

10 January 2020

TECHNICAL MEMORANDUM

TO: Northeast Maryland Waste Disposal Authority and the Montgomery County
Department of Environmental Protection, Division of Solid Waste Services

FROM: Laura Jo Oakes, P.E., BCEE, EA Project Engineer

SUBJECT: Remediation Design – Landfill Gas Investigation – DRAFT-FINAL
Gude Landfill, Montgomery County, Maryland
EA Project No. 15646.01

1. INTRODUCTION

EA Engineering, Science, and Technology, Inc., PBC (EA) is currently preparing the design for the Maryland Department of the Environment-approved Corrective Measure Alternative, toupee capping and additional landfill gas (LFG) collection, specifically identified in the Northwest, West, and Southwest Areas at the Gude Landfill (the Landfill). The purpose of this Technical Memorandum is to summarize the LFG system investigation that has been performed to aid in the redesign of the LFG collection system and to make immediate improvements as necessary.

2. BACKGROUND

Gude Landfill was used by the Montgomery County Department of Environmental Protection, Division of Solid Waste Services (the County) for municipal solid waste disposal between 1965 and 1982. The 120-acre site is located at 600 East Gude Drive in Rockville, Maryland. The site is bordered to the east by industrial operations, to the south by Gude Drive, to the west by the community of Derwood, and to the north by Maryland-National Capital Park and Planning Commission land. The original LFG collection system and landfill gas-to-energy facility (LFGE) at the Landfill became operational in 1985, with the enclosed flares installed in 2005, and expansion of the collection system occurring through 2008. The current LFGE system was installed and connected to the grid in 2009, and subsequently ceased operations on June 1, 2017.

Operational data utilized for this investigation were provided by the County's current contractor, APTIM (formerly CB&I Environmental & Infrastructure, Inc. [CB&I]), as well as historical data and as-built documentation from SCS Engineers that were provided by the County.

3. EXISTING LFG MANAGEMENT SYSTEM INFRASTRUCTURE

The existing LFG management system at the Landfill consists of a network of vertical LFG extraction wells, with mainly above-grade polyvinyl chloride conveyance piping. There are three known sumps within the system for the collection of condensate, which are periodically pumped

out, as necessary. LFG is currently flared at one of two enclosed flares, located adjacent to the LFGE system, which recently ceased operations.

3.1 EXTRACTION WELL NETWORK

Based on the information available, there are currently 116 LFG extraction wells, 104 of which were monitored for LFG quality monthly, as of April 2018 (Appendix A). In 2015, CB&I performed a detailed review of the system and noted known total depth, depth to water, well head type (orifice plate or pitot tube), and general condition comments regarding each well. No recent operational data were provided for EW-13, EW-14, EW-49, EW-59, and EW-155. Extraction wells EW-40, EW-41, EW-43, and EW-44 were decommissioned in February 2018 due to the anticipated Purple Line Stockpile project. Based on the field investigation performed by EA on March 5, 2019, extraction wells EW-19 and EW-20 were also abandoned.

3.2 EXISTING BLOWERS AND ENCLOSED FLARES

Three 20-horsepower blowers, each rated for 600 standard cubic feet per minute (scfm) at 60 inches of water column, are utilized to convey LFG from the collection system to two enclosed flares. The enclosed flares are each rated for 600 scfm at 50 percent methane. In the event that methane is less than 30 percent, propane is onsite and can be supplemented, as necessary. The existing permit to construct and the as-built drawings for the enclosed flares are included in Appendix B. As part of the LFGE project, a butterfly valve and line were installed to direct LFG to the pretreatment skid associated with the LFGE system. It is EA's understanding that this valve was closed June 1, 2017, as part of the LFGE plant shutdown that occurred. The following repairs were also made in April through June 2019 to the two enclosed flares:

- The burner assemblies were replaced. The new burner assemblies included replacement and/or modification of the
 - Main burner,
 - Burner arms,
 - Pilot assembly with ignitor, and
 - Bolts and gaskets were modified, too.
- New fire decks were installed for internal air flow control
- Louver assemblies were replaced. The new louver assemblies' modification included an automation feature.
- New thermocouples were installed.
- New ultraviolet sensors were installed.
- New air flow sensors were installed.

Also, the following modifications were made to the piping between the enclosed flares and the blower skid:

- For each flare inlet, the modifications included the installation of:
 - New flex coupling,
 - New manual isolation valve,
 - New fail closed electric modulating valve, and
 - New flame arrester element with gaskets.
- The piping modifications included:
 - Carbon steel flow span piping for each enclosed flare, and
 - Two thermal dispersion flow meters for each enclosed flare.

The modifications to the piping between the enclosed flares and the blower skid also included a new oxygen (O₂) sensor to shut the system if the O₂ content exceeds 4 percent. Also, there is updated programming to operate the modulating valves and O₂ sensor and to receive two flow signals.

3.3 EXISTING CONDENSATE MANAGEMENT

It is EA's understanding that condensate is currently managed with the use of three sumps, several condensate traps, and at least one self-draining condensate trap that currently drains back to the Landfill. Additionally, there is a condensate knockout located at the blower skid that drains to a below-grade condensate sump within the fenced area for the enclosed flares.

Based on information provided by APTIM (previously CB&I) and reviewed as-built documentation, the following sumps are utilized to manage condensate:

1. Flare Sump—is located close to the plant where the condensate drains to the sump by gravity from the flare and knockout.
2. Inlet Sump—a sump is located at the inlet to the LFG plant that is below grade with a pneumatic pump.
3. Sump A—located between the Inlet Sump and Sump B, has an estimated depth of 16.5 feet. Based on APTIM's inspections throughout the years, this sump has historically not contained condensate.
4. Sump B—is located near the center of the existing well field with an estimated depth of 12 feet. APTIM noted that the connections to the sump are below grade and include a valve with an extended stem for operations.

4. EXISTING LFG MANAGEMENT SYSTEM OPERATIONAL DATA

As part of this investigation, a review of operational data was performed. The intent of the review was to determine which LFG extraction wells:

1. Produce methane greater than 30 percent by volume,
2. Contain oxygen greater than 5 percent by volume, or
3. Contain water.

It is anticipated that the County will continue to utilize the two enclosed flares only and not pursue operation of the LFG system. The enclosed flares were operating at a median percent methane concentration of 36 and median flow of 501 scfm as of April 2018. Enclosed flares typically require methane to be 30 to 50 percent by volume, with oxygen less than 5 percent by volume.

Table 1 summarizes the LFG extraction wells which had median methane concentrations of 30 percent or greater (from the period of November 2017 through April 2018) and did not have water when gauged historically. There were 20 LFG extraction wells total, which fit this criterion. Wells with oxygen recorded at least once at a volume greater than 5 percent are denoted with an “*” symbol.

Similarly, **Table 2** identifies LFG extraction wells which have median methane concentrations of 30 percent or greater; however, these wells have water recorded within the LFG extraction well. There were 35 LFG extraction wells total, which fit this criterion.

Table 3 summarizes the LFG extraction wells which have median methane concentrations of 30 percent or greater (from the period of November 2017 through April 2018), but in the past were unable to be gauged and, therefore, the presence of water is unknown. There were nine LFG extraction wells total that fit this criterion.

There were many LFG extraction wells which had median methane below 30 percent by volume and water or below 30 percent methane and no water. **Tables 4 and 5** present these LFG extraction wells, respectively.

There were also LFG extraction wells that in the past were not able to be gauged for water and/or total depth that also had a median methane less than 30 percent methane. These wells are presented in **Table 6**.

Twenty wells were selected for further investigation to confirm the reuse potential based on the limited data available (water level, methane and/or oxygen content) for the wells and where they are located. **Table 7** summarizes the results (water level, methane and oxygen content) from the investigation of the LFG extraction wells performed by EA and APTIM on March 5, 2019.

Figure 1 shows the wells identified in **Tables 1 through 7** for consideration during the re-design of the LFG collection system for the remediation design.

5. EXISTING LFG MANAGEMENT SYSTEM CONDITION ASSESSMENT

In order to assess the condition of the existing LFG management system, EA reviewed operational information/comments, as well as photo documentation from the County's current LFG contractor, APTIM (Appendix C). A supplemental field investigation was performed on March 5, 2019, to inspect the condition of extraction wells with low methane that are in an area where a new LFG extraction well would be required, as well as some of the sumps that are to be abandoned. In general, the above-grade LFG system components, including well heads, conveyance piping, and appurtenances, are aged to the point of near or actual failure. Many of the components are glued together, which makes maintenance extremely difficult. It is the intent that as part of the remediation design, the above-grade components of the system will be replaced completely; therefore, an additional inspection of LFG extraction wells, well heads, gas conveyance piping, associated sumps, vaults, flanges, and the piping and infrastructure associated with providing gas to the two enclosed flares is not planned.

6. EXISTING LFG WELL CONDITION ASSESSMENT

EA personnel, with the assistance of APTIM's site manager, conducted a field investigation to assess the current condition of 20 selected LFG extraction wells. The wells were investigated for the presence of water, percent of methane, and oxygen in the wells to evaluate the potential to utilize these LFG extraction wells as part of the proposed LFG collection system. During the site visit it was determined that among those wells, 17 wells were able to be accessed; two wells (EW-19 and EW-20) were decommissioned and abandoned; and cap on the well EW-14 was tightly sealed during the visit and would have needed to be cut off for access. However, historically well EW-14 has not been connected to the existing LFG collection network. The complete well inspection logs and photo logs are provided in Appendix D and Appendix E, respectively.

Based on the investigation, all 17 wells had water in the well ranging between 0.0 and 34.8 feet. Only two wells EW-16 (50.4 percent) and EW-157 (52.6 percent) were detected with methane concentration greater than 30 percent and oxygen concentration less than 5 percent based on the March 2019 monitoring data provided by APTIM. However, between October 2018 and March 2019 methane has also been detected above 30 percent in extraction wells EW-4 (10.7 to 66.4 percent; three times), EW-6 (19.7 to 36.1 percent; three times), and EW-100 (5.9 to 55.6 percent; four times) during two or more events (Appendix A). Based on the available water depth, methane concentration, and oxygen concentration data for the investigated wells, four wells—EW-4, EW-16, EW-100, and EW-157—are suitable to be modified and connected with the proposed below-grade LFG collection system. It is EA's recommendation to abandon the remaining 13 existing extraction wells—EW-3, EW-6, EW-7, EW-9, EW-11, EW-12, EW-106, EW-114, EW-116, EW-133, EW-134, EW-135, and EW-147 due to methane being detected in these wells less than the 30 percent threshold. In addition, existing extraction wells EW-13, EW-14, EW-49, EW-59, and EW-155 are proposed to be abandoned since there is no operational data or construction data available.

7. PROJECTED LANDFILL GAS GENERATION AND COLLECTION

As part of the investigation, EA performed a LandGEM model analysis to evaluate LFG generation. The County used historical disposal records to estimate waste placement from 1964 until closure of the Landfill in 1982 (Appendix F). This information along with the existing operation of the LFG management system were used as part of this analysis.

The U.S. Environmental Protection Agency's (EPA) LandGEM is a Microsoft Excel-based software application that uses a first-order decay rate equation to calculate estimates for methane and LFG generation. LandGEM was used to calculate expected LFG generation at the Landfill using the following assumptions:

- Waste placement amount based on the historical waste disposal records (Appendix F; **Table 7**).
- Methane generation rate (k, year-1): 0.04 as recommended in EPA AP-42 Chapter 2.4.
- Potential methane generation capacity (L0, m³/Mg): 100 as recommended in EPA AP-42 Chapter 2.4.

Estimated LFG generation rates were then compared with the logged field data collected by APTIM (**Table 8**) to estimate the collection efficiency, as presented in **Table 9**. It was determined that the current collection efficiency is approximately 75 percent.

The Solid Waste Industry for Climate Solutions (2009) compiled data on field studies of methane flux where collection efficiency was or could be calculated and presented in the bullets below:

- 50 to 70 percent (mid-range default = 60 percent) for a landfill or portions of a landfill that are under daily soil cover with an active LFG collection system installed;
- 54 to 95 percent (mid-range default = 75 percent) for a landfill or portions of a landfill that contain an intermediate soil cover with an active LFG collection system;
- 90 to 99 percent (mid-range default = 95 percent) for landfills that contain a final soil and/or geomembrane cover systems with an active LFG collection system

The overall collection efficiency of an LFG collection system is primarily affected by the cover material. Gude Landfill was covered with 2 feet of soil and stabilized with vegetation. Cover thickness on side slopes may be less. With the closure design considered as the toupee capping on top and northwest side slope of the Landfill with geomembrane cover system and three other side slopes left unlined, the collection efficiency is expected to increase. However, the LFG generation will decrease continuously. It is reasonable to assume that the current collection and flare system will be sufficient to control LFG collected after installation of the toupee capping system.

8. CONCLUSIONS

Based on the LFG investigations performed, the following approach is to be used for the basis of design:

- All above-grade components of the LFG management system (piping, well heads, etc.) are to be replaced as part of the design.
- Collection system piping will be buried within the toupee cap, with the exception of existing wells outside of the cap which will be buried within the existing cover.
- Condensate traps and sumps will be abandoned or removed within the Landfill cap. Condensate will be managed with condensate drains.
- Existing LFG extraction wells with high methane (greater than 30 percent) will be modified and not abandoned.
- Existing LFG extraction wells with low methane and no water will be abandoned and replaced as required for adequate coverage.
- Existing LFG extraction wells with low methane and water, or that have unknown depths of water, will be abandoned, unless they are in an area where a LFG extraction well is required for coverage and it was determined during the March 5, 2019, investigation to be viable for future use.
- Existing LFG extraction wells with high methane and water will be modified, and dedicated pumps will be installed in wells with greater than 15 feet of water to facilitate dewatering.
- The enclosed flares and blower appear to be sized appropriately, but consideration for a smaller flare and/or blowers may be required in the future as LFG flow continues to decrease.

Attachments

Figure

- 1 Landfill Gas Extraction Wells Operational Status

Tables

- 1 LFG Extraction Wells with High Methane and No Water
- 2 LFG Extraction Wells with High Methane and Water
- 3 LFG Extraction Wells with High Methane and Unknown Depth/Water

- 4 LFG Extraction Wells with Low Methane and No Water
- 5 LFG Extraction Wells with Low Methane and Water
- 6 LFG Extraction Wells with Low Methane and Unknown Depth/Water
- 7 Investigated LFG Extraction Wells
- 8 Landfill Historical Waste Disposal
- 9 November 2017 through April 2018 Recorded LFG Flow
- 10 LandGEM Results with 75 Percent Collection Efficiency

Appendices

- A Current Operational Data
- B Construction Permit and As-Built Drawings
- C CB&I-Provided Information
- D Well Inspection Logs
- E Field Investigation Photo Logs
- F Historical Disposal Records

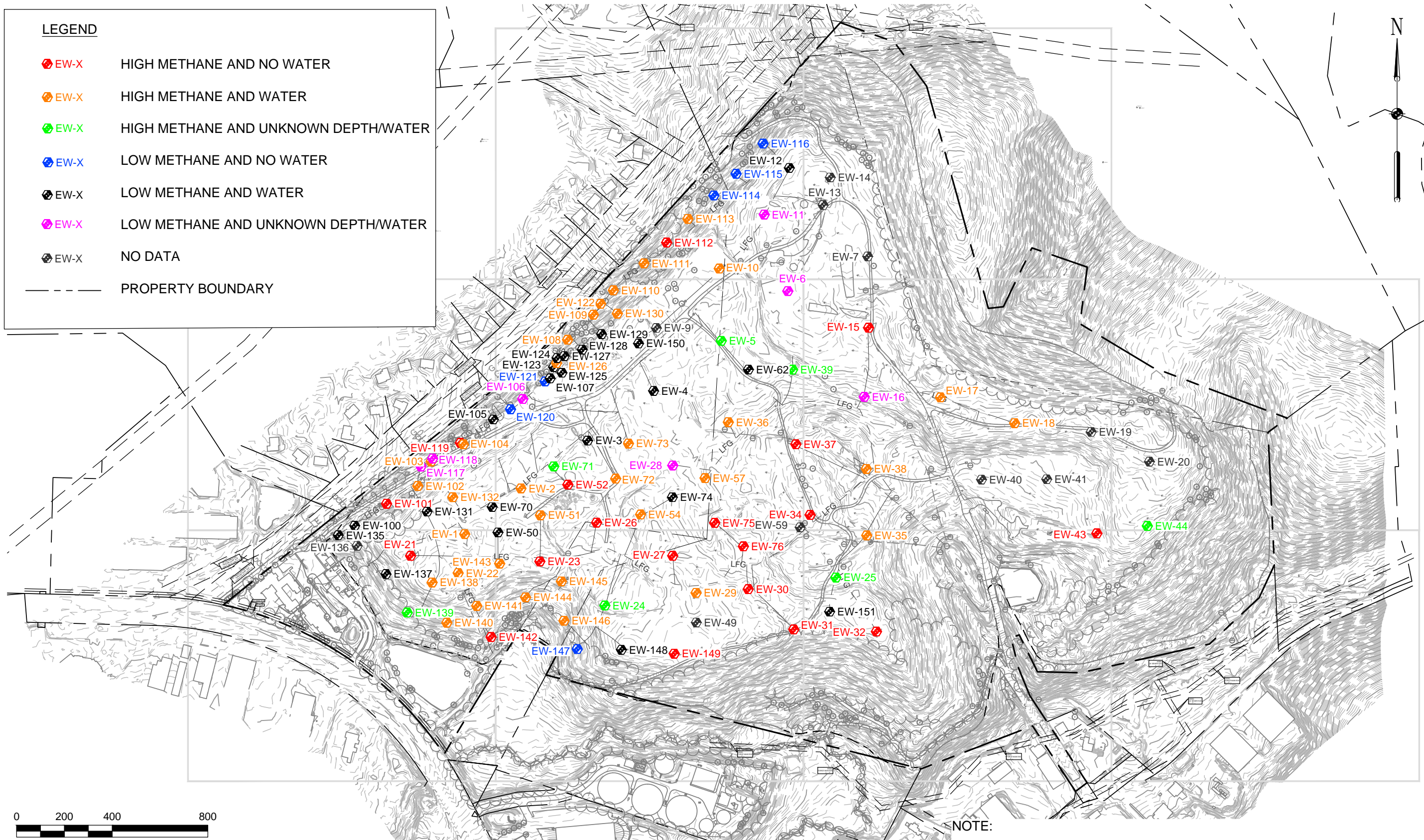
Figure

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LEGEND

- ◆ EW-X HIGH METHANE AND NO WATER
- ◆ EW-X HIGH METHANE AND WATER
- ◆ EW-X HIGH METHANE AND UNKNOWN DEPTH/WATER
- ◆ EW-X LOW METHANE AND NO WATER
- ◆ EW-X LOW METHANE AND WATER
- ◆ EW-X LOW METHANE AND UNKNOWN DEPTH/WATER
- ◆ EW-X NO DATA
- PROPERTY BOUNDARY



NOTE:
1. EW-40, EW-41, EW-43, AND EW-44 DECOMMISSIONED FEBRUARY 2018.



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|----------------------------|---------------------|----------------------|--------------------|
| PROJECT NUMBER: 1564601 | DESIGNED BY: CAG | DRAWN BY: CAG | FIGURE: 2 |
| DATE: SEPTEMBER 2018 | CHECKED BY: LJO | PROJECT MGR.: MJG | SHEET NUMBER: - |

GUIDE LANDFILL REMEDIATION DESIGN

MONTGOMERY COUNTY, MARYLAND

LANDFILL GAS EXTRACTION WELLS OPERATIONAL STATUS

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Tables

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Table 1 LFG Extraction Wells with High Methane and No Water

| Well Identification | Measured Total Depth (feet) | Median Percent Methane |
|----------------------------|--|-------------------------------|
| EW-15* | 34.9 | 52.0 |
| EW-21 | 29.3 | 57.3 |
| EW-23 | 26.0 | 62.1 |
| EW-26* | 27.1 | 59.9 |
| EW-27* | 30.4 | 37.7 |
| EW030 | 48.2 | 57.7 |
| EW-31 | 7.0 | 54.0 |
| EW-32* | 38.1 | 49.7 |
| EW-34* | 29.7 | 47.9 |
| EW-37 | 31.3 | 48.8 |
| EW-43 | 34.1 | 33.9 |
| EW-52 | 22.7 | 58.9 |
| EW-75* | 24.9 | 57.2 |
| EW-76 | 41.1 | 57.2 |
| EW-101 | 24.9 | 50.0 |
| EW-112 | 36.4 | 43.7 |
| EW-119 | 21.6 | 40.7 |
| EW-142* | 25.8 | 33.4 |
| EW-149* | 48.1 | 31.2 |
| EW-156* | 43.0 | 26.3** |

1. Extraction well measured total depth, as reported by APTIM.
2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen.
** = Median for last 3 months reviewed was 34.4.

Table 2 LFG Extraction Wells with High Methane and Water

| Well Identification | Measured Total Depth (feet) | Depth to Water (feet) | Height of Water (feet) | Median Percent Methane |
|----------------------------|------------------------------------|------------------------------|-------------------------------|-------------------------------|
| EW-1* | 29.2 | 26.4 | 2.8 | 52.3 |
| EW-2* | 30.3 | 18.2 | 12.1 | 61.8 |
| EW-10 | 28.3 | 24.4 | 3.9 | 57.0 |
| EW-17 | 48.0 | 37.8 | 10.2 | 48.2 |
| EW-18* | 35.0 | 30.6 | 4.4 | 37.3 |
| EW-22* | 28.0 | 22.8 | 5.2 | 56.0 |
| EW-29* | 21.2 | 12.2 | 9.0 | 59.8 |
| EW-35* | 35.0 | 20.7 | 14.3 | 58.3 |
| EW-36* | 34.9 | 22.6 | 12.3 | 67.0 |
| EW-38* | 30.4 | 17.6 | 12.8 | 29.5 |
| EW-51* | 21.2 | 10.3 | 10.9 | 39.8 |
| EW-54* | 35.7 | 18.2 | 17.5 | 44.8 |
| EW-57* | 16.0 | 14.4 | 1.6 | 35.0 |
| EW-72* | 53.4 | 44.3 | 9.1 | 56.6 |
| EW-73 | 49.5 | 31.8 | 17.7 | 53.6 |
| EW-102 | 28.2 | 27.4 | 0.8 | 34.1 |
| EW-103 | 36.0 | 24.1 | 11.9 | 40.5 |
| EW-104* | 46.3 | 22.1 | 24.2 | 50.6 |
| EW-108* | 26.1 | 25.6 | 0.5 | 42.1 |
| EW-109 | 28.5 | 27.5 | 1.0 | 47.2 |
| EW-110* | 39.0 | 38.3 | 0.7 | 51.5 |
| EW-111 | 43.2 | 36.7 | 6.5 | 40.5 |
| EW-113 | 31.8 | 28.7 | 3.1 | 37.5 |
| EW-122* | 14.6 | 11.9 | 2.7 | 42.5 |
| EW-126 | 35.6 | 24.4 | 11.2 | 46.3 |
| EW-130 | 33.8 | 19.7 | 14.1 | 63.1 |
| EW-132* | 53.2 | 23.0 | 30.2 | 34.8 |
| EW-138 | 55.2 | 35.1 | 20.1 | 53.8 |
| EW-140* | 36.6 | 28.2 | 8.4 | 46.2 |
| EW-141 | 48.6 | 34.1 | 14.5 | 55.4 |
| EW-143 | 58.4 | 54.5 | 3.9 | 57.4 |
| EW-144* | 36.5 | 22.9 | 13.6 | 57.6 |
| EW-145 | 57.1 | 33.2 | 23.9 | 55.1 |
| EW-146* | 36.5 | 9.1 | 27.4 | 33.8 |
| EW-152* | 44.9 | 40.0 | 4.9 | 42.9 |

1. Extraction well total depth, as reported by APTIM.
2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen.

Table 3 LFG Extraction Wells with High Methane and Unknown Depth/Water

| Well Identification | Median Percent Methane |
|----------------------------|-------------------------------|
| DS-2 | 41.7 |
| EW-5 | 61.6 |
| EW-24* | 38.4 |
| EW-25 | 59.6 |
| EW-39 | 57.4 |
| EW-44* | 33.6 |
| EW-71 | 40.0 |
| EW-139* | 39.8 |
| EW-158* | 52.1 |
| EW-159 | 44.1 |

1. Extraction well total depth, as reported by APTIM.
2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen.

Table 4 LFG Extraction Wells with Low Methane and Water

| Well Identification | Measured Total Depth (feet) | Depth to Water (feet) | Height of Water (feet) | Median Percent Methane |
|---------------------|-----------------------------|-----------------------|------------------------|------------------------|
| EW-3* | 33.0 | 6.3 | 26.7 | 0.5 |
| EW-4* | 33.4 | 21.0 | 12.4 | 7.6 |
| EW-12* | 34.4 | 31.2 | 3.2 | 9.0 |
| EW-50* | 17.8 | 10.1 | 7.7 | 16.1 |
| EW-62* | 34.1 | 19.3 | 14.8 | 22.3 |
| EW-70* | 43.5 | 31.2 | 12.3 | 26.7 |
| EW-74* | 25.8 | 22.9 | 2.9 | 25.6 |
| EW-100 | 27.7 | 21.2 | 6.5 | 26.7 |
| EW-105 | 47.0 | 28.5 | 18.5 | 13.5 |
| EW-107* | 42.4 | 23.0 | 19.4 | 0.4 |
| EW-123* | 20.2 | 17.5 | 2.7 | 0.7 |
| EW-124* | 20.1 | 11.0 | 9.1 | 0.9 |
| EW-125* | 39.3 | 23.0 | 16.3 | 2.4 |
| EW-127* | 34.0 | 13.5 | 20.5 | 18.3 |
| EW-128* | 43.0 | 20.3 | 22.7 | 1.2 |
| EW-129 | 41.1 | 18.8 | 22.3 | 17.0 |
| EW-131* | 35.1 | 24.4 | 10.7 | 20.2 |
| EW-133* | 37.2 | 26.5 | 10.7 | 7.0 |
| EW-135* | 25.3 | 15.6 | 9.7 | 8.1 |
| EW-137 | 41.8 | 31.5 | 10.3 | 19.8 |
| EW-148 | 46.9 | 28.0 | 18.9 | 22.3 |
| EW-150* | 47.2 | 24.5 | 22.7 | 20.1 |
| EW-151* | 45.8 | 28.0 | 17.8 | 3.5 |
| EW-153* | 34.5 | 21.4 | 13.1 | 11.1 |

1. Extraction well total depth, as reported by APTIM.
2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen.

Table 5 LFG Extraction Wells with Low Methane and No Water

| Well Identification | Measured Total Depth (feet) | Median Percent Methane |
|---------------------|-----------------------------|------------------------|
| EW-114* | 38.0 | 7.5 |
| EW-115* | 38.6 | 0.5 |
| EW-116 | 33.7 | 11.8 |
| EW-120* | 14.0 | 0.1 |
| EW-121* | 17.3 | 0.2 |
| EW-134* | 27.0 | 0.2 |
| EW-147* | 42.7 | 9.1 |
| EW-157 | 40.5 | 24.1 |

1. Extraction well total depth, as reported by APTIM.
2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen.

Table 6 LFG Extraction Wells with Low Methane and Unknown Depth/Water

| Well Identification | Median Percent Methane |
|---------------------|------------------------|
| EW-6 | 22.5 |
| EW-11 | 19.0 |
| EW-16 | 11.4 |
| EW-28* | 23.0 |
| EW-106 | 20.2 |
| EW-117* | 0.1 |
| EW-118* | 0.2 |
| EW-154* | 11.6 |

1. Extraction well total depth, as reported by APTIM.
 2. Median methane based on data recorded by APTIM between November 2017 and April 2018.

* = Well has greater than 5 percent oxygen..

