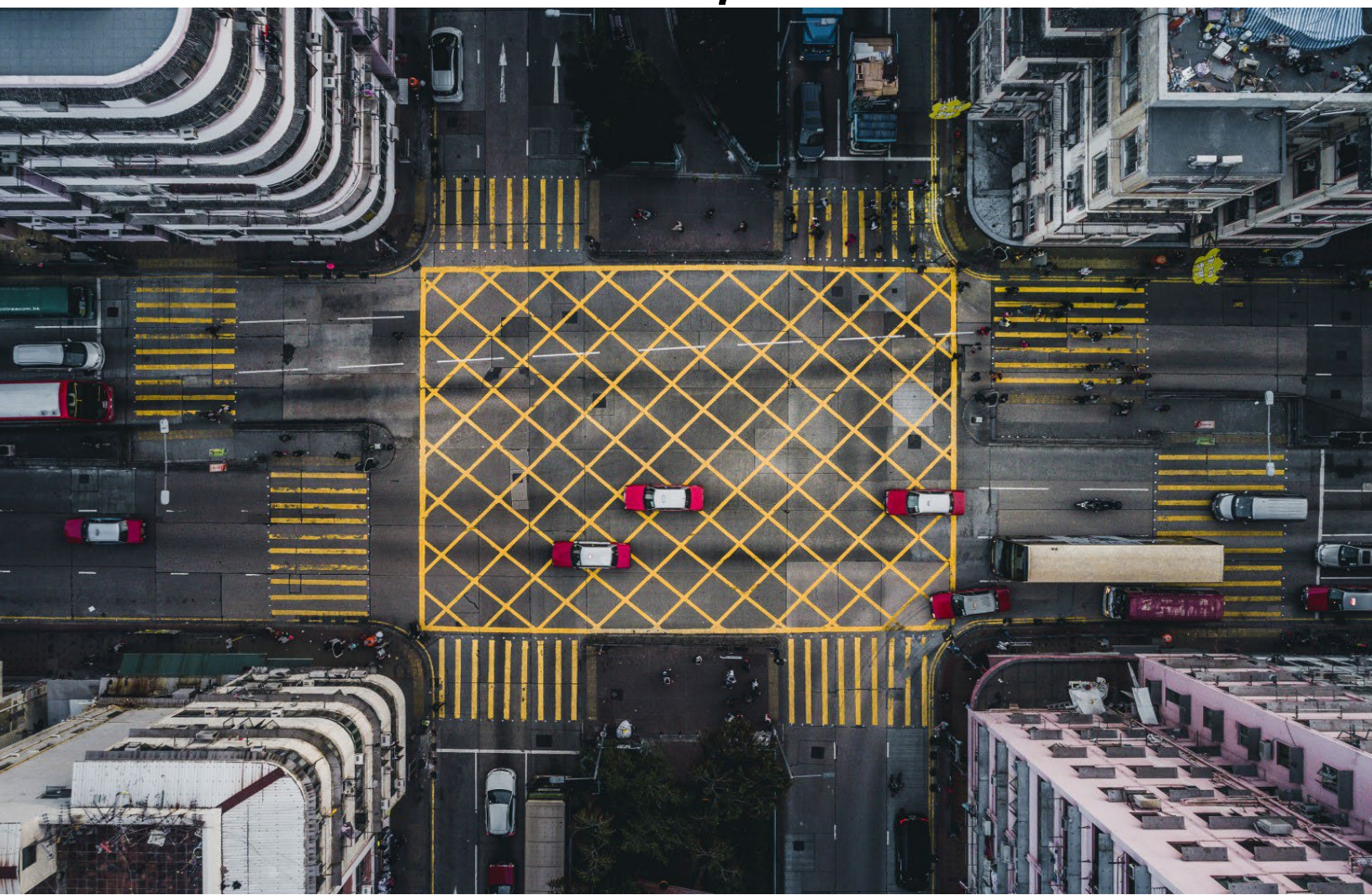
Annual Operation, Maintenance, and Monitoring Report

January 2022 through December 2022
Former Holtz Krause Landfill

City of Wausau

January 25, 2023

→ The Power of Commitment



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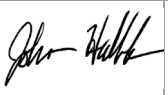
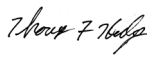
[Status code]	00	Thomas Hobday	Johan Hedblom		Thomas Hobday		1/17/2023	
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1. Introduction

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 2022 through December 2022 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, EW-31, EW-33, and EW-37).
  - 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-34, and EW-36).
- Quarterly gas probe monitoring
- Monthly general Site inspections

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

2. Gas Extraction System and Flare Station

2.1 Overview and System Components

The landfill gas extraction system consists of the following components:

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

– 13 gas monitoring probes

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

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

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

2.2 Flare Station OM&M

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

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

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

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

Monitoring of landfill gas composition (percent each: methane, carbon dioxide, and oxygen) was completed a minimum of one time per month from April to September, and a minimum of two times per month from October to March. The results of landfill gas monitoring at the flare station are presented in Tables 2.1 and 2.2.

Semi-annual flare station maintenance consists of performing all flare manufacturer specified inspections and preventative maintenance. The semi-annual inspection and maintenance events were performed by GHD on behalf of the City of Wausau in April 2022 and October 2022. The semi-annual maintenance reports are included in Appendix B.

Prior to the April 2022 semi-annual maintenance visit, the flare station uninterruptible power supply (UPS)/battery backup was noted to have failed. A replacement UPS was procured and installed in conjunction with the April 2022 semi-annual maintenance visit.

2.2.1 Unscheduled Flare Station Shutdowns

During the reporting period (January 2022 through December 2022), the flare station experienced 11 unscheduled shutdowns. Details of the shutdowns are as follows:

– February 4, 2022: The flare station shut down due to a low flow rate shutdown. The flare was restarted on February 5, 2022.
– February 6, 2022: The flare station shut down due to a power failure. The flare was restarted on February 7, 2022 following power restoration.

- May 20, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on May 22, 2022.
- July 29, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on July 31, 2022.
- August 5, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 8, 2022.
- August 13, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 15, 2022
- August 19, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 19, 2022.
- August 20, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 22, 2022.
- August 27, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on August 29, 2022.
- September 14, 2022: The flare station shut down due to a low flow rate shutdown. The flare station was restarted on September 16, 2022.
- December 23, 2022: The flare station shut down due to a high oxygen shutdown caused by extreme cold and blizzard conditions. The flare station was restarted on December 26, 2022 once extreme weather subsided.

The flare station operated for 8,201 of the 8,760 available hours (94-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. Prior to the October 2022 semi-annual maintenance visit, the throttle valve at extraction well EW-35 was noted to have failed. The valve was replaced in conjunction with the October 2022 semi-annual maintenance visit.

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
– Replaced the throttle valve at EW-35

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 94-percent up-time from January 1, 2022 through December 31, 2022.
– The flare station controls allowed extraction amounts to closely match landfill production (approximately 70 cfm at 29 to 37-percent methane). Additionally, this resulted in minimal amounts of oxygen within the landfill waste, ensuring the landfill remains in anaerobic gas production and limits the potential for subsurface fires.
– Landfill gas monitoring probes were all non-detect for methane during the reporting period, indicating that landfill gas extraction rates are sufficient to prevent off-Site gas migration.
– The general Site was noted to be in good condition throughout the reporting period, with no significant concerns.
– Gas composition at gas extraction wells was noted to be very consistent throughout the reporting period. Gas wells EW-4, EW-30, and EW-36 (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 the quarterly monitoring schedule (for wells that are always on). Additionally, gas well EW-19 (currently on the intermittent operation monitoring schedule) was noted to be consistently off throughout the reporting period with low levels of methane; which supports moving this well to the annual monitoring schedule (for wells that are always off).

5. Recommendations

Based upon the conclusions presented in Section 4, it is recommended that the gas extraction well monitoring in 2022 be revised to transfer well EW-19 to the annual monitoring schedule (wells that are always off) from the monthly/quarterly monitoring schedule (wells with intermittent operation); and to transfer wells EW-4, EW-30 and EW-36 to the quarterly monitoring schedule (wells that are always on) from the monthly/quarterly monitoring schedule (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, 19, 35, and 38)	14				Half Round (June wells)	Half Round (July wells)			
Wells Always On (Quarterly Monitoring) (EW-3, 4, 7, 10, 18, 20, 30, 31, 33, 36, and 37)	11	X		X			X		X
Wells with Intermittent Operation (Monthly/Quarterly monitoring) (EW- ~~4~~, 5, 6, 12, 17, ~~19~~, 21, ~~30~~, 32, 34, and ~~36~~)	7	X	X	X	X	X	X	X	X

Notes:

