January 29, 2020 Reference No. 086120

Mr. David Rozeboom
Wisconsin Department of Natural Resources
1300 W. Clairemont Avenue
Eau Claire, Wisconsin 54701

Dear Mr. Rozeboom:

Re: Annual Operation, Maintenance, and Monitoring Report
January 2019 through December 2019
Former Holtz Krause Closed Landfill
Wausau, Wisconsin

GHD Services Inc. (GHD) is submitting the Annual Operation, Maintenance, and Monitoring (OM&M) Report on behalf of the City of Wausau for the former Holtz Krause Landfill in Wausau, Wisconsin. The report covers the period of January 1, 2019 through December 31, 2019.

One hard copy of the report is being sent to your attention for review.

Please review the report at your earliest convenience and contact me if you have any questions or require additional information.

Sincerely,

GHD

Thomas F. Hobday

TH/sb/5

Encl.

cc: Kevin Fabel, City of Wausau (via email)

GHD
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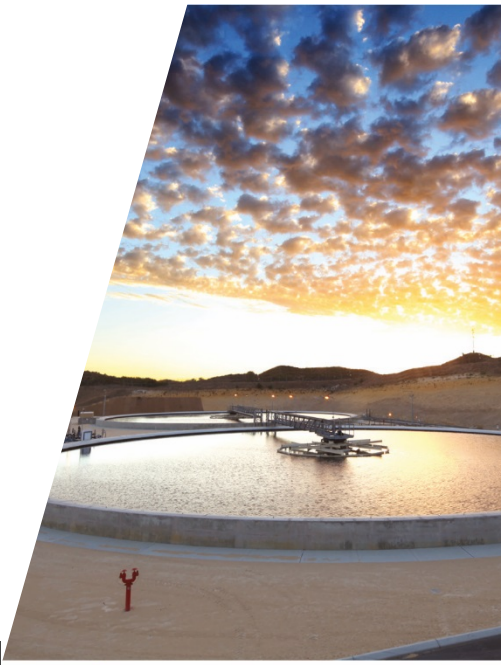
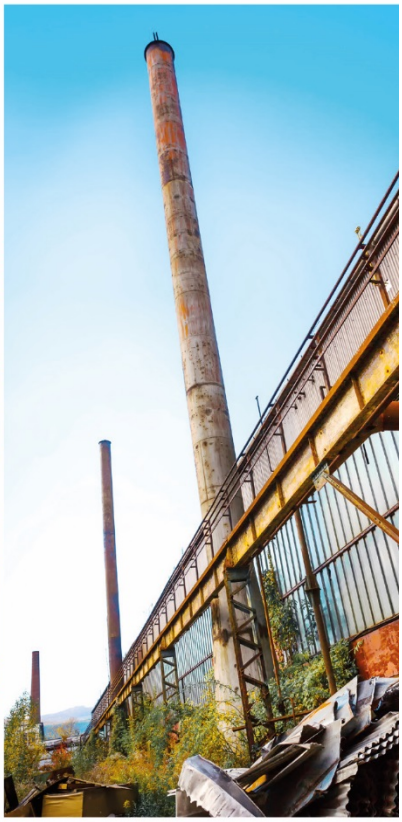


Annual Operation, Maintenance, and Monitoring Report
January 2019 through December 2019

Former Holtz Krause Landfill
Wausau, Wisconsin

City of Wausau



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1. Introduction

GHD Services, Inc. (GHD) has prepared this Operation, Maintenance, and Monitoring (OM&M) Report (Report) for the former Holtz Krause Landfill (Site) in Wausau, Wisconsin, on behalf of the City of Wausau. This Report presents the results of OM&M activities at the Site from January 2019 through December 2019 as required by the Operation and Maintenance (O&M) Plan.

Since 1995, the City of Wausau has operated the landfill gas system, maintained the cap, measured settlement, and monitored groundwater at and near the landfill. Under the September 25, 2012 Purchase Agreement, Marathon County purchased the landfill property and the Holtz Krause Steering Committee developed the landfill into a soccer complex. Figure 1.1 shows the landfill, soccer complex, and gas extraction system components.

The September 25, 2012 Purchase Agreement states that the City of Wausau will continue to operate and maintain the landfill gas collection system and landfill cap outside the soccer field area. The Parks department, serving the County and City, is responsible for operation and maintenance of the soccer complex, which includes the irrigation system, under-drains, field turf, concession building, maintenance building, parking lots, and championship field lights. As part of the 2012 Agreement, the Holtz Krause Steering Committee is to provide $54,000 in funds to the County for the purpose of funding the future replacement of the flare which would likely occur after the flare is 15 to 20 years old (i.e. 2028 to 2033).

This report provides the results of the OM&M performed that is the responsibility of the City of Wausau (landfill gas collection system OM&M, site inspections, and landfill cover areas outside of the soccer complex).

1.1 Site Description

The Holtz Krause Landfill and vicinity is a 64 acre site that operated between 1957 and 1980. The Site is located at the end of East Kent Street, east of Grand Avenue. This landfill received approximately 2.0 million cubic yards (CY) of waste including municipal solid waste, non-combustible waste, demolition material, and wood waste.

The landfill is surrounded by a wetland (south), single residence, Curling Club (west), cemetery (northwest), cell tower (north), and railroad operations (north and east).

In 2013, construction of the soccer complex and modifications and repairs of the gas extraction system were completed. The landfill gas collection system now consists of the following:

- 32 landfill gas extraction wells housed in flush-mounted vaults
- Header pipe, control valves, and condensate drainage system
- Landfill gas flare consisting of blower skid, flare, controls, and other associated equipment
- 13 landfill gas monitoring probes

The landfill cover system consists of the following (from ground surface)

- A vegetative layer consisting of 6 to 8 inches of topsoil and 3 feet of rooting zone soil
- Primary barrier layer consisting of a 40-mil very low density polyethylene (VLDPE) geomembrane liner
- Secondary barrier layer consisting of 2 feet of compacted clay
- The 1982 soil cover (0 to 2 feet thick)

The soccer field utilities are installed entirely above the liner within the rooting zone. These include the irrigation system, under drains, storm drains, water, sanitary and electrical. The landfill gas header piping is installed below the liner.

1.2 Objectives and Requirements

As required in the O&M Plan for the Site, and as modified by prior approval of the Wisconsin Department of Natural Resources (WDNR), the City is responsible for the following OM&M items:

- Weekly inspections of the flare station from April through September
- Every other week inspections of the flare station from October through March
- Twice monthly monitoring of landfill gas composition at the flare station from November through February
- Monthly monitoring of landfill gas composition at the flare station from March through October
- Semi-annual preventative maintenance of the flare station
- Monitoring and inspection of landfill gas extraction wells (gas composition, flow rate, header vacuum, and well condition) by the WDNR-approved revised monitoring schedule provided in Table 1.1, and as follows:
  - Annual monitoring for extraction wells that are always off (wells EW-1, EW-2, EW-8, EW-9, EW-11, EW-13, EW-14, EW-15, EW-22, EW-23, EW-24, EW-35, and EW-38), with the monitoring round split between the months of June and July.
  - Quarterly monitoring (February/March, May, August, and October/November) for extraction wells that are always on (wells EW-3, EW-7, EW-10, EW-18, EW-19, EW-21, and EW-31).
  - Monthly monitoring (April through September) and quarterly monitoring (October through March) for wells that are not consistently on or off (wells EW-4, EW-5, EW-6, EW-21, EW-30, EW-32, EW-33, EW-34, EW-36, and EW-37).
- Quarterly gas probe monitoring
- Monthly general Site inspections

Results of the OM&M items noted above are presented in the following sections.

2. Gas Extraction System and Flare Station

2.1 Overview and System Components

The landfill gas extraction system consists of the following components:

- 32 gas extraction wells housed in flush-mounted vaults
- Header pipe, control valves, and condensate drainage system
- Landfill gas flare consisting of blower skid, flare, controls, and other associated equipment
- 13 gas monitoring probes

Through the use of a blower at the flare station, vacuum is applied to the landfill gas extraction wells, via the header pipe network, to extract landfill gas from the landfill and transfer it to the flare station. At the flare station, extracted landfill gas is supplied to a candlestick flare for combustion and destruction. Landfill gas condensate that accumulates in the header piping or at the flare station drains to the City of Wausau sanitary sewer via a condensate sump and drip leg.

Gas monitoring probes are installed around the perimeter of the landfill to allow monitoring of any landfill gas migration beyond the landfill limits.

The components of the gas extraction system are shown on Figure 1.1.

2.2 Flare Station OM&M

The required flare station OM&M consists of the following:

- Weekly inspection of the flare station operation from April through September
- Every other week inspections of the flare station operation from October through March
- Twice weekly remote flare station monitoring
- Twice monthly monitoring of flare station landfill gas composition from November through February
- Monthly monitoring of flare station landfill gas composition from March through October
- Semi-annual preventative maintenance of flare station

Weekly and every other week flare station inspections consist of recording all current operating conditions (flow rate, oxygen content, gas/flare temperatures, gas pressures, header vacuum, system hours, etc.) listed on the “Weekly Flare Station Inspection Form” (included in the O&M Plan). A summary of inspection results are presented in Table 2.1. Weekly and every other week flare inspection forms from the reporting period are included in Appendix A.

In addition to on-Site inspections, the flare station was monitored at least twice per week via the remote (internet) connection to verify operation. Any issues or shutdowns discovered during remote monitoring were logged, and are detailed in Section 2.2.1.

Monitoring of landfill gas composition (percent each: methane, carbon dioxide, and oxygen) was completed a minimum of one time per month from April to September, and a minimum of two times

per month from October to March. The results of landfill gas monitoring at the flare station are presented in Tables 2.1 and 2.2.

Semi-annual flare station maintenance consists of performing all flare manufacturer specified inspections and preventative maintenance. The semi-annual inspection and maintenance events were performed by GHD on behalf of the City of Wausau in April 2019 and October 2019. The semi-annual maintenance reports are included in Appendix B.

2.2.1 Unscheduled Flare Station Shutdowns

During the reporting period (January 2019 through December 2019), the flare station experienced 9 unscheduled shutdowns. Details of the shutdowns are as follows:

- January 30, 2019: The flare station shut down due to extreme cold. The flare was restarted on February 1, 2019 once temperatures moderated.
- February 16, 2019: The flare station shut down due to a low flow rate condition. The flare station was restarted on February 17, 2019.
- February 24, 2019: The flare station shut down due to high oxygen shutdown during an extreme high wind and snow event. The flare station was restarted on February 25, 2019 after the blizzard subsided.
- July 6, 2019: The flare station shut down due to a low flow rate condition. The flare station was restarted on July 6, 2019.
- July 18, 2019: The flare station shut down due to utility outage caused by a thunderstorm. The flare station was restarted on July 18, 2019 once power was restored.
- August 18, 2019: The flare station shut down due to a low flow rate condition. The flare station was restarted on August 18, 2019.
- September 5, 2019: The flare station shut down due to utility outage caused by a thunderstorm. The flare station was restarted on September 6, 2019 once power was restored.
- September 9, 2019: The flare station shut down due to utility outage caused by a thunderstorm. The flare station was restarted on September 10, 2019 once power was restored.
- December 1, 2019: The flare station shut down due to utility outage caused by a snowstorm. The flare station was restarted on December 2, 2019 once power was restored.