Table 7 Investigated LFG Extraction Wells

| Well Identification | Measured Total Depth (feet) | Measured Depth to Water (feet) | Height of Water (feet) | Median Percent Methane | Median Percent Oxygen |
|---------------------|-----------------------------|--------------------------------|------------------------|------------------------|-----------------------|
| EW-3* | 43.0 | 7.2 | 35.8 | 0.4 | 20.6 |
| EW-4* | 33.5 | 20.0 | 13.5 | 10.7 | 16.7 |
| EW-6 | 34.3 | 24.9 | 9.4 | 19.7 | 0.0 |
| EW-7 | 51.0 | 44.6 | 6.4 | NA | NA |
| EW-9 | 46.6 | 16.6 | 30 | NA | NA |
| EW-11 | 37.5 | 23.7 | 13.8 | 13.9 | 0.0 |
| EW-12 | 47.0 | 37.7 | 9.3 | 11.5 | 0.7 |
| EW-14 | NA | NA | NA | NA | NA |
| EW-16 | 44.3 | 40.5 | 3.8 | 50.4 | 0.1 |
| EW-100* | 26.2 | 20.7 | 5.5 | 5.9 | 20.0 |
| EW-106 | 40.7 | 38.3 | 2.4 | 23.2 | 0.0 |
| EW-114 | 37.8 | 37.8 | 0.0 | 18.0 | 3.4 |
| EW-116 | 33.8 | 32.8 | 1.0 | 8.8 | 2.0 |
| EW-133* | 37.2 | 20.9 | 16.3 | 0.1 | 21.5 |
| EW-134* | 27.4 | 14.1 | 13.3 | 0.7 | 19.9 |
| EW-135* | 22.0 | 14.1 | 7.9 | 0.4 | 21.5 |
| EW-147 | 43.6 | 42.8 | 0.8 | 3.7 | 0.2 |
| EW-157 | 41.3 | 36.7 | 4.6 | 52.6 | 0.1 |

1. Extraction well total depth and depth to water, as investigated by EA.
 2. Median percent methane and oxygen based on data recorded by APTIM during March 2019 monitoring event.

* = Well has greater than 5 percent oxygen.
 NA = Not available.

Table 8 Landfill Historical Waste Disposal

| Year | Tons/year | Year | Tons/year |
|------|-----------|------|-----------|
| 1964 | 134,986 | 1974 | 376,207 |
| 1965 | 139,540 | 1975 | 388,900 |
| 1966 | 144,248 | 1976 | 382,600 |
| 1967 | 149,115 | 1977 | 378,500 |
| 1968 | 154,146 | 1978 | 406,400 |
| 1969 | 159,346 | 1979 | 422,700 |
| 1970 | 164,723 | 1980 | 404,800 |
| 1971 | 170,280 | 1981 | 417,000 |
| 1972 | 176,025 | 1982 | 408,632 |
| 1973 | 181,964 | | |

Table 9 – November 2017 through April 2018 Recorded LFG Flow

| Date | Flow (scfm) |
|------------|-------------|
| 11/2/2017 | 514 |
| 11/2/2017 | 500 |
| 11/27/2017 | 491 |
| 11/27/2017 | 493 |
| 11/27/2017 | 533 |
| 11/27/2017 | 515 |
| 11/28/2017 | 504 |
| 11/29/2017 | 489 |
| 12/22/2017 | 595 |
| 12/22/2017 | 588 |
| 12/22/2017 | 576 |
| 12/27/2017 | 510 |
| 12/28/2017 | 490 |
| 12/28/2017 | 521 |
| 1/25/2018 | 524 |
| 1/31/2018 | 499 |
| 2/22/2018 | 496 |
| 2/23/2018 | 501 |
| 3/15/2018 | 465 |
| 3/21/2018 | 429 |
| 3/27/2018 | 464 |
| 4/23/2018 | 445 |
| 4/24/2018 | 507 |

Flow as reported by APTIM.
Recorded data from January 30, 2018 were not included. The recorded flow as 2,539 standard cubic feet per minute (scfm).

Table 10 – LandGEM Results with 75 Percent Collection Efficiency

| Year | Landfill Gas (acfm) | Year | Landfill Gas (acfm) |
|-------------|--------------------------------|-------------|--------------------------------|
| 1964 | 0.00 | 2017 | 494.70 |
| 1965 | 64.79 | 2018 | 475.30 |
| 1966 | 129.22 | 2019 | 456.66 |
| 1967 | 193.39 | 2020 | 438.76 |
| 1968 | 257.38 | 2021 | 421.55 |
| 1969 | 321.27 | 2022 | 405.02 |
| 1970 | 385.15 | 2023 | 389.14 |
| 1971 | 449.11 | 2024 | 373.88 |
| 1972 | 513.23 | 2025 | 359.22 |
| 1973 | 577.60 | 2026 | 345.14 |
| 1974 | 642.29 | 2027 | 331.60 |
| 1975 | 797.67 | 2028 | 318.60 |
| 1976 | 953.05 | 2029 | 306.11 |
| 1977 | 1,099.32 | 2030 | 294.11 |
| 1978 | 1,237.88 | 2031 | 282.57 |
| 1979 | 1,384.40 | 2032 | 271.50 |
| 1980 | 1,533.00 | 2033 | 260.85 |
| 1981 | 1,667.18 | 2034 | 250.62 |
| 1982 | 1,801.96 | 2035 | 240.79 |
| 1983 | 1,927.43 | 2036 | 231.35 |
| 1984 | 1,851.86 | 2037 | 222.28 |
| 1985 | 1,779.24 | 2038 | 213.57 |
| 1986 | 1,709.48 | 2039 | 205.19 |
| 1987 | 1,642.45 | 2040 | 197.15 |
| 1988 | 1,578.05 | 2041 | 189.42 |
| 1989 | 1,516.17 | 2042 | 181.99 |
| 1990 | 1,456.72 | 2043 | 174.85 |
| 1991 | 1,399.60 | 2044 | 168.00 |
| 1992 | 1,344.72 | 2045 | 161.41 |
| 1993 | 1,292.00 | 2046 | 155.08 |
| 1994 | 1,241.34 | 2047 | 149.00 |
| 1995 | 1,192.66 | 2048 | 143.16 |
| 1996 | 1,145.90 | 2049 | 137.54 |
| 1997 | 1,100.97 | 2050 | 132.15 |
| 1998 | 1,057.80 | 2051 | 126.97 |
| 1999 | 1,016.32 | 2052 | 121.99 |
| 2000 | 976.47 | 2053 | 117.21 |
| 2001 | 938.18 | 2054 | 112.61 |
| 2002 | 901.40 | 2055 | 108.20 |
| 2003 | 866.05 | 2056 | 103.95 |
| 2004 | 832.09 | 2057 | 99.88 |
| 2005 | 799.47 | 2058 | 95.96 |
| 2006 | 768.12 | 2059 | 92.20 |
| 2007 | 738.00 | 2060 | 88.58 |
| 2008 | 709.06 | 2061 | 85.11 |
| 2009 | 681.26 | 2062 | 81.77 |
| 2010 | 654.55 | 2063 | 78.57 |
| 2011 | 628.88 | 2064 | 75.49 |
| 2012 | 604.22 | 2065 | 72.53 |
| 2013 | 580.53 | 2066 | 69.68 |

Table 10 – LandGEM Results with 75 Percent Collection Efficiency

| Year | Landfill Gas (acfm) | Year | Landfill Gas (acfm) |
|--|--------------------------------|-------------|--------------------------------|
| 2014 | 557.77 | 2067 | 66.95 |
| 2015 | 535.90 | 2068 | 64.32 |
| 2016 | 514.89 | 2069 | 61.80 |
| | | 2070 | 59.38 |
| Note: acfm = Actual cubic feet per minute. | | | |

