Annual Operation, Maintenance, and Monitoring Report

January 2021 through December 2021
Former Holtz Krause Landfill

City of Wausau

January 31, 2022

→ The Power of Commitment

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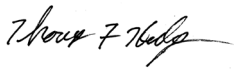
	00	Tom Hobday	Johan Hedblom		Tom Hobday		1/31/2022

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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 2021 through December 2021 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, Requirements, Scope, and Limitations

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-20, 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-12, EW-17, EW-19, 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 June 2021 and October 2021. The semi-annual maintenance reports are included in Appendix B.

2.2.1 Unscheduled Flare Station Shutdowns

During the reporting period (January 2021 through December 2021), the flare station experienced 11 unscheduled shutdowns. Details of the shutdowns are as follows:

– February 1, 2021: The flare station shut down due to a low flow rate shutdown. The flow meter tubing was thawed and the flare was restarted on February 1, 2021.
– May 25, 2021: The flare station shut down due to a utility outage caused by a thunderstorm. The flare station was restarted on May 26, 2021 once power was restored.
– June 8, 2021: The flare station shut down due to a utility outage caused by a thunderstorm. The flare station was restarted on June 9, 2021 once power was restored.
– July 8, 2021: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on July 9, 2021.

- July 24, 2021: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on July 24, 2021.
- July 27, 2021: The flare station shut down due to a utility outage caused by a thunderstorm. The flare station was restarted on July 27, 2021 once power was restored.
- July 29, 2021: The flare station shut down due to a utility outage caused by a thunderstorm. The flare station was restarted on July 29, 2021 once power was restored.
- August 14, 2021: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 15, 2021.
- August 18, 2021: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 19, 2021.
- September 20, 2021: The flare station shut down due to utility outage caused by a thunderstorm. The flare station was restarted on September 21, 2021 once power was restored.
- November 15, 2021: The flare station shut down due to utility outage. The flare station was restarted on November 16, 2021 once power was restored.

The flare station operated for 8,530 of the 8,760 available hours (97-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 70 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 provided in Appendix C.

General maintenance items completed during the reporting period included:

– Site mowing as necessary
– Replacement of wellhead vault covers as necessary
– Repaired the throttle valve at EW-35
– Performed well height reductions at wells EW-12, EW-13, EW-14, EW-17, and EW-18 to allow clearance below vault covers

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 97-percent up-time from January 1, 2021 through December 31, 2021.
– The flare station controls allowed extraction amounts to closely match landfill production (approximately 70 cfm at 30 to 38-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. Additionally, gas wells EW-33 and EW-37 (currently on the intermittent operation monitoring schedule) were noted to be consistently on throughout the reporting period with high levels of methane; which supports moving these wells to quarterly monitoring (for wells that are always on).

5. Recommendations

Based upon the conclusions presented in Section 4, it is recommended that gas extraction well monitoring in 2022 be revised to transfer wells EW-33 and EW-37 to quarterly monitoring (wells that are always on) from the monthly/quarterly monitoring list (wells with intermittent operation). The proposed monitoring changes are noted in Table 1.1.

Tables

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, 31, *33, and 37*)	8	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~~)	11	X	X	X	X	X	X	X	X

Notes:

- Wells EW-33 and EW-37 are recommended to be transferred to the Quarterly Monitoring Schedule (wells always on)

Table 2.1

Flare Station Operational Data
January 2021 through December 2021
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)
1/5/2021	-5.0	NR	NR	NR	65	51	1,195	on	62,191
1/12/2021	-3.8	NR	NR	NR	65	50	1,181	on	62,358
1/19/2021	-4.8	35.2	32.2	0.5	70	50	1,363	on	62,526
1/27/2021	-5.1	NR	NR	NR	70	49	1,277	on	62,720
2/2/2021	-5.9	34.8	31.7	0.5	72	49	1,442	on	62,851
2/9/2021	-4.1	NR	NR	NR	70	47	1,290	on	63,019
2/16/2021	-3.5	34.7	32.5	0.3	71	47	1,334	on	63,187
2/23/2021	-4.9	NR	NR	NR	66	47	1,333	on	63,355
3/2/2021	-2.9	NR	NR	NR	74	47	1,333	on	63,523
3/9/2021	-3.6	34.0	30.9	0.0	74	48	1,342	on	63,692
3/16/2021	-3.3	NR	NR	NR	66	48	1,374	on	63,859
3/23/2021	-3.7	NR	NR	NR	69	48	1,376	on	64,025
3/30/2021	-3.5	NR	NR	NR	68	49	1,301	on	64,194
4/6/2021	-3.7	32.8	30.4	0.0	69	50	1,193	on	64,362
4/13/2021	-4.6	NR	NR	NR	68	49	1,277	on	64,530
4/20/2021	-4.7	NR	NR	NR	71	49	1,379	on	64,698
4/27/2021	-3.8	NR	NR	NR	67	50	1,414	on	64,687
5/4/2021	-4.6	32.2	30.8	0.0	69	51	1,282	on	65,034
5/11/2021	-5.2	NR	NR	NR	69	51	1,249	on	65,203
5/18/2021	-4.2	NR	NR	NR	67	52	1,207	on	65,367
5/25/2021	-3.3	NR	NR	NR	70	54	1,314	on	65,513
6/1/2021	-4.4	NR	NR	NR	72	53	1,201	on	65,689
6/8/2021	-4.4	30.7	29.3	0.1	67	56	1,168	on	65,852
6/15/2021	-4.9	NR	NR	NR	69	57	1,285	on	66,010
6/22/2021	-5.2	NR	NR	NR	72	57	1,313	on	66,178
6/30/2021	-4.2	NR	NR	NR	69	59	1,398	on	66,368
7/6/2021	-5.3	30.0	30.1	0.0	74	60	1,177	on	66,510
7/13/2021	-3.7	NR	NR	NR	72	60	1,125	on	66,650
7/20/2021	-3.6	NR	NR	NR	66	61	1,178	on	66,809
7/27/2021	-3.0	NR	NR	NR	72	63	1,171	on	66,956
8/3/2021	-3.2	NR	NR	NR	62	62	1,130	on	67,108

Table 2.1

Flare Station Operational Data
January 2021 through December 2021
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)
8/10/2021	-3.5	30.8	29.3	0.3	67	62	1,165	on	67,263
8/17/2021	-2.9	NR	NR	NR	61	63	1,157	on	67,403
8/24/2021	-3.4	NR	NR	NR	64	63	1,080	on	67,548
8/31/2021	-3.0	NR	NR	NR	61	64	1,418	on	67,711
9/7/2021	-2.6	NR	NR	NR	67	63	1,211	on	67,878
9/14/2021	-2.3	34.8	31.2	0.3	66	63	1,292	on	68,045
9/21/2021	-4.4	NR	NR	NR	67	63	1,148	on	68,202
9/29/2021	-4.0	NR	NR	NR	67	61	1,234	on	68,393
10/5/2021	-4.4	NR	NR	NR	66	62	1,448	on	68,537
10/12/2021	-4.2	NR	NR	NR	65	62	1,356	on	68,705
10/20/2021	-3.0	33.0	30.5	0.7	71	62	1,373	on	68,904
10/26/2021	-3.7	NR	NR	NR	71	60	1,262	on	69,037
11/2/2021	-4.2	34.4	31.1	0.4	71	59	1,239	on	69,207
11/9/2021	-4.4	NR	NR	NR	72	58	1,294	on	69,375
11/16/2021	-2.8	NR	NR	NR	71	57	1,318	on	69,522
11/23/2021	-3.7	36.4	31.7	0.3	74	56	1,363	on	69,690
11/30/2021	-4.2	NR	NR	NR	66	55	1,240	on	69,857
12/7/2021	-4.3	35.4	31.6	0.4	73	54	1,260	on	70,025
12/14/2021	-4.4	NR	NR	NR	74	54	1,391	on	70,194
12/21/2021	-2.1	37.9	32.1	0.3	75	53	1,331	on	70,362
12/28/2021	-4.0	NR	NR	NR	75	52	1,387	on	70,531