The flare station operated for 8,567 of the 8,760 available hours (98-percent) during the reporting period.

2.3 Gas Extraction Well Monitoring

The gas extraction well monitoring schedule was modified in 2018 according to the WDNR-approved revised monitoring schedule provided in Table 1.1. Wells which are always off are monitored annually in June and July. Wells which are always on are monitored quarterly. Wells which operate intermittently are monitored on a monthly basis April through September, and on a quarterly basis October through March. Gas extraction well measurements consist of monitoring the landfill gas concentration, flow rate, and vacuum at each gas extraction well. Additionally, at the time

of monitoring, the condition of each well is inspected and evaluated. Any maintenance needs found are then completed, as necessary.

During gas well monitoring, extraction well flow rates were adjusted based upon the composition of landfill gas within the individual wells. Wells were adjusted to supply landfill gas to the flare station with a nominal methane concentration of 30-percent. Landfill gas was extracted from the wellfield at approximately 75 cubic feet per minute (cfm) during the reporting period.

Results of the gas extraction well monitoring are presented in Table 2.2.

2.4 Gas Probe Monitoring

Landfill gas probe monitoring is conducted on a quarterly basis at the thirteen gas probes installed around the perimeter of the Site. Locations of the gas probes are presented on Figure 1.1. Monitoring at each probe consisted of the gas composition (methane, carbon dioxide, oxygen, and balance) and static pressure. Probes were purged for a minimum of 210 seconds before a final measurement was recorded.

Gas probe monitoring results are presented in Table 2.3. Methane was non-detect at all probes during the reporting period monitoring events, indicating that the gas extraction system has been effective at controlling landfill gas migration from the Site.

2.5 Landfill Gas Condensate

Landfill gas condensate, collected in the landfill gas header and at the flare station, gravity drains to a drip leg near the flare station before draining to the City of Wausau sanitary sewer. Landfill gas condensate is sampled at the direction/discretion of the City of Wausau Wastewater Treatment Facility.

3. Landfill Cover

In accordance with the O&M Plan, the City was responsible for completing general Site inspections on a monthly basis. Any issues identified in monthly inspections were then reported to the responsible party (i.e. county for soccer complex/field issues, city for landfill areas outside of the soccer complex, etc.).

The Site inspections focused on the following main components:

- Landfill cover area
- Landfill gas extraction wells
- Landfill gas monitoring probes
- Flare station area
- Access roads/paths associated with the Site

Inspections are completed on the “Landfill Site Inspection” form previously provided in the Site O&M Plan. Copies of the monthly inspection forms are provide in Appendix C.

General maintenance items completed during the reporting period included:

- Site mowing as necessary

4. Conclusions

Based upon the OM&M activities performed in the reporting period, the following conclusions are made:

- The flare station provided consistent, reliable operation throughout the reporting period with 98-percent up-time from January 1, 2019 through December 31, 2019.
- The flare station controls allowed extraction amounts to closely match landfill production (approximately 75 cfm at 28 to 37-percent methane). Additionally, this resulted in minimal amounts of oxygen within the landfill waste, ensuring the landfill remains in anaerobic gas production and limits the potential for subsurface fires.
- Landfill gas monitoring probes were all non-detect for methane during the reporting period, indicating that landfill gas extraction rates are sufficient to prevent off-Site gas migration.
- The general Site was noted to be in good condition throughout the reporting period, with no significant concerns.
- Gas composition at gas extraction wells was noted to be very consistent throughout the reporting period. This consistency supports continuation of the revised gas monitoring frequency detailed in Table 1.1.

5. Recommendations

Based upon the consistent performance of the gas extraction and flare system, it is recommended that gas extraction well monitoring in 2020 continues under the revised monitoring schedule, provided in Table 1.1, with the following revision:

- Transfer extraction well EW-19 from the “always on” list (quarterly monitoring) to the “intermittent operation” list (monthly/quarterly monitoring) based on 2019 and historical monitoring results.

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983 HARN
Grid: NAD 1983 HARN WISCRS Marathon County Feet

N

GHD

CITY OF WAUSAU
FORMER HOLTZ KRAUSE LANDFILL
WAUSAU, WISCONSIN

SITE PLAN

Project No. **086120-18**
Revision No. **-**
Date **01/15/2019**

FIGURE 1.1

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Table 1.1

Revised Gas Extraction Well Monitoring Schedule
Holtz Krause Closed Landfill - Wausau, Wisconsin

Well Condition	Total Number of Wells	1st Quarter (Feb/Mar)	April	May	June	July	August	September	4th Quarter (Oct/Nov)
Wells Always Off (Annual Monitoring) (June: EW-1, 2, 8, 9, 22, 23, and 24) (July: EW-11, 13, 14, 15, 35, and 38)	13				Half Round (June wells)	Half Round (July wells)			
Wells Always On (Quarterly Monitoring) (EW-3, 7, 10, 18, 20, and 31)	6	X		X			X		X
Wells with Intermittent Operation (Monthly/Quarterly monitoring) (EW-4, 5, 6, 12, 17, 19, 21, 30, 32, 33, 34, 36, and 37)	13	X	X	X	X	X	X	X	X

Table 2.1

Flare Station Operational Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

Date	Header Pressure (in H_2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Flow Rate (scfm)	Inlet Gas Temp (^oF)	Flare Temp (^oF)	Status (on/off)	System Hours (hours)
1/2/2019	-2.9	33.3	30.6	0.7	81	51	1,338	On	44,983
1/8/2019	-4.1	NR	NR	NR	82	51	1,379	On	45,127
1/15/2019	-3.0	33.8	30.8	0.7	80	50	1,257	On	45,294
1/22/2019	-2.7	NR	NR	NR	81	49	1,421	On	45,463
1/28/2019	-3.5	NR	NR	NR	76	48	1,341	On	45,609
2/5/2019	-6.0	32.5	30.3	0.6	82	48	1,323	On	45,744
2/12/2019	-2.3	NR	NR	NR	83	48	1,467	On	45,912
2/19/2019	-6.4	32.7	30.1	0.7	77	47	1,352	On	46,056
2/26/2019	-4.8	NR	NR	NR	80	47	1,343	On	46,196
3/5/2019	-4.2	NR	NR	NR	76	47	1,288	On	46,363
3/12/2019	-4.1	32.8	30.0	0.7	85	47	1,209	On	46,530
3/19/2019	-4.5	NR	NR	NR	81	46	1,282	On	46,698
3/26/2019	-4.2	32.9	30.0	0.7	78	46	1,221	On	46,844
4/2/2019	-3.9	NR	NR	NR	76	47	1,373	On	47,038
4/9/2019	-4.8	32.9	29.5	0.8	80	47	1,256	On	47,199
4/16/2019	-5.1	NR	NR	NR	79	47	1,365	On	47,368
4/23/2019	-5.3	NR	NR	NR	76	48	1,335	On	47,535
4/30/2019	-5.9	NR	NR	NR	76	46	1,442	On	47,704
5/7/2019	-5.9	29.7	28.4	0.9	75	48	1,284	On	47,871
5/14/2019	-4.4	NR	NR	NR	77	49	1,166	On	48,040
5/21/2019	-4.9	NR	NR	NR	84	49	1,279	On	48,207
5/28/2019	-4.1	NR	NR	NR	76	51	1,296	On	48,376
6/4/2019	-3.7	NR	NR	NR	82	52	1,278	On	48,544
6/11/2019	-4.4	28.3	28.1	0.6	79	53	1,255	On	48,711
6/18/2019	-4.3	NR	NR	NR	81	54	1,230	On	48,880
6/25/2019	-4.9	NR	NR	NR	77	55	1,195	On	49,048
7/2/2019	-4.2	NR	NR	NR	81	56	1,296	On	49,216
7/9/2019	-4.1	28.8	28.4	0.5	77	58	1,076	On	49,376
7/16/2019	-4.3	NR	NR	NR	78	59	1,217	On	49,544
7/23/2019	-4.5	NR	NR	NR	76	60	1,349	On	49,699
7/30/2019	-5.3	NR	NR	NR	77	60	1,300	On	49,867

Table 2.1

Flare Station Operational Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

Date	Header Pressure (in H_2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Flow Rate (scfm)	Inlet Gas Temp (^oF)	Flare Temp (^oF)	Status (on/off)	System Hours (hours)
8/6/2019	-3.8	28.7	29.2	0.5	71	61	1,250	On	50,035
8/13/2019	-4.0	NR	NR	NR	76	61	1,356	On	50,203
8/20/2019	-3.6	28.8	29.7	0.6	78	61	1,085	On	50,366
8/27/2019	-3.5	NR	NR	NR	71	61	1,250	On	50,535
9/3/2019	-2.1	NR	NR	NR	78	61	1,292	On	50,704
9/10/2019	-2.2	37.6	33.3	0.4	76	63	1,255	On	50,835
9/17/2019	-3.1	NR	NR	NR	71	61	1,062	On	51,004
9/24/2019	-2.4	NR	NR	NR	79	61	1,203	On	51,173
10/1/2019	-3.5	30.6	29.5	0.5	77	62	1,308	On	51,340
10/8/2019	-3.2	29.6	29.3	0.8	78	60	1,159	On	51,508
10/17/2019	-3.3	NR	NR	NR	76	59	1,350	On	51,725
10/22/2019	-2.0	NR	NR	NR	65	59	1,195	On	51,841
10/29/2019	-3.5	NR	NR	NR	66	58	1,351	On	52,009
11/5/2019	-4.3	30.2	29.8	0.8	66	57	1,353	On	52,178
11/12/2019	-3.2	NR	NR	NR	67	55	1,321	On	52,346
11/18/2019	-2.8	34.5	31.8	0.5	65	55	1,215	On	52,490
11/26/2019	-4.6	NR	NR	NR	67	54	1,292	On	52,682
12/3/2019	-1.6	36.2	31.6	0.7	71	53	1,327	On	52,831
12/9/2019	-1.8	NR	NR	NR	74	53	1,521	On	52,976
12/17/2019	-2.7	35.0	31.1	0.5	72	51	1,283	On	53,167
12/26/2019	-3.2	NR	NR	NR	66	51	1,291	On	53,310