Appendix A

Current Operational Data

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Gas Extraction Wells

Rolling Data

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUEDS02 | 14:34 | 11/27/2017 | 42.4 | 36.5 | 0.4 | 20.7 | -65.29 | -65.29 | -0.078 | 79.7 | 79.7 | 0 | -65.97 | *No Adj. Made |
| GUEDS02 | 10:32 | 12/28/2017 | 41.0 | 35.0 | 1.1 | 22.9 | -54.63 | -53.88 | -0.134 | 45.1 | 44.9 | 0 | -55.57 | *No Adj. Made |
| GUEDS02 | 14:27 | 1/31/2018 | 37.7 | 34.4 | 1.0 | 26.9 | -69.66 | -69.64 | -0.042 | 56.7 | 56.7 | 0 | -70.13 | No Change in Valve Position |
| GUEDS02 | 13:43 | 2/22/2018 | 40.4 | 35.1 | 0.3 | 24.2 | -69.94 | -69.95 | -0.273 | 78.3 | 78.1 | 0 | -70.83 | *No Adj. Made |
| GUEDS02 | 11:07 | 3/21/2018 | 43.5 | 37.9 | 0.5 | 18.1 | -76.91 | -76.91 | -0.049 | 40.5 | 40.5 | 0 | -77.04 | *No Adj. Made |
| GUEDS02 | 15:39 | 4/23/2018 | 46.0 | 36.8 | 0.6 | 16.6 | -62.61 | -62.72 | -0.059 | 79.3 | 79.3 | 0 | -63.1 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW001 | 15:51 | 11/28/2017 | 24.5 | 16.8 | 11.8 | 46.9 | -36.52 | -36.41 | 0.001 | 72.9 | 73 | 4.6 | -39.63 | *Barely Open/*No Adj. Made |
| GUDEW001 | 14:39 | 12/28/2017 | 43.9 | 30.6 | 5.8 | 19.7 | -41.78 | -41.78 | 0.006 | 36.1 | 36.2 | 11.8 | -45.14 | *No Adj. Made |
| GUDEW001 | 12:07 | 1/31/2018 | 52.3 | 33.1 | 1.2 | 13.4 | -39.03 | -38.99 | >>>> | 58.4 | 58.4 | N/A | -41.8 | No Change in Valve Position |
| GUDEW001 | 12:08 | 1/31/2018 | 57.8 | 38.5 | 0.8 | 2.9 | -38.43 | -39.67 | >>>> | 58.3 | 58.3 | N/A | -41.63 | *Dec. Flow/Vac. |
| GUDEW001 | 11:47 | 2/22/2018 | 59.7 | 39.8 | 0.5 | 0.0 | -45.57 | -45.56 | 0.029 | 60.4 | 60.4 | 26.9 | -45.57 | *No Change in Valve Position |
| GUDEW001 | 15:39 | 3/27/2018 | 21.1 | 15.0 | 13.8 | 50.1 | -44.96 | -44.91 | 0.012 | 50.2 | 49.9 | 17 | -44.93 | *Barely Open/*No Adj. Made |
| GUDEW001 | 12:09 | 4/24/2018 | 53.1 | 35.4 | 1.7 | 9.8 | -32.68 | -32.7 | 0.103 | 74.2 | 74.3 | 51.2 | -32.89 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW002 | 16:57 | 11/27/2017 | 61.9 | 37.4 | 0.7 | 0.0 | -35.86 | -35.87 | 0.019 | 59.5 | 59.1 | 22 | -35.86 | *Fully Open/*No Adj. Made |
| GUDEW002 | 14:23 | 12/28/2017 | 29.1 | 19.3 | 11.0 | 40.6 | -44.42 | -44.42 | 0.035 | 39.2 | 39.1 | 29.7 | -44.46 | *Barely Open/*No Adj. Made |
| GUDEW002 | 13:37 | 1/31/2018 | 61.9 | 38.0 | 0.1 | 0.0 | -40.78 | -40.81 | -0.047 | 57.9 | 57.9 | <<>> | -40.45 | No Change in Valve Position/*Fully Open |
| GUDEW002 | 13:33 | 2/22/2018 | 61.4 | 38.3 | 0.3 | 0.0 | -63.1 | -44.52 | 0.007 | 57.8 | 57.8 | 13.4 | -44.87 | *Fully Open/*No Change in Valve Position |
| GUDEW002 | 15:47 | 3/27/2018 | 61.6 | 36.9 | 0.5 | 1.0 | -45.15 | -45.15 | 0.032 | 55.6 | 55.6 | 28.7 | -45.14 | *Fully Open/*No Adj. Made |
| GUDEW002 | 8:12 | 4/24/2018 | 62.7 | 37.3 | 0.0 | 0.0 | -34.85 | -34.84 | 0.027 | 58.5 | 58.4 | 26.9 | -35.05 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW003 | 16:40 | 11/27/2017 | 0.4 | 2.0 | 18.8 | 78.8 | -1.47 | -1.43 | 0.012 | 58.2 | 58.2 | 3.3 | -36.4 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 14:04 | 12/28/2017 | 0.2 | 3.8 | 16.4 | 79.6 | -1.83 | -1.84 | -0.014 | 47.3 | 47.2 | 0 | -44.24 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 13:49 | 1/31/2018 | 0.8 | 8.3 | 15.7 | 75.2 | -1.43 | -1.33 | 0.004 | 49.6 | 49.6 | 1.9 | -40.96 | No Change in Valve Position/*Fully Closed |
| GUDEW003 | 14:09 | 2/22/2018 | 1.5 | 4.6 | 19.9 | 74.0 | -1.6 | -1.6 | -0.009 | 60.4 | 60.5 | 0 | -44.39 | *Fully Closed/*No Change in Valve Position |
| GUDEW003 | 16:31 | 3/27/2018 | 0.3 | 5.0 | 17.8 | 76.9 | -3 | -3.02 | -0.014 | 64.2 | 64.2 | 0 | -44.85 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 17:33 | 4/23/2018 | 0.5 | 4.1 | 17.4 | 78.0 | -2.22 | -2.2 | 0.011 | 70.8 | 70.5 | 3.1 | -37.78 | *Fully Closed/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW004 | 16:32 | 11/27/2017 | 16.0 | 5.7 | 16.4 | 61.9 | -36.8 | -36.74 | -0.003 | 70.3 | 70 | <<>> | -36.83 | *Barely Open/*No Adj. Made |
| GUDEW004 | 13:54 | 12/28/2017 | 5.9 | 3.0 | 16.7 | 74.4 | -42.43 | -41.14 | -0.002 | 35.3 | 34.4 | <<>> | -43.93 | *Barely Open/*No Adj. Made |
| GUDEW004 | 9:44 | 1/31/2018 | 3.2 | 1.7 | 18.9 | 76.2 | -19.5 | -20.51 | 0.011 | 44 | 44 | 16.3 | -44.18 | No Change in Valve Position |
| GUDEW004 | 14:12 | 2/22/2018 | 8.2 | 3.5 | 19.5 | 68.8 | -10.63 | -10.66 | 0.012 | 59.6 | 59.6 | 17.6 | -34.55 | *No Change in Valve Position |
| GUDEW004 | 16:42 | 3/27/2018 | 7.0 | 3.1 | 17.8 | 72.1 | -32.56 | -32.12 | 0.012 | 46.9 | 46.8 | 16.9 | -37.56 | *Barely Open/*No Adj. Made |
| GUDEW004 | 17:42 | 4/23/2018 | 19.7 | 6.1 | 14.6 | 59.6 | -32.5 | -32.48 | -0.014 | 71.6 | 71.5 | <<>> | -33.49 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW005 | 16:22 | 11/27/2017 | 60.3 | 37.7 | 0.3 | 1.7 | -33.99 | -34 | -0.003 | 62.9 | 62.2 | <<>> | -34.04 | *Fully Open/*No Adj. Made |
| GUDEW005 | 10:33 | 12/28/2017 | 62.8 | 37.1 | 0.1 | 0.0 | -41.84 | -41.85 | 0.062 | 33 | 33.2 | 15.9 | -41.82 | *No Adj. Made |
| GUDEW005 | 9:48 | 1/31/2018 | 62.2 | 37.5 | 0.3 | 0.0 | -42.5 | -42.5 | 0.032 | 41 | 41 | 11.2 | -42.39 | No Change in Valve Position/*Fully Open |
| GUDEW005 | 9:49 | 2/22/2018 | 61.1 | 38.6 | 0.3 | 0.0 | -30.77 | -30.78 | 0.033 | 70.7 | 70.7 | 11.1 | -30.34 | *Fully Open/*No Change in Valve Position |
| GUDEW005 | 12:28 | 3/21/2018 | 59.6 | 39.2 | 1.2 | 0.0 | -52.33 | -52.34 | -0.012 | 39.8 | 39.8 | <<>> | -52.33 | *No Adj. Made |
| GUDEW005 | 16:57 | 4/23/2018 | 62.1 | 36.1 | 0.3 | 1.5 | -26.28 | -26.8 | -0.006 | 72.6 | 72.4 | <<>> | -26.09 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW006 | 16:10 | 11/27/2017 | 21.9 | 23.2 | 0.0 | 54.9 | -0.1 | -0.1 | -0.003 | 75.4 | 75.6 | <<>> | -32.92 | *Barely Open/*No Adj. Made |
| GUDEW006 | 13:17 | 12/28/2017 | 19.8 | 22.8 | 2.4 | 55.0 | -0.02 | -0.03 | -0.015 | 42.5 | 42.5 | <<>> | -14.1 | *Barely Open/*No Adj. Made |
| GUDEW006 | 12:12 | 1/30/2018 | 22.4 | 22.4 | 0.2 | 55.0 | -0.1 | -0.1 | 0.03 | 50.9 | 50.9 | 5.9 | N/A | No Change in Valve Position |
| GUDEW006 | 14:15 | 2/22/2018 | 23.3 | 20.3 | 0.7 | 55.7 | -0.12 | -0.12 | -0.136 | 59.5 | 59.5 | <<>> | N/A | *No Change in Valve Position |
| GUDEW006 | 12:21 | 3/21/2018 | 23.7 | 23.4 | 0.2 | 52.7 | -0.05 | -0.05 | 0 | 43.3 | 43.3 | 0.2 | -49.15 | *Barely Open/*No Adj. Made |
| GUDEW006 | 16:48 | 4/23/2018 | 22.5 | 20.5 | 0.0 | 57.0 | -0.05 | -0.09 | -0.004 | 77 | 77.6 | <<>> | -28.2 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW010 | 16:26 | 11/27/2017 | 58.4 | 35.6 | 1.0 | 5.0 | -27.07 | -28.1 | -0.003 | 70.7 | 71.4 | <<>> | -28.53 | *Fully Open/*No Adj. Made |
| GUDEW010 | 11:46 | 12/28/2017 | 59.0 | 34.9 | 3.0 | 3.1 | -40.14 | -40.13 | 0.013 | 50.3 | 50.4 | 6.9 | -40.06 | *Barely Open/*No Adj. Made |
| GUDEW010 | 11:56 | 1/30/2018 | 15.2 | 22.2 | 0.5 | 62.1 | <<<< | <<<< | >>>> | 50.1 | 50.1 | N/A | -38.47 | No Change in Valve Position |
| GUDEW010 | 13:26 | 2/22/2018 | 55.5 | 33.0 | 2.8 | 8.7 | -12.43 | -14.55 | 3.89 | 58 | 58 | 343.1 | -42.42 | *Fully Closed/*No Change in Valve Position |
| GUDEW010 | 12:25 | 3/21/2018 | 59.8 | 39.9 | 0.3 | 0.0 | -14.94 | -14.97 | >>>> | 38.3 | 38.2 | N/A | -15.36 | *Barely Open/*Surging/*No Adj. Made |
| GUDEW010 | 12:27 | 4/24/2018 | 54.8 | 33.5 | 2.5 | 9.2 | -12.07 | -13.55 | -0.001 | 72.1 | 72.1 | <<>> | -13.71 | *Surging/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW011 | 16:07 | 11/27/2017 | 18.8 | 22.6 | 0.1 | 58.5 | -0.35 | -0.29 | -0.009 | 72.6 | 72.7 | <<>> | -27.66 | *Barely Open/*No Adj. Made |
| GUDEW011 | 11:43 | 12/28/2017 | 20.5 | 24.0 | 1.3 | 54.2 | -0.02 | -0.01 | -0.011 | 47.1 | 47.2 | <<>> | -39.3 | *Barely Open/*No Adj. Made |
| GUDEW011 | 11:47 | 1/30/2018 | 16.2 | 22.3 | 0.6 | 60.9 | -1.23 | -0.7 | 0.525 | 51.7 | 51.7 | 25.1 | N/A | No Change in Valve Position |
| GUDEW011 | 14:42 | 2/22/2018 | 18.7 | 23.1 | 0.0 | 58.2 | -0.06 | -0.06 | -0.009 | 59.7 | 59.6 | <<>> | -13.43 | *Barely Open/*No Adj. Made |
| GUDEW011 | 12:16 | 3/21/2018 | 19.1 | 24.8 | 0.3 | 55.8 | -0.12 | -0.11 | 0.16 | 36.9 | 36.6 | 5.5 | -23.09 | *Barely Open/*No Adj. Made |
| GUDEW011 | 16:44 | 4/23/2018 | 24.6 | 22.4 | 0.0 | 53.0 | -0.07 | -0.08 | 0.002 | 77.4 | 77.4 | 0.5 | -8.66 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW012 | 16:05 | 11/27/2017 | 7.9 | 19.3 | 0.6 | 72.2 | -0.15 | -0.15 | -0.001 | 71.1 | 71.3 | <<>> | -23.97 | *Barely Open/*No Adj. Made |
| GUDEW012 | 11:25 | 12/28/2017 | 24.2 | 23.6 | 0.4 | 51.8 | 0.12 | 0.11 | -0.109 | 45.8 | 45.7 | <<>> | 0.09 | *Barely Open/*No Adj. Made |
| GUDEW012 | 11:44 | 1/30/2018 | 0.1 | 5.9 | 20.3 | 73.7 | -5.54 | -5.02 | 4.54 | 52.7 | 52.7 | 137 | -36.09 | No Change in Valve Position |
| GUDEW012 | 14:39 | 2/22/2018 | 4.7 | 18.9 | 1.5 | 74.9 | -0.03 | -0.03 | -0.008 | 61.3 | 61.4 | <<>> | -11.65 | *No Adj. Made |
| GUDEW012 | 12:12 | 3/21/2018 | 10.0 | 22.9 | 0.7 | 66.4 | -0.1 | -0.1 | -0.428 | 40.6 | 40.6 | <<>> | -15.78 | *Barely Open/*No Adj. Made |
| GUDEW012 | 16:41 | 4/23/2018 | 17.6 | 21.7 | 0.0 | 60.7 | -0.03 | -0.03 | -0.017 | 77.2 | 77.2 | <<>> | -5.95 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW015 | 10:55 | 11/28/2017 | 60.0 | 27.2 | 1.7 | 11.1 | -25.37 | -30.16 | 0.008 | 67 | 66.6 | 5.4 | -35.29 | *Inc. Flow/Vac. |
| GUDEW015 | 11:04 | 12/28/2017 | 6.4 | 24.3 | 0.5 | 68.8 | -0.03 | -0.02 | 0.031 | 25 | 24.9 | 10.9 | -42.61 | *No Adj. Made |
| GUDEW015 | 12:10 | 1/30/2018 | 40.6 | 20.3 | 7.5 | 31.6 | -42.76 | -43.82 | >>>> | 52 | 52 | N/A | -41 | No Change in Valve Position |
| GUDEW015 | 16:30 | 2/22/2018 | 63.0 | 28.0 | 0.9 | 8.1 | -39.18 | -39.16 | 0.002 | 57.5 | 57.5 | 2.9 | -39.52 | *Fully Open/*No Adj. Made |
| GUDEW015 | 15:01 | 3/21/2018 | 44.0 | 20.8 | 5.8 | 29.4 | -45.64 | -38.21 | 0.172 | 44.1 | 43.8 | 26.5 | -46.94 | *Dec. Flow/Vac. |
| GUDEW015 | 12:12 | 4/27/2018 | 67.8 | 32.2 | 0.0 | 0.0 | -1.01 | -1.04 | 0.007 | 58.4 | 58.4 | 5.4 | -30.29 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW016 | 10:59 | 11/28/2017 | 7.7 | 19.3 | 1.0 | 72.0 | -0.76 | -0.76 | 0.525 | 65.7 | 65.6 | 45 | -35.39 | *Barely Open/*No Adj. Made |
| GUDEW016 | 11:01 | 12/28/2017 | 5.0 | 21.0 | 0.1 | 73.9 | -0.44 | -0.43 | 0.174 | 24.9 | 25.1 | 26.4 | 0.08 | *No Adj. Made |
| GUDEW016 | 10:01 | 1/31/2018 | 10.4 | 20.0 | 0.6 | 69.0 | -0.44 | -0.45 | 0.39 | 42.4 | 42.4 | 39.8 | -41.39 | No Change in Valve Position |
| GUDEW016 | 16:27 | 2/22/2018 | 14.9 | 22.1 | 0.0 | 63.0 | -1.43 | -1.44 | -0.009 | 53.5 | 53.3 | <<>> | -40.44 | *Barely Open/*No Adj. Made |
| GUDEW016 | 15:04 | 3/21/2018 | 12.3 | 17.5 | 2.4 | 67.8 | -0.62 | -0.62 | -0.006 | 42 | 41.9 | <<>> | -47.58 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|---|
| GUDEW016 | 12:14 | 4/27/2018 | 15.0 | 21.1 | 0.2 | 63.7 | -1.09 | -1.1 | 0.902 | 57.1 | 57.1 | 60.4 | -30.32 | *No Adj. Made |
| GUDEW017 | 11:02 | 11/28/2017 | 34.9 | 23.0 | 0.1 | 42.0 | -7.02 | -3.45 | <<<< | 69.2 | 69.8 | N/A | -32.21 | *Dec. Flow/Vac. |
| GUDEW017 | 13:28 | 12/28/2017 | 43.5 | 23.9 | 2.2 | 30.4 | -2.7 | -2.69 | 2.723 | 46.7 | 46.7 | 112.8 | -34.88 | *Barely Open/*No Adj. Made |
| GUDEW017 | 10:26 | 1/31/2018 | 49.1 | 24.4 | 0.2 | 26.3 | -3.63 | -3.61 | 3.605 | 43.1 | 43.1 | 132.1 | -41.58 | No Change in Valve Position |
| GUDEW017 | 16:22 | 2/22/2018 | 47.8 | 24.1 | 0.6 | 27.5 | -3.67 | -3.67 | 3.657 | 60.3 | 60.3 | 130.4 | -39.7 | *No Adj. Made |
| GUDEW017 | 14:58 | 3/21/2018 | 48.6 | 24.9 | 0.8 | 25.7 | -4.82 | -4.83 | 5.191 | 47.2 | 47.2 | 157.6 | -43.56 | *No Adj. Made |
| GUDEW017 | 8:33 | 4/24/2018 | 50.4 | 24.6 | 1.0 | 24.0 | -3.97 | -3.97 | 4.03 | 65.8 | 65.8 | 136.8 | -29.29 | *No Adj. Made |
| GUDEW018 | 11:05 | 11/28/2017 | 31.8 | 27.0 | 3.7 | 37.5 | -33.1 | -32.37 | 0.014 | 73.5 | 73.8 | 1.5 | -32.74 | *No Adj. Made |
| GUDEW018 | 13:30 | 12/28/2017 | 25.5 | 24.6 | 4.8 | 45.1 | -34.57 | -34.57 | -0.034 | 46.3 | 46.2 | <<>> | -34.35 | *No Adj. Made |
| GUDEW018 | 10:28 | 1/31/2018 | 47.9 | 25.0 | 0.0 | 27.1 | -41.29 | -41.31 | 0.039 | 42.7 | 42.7 | 6.7 | N/A | No Change in Valve Position |
| GUDEW018 | 16:20 | 2/22/2018 | 23.6 | 23.9 | 3.6 | 48.9 | -38.13 | -34.63 | 0.007 | 59.5 | 59.7 | 1 | -38.57 | *Dec. Flow/Vac. |
| GUDEW018 | 14:54 | 3/21/2018 | 49.2 | 30.2 | 2.0 | 18.6 | -44.44 | -45.38 | 0.308 | 57.9 | 57.9 | 7.4 | -44.5 | *No Adj. Made |
| GUDEW018 | 8:43 | 4/24/2018 | 42.7 | 23.7 | 6.6 | 27.0 | -31.09 | -29.72 | 0.002 | 64.5 | 64.7 | 0.6 | -32.04 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW021 | 15:44 | 11/28/2017 | 28.0 | 19.9 | 7.0 | 45.1 | -38.78 | -37.33 | 0.004 | 70.6 | 70 | 3.6 | -39.31 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW021 | 14:41 | 12/28/2017 | 60.3 | 35.0 | 1.5 | 3.2 | -45.55 | -45.53 | 0.064 | 39.3 | 39.3 | 15.9 | -45.45 | *No Adj. Made |
| GUDEW021 | 11:55 | 1/31/2018 | 64.6 | 35.6 | 0.0 | N/A | -41.98 | -41.96 | 0.023 | 52.7 | 52.7 | 9.4 | -41.94 | No Change in Valve Position |
| GUDEW021 | 11:45 | 2/22/2018 | 54.2 | 33.0 | 2.9 | 9.9 | -45.7 | -45.69 | 0.042 | 60.6 | 60.7 | 12.5 | -44.48 | *No Change in Valve Position |
| GUDEW021 | 15:34 | 3/27/2018 | 47.8 | 29.1 | 4.8 | 18.3 | -45.89 | -44.9 | -0.004 | 52 | 51.9 | <<>> | -44.99 | *Barely Open/*No Adj. Made |
| GUDEW021 | 12:05 | 4/24/2018 | 61.4 | 33.9 | 0.3 | 4.4 | -32.7 | -32.69 | -0.016 | 74.5 | 74.5 | <<>> | -32.59 | *Inc. Flow/Vac. |
| GUDEW022 | 14:33 | 11/28/2017 | 53.7 | 32.2 | 2.5 | 11.6 | -40.29 | -39.75 | 0.012 | 73.8 | 73.9 | 6.5 | -40.14 | *Fully Open/*No Adj. Made |
| GUDEW022 | 14:51 | 12/28/2017 | 44.6 | 28.3 | 6.3 | 20.8 | -45.07 | -45.07 | 0.544 | 40.4 | 40.4 | 46.6 | -33.69 | *No Adj. Made |
| GUDEW022 | 11:48 | 1/31/2018 | 62.6 | 35.7 | 0.9 | 0.8 | -42.16 | -42.08 | 0.051 | 51.1 | 51.1 | 14.1 | -41.88 | No Change in Valve Position |
| GUDEW022 | 11:14 | 2/22/2018 | 51.2 | 31.6 | 3.8 | 13.4 | -45.86 | -45.85 | 0.149 | 59.9 | 59.9 | 23.7 | -44.8 | *No Change in Valve Position |
| GUDEW022 | 15:09 | 3/27/2018 | 58.3 | 33.0 | 1.9 | 6.8 | -46.29 | -46.3 | 0.01 | 63.2 | 63.2 | 6.1 | -46.38 | *Fully Open/*No Adj. Made |
| GUDEW022 | 11:49 | 4/24/2018 | 58.3 | 32.1 | 1.8 | 7.8 | -32.83 | -32.83 | 0.017 | 71.6 | 71.7 | 8 | -32.81 | *No Adj. Made |
| GUDEW023 | 14:05 | 11/28/2017 | 60.1 | 33.0 | 1.4 | 5.5 | -40.46 | -40.4 | 0.024 | 77.4 | 77.2 | 9.8 | -40.34 | *Fully Open/*No Adj. Made |
| GUDEW023 | 14:03 | 12/28/2017 | 65.0 | 34.5 | 0.5 | 0.0 | -44.39 | -44.39 | 0 | 37.8 | 37.7 | <<>> | -44.12 | *No Adj. Made |
| GUDEW023 | 11:53 | 1/31/2018 | 64.5 | 35.5 | 0.0 | 0.0 | -41.97 | -41.96 | 0.029 | 51.4 | 51.5 | 10.6 | -41.97 | No Change in Valve Position/*Fully Open |
| GUDEW023 | 11:09 | 2/22/2018 | 60.0 | 31.8 | 2.3 | 5.9 | -45.54 | -44.68 | 0.071 | 60.5 | 60.5 | 16.6 | -44.85 | *No Change in Valve Position |
| GUDEW023 | 15:03 | 3/27/2018 | 63.4 | 33.2 | 0.9 | 2.5 | -45.54 | -45.57 | 0.008 | 62.4 | 62.6 | 5.5 | -46.59 | *Fully Open/*No Adj. Made |
| GUDEW023 | 11:41 | 4/24/2018 | 60.7 | 30.0 | 1.0 | 8.3 | -32.73 | -32.73 | 0.02 | 68.6 | 68.6 | 8.8 | -32.84 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:33 | 11/28/2017 | 36.4 | 28.6 | 1.8 | 33.2 | -4.17 | -2.5 | 0.006 | 73.9 | 74.3 | 4.6 | -38.53 | *Dec. Flow/Vac. |
| GUDEW024 | 13:35 | 12/28/2017 | 44.8 | 33.2 | 0.0 | 22.0 | -2.1 | -2.09 | 0.011 | 38.2 | 38.2 | 6.7 | -40.93 | *No Adj. Made |
| GUDEW024 | 11:10 | 1/31/2018 | 40.4 | 28.3 | 5.1 | 26.2 | -2.03 | -2.01 | 0.012 | 49.6 | 49.6 | 6.7 | -34.92 | No Change in Valve Position |
| GUDEW024 | 11:00 | 2/22/2018 | 36.0 | 30.0 | 0.2 | 33.8 | -5.31 | -5.32 | -0.15 | 59 | 59 | <<>> | -40.02 | *No Change in Valve Position |
| GUDEW024 | 15:01 | 3/27/2018 | 32.1 | 30.3 | 0.0 | 37.6 | -4.46 | -2.93 | -0.003 | 60.2 | 59.3 | <<>> | -42.92 | *Dec. Flow/Vac. |
| GUDEW024 | 11:43 | 4/24/2018 | 57.6 | 34.2 | 0.1 | 8.1 | -2.39 | -3.1 | 0.007 | 71.5 | 72.1 | 5.3 | -30.36 | *Inc. Flow/Vac. |
| GUDEW025 | 11:32 | 11/28/2017 | 58.7 | 38.4 | 0.4 | 2.5 | -34.29 | -34.29 | -0.031 | 79.2 | 79.2 | <<>> | -35.49 | *Fully Open/*No Adj. Made |
| GUDEW025 | 11:25 | 12/28/2017 | 58.7 | 41.3 | 0.0 | 0.0 | -3.6 | -3.6 | 3.639 | 32.6 | 32.6 | 130.6 | -52.2 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW025 | 10:47 | 1/31/2018 | 60.7 | 39.4 | 0.0 | N/A | 3.49 | 3.5 | -3.404 | 44.1 | 44.1 | <<> | 3.49 | No Change in Valve Position |
| GUDEW025 | 10:21 | 2/22/2018 | 59.3 | 39.8 | 0.9 | 0.0 | -27.62 | -27.63 | -0.002 | 62.7 | 63.1 | <<> | -25.82 | *Fully Open/*No Change in Valve Position |
| GUDEW025 | 15:56 | 3/21/2018 | 61.4 | 37.1 | 1.5 | 0.0 | -0.49 | -10.7 | >>>> | 46.4 | 46.3 | N/A | -32.31 | *Inc. Flow/Vac. |
| GUDEW025 | 8:50 | 4/24/2018 | 59.8 | 39.6 | 0.2 | 0.4 | -29.61 | -30.35 | 0.006 | 65.3 | 65.3 | 4.5 | -30.36 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW026 | 16:09 | 11/28/2017 | 60.3 | 30.0 | 1.5 | 8.2 | -23.23 | -28.32 | -0.011 | 72.5 | 72.5 | <<> | -38.56 | *Inc. Flow/Vac. |
| GUDEW026 | 14:10 | 12/28/2017 | 27.9 | 15.3 | 12.3 | 44.5 | -42.85 | -42.83 | 0 | 37.5 | 37.5 | <<> | -43.46 | *Barely Open/*No Adj. Made |
| GUDEW026 | 11:14 | 1/31/2018 | 45.7 | 30.9 | 0.8 | 22.6 | -3.59 | -3.63 | 0.07 | 49.9 | 49.9 | 17 | -28.6 | No Change in Valve Position |
| GUDEW026 | 13:45 | 2/22/2018 | 72.9 | 26.8 | 0.3 | 0.0 | 84.05 | -0.6 | -0.013 | 58.2 | 57.2 | <<> | -40.09 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW026 | 16:09 | 3/27/2018 | 61.9 | 31.7 | 2.0 | 4.4 | -43.11 | -43.73 | 0.015 | 53.1 | 53.2 | 7.6 | -43.52 | *Inc. Flow/Vac. |
| GUDEW026 | 8:01 | 4/24/2018 | 59.5 | 29.0 | 2.5 | 9.0 | -33.69 | -33.7 | -0.019 | 63.8 | 63.8 | <<> | -33.63 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW027 | 16:13 | 11/28/2017 | 25.1 | 16.8 | 12.6 | 45.5 | -19.64 | -17.2 | 0.004 | 66 | 65.2 | 3.5 | -38.49 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW027 | 13:30 | 12/28/2017 | 39.3 | 27.0 | 7.7 | 26.0 | -7.25 | -6.58 | 1.012 | 35.4 | 35.6 | 67.1 | -43.15 | *Surging |
| GUDEW027 | 11:07 | 1/31/2018 | 60.1 | 40.1 | 0.0 | N/A | -42.97 | -43 | >>>> | 48.5 | 48.5 | N/A | -43 | No Change in Valve Position |
| GUDEW027 | 10:47 | 2/22/2018 | 4.7 | 9.6 | 16.4 | 69.3 | -1.39 | -1.37 | -0.174 | 58.2 | 58.2 | <<> | -38.42 | *Fully Closed/*No Change in Valve Position |
| GUDEW027 | 15:41 | 3/21/2018 | 61.6 | 37.8 | 0.6 | 0.0 | 0.98 | -5.39 | 0.007 | 39.6 | 39.1 | 5.5 | -48.8 | *Inc. Flow/Vac. |
| GUDEW027 | 17:16 | 4/23/2018 | 36.1 | 24.2 | 8.4 | 31.3 | -14.91 | -13.79 | -0.002 | 69.3 | 68.4 | <<> | -31.06 | *Dec. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW028 | 16:28 | 11/28/2017 | 16.3 | 10.2 | 15.0 | 58.5 | -29.88 | -29.87 | -0.007 | 60.6 | 62.2 | <<> | -37.9 | *Barely Open/*No Adj. Made |
| GUDEW028 | 10:54 | 12/28/2017 | 29.6 | 19.4 | 14.2 | 36.8 | -29.15 | -30.8 | >>>> | 26.5 | 26.3 | N/A | -44.04 | *No Adj. Made |
| GUDEW028 | 10:12 | 1/31/2018 | 61.6 | 37.5 | 0.9 | 0.0 | -36.37 | -36.28 | 0.143 | 43.1 | 43.1 | 63.1 | -42.3 | No Change in Valve Position |
| GUDEW028 | 13:54 | 2/22/2018 | 3.4 | 9.1 | 13.3 | 74.2 | -21.17 | -21.17 | 4.077 | 58.3 | 58.3 | 329.6 | -31.12 | *Fully Closed/*No Change in Valve Position |
| GUDEW028 | 15:25 | 3/21/2018 | 6.8 | 4.6 | 17.8 | 70.8 | -26.44 | -23.2 | 4.68 | 35.1 | 35 | 366.8 | -48.23 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW028 | 17:08 | 4/23/2018 | 62.2 | 37.4 | 0.3 | 0.1 | 14.53 | -8.1 | -0.005 | 72.5 | 72.2 | <<> | -26.09 | *Barely Open/*Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW029 | 12:08 | 11/28/2017 | 1.9 | 2.1 | 18.4 | 77.6 | -19.08 | -2.15 | 0.019 | 74.6 | 72.7 | 8.4 | -38.65 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW029 | 13:24 | 12/28/2017 | 59.8 | 39.9 | 0.3 | 0.0 | 1.73 | 1.76 | 0.031 | 23.7 | 23.6 | 11.7 | -43.47 | *No Adj. Made |
| GUDEW029 | 11:06 | 1/31/2018 | 60.8 | 39.5 | 0.0 | N/A | 8.78 | 8.92 | -8.878 | 46.5 | 46.5 | <<> | -42.83 | No Change in Valve Position |
| GUDEW029 | 10:43 | 2/22/2018 | 72.6 | 27.3 | 0.1 | 0.0 | 0.64 | -0.12 | 0.415 | 58.6 | 58.6 | 45.6 | -40.45 | *Fully Closed/*No Change in Valve Position |
| GUDEW029 | 10:44 | 2/22/2018 | 72.0 | 28.0 | 0.0 | 0.0 | 0.38 | -4.17 | 1.371 | 58.9 | 58.4 | 83.4 | -40.54 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW029 | 15:37 | 3/21/2018 | 20.2 | 11.6 | 14.3 | 53.9 | -42.56 | -42.54 | 0.006 | 37.5 | 37.3 | 4.7 | -48.99 | *Barely Open/*No Adj. Made |