Table 2.2

Landfill Gas Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^oF)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
Flare	1/19/2021	35.2	32.2	0.5	50	70	-4.8	On
Flare	2/2/2021	34.8	31.7	0.5	49	72	-5.9	On
Flare	2/16/2021	34.7	32.5	0.3	47	71	-3.5	On
Flare	3/9/2021	34	30.9	0	48	74	-3.6	On
Flare	4/6/2021	32.8	30.4	0	50	69	-3.7	On
Flare	5/4/2021	32.2	30.8	0	51	69	-4.6	On
Flare	6/8/2021	30.7	29.3	0.1	56	67	-4.4	On
Flare	7/7/2021	30	30.1	0	60	74	-5.3	On
Flare	8/10/2021	30.8	29.3	0.3	62	67	-3.5	On
Flare	9/14/2021	34.8	31.2	0.3	63	66	-2.3	On
Flare	10/21/2021	33	30.5	0.7	62	71	-3.0	On
Flare	11/2/2021	34.4	31.1	0.4	59	71	-4.2	On
Flare	11/23/2021	36.4	31.7	0.3	56	74	-3.7	On
Flare	12/7/2021	35.4	31.6	0.4	54	73	-4.3	On
Flare	12/21/2021	37.9	32.1	0.3	53	75	-2.1	On
EW-01	6/8/2021	5.5	15.3	5.6	63	0	-3.8	Off
EW-02	6/8/2021	14.9	23.1	1.3	60	0	-4.0	Off
EW-03	3/9/2021	40.8	28.8	0	46	16	-2.9	On
EW-03	5/4/2021	38.5	28.5	0.3	48	6	-4.0	On
EW-03	8/10/2021	36.9	29.1	0.5	59	6	-2.9	On
EW-03	10/21/2021	40.9	31.2	0.5	52	5	-3.3	On
EW-04	3/9/2021	28.6	27.2	0.0	45	18	-3.0	On
EW-04	4/6/2021	28.7	26.9	0.0	49	8	-3.1	On
EW-04	5/4/2021	27.5	27.1	0.3	47	6	-4.0	On
EW-04	6/8/2021	26.9	26.4	0.2	59	8	-3.8	On
EW-04	7/7/2021	26.8	26.8	0.2	58	4	-3.6	On
EW-04	8/10/2021	27.4	26.9	0.4	63	8	-2.8	On
EW-04	9/14/2021	30.4	28.2	0.3	61	5	-1.8	On
EW-04	10/21/2021	30.0	28.3	0.5	54	6	-3.1	On
EW-05	3/9/2021	24.2	24.3	0.0	45	17	-2.7	On
EW-05	4/6/2021	22.7	23.7	0.1	49	7	-3.1	On
EW-05	5/4/2021	17.7	22.7	1.4	48	0	-4.0	Off
EW-05	6/8/2021	7.7	10.3	11.6	62	0	-3.9	Off
EW-05	7/7/2021	19.9	23.6	0.2	59	0	-3.4	Off
EW-05	8/10/2021	22.5	23.6	0.2	61	15	-2.5	On
EW-05	9/14/2021	28.6	25.2	0.2	59	4	-1.9	On
EW-05	10/21/2021	26.3	26.5	0.3	54	5	-3.2	On

Table 2.2

Landfill Gas Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^oF)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-06	3/9/2021	28.7	27.5	0.2	45	14	-2.2	On
EW-06	4/6/2021	28.9	27.4	0.0	49	6	-2.7	On
EW-06	5/4/2021	22.3	23.5	3.5	49	0	-4.0	Off
EW-06	6/8/2021	21.9	23.6	2.3	61	0	-3.9	Off
EW-06	7/7/2021	26.4	27.3	0.1	59	6	-3.3	On
EW-06	8/10/2021	28.7	26.8	0.5	64	9	-2.7	On
EW-06	9/14/2021	31.7	28.2	0.2	60	6	-1.9	On
EW-06	10/21/2021	27.8	28.5	0.2	53	7	-3.2	On
EW-07	3/9/2021	34.7	28.6	0.0	45	9	-2.8	On
EW-07	5/4/2021	35.1	28.9	0.1	47	9	-4.0	On
EW-07	8/10/2021	33.0	27.9	0.2	63	8	-2.7	On
EW-07	10/21/2021	32.8	29.4	0.2	55	6	-3.1	On
EW-08	6/8/2021	9.3	18.4	3.2	66	0	-3.8	Off
EW-09	6/8/2021	14.4	21.8	1.1	59	0	-3.8	Off
EW-10	3/9/2021	35.7	28.9	0.0	44	4	-2.7	On
EW-10	5/4/2021	28.5	24.1	4.0	47	0	-4.1	Off
EW-10	8/10/2021	40.4	29.0	0.2	62	30	-2.6	On
EW-10	10/21/2021	36.0	30.2	0.5	52	4	-3.1	On
EW-11	7/7/2021	2.9	18.7	0.2	69	0	-3.2	Off
EW-12	3/9/2021	21.0	26.8	0.0	44	0	-2.6	On
EW-12	4/6/2021	20.3	26.1	0.1	48	7	-3.1	On
EW-12	5/4/2021	16.7	23.6	2.5	49	0	-4.2	Off
EW-12	6/8/2021	19.9	24.5	1.0	63	0	-3.9	Off
EW-12	7/7/2021	23.5	26.9	0.1	61	4	-3.3	On
EW-12	8/10/2021	24.4	26.6	0.4	66	5	-2.6	On
EW-12	9/14/2021	27.6	28.2	0.3	63	2	-1.9	On
EW-12	10/21/2021	23.5	28.9	0.6	54	1	-3.1	On
EW-13	7/7/2021	6.9	20.6	0.0	63	0	-3.1	Off
EW-14	7/7/2021	10.4	22.8	0.1	63	0	-2.8	Off
EW-15	7/7/2021	0.2	17.6	0.5	64	0	-3.1	Off

Table 2.2

Landfill Gas Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^oF)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-17	3/9/2021	28.8	26.8	0.0	45	12	-2.5	On
EW-17	4/6/2021	27.6	26.4	0.0	48	7	-3.0	On
EW-17	5/4/2021	24.9	26.4	0.2	48	4	-4.2	On
EW-17	6/8/2021	24.1	24.5	0.9	61	6	-3.7	On
EW-17	7/7/2021	24.5	26.5	0.2	59	0	-3.1	On
EW-17	8/10/2021	29.9	27.3	0.3	64	8	-2.5	On
EW-17	9/14/2021	38.1	29.7	0.2	61	5	-1.8	On
EW-17	10/21/2021	39.0	29.9	0.3	53	2	-3.3	On
EW-18	3/9/2021	49.0	32.9	0.7	42	4	-2.5	On
EW-18	5/4/2021	45.2	33.0	0.4	48	2	-4.1	On
EW-18	8/10/2021	43.8	33.5	0.5	67	5	-2.5	On
EW-18	10/21/2021	49.5	36.6	0.4	53	4	-3.2	On
EW-19	3/9/2021	39.6	34.3	0.0	32	0	-0.1	On
EW-19	4/6/2021	0.9	1.0	20.3	52	0	-1.1	Off
EW-19	5/4/2021	0.1	0.2	21.6	49	0	-2.2	Off
EW-19	6/8/2021	0.0	0.1	19.8	81	0	-1.7	Off
EW-19	7/7/2021	0.0	0.2	20.9	65	0	-1.0	Off
EW-19	8/10/2021	0.1	0.2	20.1	72	0	-0.6	Off
EW-19	9/14/2021	35.6	25.2	5.8	64	0	0.3	Off
EW-19	10/21/2021	7.0	4.6	18.9	50	0	-1.5	Off
EW-20	3/9/2021	42.9	36.0	0.0	49	22	-2.1	On
EW-20	5/4/2021	40.6	35.6	0.1	49	18	-4.0	On
EW-20	8/10/2021	36.7	33.7	0.3	61	17	-2.5	On
EW-20	10/21/2021	41.5	36.6	0.2	53	17	-3.3	On
EW-21	3/9/2021	25.7	27.4	0.0	41	20	-2.2	On
EW-21	4/6/2021	23.9	26.7	0.1	48	0	-2.8	On
EW-21	5/4/2021	22	26.6	0.3	47	3	-4.3	On
EW-21	6/8/2021	16	20.1	4.3	62	0	-3.9	Off
EW-21	7/7/2021	19.7	25.7	0.1	61	0	-6.1	Off
EW-21	8/10/2021	21.8	25.7	0.4	63	9	-2.7	On
EW-21	9/14/2021	27.7	28.4	0.2	59	18	-2.1	On
EW-21	10/21/2021	28.3	28.6	0.8	51	4	-3.3	On
EW-22	6/8/2021	4.8	14.0	6.0	70	0	-3.9	Off
EW-23	6/8/2021	0.0	0.1	20.0	72	0	-4.0	Off
EW-24	6/8/2021	10.8	20.7	0.2	64	0	-4.0	Off