Strike-outs/underlines denote recommended changes to the monitoring schedule

Table 2.1

Flare Station Operational Data
January 2022 through December 2022
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)
1/4/2022	-2.9	37.1	31.8	0.3	74	51	1,337	on	70,691
1/11/2022	-1.7	NR	NR	NR	75	50	1,340	on	70,860
1/18/2022	-3.4	35.9	31.3	0.3	74	50	1,370	on	71,027
1/24/2022	-3.1	NR	NR	NR	66	49	1,167	on	71,171
2/1/2022	-3.2	36.1	31.6	0.4	66	49	1,245	on	71,363
2/8/2022	-2.4	NR	NR	NR	71	47	1,346	on	17,436
2/15/2022	-4.1	34.4	30.3	0.4	72	48	1,325	on	71,604
2/22/2022	-3.2	NR	NR	NR	73	47	1,377	on	71,771
3/1/2022	-4.2	NR	NR	NR	65	47	1,238	on	7,940
3/8/2022	-3.8	NR	NR	NR	74	47	1,228	on	72,108
3/15/2022	-4.0	NR	NR	NR	73	47	1,233	on	72,275
3/22/2022	-3.2	NR	NR	NR	72	48	1,335	on	72,442
3/29/2022	-3.6	32.2	29.4	0.6	71	47	1,333	on	72,611
4/5/2022	-3.7	NR	NR	NR	71	47	1,337	on	72,779
4/12/2022	-5.0	31.8	29.3	0.4	72	48	1,272	on	72,948
4/19/2022	-4.5	NR	NR	NR	70	48	1,297	on	73,115
4/26/2022	-4.9	NR	NR	NR	68	48	1,341	on	73,281
5/3/2022	-4.2	31.5	29.5	0.4	72	49	1,306	on	73,447
5/10/2022	-4.5	NR	NR	NR	67	51	1,325	on	73,617
5/17/2022	-4.3	NR	NR	NR	69	51	1,164	on	73,784
5/24/2022	-3.4	NR	NR	NR	69	52	1,306	on	73,909
5/31/2022	-3.3	NR	NR	NR	71	53	1,310	on	74,070
6/7/2022	-3.9	29.6	28.5	0.4	66	54	1,161	on	74,238
6/14/2022	-3.2	NR	NR	NR	66	55	1,245	on	74,406
6/21/2022	-3.4	NR	NR	NR	72	56	1,190	on	74,574
6/28/2022	-3.4	NR	NR	NR	70	57	1,100	on	74,742
7/5/2022	-3.3	NR	NR	NR	66	57	1,204	on	74,910
7/12/2022	-3.8	28.6	28.3	0.2	65	58	1,247	on	75,077
7/19/2022	-3.5	NR	NR	NR	69	59	1,090	on	75,246
7/26/2022	-3.5	NR	NR	NR	74	60	1,111	on	75,414
8/2/2022	-3.6	NR	NR	NR	72	60	1,256	on	75,517

Table 2.1

Flare Station Operational Data
January 2022 through December 2022
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)
8/9/2022	-3.9	30.4	28.5	0.4	69	60	1,195	on	75,616
8/16/2022	-3.4	NR	NR	NR	69	61	1,201	on	75,728
8/23/2022	-3.3	NR	NR	NR	74	61	1,297	on	75,847
8/30/2022	-3.3	NR	NR	NR	62	62	1,272	on	75,965
9/6/2022	-3.1	NR	NR	NR	62	61	1,094	on	76,132
9/13/2022	-2.9	32.8	30.3	0.4	60	61	1,132	on	76,289
9/20/2022	-2.2	NR	NR	NR	66	62	1,289	on	76,412
9/28/2022	-3.9	NR	NR	NR	63	61	1,244	on	76,605
10/5/2022	-2.5	NR	NR	NR	65	60	1,311	on	76,773
10/12/2022	-1.6	NR	NR	NR	63	62	1,248	on	76,947
10/19/2022	-3.1	36.4	31.1	0.4	73	60	1,379	on	77,115
10/26/2022	-3.7	NR	NR	NR	69	59	1,349	on	77,285
11/1/2022	-3.6	NR	NR	NR	66	58	1,200	on	77,425
11/8/2022	-3.8	34.1	30.2	0.5	74	58	1,253	on	77,587
11/15/2022	-3.2	NR	NR	NR	71	57	1,557	on	77,755
11/22/2022	-3.0	35.7	31.1	0.5	72	56	1,288	on	77,924
11/29/2022	-2.8	NR	NR	NR	74	55	1,355	on	78,090
12/6/2022	-4.2	34.1	30.6	0.6	67	54	1,240	on	78,258
12/13/2022	-3.0	NR	NR	NR	73	53	1,272	on	78,427
12/20/2022	-3.7	33.8	30.9	0.6	67	52	1,211	on	78,595
12/27/2022	-2.4	NR	NR	NR	72	51	1,310	on	78,699

Table 2.2

Landfill Gas Data
January 2022 through December 2022
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp (^{o}F)	Flow Rate (scfm)	Header Pressure (in. H_2O)	Status (on/off)
Flare	1/4/2022	37.1	31.8	0.3	51	74	-2.9	On
Flare	1/18/2022	35.9	31.3	0.3	50	74	-3.4	On
Flare	2/1/2022	36.1	31.6	0.4	49	66	-3.2	On
Flare	2/15/2022	34.4	30.3	0.4	48	72	-3.2	On
Flare	3/28/2022	32.2	29.4	0.6	47	71	-3.6	On
Flare	4/12/2022	31.8	29.3	0.4	48	72	-5.0	On
Flare	5/3/2022	31.5	29.5	0.4	49	72	-4.2	On
Flare	6/7/2022	29.6	28.5	0.4	54	66	-3.9	On
Flare	7/12/2022	28.6	28.3	0.2	58	65	-3.8	On
Flare	8/9/2022	30.4	28.5	0.4	60	69	-3.9	On
Flare	9/13/2022	32.8	30.3	0.4	61	60	-2.9	On
Flare	10/20/2022	36.4	31.1	0.4	60	73	-3.1	On
Flare	11/8/2022	34.1	30.2	0.5	58	74	-3.8	On
Flare	11/22/2022	35.7	31.1	0.5	56	72	-3.0	On
Flare	12/6/2022	34.1	30.6	0.6	54	67	-4.2	On
Flare	12/20/2022	33.8	30.9	0.6	51	67	-3.7	On
EW-01	6/7/2022	7.6	20.9	0.2	61	0	-3.3	Off
EW-02	6/7/2022	16.6	24.2	0.5	57	0	-3.2	Off
EW-03	3/28/2022	39.4	27.5	0.8	45	35	-3.5	On
EW-03	5/3/2022	39.6	28.3	0.2	45	6	-3.2	On
EW-03	8/9/2022	38.2	28.6	0.3	57	21	-3.1	On
EW-03	10/20/2022	43.5	31.5	0.2	53	9	-2.1	On
EW-04	3/28/2022	28	26.6	0.2	44	19	-3.4	On
EW-04	4/12/2022	27.5	25.9	0.6	48	14	-4.3	On
EW-04	5/3/2022	27.5	25.9	0.5	46	8	-3.5	On
EW-04	6/7/2022	25.8	25.5	0.6	55	9	-3.1	On
EW-04	7/12/2022	25.9	26.0	0.6	61	9	-3.2	On
EW-04	8/9/2022	27.5	26.5	0.6	62	4	-3.0	On
EW-04	9/13/2022	28.9	27.7	0.6	59	0	-2.3	On
EW-04	10/20/2022	30.1	28.4	0.4	56	5	-2.1	On
EW-05	3/28/2022	21.3	23.7	0.2	44	8	-3.5	On
EW-05	4/12/2022	19.2	23.0	0.4	46	0	-4.4	Off
EW-05	5/3/2022	17.3	22.7	0.4	46	0	-3.5	Off
EW-05	6/7/2022	16.0	22.1	0.3	56	0	-3.2	Off
EW-05	7/12/2022	17.5	22.5	0.3	60	0	-3.2	Off
EW-05	8/9/2022	24.6	23.8	0.4	64	0	-2.6	On
EW-05	9/13/2022	27.6	24.7	0.3	58	0	-2.2	On
EW-05	10/20/2022	29.3	25.9	0.2	53	0	-2.1	On

Table 2.2

Landfill Gas Data
January 2022 through December 2022
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-06	3/28/2022	24.6	26.4	0.2	47	0	-3.0	On
EW-06	4/12/2022	24.0	26.1	0.3	49	14	-3.8	On
EW-06	5/3/2022	23.6	26.2	0.2	48	12	-3.3	On
EW-06	6/7/2022	21.8	25.4	0.3	57	11	-3.1	On
EW-06	7/12/2022	22.4	25.8	0.3	59	11	-3.1	On
EW-06	8/9/2022	26.4	26.6	0.2	59	7	-2.9	On
EW-06	9/13/2022	28.4	27.3	0.2	57	1	-2.2	On
EW-06	10/20/2022	30.1	28.1	0.3	53	6	-1.7	On
EW-07	3/28/2022	30.9	27.5	0.3	42	9	-3.3	On
EW-07	5/3/2022	32.0	27.2	0.5	48	9	-3.5	On
EW-07	8/9/2022	31.9	27.3	0.6	63	5	-2.9	On
EW-07	10/20/2022	30.7	28.3	0.3	54	4	-2.1	On
EW-08	6/7/2022	9.7	20.4	0.6	61	0	-3.2	Off
EW-09	6/7/2022	12.6	21.9	0.3	55	0	-3.2	Off
EW-10	3/28/2022	33.0	28.6	0.1	44	20	-3.2	On
EW-10	5/3/2022	32.7	28.4	0.1	47	0	-3.4	On
EW-10	8/9/2022	31.2	27.4	0.5	62	0	-3.0	On
EW-10	10/20/2022	32.4	29.3	0.1	54	4	-2.1	On
EW-11	7/12/2022	1.1	17.7	0.4	67	0	-3.1	Off
EW-12	3/28/2022	17.8	25.5	0.2	43	0	-3.6	Off
EW-12	4/12/2022	17.7	24.6	0.4	42	0	-4.2	Off
EW-12	5/3/2022	17.9	25.4	0.3	44	0	-3.5	Off
EW-12	6/7/2022	16.7	23.7	1.0	60	0	-3.2	Off
EW-12	7/12/2022	18.6	25.1	0.5	63	0	-3.1	Off
EW-12	8/9/2022	25.6	26.6	0.4	66	5	-2.9	On
EW-12	9/13/2022	24.6	27.2	0.6	58	1	-2.3	On
EW-12	10/20/2022	25.5	28.3	0.5	53	0	-2.1	On
EW-13	7/12/2022	2.9	19.5	0.3	65	0	-2.9	Off
EW-14	7/12/2022	8.6	20.9	0.5	63	0	-3.1	Off
EW-15	7/12/2022	2.0	16.9	0.4	65	0	-3.0	Off
EW-17	3/28/2022	27.5	25.7	0.2	40	0	-2.7	On
EW-17	4/12/2022	25.2	25.2	0.2	43	0	-3.6	On
EW-17	5/3/2022	24.5	25.1	0.4	46	5	-3.3	On