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
Flare	1/2/2019	33.3	30.6	0.7	51	81	-2.9	On
Flare	1/16/2019	33.8	30.8	0.7	50	80	-3.0	On
Flare	2/6/2019	32.5	30.3	0.6	48	82	-6.0	On
Flare	2/20/2019	32.7	30.1	0.7	47	77	-6.4	On
Flare	3/12/2019	32.8	30	0.7	47	85	-4.1	On
Flare	3/26/2019	32.9	30	0.7	46	78	-4.2	On
Flare	4/9/2019	32.9	29.5	0.8	47	80	-4.8	On
Flare	5/7/2019	29.7	28.4	0.9	48	75	-5.9	On
Flare	6/11/2019	28.3	28.1	0.6	53	79	-4.4	On
Flare	7/9/2019	28.8	28.4	0.5	58	77	-4.1	On
Flare	8/6/2019	28.7	29.2	0.5	61	71	-3.8	On
Flare	9/10/2019	37.6	33.3	0.4	63	76	-2.2	On
Flare	10/1/2019	30.6	29.5	0.5	62	77	-3.5	On
Flare	11/5/2019	30.2	29.8	0.8	57	66	-4.3	On
Flare	11/18/2019	34.5	31.8	0.5	55	65	-2.8	On
Flare	12/3/2019	36.2	31.6	0.7	53	71	-1.6	On
Flare	12/17/2019	35	31.1	0.5	51	72	-2.7	On
EW-01	6/11/2019	0.1	3.6	16.9	56	0	-3.7	Off
EW-02	3/26/2019	32.9	30.0	0.7	***	***	***	On
EW-02	4/9/2019	32.9	29.5	0.8	***	***	***	On
EW-02	5/7/2019	29.7	28.4	0.9	***	***	***	On
EW-02	6/11/2019	17.9	25.1	0.3	55	0	-3.7	Off
EW-02	6/11/2019	28.3	28.1	0.6	***	***	***	On
EW-02	7/9/2019	28.8	28.4	0.5	***	***	***	On
EW-02	8/6/2019	28.7	29.2	0.5	***	***	***	On
EW-03	3/26/2019	39.0	30.1	0.3	46	39	-2.9	On
EW-03	5/7/2019	33.3	28.1	0.4	49	14	-5.1	On
EW-03	8/6/2019	12.1	10.0	16.5	59	0	-3.4	Off
EW-03	10/1/2019	20.9	16.7	9.6	63	0	-2.4	Off
EW-04	3/26/2019	24.5	24.9	2.1	42	0	-3.6	Off
EW-04	4/9/2019	17.3	17.9	6.5	42	0	-3.9	Off
EW-04	5/7/2019	24.1	25.4	0.4	45	18	-5.0	On
EW-04	6/11/2019	22.8	25.3	0.7	53	11	-3.5	On
EW-04	7/9/2019	18.1	21.2	4.1	59	0	-3.4	Off
EW-04	8/6/2019	21.9	25.7	0.5	62	37	-3.6	On
EW-04	9/10/2019	36.9	32.6	0.3	61	8	-1.2	On
EW-04	10/1/2019	25.5	25.4	2.1	61	7	-2.5	On

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-05	3/26/2019	19.5	24.3	0.2	43	0	-3.9	Off
EW-05	4/9/2019	8.4	10.6	11.5	44	0	-3.9	Off
EW-05	5/7/2019	14.3	21.8	0.4	47	0	-4.9	Off
EW-05	6/11/2019	13.8	21.3	0.4	55	0	-3.5	Off
EW-05	7/9/2019	15.7	21.8	0.3	60	0	-3.1	Off
EW-05	8/6/2019	18.4	21.7	0.9	60	0	-3.7	Off
EW-05	9/10/2019	42.4	29.7	0.3	61	9	-1.2	On
EW-05	10/1/2019	23.3	20.9	3.3	60	0	-2.5	On
EW-06	3/26/2019	25	27.8	0.2	41.9	0	-3.43	On
EW-06	4/9/2019	17.0	17.8	7.9	47	0	-4.0	Off
EW-06	5/7/2019	21.4	25.8	0.3	47	0	-4.1	Off
EW-06	6/11/2019	18.5	24.7	0.5	56	0	-3.6	Off
EW-06	7/9/2019	18.1	24.1	0.7	61	0	-3.4	Off
EW-06	8/6/2019	20.9	25.0	0.3	63	0	-3.7	Off
EW-06	9/10/2019	36.5	31.1	0.3	62	10	-1.1	On
EW-06	10/1/2019	25.3	26.0	0.7	60	10	-2.5	On
EW-07	3/26/2019	32.2	28.1	1.3	42	10	-3.6	On
EW-07	5/7/2019	34.7	29.0	0.3	47	10	-4.9	On
EW-07	8/6/2019	28.8	27.8	0.5	60	9	-3.7	On
EW-07	10/1/2019	30.1	28.5	0.3	62	8	-2.5	On
EW-08	6/11/2019	8.9	20.4	0.8	56	0	-3.5	Off
EW-09	6/11/2019	15.4	22.8	0.4	54	0	-3.4	Off
EW-10	3/26/2019	*	*	*	*	*	*	*
EW-10	5/7/2019	31.0	28.0	0.3	46	0	-4.9	On
EW-10	8/6/2019	26.3	25.7	1.3	57	7	-4.1	On
EW-10	10/1/2019	29.1	28.0	0.3	59	0	-2.6	On
EW-11	7/9/2019	0.4	15.7	1.1	65	0	-3.4	Off

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-12	3/26/2019	21.2	27.1	0.3	37.4	0	-3.95	Off
EW-12	4/9/2019	19.4	24.3	2.5	40.2	0	-4.04	Off
EW-12	5/7/2019	18.1	25.0	0.5	46	0	-4.8	Off
EW-12	6/11/2019	17.2	24.9	0.2	58	0	-3.4	Off
EW-12	7/9/2019	17.9	25.3	0.3	63	0	-3.3	Off
EW-12	8/6/2019	20.2	25.8	0.4	66	4	-3.7	On
EW-12	9/10/2019	33.9	30.2	0.2	64	6	-1.2	On
EW-12	10/1/2019	23.4	27.2	0.3	61	0	-2.3	On
EW-13	7/9/2019	1.7	16.2	2.9	64	0	-3.4	Off
EW-14	7/9/2019	12.6	21.2	0.6	62	0	-3.3	Off
EW-15	7/9/2019	0.3	13.0	3.6	62	0	-3.2	Off
EW-17	3/26/2019	26.2	22.9	4.5	37	0	-3.8	On
EW-17	4/9/2019	26.4	23.4	4.1	40	0	-4.0	On
EW-17	5/7/2019	28.1	25.9	0.5	45	5	-4.7	On
EW-17	6/11/2019	30.3	25.9	0.1	54	8	-3.5	On
EW-17	7/9/2019	32.8	27.0	0.2	58	9	-3.1	On
EW-17	8/6/2019	37.0	29.1	0.3	58	10	-3.5	On
EW-17	9/10/2019	37.8	30.7	0.3	57	0	-0.9	On
EW-17	10/1/2019	37.7	30.5	0.3	59	8	-2.5	On
EW-18	3/26/2019	42.5	28.5	4.3	33	19	-4.0	On
EW-18	5/7/2019	54.6	34.2	0.3	44	15	-4.7	On
EW-18	8/6/2019	46.5	33.3	1.6	61	8	-3.5	On
EW-18	10/1/2019	49.9	37.4	0.4	61	7	-2.5	On
EW-19	3/26/2019	*	*	*	*	*	*	*
EW-19	5/7/2019	0.1	0.1	21.9	48	0	-2.9	Off
EW-19	8/6/2019	11.3	6.6	16.4	70	0	-1.0	Off
EW-19	10/1/2019	7.6	4.9	18.0	66	0	-1.3	Off
EW-20	3/26/2019	49.6	37.8	0.4	44	20	-3.7	On
EW-20	5/7/2019	45.9	35.6	0.6	48	14	-4.6	On
EW-20	8/6/2019	37.6	34.4	0.8	56	18	-3.2	On
EW-20	10/1/2019	39.9	36.2	0.2	58	13	-2.7	On

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-21	3/26/2019	31.6	29.1	0.2	39	0	-4.0	On
EW-21	4/9/2019	30.1	28.7	0.2	43	13	-3.9	On
EW-21	5/7/2019	23.1	26.3	0.6	47	21	-4.7	On
EW-21	6/11/2019	19.7	25.5	0.6	59	0	-3.7	Off
EW-21	7/9/2019	16.2	21.8	3.1	63	0	-3.1	Off
EW-21	8/6/2019	20.2	26.0	0.3	60	0	-3.2	On
EW-21	9/10/2019	25.9	28.3	0.2	57	0	-1.2	On
EW-21	10/1/2019	27.3	28.4	0.5	61	9	-2.8	On
EW-22	6/11/2019	4.2	15.7	3.1	57	0	-3.8	Off
EW-23	6/11/2019	0.0	0.1	20.6	60	0	-3.8	Off
EW-24	3/26/2019	7.2	20.9	0.8	44	0	-4.2	Off
EW-24	6/11/2019	3.7	19.4	0.6	56	0	-3.7	Off
EW-30	3/26/2019	35.2	34.5	0.2	40	34	-3.9	On
EW-30	4/9/2019	31.5	34.4	0.3	42	0	-4.0	On
EW-30	5/7/2019	27.0	32.5	0.3	45	13	-4.9	On
EW-30	6/11/2019	21.5	30.1	0.5	54	0	-3.5	Off
EW-30	7/9/2019	16.9	22.9	5.4	63	0	-2.8	Off
EW-30	8/6/2019	25.4	31.1	0.3	62	0	-3.2	On
EW-30	9/10/2019	26.7	32.6	0.3	56	16	-0.9	On
EW-30	10/1/2019	29.5	33.0	0.5	60	7	-2.6	On
EW-31	3/26/2019	41.6	35.2	0.4	41	24	-2.7	On
EW-31	5/7/2019	31.2	32.9	0.6	46	6	-4.8	On
EW-31	8/6/2019	30.0	32.6	0.3	62	7	-3.4	On
EW-31	10/1/2019	33.7	34.2	0.5	61	8	-2.5	On
EW-32	3/26/2019	*	*	*	*	*	*	*
EW-32	4/9/2019	5.4	13.2	11.1	36	0	-3.7	Off
EW-32	5/7/2019	11.1	25.3	0.5	46	0	-4.8	Off
EW-32	6/11/2019	9.3	23.9	1.2	58	0	-3.6	Off
EW-32	7/9/2019	13.2	25.5	0.3	65	0	-3.1	Off
EW-32	8/6/2019	18.4	26.8	0.4	65	0	-3.2	Off
EW-32	9/10/2019	18.8	28.9	0.3	62	0	-1.4	Off
EW-32	10/1/2019	25.9	31.1	0.5	64	5	-2.7	On