Table 2.2

Landfill Gas Data
January 2021 through December 2021
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-30	3/9/2021	27.3	32.7	0.3	44	5	-2.5	On
EW-30	4/6/2021	26.6	31.7	0.3	48	7	-2.9	On
EW-30	5/4/2021	25.2	31.5	0.2	46	19	-4.2	On
EW-30	6/8/2021	23.6	30.2	0.1	57	17	-3.6	On
EW-30	7/7/2021	24.9	31.1	0.2	57	0	-3.1	On
EW-30	8/10/2021	28.4	31.2	0.5	65	6	-2.4	On
EW-30	9/14/2021	34.7	34.0	0.2	59	0	-1.8	On
EW-30	10/21/2021	36.8	36.0	0.3	53	0	-3.1	On
EW-31	3/9/2021	31.1	32.8	0.2	44	7	-2.4	On
EW-31	5/4/2021	31.0	32.3	0.4	47	5	-4.0	On
EW-31	8/10/2021	30.6	31.5	0.3	64	8	-2.5	On
EW-31	10/21/2021	36.4	35.6	0.3	53	6	-3.2	On
EW-32	3/9/2021	11.6*	23.1	2.4	40	3	0.6	On
EW-32	4/6/2021	0.0	0.6	20.6	52	0	-2.8	Off
EW-32	5/4/2021	0.1	0.3	21.6	50	0	-4.2	Off
EW-32	6/8/2021	0.0	0.3	19.7	72	0	-3.7	Off
EW-32	7/7/2021	7.1	11.3	11.3	66	0	-3.3	Off
EW-32	8/10/2021	22.3	26.8	0.2	71	18	-2.2	On
EW-32	9/14/2021	21.7	27.8	0.2	65	0	-1.8	On
EW-32	10/21/2021	27.7	32.5	1.1	52	0	-3.2	Off
EW-33	3/9/2021	34.1	33.3	0.0	39	0	-2.5	On
EW-33	4/6/2021	31.4	32.6	0.0	45	0	-3.1	On
EW-33	5/4/2021	27.9	30.1	2.2	46	1	-4.2	On
EW-33	6/8/2021	26.0	28.6	2.4	65	6	-3.8	On
EW-33	7/7/2021	31.4	34.4	0.1	67	0	-2.8	On
EW-33	8/10/2021	34.4	35.0	0.3	69	0	-2.4	On
EW-33	9/14/2021	37.1	36.6	0.2	62	0	-1.9	On
EW-33	10/21/2021	41.3	38.4	0.2	54	3	-3.2	On
EW-34	3/9/2021	27.8	32.2	0.0	34	0	0.2	Off
EW-34	4/6/2021	25.4	29.6	1.4	45	5	0.0	On
EW-34	5/4/2021	0.3	0.6	21.1	47	0	-0.9	Off
EW-34	6/8/2021	0.0	0.2	19.8	74	0	-0.6	Off
EW-34	7/7/2021	0.7	1.8	19.5	66	0	-0.2	Off
EW-34	8/10/2021	1.7	2.4	18.6	71	0	-0.2	Off
EW-34	9/14/2021	38.2	36.2	0.2	64	0	0.0	On
EW-35	7/7/2021	0.0	0.1	21.0	62	0	-0.2	Off

Table 2.2

Landfill Gas Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^oF)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
EW-36	3/9/2021	31.8	31.1	0.0	46	0	-2.3	On
EW-36	4/6/2021	30.3	30.4	0.1	48	7	-2.2	On
EW-36	5/4/2021	29.1	29.7	0.5	47	0	-2.8	On
EW-36	6/8/2021	18.9	20.2	6.2	64	0	-3.7	Off
EW-36	7/7/2021	24.9	28.9	0.3	63	3	-1.5	On
EW-36	8/10/2021	26.8	28.6	0.6	69	7	-0.8	On
EW-36	9/14/2021	31.3	31.3	0.2	62	5	-0.3	On
EW-36	10/21/2021	34.6	33.5	0.2	52	0	-1.1	On
EW-37	3/9/2021	30.9	33.8	0.0	45	12	-2.2	On
EW-37	4/6/2021	29.4	33.2	0.0	46	8	-2.3	On
EW-37	5/4/2021	28.9	33.4	0.1	47	2	-2.8	On
EW-37	6/8/2021	25.2	31.7	0.1	58	6	-2.9	On
EW-37	7/7/2021	26.9	33.2	0.2	62	0	-1.7	On
EW-37	8/10/2021	31.0	33.9	0.2	65	12	-0.8	On
EW-37	9/14/2021	37.5	36.3	0.2	62	16	-0.1	On
EW-37	10/21/2021	34.6	33.6	0.2	52	14	-1.2	On
EW-38	7/7/2021	0.0	0.1	20.9	67	0	-2.9	Off

Notes:
* - Sample port frozen

Table 2.3

Landfill Gas Probe Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-1S	3/4/2021	0.0	0.2	20.8	0.0
GP-1S	5/13/2021	0.0	1.4	17.8	0.2
GP-1S	8/19/2021	0.0	8.8	8.0	0.0
GP-1S	10/5/2021	0.0	0.1	20.6	-0.1
GP-1D	3/4/2021	0.0	0.1	21.1	0.0
GP-1D	5/13/2021	0.0	6.5	12.0	0.2
GP-1D	8/19/2021	0.0	7.5	8.1	0.1
GP-1D	10/5/2021	0.0	0.1	20.6	-0.1
GP-2	3/4/2021	0.0	0.4	20.9	0.0
GP-2	5/13/2021	0.0	0.8	18.3	0.0
GP-2	8/19/2021	0.0	1.6	17.4	0.0
GP-2	10/5/2021	0.0	1.1	20.0	0.0
GP-3S	3/4/2021	0.0	0.1	21.2	0.0
GP-3S	5/13/2021	0.0	0.6	19.0	0.0
GP-3S	8/19/2021	0.0	1.1	17.9	0.0
GP-3S	10/5/2021	0.0	0.1	20.6	0.0
GP-3D	3/4/2021	0.0	0.1	21.3	0.0
GP-3D	5/13/2021	0.0	0.1	19.5	0.0
GP-3D	8/19/2021	0.0	0.5	18.4	0.1
GP-3D	10/5/2021	0.0	0.1	20.7	-0.1
GP-5	3/4/2021	0.0	1.4	20.4	0.0
GP-5	5/13/2021	0.0	1.4	18.1	0.0
GP-5	8/19/2021	0.0	1.2	17.7	0.0
GP-5	10/5/2021	0.0	0.1	20.7	0.0
GP-6	3/4/2021	0.0	0.1	21.4	0.0
GP-6	5/13/2021	0.0	0.2	19.1	0.0
GP-6	8/19/2021	0.0	1.1	18.0	0.0
GP-6	10/5/2021	0.0	0.3	20.6	-0.1
GP-7R	3/4/2021	0.0	0.3	20.9	0.0
GP-7R	5/13/2021	0.0	0.6	18.7	0.0
GP-7R	8/19/2021	0.0	0.1	18.6	0.0
GP-7R	10/5/2021	0.0	0.1	20.7	0.0