Table 2.2

Landfill Gas Data
January 2022 through December 2022
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-17	6/7/2022	26.7	24.3	0.5	57	9	-3.1	On
EW-17	7/12/2022	28.0	25.5	0.4	61	8	-3.0	On
EW-17	8/9/2022	31.1	26.6	0.4	64	4	-2.8	On
EW-17	9/13/2022	36.1	29.5	0.2	57	1	-2.2	On
EW-17	10/20/2022	37.4	30.5	0.2	53	0	-2.1	On
EW-18	3/28/2022	44.1	31.8	0.1	43	14	-3.5	On
EW-18	5/3/2022	43.6	32.0	0.2	44	6	-3.4	On
EW-18	8/9/2022	46.5	32.4	0.4	63	4	-2.8	On
EW-18	10/20/2022	48.7	35.2	0.6	52	5	-2.0	On
EW-19	3/28/2022	12.0	8.6	16.3	44	0	-1.2	Off
EW-19	4/12/2022	1.9	1.7	19.9	43	0	-2.0	Off
EW-19	5/3/2022	1.5	1.2	21.0	47	0	-1.2	Off
EW-19	6/7/2022	0.0	0.1	20.2	64	0	-1.8	Off
EW-19	7/12/2022	0.0	0.1	20.4	69	0	-1.6	Off
EW-19	8/9/2022	0.1	0.1	20.6	69	0	-1.3	Off
EW-19	9/13/2022	0.1	0.2	21.4	57	0	-0.9	Off
EW-19	10/20/2022	30.9	25.0	7.1	47	0	-0.2	Off
EW-20	3/28/2022	44.0	34.8	0.3	48	16	-3.0	On
EW-20	5/3/2022	42.7	34.5	0.3	48	18	-3.2	On
EW-20	8/9/2022	38.9	33.3	0.4	59	17	-2.8	On
EW-20	10/20/2022	42.0	35.8	0.4	53	15	-1.8	On
EW-21	3/28/2022	25.2	25.9	0.5	44	0	-2.9	On
EW-21	4/12/2022	24.3	25.6	0.4	43	0	-3.7	On
EW-21	5/3/2022	23.1	25.7	0.5	45	14	-2.6	On
EW-21	6/7/2022	20.7	24.6	0.8	58	9	-3.2	On
EW-21	7/12/2022	20.2	25.1	0.7	64	9	-3.1	On
EW-21	8/9/2022	22.3	25.5	0.7	67	13	-2.8	On
EW-21	9/13/2022	26.7	28.4	0.2	58	23	-2.4	On
EW-21	10/20/2022	29.5	29.2	0.5	54	0	-2.2	On
EW-22	6/7/2022	6.7	19.0	0.6	61	0	-3.3	Off
EW-23	6/7/2022	0.0	0.3	20.6	62	0	-3.4	Off
EW-24	6/7/2022	8.5	20.2	0.6	59	0	-3.3	Off
EW-30	3/28/2022	27.3	31.8	0.6	45	0	-3.4	On
EW-30	4/12/2022	28.0	31.8	0.4	46	0	-4.1	On
EW-30	5/3/2022	27.5	31.2	0.6	45	0	-3.3	On

Table 2.2

Landfill Gas Data
January 2022 through December 2022
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-30	6/7/2022	25.4	30.3	0.5	55	9	-3.2	On
EW-30	7/12/2022	23.7	30.6	0.5	61	9	-3.0	On
EW-30	8/9/2022	26.2	31.4	0.2	60	6	-2.8	On
EW-30	9/13/2022	31.6	33.3	0.4	56	3	-2.2	On
EW-30	10/20/2022	36.8	35.4	0.4	51	6	-2.0	On
EW-31	3/28/2022	31.5	32.3	0.5	45	9	-3.0	On
EW-31	5/3/2022	31.2	32.1	0.4	46	7	-2.7	On
EW-31	8/9/2022	28.3	30.9	0.4	59	7	-2.8	On
EW-31	10/20/2022	35.6	35	0.4	50	8	-1.6	On
EW-32	3/28/2022	1.7	3.3	18.6	45	0	-3.4	Off
EW-32	4/12/2022	14.5	24.0	1.1	44	0	-3.8	Off
EW-32	5/3/2022	13.1	24.3	0.6	46	0	-3.4	Off
EW-32	6/7/2022	0.0	0.2	20.4	63	0	-3.2	Off
EW-32	7/12/2022	0.0	0.1	20.4	68	0	-3.0	Off
EW-32	8/9/2022	0.0	0.3	20.4	70	0	-2.8	Off
EW-32	9/13/2022	0.1	0.3	21.4	59	0	-2.2	Off
EW-32	10/20/2022	28.6	31.7	0.4	49	0	-2.1	Off
EW-33	3/28/2022	36.4	33.9	0.2	40	0	-3.3	On
EW-33	5/3/2022	30.7	33.2	0.2	43	0	-3.3	On
EW-33	8/9/2022	31.6	34.4	0.3	65	4	-2.8	On
EW-33	10/20/2022	42.8	39.1	0.2	51	9	-1.9	On
EW-34	3/28/2022	17.4	17.2	9.9	40	0	0.0	Off
EW-34	4/12/2022	0.2	0.9	20.0	41	0	-0.8	Off
EW-34	5/3/2022	0.3	2.2	20.3	42	0	-0.4	Off
EW-34	6/7/2022	0.2	1.3	19.6	64	0	-0.7	Off
EW-34	7/12/2022	0.1	1.4	19.2	69	0	-0.5	Off
EW-34	8/9/2022	0.8	1.9	19.1	70	0	-0.3	Off
EW-34	9/13/2022	0.8	2.9	19.4	58	0	-0.2	Off
EW-34	10/20/2022	37.0	33.5	2.4	43	0	-0.1	Off
EW-35	7/12/2022	5.2	8.0	14.5	67	8	-0.3	Off

Table 2.2

Landfill Gas Data
January 2022 through December 2022
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	3/28/2022	31.4	29.3	0.6	44	0	-2.3	On
EW-36	4/12/2022	31.2	29.7	0.3	44	0	-2.7	On
EW-36	5/3/2022	28.4	29.0	0.3	44	19	-2.3	On
EW-36	6/7/2022	26.9	28.0	0.3	60	8	-2.0	On
EW-36	7/12/2022	26.2	28.8	0.3	65	8	-1.8	On
EW-36	8/9/2022	28.8	30.1	0.2	69	5	-1.0	On
EW-36	9/13/2022	31.5	31.9	0.3	59	0	-0.7	On
EW-36	10/20/2022	33.7	33.6	0.6	50	2	-0.1	On
EW-37	3/28/2022	34.9	33.5	0.2	42	4	-0.3	On
EW-37	5/3/2022	32.6	33.4	0.2	44	21	-2.1	On
EW-37	8/9/2022	33.9	34.7	0.5	69	4	-0.9	On
EW-37	10/20/2022	34.5	34.2	0.2	47	1	0.0	On
EW-38	7/12/2022	0.7	7.0	4.8	66	0	-3.0	Off