| GUDEW029 | 17:19 | 4/23/2018 | 50.5 | 28.3 | 4.6 | 16.6 | -32.13 | -32.14 | -0.015 | 75.3 | 75.4 | <<> | -33.24 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW030 | 11:54 | 11/28/2017 | 54.6 | 38.2 | 1.1 | 6.1 | -14.01 | -26.72 | 0.018 | 77.7 | 78.5 | 20.8 | -38.53 | *Inc. Flow/Vac. |
| GUDEW030 | 11:40 | 12/28/2017 | 58.5 | 41.0 | 0.5 | 0.0 | -28.11 | -28.06 | 0.043 | 26.5 | 26.3 | 34.8 | -35.93 | *No Adj. Made |
| GUDEW030 | 10:59 | 1/31/2018 | 49.3 | 31.6 | 0.6 | 18.5 | -35.18 | -35.18 | 0.047 | 46.5 | 46.5 | 35.3 | -42.02 | No Change in Valve Position |
| GUDEW030 | 10:33 | 2/22/2018 | 58.4 | 41.0 | 0.6 | 0.0 | -37.44 | -36.9 | 4.887 | 56 | 55.8 | 368.3 | -40.21 | *No Change in Valve Position |
| GUDEW030 | 10:33 | 2/22/2018 | 58.3 | 41.4 | 0.3 | 0.0 | -36.6 | -39.46 | 5.629 | 53.8 | 53.7 | 395.1 | -40.6 | *Inc. Flow/Vac. |
| GUDEW030 | 15:34 | 3/21/2018 | 57.7 | 40.9 | 1.3 | 0.1 | -47.25 | -47.24 | 0.005 | 41 | 41 | 11.4 | -48.26 | *No Adj. Made |
| GUDEW030 | 9:01 | 4/24/2018 | 57.1 | 39.1 | 0.8 | 3.0 | -32.59 | -32.6 | 0.024 | 62 | 62 | 24.8 | -33.12 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW031 | 11:48 | 11/28/2017 | 52.8 | 36.7 | 0.3 | 10.2 | -38.71 | -38.72 | 0.069 | 73.8 | 73.8 | 15.7 | -38.71 | *Fully Open/*No Adj. Made |
| GUDEW031 | 11:37 | 12/28/2017 | 54.9 | 36.1 | 0.5 | 8.5 | -44.62 | -44.62 | 0.05 | 29.3 | 29.3 | 14 | -44.45 | *No Adj. Made |
| GUDEW031 | 10:55 | 1/31/2018 | 50.1 | 37.3 | 0.3 | 12.3 | -43.18 | -43.15 | 0.028 | 48.5 | 48.5 | 10 | -43.12 | No Change in Valve Position |
| GUDEW031 | 10:30 | 2/22/2018 | 53.0 | 37.4 | 0.3 | 9.3 | -40.92 | -40.24 | 0.022 | 62.6 | 62.8 | 8.9 | -40.76 | *No Change in Valve Position |
| GUDEW031 | 15:45 | 3/21/2018 | 57.0 | 42.8 | 0.2 | 0.0 | -48.79 | -48.79 | 0.006 | 36.7 | 36.6 | 4.7 | -48.55 | *Fully Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW031 | 8:59 | 4/24/2018 | 58.9 | 38.2 | 0.4 | 2.5 | -33.12 | -33.11 | 0.018 | 59.4 | 59.1 | 8.2 | -33.12 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW032 | 11:44 | 11/28/2017 | 41.6 | 15.8 | 8.5 | 34.1 | -37.68 | -37.65 | >>>> | 87.7 | 88 | N/A | -38.24 | *Barely Open/*No Adj. Made |
| GUDEW032 | 11:34 | 12/28/2017 | 57.8 | 21.6 | 4.9 | 15.7 | -3.57 | -3.56 | 3.505 | 36.1 | 36.4 | 134.6 | -3.6 | *No Adj. Made |
| GUDEW032 | 10:52 | 1/31/2018 | 69.2 | 26.0 | 0.6 | 4.2 | 2.91 | 2.95 | -2.914 | 47.4 | 47.4 | <<>> | 3.02 | No Change in Valve Position |
| GUDEW032 | 10:28 | 2/22/2018 | 29.0 | 15.3 | 10.9 | 44.8 | -19.82 | -19.81 | >>>> | 60.9 | 60.7 | N/A | -29.4 | *No Change in Valve Position |
| GUDEW032 | 15:52 | 3/21/2018 | 72.9 | 23.8 | 3.3 | 0.0 | 55.99 | -7.59 | 8.982 | 48.2 | 49.9 | 222.1 | -30.86 | *Inc. Flow/Vac. |
| GUDEW032 | 8:56 | 4/24/2018 | 40.4 | 16.9 | 8.9 | 33.8 | -30.08 | -29.65 | >>>> | 62.7 | 62.9 | N/A | -30.01 | *Barely Open/*Dec. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW034 | 10:48 | 11/28/2017 | 44.3 | 29.4 | 4.0 | 22.3 | -3.09 | -2.26 | 0.012 | 68.6 | 67.7 | 6.8 | -36.19 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW034 | 11:16 | 12/28/2017 | 47.6 | 31.1 | 4.1 | 17.2 | -1.8 | -1.82 | 0.216 | 24.1 | 23.9 | 31.3 | -44.45 | *No Adj. Made |
| GUDEW034 | 10:21 | 1/31/2018 | 48.1 | 31.4 | 3.6 | 16.9 | -1.7 | -1.69 | 0.032 | 42.9 | 42.9 | 11.6 | -43.16 | No Change in Valve Position |
| GUDEW034 | 10:15 | 2/22/2018 | 29.3 | 18.1 | 9.6 | 43.0 | -2.16 | -2.16 | 0.02 | 55.2 | 55.3 | 8.8 | -42.14 | *Fully Closed/*No Change in Valve Position |
| GUDEW034 | 15:12 | 3/21/2018 | 49.9 | 33.2 | 3.1 | 13.8 | -1.47 | -1.46 | -0.3 | 42.6 | 42.6 | <<>> | -48.51 | *Barely Open/*No Adj. Made |
| GUDEW034 | 8:28 | 4/24/2018 | 55.5 | 34.8 | 1.4 | 8.3 | -0.22 | -1.56 | -0.003 | 64.1 | 63.4 | <<>> | -33.3 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW035 | 11:30 | 11/28/2017 | 58.2 | 26.9 | 3.0 | 11.9 | -33.32 | -34.3 | 0.019 | 75.4 | 76.2 | 22.3 | -34.54 | *Inc. Flow/Vac. |
| GUDEW035 | 11:22 | 12/28/2017 | 47.0 | 22.3 | 7.7 | 23.0 | -3.71 | -3.72 | 0.037 | 34.9 | 35.3 | 33.5 | -3.55 | *No Adj. Made |
| GUDEW035 | 10:44 | 1/31/2018 | 68.8 | 31.2 | 0.0 | 0.0 | 3.63 | 3.64 | 0.048 | 43.6 | 43.6 | 39.5 | 3.42 | No Change in Valve Position |
| GUDEW035 | 10:19 | 2/22/2018 | 13.2 | 7.2 | 17.1 | 62.5 | -29.13 | -28.42 | 0.026 | 58.2 | 58.3 | 25.3 | -28.22 | *No Change in Valve Position |
| GUDEW035 | 15:59 | 3/21/2018 | 67.3 | 32.6 | 0.1 | 0.0 | -34.89 | -33.52 | >>>> | 48.5 | 49.5 | N/A | -36.14 | *Inc. Flow/Vac. |
| GUDEW035 | 8:47 | 4/24/2018 | 58.3 | 25.7 | 3.5 | 12.5 | -29.49 | -30.45 | 0.007 | 65.5 | 65.6 | 14 | -29.33 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW036 | 16:34 | 11/28/2017 | 40.6 | 20.6 | 7.8 | 31.0 | -29.37 | -29.34 | 0.003 | 70.7 | 70.7 | 8 | -38.09 | *Barely Open/*No Adj. Made |
| GUDEW036 | 16:40 | 11/28/2017 | 67.0 | 31.4 | 0.3 | 1.3 | -32.93 | -32.95 | -0.006 | 64.5 | 64.5 | <<>> | -38.13 | *No Adj. Made |
| GUDEW036 | 10:49 | 12/28/2017 | 68.9 | 30.8 | 0.3 | 0.0 | -14.47 | -14.37 | 0.033 | 40.2 | 40.3 | 31.9 | -42.37 | *No Adj. Made |
| GUDEW036 | 10:04 | 1/31/2018 | 66.7 | 30.1 | 1.2 | 2.0 | -40.12 | -40.04 | 0.025 | 41.7 | 41.7 | 26.6 | -42.11 | No Change in Valve Position/*Fully Open |
| GUDEW036 | 10:05 | 2/22/2018 | 68.3 | 29.7 | 0.9 | 1.1 | -22.13 | -22.12 | 0.03 | 56.3 | 56.7 | 30 | -23.39 | *Fully Closed/*No Change in Valve Position |
| GUDEW036 | 15:18 | 3/21/2018 | 65.3 | 31.5 | 1.2 | 2.0 | -46.61 | -46.59 | 0.007 | 47.1 | 47.1 | 13.9 | -47.99 | *Fully Open/*No Adj. Made |
| GUDEW036 | 17:00 | 4/23/2018 | 67.9 | 31.0 | 0.2 | 0.9 | -25.41 | -25.42 | -0.016 | 76.2 | 76.2 | <<>> | -26.64 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW037 | 10:45 | 11/28/2017 | 50.0 | 33.4 | 0.3 | 16.3 | -9.4 | -9.41 | -0.196 | 70.3 | 70.1 | <<>> | -35.93 | *Barely Open/*No Adj. Made |
| GUDEW037 | 11:08 | 12/28/2017 | 48.7 | 34.0 | 0.0 | 17.3 | -9.34 | -9.33 | 9.317 | 54.1 | 54.6 | 530.4 | -42.03 | *No Adj. Made |
| GUDEW037 | 10:16 | 1/31/2018 | 48.3 | 33.2 | 2.6 | 15.9 | -9.33 | -9.28 | 9.204 | 41.8 | 41.8 | 533.7 | -42.1 | No Change in Valve Position |
| GUDEW037 | 10:09 | 2/22/2018 | 48.9 | 32.6 | 0.1 | 18.4 | -8.35 | -8.34 | 8.251 | 53.9 | 53.8 | 501.9 | -42.16 | *No Change in Valve Position |
| GUDEW037 | 15:15 | 3/21/2018 | 46.2 | 33.8 | 1.0 | 19.0 | -8.75 | -6.03 | 0.019 | 59.3 | 59.4 | 22.5 | -48.52 | *Dec. Flow/Vac. |
| GUDEW037 | 8:26 | 4/24/2018 | 51.9 | 34.9 | 0.5 | 12.7 | -3.34 | -4.12 | -0.004 | 63.3 | 63.2 | <<>> | -33.2 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW038 | 10:51 | 11/28/2017 | 21.5 | 16.8 | 6.9 | 54.8 | -0.44 | -0.41 | 0.224 | 70.8 | 70.8 | 29.9 | -36.13 | *Fully Closed/*No Adj. Made |
| GUDEW038 | 11:12 | 12/28/2017 | 45.0 | 32.0 | 0.6 | 22.4 | -0.03 | -0.02 | 0.027 | 29.8 | 29.7 | 10.8 | -33.63 | *No Adj. Made |
| GUDEW038 | 10:17 | 1/31/2018 | 46.4 | 32.9 | 0.5 | 20.2 | -0.02 | -0.62 | 0.955 | 42.3 | 42.3 | 65.4 | -42.94 | No Change in Valve Position |
| GUDEW038 | 10:14 | 2/22/2018 | 7.4 | 11.0 | 15.0 | 66.6 | -0.28 | -0.25 | -0.108 | 52.6 | 52.6 | <<>> | -41.11 | *Fully Closed/*No Change in Valve Position |
| GUDEW038 | 15:09 | 3/21/2018 | 37.4 | 26.0 | 3.1 | 33.5 | -2.67 | -2.67 | 2.618 | 48.5 | 48.6 | 108.1 | -48.51 | *Barely Open/*No Adj. Made |
| GUDEW038 | 8:31 | 4/24/2018 | 10.5 | 8.8 | 13.0 | 67.7 | -0.44 | -0.44 | 0.116 | 66.3 | 66.3 | 21.3 | -33.1 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW039 | 16:16 | 11/27/2017 | 52.6 | 20.2 | 0.8 | 26.4 | -0.67 | -0.94 | 0.024 | 63.3 | 63.1 | 10.1 | -33.4 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|------------------------------------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW039 | 10:43 | 12/28/2017 | 55.8 | 21.2 | 1.2 | 21.8 | -0.88 | -0.86 | 0.08 | 30.1 | 30.4 | 19.7 | -21.97 | *No Adj. Made |
| GUDEW039 | 9:57 | 1/31/2018 | 58.9 | 22.5 | 0.4 | 18.2 | -1.12 | -1.11 | 0.086 | 42.2 | 42.2 | 20.3 | -40.85 | No Change in Valve Position |
| GUDEW039 | 10:01 | 2/22/2018 | 60.4 | 21.0 | 0.5 | 18.1 | -1.91 | -1.91 | -0.041 | 63.7 | 63.5 | <<>> | -25.24 | *No Change in Valve Position |
| GUDEW039 | 10:02 | 2/22/2018 | 59.1 | 22.2 | 0.3 | 18.4 | -1.91 | -2.3 | -0.07 | 62.6 | 62.3 | <<>> | -21.65 | *Inc. Flow/Vac. |
| GUDEW039 | 12:34 | 3/21/2018 | 50.7 | 24.3 | 1.3 | 23.7 | -3.63 | -3.63 | 0.28 | 61.4 | 61.5 | 35.3 | -49.02 | *No Adj. Made |
| GUDEW039 | 16:53 | 4/23/2018 | 51.9 | 24.0 | 0.0 | 24.1 | -2.1 | -2.93 | 0.299 | 76.2 | 76 | 36.2 | -25.06 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW040 | 11:29 | 8/2/2017 | 26.0 | 21.2 | 0.0 | 52.8 | -0.61 | -0.61 | 0.034 | 102.6 | 102.6 | 2.4 | -43.75 | *Barely Open/*No Adj. Made |
| GUDEW040 | 11:47 | 9/21/2017 | 26.7 | 20.1 | 1.0 | 52.2 | -0.46 | -0.46 | >>>> | 89.9 | 89.6 | N/A | -39.7 | *Barely Open/*No Adj. Made |
| GUDEW040 | 17:11 | 10/25/2017 | 28.1 | 21.0 | 0.7 | 50.2 | -0.54 | -0.53 | 0.017 | 70.6 | 70.5 | 1.7 | -41.8 | *Barely Open/*No Adj. Made |
| GUDEW040 | 11:08 | 11/28/2017 | 25.3 | 20.6 | 1.5 | 52.6 | -0.4 | -0.3 | 0.027 | 70 | 69.4 | 2.2 | -35.93 | *Dec. Flow/Vac. |
| GUDEW040 | 13:33 | 12/28/2017 | 27.3 | 20.1 | 2.9 | 49.7 | -0.02 | -0.01 | 0.004 | 47.7 | 47.9 | 0.9 | -42.98 | *Barely Open/*No Adj. Made |
| GUDEW040 | 10:40 | 1/31/2018 | 26.4 | 17.7 | 11.7 | 44.2 | -0.2 | -0.17 | 0.158 | 43.8 | 43.8 | 14.1 | N/A | No Change in Valve Position |
| Note: Decommissioned February 2018 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW041 | 11:34 | 8/2/2017 | 24.9 | 18.8 | 0.0 | 56.3 | -6.71 | -3.57 | -0.006 | 103.8 | 104.4 | <<>> | -44.24 | *Dec. Flow/Vac. |
| GUDEW041 | 11:44 | 9/21/2017 | 24.5 | 19.0 | 0.1 | 56.4 | -2.75 | -2.74 | >>>> | 95.5 | 95.4 | N/A | -39.51 | *Barely Open/*No Adj. Made |
| GUDEW041 | 17:14 | 10/25/2017 | 25.0 | 19.5 | 0.0 | 55.5 | -3.32 | -3.32 | -0.009 | 73.2 | 73.2 | <<>> | -42.37 | *Barely Open/*No Adj. Made |
| GUDEW041 | 11:12 | 11/28/2017 | 22.4 | 19.3 | 0.1 | 58.2 | -2.57 | -0.62 | 0.016 | 74 | 75.4 | 7.7 | -36.2 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW041 | 13:36 | 12/28/2017 | 32.1 | 19.5 | 0.5 | 47.9 | -0.18 | -0.18 | -0.011 | 45.4 | 45.7 | <<>> | -43.01 | *Barely Open/*No Adj. Made |
| GUDEW041 | 10:31 | 1/31/2018 | 8.2 | 20.3 | 12.5 | 59.0 | -1.87 | -1.79 | 1.739 | 42.5 | 42.5 | 83.9 | -42.66 | No Change in Valve Position |
| Note: Decommissioned February 2018 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW043 | 11:37 | 8/2/2017 | 31.0 | 27.6 | 0.5 | 40.9 | -13.57 | -9.19 | -0.03 | 107.3 | 108.2 | <<>> | -44.12 | *Dec. Flow/Vac. |
| GUDEW043 | 11:40 | 9/21/2017 | 34.1 | 30.0 | 0.6 | 35.3 | -8.51 | -8.52 | >>>> | 97.2 | 97.2 | N/A | -39.71 | *No Adj. Made |
| GUDEW043 | 17:18 | 10/25/2017 | 33.7 | 30.1 | 0.6 | 35.6 | -9.56 | -9.56 | -0.029 | 73.3 | 73.3 | <<>> | -41.7 | *No Adj. Made |
| GUDEW043 | 11:16 | 11/28/2017 | 31.4 | 28.1 | 1.5 | 39.0 | -7.9 | -1.79 | 0.012 | 67.7 | 67.1 | 6.5 | -37.05 | *Dec. Flow/Vac. |
| GUDEW043 | 13:39 | 12/28/2017 | 46.8 | 32.1 | 1.0 | 20.1 | -1.34 | -1.34 | -0.023 | 50.8 | 50.8 | <<>> | -42.77 | *No Adj. Made |
| GUDEW043 | 10:34 | 1/31/2018 | 50.6 | 34.5 | 0.4 | 14.5 | -1.61 | -1.65 | 0.173 | 43.8 | 43.8 | 27.4 | -42.56 | No Change in Valve Position |
| Note: Decommissioned February 2018 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW044 | 11:40 | 8/2/2017 | 33.4 | 19.1 | 8.4 | 39.1 | -0.1 | -0.07 | -0.004 | 108.5 | 108.2 | <<>> | -45.02 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW044 | 11:36 | 9/21/2017 | 33.3 | 19.4 | 8.5 | 38.8 | -0.18 | -0.17 | >>>> | 96.8 | 96.9 | N/A | -39.59 | *Barely Open/*No Adj. Made |
| GUDEW044 | 17:22 | 10/25/2017 | 33.7 | 19.6 | 9.5 | 37.2 | -0.17 | -0.1 | -0.018 | 73.9 | 75.3 | <<>> | -41.64 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW044 | 11:20 | 11/28/2017 | 43.3 | 26.9 | 5.4 | 24.4 | 0.11 | -0.08 | 0.136 | 72.7 | 67.5 | 23.7 | -38.09 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW044 | 13:50 | 12/28/2017 | 64.4 | 34.4 | 1.2 | 0.0 | 0.09 | -0.43 | 0.861 | 38 | 40.2 | 64.5 | -42.88 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW044 | 10:37 | 1/31/2018 | 29.2 | 19.8 | 10.1 | 40.9 | -0.55 | -0.54 | 0.013 | 43.1 | 43.1 | 7.1 | -42.64 | No Change in Valve Position |
| Note: Decommissioned February 2018 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW050 | 15:54 | 11/28/2017 | 34.0 | 23.2 | 9.0 | 33.8 | -38.97 | -38.89 | 0.001 | 74.8 | 75.5 | 5.4 | -39.33 | *Barely Open/*No Adj. Made |
| GUDEW050 | 14:29 | 12/28/2017 | 38.4 | 27.0 | 8.3 | 26.3 | -41.96 | -41.96 | 0.051 | 42.2 | 42.1 | 35.9 | -44.33 | *Barely Open/*No Adj. Made |
| GUDEW050 | 12:17 | 1/31/2018 | 6.3 | 8.3 | 17.9 | 67.5 | -40.29 | -40.74 | >>>> | 53.8 | 53.8 | N/A | -41.42 | No Change in Valve Position |
| GUDEW050 | 11:49 | 2/22/2018 | 8.5 | 15.1 | 12.7 | 63.7 | -44.04 | -44.05 | >>>> | 59.5 | 59.4 | N/A | -44.61 | *Fully Closed/*No Change in Valve Position |
| GUDEW050 | 15:41 | 3/27/2018 | 15.0 | 10.5 | 15.2 | 59.3 | -44.76 | -44.76 | 0.015 | 53.4 | 53.5 | 19 | -44.4 | *Barely Open/*No Adj. Made |
| GUDEW050 | 12:12 | 4/24/2018 | 17.2 | 10.7 | 13.9 | 58.2 | -32.06 | -31.88 | -0.011 | 73 | 72.6 | <<>> | -32.06 | *Barely Open/*Dec. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW051 | 16:00 | 11/28/2017 | 67.5 | 31.6 | 0.9 | 0.0 | 0.3 | -5.61 | -0.002 | 71.9 | 70.5 | <<>> | -39.31 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW051 | 14:20 | 12/28/2017 | 12.1 | 6.4 | 16.2 | 65.3 | -1.99 | -1.98 | 0.012 | 46.9 | 47.1 | 6.7 | -44.25 | *Barely Open/*No Adj. Made |
| GUDEW051 | 13:28 | 1/31/2018 | 8.8 | 6.6 | 17.6 | 67.0 | -0.07 | -0.05 | -2.479 | 51.2 | 51.2 | <<>> | -40.4 | No Change in Valve Position |
| GUDEW051 | 11:51 | 2/22/2018 | 68.1 | 31.4 | 0.5 | 0.0 | -0.25 | -0.21 | -0.044 | 59.1 | 59.5 | <<>> | -44.67 | *No Change in Valve Position |
| GUDEW051 | 16:05 | 3/27/2018 | 67.9 | 31.5 | 0.6 | 0.0 | -0.2 | -32.86 | -0.055 | 50.4 | 50.4 | <<>> | -45.13 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|---|
| GUDEW051 | 12:19 | 4/24/2018 | 3.6 | 1.9 | 18.6 | 75.9 | -31.88 | -16.21 | -0.011 | 66.2 | 65 | <<> | -31.89 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW052 | 16:06 | 11/28/2017 | 56.6 | 38.8 | 0.6 | 4.0 | -39.34 | -39.3 | -0.002 | 73.4 | 73.4 | <<> | -39.23 | *No Adj. Made |
| GUDEW052 | 14:12 | 12/28/2017 | 59.1 | 38.8 | 2.1 | 0.0 | -43.91 | -43.92 | 0.016 | 43.5 | 43.5 | 20.2 | -44.09 | *No Adj. Made |
| GUDEW052 | 13:43 | 1/31/2018 | 58.7 | 41.2 | 0.1 | 0.0 | -40.94 | -40.92 | 0.029 | 56.2 | 56.2 | 27.2 | -40.38 | No Change in Valve Position/*Fully Open |
| GUDEW052 | 13:38 | 2/22/2018 | 59.3 | 39.9 | 0.8 | 0.0 | -45.4 | -45.39 | 2.963 | 58.2 | 58.2 | 283.5 | -44.54 | *No Change in Valve Position |
| GUDEW052 | 16:03 | 3/27/2018 | 59.0 | 39.6 | 0.6 | 0.8 | -45.13 | -45.12 | 0.007 | 53 | 53 | 13 | -45.21 | *No Adj. Made |
| GUDEW052 | 8:22 | 4/24/2018 | 55.5 | 37.0 | 1.7 | 5.8 | -34.79 | -34.79 | -0.003 | 63.7 | 63.7 | <<> | -34.6 | *No Adj. Made |
| GUDEW054 | 16:21 | 11/28/2017 | 55.9 | 33.7 | 2.3 | 8.1 | -37.3 | -38.48 | 0.003 | 68.1 | 68.2 | 3.2 | -38.69 | *Inc. Flow/Vac. |
| GUDEW054 | 14:56 | 12/28/2017 | 62.1 | 37.5 | 0.4 | 0.0 | -44.29 | -44.28 | 0.029 | 38.5 | 38.5 | 10.6 | -44.09 | *No Adj. Made |
| GUDEW054 | 13:57 | 1/31/2018 | 1.6 | 7.3 | 16.0 | 75.1 | -34.99 | -32.61 | 0.006 | 51.4 | 51.4 | 4.5 | -35.65 | No Change in Valve Position |
| GUDEW054 | 13:48 | 2/22/2018 | 52.6 | 26.7 | 7.5 | 13.2 | -39.67 | -39.06 | 0.061 | 57.5 | 57.6 | 15.3 | -38.72 | *No Change in Valve Position |
| GUDEW054 | 16:12 | 3/27/2018 | 37.0 | 23.2 | 8.8 | 31.0 | -43.25 | -39.87 | 0.007 | 46.5 | 45.4 | 5.1 | -43 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW054 | 17:13 | 4/23/2018 | 32.1 | 18.6 | 10.5 | 38.8 | -32.01 | -32.02 | -0.008 | 70.1 | 70 | <<> | -33.34 | *Barely Open/*No Adj. Made |
| GUDEW057 | 16:31 | 11/28/2017 | 34.7 | 21.0 | 9.3 | 35.0 | -37.52 | -37.54 | -0.017 | 70.2 | 70.7 | <<> | -37.77 | *Barely Open/*No Adj. Made |
| GUDEW057 | 10:51 | 12/28/2017 | 35.1 | 22.0 | 10.0 | 32.9 | -41.24 | -41.3 | -0.007 | 27.5 | 27.4 | <<> | -42.64 | *No Adj. Made |
| GUDEW057 | 10:09 | 1/31/2018 | 30.6 | 18.5 | 11.4 | 39.5 | -41.54 | -41.54 | 0.018 | 42.5 | 42.5 | 8.1 | -42.53 | No Change in Valve Position |
| GUDEW057 | 13:56 | 2/22/2018 | 36.1 | 21.6 | 9.0 | 33.3 | -29.61 | -29.61 | -0.001 | 58.9 | 58.8 | <<> | -29.64 | *No Change in Valve Position |
| GUDEW057 | 15:21 | 3/21/2018 | 38.6 | 23.1 | 8.9 | 29.4 | -47.14 | -47.15 | 0.004 | 46.6 | 46.5 | 3.7 | -47.81 | *Barely Open/*No Adj. Made |
| GUDEW057 | 17:05 | 4/23/2018 | 34.9 | 19.5 | 9.3 | 36.3 | -25.45 | -25.51 | -0.015 | 75.5 | 75.5 | <<> | -26.55 | *No Adj. Made |
| GUDEW062 | 16:19 | 11/27/2017 | 63.5 | 35.4 | 0.0 | 1.1 | 4.11 | -17.83 | -0.006 | 66.6 | 65.7 | <<> | -33.87 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW062 | 10:38 | 12/28/2017 | 0.6 | 4.7 | 19.9 | 74.8 | -41.77 | -41.77 | -0.011 | 23 | 23 | <<> | -42.14 | *No Adj. Made |
| GUDEW062 | 9:53 | 1/31/2018 | 20.1 | 14.9 | 14.1 | 50.9 | -42.24 | -42.23 | 0.023 | 41.6 | 41.6 | 9 | -42.23 | No Change in Valve Position |
| GUDEW062 | 9:58 | 2/22/2018 | 0.2 | 2.4 | 19.9 | 77.5 | -30.66 | -30.62 | 0.05 | 68.5 | 68.4 | 13.1 | -30.57 | *No Change in Valve Position |
| GUDEW062 | 12:31 | 3/21/2018 | 24.4 | 15.3 | 11.6 | 48.7 | -52.2 | -51.54 | 0.006 | 40 | 39.4 | 4.6 | -52.16 | *Dec. Flow/Vac. |
| GUDEW062 | 16:55 | 4/23/2018 | 65.6 | 33.3 | 0.0 | 1.1 | 0.05 | -9.82 | 0 | 76.3 | 75.8 | 0 | -26.17 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW070 | 15:57 | 11/28/2017 | 26.3 | 12.7 | 12.6 | 48.4 | -38.91 | -38.87 | -0.002 | 73.3 | 73.1 | <<> | -39.5 | *Barely Open/*No Adj. Made |
| GUDEW070 | 14:32 | 12/28/2017 | 22.4 | 11.5 | 13.2 | 52.9 | -43.54 | -43.54 | 0.05 | 40.2 | 40.2 | 13.6 | -44.39 | *Barely Open/*No Adj. Made |
| GUDEW070 | 12:13 | 1/31/2018 | 22.0 | 13.7 | 13.2 | 51.1 | -40.78 | -40.28 | 0.632 | 54.3 | 54.3 | 49.2 | -42.47 | No Change in Valve Position |
| GUDEW070 | 13:28 | 2/22/2018 | 28.5 | 16.4 | 11.1 | 44.0 | -44.13 | -44.1 | 0.48 | 57.1 | 57.1 | 42.8 | -43.59 | *No Change in Valve Position |
| GUDEW070 | 15:44 | 3/27/2018 | 31.6 | 16.0 | 12.3 | 40.1 | -44.41 | -44.41 | 0.13 | 52.6 | 52.5 | 22.2 | -45.16 | *Barely Open/*No Adj. Made |
| GUDEW070 | 12:15 | 4/24/2018 | 27.1 | 12.3 | 12.7 | 47.9 | -31.82 | -31.84 | 0.006 | 70.6 | 70.6 | 4.4 | -32.85 | *Barely Open/*No Adj. Made |
| GUDEW071 | 16:52 | 11/27/2017 | 56.6 | 35.5 | 0.4 | 7.5 | -31.45 | -35.03 | 0.004 | 64.1 | 63.2 | 3.9 | -35.94 | *Inc. Flow/Vac. |
| GUDEW071 | 14:13 | 12/28/2017 | 36.1 | 31.0 | 1.7 | 31.2 | -43.58 | -43.58 | 0.37 | 43.7 | 43.7 | 37.4 | -44.09 | *Barely Open/*No Adj. Made |
| GUDEW071 | 13:46 | 1/31/2018 | 44.1 | 33.3 | 0.4 | 22.2 | -39.47 | -39.44 | 1.07 | 54.8 | 54.8 | 64.6 | -40.37 | No Change in Valve Position |
| GUDEW071 | 13:41 | 2/22/2018 | 31.3 | 27.0 | 3.4 | 38.3 | -43.92 | -43.93 | 0.606 | 59 | 59 | 47.3 | -44.87 | *No Change in Valve Position |
| GUDEW071 | 16:00 | 3/27/2018 | 35.8 | 30.0 | 1.6 | 32.6 | -44.52 | -43.93 | 0.003 | 50.7 | 51.8 | 3.3 | -45.1 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW071 | 8:20 | 4/24/2018 | 43.8 | 28.8 | 4.0 | 23.4 | -33.32 | -33.32 | 0.228 | 61.8 | 62 | 29.6 | -34.88 | *Barely Open/*No Adj. Made |
| GUDEW072 | 16:43 | 11/27/2017 | 47.2 | 34.9 | 3.6 | 14.3 | -6.98 | -6.99 | -0.009 | 61.8 | 61.7 | <<> | -36.51 | *No Adj. Made |
| GUDEW072 | 14:06 | 12/28/2017 | 58.0 | 39.8 | 2.2 | 0.0 | -10.1 | -10.11 | 0.016 | 44.9 | 44.8 | 21.2 | -44.17 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW072 | 13:52 | 1/31/2018 | 7.2 | 9.1 | 19.0 | 64.7 | -3.92 | -3.81 | -0.011 | 54.3 | 54.3 | <<> | -42.88 | No Change in Valve Position |
| GUDEW072 | 14:00 | 2/22/2018 | 58.3 | 41.6 | 0.1 | 0.0 | 1.17 | -0.65 | 0.008 | 59.9 | 60.8 | 14.9 | -44.18 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW072 | 16:18 | 3/27/2018 | 57.3 | 39.7 | 0.9 | 2.1 | -3.05 | -5 | 0.375 | 52.1 | 50.6 | 105 | -45.15 | *Inc. Flow/Vac. |
| GUDEW072 | 17:31 | 4/23/2018 | 55.8 | 39.3 | 0.4 | 4.5 | -12.4 | -14.78 | -0.013 | 70.5 | 70.4 | <<> | -38.01 | *Inc. Flow/Vac. |
| GUDEW073 | 16:46 | 11/27/2017 | 51.6 | 34.9 | 2.6 | 10.9 | -35.22 | -36.04 | 0.004 | 63.2 | 62.9 | 3.5 | -36.04 | *Inc. Flow/Vac. |
| GUDEW073 | 14:01 | 12/28/2017 | 59.4 | 37.9 | 1.8 | 0.9 | -44.16 | -44.16 | -0.009 | 46.9 | 46.9 | <<> | -43.91 | *Barely Open/*No Adj. Made |