Table 2.3

Landfill Gas Probe Data
January 2021 through December 2021
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-10	3/4/2021	0.0	0.3	21.4	0.0
GP-10	5/13/2021	0.0	0.3	19.4	-0.1
GP-10	8/19/2021	0.0	1.1	18.3	0.0
GP-10	10/5/2021	0.0	0.5	20.5	0.0
GP-11	3/4/2021	0.0	1.0	20.7	0.0
GP-11	5/13/2021	0.0	0.3	19.7	0.0
GP-11	8/19/2021	0.0	4.5	12.8	0.0
GP-11	10/5/2021	0.0	3.5	17.4	0.0
GP-12	3/4/2021	0.0	0.2	21.2	0.0
GP-12	5/13/2021	0.0	0.4	18.7	0.0
GP-12	8/19/2021	0.0	5.9	14.1	0.0
GP-12	10/5/2021	0.0	3.8	17.8	0.0
GP-13	3/4/2021	0.0	0.1	21.3	0.0
GP-13	5/13/2021	0.0	0.4	18.7	-0.1
GP-13	8/19/2021	0.0	2.3	16.1	0.0
GP-13	10/5/2021	0.0	0.4	20.5	0.0
GP-14	3/4/2021	0.0	0.3	21.2	0.0
GP-14	5/13/2021	0.0	1.0	18.6	0.0
GP-14	8/19/2021	0.0	3.0	15.7	0.0
GP-14	10/5/2021	0.0	2.4	18.5	0.0

Figure

Paper Size ANSI A

0 150 300 450

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. **11228677**
Revision No. **-**
Date **01/28/2022**

FIGURE 1.1

Data source: . Created by: jhedblom

Appendices

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	1/5/2021	1/12/2021	1/19/2021	1/27/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Cloudy	Clear	Clear
Ambient Temperature, deg F	25	30	25	20
Inlet Temperature, deg F (GHS-TI-301)	47	48	46	44
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	3	3	4
Demister Filter Delta P (GHS-PDI-301)	0.2	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)	56	56	50	49
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	0.8	8	8	11
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.7	0.7	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	17.7	16.2	17.7	18
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.7	3.7	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	5.0	3.8	4.8	5.1
Inlet Temp, DegF	51	50	50	49
Oxygen, %	0.2	0.1	0	0
Blower Speed, %	20	17	20	21
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	76	75	61	56
FLR Flame Temp, DegF	1195	1181	1363	1277
FLR Flow Press, In WC	0.1	0.1	0.1	0.1
FLR Flow Temp, DegF	60	61	56	56
Flow Rate, SCFM	65	65	70	70
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	62191	62358	62526	62720
Speed, %	20	17	20	21
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	60	61	56	56
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	74	65	70	69
Flame Temp, DegF	1237	1195	1389	1311
BLR Speed, %	20	17	20	21
Flow Pressure, In WC	0.1	0.1	0.1	0.1
Hour Meter	62184	62352	62519	62713

* ***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	65	66	69	69
Today's Total, MMSCF	0.03	0.03	0.03	0.04
This Month's Total, MMSCF	0.41	1.12	1.83	2.64
Total Flow, MMSCF	307.37	308.87	308.79	309.61
Flow Press, In WC	0.1	0.1	0.1	0.1
Flow Temp, DegF	60	61	56	56
Flow Delta P, In WC	0.38	0.37	0.42	0.43
* **7 DAY FLOW HISTORY**			0.03	
Yesterday's Flow, MMSCF	0.03	0.03	0.10	0.04
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	3.10	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	0.10	0.10
7 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	307.37	308.07	308.79	309.61
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	2/2/21	2/9/2021	2/16/2021	2/23/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Clear	Clear
Ambient Temperature, deg F	15	-10	-5	35
Inlet Temperature, deg F (GHS-TI-301)	46	42	42	45
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	46	3	2	4
Demister Filter Delta P (GHS-PDI-301)	0.3	0.2	0.2	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	2	0.5	0.8	0.4
Discharge Temperature, deg F (GHS-TI-302)	56	45	46	59
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	10	15	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	2	1.0	2.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.5	0.8	1.5	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.5	0.2	0.5	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	20.4	16.8	17.8	17.8
Blower 301 Current, Amps (CP-YIC-2)	4	3.9	3.9	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	5.9	4.1	3.5	4.9
Inlet Temp, DegF	49	47	47	47
Oxygen, %	0	0	0	0
Blower Speed, %	25	19	20	20
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	71	54	53	70
FLR Flame Temp, DegF	1442	1290	1334	1333
FLR Flow Press, In WC	2.2	0.1	0.2	0.1
FLR Flow Temp, DegF	61	51	47	61
Flow Rate, SCFM	72	70	71	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	62851	63019	63187	63355
Speed, %	25	19	20	20
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	61	51	47	61
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	71	70	72	66
Flame Temp, DegF	1437	1260	1305	1375
BLR Speed, %	25	19	20	20
Flow Pressure, In WC	2.2	0.1	0.2	0.1
Hour Meter	62844	63012	63180	63348

* ***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	70	72	66
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	0.07	0.77	1.48	2.19
Total Flow, MMSCF	310.16	310.87	311.58	312.29
Flow Press, In WC	2.2	0.1	0.2	0.1
Flow Temp, DegF	61	51	47	61
Flow Delta P, In WC	0.45	0.42	0.44	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.09	0.10	0.10	0.11
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	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	310.16	310.87	311.58	312.29
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	3/2/2021	3/9/2021	3/16/2021	3/23/2021
Time	10:00 AM	9:30 AM	10:00 AM	8:00 AM
Sky Conditions	Clear	Clear	Cloudy	Cloudy
Ambient Temperature, deg F	25	50	35	50
Inlet Temperature, deg F (GHS-TI-301)	44	46	45	47
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3.5	3	4
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1.5	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	51	60	55	60
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	12	12	8	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.3	1.3	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	0.7	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.1	15.9	15.3	16
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	2.9	3.6	3.3	3.7
Inlet Temp, DegF	47	48	48	48
Oxygen, %	0	0	0	0
Blower Speed, %	16	18	16	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	61	71	71	74
FLR Flame Temp, DegF	1333	1342	1374	1376
FLR Flow Press, In WC	0.1	0.1	0.1	0.1
FLR Flow Temp, DegF	55	61	60	64
Flow Rate, SCFM	74	74	66	69
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	63523	63692	63859	64025
Speed, %	16	18	16	17
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	55	61	60	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	75	74	66	66
Flame Temp, DegF	1333	1322	1374	1306
BLR Speed, %	16	18	16	17
Flow Pressure, In WC	0.1	0.1	0.1	0.1
Hour Meter	63516	63685	63853	64020