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-33	3/26/2019	*	*	*	*	*	*	*
EW-33	4/9/2019	18.8	17.4	11.1	38	0	-3.4	Off
EW-33	5/7/2019	36.1	34.1	0.4	43	7	-4.7	On
EW-33	6/11/2019	21.8	30.8	0.3	54	8	-1.3	On
EW-33	7/9/2019	21.6	31.2	0.3	60	8	-3.2	On
EW-33	8/6/2019	24.5	32.2	0.3	59	20	-3.2	On
EW-33	9/10/2019	26.2	32.3	0.3	59	24	-1.0	On
EW-33	10/1/2019	31.6	34.7	0.3	59	8	-2.7	On
EW-34	3/26/2019	3.6	4.0	18.9	37	0	0.6	Off
EW-34	4/9/2019	28.4	29.2	3.0	33	16	-0.5	On
EW-34	5/7/2019	0.6	0.5	21.6	47	0	-1.2	Off
EW-34	6/11/2019	5.1	3.8	13.6	63	0	-0.5	Off
EW-34	7/9/2019	5.2	4.1	16.2	71	0	-0.1	Off
EW-34	8/6/2019	2.9	3.4	17.2	69	0	-0.3	Off
EW-34	9/10/2019	30.4	34.6	0.3	64	0	0.4	On
EW-34	10/1/2019	0.2	0.5	20.5	65	5	-0.8	On
EW-35	7/9/2019	14.2	25.8	1.5	66	0	-0.1	Off
EW-36	3/26/2019	40.6	34.6	0.1	34	50	-1.2	On
EW-36	4/9/2019	37.4	34.7	0.2	37	0	-0.8	On
EW-36	5/7/2019	0.3	0.2	21.8	47	0	-2.0	Off
EW-36	6/11/2019	6.2	5.7	16.3	64	0	-1.0	Off
EW-36	7/9/2019	6.2	6.0	16.1	72	0	-0.3	Off
EW-36	8/6/2019	11.8	12.0	12.4	70	0	-0.6	Off
EW-36	9/10/2019	27.5	29.8	1.0	64	6	0.6	On
EW-36	10/1/2019	11.3	10.8	13.8	65	0	-1.2	Off
EW-37	3/26/2019	*	*	*	*	*	*	Off
EW-37	4/9/2019	37.4	34.8	0.2	34	0	-0.3	Off
EW-37	5/7/2019	7.1	6.2	18.6	47	0	-2.1	Off
EW-37	6/11/2019	12.2	10.8	14.7	64	0	-1.3	Off
EW-37	7/9/2019	15.0	13.9	12.2	72	0	-0.5	Off
EW-37	8/6/2019	5.9	5.2	17.8	70	0	-0.7	Off

Table 2.2

Landfill Gas Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-37	9/10/2019	38.5	37.6	0.3	64	0	0.7	Off
EW-37	10/1/2019	16.1	13.6	13.5	66	0	-1.3	Off
EW-38	7/9/2019	0.0	5.9	11.7	64	0	-3.3	Off

Notes:

* - Sample ports frozen or well underwater preventing readings
** - Well is fully open
*** - Data unavailable

Table 2.3

Landfill Gas Probe Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-1S	3/19/2019	0.0	0.1	20.8	-0.1
GP-1S	5/21/2019	0.0	0.1	21.0	0.0
GP-1S	8/20/2019	0.0	8.7	10.2	0.2
GP-1S	10/8/2019	0.0	0.1	20.8	-0.1
GP-1D	3/19/2019	0.0	0.1	20.9	-0.1
GP-1D	5/21/2019	0.0	0.7	20.0	0.0
GP-1D	8/20/2019	0.0	1.9	17.0	0.0
GP-1D	10/8/2019	0.0	4.1	14.6	-0.1
GP-2	3/19/2019	0.0	0.4	21.2	0.0
GP-2	5/21/2019	0.0	0.1	21.5	0.0
GP-2	8/20/2019	0.0	2.1	19.5	0.0
GP-2	10/8/2019	0.0	0.3	20.2	-0.1
GP-3S	3/19/2019	0.0	0.0	21.1	0.0
GP-3S	5/21/2019	0.0	0.1	21.1	0.0
GP-3S	8/20/2019	0.0	0.1	20.4	0.0
GP-3S	10/8/2019	0.0	0.1	21.5	-0.1
GP-3D	3/19/2019	0.0	0.0	21.2	0.0
GP-3D	5/21/2019	0.0	0.1	21.2	0.0
GP-3D	8/20/2019	0.0	0.0	20.6	-0.1
GP-3D	10/8/2019	0.0	0.1	21.5	-0.1
GP-5	3/19/2019	0.0	1.6	20.2	0.0
GP-5	5/21/2019	0.0	0.7	20.9	0.0
GP-5	8/20/2019	0.0	0.2	20.4	0.0
GP-5	10/8/2019	0.0	4.8	17.0	-0.1
GP-6	3/19/2019	0.0	0.0	21.7	0.0
GP-6	5/21/2019	0.0	0.0	21.6	-0.1
GP-6	8/20/2019	0.0	0.5	20.5	0.0
GP-6	10/8/2019	0.0	0.4	19.8	-0.1
GP-7R	3/19/2019	0.0	0.1	21.3	0.0
GP-7R	5/21/2019	0.0	0.0	21.4	0.0
GP-7R	8/20/2019	0.0	0.1	20.6	0.0
GP-7R	10/8/2019	0.0	0.1	21.5	-0.1

Table 2.3

Landfill Gas Probe Data
January 2019 through December 2019
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-10	3/19/2019	0.0	0.1	21.2	0.0
GP-10	5/21/2019	0.0	0.4	21.4	0.0
GP-10	8/20/2019	0.0	0.9	20.2	0.0
GP-10	10/8/2019	0.0	1.4	19.1	-0.04
GP-11	3/19/2019	0.0	1.4	20.3	0.0
GP-11	5/21/2019	0.0	0.2	21.4	0.0
GP-11	8/20/2019	0.0	1.6	19.6	0.0
GP-11	10/8/2019	0.0	3.7	16.9	0.0
GP-12	3/19/2019	0.0	0.1	21.4	0.0
GP-12	5/21/2019	0.0	1.6	20.1	0.0
GP-12	8/20/2019	0.0	3.2	18.2	0.0
GP-12	10/8/2019	0.0	1.9	18.0	0.0
GP-13	3/19/2019	0.0	0.0	21.5	-0.1
GP-13	5/21/2019	0.0	0.3	21.1	0.0
GP-13	8/20/2019	0.0	1.3	19.6	0.0
GP-13	10/8/2019	0.0	0.8	19.4	0.0
GP-14	3/19/2019	0.0	3.3	14.2	0.1
GP-14	5/21/2019	0.0	1.9	19.4	0.0
GP-14	8/20/2019	0.0	3.9	18.2	0.0
GP-14	10/8/2019	0.0	3.7	17.1	-0.1

Appendix A
Weekly Flare Station Inspection Forms

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	1/2/2019	1/8/2019	1/15/2019	1/22/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Cloudy	Cloudy	Cloudy
Ambient Temperature, deg F	20	25	30	20
Inlet Temperature, deg F (GHS-TI-301)	47	48	47	46
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	4	3	3
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	0.5	1.8	0.5
Discharge Temperature, deg F (GHS-TI-302)	52	56	54	47
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	8	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.6	1.5	1.5	1.9
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.2	1.2	1.2	1.4
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4	0.3	0.3	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	15.6	17.7	15.9	16.1
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.7	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	2.9	4.1	3.0	2.7
Inlet Temp, DegF	51	51	50	49
Oxygen, %	0	0.7	0.7	0
Blower Speed, %	17	20	17	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	61	73	73	58
FLR Flame Temp, DegF	1338	1379	1257	1421
FLR Flow Press, In WC	0.2	0.1	1.7	0.1
FLR Flow Temp, DegF	56	61	59	51
Flow Rate, SCFM	81	82	80	81
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	44983	45127	45294	45463
Speed, %	17	20	17	17
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	56	61	59	51
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	81	83	81	81
Flame Temp, DegF	1409	1343	1251	1400
BLR Speed, %	17	20	17	17
Flow Pressure, In WC	0.2	0.1	1.7	0.1
Hour Meter	44977	45122	45289	45458

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	79	83	80	81
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	0.12	0.81	1.62	2.44
Total Flow, MMSCF	231.06	231.75	232.56	233.38
Flow Press, In WC	0.2	0.4	1.7	0.1
Flow Temp, DegF	56	61	58	51
Flow Delta P, In WC	0.57	0.60	0.57	0.56
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.11	0.12	0.12	0.11
3 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.12
4 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.11
5 Day's Ago Flow, MMSCF	0.11	0.11	0.12	0.12
6 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
7 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	231.06	231.75	232.56	233.38
Reset Time	0	0	0	0
Reset Date	0	0	0	0
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)		X

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	1/28/2019	2/5/2019	2/12/2019	2/19/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Cloudy	Cloudy	Clear
Ambient Temperature, deg F	5	20	20	15
Inlet Temperature, deg F (GHS-TI-301)	44	44	44	44
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	5	3	6
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.5	0.5	1	1
Discharge Temperature, deg F (GHS-TI-302)	44	50	50	47
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	8	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.6	1.5	1.7	2.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.2	1.0	1.4	1.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4	0.5	0.3	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	16.9	19.9	15.3	20
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	4.2
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.5	6.0	2.3	6.4
Inlet Temp, DegF	48	48	48	47
Oxygen, %	0	0.1	0	0.1
Blower Speed, %	19	24	16	26
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	51	55	60	52
FLR Flame Temp, DegF	1341	1323	1467	1352
FLR Flow Press, In WC	0.1	0.1	0.1	0.3
FLR Flow Temp, DegF	48	56	54	54
Flow Rate, SCFM	76	82	83	77
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	45609	45744	45912	46056
Speed, %	19	24	16	26
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	48	56	54	54
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	76	76	83	78
Flame Temp, DegF	1321	1329	1481	1327
BLR Speed, %	19	24	16	26
Flow Pressure, In WC	0.1	0.1	0.1	0.3
Hour Meter	45603	45739	45906	46050

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	76	82	82	78
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	3.13	0.43	1.25	1.94
Total Flow, MMSCF	234.08	234.73	235.55	236.24
Flow Press, In WC	0.1	0.1	0.1	0.3
Flow Temp, DegF	48	56	54	54
Flow Delta P, In WC	0.49	0.58	0.60	0.53
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.03
3 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.09
4 Day's Ago Flow, MMSCF	0.11	0.08	0.11	0.11
5 Day's Ago Flow, MMSCF	0.12	0.00	0.12	0.12
6 Day's Ago Flow, MMSCF	0.12	0.01	0.11	0.12
7 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	234.08	234.73	235.55	236.24
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)		X