| GUDEW073 | 14:02 | 1/31/2018 | 59.8 | 39.3 | 0.9 | 0.0 | -40.91 | -40.87 | 0.322 | 57.7 | 57.7 | 35.5 | -40.88 | No Change in Valve Position |
| GUDEW073 | 14:03 | 2/22/2018 | 46.3 | 41.5 | 0.9 | 11.3 | -34.39 | -34.42 | 0.034 | 63 | 63 | 10.9 | -34.16 | *No Change in Valve Position |
| GUDEW073 | 16:38 | 3/27/2018 | 55.5 | 36.1 | 2.0 | 6.4 | -37.55 | -37.57 | 0.023 | 50.1 | 50 | 9.3 | -37.67 | *No Adj. Made |
| GUDEW073 | 7:58 | 4/24/2018 | 48.2 | 31.3 | 3.7 | 16.8 | -34.74 | -34.03 | -0.014 | 56.3 | 55.5 | <<> | -34.28 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW074 | 16:18 | 11/28/2017 | 30.7 | 18.7 | 10.8 | 39.8 | -31.32 | -31.33 | -0.007 | 68.3 | 68 | <<> | -38.92 | *Barely Open/*No Adj. Made |
| GUDEW074 | 14:56 | 12/28/2017 | 27.8 | 17.3 | 12.8 | 42.1 | -38.82 | -38.82 | 0.028 | 33.9 | 33.7 | 10.2 | -43.67 | *Barely Open/*No Adj. Made |
| GUDEW074 | 14:17 | 1/31/2018 | 12.6 | 5.7 | 18.3 | 63.4 | -11.15 | -11.7 | 0.008 | 52.7 | 52.7 | 5.4 | -40.9 | No Change in Valve Position |
| GUDEW074 | 13:51 | 2/22/2018 | 23.4 | 16.3 | 11.5 | 48.8 | -34.82 | -34.84 | 0.045 | 58.4 | 58.4 | 12.7 | -38.82 | *No Change in Valve Position |
| GUDEW074 | 16:46 | 3/27/2018 | 15.3 | 8.3 | 15.4 | 61.0 | -35.83 | -35.81 | 0.021 | 49.4 | 49.1 | 8.7 | -43.15 | *Barely Open/*No Adj. Made |
| GUDEW074 | 17:11 | 4/23/2018 | 34.9 | 18.9 | 9.8 | 36.4 | -15.57 | -15.57 | -0.013 | 73.8 | 73.8 | <<> | -33.24 | *Barely Open/*No Adj. Made |
| GUDEW075 | 12:01 | 11/28/2017 | 56.5 | 37.5 | 1.1 | 4.9 | -28.83 | -30.27 | 0.026 | 72.4 | 72 | 9.8 | -38.44 | *Inc. Flow/Vac. |
| GUDEW075 | 11:46 | 12/28/2017 | 60.3 | 36.1 | 0.2 | 3.4 | -22.34 | -22.36 | 0.067 | 28.5 | 28.6 | 16.9 | -28.16 | *No Adj. Made |
| GUDEW075 | 11:02 | 1/31/2018 | 58.9 | 41.2 | 0.0 | N/A | -42.96 | -42.93 | 0.081 | 48.3 | 48.3 | 17.5 | -42.92 | No Change in Valve Position |
| GUDEW075 | 10:39 | 2/22/2018 | 57.9 | 37.1 | 1.5 | 3.5 | -40.41 | -37.71 | 0.527 | 58.4 | 58.6 | 45.8 | -40.27 | *No Change in Valve Position |
| GUDEW075 | 15:29 | 3/21/2018 | 13.2 | 8.5 | 15.5 | 62.8 | -45.99 | -44.76 | 0.015 | 36.6 | 36.1 | 7.3 | -48.49 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW075 | 17:26 | 4/23/2018 | 26.0 | 16.3 | 12.8 | 44.9 | -29.67 | -29.64 | -0.024 | 68.5 | 68.3 | <<> | -32.67 | *Barely Open/*No Adj. Made |
| GUDEW076 | 11:58 | 11/28/2017 | 56.1 | 40.2 | 0.2 | 3.5 | -38.45 | -38.45 | -0.254 | 68.5 | 68.6 | <<> | -38.63 | *Fully Open/*No Adj. Made |
| GUDEW076 | 11:44 | 12/28/2017 | 57.9 | 41.8 | 0.3 | 0.0 | -44.3 | -44.3 | -0.054 | 26.7 | 26.6 | <<> | -44.2 | *No Adj. Made |
| GUDEW076 | 11:01 | 1/31/2018 | 58.5 | 41.5 | 0.0 | 0.0 | -42.94 | -42.92 | 0.075 | 47.7 | 47.7 | 44 | -42.92 | No Change in Valve Position/*Fully Open |
| GUDEW076 | 10:36 | 2/22/2018 | 59.0 | 40.8 | 0.2 | 0.0 | -40.27 | -40.29 | -2.344 | 56.3 | 56.3 | <<> | -40.31 | *Fully Open/*No Change in Valve Position |
| GUDEW076 | 15:31 | 3/21/2018 | 56.5 | 43.0 | 0.5 | 0.0 | -48.71 | -48.7 | 0.067 | 39.9 | 39.8 | 41.2 | -48.96 | *Fully Open/*No Adj. Made |
| GUDEW076 | 17:23 | 4/23/2018 | 54.9 | 39.0 | 0.4 | 5.7 | -32.8 | -32.8 | -1.294 | 72.7 | 72.8 | <<> | -33.25 | *Fully Open/*No Adj. Made |
| GUDEW100 | 13:55 | 11/27/2017 | 25.6 | 31.8 | 0.4 | 42.2 | -67.14 | -67.13 | -0.019 | 72.2 | 72.2 | 0 | -67.08 | *Barely Open/*No Adj. Made |
| GUDEW100 | 17:12 | 12/27/2017 | 24.1 | 31.0 | 1.1 | 43.8 | -72.98 | -72.98 | -0.008 | 35.2 | 34.9 | 0 | -72.71 | *Barely Open/*No Adj. Made |
| GUDEW100 | 12:40 | 1/25/2018 | 22.3 | 29.7 | 0.6 | 47.4 | -69.31 | -69.32 | 0.012 | 56.6 | 56.5 | 2.9 | -69.34 | *Barely Open/*No Adj. Made |
| GUDEW100 | 11:41 | 2/22/2018 | 27.7 | 29.4 | 0.4 | 42.5 | -72.38 | -72.37 | -0.013 | 61.7 | 61.4 | 0 | -72.19 | *Barely Open/*No Adj. Made |
| GUDEW100 | 10:21 | 3/21/2018 | 36.2 | 30.8 | 1.1 | 31.9 | -77.46 | -77.46 | -0.034 | 46.2 | 46.1 | 0 | -77.49 | *Barely Open/*No Adj. Made |
| GUDEW100 | 15:07 | 4/23/2018 | 40.1 | 28.6 | 0.7 | 30.6 | -63.46 | -63.49 | -0.031 | 87.5 | 87.5 | 0 | -64.48 | *No Adj. Made |
| GUDEW101 | 13:58 | 11/27/2017 | 43.5 | 30.9 | 0.4 | 25.2 | -5.71 | -5.71 | -0.016 | 63.2 | 62.8 | 0 | -66.97 | *Barely Open/*No Adj. Made |
| GUDEW101 | 17:14 | 12/27/2017 | 50.2 | 33.8 | 0.0 | 16.0 | -5.36 | -5.35 | 0.011 | 35.7 | 35.7 | 3.3 | -72.82 | *Barely Open/*No Adj. Made |
| GUDEW101 | 12:42 | 1/25/2018 | 46.5 | 34.5 | 0.0 | 19.0 | -4.72 | -4.69 | -0.006 | 49.3 | 49 | 0 | -69.13 | *Barely Open/*No Adj. Made |
| GUDEW101 | 11:43 | 2/22/2018 | 51.6 | 35.9 | 0.0 | 12.5 | -4.98 | -4.98 | -0.017 | 58.9 | 58.7 | 0 | -72.12 | *Barely Open/*No Adj. Made |
| GUDEW101 | 10:24 | 3/21/2018 | 49.8 | 35.7 | 0.2 | 14.3 | -2.37 | -2.36 | -0.015 | 44.2 | 43.9 | 0 | -77.36 | *Barely Open/*No Adj. Made |
| GUDEW101 | 15:10 | 4/23/2018 | 59.5 | 36.9 | 0.0 | 3.6 | -3.59 | -21.14 | -0.002 | 85 | 79.5 | 0 | -63.56 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|------------------------------|
| | | | | | | | | | | | | | | |
| GUDEW102 | 14:00 | 11/27/2017 | 34.5 | 32.2 | 0.6 | 32.7 | -65.65 | -65.65 | -0.024 | 63.9 | 63.8 | 0 | -66.51 | *Barely Open/*No Adj. Made |
| GUDEW102 | 17:16 | 12/27/2017 | 29.0 | 32.1 | 0.8 | 38.1 | -59.27 | -59.27 | 0.021 | 41.5 | 42.1 | 4.1 | -60.51 | *Barely Open/*No Adj. Made |
| GUDEW102 | 12:44 | 1/25/2018 | 30.5 | 32.4 | 0.4 | 36.7 | -66.15 | -66.16 | -0.124 | 57.8 | 57.8 | 0 | -68.99 | *Barely Open/*No Adj. Made |
| GUDEW102 | 11:46 | 2/22/2018 | 33.6 | 32.2 | 0.2 | 34.0 | -70.43 | -70.42 | -0.014 | 60 | 59.8 | 0 | -71.95 | *Barely Open/*No Adj. Made |
| GUDEW102 | 10:26 | 3/21/2018 | 44.6 | 35.8 | 0.6 | 19.0 | -76.87 | -76.86 | 0.002 | 44.3 | 44.4 | 1.1 | -77.33 | *Barely Open/*No Adj. Made |
| GUDEW102 | 15:12 | 4/23/2018 | 53.4 | 35.4 | 0.7 | 10.5 | -62.74 | -62.79 | -0.005 | 77.6 | 77.1 | 0 | -63.71 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW103 | 14:07 | 11/27/2017 | 37.0 | 32.6 | 2.3 | 28.1 | -58.2 | -58.2 | 0.017 | 74.5 | 74.5 | 3.7 | -66.5 | *Barely Open/*No Adj. Made |
| GUDEW103 | 17:25 | 12/27/2017 | 36.7 | 32.7 | 3.1 | 27.5 | -51.5 | -51.52 | 0.015 | 65 | 65.1 | 3.5 | -58.5 | *Barely Open/*No Adj. Made |
| GUDEW103 | 12:48 | 1/25/2018 | 33.3 | 30.8 | 3.7 | 32.2 | -58.43 | -47.84 | -0.001 | 72 | 71.6 | 0 | -68.97 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW103 | 13:21 | 2/22/2018 | 43.9 | 34.5 | 0.8 | 20.8 | -47.97 | -41.95 | -0.011 | 68.4 | 68.4 | 0 | -71.07 | *Dec. Flow/Vac. |
| GUDEW103 | 10:35 | 3/21/2018 | 53.3 | 40.1 | 0.3 | 6.3 | -40.51 | -42.59 | 0.001 | 56.4 | 57.7 | 0.9 | -77.43 | *Inc. Flow/Vac. |
| GUDEW103 | 15:16 | 4/23/2018 | 57.7 | 38.0 | 0.7 | 3.6 | -43.95 | -53.93 | -0.001 | 76.9 | 74.7 | 0 | -62.91 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW104 | 14:11 | 11/27/2017 | 39.0 | 29.5 | 7.7 | 23.8 | -66.3 | -66.32 | 0.002 | 73.5 | 73.5 | 1.3 | -66.29 | *Barely Open/*No Adj. Made |
| GUDEW104 | 17:29 | 12/27/2017 | 62.4 | 35.8 | 1.8 | 0.0 | -58.07 | -58.07 | 0.004 | 32.7 | 32.6 | 1.9 | -57.96 | *Barely Open/*No Adj. Made |
| GUDEW104 | 12:52 | 1/25/2018 | 59.1 | 35.0 | 1.2 | 4.7 | -68.84 | -68.84 | 0.006 | 57.4 | 56.9 | 2.2 | -68.77 | *Fully Open/*No Adj. Made |
| GUDEW104 | 13:25 | 2/22/2018 | 59.4 | 35.5 | 1.0 | 4.1 | -71.03 | -71.04 | -0.003 | 63.6 | 63.5 | 0 | -71.1 | *Fully Open/*No Adj. Made |
| GUDEW104 | 10:41 | 3/21/2018 | 42.0 | 29.4 | 6.7 | 21.9 | -77.41 | -77.42 | 0.003 | 40.3 | 39.9 | 1.5 | -77.36 | *Fully Open/*No Adj. Made |
| GUDEW104 | 15:23 | 4/23/2018 | 32.8 | 19.4 | 10.6 | 37.2 | -63.85 | -63.86 | 0.005 | 80.7 | 80.5 | 1.9 | -63.33 | *Fully Open/*No Adj. Made |
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| | | | | | | | | | | | | | | |
| GUDEW105 | 14:15 | 11/27/2017 | 22.7 | 25.9 | 0.0 | 51.4 | -1.22 | -1.23 | 0.001 | 66.1 | 66 | 0.9 | -66.23 | *Barely Open/*No Adj. Made |
| GUDEW105 | 10:15 | 12/28/2017 | 16.6 | 26.7 | 1.1 | 55.6 | -1 | -1 | 0.008 | 34.6 | 34.6 | 2.8 | -55.76 | *Barely Open/*No Adj. Made |
| GUDEW105 | 12:56 | 1/25/2018 | 15.0 | 24.0 | 0.3 | 60.7 | -1.24 | -1.24 | 0.007 | 51.9 | 51.9 | 2.5 | -68.97 | *Barely Open/*No Adj. Made |
| GUDEW105 | 13:31 | 2/22/2018 | 5.5 | 19.0 | 0.9 | 74.6 | -7.82 | -7.82 | -0.013 | 60 | 59.8 | 0 | -70.8 | *Barely Open/*No Adj. Made |
| GUDEW105 | 10:56 | 3/21/2018 | 12.0 | 21.1 | 0.4 | 66.5 | -8.69 | -8.69 | 0.011 | 42.3 | 42.1 | 3.2 | -77.39 | *Barely Open/*No Adj. Made |
| GUDEW105 | 15:26 | 4/23/2018 | 8.8 | 20.0 | 1.1 | 70.1 | -8.63 | -8.6 | -0.004 | 80.9 | 80.4 | 0 | -62.73 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW106 | 14:31 | 11/27/2017 | 19.0 | 26.4 | 0.1 | 54.5 | -6.17 | -4.74 | -0.003 | 83.1 | 82.7 | 0 | -66.32 | *Dec. Flow/Vac. |
| GUDEW106 | 10:25 | 12/28/2017 | 17.4 | 26.3 | 1.6 | 54.7 | -3.53 | -3.53 | -0.007 | 56.5 | 57 | 0 | -56.52 | *Barely Open/*No Adj. Made |
| GUDEW106 | 10:45 | 1/30/2018 | 16.6 | 22.8 | 0.6 | 60.0 | -3.39 | -3.34 | -0.014 | 48.8 | 48.8 | 0 | -71.64 | No Change in Valve Position |
| GUDEW106 | 13:40 | 2/22/2018 | 21.4 | 28.1 | 0.2 | 50.3 | -3.23 | -3.23 | -0.027 | 68.6 | 68.7 | 0 | -71.12 | *Barely Open/*No Adj. Made |
| GUDEW106 | 11:04 | 3/21/2018 | 25.6 | 30.2 | 0.2 | 44.0 | -3.5 | -3.49 | 0.002 | 53.7 | 54.7 | 1.2 | -77.78 | *No Adj. Made |
| GUDEW106 | 15:37 | 4/23/2018 | 26.6 | 30.5 | 0.0 | 42.9 | -2.66 | -2.66 | -0.004 | 73.6 | 73.6 | 0 | -63.31 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW107 | 14:38 | 11/27/2017 | 0.2 | 12.9 | 12.3 | 74.6 | -0.91 | -0.89 | -0.009 | 69.3 | 69.3 | 0 | -66.15 | *Fully Closed/*No Adj. Made |
| GUDEW107 | 10:35 | 12/28/2017 | 0.1 | 7.9 | 15.6 | 76.4 | -3.36 | -3.36 | 0.011 | 27.9 | 27.7 | 3.2 | -56.05 | *Fully Closed/*No Adj. Made |
| GUDEW107 | 10:50 | 1/30/2018 | 0.2 | 5.8 | 20.4 | 73.6 | -0.22 | -0.24 | -0.19 | 46.8 | 46.8 | 0 | -71.9 | No Change in Valve Position |
| GUDEW107 | 13:47 | 2/22/2018 | 0.6 | 6.1 | 15.9 | 77.4 | -3.36 | -3.35 | -0.008 | 61.2 | 60.8 | 0 | -70.37 | *Fully Closed/*No Adj. Made |
| GUDEW107 | 11:15 | 3/21/2018 | 0.7 | 10.5 | 14.2 | 74.6 | -0.77 | -0.77 | 0.008 | 46.1 | 46.1 | 2.6 | -77.03 | *Barely Open/*No Adj. Made |
| GUDEW107 | 15:44 | 4/23/2018 | 0.5 | 9.0 | 12.7 | 77.8 | -1.08 | -1.08 | -0.004 | 78.6 | 78.4 | 0 | -62.96 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW108 | 14:52 | 11/27/2017 | 21.3 | 23.5 | 7.9 | 47.3 | -48.57 | -26.91 | -0.002 | 64.8 | 63.6 | 0 | -66.99 | *Dec. Flow/Vac. |
| GUDEW108 | 10:49 | 12/28/2017 | 36.1 | 34.3 | 0.9 | 28.7 | -21.28 | -21.33 | 0.008 | 37.9 | 37.9 | 2.8 | -56.7 | *No Adj. Made |
| GUDEW108 | 11:05 | 1/30/2018 | 41.2 | 36.4 | 0.5 | 21.9 | -22.98 | -22.95 | -0.023 | 49.1 | 49.1 | 0 | -72.44 | No Change in Valve Position |
| GUDEW108 | 14:02 | 2/22/2018 | 43.0 | 35.9 | 0.4 | 20.7 | -21.77 | -21.77 | -0.013 | 58.3 | 58.2 | 0 | -70.54 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|------------------------------|
| GUDEW108 | 11:32 | 3/21/2018 | 42.9 | 39.2 | 0.4 | 17.5 | -23.35 | -23.36 | 0.014 | 44.9 | 45 | 3.5 | -77.17 | *No Adj. Made |
| GUDEW108 | 16:03 | 4/23/2018 | 43.6 | 38.4 | 0.1 | 17.9 | -19.39 | -19.39 | 0.005 | 68.9 | 68.9 | 2.2 | -62.17 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW109 | 15:38 | 11/27/2017 | 45.5 | 37.5 | 0.8 | 16.2 | -67.32 | -67.32 | 0.028 | 67.4 | 67.3 | 4.7 | -67.39 | *Fully Open/*No Adj. Made |
| GUDEW109 | 11:10 | 12/28/2017 | 45.2 | 38.9 | 0.5 | 15.4 | -57.17 | -56.76 | -0.002 | 60 | 60.2 | 0 | -56.75 | *Fully Open/*No Adj. Made |
| GUDEW109 | 11:13 | 1/30/2018 | 53.3 | 42.1 | 0.0 | 4.6 | -71.93 | -71.96 | -0.035 | 53.9 | 53.9 | 0 | -71.65 | *Fully Open |
| GUDEW109 | 14:15 | 2/22/2018 | 47.9 | 40.2 | 0.0 | 11.9 | -70.79 | -70.78 | 0.033 | 63.2 | 63.2 | 5 | -70.92 | *Fully Open/*No Adj. Made |
| GUDEW109 | 11:46 | 3/21/2018 | 53.9 | 43.3 | 0.4 | 2.4 | -77.05 | -77.04 | 0.036 | 61.3 | 61.3 | 5.2 | -76.98 | *Fully Open/*No Adj. Made |
| GUDEW109 | 16:16 | 4/23/2018 | 46.4 | 40.0 | 0.1 | 13.5 | -63.22 | -63.2 | 0.05 | 71.9 | 71.6 | 6.2 | -62.13 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW110 | 15:44 | 11/27/2017 | 20.6 | 23.7 | 5.2 | 50.5 | -43.39 | -16.68 | -0.005 | 78.4 | 76.9 | 0 | -67.87 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW110 | 11:14 | 12/28/2017 | 55.2 | 38.5 | 0.1 | 6.2 | -5.07 | -5.05 | -0.003 | 45.9 | 46 | 0 | -57.09 | *Barely Open/*No Adj. Made |
| GUDEW110 | 11:21 | 1/30/2018 | 57.8 | 42.1 | 0.1 | 0.0 | -5.32 | -5.46 | -0.37 | 56 | 56 | 0 | -71.73 | *Fully Open |
| GUDEW110 | 14:20 | 2/22/2018 | 55.2 | 38.3 | 0.6 | 5.9 | -5.03 | -8.53 | -0.001 | 57.1 | 56 | 0 | -70.77 | *Inc. Flow/Vac. |
| GUDEW110 | 11:51 | 3/21/2018 | 48.4 | 42.5 | 0.0 | 9.1 | -14.25 | -14.25 | 0.013 | 50.9 | 51.2 | 3.4 | -76.81 | *Barely Open/*No Adj. Made |
| GUDEW110 | 16:23 | 4/23/2018 | 44.6 | 40.1 | 0.0 | 15.3 | -12.99 | -12.99 | -0.001 | 67.3 | 67.2 | 0 | -63.2 | *No Adj. Made |
| GUDEW110 | 12:29 | 4/27/2018 | 51.5 | 44.2 | 0.0 | 4.3 | -18.4 | -20.08 | 0.015 | 55.8 | 55.8 | 3.6 | -65.85 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW111 | 15:46 | 11/27/2017 | 36.5 | 33.1 | 2.7 | 27.7 | -67.41 | -67.42 | 0.008 | 67.1 | 66.6 | 2.4 | -67.55 | *No Adj. Made |
| GUDEW111 | 11:37 | 12/28/2017 | 38.8 | 34.4 | 2.3 | 24.5 | -48.38 | -48.38 | 3.526 | 31.3 | 31.1 | 55.3 | -56.14 | *Barely Open/*No Adj. Made |
| GUDEW111 | 11:24 | 1/30/2018 | 40.3 | 36.1 | 2.3 | 21.3 | -71.32 | -71.32 | -0.009 | 54.3 | 54.3 | 0 | -70.95 | No Change in Valve Position |
| GUDEW111 | 14:25 | 2/22/2018 | 40.7 | 34.2 | 2.3 | 22.8 | -70.08 | -70.08 | 0.003 | 55.7 | 55.7 | 1.5 | -70.03 | *No Adj. Made |
| GUDEW111 | 11:54 | 3/21/2018 | 43.5 | 37.6 | 2.1 | 16.8 | -76.48 | -76.49 | 0.004 | 39.5 | 39.4 | 1.8 | -76.69 | *No Adj. Made |
| GUDEW111 | 16:27 | 4/23/2018 | 42.8 | 34.8 | 1.6 | 20.8 | -62.67 | -62.66 | 0.011 | 75.3 | 75.1 | 3 | -61.8 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW112 | 15:51 | 11/27/2017 | 43.1 | 36.2 | 1.9 | 18.8 | -66.99 | -66.99 | 0.494 | 81.2 | 81.2 | 19.3 | -67.75 | *Fully Open/*No Adj. Made |
| GUDEW112 | 11:36 | 12/28/2017 | 42.1 | 35.6 | 1.4 | 20.9 | -55.95 | -55.93 | -0.34 | 38.8 | 38.6 | 0 | -56.11 | *No Adj. Made |
| GUDEW112 | 11:28 | 1/30/2018 | 45.0 | 38.6 | 0.5 | 15.9 | -72.29 | -72.87 | -1.752 | 56.8 | 56.8 | 0 | -72.89 | *Fully Open |
| GUDEW112 | 14:27 | 2/22/2018 | 43.4 | 36.1 | 1.2 | 19.3 | -69.92 | -69.92 | 0.293 | 78.3 | 78.4 | 14.8 | -70.43 | *No Adj. Made |
| GUDEW112 | 11:56 | 3/21/2018 | 47.8 | 41.0 | 0.7 | 10.5 | -76.6 | -76.57 | 0.059 | 65.8 | 65.8 | 6.6 | -76.54 | *No Adj. Made |
| GUDEW112 | 16:30 | 4/23/2018 | 44.0 | 37.2 | 0.8 | 18.0 | -61.25 | -61.24 | 0.304 | 81.9 | 81.9 | 15.2 | -62.1 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW113 | 15:54 | 11/27/2017 | 36.3 | 29.4 | 1.0 | 33.3 | -67.41 | -67.42 | 0.04 | 68.4 | 68.4 | 5.6 | -67.51 | *Fully Open/*No Adj. Made |
| GUDEW113 | 11:33 | 12/28/2017 | 33.0 | 28.7 | 2.4 | 35.9 | -55.93 | -55.92 | 0.072 | 38.6 | 38.5 | 7.8 | -55.93 | *Barely Open/*No Adj. Made |
| GUDEW113 | 11:32 | 1/30/2018 | 38.8 | 31.9 | 1.3 | 28.0 | -71.83 | -71.96 | -1.62 | 53.5 | 53.5 | 0 | -71.97 | *Fully Open |
| GUDEW113 | 14:29 | 2/22/2018 | 37.6 | 30.2 | 1.4 | 30.8 | -70.21 | -70.18 | 0.1 | 71 | 70.9 | 8.8 | -70.23 | *Barely Open/*No Adj. Made |
| GUDEW113 | 11:59 | 3/21/2018 | 44.0 | 35.7 | 1.0 | 19.3 | -76.67 | -76.66 | 0.012 | 45.9 | 45.7 | 3.1 | -76.59 | *Barely Open/*No Adj. Made |
| GUDEW113 | 16:32 | 4/23/2018 | 37.4 | 31.5 | 0.9 | 30.2 | -62.4 | -62.4 | 0.104 | 81.7 | 81.7 | 8.9 | -61.65 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW114 | 15:57 | 11/27/2017 | 13.1 | 16.4 | 10.1 | 60.4 | -1.71 | -1.2 | -0.008 | 65.7 | 64.5 | 0 | -67.74 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW114 | 11:31 | 12/28/2017 | 58.0 | 41.1 | 0.5 | 0.4 | -0.29 | -1.33 | 0.011 | 36.7 | 34.1 | 3.3 | -56.08 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW114 | 11:34 | 1/30/2018 | 7.2 | 14.2 | 12.5 | 66.1 | -11.49 | -11.39 | -1.923 | 52.9 | 52.9 | 0 | -70.26 | No Change in Valve Position |
| GUDEW114 | 11:36 | 1/30/2018 | 7.5 | 14.0 | 12.7 | 65.8 | -9.75 | -9.85 | -1.396 | 52.9 | 52.9 | 0 | -70.83 | *Dec. Flow/Vac. |
| GUDEW114 | 14:31 | 2/22/2018 | 4.9 | 10.7 | 12.0 | 72.4 | -7.28 | -7.28 | 0.014 | 59.3 | 58.9 | 3.5 | -70.25 | *Barely Open/*No Adj. Made |
| GUDEW114 | 12:03 | 3/21/2018 | 5.5 | 12.0 | 11.7 | 70.8 | -7.97 | -5.39 | 0.001 | 45.6 | 45.9 | 1.1 | -76.96 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW114 | 16:34 | 4/23/2018 | 7.8 | 13.1 | 9.4 | 69.7 | -2.86 | -2.88 | -0.001 | 77.4 | 77.1 | 0 | -61.61 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|-------------------------------|
| | | | | | | | | | | | | | | |
| GUDEW115 | 16:00 | 11/27/2017 | 0.7 | 17.9 | 2.6 | 78.8 | -0.84 | -0.46 | 0 | 67.7 | 65.5 | 0 | -67.71 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW115 | 11:28 | 12/28/2017 | 0.2 | 21.1 | 1.6 | 77.1 | -0.16 | -0.16 | 0.017 | 42 | 41.9 | 3.9 | -56.71 | *Barely Open/*No Adj. Made |
| GUDEW115 | 11:39 | 1/30/2018 | 0.9 | 12.9 | 9.7 | 76.5 | -2.12 | -2.17 | -1.784 | 50.4 | 50.4 | 0 | -70.62 | No Change in Valve Position |
| GUDEW115 | 14:33 | 2/22/2018 | 0.0 | 0.2 | 20.2 | 79.6 | -0.21 | -0.21 | 0.004 | 63.7 | 63.6 | 1.8 | -69.98 | *No Adj. Made |
| GUDEW115 | 12:05 | 3/21/2018 | 0.0 | 16.9 | 8.3 | 74.8 | -0.23 | -0.23 | 0.003 | 42.6 | 42.5 | 1.7 | -76.89 | *Barely Open/*No Adj. Made |
| GUDEW115 | 16:37 | 4/23/2018 | 4.5 | 14.3 | 5.0 | 76.2 | -0.17 | -0.17 | 0.012 | 77.9 | 77.9 | 3.2 | -61.54 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW116 | 16:03 | 11/27/2017 | 12.6 | 22.9 | 0.2 | 64.3 | -0.43 | -0.44 | 0.008 | 61.7 | 61.5 | 2.6 | -67.8 | *Barely Open/*No Adj. Made |
| GUDEW116 | 11:27 | 12/28/2017 | 11.6 | 23.3 | 1.1 | 64.0 | -0.36 | -0.36 | 0.023 | 35.5 | 34.8 | 4.7 | -56.46 | *Barely Open/*No Adj. Made |
| GUDEW116 | 11:41 | 1/30/2018 | 11.0 | 22.4 | 0.1 | 66.5 | -1.58 | -1.7 | -1.293 | 51 | 51 | 0 | -70.74 | No Change in Valve Position |
| GUDEW116 | 14:36 | 2/22/2018 | 11.7 | 22.7 | 0.5 | 65.1 | -0.46 | -0.46 | -0.017 | 56.9 | 56.8 | 0 | -70.12 | *Barely Open/*No Adj. Made |
| GUDEW116 | 12:07 | 3/21/2018 | 12.0 | 23.9 | 1.3 | 62.8 | -0.52 | -0.52 | 0.017 | 36 | 35.8 | 4 | -76.74 | *Barely Open/*No Adj. Made |
| GUDEW116 | 16:39 | 4/23/2018 | 11.9 | 21.3 | 0.9 | 65.9 | -0.25 | -0.26 | 0.011 | 75.3 | 75.1 | 3.1 | -61.64 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW117 | 14:04 | 11/27/2017 | 0.3 | 3.7 | 17.2 | 78.8 | -0.24 | -0.25 | 0.003 | 73.3 | 73.3 | 1.5 | -66.13 | *No Adj. Made |
| GUDEW117 | 17:23 | 12/27/2017 | 0.0 | 3.8 | 17.8 | 78.4 | -0.38 | -0.38 | 0.014 | 32.9 | 32.8 | 3.7 | -58.78 | *Fully Closed/*No Adj. Made |
| GUDEW117 | 12:46 | 1/25/2018 | 0.1 | 3.1 | 17.2 | 79.6 | -0.47 | -0.47 | -0.008 | 59.8 | 59.7 | 0 | -68.67 | *Fully Closed/*No Adj. Made |
| GUDEW117 | 13:19 | 2/22/2018 | 0.1 | 2.8 | 18.2 | 78.9 | -0.35 | -0.34 | -0.029 | 67.9 | 67.8 | 0 | -70.99 | *Fully Closed/*No Adj. Made |
| GUDEW117 | 10:33 | 3/21/2018 | 0.0 | 2.6 | 18.4 | 79.0 | -0.6 | -0.56 | 0.008 | 44.2 | 45.3 | 2.7 | -77.08 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW117 | 15:14 | 4/23/2018 | 0.4 | 3.3 | 11.8 | 84.5 | -0.18 | -0.17 | -0.011 | 83.2 | 83.1 | 0 | -63.63 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW118 | 14:08 | 11/27/2017 | 0.3 | 0.5 | 18.7 | 80.5 | -1.07 | -1.08 | 0.004 | 72.2 | 72.1 | 2 | -66.44 | *Barely Open/*No Adj. Made |
| GUDEW118 | 17:26 | 12/27/2017 | 0.1 | 0.6 | 17.8 | 81.5 | -1.36 | -1.35 | 0.016 | 42 | 41.5 | 3.9 | -58.14 | *Barely Open/*No Adj. Made |
| GUDEW118 | 12:50 | 1/25/2018 | 0.2 | 0.5 | 19.3 | 80.0 | -1.26 | -1.25 | 0.007 | 56.9 | 56.6 | 2.5 | -68.94 | *Fully Closed/*No Adj. Made |
| GUDEW118 | 13:23 | 2/22/2018 | 0.2 | 0.4 | 17.6 | 81.8 | -0.57 | -0.56 | -0.001 | 63.6 | 63.4 | 0 | -71.07 | *No Adj. Made |
| GUDEW118 | 10:37 | 3/21/2018 | 0.1 | 0.5 | 20.8 | 78.6 | -0.57 | -0.57 | 0.003 | 38.4 | 38.4 | 1.6 | -77.38 | *Barely Open/*No Adj. Made |
| GUDEW118 | 15:21 | 4/23/2018 | 12.9 | 4.3 | 11.9 | 70.9 | -0.09 | -5.15 | -0.002 | 80.2 | 77.1 | 0 | -63.24 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW119 | 14:13 | 11/27/2017 | 31.4 | 30.7 | 2.3 | 35.6 | -21.32 | -21.31 | 0.019 | 68 | 67.7 | 4 | -66.28 | *Barely Open/*No Adj. Made |
| GUDEW119 | 17:32 | 12/27/2017 | 28.7 | 30.2 | 3.3 | 37.8 | -20.6 | -20.62 | 0.011 | 30.1 | 29.7 | 3.1 | -57.76 | *Barely Open/*No Adj. Made |