* ***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	74	74	66	67
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	0.10	0.81	1.52	2.22
Total Flow, MMSCF	313.01	313.72	314.44	315.13
Flow Press, In WC	0.1	0.1	0.1	0.1
Flow Temp, DegF	55	61	60	64
Flow Delta P, In WC	0.48	0.48	0.39	0.42
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.11	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	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	313.01	313.72	314.44	315.13
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	3/30/2021	4/6/2021	4/13/2021	4/20/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Cloudy	Clear
Ambient Temperature, deg F	45	65	35	30
Inlet Temperature, deg F (GHS-TI-301)	40	48	46	46
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	4	4	3
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.5	0.7	1	1.5
Discharge Temperature, deg F (GHS-TI-302)	63	65	50	47
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	10	8	9
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)	0.7	0.9	0.7	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.9	16.1	17.2	16.4
Blower 301 Current, Amps (CP-YIC-2)	3.9	3.8	3.9	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.5	3.7	4.6	4.7
Inlet Temp, DegF	49	50	49	49
Oxygen, %	0	0	0	0
Blower Speed, %	17	17	19	20
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	76	77	68	69
FLR Flame Temp, DegF	1301	1193	1277	1379
FLR Flow Press, In WC	0.2	1.4	1.4	1.4
FLR Flow Temp, DegF	66	67	55	53
Flow Rate, SCFM	68	69	68	71
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	64194	64362	64530	64698
Speed, %	17	17	19	20
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	66	67	55	53
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	68	68	69	70
Flame Temp, DegF	1249	1124	1282	1374
BLR Speed, %	17	17	19	20
Flow Pressure, In WC	0.2	1.4	1.4	1.4
Hour Meter	64188	64355	64523	64692

* ***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	68	68	69	70
Today's Total, MMSCF	0.03	0.02	0.3	0.03
This Month's Total, MMSCF	2.94	0.50	1.21	1.91
Total Flow, MMSCF	315.85	316.55	317.26	317.97
Flow Press, In WC	0.2	1.4	1.4	1.4
Flow Temp, DegF	66	67	55	53
Flow Delta P, In WC	0.41	0.42	0.41	0.43
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.11	0.11	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	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	315.85	316.55	317.26	317.97
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	4/27/2021	5/4/2021	5/11/2021	5/18/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Clear
Ambient Temperature, deg F	45	45	50	65
Inlet Temperature, deg F (GHS-TI-301)	46	48	48	50
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	4	4	4
Demister Filter Delta P (GHS-PDI-301)	0.2	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)	1.5	1	1.2	1.2
Discharge Temperature, deg F (GHS-TI-302)	50	54	53	59
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	14	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.0	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.7	0.7	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	16	17.4	17.6	16.4
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.9	3.9	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.8	4.6	5.2	4.2
Inlet Temp, DegF	50	51	51	52
Oxygen, %	0	0	0	0
Blower Speed, %	17	19	20	18
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	69	68	70	76
FLR Flame Temp, DegF	1414	1282	1249	1207
FLR Flow Press, In WC	1.4	1.4	1.3	1.4
FLR Flow Temp, DegF	55	57	56	60
Flow Rate, SCFM	67	69	69	67
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	64687	65034	65203	65367
Speed, %	17	19	20	18
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	55	57	56	60
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	67	69	69	67
Flame Temp, DegF	1452	1277	1262	1193
BLR Speed, %	17	19	20	18
Flow Pressure, In WC	1.3	1.4	1.3	1.4
Hour Meter	64860	65027	65196	65360

* ***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	68	69	69	68
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	2.62	0.30	1.01	1.7
Total Flow, MMSCF	318.67	319.38	320.09	320.77
Flow Press, In WC	1.3	1.4	1.3	1.4
Flow Temp, DegF	55	58	56	60
Flow Delta P, In WC	0.39	0.41	0.42	0.39
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.09
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	318.67	319.38	320.09	320.77
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	5/25/2021	6/1/2021	6/8/2021	6/15/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	70	65	80	65
Inlet Temperature, deg F (GHS-TI-301)	52	52	54	56
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	4	4	5
Demister Filter Delta P (GHS-PDI-301)	0.2	0.2	0.3	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1.5	1.2	1
Discharge Temperature, deg F (GHS-TI-302)	62	59	68	65
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	12	11	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.3	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.9	1.0	0.8	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.1	0.3	0.2	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.5	17.1	16.9	17.4
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	3.3	4.4	4.4	4.9
Inlet Temp, DegF	54	53	56	57
Oxygen, %	0	0	0.2	0
Blower Speed, %	16	19	19	20
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	82	78	86	82
FLR Flame Temp, DegF	1314	1201	1168	1285
FLR Flow Press, In WC	1.5	1.5	1.4	1.4
FLR Flow Temp, DegF	65	62	69	68
Flow Rate, SCFM	70	72	67	69
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	65513	65689	65852	66010
Speed, %	16	19	19	20
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	65	62	69	68
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	70	71	67	69
Flame Temp, DegF	1300	1236	1190	1290
BLR Speed, %	16	19	19	20
Flow Pressure, In WC	1.5	1.5	1.4	1.4
Hour Meter	65528	65682	65846	66003

* ***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	70	71	67	69
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	2.40	0.00	0.69	1.34
Total Flow, MMSCF	321.48	322.12	322.81	323.47
Flow Press, In WC	1.5	1.5	1.4	1.4
Flow Temp, DegF	65	62	69	68
Flow Delta P, In WC	0.43	0.45	0.40	0.42
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.06	0.10	0.06
7 Day's Ago Flow, MMSCF	0.10	0.08	0.09	0.09
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	321.48	322.12	322.81	323.47
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	6/22/2021	6/30/2021	7/6/2021	7/13/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	60	75	75	70
Inlet Temperature, deg F (GHS-TI-301)	56	58	60	60
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	4	6	4
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)	0.2	0.3	0.3	1
Discharge Temperature, deg F (GHS-TI-302)	64	67	70	68
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	12	12	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.3	1.0	1.4	1.1
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	0.8	1.1	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.2	0.3	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	18.2	16.5	18.5	16
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	5.2	4.2	5.3	3.7
Inlet Temp, DegF	57	59	60	60
Oxygen, %	0	0.3	0.5	0.3
Blower Speed, %	21	18	22	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	78	88	91	86
FLR Flame Temp, DegF	1313	1398	1177	1125
FLR Flow Press, In WC	1.5	1.4	1.6	1.5
FLR Flow Temp, DegF	66	70	73	70
Flow Rate, SCFM	72	69	74	72
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	66178	66368	66510	66650
Speed, %	21	18	22	17
Vibration, In/Sec	0.00	0.00	0.00	0.00
Outlet Temp, DegF	66	70	73	70
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	72	70	74	72
Flame Temp, DegF	1296	1405	1171	1111
BLR Speed, %	21	18	22	17
Flow Pressure, In WC	1.5	1.4	1.6	1.5
Hour Meter	66171	66363	66504	66643

* ***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	72	69	74	71
Today's Total, MMSCF	0.04	..04	0.04	0.04
This Month's Total, MMSCF	2.05	2.87	0.49	1.08
Total Flow, MMSCF	324.18	325	325.59	326.18
Flow Press, In WC	1.5	1.4	1.6	1.5
Flow Temp, DegF	66	70	73	70
Flow Delta P, In WC	0.45	0.43	0.49	0.46
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.07
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.02
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	324.18	325	325.59	326.18
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	7/20/2021	7/27/2021	8/3/2021	8/10/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	70	80	70	75
Inlet Temperature, deg F (GHS-TI-301)	61	64	62	62
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	4	4	4
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100.0	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	70	65	66	68
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	8	10	11
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.2	0.9	1.1
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.9	0.6	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	15.6	15.2	14.8	15.3
Blower 301 Current, Amps (CP-YIC-2)	3.8	4.0	3.7	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.6	3.0	3.2	3.5
Inlet Temp, DegF	61	63	62	62
Oxygen, %	0.1	0.3	0	0
Blower Speed, %	17	16	15	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	85	85	81	81
FLR Flame Temp, DegF	1178	1171	1130	1165
FLR Flow Press, In WC	1.4	1.5	1.2	1.4
FLR Flow Temp, DegF	71	68	69	70
Flow Rate, SCFM	66	72	62	67
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	66809	66956	67108	67263
Speed, %	17	16	15	16
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	71	70	69	70
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	67	72	63	66
Flame Temp, DegF	1194	1157	1120	1203
BLR Speed, %	17	16	15	16
Flow Pressure, In WC	1.4	1.5	1.2	1.3
Hour Meter	66804	66950	67102	67256