Table 2.3

Landfill Gas Probe Data
January 2022 through December 2022
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-1S	3/8/2022	0.0	6.2	12.3	0.2
GP-1S	5/16/2022	0.0	1.4	18.5	0.0
GP-1S	8/23/2022	0.0	0.1	20.6	N/A
GP-1S	10/12/2022	0.0	0.5	20.4	-0.1
GP-1D	3/8/2022	0.0	0.2	20.5	0.3
GP-1D	5/16/2022	0.0	0.1	20.2	0.0
GP-1D	8/23/2022	0.0	0.1	20.5	0.1
GP-1D	10/12/2022	0.0	7.4	11.2	-0.1
GP-2	3/8/2022	0.0	0.6	20.6	0.0
GP-2	5/16/2022	0.0	0.7	19.6	0.0
GP-2	8/23/2022	0.0	1.2	19.6	0.0
GP-2	10/12/2022	0.0	0.8	21.1	0.0
GP-3S	3/8/2022	0.0	1.0	20.4	0.1
GP-3S	5/16/2022	0.0	0.1	20.2	0.0
GP-3S	8/23/2022	0.0	0.9	19.5	0.0
GP-3S	10/12/2022	0.0	1.7	19.5	0.0
GP-3D	3/8/2022	0.0	1.6	20.1	0.1
GP-3D	5/16/2022	0.0	0.1	20.3	0.0
GP-3D	8/23/2022	0.0	0.4	20.1	0.0
GP-3D	10/12/2022	0.0	1.6	19.7	-0.1
GP-5	3/8/2022	0.0	1.6	20.1	0.0
GP-5	5/16/2022	0.0	0.1	20.3	0.1
GP-5	8/23/2022	0.0	0.3	20.1	0.0
GP-5	10/12/2022	0.0	4.6	17.2	0.0
GP-6	3/8/2022	0.0	0.2	21.1	0.1
GP-6	5/16/2022	0.0	0.2	20.2	0.0
GP-6	8/23/2022	0.0	0.0	20.3	0.0
GP-6	10/12/2022	0.0	1.2	20.5	0.0
GP-7R	3/8/2022	0.0	0.6	20.9	0.0
GP-7R	5/16/2022	0.0	0.7	20.0	0.0
GP-7R	8/23/2022	0.0	0.9	19.9	0.0
GP-7R	10/12/2022	0.0	0.7	21.1	0.0
GP-10	3/8/2022	0.0	0.4	21.2	0.0
GP-10	5/16/2022	0.0	0.6	19.7	0.0
GP-10	8/23/2022	0.0	0.6	19.5	0.0

Table 2.3

Landfill Gas Probe Data
January 2022 through December 2022
Holtz Krause Closed Landfill - Wausau, Wisconsin

ID	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Static Pressure (in. H_2O)
GP-10	10/12/2022	0.0	0.8	21.1	0.0
GP-11	3/8/2022	0.0	1.3	20.4	0.0
GP-11	5/16/2022	0.0	0.4	19.9	0.0
GP-11	8/23/2022	0.0	3.9	14.8	0.0
GP-11	10/12/2022	0.0	6.1	15.6	0.0
GP-12	3/8/2022	0.0	1.8	18.1	0.0
GP-12	5/16/2022	0.0	1.2	18.7	0.0
GP-12	8/23/2022	0.0	3.6	16.9	0.0
GP-12	10/12/2022	0.0	4.8	15.6	0.0
GP-13	3/8/2022	0.0	0.4	20.6	0.0
GP-13	5/16/2022	0.0	0.5	19.7	0.0
GP-13	8/23/2022	0.0	1.3	18.9	0.0
GP-13	10/12/2022	0.0	1.4	20.0	0.0
GP-14	3/8/2022	0.0	1.1	20.4	0.0
GP-14	5/16/2022	0.0	1.4	19.2	0.0
GP-14	8/23/2022	0.0	3.7	16.0	0.0
GP-14	10/12/2022	0.0	4.6	16.1	0.0

Figures

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 01/17/2023

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	1/4/2022	1/11/2022	1/18/2022	1/24/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Cloudy	Clear
Ambient Temperature, deg F	20	10	25	10
Inlet Temperature, deg F (GHS-TI-301)	46	46	47	44
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	2	1	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	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.8	0.5	0.8	1
Discharge Temperature, deg F (GHS-TI-302)	50	46	54	48
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	9	11	8	10
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.2	1.4	1.1	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.9	1.0	0.9	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.4	0.2	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.1	12.9	15.8	15.2
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	2.9	1.7	3.4	3.1
Inlet Temp, DegF	51	50	50	49
Oxygen, %	0	0	0	0
Blower Speed, %	16	12	17	15
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	61	55	69	57
FLR Flame Temp, DegF	1337	1340	1370	1167
FLR Flow Press, In WC	0.1	0.1	0.9	0.1
FLR Flow Temp, DegF	56	51	59	54
Flow Rate, SCFM	74	75	74	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	70968	70867	71033	71178
Speed, %	16	12	17	15
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	56	51	59	54
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	74	75	74	65
Flame Temp, DegF	1345	1335	1361	1171
BLR Speed, %	16	12	17	15
Flow Pressure, In WC	0.1	0.1	0.9	0.1
Hour Meter	70691	70860	71027	71171

* ***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	75	75	66
Today's Total, MMSCF	0.04	0.04	0.03	0.03
This Month's Total, MMSCF	0.31	1.03	1.74	2.36
Total Flow, MMSCF	343.09	343.81	344.52	345.14
Flow Press, In WC	0.1	0.1	0.8	0.1
Flow Temp, DegF	56	51	59	54
Flow Delta P, In WC	0.47	0.48	0.48	0.37
* **7 DAY FLOW HISTORY**				0.03
Yesterday's Flow, MMSCF	0.04	0.04	0.03	0.10
2 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.11
3 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.11	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	343.09	343.81	344.52	345.14
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	2/1/2022	2/8/2022	2/15/2022	2/22/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Cloudy	Cloudy
Ambient Temperature, deg F	30	20	20	15
Inlet Temperature, deg F (GHS-TI-301)	46	44	44	44
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	2	2	3	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	1	0.8	0.5
Discharge Temperature, deg F (GHS-TI-302)	44	52	49	48
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	12	15	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.2	1.0	1.2
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	0.9	0.7	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.1	14.1	16.5	14.5
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.9	3.9	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.2	2.4	4.1	3.2
Inlet Temp, DegF	49	47	48	47
Oxygen, %	0	0	0	0
Blower Speed, %	16	14	18	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	73	67	57	57
FLR Flame Temp, DegF	1245	1346	1325	1377
FLR Flow Press, In WC	0.1	1.3	0.2	0.2
FLR Flow Temp, DegF	58	56	54	54
Flow Rate, SCFM	66	71	72	73
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	71370	71443	71611	71778
Speed, %	16	14	18	16
Vibration, In/Sec	0.0	0	0.0	0.0
Outlet Temp, DegF	58	56	54	54
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	66	71	72	72
Flame Temp, DegF	1258	1343	1319	1342
BLR Speed, %	16	14	18	16
Flow Pressure, In WC	0.1	1.3	0.3	0.2
Hour Meter	71363	71436	71604	71771

* ***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	71	72
Today's Total, MMSCF	0.04	0.04	0.04	0.03
This Month's Total, MMSCF	0.00	0.3	1.01	1.72
Total Flow, MMSCF	345.96	346.27	346.98	347.68
Flow Press, In WC	0.1	1.3	0.2	0.2
Flow Temp, DegF	58	56	54	54
Flow Delta P, In WC	0.37	0.44	0.45	0.45
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.03
2 Day's Ago Flow, MMSCF	0.10	0.01	0.10	0.10
3 Day's Ago Flow, MMSCF	0.10	0.08	0.11	0.10
4 Day's Ago Flow, MMSCF	0.11	0.1	0.10	0.10
5 Day's Ago Flow, MMSCF	0.10	0.1	0.10	0.10
6 Day's Ago Flow, MMSCF	0.11	0.11	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.1	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	345.96	346.27	346.98	347.68
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	3/1/2022	3/8/2022	3/15/2022	3/22/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Cloudy
Ambient Temperature, deg F	25	25	35	40
Inlet Temperature, deg F (GHS-TI-301)	44	44	44	46
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3	3	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	1	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	54	53	54	54
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	12	17	10	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.0	1.4	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	1.1	0.7	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	16.5	16.1	16.4	15.3
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	4.2	3.8	4.0	3.2
Inlet Temp, DegF	47	47	47	48
Oxygen, %	0.1	0	0.1	0
Blower Speed, %	18	18	18	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	71	72	73	71
FLR Flame Temp, DegF	1238	1228	1233	1335
FLR Flow Press, In WC	0.1	1.4	0.1	0.1
FLR Flow Temp, DegF	59	57	59	59
Flow Rate, SCFM	65	74	73	72
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	71947	72115	72282	72449
Speed, %	18	18	18	16
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	59	57	59	59
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	66	73	73	72
Flame Temp, DegF	1203	1211	1248	1347
BLR Speed, %	18	18	18	16
Flow Pressure, In WC	0.1	1.4	0.1	0.1
Hour Meter	71940	72108	72275	72442

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

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

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	66	73	72	72
Today's Total, MMSCF	0.03	0.04	0.03	0.03
This Month's Total, MMSCF	0.00	0.71	1.42	2.13
Total Flow, MMSCF	348.4	349.12	349.82	350.52
Flow Press, In WC	0.1	1.4	0.1	0.3
Flow Temp, DegF	59	57	59	59
Flow Delta P, In WC	0.37	0.45	0.46	0.45
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	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	0.11	0.10	0.10
5 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.10
6 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	348.40	349.12	349.82	350.52
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	3/29/2022	4/5/2022	4/12/2022	4/19/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Cloudy	Clear	Clear
Ambient Temperature, deg F	30	35	50	40
Inlet Temperature, deg F (GHS-TI-301)	44	45	46	46
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	3	4	3
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)	0.5	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	54	56	62	57
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	8	15	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	17.7	16.8
Blower 301 Current, Amps (CP-YIC-2)	3.8	3.8	3.8	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.6	3.7	5.0	4.5
Inlet Temp, DegF	47	47	48	48
Oxygen, %	0	0	0.1	0
Blower Speed, %	17	17	20	19
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	70	72	76	71
FLR Flame Temp, DegF	1333	1337	1272	1297
FLR Flow Press, In WC	0.1	0.1	0.2	0.1
FLR Flow Temp, DegF	58	60	64	60
Flow Rate, SCFM	73	71	72	70
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	72618	72786	72954	73122
Speed, %	17	17	20	19
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	58	60	64	60
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	73	73	71	69
Flame Temp, DegF	1344	1323	1284	1242
BLR Speed, %	17	17	20	19
Flow Pressure, In WC	0.1	0.1	0.2	0.1
Hour Meter	72611	72779	72948	73115