| GUDEW119 | 12:54 | 1/25/2018 | 27.2 | 28.2 | 4.2 | 40.4 | -22.63 | -17.13 | 0.001 | 47.6 | 45.5 | 1.1 | -69.02 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW119 | 13:29 | 2/22/2018 | 49.9 | 34.2 | 0.3 | 15.6 | -5.73 | -5.73 | -0.008 | 55.9 | 55.8 | 0 | -71.18 | *No Adj. Made |
| GUDEW119 | 10:43 | 3/21/2018 | 52.5 | 38.2 | 0.1 | 9.2 | -7.27 | -7.28 | 0.002 | 47.6 | 47.7 | 1.4 | -77.4 | *No Adj. Made |
| GUDEW119 | 15:25 | 4/23/2018 | 54.2 | 35.5 | 0.1 | 10.2 | -5.36 | -15.24 | 0.002 | 80.1 | 80.4 | 1.5 | -63.44 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW120 | 14:26 | 11/27/2017 | 0.2 | 6.3 | 13.3 | 80.2 | -0.08 | -0.08 | -0.004 | 68.9 | 68.8 | 0 | -65.94 | *Barely Open/*No Adj. Made |
| GUDEW120 | 10:21 | 12/28/2017 | 0.1 | 6.6 | 13.7 | 79.6 | -0.15 | -0.15 | 0.012 | 32.3 | 31.9 | 3.4 | -56.07 | *Fully Closed/*No Adj. Made |
| GUDEW120 | 10:40 | 1/30/2018 | 0.4 | 8.9 | 14.3 | 76.4 | 0.43 | 0.43 | -0.08 | 47.4 | 47.4 | 0 | -71.29 | No Change in Valve Position |
| GUDEW120 | 13:37 | 2/22/2018 | 0.1 | 5.2 | 14.5 | 80.2 | -0.03 | -0.03 | -0.025 | 60.9 | 60.6 | 0 | -70.92 | *Barely Open/*No Adj. Made |
| GUDEW120 | 11:01 | 3/21/2018 | 0.0 | 4.4 | 16.5 | 79.1 | -0.58 | -0.59 | 0.005 | 41.4 | 40.9 | 2.2 | -77.41 | *Barely Open/*No Adj. Made |
| GUDEW120 | 15:33 | 4/23/2018 | 0.1 | 4.6 | 14.6 | 80.7 | -0.2 | -0.21 | -0.009 | 73.5 | 73.4 | 0 | -62.93 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW121 | 14:36 | 11/27/2017 | 0.2 | 2.7 | 17.7 | 79.4 | -0.16 | -0.06 | 0.09 | 61.5 | 61.3 | 9.1 | -66.32 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW121 | 10:34 | 12/28/2017 | 0.1 | 3.3 | 17.4 | 79.2 | -0.09 | -0.08 | 0.004 | 28.7 | 28.5 | 2.1 | -56.54 | *Barely Open/*No Adj. Made |
| GUDEW121 | 10:47 | 1/30/2018 | 0.2 | 8.8 | 15.3 | 75.7 | 0.49 | 0.48 | 0.007 | 44.7 | 44.7 | 2.5 | -71.48 | No Change in Valve Position |
| GUDEW121 | 13:46 | 2/22/2018 | 0.1 | 3.1 | 17.4 | 79.4 | 0.07 | 0.07 | -0.006 | 60.4 | 60.1 | 0 | -70.66 | *Fully Closed/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|-------------------------------|
| GUDEW121 | 11:13 | 3/21/2018 | 0.0 | 3.4 | 18.3 | 78.3 | -0.03 | -0.04 | 0.008 | 37.3 | 37.3 | 2.8 | -77.17 | *Barely Open/*No Adj. Made |
| GUDEW121 | 15:42 | 4/23/2018 | 0.2 | 3.4 | 16.3 | 80.1 | -0.19 | -0.19 | 0 | 74.5 | 74.4 | 0 | -63.38 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW122 | 15:41 | 11/27/2017 | 40.9 | 34.4 | 0.5 | 24.2 | -67.41 | -67.42 | -0.01 | 70.1 | 68.6 | 0 | -67.42 | *Fully Open/*No Adj. Made |
| GUDEW122 | 11:12 | 12/28/2017 | 42.5 | 35.9 | 0.4 | 21.2 | -56.79 | -56.79 | -0.009 | 45.7 | 45.7 | 0 | -56.66 | *Fully Open/*No Adj. Made |
| GUDEW122 | 11:15 | 1/30/2018 | 47.1 | 40.3 | 0.2 | 12.4 | -71.96 | -71.94 | 0.07 | 55.6 | 55.6 | 7.4 | -71.83 | *Fully Open |
| GUDEW122 | 14:17 | 2/22/2018 | 30.3 | 23.2 | 8.5 | 38.0 | -71.02 | -71.02 | -0.001 | 59.4 | 59.1 | 0 | -70.87 | *Fully Open/*No Adj. Made |
| GUDEW122 | 11:49 | 3/21/2018 | 32.4 | 33.3 | 0.9 | 33.4 | -76.9 | -76.91 | -0.007 | 43.6 | 43.5 | 0 | -76.87 | *Fully Open/*No Adj. Made |
| GUDEW122 | 16:19 | 4/23/2018 | 56.9 | 38.9 | 0.0 | 4.2 | -63 | -62.96 | 0.068 | 76.4 | 76.4 | 7.4 | -62.72 | *Fully Open/*No Adj. Made |
| GUDEW122 | 12:26 | 4/27/2018 | 57.5 | 42.4 | 0.1 | 0.0 | -65.81 | -66 | 0.025 | 54.9 | 54.9 | 4.6 | -65.82 | *Fully Open/*Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW123 | 14:42 | 11/27/2017 | 0.2 | 2.8 | 17.9 | 79.1 | -0.18 | -0.07 | 0.001 | 65.4 | 62.8 | 1.1 | -66.54 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW123 | 10:40 | 12/28/2017 | 0.3 | 5.7 | 16.2 | 77.8 | -0.04 | -0.04 | 0.015 | 34.1 | 34 | 3.7 | -56.45 | *Barely Open/*No Adj. Made |
| GUDEW123 | 10:51 | 1/30/2018 | 0.5 | 5.7 | 17.9 | 75.9 | -0.04 | -0.04 | -0.037 | 46 | 46 | 0 | -71.93 | No Change in Valve Position |
| GUDEW123 | 13:49 | 2/22/2018 | 0.8 | 7.7 | 13.0 | 78.5 | -0.08 | -0.07 | -0.025 | 59.6 | 59.5 | 0 | -70.58 | *Barely Open/*No Adj. Made |
| GUDEW123 | 11:20 | 3/21/2018 | 2.9 | 8.5 | 13.5 | 75.1 | -0.12 | -0.12 | 0.02 | 36.2 | 36.1 | 4.4 | -77.07 | *Barely Open/*No Adj. Made |
| GUDEW123 | 15:46 | 4/23/2018 | 3.8 | 13.3 | 9.5 | 73.4 | -0.17 | -0.17 | -0.008 | 75.9 | 75.7 | 0 | -62.38 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW124 | 14:47 | 11/27/2017 | 0.4 | 5.4 | 14.5 | 79.7 | -0.1 | -0.09 | 0.005 | 65.6 | 65.5 | 2.1 | -66.84 | *Barely Open/*No Adj. Made |
| GUDEW124 | 10:44 | 12/28/2017 | 0.2 | 7.6 | 13.1 | 79.1 | -0.05 | -0.05 | 0.012 | 31.7 | 31.7 | 3.4 | -56.73 | *No Adj. Made |
| GUDEW124 | 10:58 | 1/30/2018 | 1.2 | 12.0 | 14.4 | 72.4 | -0.06 | -0.08 | -0.023 | 44.2 | 44.2 | 0 | -71.79 | No Change in Valve Position |
| GUDEW124 | 13:56 | 2/22/2018 | 23.4 | 28.8 | 0.4 | 47.4 | 0.04 | -0.06 | -0.002 | 60.1 | 58.4 | 0 | -70.19 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW124 | 13:58 | 2/22/2018 | 18.0 | 28.3 | 0.1 | 53.6 | -0.16 | -0.16 | -0.008 | 55.1 | 55.1 | 0 | -70.46 | *No Adj. Made |
| GUDEW124 | 11:26 | 3/21/2018 | 0.8 | 6.9 | 13.4 | 78.9 | -0.19 | -0.2 | 0.021 | 37.3 | 36.9 | 4.5 | -77.09 | *Barely Open/*No Adj. Made |
| GUDEW124 | 15:54 | 4/23/2018 | 0.9 | 7.1 | 12.9 | 79.1 | -0.15 | -0.16 | 0.009 | 74.2 | 74.1 | 2.8 | -62.65 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW125 | 14:40 | 11/27/2017 | 0.1 | 3.0 | 17.6 | 79.3 | -0.35 | -0.35 | -0.002 | 71.9 | 71.8 | 0 | -66.1 | *Barely Open/*No Adj. Made |
| GUDEW125 | 10:38 | 12/28/2017 | 0.1 | 4.0 | 17.5 | 78.4 | -0.29 | -0.3 | 0 | 37.9 | 37.9 | 0.6 | -56.3 | *No Adj. Made |
| GUDEW125 | 11:00 | 1/30/2018 | 25.9 | 19.9 | 2.6 | 51.6 | -0.19 | -0.15 | -0.052 | 48 | 48 | 0 | -72.51 | No Change in Valve Position |
| GUDEW125 | 13:51 | 2/22/2018 | 0.0 | 2.2 | 18.4 | 79.4 | -0.24 | -0.25 | -0.006 | 57.9 | 57.8 | 0 | -70.21 | *No Adj. Made |
| GUDEW125 | 11:18 | 3/21/2018 | 4.7 | 9.6 | 10.4 | 75.3 | -0.23 | -0.23 | 0.004 | 36.6 | 36.5 | 2 | -77.1 | *Barely Open/*No Adj. Made |
| GUDEW125 | 15:52 | 4/23/2018 | 8.1 | 17.5 | 1.9 | 72.5 | -0.07 | -0.07 | 0.01 | 73.5 | 73.5 | 3 | -62.86 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW126 | 14:46 | 11/27/2017 | 44.4 | 34.0 | 3.6 | 18.0 | -4.5 | -3.26 | -0.005 | 64.7 | 63.8 | 0 | -66.91 | *Dec. Flow/Vac. |
| GUDEW126 | 10:41 | 12/28/2017 | 45.6 | 34.4 | 4.2 | 15.8 | -4.08 | -4.09 | 0.009 | 31.5 | 31.4 | 3.1 | -56.33 | *Barely Open/*No Adj. Made |
| GUDEW126 | 10:57 | 1/30/2018 | 18.9 | 20.6 | 4.7 | 55.8 | -0.02 | -0.03 | 0.022 | 47.1 | 47.1 | 4.5 | -71.88 | No Change in Valve Position |
| GUDEW126 | 13:53 | 2/22/2018 | 46.9 | 34.7 | 3.5 | 14.9 | -4.17 | -4.17 | -0.008 | 57.3 | 57.3 | 0 | -70.27 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW126 | 11:22 | 3/21/2018 | 57.4 | 41.7 | 0.9 | 0.0 | -0.07 | -0.07 | 0.006 | 38.1 | 38.1 | 2.4 | -77.18 | *No Adj. Made |
| GUDEW126 | 15:50 | 4/23/2018 | 51.2 | 36.0 | 2.1 | 10.7 | -2.4 | -4.66 | 0.013 | 75.4 | 74.8 | 3.4 | -62.31 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW127 | 14:49 | 11/27/2017 | 25.6 | 27.8 | 0.3 | 46.3 | -28.91 | -28.92 | 0.079 | 66.6 | 66.5 | 8.2 | -66.94 | *Barely Open/*No Adj. Made |
| GUDEW127 | 10:46 | 12/28/2017 | 24.6 | 27.2 | 1.6 | 46.6 | -13.67 | -13.66 | 0.074 | 42.2 | 42.4 | 8.2 | -56.74 | *Barely Open/*No Adj. Made |
| GUDEW127 | 11:02 | 1/30/2018 | 17.9 | 21.9 | 2.3 | 57.9 | -33.23 | -33.23 | -0.086 | 48.3 | 48.3 | 0 | -69.83 | No Change in Valve Position |
| GUDEW127 | 13:59 | 2/22/2018 | 18.7 | 24.5 | 0.3 | 56.5 | -55.81 | -53.89 | 0 | 56.4 | 56 | 0 | -70.63 | *Barely Open/*No Adj. Made |
| GUDEW127 | 11:29 | 3/21/2018 | 9.0 | 10.0 | 17.3 | 63.7 | -77.15 | -77.15 | 0.008 | 42.1 | 42.2 | 2.5 | -77.14 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW127 | 15:58 | 4/23/2018 | 3.2 | 2.9 | 17.8 | 76.1 | -57.62 | -57.62 | 0.002 | 75.1 | 75 | 1.3 | -62.66 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|------------------------------|
| | | | | | | | | | | | | | | |
| GUDEW128 | 14:54 | 11/27/2017 | 0.4 | 3.6 | 17.3 | 78.7 | -0.28 | -0.16 | 0.251 | 65.8 | 65.9 | 15.1 | -67.29 | *Dec. Flow/Vac. |
| GUDEW128 | 10:51 | 12/28/2017 | 0.2 | 3.1 | 17.4 | 79.3 | -0.08 | -0.09 | 0.032 | 37.7 | 37.6 | 5.5 | -56.92 | *Barely Open/*No Adj. Made |
| GUDEW128 | 11:07 | 1/30/2018 | 0.9 | 8.8 | 17.0 | 73.3 | -0.23 | -0.22 | -0.015 | 44.9 | 44.9 | 0 | -71.7 | No Change in Valve Position |
| GUDEW128 | 14:03 | 2/22/2018 | 1.4 | 7.1 | 12.7 | 78.8 | -0.25 | -0.24 | 0.022 | 58.1 | 58 | 4.4 | -70.48 | *Barely Open/*No Adj. Made |
| GUDEW128 | 11:34 | 3/21/2018 | 7.8 | 11.9 | 10.2 | 70.1 | -0.3 | -0.31 | 0.039 | 39.2 | 39.1 | 6.1 | -77.11 | *Barely Open/*No Adj. Made |
| GUDEW128 | 16:06 | 4/23/2018 | 9.3 | 11.4 | 9.9 | 69.4 | -0.12 | -0.13 | 0.027 | 73.9 | 73.8 | 4.9 | -62.43 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW129 | 15:36 | 11/27/2017 | 18.3 | 25.0 | 0.7 | 56.0 | -55.04 | -34.58 | 0.103 | 65.3 | 63.9 | 9.2 | -67.31 | *Dec. Flow/Vac. |
| GUDEW129 | 11:07 | 12/28/2017 | 15.6 | 25.5 | 0.2 | 58.7 | -20.78 | -20.78 | 0.099 | 45.4 | 45.5 | 9.3 | -56.74 | *Barely Open/*No Adj. Made |
| GUDEW129 | 11:10 | 1/30/2018 | 12.7 | 22.7 | 0.4 | 64.2 | -25.91 | -25.89 | -0.143 | 48.7 | 48.7 | 0 | -71.78 | No Change in Valve Position |
| GUDEW129 | 14:11 | 2/22/2018 | 11.8 | 22.0 | 0.9 | 65.3 | -34.52 | -15.5 | -0.009 | 57 | 56 | 0 | -70.83 | *Dec. Flow/Vac. |
| GUDEW129 | 11:41 | 3/21/2018 | 53.2 | 30.6 | 0.2 | 16.0 | -2.66 | -11.83 | >>>> | 39.8 | 36.6 | N/A | -75.51 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW129 | 16:14 | 4/23/2018 | 23.7 | 25.0 | 0.3 | 51.0 | -50.12 | -50.1 | 0.028 | 72.4 | 72.1 | 4.7 | -62.97 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW130 | 15:33 | 11/27/2017 | 62.8 | 31.1 | 0.7 | 5.4 | -67.18 | -67.18 | 0.01 | 65.8 | 65.7 | 3 | -67.22 | *Fully Open/*No Adj. Made |
| GUDEW130 | 11:20 | 12/28/2017 | 43.5 | 28.3 | 0.1 | 28.1 | -57 | -57 | 0.019 | 35.4 | 35.4 | 4.1 | -57.02 | *Fully Open/*No Adj. Made |
| GUDEW130 | 11:18 | 1/30/2018 | 50.0 | 30.3 | 0.1 | 19.6 | -71.86 | -71.87 | 0.007 | 54.1 | 54.1 | 2.4 | -71.86 | *Fully Open |
| GUDEW130 | 14:13 | 2/22/2018 | 66.6 | 31.2 | 0.2 | 2.0 | -70.71 | -70.71 | 0.009 | 55 | 54.9 | 2.8 | -70.87 | *Fully Open/*No Adj. Made |
| GUDEW130 | 11:44 | 3/21/2018 | 65.6 | 33.5 | 0.5 | 0.4 | -76.89 | -76.89 | 0.028 | 34.6 | 34.6 | 5 | -76.92 | *Fully Open/*No Adj. Made |
| GUDEW130 | 12:10 | 4/27/2018 | 63.3 | 36.4 | 0.3 | 0.0 | -32.58 | -32.58 | 0.145 | 57 | 57 | 11.7 | -32.27 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW131 | 17:08 | 11/27/2017 | 23.3 | 21.7 | 0.0 | 55.0 | -1.08 | -1.08 | -0.002 | 58.3 | 58.2 | 0 | -36.04 | *Barely Open/*No Adj. Made |
| GUDEW131 | 17:18 | 12/27/2017 | 20.1 | 21.8 | 0.2 | 57.9 | -1.01 | -1.01 | -4.949 | 37.7 | 37.5 | 0 | -37.89 | *Barely Open/*No Adj. Made |
| GUDEW131 | 12:19 | 1/31/2018 | 20.2 | 19.5 | 0.5 | 59.8 | -0.46 | -0.38 | -0.033 | 57.6 | 57.6 | 0 | -41.54 | No Change in Valve Position |
| GUDEW131 | 13:05 | 2/23/2018 | 55.0 | 22.6 | 0.1 | 22.3 | 0.15 | -2.04 | 0.07 | 60.8 | 56.7 | 8.7 | -45.04 | *Inc. Flow/Vac. |
| GUDEW131 | 10:29 | 3/21/2018 | 4.0 | 8.7 | 12.0 | 75.3 | -13.25 | -13.25 | 0.056 | 49.8 | 50.5 | 7.1 | -54.55 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW131 | 8:07 | 4/24/2018 | 4.8 | 10.9 | 10.3 | 74.0 | -9.2 | -5.49 | 0.023 | 60.1 | 59.4 | 4.6 | -34.7 | *Barely Open/*Dec. Flow/Vac. |
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| | | | | | | | | | | | | | | |
| GUDEW132 | 17:00 | 11/27/2017 | 37.5 | 22.9 | 0.1 | 39.5 | -1.24 | -1.24 | 0 | 64.4 | 64.1 | 0 | -35.87 | *Barely Open/*No Adj. Made |
| GUDEW132 | 17:20 | 12/27/2017 | 28.9 | 22.1 | 0.2 | 48.8 | -1.47 | -1.47 | 0.014 | 32.4 | 32.3 | 3.8 | -37.85 | *Barely Open/*No Adj. Made |
| GUDEW132 | 12:21 | 1/31/2018 | 20.6 | 17.0 | 6.2 | 56.2 | -0.82 | -0.82 | -0.036 | 56.2 | 56.2 | 0 | -41.45 | No Change in Valve Position |
| GUDEW132 | 13:03 | 2/23/2018 | 39.1 | 22.9 | 0.2 | 37.8 | -5.1 | -5.09 | -0.015 | 63.6 | 63.1 | 0 | -46.01 | |
| GUDEW132 | 10:31 | 3/21/2018 | 32.0 | 21.3 | 0.2 | 46.5 | -8.91 | -8.91 | 0.004 | 38.7 | 38.5 | 1.9 | -54.73 | *No Adj. Made |
| GUDEW132 | 8:04 | 4/24/2018 | 39.6 | 22.8 | 0.3 | 37.3 | -17.22 | -17.21 | 0.019 | 60.7 | 60.5 | 4.3 | -34.74 | *Barely Open/*No Adj. Made |
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| | | | | | | | | | | | | | | |
| GUDEW133 | 14:28 | 11/27/2017 | 9.0 | 14.7 | 9.7 | 66.6 | -3.36 | -1.72 | 0.009 | 66.5 | 65.3 | 2.8 | -65.99 | *Dec. Flow/Vac. |
| GUDEW133 | 10:23 | 12/28/2017 | 0.1 | 5.2 | 16.7 | 78.0 | -0.89 | -0.88 | 0.002 | 40.6 | 40.4 | 1.4 | -56.04 | *Fully Closed/*No Adj. Made |
| GUDEW133 | 10:42 | 1/30/2018 | 0.2 | 5.8 | 17.9 | 76.1 | -0.5 | -0.52 | -0.006 | 45.1 | 45.1 | 0 | -70.21 | No Change in Valve Position |
| GUDEW133 | 13:38 | 2/22/2018 | 5.0 | 12.7 | 11.3 | 71.0 | -0.86 | -0.85 | -0.011 | 62.3 | 62.1 | 0 | -70.67 | *Barely Open/*No Adj. Made |
| GUDEW133 | 11:02 | 3/21/2018 | 30.0 | 32.7 | 0.8 | 36.5 | -1.82 | -1.82 | 0.013 | 37.7 | 37.7 | 3.5 | -77.55 | *No Adj. Made |
| GUDEW133 | 15:35 | 4/23/2018 | 26.4 | 26.5 | 6.5 | 40.6 | -0.97 | -0.97 | -0.007 | 73.4 | 73.3 | 0 | -63.31 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEW134 | 14:17 | 11/27/2017 | 0.4 | 4.0 | 15.8 | 79.8 | -0.03 | -0.03 | 0.008 | 69 | 68.9 | 2.6 | -66.25 | *Barely Open/*No Adj. Made |
| GUDEW134 | 10:17 | 12/28/2017 | 0.1 | 3.5 | 16.6 | 79.8 | -0.09 | -0.09 | 0.02 | 34.7 | 34.6 | 4.4 | -55.74 | *No Adj. Made |
| GUDEW134 | 12:58 | 1/25/2018 | 0.3 | 3.2 | 16.2 | 80.3 | -0.02 | -0.02 | 0.015 | 61.2 | 61.1 | 3.8 | -68.91 | *No Adj. Made |
| GUDEW134 | 13:32 | 2/22/2018 | 0.2 | 3.5 | 16.0 | 80.3 | -0.01 | -0.01 | -0.002 | 61.8 | 61.7 | 0 | -70.34 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW134 | 10:55 | 3/21/2018 | 0.2 | 2.9 | 18.6 | 78.3 | -0.51 | -0.51 | 0.005 | 46.4 | 46.3 | 2.1 | -77.68 | *Barely Open/*No Adj. Made |
| GUDEW134 | 15:28 | 4/23/2018 | 0.2 | 4.5 | 14.1 | 81.2 | -0.13 | -0.13 | -0.005 | 76.8 | 76.7 | 0 | -63.17 | *No Adj. Made |
| GUDEW135 | 13:51 | 11/27/2017 | 6.8 | 9.3 | 13.5 | 70.4 | -24.38 | -24.41 | 0.011 | 71.1 | 70.9 | 3.1 | -67.44 | *Barely Open/*No Adj. Made |
| GUDEW135 | 17:10 | 12/27/2017 | 3.1 | 8.2 | 13.4 | 75.3 | -27.72 | -27.7 | 0.038 | 37.7 | 37.5 | 5.8 | -72.9 | |
| GUDEW135 | 12:38 | 1/25/2018 | 8.8 | 17.8 | 8.8 | 64.6 | -44.12 | -44.12 | -0.037 | 56.9 | 56.6 | 0 | -69.35 | No Change in Valve Position |
| GUDEW135 | 11:38 | 2/22/2018 | 7.7 | 15.1 | 10.6 | 66.6 | -64.46 | -64.44 | -0.011 | 56.9 | 56.8 | 0 | -72.33 | *Barely Open/*No Adj. Made |
| GUDEW135 | 10:19 | 3/21/2018 | 8.5 | 8.7 | 13.4 | 69.4 | -58.32 | -56.96 | -0.003 | 52.9 | 51.5 | 0 | -77.39 | *Barely Open/*No Adj. Made |
| GUDEW135 | 15:05 | 4/23/2018 | 9.0 | 10.4 | 3.3 | 77.3 | -0.32 | -4.24 | 0.005 | 84.2 | 82.7 | 2.1 | -63.67 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW137 | 15:48 | 11/28/2017 | 26.9 | 29.9 | 0.2 | 43.0 | -30.67 | -30.66 | 0.297 | 70 | 69.2 | 15.6 | -40.86 | *Barely Open/*No Adj. Made |
| GUDEW137 | 14:37 | 12/28/2017 | 12.8 | 21.0 | 0.9 | 65.3 | -31.07 | -31.07 | >>>> | 39.6 | 39.6 | N/A | -44.65 | *No Adj. Made |
| GUDEW137 | 12:26 | 1/31/2018 | 16.6 | 27.0 | 0.1 | 56.3 | -29.42 | -29.43 | >>>> | 55.9 | 55.9 | N/A | -42.46 | No Change in Valve Position |
| GUDEW137 | 11:32 | 2/22/2018 | 18.2 | 27.1 | 0.5 | 54.2 | -33.31 | -33.31 | -0.565 | 58.7 | 58.7 | 0 | -47.14 | *No Change in Valve Position |
| GUDEW137 | 15:29 | 3/27/2018 | 21.3 | 29.0 | 0.5 | 49.2 | -39.82 | -39.82 | 0.206 | 50.5 | 50.3 | 13 | -46.87 | *Barely Open/*No Adj. Made |
| GUDEW137 | 12:02 | 4/24/2018 | 33.6 | 31.6 | 0.3 | 34.5 | -31.82 | -29.7 | 0.039 | 70.7 | 70.5 | 5.7 | -34.12 | *No Adj. Made |
| GUDEW138 | 14:53 | 11/28/2017 | 54.8 | 40.7 | 0.0 | 4.5 | -28.28 | -28.21 | -0.106 | 72.7 | 72.6 | 0 | -40.34 | *No Adj. Made |
| GUDEW138 | 14:30 | 12/28/2017 | 46.9 | 35.4 | 0.0 | 17.7 | -2.48 | -2.47 | -3.398 | 36.4 | 36.4 | 0 | -5.1 | *No Adj. Made |
| GUDEW138 | 12:02 | 1/31/2018 | 49.9 | 40.8 | 0.0 | 9.3 | -31.37 | -31.28 | 0.069 | 68.4 | 68.4 | 7.7 | -42.04 | No Change in Valve Position |
| GUDEW138 | 11:27 | 2/22/2018 | 53.6 | 40.6 | 0.1 | 5.7 | -33.9 | -33.89 | 0.046 | 58.9 | 58.8 | 6.4 | -45.24 | *No Change in Valve Position |
| GUDEW138 | 15:12 | 3/27/2018 | 53.9 | 39.5 | 0.0 | 6.6 | -33.04 | -35.03 | -0.141 | 70.5 | 70.6 | 0 | -45.71 | *Inc. Flow/Vac. |
| GUDEW138 | 11:50 | 4/24/2018 | 57.1 | 39.6 | 0.0 | 3.3 | -28.47 | -29.67 | -0.107 | 71.4 | 71.3 | 0 | -32.15 | *Inc. Flow/Vac. |
| GUDEW139 | 14:58 | 11/28/2017 | 7.1 | 5.7 | 17.3 | 69.9 | -0.52 | -0.52 | -0.007 | 73.7 | 73.7 | 0 | -37.47 | *Barely Open/*No Adj. Made |
| GUDEW139 | 14:27 | 12/28/2017 | 46.4 | 36.6 | 0.1 | 16.9 | -25.54 | 0.23 | -0.012 | 32.5 | 31.7 | 0 | -5.09 | *No Adj. Made |
| GUDEW139 | 11:59 | 1/31/2018 | 4.8 | 6.6 | 18.1 | 70.5 | -0.79 | -0.75 | -0.004 | 51.7 | 51.7 | 0 | -33.29 | No Change in Valve Position |
| GUDEW139 | 11:30 | 2/22/2018 | 47.2 | 23.9 | 6.6 | 22.3 | -0.32 | -0.3 | -0.038 | 58.5 | 58.7 | 0 | -33.31 | *Fully Closed/*No Change in Valve Position |
| GUDEW139 | 15:26 | 3/27/2018 | 65.8 | 32.1 | 0.6 | 1.5 | 1.98 | -2.69 | -0.001 | 54 | 49.7 | 0 | -22.72 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW139 | 12:00 | 4/24/2018 | 33.2 | 25.5 | 8.1 | 33.2 | -32.25 | -32.25 | -0.019 | 70.5 | 70.3 | 0 | -32.19 | *Barely Open/*No Adj. Made |
| GUDEW140 | 14:45 | 11/28/2017 | 37.9 | 33.3 | 0.0 | 28.8 | -2.88 | -2.34 | 0.001 | 70.9 | 71.1 | 1.1 | -40.46 | *Dec. Flow/Vac. |
| GUDEW140 | 14:23 | 12/28/2017 | 32.0 | 26.6 | 6.9 | 34.5 | -0.33 | -0.33 | -0.326 | 41.9 | 41.9 | 0 | -44.28 | *No Adj. Made |
| GUDEW140 | 11:45 | 1/31/2018 | 46.5 | 37.0 | 0.0 | 16.5 | -0.69 | -0.78 | -0.486 | 49.6 | 49.6 | 0 | -42.11 | No Change in Valve Position |
| GUDEW140 | 11:24 | 2/22/2018 | 46.3 | 35.3 | 0.5 | 17.9 | -1.11 | -1.1 | -0.024 | 60.1 | 60.4 | 0 | -45.25 | *No Change in Valve Position |
| GUDEW140 | 15:21 | 3/27/2018 | 47.6 | 35.9 | 0.1 | 16.4 | -0.62 | -0.63 | -0.005 | 55.2 | 55 | 0 | -45 | *No Adj. Made |
| GUDEW140 | 11:58 | 4/24/2018 | 46.1 | 34.0 | 0.3 | 19.6 | -0.38 | -0.38 | -0.022 | 71.8 | 71.6 | 0 | -32.71 | *Barely Open/*No Adj. Made |
| GUDEW141 | 14:35 | 11/28/2017 | 53.4 | 39.6 | 0.4 | 6.6 | -39.09 | -39.09 | -0.026 | 70.9 | 70.8 | 0 | -40.61 | *No Adj. Made |
| GUDEW141 | 14:11 | 12/28/2017 | 40.9 | 38.2 | 0.4 | 20.5 | -43.07 | -43.07 | >>>> | 39.2 | 39.2 | N/A | -44 | *No Adj. Made |
| GUDEW141 | 11:34 | 1/31/2018 | 57.3 | 42.0 | 0.0 | 0.7 | -41.47 | -42.01 | 0.001 | 50.2 | 50.2 | 0.8 | -42.12 | *Inc. Flow/Vac. |
| GUDEW141 | 11:17 | 2/22/2018 | 48.8 | 38.9 | 0.3 | 12.0 | -45.48 | -45.45 | -0.028 | 59.6 | 59.5 | 0 | -44.73 | *No Change in Valve Position |
| GUDEW141 | 15:15 | 3/27/2018 | 58.9 | 40.9 | 0.2 | 0.0 | -45.99 | -45.99 | -0.009 | 53.6 | 53 | 0 | -45.99 | *Inc. Flow/Vac. |
| GUDEW141 | 11:52 | 4/24/2018 | 58.7 | 39.6 | 0.1 | 1.6 | -32.7 | -32.66 | -0.029 | 67.9 | 67.1 | 0 | -32.43 | *Inc. Flow/Vac. |
| GUDEW142 | 14:41 | 11/28/2017 | 31.1 | 26.8 | 8.5 | 33.6 | -13.5 | -8.39 | 0.005 | 70.9 | 71.1 | 11.3 | -39.96 | *Barely Open/*Dec. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW142 | 14:14 | 12/28/2017 | 40.1 | 34.5 | 0.5 | 24.9 | -0.02 | -0.02 | 0.048 | 39 | 39.1 | 6.9 | -43.55 | *No Adj. Made |
| GUDEW142 | 11:37 | 1/31/2018 | 33.9 | 27.4 | 7.8 | 30.9 | -0.19 | -0.12 | -0.222 | 50.3 | 50.3 | 0 | -42.4 | No Change in Valve Position |
| GUDEW142 | 11:21 | 2/22/2018 | 23.8 | 19.2 | 12.1 | 44.9 | -14.72 | -0.24 | -0.3 | 55.9 | 55.6 | 0 | -45.54 | *No Change in Valve Position |
| GUDEW142 | 15:19 | 3/27/2018 | 58.0 | 39.9 | 0.4 | 1.7 | -0.06 | -0.23 | 0.001 | 57.6 | 58.2 | 1.1 | -45.26 | *Inc. Flow/Vac. |
| GUDEW142 | 11:56 | 4/24/2018 | 32.8 | 24.3 | 8.9 | 34.0 | -0.1 | -0.1 | -0.021 | 73.5 | 73.5 | 0 | -32.79 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW143 | 14:19 | 11/28/2017 | 56.8 | 42.5 | 0.0 | 0.7 | -40.49 | -40.49 | -0.037 | 72.2 | 72.1 | 0 | -40.49 | *Fully Open/*No Adj. Made |
| GUDEW143 | 14:06 | 12/28/2017 | 62.9 | 35.7 | 0.6 | 0.8 | -0.18 | -0.15 | -0.09 | 37.7 | 37.7 | 0 | 0.62 | *No Adj. Made |
| GUDEW143 | 11:50 | 1/31/2018 | 57.0 | 42.2 | 0.8 | 0.0 | -42.17 | -42.18 | -0.016 | 50.8 | 50.8 | 0 | -42.18 | No Change in Valve Position/*Fully Open |
