow Rate	Total Flow	Comp. Press.	Outlet Press.	Gauge Press.
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	20.9				
<b>Microturbine</b>	Speed	Exit Temp	Inlet Pressure	Inlet Temp	Power Out
<i>Fault?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	95852	1174		99	43.7 kw
<b>Biogas System</b>	BlueSens%	Flare On	Flare Flow	Total Flow	Flare Temp
		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	31.2	29.1	301

**UNISON GAS CONDITIONING LOG**

<b>Pressure Data</b>	<b>PIT 311</b> -5 to 10 inWC -0.1	<b>PIT 331</b> 88 to 110psig 97.39	<b>PIT 351</b> 88 to 110 psig 91.8	<b>Pressure Differential</b> <b>2.0</b>	<b>Panel Door</b>	<b>HM 331</b> Hours 7060	
<b>Temperature Data</b>	<b>TE 141</b> 32 to 45 F 35.1	<b>TE 311</b> 40 to 115 F 83.1	<b>TE 321</b> 35 to 75 F 46.6	<b>TE 331</b> 80 to 220 F 186.5	<b>TE 341</b> 33 to 45 F 35.2	<b>TE 342</b> 65 to 90 F 88.3	<b>TE 31</b> 35 to 115 F
<b>Glycol Piping</b>	<b>TI 141</b> 32 to 45 F	<b>PI 141</b> 35 to 52 psig	<b>FI 141</b> 2.5 to 3.5 gpm	<b>TI 142</b> 35 to 50 F	<b>PI 142</b> 33 to 50 psig	<b>TI 111</b> 38 to 52 F	<b>PI 111</b> 30 to 48 psig
<b>Oil Piping</b>	<b>PI 231</b> 90 to 110 psig	<b>TI 231</b> 178 to 215 F	<b>PI 232</b> 85 to 105 psig	<b>TI 232</b> 130 to 180 F	<b>PI 233</b> 80 to 100 psig	<b>TI 233</b> 168 to 185 F	<b>PI 234</b> 78 to 100psig
<b>Gas Piping</b>	<b>PIT 311</b> -10 to 10inWC	<b>TI 311</b> 40 to 115 F	<b>TI 321</b> 35 to 75 F	<b>PDI 321</b> 0 to 6 inWC	<b>PI 331</b> 90 to 110 psig	<b>TI 331</b> 80 to 220 F	<b>PI 332</b> 90 to 110psig
<b>Gas Piping</b>	<b>TI 341</b> 80 to 220 F	<b>PI 341</b> 90 to 110 psig	<b>TI 342</b> 115 to 155 F	<b>PI 342</b> 90 to 110 psig	<b>TE 343</b> 33 to 45 F	<b>PI 343</b> 90 to 110 psig	
<b>Gas Piping</b>	<b>TI 351</b> 65 to 90 F	<b>PI 351</b> 88 to 15 psig	<b>Check Indicators</b>	<b>LI 721</b>	<b>LI 231</b>	<b>LI 741</b>	

**PERSONNEL PRESENT:**

<b>Name</b>	<b>Affiliation</b>	<b>Phone Number/Email</b>