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	2/26/2019	3/5/2019	3/12/2019	3/19/2019
Time	10:00 AM	9:30 AM	10:00 AM	8:00 AM
Sky Conditions	Cloudy	Clear	Cloudy	Clear
Ambient Temperature, deg F	10	5	30	35
Inlet Temperature, deg F (GHS-TI-301)	43	43	43	45
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	3.5	4	6
Demister Filter Delta P (GHS-PDI-301)	0.2	0.2	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.5	0.5	0.5	2
Discharge Temperature, deg F (GHS-TI-302)	48	46	48	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	10	12	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.5	1.6	2.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.1	1.0	1.2	1.5
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4	0.5	0.4	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	18.1	17.4	17.5	17.9
Blower 301 Current, Amps (CP-YIC-2)	4.0	3.9	3.8	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.8	4.2	4.1	4.5
Inlet Temp, DegF	47	47	47	46
Oxygen, %	0	0	0.1	0.9
Blower Speed, %	21	19	20	21
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	53	53	57	71
FLR Flame Temp, DegF	1343	1288	1209	1282
FLR Flow Press, In WC	0.1	0.1	0.1	1.8
FLR Flow Temp, DegF	54	51	53	57
Flow Rate, SCFM	80	76	85	81
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	46196	46363	46530	46698
Speed, %	21	19	20	21
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	54	51	53	57
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	79	76	85	81
Flame Temp, DegF	1340	1301	1197	1290
BLR Speed, %	21	19	20	21
Flow Pressure, In WC	0.1	0	0.1	1.7
Hour Meter	46190	46352	46524	46692

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	76	76	85	81
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	2.62	0.47	1.28	2.1
Total Flow, MMSCF	236.92	237.74	238.55	239.37
Flow Press, In WC	0.1	0.1	0.1	1.8
Flow Temp, DegF	54	51	53	57
Flow Delta P, In WC	0.54	0.49	0.63	0.57
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.02	0.12	0.11	0.12
3 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
4 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
5 Day's Ago Flow, MMSCF	0.11	0.12	0.12	0.11
6 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
7 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	236.92	237.74	238.55	239.37
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)		X

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	3/26/2019	4/2/2019	4/9/2019	4/16/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	40	40	40	50
Inlet Temperature, deg F (GHS-TI-301)	44	44	44	44
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	3	4	5
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	56	54	56	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	20	12	8	10
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.5	1.5	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.5	0.5	0.5	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	17.8	16.7	18.3	18.7
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.8	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.2	3.9	4.8	5.1
Inlet Temp, DegF	46	47	47	47
Oxygen, %	0.9	0.8	1	1.3
Blower Speed, %	19	19	21	22
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	71	72	74	76
FLR Flame Temp, DegF	1221	1373	1256	1365
FLR Flow Press, In WC	1	1.6	1.7	1.1
FLR Flow Temp, DegF	55	58	60	61
Flow Rate, SCFM	78	76	80	79
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	46844	47038	47199	47368
Speed, %	19	19	21	22
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	55	58	60	61
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	78	76	76	79
Flame Temp, DegF	1225	1353	1278	1397
BLR Speed, %	19	19	21	22
Flow Pressure, In WC	0.9	1.6	1.8	1
Hour Meter	46860	47027	47193	47361

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	78	76	80	76
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	2.92	0.11	0.91	1.72
Total Flow, MMSCF	240.19	240.99	241.8	242.61
Flow Press, In WC	0.5	1.6	1.8	1.1
Flow Temp, DegF	55	58	60	61
Flow Delta P, In WC	0.53	0.51	0.57	0.56
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.11	0.12	0.12	0.12
3 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.11
4 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.11
5 Day's Ago Flow, MMSCF	0.11	0.11	0.12	0.12
6 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
7 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.11
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	240.19	241	241.8	242.61
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments:

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	4/23/2019	4/30/2019	5/7/2019	5/14/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Clear
Ambient Temperature, deg F	50	40	50	55
Inlet Temperature, deg F (GHS-TI-301)	46	44	46	46
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	6	5.5	5	5
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1.5	1.5
Discharge Temperature, deg F (GHS-TI-302)	58	56	52	53
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	9	9	14
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.5	1.5	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1	1.0	1.0	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.5	0.5	0.5	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	18.7	19.3	18.9	17.2
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.9	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	5.3	5.9	5.9	4.4
Inlet Temp, DegF	48	46	48	49
Oxygen, %	1.1	1.1	0.8	1.1
Blower Speed, %	22	23	23	19
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	72	72	73	81
FLR Flame Temp, DegF	1335	1442	1284	1166
FLR Flow Press, In WC	1.6	1.6	1.6	1.6
FLR Flow Temp, DegF	61	60	55	56
Flow Rate, SCFM	76	76	75	77
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	47535	47704	47871	48040
Speed, %	22	23	23	19
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	61	60	55	56
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	76	75	76	77
Flame Temp, DegF	1290	1296	1247	1190
BLR Speed, %	22	23	23	19
Flow Pressure, In WC	1.6	1.6	1.6	1.6
Hour Meter	47529	47697	47865	48034

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	75	76	75	77
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	2.53	3.36	0.69	1.5
Total Flow, MMSCF	243.42	244.23	245.03	245.85
Flow Press, In WC	1.6	1.6	1.6	1.6
Flow Temp, DegF	61	60	55	56
Flow Delta P, In WC	0.50	0.50	0.49	0.52
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.11	0.12	0.11	0.12
3 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
4 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.12
5 Day's Ago Flow, MMSCF	0.11	0.11	0.12	0.11
6 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
7 Day's Ago Flow, MMSCF	0.11	0.11	0.12	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	243.42	244.23	245.03	245.85
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Turned off heat trace for year…Turned on A/C.

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	5/21/2019	5/28/2019	6/4/2019	6/11/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Cloudy	Clear	Clear
Ambient Temperature, deg F	50	60	70	60
Inlet Temperature, deg F (GHS-TI-301)	46	48	50	50
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	4	4	5
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.5	1.5	1.5	1.5
Discharge Temperature, deg F (GHS-TI-302)	54	54	58	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	12	14
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.8	1.5	1.7	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.4	1.0	1.4	1.2
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4	0.5	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	18.4	16.9	16.8	17.6
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.9	4.1	3.7	4.4
Inlet Temp, DegF	49	51	52	53
Oxygen, %	0.8	0.5	1.1	0.8
Blower Speed, %	22	19	19	20
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	77	76	84	81
FLR Flame Temp, DegF	1279	1296	1278	1255
FLR Flow Press, In WC	1.9	1.6	1.8	1.8
FLR Flow Temp, DegF	56	57	60	59
Flow Rate, SCFM	84	76	82	79
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	48207	48376	48544	48711
Speed, %	22	19	19	20
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	56	57	60	59
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	78	84	82	81
Flame Temp, DegF	1296	1290	1294	1251
BLR Speed, %	22	19	19	20
Flow Pressure, In WC	1.9	1.6	1.8	1.8
Hour Meter	48201	48369	48538	48705

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	83	76	76	80
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	2.31	3.13	0.35	1.16
Total Flow, MMSCF	246.66	247.47	248.29	249.1
Flow Press, In WC	1.9	1.6	1.8	1.8
Flow Temp, DegF	56	57	60	59
Flow Delta P, In WC	0.61	0.50	0.58	0.57
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
3 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.12
4 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
5 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.12
6 Day's Ago Flow, MMSCF	0.12	0.11	0.12	0.11
7 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	246.66	247.47	248.29	249.1
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments:

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	6/18/2019	6/25/2019	7/2/2019	7/9/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Cloudy	Clear
Ambient Temperature, deg F	65	75	70	75
Inlet Temperature, deg F (GHS-TI-301)	52	54	54	56
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	5	5	6
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.5	1.5	1.5	1.5
Discharge Temperature, deg F (GHS-TI-302)	63	62	64	64
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	11	8	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.6	1.5	1.5	1.6
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.4	1.2	1.2	1.3
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	17.6	18.3	17.7	17.6
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.3	4.9	4.2	4.1
Inlet Temp, DegF	54	55	56	58
Oxygen, %	0.8	0.9	0.7	0.9
Blower Speed, %	20	21	20	19
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	83	84	83	83
FLR Flame Temp, DegF	1230	1195	1296	1076
FLR Flow Press, In WC	1.8	1.7	1.8	1.7
FLR Flow Temp, DegF	63	64	67	66
Flow Rate, SCFM	81	77	81	77
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	48880	49048	49216	49376
Speed, %	20	21	20	19
Vibration, In/Sec	0.00	0.00	0.00	0.00
Outlet Temp, DegF	63	64	67	66
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	81	82	82	82
Flame Temp, DegF	1264	1186	1308	1094
BLR Speed, %	20	21	20	19
Flow Pressure, In WC	1.8	1.7	1.8	1.7
Hour Meter	48874	49041	49210	49369

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	82	77	82	77
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	1.97	2.78	0.12	0.9
Total Flow, MMSCF	249.91	250.72	251.53	252.31
Flow Press, In WC	1.8	1.7	1.8	1.7
Flow Temp, DegF	63	64	67	66
Flow Delta P, In WC	0.58	0.53	0.60	0.52
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.11	0.12	0.11	0.12
3 Day's Ago Flow, MMSCF	0.11	0.12	0.12	0.08
4 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
5 Day's Ago Flow, MMSCF	0.11	0.11	0.12	0.12
6 Day's Ago Flow, MMSCF	0.12	0.12	0.12	0.12
7 Day's Ago Flow, MMSCF	0.12	0.12	0.11	0.12
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	249.91	250.72	251.53	252.31
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments:

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	7/16/2019	7/23/2019	7/30/2019	8/6/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	80	70	60	70
Inlet Temperature, deg F (GHS-TI-301)	58	58	58	60
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	6	6	7	6
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.5	1.5	1	1
Discharge Temperature, deg F (GHS-TI-302)	66	64	65	66
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	9	9	9
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.5	1.5	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.2	1.0	1.0	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.5	0.5	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	17.5	17.5	18.7	17.4
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.8	3.8	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.3	4.5	5.3	3.8
Inlet Temp, DegF	59	60	60	61
Oxygen, %	1.3	1	0.7	0.7
Blower Speed, %	20	20	22	18
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	86	82	79	82
FLR Flame Temp, DegF	1217	1349	1300	1250
FLR Flow Press, In WC	1.7	1.6	1.7	1.5
FLR Flow Temp, DegF	69	68	68	68
Flow Rate, SCFM	78	76	77	71
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	49544	49699	49867	500.35
Speed, %	20	20	22	18
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	69	68	68	68
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	78	75	75	71
Flame Temp, DegF	1246	1340	1312	1242
BLR Speed, %	20	20	22	18
Flow Pressure, In WC	1.7	1.6	1.7	1.5
Hour Meter	49538	49693	49861	50028