* ***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	71	72	70
Today's Total, MMSCF	0.04	0.04	0.04	0.03
This Month's Total, MMSCF	2.83	0.41	1.12	1.83
Total Flow, MMSCF	351.23	351.95	352.66	353.37
Flow Press, In WC	0.1	0.1	0.2	0.1
Flow Temp, DegF	58	60	64	60
Flow Delta P, In WC	0.46	0.44	0.47	0.42
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	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	0.10	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	0.11	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	351.23	351.95	352.66	353.37
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:

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	4/26/2022	5/3/2022	5/10/2022	5/17/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Cloudy	Clear
Ambient Temperature, deg F	45	45	70	55
Inlet Temperature, deg F (GHS-TI-301)	46	47	50	50
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	0.2	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	1
Discharge Temperature, deg F (GHS-TI-302)	56	60	70	54
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	9	9	14
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.4	1.2	1.1
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	1.1	0.9	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	17.6	16.9	17.1	16.3
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	4.9	4.2	4.5	4.3
Inlet Temp, DegF	48	49	51	51
Oxygen, %	0.4	0.2	0.6	0.2
Blower Speed, %	20	19	19	18
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	73	74	83	76
FLR Flame Temp, DegF	1341	1306	1325	1164
FLR Flow Press, In WC	1.4	1.5	1.4	1.3
FLR Flow Temp, DegF	61	64	73	57
Flow Rate, SCFM	68	72	67	69
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	73288	73431	73623	73791
Speed, %	20	19	19	18
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	61	64	73	57
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	68	71	68	70
Flame Temp, DegF	1344	1307	1355	1154
BLR Speed, %	20	19	19	18
Flow Pressure, In WC	1.4	1.5	1.4	1.3
Hour Meter	73281	73447	73617	73784

* ***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	68	70
Today's Total, MMSCF	0.03	0.03	0.04	0.03
This Month's Total, MMSCF	2.52	0.20	0.9	1.61
Total Flow, MMSCF	354.06	354.77	355.48	356.19
Flow Press, In WC	1.4	1.5	1.4	1.3
Flow Temp, DegF	61	64	73	57
Flow Delta P, In WC	0.40	0.45	0.40	0.44
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.04	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	0.10	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	354.06	354.77	355.48	356.19
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	5/24/2022	5/31/2022	6/7/2022	6/14/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Clear
Ambient Temperature, deg F	55	75	65	80
Inlet Temperature, deg F (GHS-TI-301)	50	52	54	54
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	2	3	3	2
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	54	63	59	62
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	12	8	8	9
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.1	1.3	1.0	1.3
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	1.0	0.8	0.9
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.2	0.4
Blower 301 Frequency, Hz (CP-YIC-2)	15.1	15.6	15.9	15
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.7	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.4	3.3	3.9	3.2
Inlet Temp, DegF	52	53	54	55
Oxygen, %	0.1	0.4	0	0
Blower Speed, %	16	17	17	15
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	77	84	78	80
FLR Flame Temp, DegF	1306	1310	1161	1245
FLR Flow Press, In WC	1.4	1.5	1.3	1.3
FLR Flow Temp, DegF	56	65	61	63
Flow Rate, SCFM	69	71	66	66
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	73909	74076	74245	74413
Speed, %	16	17	17	15
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	56	65	61	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	69	69	66	66
Flame Temp, DegF	1335	1325	1163	1247
BLR Speed, %	16	17	17	15
Flow Pressure, In WC	1.4	1.5	1.3	1.3
Hour Meter	73909	74070	74238	74406

* ***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	69	71	66	67
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	2.11	2.82	0.61	1.32
Total Flow, MMSCF	356.68	357.39	358.1	358.82
Flow Press, In WC	1.4	1.5	1.3	1.3
Flow Temp, DegF	56	65	61	63
Flow Delta P, In WC	0.41	0.43	0.38	0.39
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.05	0.10	0.10	0.10
3 Day's Ago Flow, MMSCF	0.00	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.03	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	356.68	357.39	358.1	358.82
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	6/21/2022	6/28/2022	7/5/2022	7/12/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Cloudy
Ambient Temperature, deg F	75	65	75	65
Inlet Temperature, deg F (GHS-TI-301)	56	57	58	58
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)	0.2	0.3	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	64	62	64	63
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	9	11
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.4	1.2	1.0	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.1	0.9	0.8	0.8
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.2	0.2
Blower 301 Frequency, Hz (CP-YIC-2)	15.7	15.5	15	15.8
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.7	3.6
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.4	3.4	3.3	3.8
Inlet Temp, DegF	56	57	57	58
Oxygen, %	0.3	0.3	0.1	0
Blower Speed, %	17	16	16	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	85	83	83	79
FLR Flame Temp, DegF	1190	1100	1204	1247
FLR Flow Press, In WC	1.5	1.5	1.3	1.3
FLR Flow Temp, DegF	66	64	67	64
Flow Rate, SCFM	72	70	66	65
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	74580	74749	74916	75084
Speed, %	17	16	16	17
Vibration, In/Sec	0.00	0.00	0.00	0.00
Outlet Temp, DegF	66	65	67	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	72	69	66	66
Flame Temp, DegF	1203	1122	1153	1324
BLR Speed, %	17	16	16	17
Flow Pressure, In WC	1.5	1.5	1.3	1.3
Hour Meter	74574	74742	74910	75077

* ***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	67	65
Today's Total, MMSCF	0.03	0.04	0.03	0.03
This Month's Total, MMSCF	2.03	2.73	0.41	1.11
Total Flow, MMSCF	359.52	360.23	360.94	361.65
Flow Press, In WC	1.5	1.5	1.4	1.3
Flow Temp, DegF	66	65	67	64
Flow Delta P, In WC	0.45	0.43	0.38	0.38
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	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	0.10	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	359.52	360.23	360.94	361.65
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	7/19/2022	7/26/2022	8/2/2022	8/9/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	80	60	75	60
Inlet Temperature, deg F (GHS-TI-301)	59	60	60	61
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	3	4	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)	100.0	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	1
Discharge Temperature, deg F (GHS-TI-302)	64	63	64	64
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	8	12	15
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.3	1.4	1.3
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8	1.0	1.1	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.6	15.7	15.8	16
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.6	3.6	3.6
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.5	3.5	3.6	3.9
Inlet Temp, DegF	59	60	60	60
Oxygen, %	0.1	0.4	0.2	0.3
Blower Speed, %	17	17	17	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	83	82	81	79
FLR Flame Temp, DegF	1090	1111	1256	1195
FLR Flow Press, In WC	1.5	1.5	1.5	1.4
FLR Flow Temp, DegF	68	65	65	63
Flow Rate, SCFM	69	74	72	69
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	75253	75421	75524	75623
Speed, %	17	17	17	17
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	68	65	65	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	65	74	72	72
Flame Temp, DegF	1100	1094	1292	1210
BLR Speed, %	17	17	17	17
Flow Pressure, In WC	1.5	1.5	1.5	1.4
Hour Meter	75246	75414	75517	75616

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WEEKLY FLARE STATION INSPECTION FORM

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

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	66	73	72	68
Today's Total, MMSCF	0.04	0.04	0.03	0.03
This Month's Total, MMSCF	1.82	2.53	0.07	0.49
Total Flow, MMSCF	362.36	363.07	363.5	363.92
Flow Press, In WC	1.5	1.5	1.5	1.4
Flow Temp, DegF	68	65	65	64
Flow Delta P, In WC	0.42	0.47	0.46	0.41
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.00	0.00
3 Day's Ago Flow, MMSCF	0.10	0.10	0.00	0.00
4 Day's Ago Flow, MMSCF	0.10	0.10	0.06	0.05
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	362.36	363.07	363.5	363.92
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	8/16/2022	8/23/2022	8/30/2022	9/6/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Clear	Clear	Clear
Ambient Temperature, deg F	65	65	60	55
Inlet Temperature, deg F (GHS-TI-301)	61	61	60	60
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	4	4	3.5	3
Demister Filter Delta P (GHS-PDI-301)	0.2	0.3	0.2	0.2
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100.0	100
Discharge Pressure, In WC (GHS-PI-302)	1	1	1	0.8
Discharge Temperature, deg F (GHS-TI-302)	64	65	64	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	12	9	10	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.1	1.3	1.2	1.0
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.9	1.0	0.9	0.7
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	15.3	15.5	15.4	14.3
Blower 301 Current, Amps (CP-YIC-2)	3.6	3.6	3.6	3.6
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.4	3.3	3.3	3.1
Inlet Temp, DegF	61	61	62	61
Oxygen, %	0.3	0.3	0.2	0
Blower Speed, %	16	16	15	14
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	82	86	79	76
FLR Flame Temp, DegF	1201	1297	1272	1094
FLR Flow Press, In WC	1.4	1.5	1.2	1.2
FLR Flow Temp, DegF	65	67	66	62
Flow Rate, SCFM	69	74	62	62
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	75735	75854	75972	76139
Speed, %	16	16	15	14
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	65	67	66	62
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	69	74	73	63
Flame Temp, DegF	1190	1302	1195	1098
BLR Speed, %	16	16	15	14
Flow Pressure, In WC	1.4	1.5	1.2	1.2
Hour Meter	75728	75847	75965	76132