* ***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	67	72	62	66
Today's Total, MMSCF	0.03	0.01	0.03	0.03
This Month's Total, MMSCF	1.76	2.4	0.19	0.8
Total Flow, MMSCF	326.86	327.47	328.08	328.7
Flow Press, In WC	1.4	1.5	1.2	1.3
Flow Temp, DegF	71	69	69	70
Flow Delta P, In WC	0.40	0.46	0.34	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.01	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.09	0.06
3 Day's Ago Flow, MMSCF	0.10	0.05	0.10	0.09
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.09
5 Day's Ago Flow, MMSCF	0.10	0.10	0.06	0.09
6 Day's Ago Flow, MMSCF	0.08	0.10	0.09	0.09
7 Day's Ago Flow, MMSCF	0.10	0.10	0.06	0.09
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	326.86	327.47	328.08	328.7
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	8/17/2021	8/24/2021	8/31/2021	9/7/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Cloudy
Ambient Temperature, deg F	70	70	65	65
Inlet Temperature, deg F (GHS-TI-301)	62	62	63	62
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	4	4	3
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100.0	100
Discharge Pressure, In WC (GHS-PI-302)	0.8	0.8	0.7	1
Discharge Temperature, deg F (GHS-TI-302)	65	67	67	66
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	12	9	11	9
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	0.8	1.1	0.8	1.2
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.5	0.8	0.5	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	14.1	15.1	14.4	14.3
Blower 301 Current, Amps (CP-YIC-2)	3.9	3.8	3.8	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	2.9	3.4	3.0	2.6
Inlet Temp, DegF	63	63	64	63
Oxygen, %	0	0	0	0
Blower Speed, %	14	16	14	14
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	78	82	82	80
FLR Flame Temp, DegF	1157	1080	1418	1211
FLR Flow Press, In WC	1.2	1.3	1.2	1.4
FLR Flow Temp, DegF	68	71	70	69
Flow Rate, SCFM	61	64	61	67
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	67403	67548	67711	67878
Speed, %	14	16	14	14
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	68	71	70	69
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	61	65	61	67
Flame Temp, DegF	1153	1100	1420	1188
BLR Speed, %	14	16	14	14
Flow Pressure, In WC	1.2	1.3	1.2	1.4
Hour Meter	67396	67541	67705	67871

* ***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	61	65	61	67
Today's Total, MMSCF	0.03	0.03	0.03	0.04
This Month's Total, MMSCF	1.34	1.9	2.53	0.6
Total Flow, MMSCF	329.24	329.81	330.44	331.14
Flow Press, In WC	1.2	1.3	1.2	1.4
Flow Temp, DegF	68	71	70	69
Flow Delta P, In WC	0.33	0.38	0.33	0.41
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.04	0.04
2 Day's Ago Flow, MMSCF	0.06	0.08	0.09	0.10
3 Day's Ago Flow, MMSCF	0.03	0.09	0.09	0.10
4 Day's Ago Flow, MMSCF	0.09	0.09	0.09	0.10
5 Day's Ago Flow, MMSCF	0.08	0.06	0.08	0.10
6 Day's Ago Flow, MMSCF	0.09	0.05	0.09	0.10
7 Day's Ago Flow, MMSCF	0.09	0.09	0.09	0.09
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	329.24	329.81	330.44	331.14
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	9/14/2021	9/21/2021	9/29/2021	10/5/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Clear	Cloudy
Ambient Temperature, deg F	60	55	60	60
Inlet Temperature, deg F (GHS-TI-301)	62	62	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	0.2	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100.0
Discharge Pressure, In WC (GHS-PI-302)	1	1.9	1.5	1
Discharge Temperature, deg F (GHS-TI-302)	64	57	62	66
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	11	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.8	0.7	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.2	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	14.6	16.7	16.4	16.8
Blower 301 Current, Amps (CP-YIC-2)	3.8	4.0	3.9	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	2.3	4.4	4.0	4.4
Inlet Temp, DegF	63	63	61	62
Oxygen, %	0	0.3	0.1	0
Blower Speed, %	13	19	18	19
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	79	79	70	77
FLR Flame Temp, DegF	1292	1148	1234	1448
FLR Flow Press, In WC	1.3	1.4	1.4	1.3
FLR Flow Temp, DegF	68	61	66	70
Flow Rate, SCFM	66	67	67	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	68045	68202	68393	68537
Speed, %	13	19	18	19
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	68	61	66	70
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	66	67	68	66
Flame Temp, DegF	1238	1148	1215	1418
BLR Speed, %	13	19	18	19
Flow Pressure, In WC	1.3	1.4	1.4	1.3
Hour Meter	68038	68195	68387	68530

* ***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	68	67	68	66
Today's Total, MMSCF	0.03	0	0.03	0.03
This Month's Total, MMSCF	1.32	2.02	2.79	0.41
Total Flow, MMSCF	331.85	332.52	333.33	333.94
Flow Press, In WC	1.3	1.4	1.4	1.4
Flow Temp, DegF	68	61	66	70
Flow Delta P, In WC	0.38	0.39	0.41	0.39
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.00	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	331.85	332.52	333.33	333.94
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	10/12/2021	10/20/2021	10/26/2021	11/2/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Clear	Clear
Ambient Temperature, deg F	55	60	45	35
Inlet Temperature, deg F (GHS-TI-301)	60	60	56	56
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3	2	2
Demister Filter Delta P (GHS-PDI-301)	0.2	0.2	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100.0	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	0.8	0.8	0.8
Discharge Temperature, deg F (GHS-TI-302)	64	72	62	62
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	10	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.1	1.1	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.8	0.8	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	1.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	16.6	15.4	16	16.7
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	4.2	3.0	3.7	4.2
Inlet Temp, DegF	62	62	60	59
Oxygen, %	0	0	0.1	0.2
Blower Speed, %	18	16	17	18
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	76	79	74	75
FLR Flame Temp, DegF	1356	1373	1262	1239
FLR Flow Press, In WC	1.3	1.2	0.1	0.1
FLR Flow Temp, DegF	69	76	68	67
Flow Rate, SCFM	65	71	71	71
* **BACK**			.	
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	68705	68904	69037	69207
Speed, %	18	16	17	18
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	69	76	68	67
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	65	71	71	71
Flame Temp, DegF	1359	1364	1216	1257
BLR Speed, %	18	16	17	18
Flow Pressure, In WC	1.3	1.2	0.1	0.1
Hour Meter	68698	68897	69031	69200