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	77	74	77	71
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	1.72	2.42	3.2	0.55
Total Flow, MMSCF	253.14	253.84	254.61	255.38
Flow Press, In WC	1.7	1.6	1.7	1.5
Flow Temp, DegF	69	68	68	68
Flow Delta P, In WC	0.54	0.50	0.53	0.45
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.03
2 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.11
3 Day's Ago Flow, MMSCF	0.11	0.07	0.11	0.11
4 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.11
5 Day's Ago Flow, MMSCF	0.12	0.09	0.11	0.11
6 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
7 Day's Ago Flow, MMSCF	0.12	0.11	0.11	0.11
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	253.14	253.84	254.61	255.38
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	8/13/19	8/20/2019	8/27/2019	9/3/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Clear	Cloudy
Ambient Temperature, deg F	60	65	60	55
Inlet Temperature, deg F (GHS-TI-301)	60	60	60	60
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	5	4	3.5
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	66	62	64	62
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	10	8	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.3	1.5	1.2	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	0.9	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.5	0.3	0.5
Blower 301 Frequency, Hz (CP-YIC-2)	16.9	16.2	15.9	14.2
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.7	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.0	3.6	3.5	2.1
Inlet Temp, DegF	61	61	61	61
Oxygen, %	0.7	0.5	0.6	0.4
Blower Speed, %	19	18	17	14
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	82	80	81	81
FLR Flame Temp, DegF	1356	1085	1250	1292
FLR Flow Press, In WC	1.6	1.7	1.5	1.7
FLR Flow Temp, DegF	69	65	67	66
Flow Rate, SCFM	76	78	71	78
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	50203	50366	50535	50704
Speed, %	19	18	17	14
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	69	65	67	66
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	76	78	71	78
Flame Temp, DegF	1318	1084	1271	1300
BLR Speed, %	19	18	17	14
Flow Pressure, In WC	1.6	1.7	1.5	1.7
Hour Meter	50196	50360	50528	50697

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	75	76	71	78
Today's Total, MMSCF	0.04	0.04	0.03	0.04
This Month's Total, MMSCF	1.33	2.08	2.85	0.22
Total Flow, MMSCF	256.16	256.91	257.68	258.45
Flow Press, In WC	1.6	1.7	1.4	1.7
Flow Temp, DegF	69	65	67	66
Flow Delta P, In WC	0.51	0.55	0.44	0.53
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.04
2 Day's Ago Flow, MMSCF	0.11	0.09	0.11	0.11
3 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
4 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
5 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
6 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
7 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	256.16	256.91	257.68	258.45
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments:

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	9/10/2019	9/17/2019	9/24/2019	10/1/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Cloudy
Ambient Temperature, deg F	70	75	65	65
Inlet Temperature, deg F (GHS-TI-301)	62	60	60	60
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3	3	3
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.2	1	1.5	1.5
Discharge Temperature, deg F (GHS-TI-302)	62	64	60	66
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	11	12	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.3	1.5	1.5
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1.1
Flame Arrester Delta P, In WC (FLR-PI-301)	0.5	0.3	0.5	0.4
Blower 301 Frequency, Hz (CP-YIC-2)	14.4	15.2	14.8	16.2
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.7	3.7	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	2.2	3.1	2.4	3.5
Inlet Temp, DegF	63	61	61	62
Oxygen, %	0.4	0.6	0.3	0.8
Blower Speed, %	14	16	15	8
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	81	81	79	82
FLR Flame Temp, DegF	1255	1062	1203	1308
FLR Flow Press, In WC	1.6	1.5	1.7	1.7
FLR Flow Temp, DegF	65	67	64	70
Flow Rate, SCFM	76	71	79	77
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	50385	51004	51173	51340
Speed, %	14	16	15	18
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	65	67	64	70
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	77	78	72	79
Flame Temp, DegF	1278	1054	1211	1294
BLR Speed, %	14	16	15	18
Flow Pressure, In WC	1.6	1.5	1.7	1.7
Hour Meter	50829	50998	51166	51334

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	78	72	79	78
Today's Total, MMSCF	0	0.03	0.04	0.03
This Month's Total, MMSCF	0.85	1.58	2.37	0
Total Flow, MMSCF	259.04	259.8	260.56	261.32
Flow Press, In WC	1.7	1.5	1.7	1.7
Flow Temp, DegF	65	67	64	70
Flow Delta P, In WC	0.52	0.46	0.55	0.53
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.00	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
3 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
4 Day's Ago Flow, MMSCF	0.07	0.10	0.11	0.11
5 Day's Ago Flow, MMSCF	0.07	0.11	0.11	0.11
6 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.11
7 Day's Ago Flow, MMSCF	0.11	0.07	0.11	0.11
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	259.04	259.8	260.56	261.32
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	10/8/2019	10/17/2019	10/22/2019	10/29/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Cloudy	Clear
Ambient Temperature, deg F	45	45	45	30
Inlet Temperature, deg F (GHS-TI-301)	58	56	56	54
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3	1	2
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100.0	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.5	1	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	60	56	64	60
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	18	9	9	9
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.5	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	0.5	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.5	0.5	0.5	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	15.9	15.9	13.4	15.7
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.7	3.7	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.2	3.3	2.0	3.5
Inlet Temp, DegF	60	59	59	58
Oxygen, %	0.1	0.5	0.4	0.3
Blower Speed, %	17	17	13	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	73	74	77	73
FLR Flame Temp, DegF	1159	1350	1195	1351
FLR Flow Press, In WC	1.7	1.1	0.9	0.1
FLR Flow Temp, DegF	61	62	67	65
Flow Rate, SCFM	78	76	65	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	51508	51725	51841	52009
Speed, %	17	17	13	17
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	61	62	67	65
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	78	78	77	65
Flame Temp, DegF	1177	1333	1266	1385
BLR Speed, %	17	17	13	17
Flow Pressure, In WC	1.7	1.2	0.9	0.1
Hour Meter	51501	51718	51835	52002

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	78	78	66	66
Today's Total, MMSCF	0.03	0.04	0.03	0.03
This Month's Total, MMSCF	0.76	1.73	2.23	2.94
Total Flow, MMSCF	262.08	263.06	263.56	264.26
Flow Press, In WC	1.7	1.3	0.9	0.1
Flow Temp, DegF	61	62	67	65
Flow Delta P, In WC	0.54	0.50	0.38	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.11	0.10	0.10
3 Day's Ago Flow, MMSCF	0.11	0.11	0.10	0.10
4 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.11	0.11	0.09	0.10
6 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.10
7 Day's Ago Flow, MMSCF	0.11	0.11	0.11	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	262.08	263.06	263.56	264.26
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	11/5/2019	11/12/2019	11/18/2019	11/26/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Cloudy	Cloudy
Ambient Temperature, deg F	25	15	35	35
Inlet Temperature, deg F (GHS-TI-301)	54	50	52	52
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	2	3	3.5
Demister Filter Delta P (GHS-PDI-301)	0.3	0.2	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.5	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	58	50	60	61
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	11	10	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.2	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	0.8	0.8	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.4	0.2	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	16.8	15.9	14.7	17.3
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.3	3.2	2.8	4.6
Inlet Temp, DegF	57	55	55	54
Oxygen, %	0.1	0	0.3	0.4
Blower Speed, %	19	17	15	20
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	69	59	74	73
FLR Flame Temp, DegF	1353	1321	1215	1292
FLR Flow Press, In WC	0.1	0.1	0.1	0.2
FLR Flow Temp, DegF	63	54	65	66
Flow Rate, SCFM	66	67	65	67
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	52178	52346	52490	52682
Speed, %	19	17	15	20
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	63	54	65	66
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	66	66	66	67
Flame Temp, DegF	1363	1294	1242	1293
BLR Speed, %	19	17	15	20
Flow Pressure, In WC	0.1	0.1	0.1	0.2
Hour Meter	52171	52339	52484	52675

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	66	66	66.0	67
Today's Total, MMSCF	0.03	0.04	0.03	0.03
This Month's Total, MMSCF	0.40	1.12	1.73	2.53
Total Flow, MMSCF	264.98	265.69	266.31	267.11
Flow Press, In WC	0.1	0.1	0.1	0.1
Flow Temp, DegF	63	54	65	66
Flow Delta P, In WC	0.39	0.38	0.38	0.40
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.11
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	264.98	265.69	266.31	267.11
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester (Initials)	KSF	KSF	KSF	KSF
Date	12/3/2019	12/9/2019	12/17/2019	12/26/2019
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Cloudy	Clear
Ambient Temperature, deg F	25	32	20	35
Inlet Temperature, deg F (GHS-TI-301)	50	50	48	48
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	1	2	3	3
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	54	56	50	54
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	8	8	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.2	1.0	1.3	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	0.8	0.9	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4	0.2	0.4	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	13.1	13.8	15.1	15.8
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	1.6	1.8	2.7	3.2
Inlet Temp, DegF	53	53	51	51
Oxygen, %	0.3	0.2	0.1	0.2
Blower Speed, %	12	13	16	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	70	73	70	73
FLR Flame Temp, DegF	1327	1521	1283	1291
FLR Flow Press, In WC	1.4	0.1	0.1	0.2
FLR Flow Temp, DegF	59	60	54	58
Flow Rate, SCFM	71	74	72	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	52831	52976	53167	53310
Speed, %	12	13	16	16
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	59	60	54	58
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	71	74	71	66
Flame Temp, DegF	1359	1550	1314	1261
BLR Speed, %	12	13	16	16
Flow Pressure, In WC	1.4	0.5	0.1	0.1
Hour Meter	52825	52969	53161	53304

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	71	74	72	66
Today's Total, MMSCF	0.03	0.04	0.03	0.03
This Month's Total, MMSCF	0.12	0.73	1.54	2.15
Total Flow, MMSCF	267.76	268.37	269.19	269.79
Flow Press, In WC	1.4	0.1	0.1	0.1
Flow Temp, DegF	59	60	54	58
Flow Delta P, In WC	0.44	0.49	0.45	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.06	0.11	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.06	0.10	0.11
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	267.76	268.37	269.19	269.79
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

	Adequate	Needs Work
Check Propane and Nitrogen Cylinders and change/fill if necessary	X	
Inspect Blower, Flare and Demister Structures for Loose Bolts/Cracks	X	
Drain Demister (if necessary)	X	
Clean Demister Filter Material (if dP indicates it is necessary)	X	
Lubricate Grease Fittings (as necessary)	X	
Test Alarm Lights on Panel by pushing "RUN" and "Alarm/Shutdown" Lamps	X	
Check if any shutdowns/alarms need re-setting (note which ones in comments section)	X	
Drain Flare Stack Condensate (if necessary)	X	