| GUDEW143 | 11:11 | 2/22/2018 | 56.7 | 43.3 | 0.0 | 0.0 | -47.32 | -45.28 | -0.033 | 59.6 | 59.6 | 0 | -45.43 | *Fully Closed/*No Change in Valve Position |
| GUDEW143 | 15:06 | 3/27/2018 | 57.8 | 41.9 | 0.3 | 0.0 | -46.15 | -46.13 | -0.037 | 61 | 60.9 | 0 | -45.93 | *Fully Open/*No Adj. Made |
| GUDEW143 | 11:46 | 4/24/2018 | 57.9 | 41.5 | 0.0 | 0.6 | -32.17 | -32.19 | -0.04 | 67.7 | 67.6 | 0 | -32.21 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW144 | 13:54 | 11/28/2017 | 43.3 | 33.1 | 4.2 | 19.4 | -0.17 | -0.16 | 0.017 | 72.5 | 72.5 | 4 | -32.72 | *Barely Open/*No Adj. Made |
| GUDEW144 | 13:57 | 12/28/2017 | 29.7 | 27.5 | 9.1 | 33.7 | -0.21 | -0.16 | -0.025 | 38 | 38 | 0 | -39.49 | *No Adj. Made |
| GUDEW144 | 11:31 | 1/31/2018 | 57.7 | 41.9 | 0.4 | 0.0 | 0.12 | 0.15 | -0.021 | 48.2 | 48.2 | 0 | -35.13 | No Change in Valve Position/*Fully Closed |
| GUDEW144 | 11:06 | 2/22/2018 | 57.4 | 37.5 | 3.2 | 1.9 | -0.11 | -0.1 | -0.027 | 60.2 | 60.3 | 0 | -39.19 | *No Change in Valve Position |
| GUDEW144 | 14:55 | 3/27/2018 | 57.8 | 41.9 | 0.3 | 0.0 | 0.51 | -0.27 | 0.014 | 58.9 | 56.3 | 3.7 | -39.27 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW144 | 11:38 | 4/24/2018 | 57.8 | 40.3 | 0.0 | 1.9 | 0.38 | -1.14 | 0.488 | 67.7 | 65.7 | 21.7 | -30.69 | *Barely Open/*Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW145 | 13:52 | 11/28/2017 | 57.9 | 41.0 | 0.3 | 0.8 | -32.62 | -32.63 | 2.427 | 69.9 | 69.9 | 46.2 | -35.15 | *Fully Open/*No Adj. Made |
| GUDEW145 | 13:53 | 12/28/2017 | 52.7 | 46.3 | 0.3 | 0.7 | -41.64 | -41.68 | >>>> | 37.8 | 37.8 | N/A | 1.33 | *No Adj. Made |
| GUDEW145 | 11:28 | 1/31/2018 | 50.5 | 39.9 | 0.9 | 8.7 | -35.15 | -35.01 | -1.248 | 49.6 | 49.6 | 0 | -34.99 | No Change in Valve Position/*Fully Open |
| GUDEW145 | 11:03 | 2/22/2018 | 53.2 | 39.9 | 0.1 | 6.8 | -40.37 | -39.54 | -1.814 | 58.6 | 58.6 | 0 | -40.78 | *Fully Open/*No Change in Valve Position |
| GUDEW145 | 14:57 | 3/27/2018 | 56.9 | 40.8 | 0.1 | 2.2 | -36.84 | -36.85 | 3.411 | 64.2 | 64.3 | 54.6 | -38.04 | *Fully Open/*No Adj. Made |
| GUDEW145 | 11:39 | 4/24/2018 | 57.9 | 40.8 | 0.1 | 1.2 | -30.06 | -30.09 | 2.801 | 66.2 | 66.1 | 50 | -30.15 | *Fully Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW146 | 12:29 | 11/28/2017 | 33.8 | 27.5 | 8.0 | 30.7 | -2.17 | -2.16 | 0.001 | 63.8 | 63.8 | 1 | -32.37 | *Barely Open/*No Adj. Made |
| GUDEW146 | 13:49 | 12/28/2017 | 54.2 | 45.7 | 0.1 | 0.0 | 0.03 | 0.05 | -0.039 | 37.8 | 37.8 | 0 | 0.02 | *No Adj. Made |
| GUDEW146 | 11:23 | 1/31/2018 | 55.1 | 45.0 | 0.0 | N/A | 0.36 | 0.37 | 0.301 | 48.4 | 48.4 | 17 | 0.06 | No Change in Valve Position |
| GUDEW146 | 10:58 | 2/22/2018 | 7.4 | 20.2 | 0.3 | 72.1 | 0 | -0.01 | 0.027 | 61.4 | 61.4 | 4.9 | -40.12 | *No Change in Valve Position |
| GUDEW146 | 14:53 | 3/27/2018 | 17.9 | 14.3 | 13.0 | 54.8 | -3.27 | -1.29 | -0.001 | 64 | 63.5 | 0 | -23.17 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW146 | 11:33 | 4/24/2018 | 3.4 | 3.0 | 16.0 | 77.6 | 0.24 | -0.03 | >>>> | 74.5 | 62.5 | N/A | -15.87 | *Inc. Flow/Vac. |
| GUDEW146 | 11:36 | 4/24/2018 | 45.7 | 36.1 | 2.4 | 15.8 | -13.44 | -11.74 | 0.009 | 60.1 | 60.1 | 2.8 | -16.14 | *Barely Open/*Surging/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW147 | 12:18 | 11/28/2017 | 9.7 | 19.5 | 0.5 | 70.3 | -0.11 | -0.11 | -0.03 | 78.1 | 78.1 | 0 | -37.7 | *Barely Open/*No Adj. Made |
| GUDEW147 | 13:46 | 12/28/2017 | 8.4 | 8.9 | 17.6 | 65.1 | -0.15 | -0.11 | -0.037 | 37.7 | 37.7 | 0 | -40.56 | *No Adj. Made |
| GUDEW147 | 11:20 | 1/31/2018 | 35.5 | 27.9 | 2.9 | 33.7 | 0.95 | 1.45 | 0.745 | 44.7 | 44.7 | 27 | -28.35 | No Change in Valve Position |
| GUDEW147 | 10:55 | 2/22/2018 | 6.2 | 19.0 | 0.6 | 74.2 | -0.62 | -0.62 | -0.035 | 60.6 | 60.6 | 0 | -40.27 | *Fully Closed/*No Change in Valve Position |
| GUDEW147 | 14:49 | 3/27/2018 | 15.4 | 27.0 | 0.0 | 57.6 | 0.23 | -0.01 | 2.081 | 59.5 | 62.8 | 42.7 | -42.57 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW147 | 11:30 | 4/24/2018 | 5.2 | 19.5 | 0.0 | 75.3 | -0.01 | -0.02 | 3.408 | 101.2 | 101.6 | 52.7 | -31.84 | *Barely Open/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW148 | 12:12 | 11/28/2017 | 17.2 | 23.7 | 0.2 | 58.9 | -0.83 | -0.82 | 0.896 | 71.1 | 71.1 | 28.1 | -38.39 | *Barely Open/*No Adj. Made |
| GUDEW148 | 13:38 | 12/28/2017 | 31.6 | 28.9 | 0.2 | 39.3 | -1.42 | -1.43 | -0.945 | 38.1 | 38.2 | 0 | -41.02 | *No Adj. Made |
| GUDEW148 | 11:16 | 1/31/2018 | 26.7 | 25.8 | 0.0 | 47.5 | -1.14 | -1.13 | -0.864 | 49.2 | 49.2 | 0 | -28.37 | No Change in Valve Position |
| GUDEW148 | 10:50 | 2/22/2018 | 17.9 | 22.9 | 0.3 | 58.9 | -2.06 | -2.06 | -0.92 | 59.3 | 59.3 | 0 | -40.23 | *No Change in Valve Position |
| GUDEW148 | 14:42 | 3/27/2018 | 14.3 | 24.4 | 0.3 | 61.0 | -0.18 | -0.18 | 0.899 | 65.3 | 65.3 | 28.1 | -43.32 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|--|
| GUDEW148 | 11:25 | 4/24/2018 | 31.1 | 25.7 | 0.1 | 43.1 | -0.21 | -0.2 | 0.771 | 67.4 | 67.4 | 26.8 | -32 | *Barely Open/*No Adj. Made |
| GUDEW149 | 12:15 | 11/28/2017 | 41.4 | 25.2 | 1.4 | 32.0 | -4.06 | -4.15 | 0.186 | 70.7 | 70.5 | 13.4 | -37.74 | *Inc. Flow/Vac. |
| GUDEW149 | 13:41 | 12/28/2017 | 6.9 | 7.0 | 18.1 | 68.0 | -37.75 | -34.84 | -0.031 | 38.3 | 38.2 | 0 | -40.57 | *Dec. Flow/Vac. |
| GUDEW149 | 11:18 | 1/31/2018 | 35.3 | 25.7 | 2.9 | 36.1 | -4.76 | -4.74 | -0.088 | 48.8 | 48.8 | 0 | -28.09 | No Change in Valve Position |
| GUDEW149 | 10:53 | 2/22/2018 | 27.1 | 24.0 | 3.9 | 45.0 | -2.83 | -4.17 | -0.082 | 59.6 | 59.6 | 0 | -39.73 | *No Change in Valve Position |
| GUDEW149 | 14:45 | 3/27/2018 | 12.8 | 24.0 | 2.1 | 61.1 | -4.02 | -2.69 | 0.007 | 51.5 | 50.7 | 2.5 | -43.22 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW149 | 11:27 | 4/24/2018 | 44.8 | 25.5 | 2.2 | 27.5 | -0.37 | -0.36 | -0.011 | 69.6 | 69.5 | 0 | -31.84 | *Barely Open/*No Adj. Made |
| GUDEW150 | 16:54 | 11/27/2017 | 24.3 | 22.3 | 1.0 | 52.4 | -30.32 | -30.32 | -0.007 | 62.3 | 61.9 | 0 | -35.84 | *Barely Open/*No Adj. Made |
| GUDEW150 | 14:25 | 12/28/2017 | 15.9 | 21.6 | 2.5 | 60.0 | -33.5 | -33.49 | -0.017 | 39.5 | 39 | 0 | -44.32 | *No Adj. Made |
| GUDEW150 | 13:32 | 1/31/2018 | 12.5 | 19.1 | 1.3 | 67.1 | -29.8 | -29.8 | >>>> | 53.3 | 53.3 | N/A | -40.58 | No Change in Valve Position |
| GUDEW150 | 13:30 | 2/22/2018 | 11.9 | 10.3 | 13.8 | 64.0 | -40.46 | -40.05 | -0.021 | 57.8 | 57.8 | 0 | -44.57 | *Fully Closed/*No Change in Valve Position |
| GUDEW150 | 15:50 | 3/27/2018 | 56.7 | 25.9 | 3.7 | 13.7 | -18.89 | -23.07 | 0 | 52.5 | 50.7 | 0 | -44.92 | *Inc. Flow/Vac. |
| GUDEW150 | 8:09 | 4/24/2018 | 51.5 | 23.8 | 4.9 | 19.8 | -34.72 | -34.72 | 0.004 | 60.6 | 60.4 | 2 | -34.85 | *No Adj. Made |
| GUDEW151 | 16:49 | 11/27/2017 | 53.7 | 36.9 | 0.0 | 9.4 | -1.51 | -5.32 | 0.375 | 65.1 | 61.2 | 19 | -36.26 | *Inc. Flow/Vac. |
| GUDEW151 | 14:16 | 12/28/2017 | 9.3 | 20.9 | 1.9 | 67.9 | -13.39 | -10.23 | 0.083 | 36.3 | 34.1 | 8.7 | -44.39 | *Dec. Flow/Vac. |
| GUDEW151 | 13:39 | 1/31/2018 | 0.9 | 5.6 | 17.7 | 75.8 | 0.02 | 0.02 | -0.013 | 52.1 | 52.1 | 0 | -40.8 | No Change in Valve Position/*Fully Closed |
| GUDEW151 | 13:36 | 2/22/2018 | 0.9 | 5.3 | 18.4 | 75.4 | -0.04 | -0.04 | 0.014 | 58.5 | 58.5 | 3.5 | -44.51 | *Fully Closed/*No Change in Valve Position |
| GUDEW151 | 15:52 | 3/27/2018 | 6.1 | 4.9 | 17.3 | 71.7 | 0.03 | -0.06 | 2.818 | 53.5 | 53.1 | 51.7 | -44.73 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW151 | 15:58 | 3/27/2018 | 0.0 | 0.1 | 20.4 | 79.5 | -41.09 | -36.51 | -0.018 | 42.1 | 42.2 | 0 | -44.82 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW151 | 8:15 | 4/24/2018 | 0.3 | 0.8 | 19.3 | 79.6 | 0.41 | -3.83 | 4.296 | 60.2 | 59.7 | 63 | -34.7 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW151 | 8:18 | 4/24/2018 | 28.1 | 19.7 | 10.8 | 41.4 | -34.31 | -34.29 | 0.063 | 53.7 | 53.7 | 7.4 | -34.8 | *Barely Open/*No Adj. Made |
| GUDEW152 | 16:37 | 11/27/2017 | 57.6 | 38.6 | 0.7 | 3.1 | -6.19 | -8.12 | -8.353 | 67.3 | 65.1 | 0 | -36.76 | *Inc. Flow/Vac. |
| GUDEW152 | 13:57 | 12/28/2017 | 17.8 | 13.6 | 13.7 | 54.9 | -18.97 | -16.87 | >>>> | 40 | 38.6 | N/A | -44.07 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW152 | 14:06 | 1/31/2018 | 30.2 | 22.2 | 8.5 | 39.1 | -7.94 | -7.93 | -0.015 | 44.6 | 44.6 | 0 | -41 | No Change in Valve Position/*Fully Closed |
| GUDEW152 | 14:05 | 2/22/2018 | 5.1 | 12.7 | 14.9 | 67.3 | -7.47 | -7.47 | -0.019 | 61.6 | 61.6 | 0 | -34.65 | *Fully Closed/*No Change in Valve Position |
| GUDEW152 | 16:33 | 3/27/2018 | 59.2 | 38.5 | 0.7 | 1.6 | -4.61 | -4.61 | -4.778 | 58.9 | 58.7 | 0 | -37.48 | *No Adj. Made |
| GUDEW152 | 17:36 | 4/23/2018 | 55.5 | 36.8 | 1.4 | 6.3 | -5.01 | -6.34 | -6.263 | 73.5 | 72.1 | 0 | -32.58 | *Inc. Flow/Vac. |
| GUDEW153 | 16:35 | 11/27/2017 | 62.0 | 37.3 | 0.7 | 0.0 | 0.11 | -12.78 | 0.188 | 70.7 | 69.2 | 13.5 | -36.87 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW153 | 13:58 | 12/28/2017 | 12.9 | 8.2 | 15.8 | 63.1 | -42.88 | -38.54 | 0.006 | 45.5 | 45.5 | 2.2 | -44.2 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW153 | 14:09 | 1/31/2018 | 13.8 | 9.2 | 17.0 | 60.0 | -38.35 | -38.81 | -0.015 | 50.8 | 50.8 | 0 | -41.05 | No Change in Valve Position |
| GUDEW153 | 14:06 | 2/22/2018 | 7.4 | 6.7 | 18.4 | 67.5 | -29.89 | -29.9 | -0.004 | 61 | 61 | 0 | -29.91 | *No Change in Valve Position |
| GUDEW153 | 16:35 | 3/27/2018 | 6.9 | 4.6 | 16.9 | 71.6 | -31.62 | -31.61 | -0.015 | 54.2 | 53.9 | 0 | -37.79 | *Barely Open/*No Adj. Made |
| GUDEW153 | 17:38 | 4/23/2018 | 9.2 | 5.1 | 16.5 | 69.2 | -16.71 | -12.46 | 0.011 | 73.5 | 72.7 | 3.1 | -33.16 | *Dec. Flow/Vac. |
| GUDEW154 | 14:38 | 11/28/2017 | 11.7 | 19.0 | 3.8 | 65.5 | -0.13 | -0.13 | 0.05 | 71.3 | 71.3 | 13.5 | -40.28 | *Barely Open/*No Adj. Made |
| GUDEW154 | 14:17 | 12/28/2017 | 9.4 | 18.1 | 6.4 | 66.1 | -0.08 | -0.08 | 0.032 | 40 | 40 | 11.1 | -44.37 | *No Adj. Made |
| GUDEW154 | 11:40 | 1/31/2018 | 11.4 | 18.2 | 5.4 | 65.0 | 0.07 | 0.08 | -0.005 | 48.7 | 48.7 | <<<> | -42.19 | No Change in Valve Position |
| GUDEW154 | 11:19 | 2/22/2018 | 44.4 | 29.2 | 0.4 | 26.0 | -0.4 | -0.4 | 0.298 | 59.1 | 59.1 | 35.7 | -45.58 | *No Change in Valve Position |
| GUDEW154 | 15:17 | 3/27/2018 | 51.8 | 33.8 | 0.6 | 13.8 | -0.1 | -0.31 | 0.296 | 55.4 | 56.7 | 35.8 | -45.79 | *Inc. Flow/Vac. |
| GUDEW154 | 11:54 | 4/24/2018 | 3.4 | 9.2 | 12.8 | 74.6 | -0.05 | -0.05 | 0.238 | 70.8 | 70.8 | 30.2 | -32.75 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|------------------------------|
| GUDEW156 | 14:44 | 11/27/2017 | 13.2 | 16.3 | 10.8 | 59.7 | -11.47 | -7.7 | -0.004 | 63.7 | 62.9 | 0 | -67.03 | *Dec. Flow/Vac. |
| GUDEW156 | 10:43 | 12/28/2017 | 12.6 | 20.5 | 6.9 | 60.0 | -4.98 | -4.03 | 0.006 | 30.2 | 27.9 | 2.3 | -56.56 | *Dec. Flow/Vac. |
| GUDEW156 | 10:54 | 1/30/2018 | 25.3 | 26.1 | 2.0 | 46.6 | -2.48 | -2.5 | -0.017 | 44.3 | 44.3 | 0 | -72.12 | No Change in Valve Position |
| GUDEW156 | 13:55 | 2/22/2018 | 27.2 | 29.2 | 0.3 | 43.3 | -1.75 | -1.75 | 0 | 59 | 58.9 | 0 | -70.59 | *Barely Open/*No Adj. Made |
| GUDEW156 | 11:25 | 3/21/2018 | 37.0 | 34.4 | 0.1 | 28.5 | -1.91 | -1.91 | -0.001 | 35 | 34.9 | 0 | -76.9 | *No Adj. Made |
| GUDEW156 | 15:48 | 4/23/2018 | 41.7 | 35.5 | 0.1 | 22.7 | -1.23 | -2.31 | 0.003 | 78 | 76.4 | 1.6 | -62.5 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEW157 | 14:21 | 11/27/2017 | 29.2 | 32.6 | 0.7 | 37.5 | -48.82 | -48.86 | 0.003 | 65.1 | 64.6 | 1.4 | -65.93 | *Barely Open/*No Adj. Made |
| GUDEW157 | 10:19 | 12/28/2017 | 17.4 | 27.4 | 3.7 | 51.5 | -46.81 | -46.81 | 0.01 | 27.4 | 27.3 | 2.9 | -56.17 | *Barely Open/*No Adj. Made |
| GUDEW157 | 10:37 | 1/30/2018 | 21.1 | 24.5 | 3.7 | 50.7 | -57.85 | -57.89 | -0.015 | 49.5 | 49.5 | 0 | -71.39 | No Change in Valve Position |
| GUDEW157 | 13:35 | 2/22/2018 | 21.9 | 27.8 | 3.0 | 47.3 | -57.13 | -57.13 | -0.012 | 58.6 | 58.5 | 0 | -70.81 | *No Adj. Made |
| GUDEW157 | 10:59 | 3/21/2018 | 26.6 | 29.7 | 2.6 | 41.1 | -57.96 | -59.82 | -0.051 | 44.2 | 44.2 | 0 | -77.52 | *Surging/*No Adj. Made |
| GUDEW157 | 15:31 | 4/23/2018 | 26.3 | 30.0 | 1.7 | 42.0 | -57.31 | -52.89 | -0.159 | 72.4 | 72 | 0 | -63.34 | *Surging/*No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW158 | 15:31 | 11/27/2017 | 54.9 | 33.7 | 2.5 | 8.9 | -26.56 | -26.56 | 0 | 71.6 | 71.3 | 0 | -26.39 | *Inc. Flow/Vac. |
| GUDEW158 | 11:05 | 12/28/2017 | 41.3 | 26.7 | 6.5 | 25.5 | -38.85 | -38.9 | -0.008 | 33.1 | 32.9 | <<> | -38.81 | *Barely Open/*No Adj. Made |
| GUDEW158 | 12:00 | 1/30/2018 | 61.8 | 38.0 | 0.2 | 0.0 | -36.32 | -37.99 | >>>> | 54.1 | 54.1 | N/A | -37.59 | No Change in Valve Position |
| GUDEW158 | 14:08 | 2/22/2018 | 27.3 | 15.5 | 12.6 | 44.6 | -16.71 | -16.75 | -0.019 | 56.7 | 56.6 | <<> | -16.47 | *Barely Open/*No Adj. Made |
| GUDEW158 | 11:38 | 3/21/2018 | 55.1 | 32.8 | 3.3 | 8.8 | -40.21 | -40.21 | 0.013 | 37.5 | 37.3 | 6.9 | -39.96 | *No Adj. Made |
| GUDEW158 | 16:12 | 4/23/2018 | 49.2 | 25.7 | 5.0 | 20.1 | -16.8 | -16.82 | 0.001 | 75.3 | 75.2 | 1.8 | -16.93 | *No Adj. Made |
| | | | | | | | | | | | | | | |
| GUDEW159 | 11:39 | 11/28/2017 | 33.1 | 28.1 | 0.1 | 38.7 | -7.87 | -7.87 | 0.017 | 71.5 | 71.5 | 7.9 | -37.95 | *Barely Open/*No Adj. Made |
| GUDEW159 | 11:29 | 12/28/2017 | 62.8 | 37.2 | 0.0 | 0.0 | 1.03 | 1.11 | -1.095 | 34.2 | 33.7 | <<> | 1.06 | *No Adj. Made |
| GUDEW159 | 10:50 | 1/31/2018 | 55.0 | 34.5 | 0.0 | 10.5 | 1.11 | 1.11 | 0.018 | 44.8 | 44.8 | 8.7 | 1.1 | No Change in Valve Position |
| GUDEW159 | 10:23 | 2/22/2018 | 8.6 | 18.4 | 4.7 | 68.3 | -20.51 | -21.1 | -0.01 | 70.4 | 71.1 | <<> | -26.95 | *No Change in Valve Position |
| GUDEW159 | 10:24 | 2/22/2018 | 8.1 | 17.4 | 4.8 | 69.7 | -20.35 | -17.44 | 0.005 | 70.4 | 70.4 | 4.1 | -27.4 | *Dec. Flow/Vac. |
| GUDEW159 | 15:48 | 3/21/2018 | 66.7 | 32.7 | 0.6 | 0.0 | 1.38 | -0.12 | 1.983 | 38.2 | 37.6 | 100.1 | -28.22 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW159 | 8:53 | 4/24/2018 | 55.3 | 21.6 | 4.6 | 18.5 | -29.2 | -29.75 | 0.014 | 59.1 | 59 | 7.5 | -29.62 | *Inc. Flow/Vac. |
| | | | | | | | | | | | | | | |
| GUDEFLAR | 7:29 | 11/2/2017 | 36.1 | 29.4 | 3.2 | 31.3 | -74.95 | -74.93 | >>>> | 64.8 | 64.9 | 514 | N/A | |
| GUDEFLAR | 14:18 | 11/2/2017 | 35.8 | 28.5 | 3.0 | 32.7 | -71.26 | -71.3 | >>>> | 88.7 | 88.7 | 500 | N/A | |
| GUDEFLAR | 11:09 | 11/27/2017 | 27.2 | 21.9 | 7.8 | 43.1 | -70.9 | -70.91 | >>>> | 64.6 | 64.6 | 491 | N/A | |
| GUDEFLAR | 12:10 | 11/27/2017 | 36.5 | 29.5 | 3.5 | 30.5 | -71.99 | -71.99 | >>>> | 66.8 | 66.8 | 493 | N/A | |
| GUDEFLAR | 13:26 | 11/27/2017 | 37.3 | 29.0 | 3.4 | 30.3 | -68.27 | -68.26 | >>>> | 68.8 | 68.8 | 533 | N/A | |
| GUDEFLAR | 17:15 | 11/27/2017 | 36.6 | 29.4 | 3.4 | 30.6 | -70.51 | -70.52 | >>>> | 57.6 | 57.1 | 515 | N/A | |
| GUDEFLAR | 10:40 | 11/28/2017 | 35.3 | 28.5 | 3.5 | 32.7 | -72.54 | -72.54 | >>>> | 71.2 | 71.1 | 504 | N/A | |
| GUDEFLAR | 9:21 | 11/29/2017 | 36.2 | 28.6 | 3.6 | 31.6 | -74.17 | -74.19 | >>>> | 60.5 | 60.4 | 489 | -74.21 | |
| GUDEFLAR | 11:50 | 12/22/2017 | 33.5 | 24.3 | 7.7 | 34.5 | -61.94 | -61.94 | >>>> | 62.6 | 62.6 | 595 | N/A | |
| GUDEFLAR | 12:19 | 12/22/2017 | 46.2 | 32.6 | 2.5 | 18.7 | -65.15 | -65.17 | >>>> | 65.8 | 65.7 | 588 | N/A | |
| GUDEFLAR | 12:45 | 12/22/2017 | 45.3 | 32.3 | 2.8 | 19.6 | -66 | -65.99 | >>>> | 60.6 | 60.8 | 576 | N/A | |
| GUDEFLAR | 17:02 | 12/27/2017 | 30.1 | 24.5 | 6.7 | 38.7 | -74.14 | -74.16 | >>>> | 47.5 | 47.7 | 510 | N/A | |
| GUDEFLAR | 8:56 | 12/28/2017 | 30.8 | 25.3 | 5.8 | 38.1 | -77.94 | -77.98 | >>>> | 47 | 46.9 | 490 | N/A | |
| GUDEFLAR | 10:03 | 12/28/2017 | 30.0 | 26.2 | 5.9 | 37.9 | -75.71 | -75.74 | >>>> | 31.1 | 31.6 | 521 | N/A | |
| GUDEFLAR | 12:28 | 1/25/2018 | 35.4 | 27.8 | 3.9 | 32.9 | -71.1 | -71.11 | >>>> | 70.8 | 70.4 | 524 | N/A | |
| GUDEFLAR | 10:01 | 1/30/2018 | 36.1 | 27.8 | 3.9 | 32.2 | 7.03 | 7.02 | -6.44 | 33 | N/A | 2539 | N/A | |
| GUDEFLAR | 13:18 | 1/31/2018 | 35.7 | 27.3 | 4.0 | 33.0 | -73.16 | -73.19 | >>>> | 35 | 35 | 499.9 | N/A | |
| GUDEFLAR | 11:18 | 2/22/2018 | 36.6 | 28.0 | 3.5 | 31.9 | -73.6 | -73.72 | >>>> | 65.3 | 65.2 | 496 | N/A | |
| GUDEFLAR | 12:20 | 2/23/2018 | 38.4 | 29.1 | 3.0 | 29.5 | -75.38 | -75.35 | >>>> | 61.7 | 61.8 | 501 | N/A | |
| GUDEFLAR | 14:44 | 3/15/2018 | 38.0 | 27.7 | 3.9 | 30.4 | -73.14 | -73.16 | >>>> | 70 | 70 | 465 | N/A | |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|--|--------------------|---------------------|----------------------|---|----------|
| GUDEFLAR | 10:13 | 3/21/2018 | 39.1 | 27.8 | 4.3 | 28.8 | -78.37 | -78.37 | >>>> | 36.5 | 36.1 | 429 | N/A | |
| GUDEFLAR | 13:51 | 3/27/2018 | 35.3 | 27.5 | 3.9 | 33.3 | -77.05 | -77.06 | >>>> | 61.4 | 61.5 | 464 | N/A | |
| GUDEFLAR | 14:14 | 4/23/2018 | 39.4 | 28.7 | 3.4 | 28.5 | -71.35 | -73.26 | >>>> | 82.7 | 82.8 | 445 | N/A | |
| GUDEFLAR | 7:51 | 4/24/2018 | 39.5 | 28.4 | 3.4 | 28.7 | -71.27 | -70.84 | >>>> | 68.6 | 68.6 | 507 | N/A | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| GUDEPLNT | 8:53 | 10/12/2016 | 38.1 | 23.9 | 2.4 | 35.6 | -26.54 | -26.54 | >>>> | 67.4 | 67.4 | 409 | N/A | |
| GUDEPLNT | 8:39 | 10/13/2016 | 36.8 | 28.2 | 3.2 | 31.8 | -20.26 | -20.26 | >>>> | 72.3 | 72.2 | 370 | N/A | |
| GUDEPLNT | 12:34 | 10/13/2016 | 36.8 | 28.0 | 3.3 | 31.9 | -20.1 | -20.11 | >>>> | 81.7 | 81.7 | 368 | N/A | |
| GUDEPLNT | 14:55 | 10/25/2016 | 36.8 | 29.1 | 2.8 | 31.3 | -18.12 | -18.13 | >>>> | 67.7 | 67.7 | 365 | N/A | |
| GUDEPLNT | 17:00 | 10/25/2016 | 37.4 | 29.4 | 2.6 | 30.6 | -18.91 | -18.93 | >>>> | 73.8 | 73.8 | 355 | N/A | |
| GUDEPLNT | 8:12 | 10/26/2016 | 34.4 | 27.4 | 3.5 | 34.7 | -24 | -24.02 | >>>> | 62.5 | 62.5 | 393 | N/A | |
| GUDEPLNT | 12:46 | 11/3/2016 | 39.4 | 29.5 | 2.3 | 28.8 | -18.9 | -18.91 | >>>> | 75.7 | 75.8 | 348 | N/A | |
| GUDEPLNT | 8:56 | 11/4/2016 | 36.4 | 28.6 | 2.6 | 32.4 | -24.09 | -24.1 | >>>> | 68.7 | 68.7 | 373 | N/A | |
| GUDEPLNT | 13:59 | 11/10/2016 | 39.0 | 29.5 | 2.3 | 29.2 | -23.15 | -23.15 | >>>> | 74.5 | 74.4 | 352 | N/A | |
| GUDEPLNT | 11:07 | 11/15/2016 | 38.6 | 29.1 | 2.5 | 29.8 | -22.33 | -22.35 | >>>> | 80.5 | 80.5 | 355 | N/A | |
| GUDEPLNT | 16:22 | 11/15/2016 | 39.4 | 29.6 | 2.6 | 28.4 | -22.19 | -22.19 | >>>> | 73.4 | 73.4 | 349 | N/A | |
| GUDEPLNT | 8:54 | 11/22/2016 | 34.3 | 27.6 | 3.6 | 34.5 | -30.04 | -30.05 | >>>> | 59.6 | 59.7 | 402 | N/A | |
| GUDEPLNT | 8:59 | 11/23/2016 | 34.0 | 27.8 | 3.2 | 35.0 | -24.14 | -24.14 | >>>> | 66.6 | 66.7 | 360 | N/A | |
| GUDEPLNT | 13:12 | 12/28/2016 | 36.9 | 28.6 | 2.4 | 32.1 | -28.26 | -29.4 | >>>> | 75.2 | 75.2 | 369 | N/A | |
| GUDEPLNT | 10:50 | 12/29/2016 | 40.8 | 30.2 | 1.9 | 27.1 | -22.88 | -22.91 | >>>> | 66.4 | 66.4 | 333 | N/A | |
| GUDEPLNT | 8:30 | 1/24/2017 | 40.1 | 28.9 | 3.1 | 27.9 | -21.59 | -21.6 | >>>> | 62.5 | 62.5 | 342 | N/A | |
| GUDEPLNT | 13:54 | 1/30/2017 | 35.6 | 26.8 | 4.3 | 33.3 | -25.29 | -25.31 | >>>> | 71.1 | 71 | 384 | N/A | |
| GUDEPLNT | 11:20 | 2/20/2017 | 34.8 | 27.4 | 3.2 | 34.6 | -35.24 | -35.2 | >>>> | 74.3 | 74.2 | 416 | N/A | |
| GUDEPLNT | 11:11 | 2/21/2017 | 34.9 | 27.2 | 3.4 | 34.5 | -33.94 | -33.9 | >>>> | 72.5 | 72.5 | 411 | N/A | |
| GUDEPLNT | 9:22 | 3/17/2017 | 33.1 | 26.5 | 4.3 | 36.1 | -33.09 | -33.07 | >>>> | 66.4 | 66.2 | 406 | N/A | |
| GUDEPLNT | 14:50 | 3/27/2017 | 36.9 | 27.9 | 3.4 | 31.8 | -23.16 | -23.16 | >>>> | 80.1 | 79.3 | 362 | N/A | |
| GUDEPLNT | 13:23 | 3/28/2017 | 43.2 | 30.5 | 3.0 | 23.3 | -15.78 | -15.81 | >>>> | 72.9 | 72.9 | 340 | N/A | |
| GUDEPLNT | 15:27 | 3/28/2017 | 42.8 | 30.9 | 1.4 | 24.9 | -18.47 | -18.45 | >>>> | 81.1 | 81.2 | 321 | N/A | |
| GUDEPLNT | 16:38 | 3/28/2017 | 43.8 | 31.2 | 1.7 | 23.3 | -20.18 | -20.18 | >>>> | 84.1 | 84.1 | 322 | N/A | |
| GUDEPLNT | 10:49 | 4/18/2017 | 39.7 | 29.7 | 1.9 | 28.7 | -27.03 | -27.03 | >>>> | 73.7 | 73.7 | 346 | N/A | |
| GUDEPLNT | 10:48 | 4/24/2017 | 40.7 | 29.8 | 1.7 | 27.8 | -24.88 | -24.87 | >>>> | 75.2 | 75.1 | 364 | N/A | |
| GUDEPLNT | 14:38 | 4/27/2017 | 41.9 | 29.4 | 1.7 | 27.0 | -23.3 | -23.29 | >>>> | 84 | 84.1 | 335 | N/A | |
| GUDEPLNT | 16:23 | 5/15/2017 | 42.8 | 29.9 | 1.4 | 25.9 | -21.07 | -21.07 | >>>> | 78.3 | 78.4 | 323 | N/A | |
| GUDEPLNT | 7:59 | 5/26/2017 | 48.9 | 32.6 | 1.0 | 17.5 | -20.46 | -20.46 | >>>> | 70.6 | 70.7 | 341 | N/A | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131°F