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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	69	74	68	62
Today's Total, MMSCF	0.03	0.04	0.04	0.03
This Month's Total, MMSCF	0.96	1.46	1.93	0.47
Total Flow, MMSCF	364.39	364.89	365.36	366.02
Flow Press, In WC	1.4	1.5	1.4	1.2
Flow Temp, DegF	65	67	66	62
Flow Delta P, In WC	0.42	0.47	0.41	0.34
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.04	0.03
2 Day's Ago Flow, MMSCF	0.00	0.00	0.00	0.10
3 Day's Ago Flow, MMSCF	0.00	0.06	0.04	0.09
4 Day's Ago Flow, MMSCF	0.10	0.10	0.09	0.09
5 Day's Ago Flow, MMSCF	0.10	0.07	0.08	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	364.39	364.89	365.36	366.02
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	9/13/2022	9/20/2022	9/28/2022	10/5/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	P. Cldy	Clear	Clear
Ambient Temperature, deg F	55	70	50	55
Inlet Temperature, deg F (GHS-TI-301)	60	61	58	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)	0.2	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	0.8	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	56	62	54	60
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	15	12
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	0.9	1.0	1.0	1
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.6	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)	14.1	13.5	15.7	13.7
Blower 301 Current, Amps (CP-YIC-2)	3.6	3.6	3.6	3.6
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	2.9	2.2	3.9	2.5
Inlet Temp, DegF	61	62	61	60
Oxygen, %	0	0	0	0
Blower Speed, %	14	13	17	13
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	72	78	70	73
FLR Flame Temp, DegF	1132	1289	1244	1311
FLR Flow Press, In WC	1.2	1.3	0.8	1.3
FLR Flow Temp, DegF	61	65	58	60
Flow Rate, SCFM	60	66	63	65
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	76096	76419	76612	76780
Speed, %	14	13	17	13
Vibration, In/Sec	0.0	0.0	0.0	0.0
Outlet Temp, DegF	61	65	58	60
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	61	66	63	65
Flame Temp, DegF	1125	1290	1291	1348
BLR Speed, %	14	13	17	13
Flow Pressure, In WC	1.2	1.3	0.5	1.3
Hour Meter	76289	76412	76605	76773

* ***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	60	66	63	64
Today's Total, MMSCF	0.03	0.03	0.03	0.03
This Month's Total, MMSCF	1.09	1.56	2.3	0.38
Total Flow, MMSCF	366.63	367.11	367.86	368.52
Flow Press, In WC	1.2	1.3	0.1	1.3
Flow Temp, DegF	61	65	58	60
Flow Delta P, In WC	0.32	0.39	0.34	0.36
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.03
2 Day's Ago Flow, MMSCF	0.10	0.09	0.09	0.10
3 Day's Ago Flow, MMSCF	0.09	0.09	0.09	0.09
4 Day's Ago Flow, MMSCF	0.09	0.06	0.09	0.09
5 Day's Ago Flow, MMSCF	0.06	0.00	0.10	0.09
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	366.63	367.11	367.86	368.52
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	10/12/2022	10/19/2022	10/26/2022	11/1/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Cloudy	Clear	Clear	Clear
Ambient Temperature, deg F	55	40	45	50
Inlet Temperature, deg F (GHS-TI-301)	60	56	59	56
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	2	2	2	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)	100.0	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)	67	58	60	63
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	9	9	10
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1	1.1	1.0	1.3
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.7	0.8	0.7	1.0
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	12.7	15.5	15.3	16
Blower 301 Current, Amps (CP-YIC-2)	3.6	3.6	3.6	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	1.6	3.1	3.7	3.6
Inlet Temp, DegF	62	60	59	58
Oxygen, %	0	0.1	0	0
Blower Speed, %	11	16	17	17
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	78	71	75	73
FLR Flame Temp, DegF	1248	1379	1349	1200
FLR Flow Press, In WC	1.3	0.1	1	0.1
FLR Flow Temp, DegF	72	64	69	67
Flow Rate, SCFM	63	73	69	66
* **BACK**			.	
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	76947	77115	77285	77425
Speed, %	11	16	17	17
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	72	64	69	67
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	63	73	69	66
Flame Temp, DegF	1276	1389	1377	1234
BLR Speed, %	11	16	17	17
Flow Pressure, In WC	1.3	0.1	0.7	0.1
Hour Meter	76940	77109	77278	77418

* ***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	63	72	69	66
Today's Total, MMSCF	0.03	0.03	0.04	0.03
This Month's Total, MMSCF	1.04	1.74	2.45	0
Total Flow, MMSCF	369.18	369.89	370.61	371.19
Flow Press, In WC	1.3	0.1	0.8	0.1
Flow Temp, DegF	72	64	69	67
Flow Delta P, In WC	0.35	0.46	0.41	0.37
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.04	0.04	0.03
2 Day's Ago Flow, MMSCF	0.09	0.10	0.11	0.10
3 Day's Ago Flow, MMSCF	0.09	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	0.09	0.10	0.09	0.10
7 Day's Ago Flow, MMSCF	0.09	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	369.18	369.89	370.61	371.19
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	11/8/2022	11/15/2022	11/22/2022	11/29/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Cloudy	Cloudy
Ambient Temperature, deg F	40	35	25	35
Inlet Temperature, deg F (GHS-TI-301)	55	54	52	52
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	4	4	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)	0.5	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	61	58	55	58
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	8	8	10	8
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.5	1.3	1.4	1.4
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.2	1.0	1.1	1.1
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	16.2	15.5	15.4	14.7
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.8	3.7
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	3.8	3.2	3.0	2.8
Inlet Temp, DegF	58	57	56	55
Oxygen, %	0.2	0.1	0	0
Blower Speed, %	18	16	16	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	75	73	73	74
FLR Flame Temp, DegF	1253	1557	1288	1355
FLR Flow Press, In WC	0.1	0.9	1.5	0.3
FLR Flow Temp, DegF	66	63	59	64
Flow Rate, SCFM	74	71	72	74
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	77593	77762	77931	78097
Speed, %	18	16	16	16
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	66	63	58	64
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	75	72	72	74
Flame Temp, DegF	1244	1533	1280	1355
BLR Speed, %	18	16	16	16
Flow Pressure, In WC	0.1	1	1.5	0.6
Hour Meter	77587	77755	77924	78090

* ***PUSH BUTTON***

WEEKLY FLARE STATION INSPECTION FORM

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

Run Clock	On	On	On	On
Pilot	Off	Off	Off	Off
SD Valve	Open	Open	Open	Open
Flame	On	On	On	On
Relight	Off	Off	Off	Off
Pilot	Ready	Ready	Ready	Ready
Vac Ramp	Off	Off	Off	Off
Forced Flow	Off	Off	Off	Off
* **BACK**				
* **FLOW DATA**				
Flow Rate, SCFM	75	72	72	73
Today's Total, MMSCF	0.04	0.04	0.04	0.03
This Month's Total, MMSCF	0.71	1.43	2.13	2.85
Total Flow, MMSCF	371.92	372.63	373.34	374.04
Flow Press, In WC	0.1	0.9	1.5	0.5
Flow Temp, DegF	66	63	58	64
Flow Delta P, In WC	0.48	0.44	0.44	0.46
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.04	0.04	0.04	0.03
2 Day's Ago Flow, MMSCF	0.10	0.10	0.11	0.10
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
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	371.92	372.63	373.34	374.04
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	12/6/2022	12/13/2022	12/20/2022	12/27/2022
Time	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Sky Conditions	Clear	Cloudy	Clear	Cloudy
Ambient Temperature, deg F	25	30	15	20
Inlet Temperature, deg F (GHS-TI-301)	50	50	48	47
Demister Inlet Valve Position, % Open (GHS-HV-301)	100	100	100	100
LFG Vacuum, In WC (GHS-PI-301)	5	4	4	3
Demister Filter Delta P (GHS-PDI-301)	0.3	0.3	0.3	0.3
Blower 301 Inlet Valve Position, % Open (GHS-FCV-301)	100	100	100	100
Discharge Pressure, In WC (GHS-PI-302)	0.5	0.5	0.5	0.5
Discharge Temperature, deg F (GHS-TI-302)	55	56	50	49
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	10	8	8	9
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1.3	1.3	1.3	1.8
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	1.0	1.0	1.0	1.5
Flame Arrester Delta P, In WC (FLR-PI-301)	0.3	0.3	0.3	0.3
Blower 301 Frequency, Hz (CP-YIC-2)	16.6	15.3	16.2	15.4
Blower 301 Current, Amps (CP-YIC-2)	3.7	3.7	3.7	3.9
YIC-1 From Main Menu Screen				
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.2	3.0	3.7	2.4
Inlet Temp, DegF	54	53	52	51
Oxygen, %	0.1	0	0	0
Blower Speed, %	18	16	17	16
Blower Vibration, In/Sec	0	0	0	0
CP Temp, DegF	69	72	58	59
FLR Flame Temp, DegF	1240	1272	1211	1310
FLR Flow Press, In WC	0.1	1.2	0.1	0.2
FLR Flow Temp, DegF	60	61	56	53
Flow Rate, SCFM	67	73	67	72
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run	Run	Run	Run
Run Time, Hr	78265	78433	78602	78706
Speed, %	18	16	17	16
Vibration, In/Sec	0	0	0	0
Outlet Temp, DegF	60	61	56	53
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	67	73	67	72
Flame Temp, DegF	1250	1279	1295	1339
BLR Speed, %	18	16	17	16
Flow Pressure, In WC	0.1	1.2	0.1	0.2
Hour Meter	78258	78427	78595	78699