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

Appendix B
Semi Annual Flare Station Maintenance Reports

SEMI-ANNUAL INSPECTION AND MAINTENANCE FORM
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Tom Hobday

The following items will be performed semi-annually by City personnel or an outside vendor:

Item	*Date Performed*	*Comments*
BLOWER/FLARE SYSTEM		
- Check igniter gap (should be 0.1" - regap if necessary).	4/1/2019	Gap at 0.1"
- Verify that the spark is at the tip of the igniter.	4/1/2019	Spark in correct location
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	4/1/2019	Wiring in good shape
- Test pilot switch to verify pilot lights and it doesn't blow out.	4/1/2019	Good flame
- Check thermocouple voltage to verity the temperature reading.	4/1/2019	0.6 mV @ 75 deg F - good 24.4 mV @ 1,100 deg F - good
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	4/1/2019	Works
- Zero out all pressure, differential pressure, and vacuum gauges	4/1/2019	All zeroed
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	4/1/2019	All setpoints are correct
- Verify flow transmitter calibration (via differential pressure).	4/1/2019	0.0" at 0 cfm, and 0.35" @ 80 cfm . Within specifications.
- Calibrate oxygen sensor.	4/1/2019	Calibrated zero and span. 10.8 mV at ambient - sensor ok, spare in cabinet.
- Remove demister sump clean-out cover and remove any accumulated debris	4/1/2019	Sump is clean and dry
- If pressure drop across the demister reaches two times (2X) the original value, remove demister element for inspection. (pressure wash element as necessary).	4/1/2019	Element is clean and dry
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	4/1/2019	Added water, shutdown works
- Test the pilot fail shutdown (turn off propane supply)	4/1/2019	Works correctly
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	4/1/2019	Adjusted setpoint to test, work correctly

SEMI-ANNUAL INSPECTION AND MAINTENANCE FORM
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Tom Hobday

The following items will be performed semi-annually by City personnel or an outside vendor:

Item	*Date Performed*	*Comments*
- Test the oxygen safety shutdown while the flare is operating. (open O2 lines to atm.)	4/1/2019	Opened valve to expose to atmosphere, shutdown works
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	4/1/2019	Blower to manual, throttled inlet valve, shutdown verified
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	4/1/2019	Lowered timer, induced vibration, works
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	4/1/2019	Works
- Test the high inlet temperature failure (adjust PLC setpoint)	4/1/2019	Adjusted setpoint to test, works correctly
- Test the high vacuum shutdown (adjust PLC setpoint)	4/1/2019	Adjusted setpoint to test, works correctly
- Test the low temperature shutdown. (adjust PLC setpoint)	N/A	This is a non user-programmable set-point. Unable to get the flare to produce a low enough temp to test.
- Inspect transmitter housings and piping. Replace O-rings, if necessary.	4/1/2019	All in good shape. Lubricated o-rings
- Inspect and clean the solenoid valve.	4/1/2019	In good shape
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	4/1/2019	No issues
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	4/1/2019	All ok
- Check for loose bolts on structure and flanges. Tighten, as necessary.	4/1/2019	No loose bolts
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	4/1/2019	Filter clean
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	4/1/2019	Element is clean and dry
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	4/1/2019	Bearings in good shape, flushed with fresh grease and repacked.

SEMI-ANNUAL INSPECTION AND MAINTENANCE FORM
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Tom Hobday

The following items will be performed semi-annually by City personnel or an outside vendor:

Item	*Date Performed*	*Comments*
BLOWER/FLARE SYSTEM		
- Check igniter gap (should be 0.1" - regap if necessary).	10/17/2019	Gap is correct
- Verify that the spark is at the tip of the igniter.	10/17/2019	Spark at tip
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	10/17/2019	No damage to wiring
- Test pilot switch to verify pilot lights and it doesn't blow out.	10/17/2019	Good flame
- Check thermocouple voltage to verity the temperature reading.	10/17/2019	0.8 mV @ 60 deg F - good 25.5 mV @ 1,150 deg F - good
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	10/17/2019	Works
- Zero out all pressure, differential pressure, and vacuum gauges	10/17/2019	Done
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	10/18/2019	All setpoints are correct
- Verify flow transmitter calibration (via differential pressure).	10/17/2019	0.0" at 0 cfm, and 0.55" @ 79 cfm . Within specifications.
- Calibrate oxygen sensor.	10/17/2019	Calibrated zero and span. 10.1 mV at ambient - sensor ok, spare in cabinet.
- Remove demister sump clean-out cover and remove any accumulated debris	10/17/2019	Sump is clean and dry
- If pressure drop across the demister reaches two times (2X) the original value, remove demister element for inspection. (pressure wash element as necessary).	10/17/2019	Element inspected and in good condition
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	10/17/2019	Added water, shutdown works
- Test the pilot fail shutdown (turn off propane supply)	10/17/2019	Works correctly
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	10/17/2019	Works correctly

SEMI-ANNUAL INSPECTION AND MAINTENANCE FORM
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Tom Hobday

The following items will be performed semi-annually by City personnel or an outside vendor:

Item	*Date Performed*	*Comments*
- Test the oxygen safety shutdown while the flare is operating. (open O2 lines to atm.)	10/17/2019	Shutdown works
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	10/17/2019	Throttled inlet valve, works correctly
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	10/17/2019	Adjusted setpoint, induced vibration, works
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	10/17/2019	Works
- Test the high inlet temperature failure (adjust PLC setpoint)	10/17/2019	Adjusted setpoint to test, works correctly
- Test the high vacuum shutdown (adjust PLC setpoint)	10/17/2019	Adjusted setpoint to test, works correctly
- Test the low temperature shutdown. (adjust PLC setpoint)	N/A	This is a non user-programmable set-point. Unable to get the flare to produce a low enough temp to test.
- Inspect transmitter housings and piping. Replace O-rings, if necessary.	10/17/2019	Lubricated all o-rings
- Inspect and clean the solenoid valve.	10/17/2019	In good shape
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	10/17/2019	No issues
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	10/18/2019	All connections checked/tightened
- Check for loose bolts on structure and flanges. Tighten, as necessary.	10/18/2019	No loose bolts
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	10/17/2019	Filter is clean. Turned off AC for winter. Heat trace turned on
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	10/17/2019	Element is clean
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	10/17/2019	Bearings in good shape, flushed with fresh grease and repacked.

DAILY FLARE STATION DATA LOG

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

Tester	T. Hobday		T. Hobday	
Date	4/1/2019		10/18/2019	
Time	12:25		9:05	
Sky Conditions	cloudy		clear	
Ambient Temperature, deg F	39°F		43°F	
Inlet Temperature, deg F (GHS-TI-301)	44°F		56°F	
Demister Inlet Valve Position, % Open (GHS-HV-301)	100%		100%	
LFG Vacuum, In WC (GHS-PI-301)	2.5"		2.0"	
Demister Filter Delta P (GHS-PDI-301)	0.3"		0.2"	
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100%		100%	
Discharge Pressure, In WC (GHS-PI-302)	1.5"		1.0"	
Discharge Temperature, deg F (GHS-TI-302)	55°F		63°F	
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10"		11.5"	
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.8"		1.1"	
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.5"		0.9"	
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3"		0.2"	
Blower 301 Frequency, Hz (CP-YIC-2)	16.5 Hz		14.3 Hz	
Blower 301 Current, Amps (CP-YIC-2)	3.8 A		3.7A	

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

YIC-1 From Main Menu Screen	4/1/2019		10/18/2019	
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.2"		2.4"	
Inlet Temp, DegF	47°F		60°F	
Oxygen, %	0.1%		0.1%	
Blower Speed, %	18%		14%	
Blower Vibration, In/Sec	0.00"/sec		0.00"/sec	
CP Temp, DegF	66°F		71°F	
FLR Flame Temp, DegF	1413°F		1226°F	
FLR Flow Press, In WC	1.9"		1.5"	
FLR Flow Temp, DegF	58°F		67°F	
Flow Rate, SCFM	84 cfm		71 cfm	
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run		Run	
Run Time, Hr	47,016		51,747	
Speed, %	18%		14%	
Vibration, In/Sec	0.00"/sec		0.00"/sec	
Outlet Temp, DegF	59°F		67°F	
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	85 cfm		71 cfm	
Flame Temp, DegF	1442°F		1240°F	
BLR Speed, %	18%		14%	
Flow Pressure, In WC	1.9"		1.5"	
Hour Meter	47,010		51,740	
Run Clock	On		On	
Pilot	Off		Off	

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

	4/1/2019		10/18/2019	
SD Valve	Open		Open	
Flame	On		On	
Relight	Off		Off	
Pilot	Ready		Ready	
Vac Ramp	Off		Off	
Forced Flow	Off		Off	
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	85 cfm		71 cfm	
Today's Total, MMSCF	0.0632967		0.0379821	
This Month's Total, MMSCF	0.0 —		1.828959	
Total Flow, MMSCF	240.916		263.154	
Flow Press, In WC	1.9"		1.5"	
Flow Temp, DegF	58°F		67°F	
Flow Delta P, In WC	0.62"		0.45"	
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.0632967		0.0379821	
2 Day's Ago Flow, MMSCF	0.1133875		0.1063707	
3 Day's Ago Flow, MMSCF	0.1185276		0.1090440	
4 Day's Ago Flow, MMSCF	0.1140767		0.1091154	
5 Day's Ago Flow, MMSCF	0.1172874		0.1039118	
6 Day's Ago Flow, MMSCF	0.1104189		0.1113595	
7 Day's Ago Flow, MMSCF	0.1159965		0.1082940	
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	2.40916e		2.63154e	
Reset Time	0:0:0		0:0:0	
Reset Date	0/00/00		0/00/00	
* **BACK**				

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

Project # 1728 Project Name: Holtz Krause (Min 30 SCFM, Max 200 SCFM)