* ***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	65	71	70	71
Today's Total, MMSCF	0.03	0.03	0.03	0.04
This Month's Total, MMSCF	1.12	1.91	2.5	0.1
Total Flow, MMSCF	334.65	335.48	336.03	336.74
Flow Press, In WC	1.3	1.3	0.1	0.1
Flow Temp, DegF	69	76	68	67
Flow Delta P, In WC	0.38	0.46	0.44	0.44
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.04
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.09	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	334.65	335.48	336.03	336.74
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	11/9/2021	11/16/2021	11/23/2021	11/30/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	35	30	25	35
Inlet Temperature, deg F (GHS-TI-301)	56	54	52	52
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	1	1	2
Demister Filter Delta P (GHS-PDI-301)	0.2	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)	0.4	1.4	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	64	57	60	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	9	12	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.7	0.8	0.6
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.2	0.4
Blower 301 Frequency, Hz (CP-YIC-2)	17.1	14.7	16.2	16.6
Blower 301 Current, Amps (CP-YIC-2)	3.9	3.9	3.8	3.8
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.4	2.8	3.7	4.2
Inlet Temp, DegF	58	57	56	55
Oxygen, %	0.4	0.1	0.2	0.2
Blower Speed, %	19	15	18	18
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	75	71	74	74
FLR Flame Temp, DegF	1294	1318	1363	1240
FLR Flow Press, In WC	0.1	1.3	0.1	0.1
FLR Flow Temp, DegF	68	61	63	64
Flow Rate, SCFM	72	71	74	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	69375	69522	69690	69857
Speed, %	19	15	18	18
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	68	61	63	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	71	71	73	66
Flame Temp, DegF	1328	1278	1373	1306
BLR Speed, %	19	15	18	18
Flow Pressure, In WC	0.4	1.3	0.1	0.1
Hour Meter	69369	69516	69684	69851

* ***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	70	73	74
Today's Total, MMSCF	0.04	0.02	0.04	0.03
This Month's Total, MMSCF	0.81	1.47	2.14	2.86
Total Flow, MMSCF	337.45	338.08	338.79	339.5
Flow Press, In WC	0.1	1.3	0.1	0.1
Flow Temp, DegF	68	61	63	64
Flow Delta P, In WC	0.45	0.43	0.48	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.02	0.04	0.04
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.11	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	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.06	0.11
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	337.45	338.08	3387.79	339.5
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	12/7/2021	12/14/2021	12/21/2021	12/28/2021
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Cloudy	Cloudy
Ambient Temperature, deg F	10	35	20	25
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)	3	3	1	2
Demister Filter Delta P (GHS-PDI-301)	0.2	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)	52	58	52	52
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	9	8	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.1	1.2
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.7	0.8	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	17.1	16.5	13.8	16.1
Blower 301 Current, Amps (CP-YIC-2)	3.9	3.8	3.8	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.3	4.4	2.1	4.0
Inlet Temp, DegF	54	54	53	52
Oxygen, %	0	0.1	0	0
Blower Speed, %	19	19	14	19
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	58	71	59	59
FLR Flame Temp, DegF	1260	1391	1331	1387
FLR Flow Press, In WC	0.1	0.4	0.1	0.1
FLR Flow Temp, DegF	57	63	58	58
Flow Rate, SCFM	73	74	75	75
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	70025	70194	70362	70531
Speed, %	19	19	14	19
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	57	63	57	58
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	73	74	75	75
Flame Temp, DegF	1269	1304	1333	1441
BLR Speed, %	19	19	14	19
Flow Pressure, In WC	0.1	0.1	0.1	0.1
Hour Meter	70019	70187	70356	70524

* ***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	73	74	75	75
Today's Total, MMSCF	0.04	0.04	0.04	0.04
This Month's Total, MMSCF	0.61	1.33	2.05	2.76
Total Flow, MMSCF	340.22	340.94	341.66	342.37
Flow Press, In WC	0.1	5	0.1	0.1
Flow Temp, DegF	57	63	57	58
Flow Delta P, In WC	0.46	0.47	0.49	0.48
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.04
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.11
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.11	0.10	0.11	0.10
5 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.11	0.10	0.11	0.10
7 Day's Ago Flow, MMSCF	0.10	0.11	0.11	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	340.22	340.94	341.66	342.37
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***

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).	6/1/2021	Gap is correct
- Verify that the spark is at the tip of the igniter.	6/1/2021	Good spark, at tip
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	6/1/2021	Wiring in good shape
- Test pilot switch to verify pilot lights and it doesn't blow out.	6/1/2021	Pilot is good and strong
- Check thermocouple voltage to verity the temperature reading.	6/1/2021	0.3 mV @ 100 deg F - slightly off 25.3 mV @ 1,180 deg F - good
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	6/1/2021	Works
- Zero out all pressure, differential pressure, and vacuum gauges	6/1/2021	Verified and/or adjusted all to zero at atmospheric pressure
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	6/1/2021	All correct
- Verify flow transmitter calibration (via differential pressure).	6/1/2021	0.0" at 0 cfm, and 0.45" @ 72 cfm . Within specifications.
- Calibrate oxygen sensor.	6/1/2021	Calibrated zero and span. 10.3 mV at ambient - sensor ok, spare in cabinet.
- Remove demister sump clean-out cover and remove any accumulated debris	6/1/2021	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).	6/1/2021	Pulled element, in good shape
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	6/1/2021	Filled with water, shutdown works
- Test the pilot fail shutdown (turn off propane supply)	6/1/2021	Closed propane tanks, works
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	6/1/2021	Adjusted setpoint, works

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.)	6/1/2021	Opened to atmosphere, works correctly
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	6/1/2021	Throttled inlet valve, works correctly
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	6/1/2021	Adjusted setpoint, tapped sensor, works
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	6/1/2021	Closed nitrogen tank, shutdown works
- Test the high inlet temperature failure (adjust PLC setpoint)	6/1/2021	Adjusted setpoint to test, works correctly
- Test the high vacuum shutdown (adjust PLC setpoint)	6/1/2021	Adjusted setpoint and timer, works
- 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.	6/1/2021	Greased all o-rings, all intact
- Inspect and clean the solenoid valve.	6/1/2021	good condition
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	6/1/2021	nothing arcing
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	-	NA - annual
- Check for loose bolts on structure and flanges. Tighten, as necessary.	6/1/2021	All tight
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	6/1/2021	Inspected filter, in good shape and clean
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	6/1/2021	Clean and dry, no grease, just prior discoloration
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	6/1/2021	Regreased/packed. Inlet side is getting a little dirty

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).	10/21/2021	Gap is correct
- Verify that the spark is at the tip of the igniter.	10/21/2021	Strong spark
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	10/21/2021	Wiring ok
- Test pilot switch to verify pilot lights and it doesn't blow out.	10/21/2021	Good strong flame
- Check thermocouple voltage to verity the temperature reading.	10/21/2021	0.3 mV @ 100 deg F - slightly off 29.3 mV @ 1,300 deg F - good
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	10/21/2021	Works
- Zero out all pressure, differential pressure, and vacuum gauges	10/21/2021	All zeroed
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	10/21/2021	Updated CH4 for flow calc. 31.0 -> 33.0%
- Verify flow transmitter calibration (via differential pressure).	10/21/2021	0.0" at 0 cfm, and 0.40" @ 68 cfm . Within specifications.
- Calibrate oxygen sensor.	10/21/2021	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	10/21/2021	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).	10/21/2021	Element inspected and is clean and dry
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	10/21/2021	Filled with water, shutdown works
- Test the pilot fail shutdown (turn off propane supply)	10/21/2021	Closed propane tanks, works
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	10/21/2021	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.)	10/21/2021	Opened to atmosphere, works correctly
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	10/21/2021	Throttled inlet valve, works correctly
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	10/21/2021	Adjusted setpoint, tapped sensor, works
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	10/21/2021	Closed nitrogen tank, purged valve, shutdown works
- Test the high inlet temperature failure (adjust PLC setpoint)	10/21/2021	Adjusted setpoint to test, works correctly
- Test the high vacuum shutdown (adjust PLC setpoint)	10/21/2021	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.	10/21/2021	All good, o-rings lubricated
- Inspect and clean the solenoid valve.	10/21/2021	good condition
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	10/21/2021	nothing arcing
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	10/21/2021	All connections tight
- Check for loose bolts on structure and flanges. Tighten, as necessary.	10/21/2021	No loose bolts
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	10/21/2021	Filter is clean.
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	10/21/2021	Clean and dry, old rust staining present
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	10/21/2021	Bearings in ok shape, flushed with fresh grease and repacked. Outlet bearings are in better shape.