* ***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	73	67	72
Today's Total, MMSCF	0.03	0.03	0.03	0.04
This Month's Total, MMSCF	0.51	1.22	1.92	2.37
Total Flow, MMSCF	374.75	375.47	376.17	376.62
Flow Press, In WC	0.1	1.2	0.1	0.2
Flow Temp, DegF	60	61	56	53
Flow Delta P, In WC	0.38	0.46	0.38	0.44
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.03	0.03	0.03	0.04
2 Day's Ago Flow, MMSCF	0.11	0.10	0.10	0.00
3 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.00
4 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.07
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	0.11
7 Day's Ago Flow, MMSCF	0.10	0.10	0.10	0.10
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	374.75	375.47	376.17	376.62
Reset Time	-	-	-	-
Reset Date	-	-	-	-
* **BACK & * BACK**				

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

Comments: Drained Condensate

Signature: Kevin S. Fabel

* ***PUSH BUTTON***

Appendix B

Semi-Annual Flare Station Maintenance Reports

SEMI-ANNUAL INSPECTION AND MAINTENANCE FORM
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Tom Hobday

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

Item	*Date Performed*	*Comments*
BLOWER/FLARE SYSTEM		
- Check igniter gap (should be 0.1" - regap if necessary).	4/25/2022	gap is correct
- Verify that the spark is at the tip of the igniter.	4/25/2022	good spark
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	4/25/2022	wiring in good shape
- Test pilot switch to verify pilot lights and it doesn't blow out.	4/25/2022	pilot has strong flame
- Check thermocouple voltage to verity the temperature reading.	4/25/2022	4.5 mv @ 270 deg F, ok 28.2 mv @ 1270 deg F, good
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	4/25/2022	breaker to off, vfd fault works
- Zero out all pressure, differential pressure, and vacuum gauges	4/25/2022	All zeroed
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	4/25/2022	All ok, logged on set point form
- Verify flow transmitter calibration (via differential pressure).	4/25/2022	0.0" @ 0 cfm 0.42" diff @ 70 cfm, calibration is good
- Calibrate oxygen sensor.	4/25/2022	10+ mv @ ambient, sensor in good shape
- Remove demister sump clean-out cover and remove any accumulated debris	4/25/2022	sump is clean and dry
- If pressure drop across the demister reaches two times (2X) the original value, remove demister element for inspection. (pressure wash element as necessary).	4/25/2022	Removed element, clean and dry
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	4/26/2022	filled with water, works
- Test the pilot fail shutdown (turn off propane supply)	4/25/2022	propane off, works
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	4/25/2022	adjusted PLC 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.)	4/25/2022	opened valve to atmosphere, shutdown works
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	4/25/2022	throttled valve, adjusted timer, works
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	4/25/2022	Lowered timer, tapped sensor, shutdown works. Sensor was loose on mount, tightened
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	4/25/2022	Closed nitrogen tank, works
- Test the high inlet temperature failure (adjust PLC setpoint)	4/25/2022	Adjusted PLC setpoint, works
- Test the high vacuum shutdown (adjust PLC setpoint)	4/25/2022	Adjusted PLC setpoint, 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.	4/26/2022	all ok
- Inspect and clean the solenoid valve.	4/26/2022	working well
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	4/26/2022	
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	4/26/2022	all tight
- Check for loose bolts on structure and flanges. Tighten, as necessary.	4/26/2022	
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	4/25/2022	
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	4/25/2022	Removed/inspected element. Clean and dry
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	4/26/2022	bearings and grease in good shape

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).	10/22/2022	Gap good
- Verify that the spark is at the tip of the igniter.	10/22/2022	spark at tip
- Inspect igniter wiring for heat damage, worn insulation and frayed wires.	10/22/2022	Wire in good shape
- Test pilot switch to verify pilot lights and it doesn't blow out.	10/22/2022	good strong flame
- Check thermocouple voltage to verity the temperature reading.	10/21/2022	32.0 mv @ 1425 deg F 4.5 nmv @ 271 deg F ok
- Test blower and safety shutoff operation. The blower contactor/blower start operation and safety shutoff valves shall be fully tested.	10/22/2022	Breaker off, shutdown works
- Zero out all pressure, differential pressure, and vacuum gauges	10/21/2022	all zeroed
- Check all components on the "set point sheet" to verify they have not changed. Make adjustments, if necessary.	10/22/2022	set points all correct
- Verify flow transmitter calibration (via differential pressure).	10/21/2022	0.47" DP @ 73 cfm (1.0" flow pres) - good 0.0" @ 0 cfm - good
- Calibrate oxygen sensor.	10/21/2022	10+ mv at ambient
- Remove demister sump clean-out cover and remove any accumulated debris	10/20/2022	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).	10/20/2022	Element is clean and dry
- Test demister condensate level switch (close level switch hand valve, and add water via tee to verify operation)	10/21/2022	filled with water, works
- Test the pilot fail shutdown (turn off propane supply)	10/21/2022	Works
- Test the high outlet temperature shutdown while the flare is operating. (adjust PLC setpoint)	10/21/2022	Adjusted PLC 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.)	10/20/2022	Opened to atmosphere, works
- Test the low flow safety shutdown. (throttle blower inlet valve while in vacuum control)	10/21/2022	Throttled valve, adjusted timer, works
- Test Blower Vibration alarm and shut down (adjust PLC setpoint)	10/21/2022	adjusted timer, tapped on sensor, works
- Test the inlet valve fail close shutdown while flare is operating. (closed nitrogen supply)	10/21/2022	Closed nitrogen, works
- Test the high inlet temperature failure (adjust PLC setpoint)	10/21/2022	Adjusted setpoint, works
- Test the high vacuum shutdown (adjust PLC setpoint)	10/21/2022	Adjusted setpoint, works
- Test the low temperature shutdown. (adjust PLC setpoint)	NA	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.	10/21/2022	All good
- Inspect and clean the solenoid valve.	10/21/2022	solenoid valve in good shape
- Visually inspect for arcing contractor points. Check switches and contactors (annual).	10/21/2022	No arcing noted
- Re-torque all electrical components. Double check at the thermocouple leads and the main power feed going to the blower (annual).	10/21/2022	All good
- Check for loose bolts on structure and flanges. Tighten, as necessary.	10/21/2022	All tight
- Remove, inspect, and clean if necessary air conditioner filter (semi-annually)	10/21/2022	Filter clean. AC unit turned off for winter
- Remove and inspect flame arrestor element (annually - or based on diff. pressure).	10/22/2022	flame arrestor clean and dry
- Grease blower bearings - remove old grease, re-pack bearing per manufacturer specifications	10/22/2022	Bearings flushed well

DAILY FLARE STATION DATA LOG

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

Tester	T. Hobday		T. Hobday	
Date	4/25/22		10/20/22	
Time	15:00		8:50	
Sky Conditions	cloudy		p. cldy	
Ambient Temperature, deg F	37°F		38°F	
Inlet Temperature, deg F (GHS-TI-301)	48°F		56°F	
Demister Inlet Valve Position, % Open (GHS-HV-301)	100%		100%	
LFG Vacuum, In WC (GHS-PI-301)	3.5"		2.0"	
Demister Filter Delta P (GHS-PDI-301)	0.2"		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)	60°F		62°F	
Propane Pilot Supply Pressure, In WC (GHS-PI-101)	9"		10"	
Flame Arrester Inlet Pressure, In WC (FLR-PI-301)	1"		1.0"	
Flame Arrester Outlet Pressure, In WC (FLR-PI-301)	0.8"		0.9"	
Flame Arrester Delta P, In WC (FLR-PI-301)	0.2"		0.2"	
Blower 301 Frequency, Hz (CP-YIC-2)	17.3 Hz		14.5 Hz	
Blower 301 Current, Amps (CP-YIC-2)	3.8 A		3.7A	
GEM data				
CH4 %	N/A		36.4	
O2 %			0.4	
CO2 %			31.1	
Vacuum "WC				