* BACK				

* ***PUSH BUTTON***

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

Project # 1728 Project Name: Holtz Krause Initials: T. Hobday

* **START SPs**				
Pilot Enable, Secs	120 sec	4/1/19	120 sec	10/18/19
Pilot On Squence, Secs	10 sec	↓	10 sec	↓
Pilot Off Squence, Secs	3 sec	↓	3 sec	↓
Delay Blower Start, Secs	3 sec	↓	3 sec	↓
Delay Shutdown Valve Open, Secs	3 sec	↓	3 sec	↓
* **BACK**				
* **PILOT**				
FLR Pilot Assumed on Above This Temp, DegF	250°F	4/1/19	250°F	10/18/19
* **BACK**				
* **FLR RUN CLOCK**				
Start Time of Day, Hr.Min	0.00	4/1/19	0.00	10/18/19
On Cycle Duration, Mins	1,440 min	↓	1440 min	↓
Off Cycle Duration, Mins	1 min	↓	1 min	↓
Cycles per Day	1	↓	1	↓
* **BACK**				
* **BACK**				
* **FLOW CALC**				
CH4%	31.0%	4/1/19	31.0%	10/18/19
O2%	0.1%	↓	0.1%	↓
CO2%	32.5%	↓	32.5%	↓
Elevation, Ft	1,225 ft	↓	1225 ft	↓
Manual Input	0.975	↓	0.975	↓
* **BACK**				
* **OXYGEN CALIBRATION**				
* **BACK**				
* **ALARMS & SHUTDOWNS**				
* **INLET MENU**				
* **HIGH VACUUM**				
Alarm SP, In WC	52.0"	4/1/19	52.0"	10/18/19
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, In WC	55.0"	↓	55.0"	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **INLET TEMPERATURE**				
Alarm SP, DegF	98°F	4/1/19	98°F	10/18/19

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

Project # 1728 Project Name: Holtz Krause Initials: T. Holiday

Description	Setpoint	DATE	Setpoint	DATE
SETPOINT MENU				
* **VACUUM/FLOW**				
Vacuum/Flow	Flow	4/1/19	Flow	10/18/19
* **MANUAL/AUTO**				
Min % Speed	10%	4/1/19	10%	10/18/19
Auto/Manual	Auto	↓	Auto	↓
Manual % Speed	20%	↓	20%	↓
* **BACK**				
* **VACUUM CONTROL**				
* **SETPOINTS**				
Setpoint, In WC	5.0"	4/1/19	6.0"	10/18/19
Ramp Incriment, In WC	4.0"	↓	4.0"	↓
* **BACK**				
* **PID SPs**				
Gain	2.50	4/1/19	2.50	10/18/19
Sample Rate, Sec	0.50 Sec	↓	0.50 sec	↓
Derative, Sec	0.01 sec	↓	0.01 sec	↓
Reset, Sec/Min	0.50 sec	↓	0.50 sec	↓
Deadband, In WC	0.5"	↓	0.5"	↓
* **BACK**				
* **BACK**				
* **FLOW CONTROL**				
* **SETPOINTS**				
Flow Control Setpoint, SCFM	80 cfm	4/1/19	70 cfm	10/18/19
* **BACK**				
* **PID SETPOINTS**				
Gain	0.80	4/1/19	0.80	10/18/19
Sample Rate, Sec	0.70 sec	↓	0.70 sec	↓
Derative, Sec	0.01 sec	↓	0.01 sec	↓
Reset, Sec/Min	1.10 sec	↓	1.10 sec	↓
Deadband, SCFM	5 cfm	↓	5 cfm	↓
* **BACK**				
* **BACK**				
* **BACK**				
* **FLARE MENU**				

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

Project # 1728 Project Name: Holtz Krause Initials: T. Hobday

Alarm Delay, Sec	45 sec	4/1/19	45 sec	10/18/19
Shutdown SP, DegF	100°F	↓	100°F	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **BACK**				
* **FLT-301 COND LEVEL**				
Shutdown Delay, Sec	35 sec	4/1/19	35 sec	10/18/19
* **BACK**				
* **BLOWER MENU**				
* **VIBRATION**				
Alarm SP, In/S	0.18 "/sec	4/1/19	0.18 "/sec	10/18/19
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, In/S	0.20 "/sec	↓	0.20 "/sec	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **HIGH OUTLET GAS TEMP**				
Alarm SP, DegF	170°F	4/1/19	170°F	10/18/19
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, DegF	174°F	↓	174°F	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **BACK**				
* **FLARE MENU**				
* **HIGH FLAME TEMP**				
Alarm SP, DegF	N/A		N/A	
Alarm Delay, Sec	↘		↘	
Shutdown SP, DegF				
Shutdown Delay, Sec	↘		↘	
* **BACK**				
* **LOW FLAME TEMP**				
Alarm SP, DegF	150°F	4/1/19	150°F	10/18/19
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, DegF	200°F	↓	200°F	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **HIGH FLOW RATE**				

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

Project # 1728 Project Name: Holtz Krause Initials: T. Hobday

Alarm SP, SCFM	220 cfm	4/1/19	220 cfm	10/18/19
Alarm Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **LOW FLOW RATE**				
Alarm SP, SCFM	35 cfm	4/1/19	35 cfm	10/18/19
Alarm Delay, Sec	35 sec	|	35 sec	|
Shutdown SP, SCFM	30 cfm	|	30 cfm	|
Shutdown Delay, Sec	35 sec	↓	35 sec	↓
* **BACK**				
* **FLARE RELIGHT**				
Relight Delay, Secs	600 sec	4/1/19	600 sec	10/18/19
Number of Relight Attempts	3	↓	3	↓
* **BACK**				
* **BACK**				
* **OXYGEN SENSOR**				
* **HIGH OXYGEN OE-301**				
Alarm SP, %	3.5%	4/1/19	3.5%	10/18/19
Alarm Delay, Sec	120 sec	|	120 sec	|
Shutdown SP, %	5.0%	|	5.0%	|
Shutdown Delay, Sec	120 sec	↓	120 sec	↓
* **BACK**				
* **BACK**				
* **UTILITY OUTAGE RESTART DELAY**				
System Restart Delay, Secs	60 sec	4/1/19	60 sec	10/18/19
* **BACK**				
* **PANEL TEMP**				
Low Temp Alarm SP, degF	35°F	4/1/19	35°F	10/18/19
Low Temp Alarm Delay, Sec	120 sec	|	120 sec	|
High Temp Alarm SP, degF	120°F	|	120°F	|
High Temp Alarm Delay, Sec	120 sec	↓	120 sec	↓
* **BACK**				
* **BACK**				
* **BACK**				

Appendix C
Monthly Site Inspection Forms

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 1.16.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	y	n	
Vegetation cover intact?	y	n	
Is cover free of surface water ponding?	y	n	
Is cover free of exposed refuse?	y	n	
Is cover free of leachate seeps?	y	n	
Is cover free of animal burrows?	y	n	
Is cover free of noxious weeds?	y	n	
Is cover in need of mowing?	y	n	
Evidence of settlement of fill?	y	n	
Nuisance odors present?	y	n	
On-site access road drivable?	y	n	
Fence around flare secured?	y	n	
Evidence of trespassers or encroachment?	y	n	
Illegal disposal/dumping present?	y	n	
Gas wells free of damage?	y	n	
Water mon wells secured/free of damage?	y	n	
Gas probes secured/free of damage?	y	n	
Flare station modem operational?	y	n	

Comments:

little snowcover for January

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fiebel

Date: 2.20.18

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)*	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

* Two feet of snow on site - very heavy snow 4 Feb

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 3/26/19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

1st Spring EA Monitoring Round. Quite a bit of snow on-site yet.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fuge

Date: 4/9/19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

Some Snow on site yet.

Semi Annual service visit this month

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 5.7.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	y	n	
Vegetation cover intact?	y	n	
Is cover free of surface water ponding?	y	n	
Is cover free of exposed refuse?	y	n	
Is cover free of leachate seeps?	y	n	
Is cover free of animal burrows?	y	n	
Is cover free of noxious weeds?	y	n	
Is cover in need of mowing?	y	n	
Evidence of settlement of fill?	y	n	
Nuisance odors present?	y	n	
On-site access road drivable?	y	n	
Fence around flare secured?	y	n	
Evidence of trespassers or encroachment?	y	n	
Illegal disposal/dumping present?	y	n	
Gas wells free of damage?	y	n	
Water mon wells secured/free of damage?	y	n	
Gas probes secured/free of damage?	y	n	
Flare station modem operational?	y	n	

Comments:

Looks Good

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 6.11.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	*
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

* Grass slightly longer this year. will only be mowed ONCE during SUMMER.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fraser

Date: 7.9.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 8.6.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	y	n	
Vegetation cover intact?	y	n	
Is cover free of surface water ponding?	y *	n	
Is cover free of exposed refuse?	y	n	
Is cover free of leachate seeps?	y	n	
Is cover free of animal burrows?	y	n	
Is cover free of noxious weeds?	y	n	
Is cover in need of mowing?	y	n	
Evidence of settlement of fill?	y	n	
Nuisance odors present?	y	n	
On-site access road drivable?	y	n	
Fence around flare secured?	y	n	
Evidence of trespassers or encroachment?	y	n	
Illegal disposal/dumping present?	y	n	
Gas wells free of damage?	y	n	
Water mon wells secured/free of damage?	y	n	
Gas probes secured/free of damage?	y	n	
Flare station modem operational?	y	n	

Comments:

* Very Wet Summer. Soccer Fields are wet but no standing water on site.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fisher

Date: 9/10/19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 10/3/19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

Police Arrested Shooter At Nearby Cemetary on. Site in Apr.

Semi. Annual Visit this month.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Farber

Date: 11.19.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	(y)	n	
Vegetation cover intact?	(y)	n	
Is cover free of surface water ponding?	(y)	n	
Is cover free of exposed refuse?	(y)	n	
Is cover free of leachate seeps?	(y)	n	
Is cover free of animal burrows?	(y)	n	
Is cover free of noxious weeds?	(y)	n	
Is cover in need of mowing?	y	(n)	
Evidence of settlement of fill?	y	(n)	
Nuisance odors present?	y	(n)	
On-site access road drivable?	(y)	n	
Fence around flare secured?	(y)	n	
Evidence of trespassers or encroachment?	y	(n)	
Illegal disposal/dumping present?	y	(n)	
Gas wells free of damage?	(y)	n	
Water mon wells secured/free of damage?	(y)	n	
Gas probes secured/free of damage?	(y)	n	
Flare station modem operational?	(y)	n	

Comments:

Very Cold November. Snow on site Already

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fraser

Date: 12.26.19

Item	*Yes*	*No*	*Comments*
Cover intact and free of erosion?	y	n	
Vegetation cover intact?	y	n	
Is cover free of surface water ponding?	y	n	
Is cover free of exposed refuse?	y	n	
Is cover free of leachate seeps?	y	n	
Is cover free of animal burrows?	y	n	
Is cover free of noxious weeds?	y	n	
Is cover in need of mowing?	y	n	
Evidence of settlement of fill?	y	n	
Nuisance odors present?	y	n	
On-site access road drivable?	y	n	
Fence around flare secured?	y	n	
Evidence of trespassers or encroachment?	y	n	
Illegal disposal/dumping present?	y	n	
Gas wells free of damage?	y	n	
Water mon wells secured/free of damage?	y	n	
Gas probes secured/free of damage?	y	n	
Flare station modem operational?	y	n	

Comments:

About 7" of snow. 35° fog today.

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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