DAILY FLARE STATION DATA LOG

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

Tester	T. Hobday		T. Hobday	
Date	6/1/2021		10/21/21	
Time	10:35		14:30	
Sky Conditions	clear		P. cloudy	
Ambient Temperature, deg F	67° F		50° F	
Inlet Temperature, deg F (GHS-TI-301)	52° F		60° F	
Demister Inlet Valve Position, % Open (GHS-HV-301)	100%		100%	
LFG Vacuum, In WC (GHS-PI-301)	2"		4"	
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"		0.5"	
Discharge Temperature, deg F (GHS-TI-302)	62° F		68° F	
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	16"		9"	
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.4"		1.1"	
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0"		0.9"	
Flame Arrester Delta P, In WC (FLR-PI-301)	0.4"		0.2"	
Blower 301 Frequency, Hz (CP-YIC-2)	17.0 Hz		16.5 Hz	
Blower 301 Current, Amps (CP-YIC-2)	3.8 A		3.8 A	

* ***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	6/1/2021		10/21/2021	
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.3"		3.9"	
Inlet Temp, DegF	54°F		61°F	
Oxygen, %	0.2%		0.0%	
Blower Speed, %	19%		18%	
Blower Vibration, In/Sec	0.00"/sec		0.00"/sec	
CP Temp, DegF	84°F		75°F	
FLR Flame Temp, DegF	1,232°F		1,361°F	
FLR Flow Press, In WC	1.6"		1.1"	
FLR Flow Temp, DegF	65°F		74°F	
Flow Rate, SCFM	74 cfm		67 cfm	
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run		Run	
Run Time, Hr	65,692		68,928	
Speed, %	19%		18%	
Vibration, In/Sec	0.00"/sec		0.00"/sec	
Outlet Temp, DegF	65°F		74°F	
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	73 cfm		67 cfm	
Flame Temp, DegF	1,216°F		1,351°F	
BLR Speed, %	19%		18%	
Flow Pressure, In WC	1.6"		1.1"	
Hour Meter	65,685		68,921	
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)

	6/1/2021		10/21/2021	
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	73 cfm		67 cfm	
Today's Total, MMSCF	0.046159		0.0585256	
This Month's Total, MMSCF	0.000000		2.011678	
Total Flow, MMSCF	322.136		335.571	
Flow Press, In WC	1.6"		1.1"	
Flow Temp, DegF	65°F		74°F	
Flow Delta P, In WC	0.48"		0.41"	
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.046159		0.0585256	
2 Day's Ago Flow, MMSCF	0.099629		0.0987744	
3 Day's Ago Flow, MMSCF	0.101919		0.101152	
4 Day's Ago Flow, MMSCF	0.098318		0.0994679	
5 Day's Ago Flow, MMSCF	0.101398		0.0970752	
6 Day's Ago Flow, MMSCF	0.058413		0.1007167	
7 Day's Ago Flow, MMSCF	0.078452		0.0967023	
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	3.2136e		3.2557le	
Reset Time	0:0:0		0:0:0	
Reset Date	0/00/00		0/00/00	
* **BACK**				

* ***PUSH BUTTON***

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

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

Description	Setpoint	DATE	Setpoint	DATE
SETPOINT MENU				
* **VACUUM/FLOW**				
Vacuum/Flow	Flow	6/1/21	Flow	10/21/21
* **MANUAL/AUTO**				
Min % Speed	10%	6/1/21	10%	10/21/21
Auto/Manual	Auto	↓	Auto	↓
Manual % Speed	20%	↓	20%	↓
* **BACK**				
* **VACUUM CONTROL**				
* **SETPOINTS**				
Setpoint, In WC	6.0"	6/1/21	3.8"	10/21/21
Ramp Incriment, In WC	4.0"	↓	4.0"	↓
* **BACK**				
* **PID SPs**				
Gain	2.50	6/1/21	2.50	10/21/21
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	70 cfm	6/1/21	70 cfm	10/21/21
* **BACK**				
* **PID SETPOINTS**				
Gain	0.80	6/1/21	0.80	10/21/21
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. Holiday

* **START SPs**				
Pilot Enable, Secs	120 sec	6/1/21	120 sec	10/21/21
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	6/1/21	250°F	10/21/21
* **BACK**				
* **FLR RUN CLOCK**				
Start Time of Day, Hr.Min	0.00	6/1/21	0.00	10/21/21
On Cycle Duration, Mins	1,440min	↓	1,440min	↓
Off Cycle Duration, Mins	1 min	↓	1 min	↓
Cycles per Day	1	↓	1	↓
* **BACK**				
* **BACK**				
* **FLOW CALC**				
CH4%	31.0%	6/1/21	33.0%	10/21/21
O2%	0.1%	↓	0.1%	↓
CO2%	32.5%	↓	32.5%	↓
Elevation, Ft	1,225 ft	↓	1,225 ft	↓
Manual Input	0.975	↓	0.975	↓
* **BACK**				
* **OXYGEN CALIBRATION**				
* **BACK**				
* **ALARMS & SHUTDOWNS**				
* **INLET MENU**				
* **HIGH VACUUM**				
Alarm SP, In WC	52.0"	6/1/21	52.0"	10/21/21
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	6/1/21	98°F	10/21/21

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

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

Alarm Delay, Sec	45 sec	6/1/21	45 sec	10/21/21
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	6/1/21	35 sec	10/21/21
* **BACK**				
* **BLOWER MENU**				
* **VIBRATION**				
Alarm SP, In/S	0.18 "/sec	6/1/21	0.18 "/sec	10/21/21
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	6/1/21	170°F	10/21/21
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	6/1/21	N/A	10/21/21
Alarm Delay, Sec	↘	↓	↘	↓
Shutdown SP, DegF		↓		↓
Shutdown Delay, Sec	↘	↓	↘	↓
* **BACK**				
* **LOW FLAME TEMP**				
Alarm SP, DegF	150°F	6/1/21	150°F	10/21/21
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	6/1/21	220 cfm	10/21/21
Alarm Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **LOW FLOW RATE**				
Alarm SP, SCFM	35 cfm	6/1/21	35 cfm	10/21/21
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	6/1/21	600 sec	10/21/21
Number of Relight Attempts	3	↓	3	↓
* **BACK**				
* **BACK**				
* **OXYGEN SENSOR**				
* **HIGH OXYGEN OE-301**				
Alarm SP, %	3.5 %	6/1/21	3.5 %	10/21/21
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	6/1/21	60 sec	10/21/21
* **BACK**				
* **PANEL TEMP**				
Low Temp Alarm SP, degF	35 °F	6/1/21	35 °F	10/21/21
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: 1.12.21

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 6-8" of snow on site

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 2.23.21

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 40° day of 2021

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 3.9.21

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 60° day - Snow 80% gone from site

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 4.6.21

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:

Beautiful Day - 79°

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 5.4.21

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:

Semi Annual Maintenance Visit Scheduled for Labor this Month.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 6.8.21

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:

* Requested DPW to mow side hill grass bank & inside Control Panel Fence.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 7/7/21

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 on Side Hill mowed since last time

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Fraser

Date: 8/10/21

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 - 2.4" of rain in last week

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Farber

Date: 9/14/21

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:

Replaced Two EW Covers that were damaged from Mowing.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 10/21/21

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:

Tom Holiday - GHD here to conduct Semi-annual Maintenance visit

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 11/23/21

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:

Nice Day - 43° Sunny - no snow on site

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Sager

Date: 12/28/21

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 4" of snow on site

ghd.com

→ The Power of Commitment