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

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

YIC-1 From Main Menu Screen	4/25/22		10/20/22	
ANALOG DATA MENU				
* **PROCESS OVERVIEW**				
Inlet Vacuum, In WC	4.7"		2.7"	
Inlet Temp, DegF	48°F		59°F	
Oxygen, %	0.0%		0.0%	
Blower Speed, %	20%		15%	
Blower Vibration, In/Sec	0.00"/sec		0.00"/sec	
CP Temp, DegF	69°F		64°F	
FLR Flame Temp, DegF	1270°F		1315°F	
FLR Flow Press, In WC	1.3"		0.1"	
FLR Flow Temp, DegF	64°F		66°F	
Flow Rate, SCFM	69 cfm		67 cfm	
* **BACK**				
* **BLOWER DATA**				
Status, Run/Stop	Run		Run	
Run Time, Hr	73272 hrs		77140 hrs	
Speed, %	20%		15%	
Vibration, In/Sec	0.00"/sec		0.00"/sec	
Outlet Temp, DegF	64°F		66°F	
* **BACK**				
* **FLARE DATA**				
Flow Rate, SCFM	69 cfm		67 cfm	
Flame Temp, DegF	1258°F		1294°F	
BLR Speed, %	20%		15%	
Flow Pressure, In WC	1.3"		0.1"	
Hour Meter	73266 hrs		77133 hrs	
Run Clock	On		On	
Pilot	Off		Off	

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

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

	4/25/22		10/20/22	
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	69 cfm		67 cfm	
Today's Total, MMSCF	0.0608370		0.0380116	
This Month's Total, MMSCF	2.430382		1.846188	
Total Flow, MMSCF	353.996		369.995	
Flow Press, In WC	1.3"		0.1"	
Flow Temp, DegF	64°F		66°F	
Flow Delta P, In WC	0.42"		0.40"	
* **7 DAY FLOW HISTORY**				
Yesterday's Flow, MMSCF	0.0608370		0.0380116	
2 Day's Ago Flow, MMSCF	0.1024974		0.1031576	
3 Day's Ago Flow, MMSCF	0.1047531		0.0994887	
4 Day's Ago Flow, MMSCF	0.0968476		0.1028569	
5 Day's Ago Flow, MMSCF	0.1013847		0.0992624	
6 Day's Ago Flow, MMSCF	0.0993918		0.1027616	
7 Day's Ago Flow, MMSCF	0.1008178		0.1012058	
* **BACK**				
* **RESETTABLE FLOW**				
Resettable Total Flow, MMSCF	3.53997e		3.69995e	
Reset Time	0:0:0		0:0:0	
Reset Date	0/00/00		0/00/00	
* **BACK**				

* ***PUSH BUTTON***

DAILY FLARE STATION DATA LOG

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

* **BACK**				

* ***PUSH BUTTON***

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

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

Description	Setpoint	DATE	Setpoint	DATE
SETPOINT MENU		4/25/22		10/20/22
* **VACUUM/FLOW**				
Vacuum/Flow	Flow	4/25/22	Flow	10/20/22
* **MANUAL/AUTO**				
Min % Speed	10 %	4/25/22	10 %	10/20/22
Auto/Manual	Auto	↓	Auto	↓
Manual % Speed	20%	↓	20 %	↓
* **BACK**				
* **VACUUM CONTROL**				
* **SETPOINTS**				
Setpoint, In WC	3.8 "	4/25/22	2.9 "	10/20/22
Ramp Incriment, In WC	4.0 "	↓	4.0 "	↓
* **BACK**				
* **PID SPs**				
Gain	2.50	4/25/22	2.50	10/20/22
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	4/25/22	70 cfm	10/20/22
* **BACK**				
* **PID SETPOINTS**				
Gain	0.80	4/25/22	0.80	10/20/22
Sample Rate, Sec	0.70 sec	↓	0.70 sec	↓
Derative, Sec	0.01 sec	↓	0.01 sec	↓
Reset, Sec/Min	1.10 sec	↓	1.10 sec	↓
Deadband, SCFM	5 cfm	↓	5 cfm	↓
* **BACK**				
* **BACK**				
* **BACK**				
* **FLARE MENU**				

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

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

* **START SPs**		4/25/22		10/20/22
Pilot Enable, Secs	120 sec		120 sec	
Pilot On Squence, Secs	10 sec		10 sec	
Pilot Off Squence, Secs	3 sec		3 sec	
Delay Blower Start, Secs	3 sec		3 sec	
Delay Shutdown Valve Open, Secs	3 sec	↓	3 sec	↓
* **BACK**				
* **PILOT**				
FLR Pilot Assumed on Above This Temp, DegF	250°F	4/25/22	250°F	10/20/22
* **BACK**				
* **FLR RUN CLOCK**				
Start Time of Day, Hr.Min	0.00	4/25/22	0.00	10/20/22
On Cycle Duration, Mins	1440		1440	
Off Cycle Duration, Mins	1		1	
Cycles per Day	1	↓	1	↓
* **BACK**				
* **BACK**				
* **FLOW CALC**				
CH4%	33.0%	4/25/22	36.4%	10/20/22
O2%	0.1%		0.1%	
CO2%	32.5%		31.1%	
Elevation, Ft	1,225'		1225'	
Manual Input	0.975	↓	0.975	↓
* **BACK**				
* **OXYGEN CALIBRATION** 1703-	3048	1703-	3048	
* **BACK**				
* **ALARMS & SHUTDOWNS**				
* **INLET MENU**				
* **HIGH VACUUM**				
Alarm SP, In WC	52.0"	4/25/22	52.0"	10/20/22
Alarm Delay, Sec	45 sec		45 sec	
Shutdown SP, In WC	55.0"		55.0"	
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **INLET TEMPERATURE**				
Alarm SP, DegF	98°F	4/25/22	98°F	10/20/22

FLARE SYSTEM SETPOINTS

All Setpoints depend on Biogas Pressure and Flow

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

Alarm Delay, Sec	45 sec	4/25/22	45 sec	10/20/22
Shutdown SP, DegF	100°F	↓	100°F	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **BACK**				
* **FLT-301 COND LEVEL**				
Shutdown Delay, Sec	35 sec	4/25/22	35 sec	10/20/22
* **BACK**				
* **BLOWER MENU**				
* **VIBRATION**				
Alarm SP, In/S	0.18 "/sec	4/25/22	0.18"/sec	10/20/22
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, In/S	0.20 "/sec	↓	0.20"/sec	↓
Shutdown Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **HIGH OUTLET GAS TEMP**				
Alarm SP, DegF	170°F	4/25/22	170°F	10/20/22
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				
Alarm Delay, Sec				
Shutdown SP, DegF				
Shutdown Delay, Sec				
* **BACK**				
* **LOW FLAME TEMP**				
Alarm SP, DegF locked	150°F	4/25/22	150°F	10/20/22
Alarm Delay, Sec	45 sec	↓	45 sec	↓
Shutdown SP, DegF locked	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 locked	220 cfm	4/25/22	220 cfm	10/20/22
Alarm Delay, Sec	45 sec	↓	45 sec	↓
* **BACK**				
* **LOW FLOW RATE**				
Alarm SP, SCFM locked	35 cfm	4/25/22	35 cfm	10/20/22
Alarm Delay, Sec	35 sec	↑	35 sec	↑
Shutdown SP, SCFM locked	30 cfm	↑	30 cfm	↑
Shutdown Delay, Sec	35 sec	↓	35 sec	↓
* **BACK**				
* **FLARE RELIGHT**				
Relight Delay, Secs	600 sec	4/25/22	600 sec	10/20/22
Number of Relight Attempts	3	↓	5 3	↓
* **BACK**				
* **BACK**				
* **OXYGEN SENSOR**				
* **HIGH OXYGEN OE-301**				
Alarm SP, %	3.5%	4/25/22	3.5%	10/20/22
Alarm Delay, Sec	120 sec	↑	120 sec	↑
Shutdown SP, %	5.0%	↑	5.0%	↑
Shutdown Delay, Sec	120 sec	↓	120 sec	↓
* **BACK**				
* **BACK**				
* **UTILITY OUTAGE RESTART DELAY**				
System Restart Delay, Secs	60 sec	4/25/22	600 sec	10/20/22
* **BACK**				
* **PANEL TEMP**				
Low Temp Alarm SP, degF	35 °F	4/25/22	35 °F	10/20/22
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: 1.25.22

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 8" of Snow on-site

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 2/15/22

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:

* Back-up UPS Battery Power Supply is shot. Needs to be replaced during April 2022 GHD Visit

** About 10" of snow on site

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 3/28/22

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:

All Snow on Site gone - Still wet

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Farrer

Date: 4.12.22

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:

Backup Battery Supply will be replaced by Tom - GHD on Mon 4/25.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 5-3-22

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 has greened up & growing good.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 6.7.22

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:

Side Hill grass ready to be mowed - will talk to DPW.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 7.12.22

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:

* Side Hill needs to be mowed - Scheduled for end of this Month. Grass / Some taller weeds.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 8.9.22

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:

Side Hill recently mowed - Looks Good.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector Kevin Faber

Date: 9.13.22

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:

Saw 5 Heard 1st Migrating GEESE today.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 10.20.22

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 - Gmd conducted Semi Annual PM & October Monthly Monitoring today - Also Repaired valve on EW-35.

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Fasor

Date: 11.8.22

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:

Days warm start to November

6 days 60°+ 3 days 70°+

LANDFILL SITE INSPECTION
FORMER HOLTZ KRAUSE LANDFILL

Inspector: Kevin Faber

Date: 12.6.22

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 3" of snow on site in late Nov.

Site snow free today.