Gas Extraction Wells

January 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUDEDS02 | 10:43 | 1/7/2019 | 56.9 | 41.2 | 0 | 1.9 | -58.03 | -57.99 | -0.014 | -0.018 | 84.8 | 84.6 | 0 | 0 | -57.98 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW001 | 14:16 | 1/21/2019 | 59.6 | 40 | 0.4 | 0 | -46.24 | -46.78 | 0.017 | 0.018 | 23.8 | 24.7 | 20.9 | 21.5 | -47.1 | *Inc. Flow/Vac. |
| GUDEW002 | 14:03 | 1/21/2019 | 0.4 | 3.3 | 23 | 73.3 | -0.23 | -0.25 | -0.111 | -0.022 | 64.6 | 64.8 | <<<> | <<<> | -46.2 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW003 | 13:36 | 1/21/2019 | 0.6 | 5.8 | 20.1 | 73.5 | -47.22 | -47.09 | >>>> | >>>> | 64.3 | 64.1 | N/A | N/A | -46.69 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW004 | 14:42 | 1/7/2019 | 66.4 | 20.7 | 3.7 | 9.2 | -22.32 | -23.1 | 0.03 | 0.03 | 86.7 | 87 | 29.6 | 29.6 | -22.62 | *No Adj. Made |
| GUDEW005 | 13:46 | 1/28/2019 | 0 | 0.4 | 21.7 | 77.9 | -13.45 | -13.04 | 0.165 | 0.156 | 61.4 | 61.4 | 24.2 | 24.3 | -26.16 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW006 | 13:40 | 1/28/2019 | 25 | 21.8 | 0 | 53.2 | -0.08 | -0.09 | 0.007 | 0.007 | 61.2 | 61.2 | 1 | 1 | -2.44 | *No Adj. Made |
| GUDEW010 | 14:36 | 1/7/2019 | 23.1 | 10.1 | 15 | 51.8 | -9.28 | -9.23 | 0.029 | 0.027 | 86.4 | 86.4 | 27 | 26.1 | -8.42 | *Barely Open/*No Adj. Made |
| GUDEW011 | 14:30 | 1/7/2019 | 21 | 23.7 | 0 | 55.3 | -0.32 | -0.42 | 0.027 | 0.029 | 87.1 | 87.2 | 2.1 | 2.2 | -4.74 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW012 | 14:28 | 1/7/2019 | 11.3 | 20.2 | 0.3 | 68.2 | 0 | -0.04 | 0.022 | 0.133 | 84.6 | 86 | 8.6 | 22 | -0.27 | *Inc. Flow/Vac. |
| GUDEW015 | 13:37 | 1/28/2019 | 25.1 | 21.4 | 0 | 53.5 | -0.14 | -0.14 | 0.008 | 0.008 | 60.6 | 60.6 | 5.3 | 5.3 | -0.13 | *No Adj. Made |
| GUDEW016 | 13:33 | 1/28/2019 | 47.1 | 22.4 | 0 | 30.5 | -1.75 | -3.6 | 1.719 | 3.941 | 63.2 | 63.2 | 89.1 | 135.6 | -19.23 | *Inc. Flow/Vac. |
| GUDEW017 | 13:27 | 1/28/2019 | 49.9 | 25.2 | 0.3 | 24.6 | -14.89 | -13.77 | >>>> | >>>> | 55.5 | 55.6 | N/A | N/A | -21 | *No Adj. Made |
| GUDEW018 | 13:25 | 1/28/2019 | 54.1 | 31.4 | 1.9 | 12.6 | -19.6 | -19.14 | 0.037 | 0.033 | 56 | 56 | 2.6 | 2.5 | -21.52 | *No Adj. Made |
| GUDEW021 | 11:57 | 1/26/2019 | 62.6 | 36.5 | 0.9 | 0 | -32.36 | -32.39 | -0.002 | 0.001 | 50.6 | 50.5 | <<<> | 2.2 | -32.26 | *Inc. Flow/Vac. |
| GUDEW022 | 12:16 | 1/26/2019 | 55.7 | 30.5 | 2.7 | 11.1 | -34.56 | -34.56 | 0.043 | 0.039 | 52.5 | 52.5 | 13.1 | 12.4 | -34.21 | *No Adj. Made |
| GUDEW023 | 12:24 | 1/26/2019 | 56.6 | 43.1 | 0.3 | 0 | -30.56 | -30.48 | 1.576 | 3.988 | 52.1 | 52 | 80 | 128.7 | -26.7 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:42 | 1/26/2019 | 60.1 | 40 | 0 | N/A | -0.21 | -0.18 | 0.513 | 0.649 | 53.5 | 53.5 | 47.6 | 53.7 | -15.14 | *No Adj. Made |
| GUDEW025 | 13:09 | 1/28/2019 | 58.4 | 40.4 | 0.2 | 1 | -8.99 | -7.7 | 8.78 | 7.39 | 57.1 | 57 | 198.3 | 182 | -10.43 | *Inc. Flow/Vac. |
| GUDEW026 | 14:20 | 1/21/2019 | 36.6 | 19 | 11.9 | 32.5 | -1.28 | -1.27 | 0.026 | 0.022 | 64.8 | 65.3 | 10.2 | 9.4 | -1.22 | *Fully Closed/*No Adj. Made |
| GUDEW027 | 12:54 | 1/26/2019 | 1 | 6.7 | 15.8 | 76.5 | -4.34 | -3.84 | -0.005 | -0.009 | 51.8 | 51.8 | <<<> | <<<> | -3.79 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW028 | 13:51 | 1/28/2019 | 42.4 | 24.9 | 4.8 | 27.9 | -13.69 | -13.7 | >>>> | >>>> | 59.8 | 59.8 | N/A | N/A | -31.13 | *Fully Closed/*No Adj. Made |
| GUDEW029 | 12:57 | 1/26/2019 | 38.6 | 25 | 8.7 | 27.7 | -26.78 | -26.83 | 0.204 | 0.212 | 52.1 | 52.2 | 28.4 | 29 | -26.86 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW030 | 12:55 | 1/28/2019 | 58.4 | 41.1 | 0.5 | 0 | -31.43 | -31.38 | >>>> | >>>> | 55.3 | 55.3 | N/A | N/A | -31.36 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW031 | 12:57 | 1/28/2019 | 60 | 39.9 | 0.1 | 0 | -30.39 | -30.31 | 0.04 | 0.029 | 55.5 | 55.5 | 12.3 | 10.6 | -30.3 | *Fully Open/*No Adj. Made |
| GUDEW032 | 13:05 | 1/28/2019 | 74.9 | 25 | 0.1 | 0 | 69.9 | 17.83 | <<<< | <<<< | 55.7 | 56.6 | N/A | N/A | -8.35 | *Inc. Flow/Vac. |
| GUDEW034 | 13:14 | 1/28/2019 | 50.4 | 35.6 | 0.3 | 13.7 | -23.45 | -23.45 | 0.051 | 0.051 | 56.9 | 56.9 | 14 | 14 | -26.08 | *No Adj. Made |
| GUDEW035 | 13:11 | 1/28/2019 | 69.6 | 29.9 | 0 | 0.5 | 8.24 | -11.85 | -8.466 | >>>> | 57 | 57.1 | <<<> | N/A | -11.79 | *Inc. Flow/Vac. |
| GUDEW036 | 13:49 | 1/28/2019 | 65.7 | 28.9 | 0.9 | 4.5 | -29.76 | -29.84 | 0.016 | 0.015 | 60.6 | 60.5 | 20.9 | 20.2 | -29.85 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW037 | 13:17 | 1/28/2019 | 58.7 | 36.5 | 0 | 4.8 | -21.56 | -23.85 | 0.065 | 0.053 | 56.4 | 56.3 | 42.3 | 38.2 | -24.52 | *Inc. Flow/Vac. |
| GUDEW038 | 13:20 | 1/28/2019 | 46.6 | 22.4 | 3.3 | 27.7 | -1.17 | -1.06 | 0.921 | 0.646 | 56 | 56 | 65.1 | 54.3 | -24.66 | *Fully Closed/*No Adj. Made |
| GUDEW039 | 13:43 | 1/28/2019 | 0.3 | 4.2 | 17.9 | 77.6 | -0.66 | -0.2 | -0.099 | -0.063 | 62.1 | 62.1 | <<<> | <<<> | -22.54 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW050 | 14:09 | 1/21/2019 | 42.1 | 29.5 | 6.4 | 22 | -0.96 | -0.93 | 0.028 | 0.021 | 71.5 | 70.7 | 27.1 | 23.4 | -46.85 | *Fully Closed/*No Adj. Made |
| GUDEW051 | 13:59 | 1/21/2019 | 46.1 | 23.5 | 7.4 | 23 | -3.87 | -2.72 | 3.343 | 2.06 | 60.3 | 59.6 | 123.6 | 96.8 | -47.95 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW052 | 13:51 | 1/21/2019 | 58.3 | 41.7 | 0 | 0 | -46.74 | -46.99 | >>>> | >>>> | 72 | 71.1 | N/A | N/A | -47.05 | *Inc. Flow/Vac. |
| GUDEW054 | 14:24 | 1/21/2019 | 22.6 | 12 | 15.4 | 50 | -1.31 | -1.03 | 0.016 | 0.006 | 79.5 | 80.3 | 7.7 | 4.5 | -1.21 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW057 | 13:53 | 1/28/2019 | 5.2 | 9.6 | 14.6 | 70.6 | -32 | -30.33 | >>>> | >>>> | 60.2 | 60.6 | N/A | N/A | -32.25 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW062 | 13:45 | 1/28/2019 | 0 | 0.8 | 21.6 | 77.6 | -24.62 | -23.25 | 0.223 | 0.216 | 62 | 62 | 28.7 | 28.3 | -25.22 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW070 | 14:12 | 1/21/2019 | 0.5 | 3.9 | 22.4 | 73.2 | -38.26 | -37.67 | -0.17 | -0.169 | 29 | 29 | <<<> | <<<> | -47.37 | *Fully Closed/*No Adj. Made |
| GUDEW071 | 13:54 | 1/21/2019 | 62.3 | 37.6 | 0.1 | 0 | -47.18 | -46.58 | 0.016 | -0.194 | 64.5 | 61.8 | 7.6 | <<<> | -46.57 | *Inc. Flow/Vac. |
| GUDEW072 | 13:48 | 1/21/2019 | 56.8 | 43 | 0.2 | 0 | -46.08 | -46.93 | >>>> | >>>> | 79.2 | 78.5 | N/A | N/A | -46.73 | *Inc. Flow/Vac. |
| GUDEW073 | 13:40 | 1/21/2019 | 59.5 | 40.3 | 0.2 | 0 | -37.94 | -37.86 | 0.021 | 0.012 | 62.9 | 63.2 | 8.6 | 6.5 | -38.09 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW074 | 12:52 | 1/26/2019 | 16.8 | 14.7 | 13.4 | 55.1 | -11.15 | -11.11 | 0.201 | 0.304 | 51.9 | 51.9 | 28.2 | 34.8 | -24.13 | *Dec. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW075 | 12:50 | 1/28/2019 | 57.5 | 37.2 | 1.2 | 4.1 | -32.57 | -32.71 | >>>> | >>>> | 54.3 | 54.4 | N/A | N/A | -32.48 | *Inc. Flow/Vac. |
| GUDEW076 | 12:52 | 1/28/2019 | 58.1 | 41.3 | 0.3 | 0.3 | -32.5 | -32.48 | 0.044 | 0.043 | 54.6 | 54.6 | 33.6 | 33.4 | -32.13 | *Fully Open/*No Adj. Made |
| GUDEW100 | 9:51 | 1/7/2019 | 20.8 | 17.2 | 13.1 | 48.9 | -57.9 | -57.94 | -0.063 | -0.049 | 91.7 | 91.5 | 0 | 0 | -57.95 | *Barely Open/*No Adj. Made |
| GUDEW101 | 9:54 | 1/7/2019 | 53.9 | 35.1 | 1.3 | 9.7 | -57.8 | -57.89 | -0.06 | 0.044 | 89.6 | 89.2 | 0 | 5.9 | -57.91 | *Inc. Flow/Vac. |
| GUDEW102 | 9:57 | 1/7/2019 | 60.3 | 39.6 | 0 | 0.1 | -57.93 | -57.7 | -0.015 | -0.034 | 89.9 | 90 | 0 | 0 | -57.24 | *Fully Open/*No Adj. Made |
| GUDEW103 | 10:05 | 1/7/2019 | 56.7 | 38.2 | 0.1 | 5 | -57.55 | -57.56 | -0.046 | -0.043 | 89.6 | 89.6 | 0 | 0 | -57.54 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW104 | 10:09 | 1/7/2019 | 29.2 | 16.4 | 12.6 | 41.8 | -57.29 | -57.87 | -0.073 | -0.06 | 89.2 | 89.3 | 0 | 0 | -57.85 | *Barely Open/*No Adj. Made |
| GUDEW105 | 10:28 | 1/7/2019 | 3.5 | 9 | 10.3 | 77.2 | -53.09 | -53.12 | -0.024 | -0.024 | 80.2 | 80.4 | 0 | 0 | -58.02 | *Barely Open/*No Adj. Made |
| GUDEW106 | 10:40 | 1/7/2019 | 19.9 | 24.1 | 0.1 | 55.9 | -12.17 | -13.13 | -0.032 | -0.031 | 85.6 | 85.7 | 0 | 0 | -57.99 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW107 | 10:50 | 1/7/2019 | 2.5 | 12 | 12.2 | 73.3 | -5.46 | -5.46 | -0.02 | -0.021 | 86.1 | 86.2 | 0 | 0 | -58.2 | *Fully Closed/*No Adj. Made |
| GUDEW108 | 11:07 | 1/7/2019 | 27.9 | 35.5 | 1.7 | 34.9 | -44.43 | -43.76 | -0.039 | -0.039 | 85.2 | 85.3 | 0 | 0 | -57.89 | *Barely Open/*No Adj. Made |
| GUDEW109 | 11:18 | 1/7/2019 | 45.6 | 41.3 | 0.4 | 12.7 | -58.08 | -58 | -0.04 | -0.042 | 90.4 | 90.4 | 0 | 0 | -58 | *Fully Open/*No Adj. Made |
| GUDEW110 | 11:25 | 1/7/2019 | 29 | 32.7 | 2.6 | 35.7 | -38.52 | -40.52 | -0.027 | -0.028 | 90.4 | 90.4 | 0 | 0 | -57.58 | *Inc. Flow/Vac. |
| GUDEW111 | 11:28 | 1/7/2019 | 48.5 | 36.4 | 3.2 | 11.9 | -57.93 | -57.81 | -0.065 | -0.039 | 91 | 91.1 | 0 | 0 | -57.8 | *Dec. Flow/Vac. |
| GUDEW112 | 11:31 | 1/7/2019 | 51.7 | 41.3 | 0.2 | 6.8 | -57.46 | -57.14 | -0.02 | -0.023 | 91.4 | 91.3 | 0 | 0 | -57.15 | *No Adj. Made |
| GUDEW113 | 11:33 | 1/7/2019 | 54.2 | 41.7 | 0.2 | 3.9 | -57.78 | -57.8 | -0.033 | -0.034 | 91.5 | 91.5 | 0 | 0 | -57.8 | *Fully Open/*No Adj. Made |
| GUDEW114 | 11:35 | 1/7/2019 | 37.7 | 34.6 | 0 | 27.7 | -0.32 | -2.42 | -0.032 | -0.028 | 91.4 | 91.4 | 0 | 0 | -57.61 | *Inc. Flow/Vac. |
| GUDEW115 | 11:37 | 1/7/2019 | 1.7 | 21.3 | 1.6 | 75.4 | -0.13 | -3.48 | -0.026 | -0.024 | 91 | 91.1 | 0 | 0 | -57.65 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW116 | 11:41 | 1/7/2019 | 9.8 | 22.1 | 2.1 | 66 | -0.48 | -0.55 | -0.025 | -0.026 | 77.3 | 80.3 | 0 | 0 | -57.79 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW117 | 10:03 | 1/7/2019 | 0.3 | 7.4 | 14.2 | 78.1 | -0.13 | -0.13 | -0.021 | -0.022 | 89.9 | 89.9 | 0 | 0 | -57.4 | *Fully Closed/*No Adj. Made |
| GUDEW118 | 10:07 | 1/7/2019 | 15 | 17.9 | 11 | 56.1 | -16.17 | -15.46 | -0.015 | -0.02 | 89 | 88.7 | 0 | 0 | -58.48 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW119 | 10:12 | 1/7/2019 | 54.9 | 39.1 | 0.1 | 5.9 | -57.28 | -57.65 | -0.039 | -0.037 | 89.6 | 89.5 | 0 | 0 | -57.05 | *Inc. Flow/Vac. |
| GUDEW120 | 10:37 | 1/7/2019 | 0.3 | 4.6 | 18 | 77.1 | -0.51 | -0.5 | -0.034 | -0.032 | 85.6 | 85.6 | 0 | 0 | -57.97 | *Fully Closed/*No Adj. Made |
| GUDEW121 | 10:46 | 1/7/2019 | 1.4 | 6.2 | 17.6 | 74.8 | -0.1 | -0.09 | -0.02 | -0.021 | 86 | 86.2 | 0 | 0 | -58.25 | *Barely Open/*No Adj. Made |
| GUDEW122 | 11:20 | 1/7/2019 | 47.4 | 36.4 | 0 | 16.2 | -57.94 | -57.86 | -0.042 | -0.031 | 90.6 | 90.7 | 0 | 0 | -57.87 | *No Adj. Made |
| GUDEW123 | 10:55 | 1/7/2019 | 2.2 | 6.9 | 16.3 | 74.6 | -0.12 | -0.09 | -0.016 | -0.02 | 85.8 | 85.9 | 0 | 0 | -58.2 | *Fully Closed/*No Adj. Made |
| GUDEW124 | 11:02 | 1/7/2019 | 0.8 | 9.9 | 15.6 | 73.7 | -49.96 | -37.34 | -0.042 | -0.04 | 85.8 | 85.8 | 0 | 0 | -57.73 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW125 | 10:52 | 1/7/2019 | 16.5 | 12.4 | 12.7 | 58.4 | -3.97 | -2.7 | -0.034 | -0.034 | 87 | 87 | 0 | 0 | -57.93 | *Barely Open/*No Adj. Made |
| GUDEW126 | 10:58 | 1/7/2019 | 64.3 | 35.6 | 0 | 0.1 | 8.72 | -24.9 | -0.042 | -1.451 | 85.1 | 85.1 | 0 | 0 | -55.84 | *Inc. Flow/Vac. |
| GUDEW127 | 11:05 | 1/7/2019 | 17 | 18.6 | 13.9 | 50.5 | -57.85 | -57.8 | -0.022 | -0.023 | 85.9 | 85.9 | 0 | 0 | -57.8 | *Fully Closed/*No Adj. Made |
| GUDEW128 | 11:11 | 1/7/2019 | 8.5 | 17.9 | 3.4 | 70.2 | -6.59 | -6.6 | -0.038 | -0.037 | 89 | 89.4 | 0 | 0 | -57.54 | *Fully Closed/*No Adj. Made |
| GUDEW129 | 11:13 | 1/7/2019 | 62.4 | 37.6 | 0 | 0 | 7.93 | -30.82 | -0.04 | -0.071 | 91.4 | 91.6 | 0 | 0 | -57.49 | *Inc. Flow/Vac. |
| GUDEW130 | 11:16 | 1/7/2019 | 65.4 | 30.7 | 2 | 1.9 | -57.89 | -57.85 | -0.033 | -0.029 | 91.9 | 92 | 0 | 0 | -57.85 | *Fully Open/*No Adj. Made |
| GUDEW131 | 13:20 | 1/21/2019 | 34 | 20.2 | 0.5 | 45.3 | -2.08 | -2.09 | -0.011 | -0.011 | 71.6 | 71.6 | 0 | 0 | -2.54 | *Barely Open/*No Adj. Made |
| GUDEW132 | 13:24 | 1/21/2019 | 56.7 | 24.1 | 1.2 | 18 | -45.59 | -46.07 | -0.021 | -0.016 | 65.2 | 64.4 | 0 | 0 | -45.5 | *Inc. Flow/Vac. |
| GUDEW133 | 10:35 | 1/7/2019 | 0.9 | 7.1 | 19.4 | 72.6 | -49.16 | -46.54 | -0.169 | -0.155 | 86 | 85.9 | 0 | 0 | -58.04 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW134 | 10:31 | 1/7/2019 | 0.1 | 2.3 | 22.5 | 75.1 | -0.81 | -0.33 | -0.029 | -0.028 | 84.8 | 84.8 | 0 | 0 | -58.2 | *Fully Closed/*No Adj. Made |
| GUDEW135 | 9:48 | 1/7/2019 | 31.5 | 18.3 | 10.8 | 39.4 | -16.11 | -16.04 | -0.027 | -0.028 | 89 | 89.1 | 0 | 0 | -57.76 | *Barely Open/*No Adj. Made |
| GUDEW137 | 11:59 | 1/26/2019 | 56.8 | 43.2 | 0 | 0 | -38.08 | -38.11 | -0.06 | -0.06 | 50.3 | 50.2 | 0 | 0 | -38 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW138 | 12:02 | 1/26/2019 | 56.5 | 43.5 | 0 | 0 | -27.65 | -29.15 | 0.255 | 0.289 | 50.9 | 51 | 15.2 | 16.1 | -31.68 | *Inc. Flow/Vac. |
| GUDEW139 | 12:06 | 1/26/2019 | 57.8 | 41.7 | 0.5 | 0 | -29.1 | -30.5 | -0.03 | -0.198 | 50.7 | 50.7 | 0 | 0 | -31.52 | *Inc. Flow/Vac. |
| GUDEW140 | 13:01 | 1/26/2019 | 56.9 | 37.9 | 2.1 | 3.1 | -29.43 | -28.99 | 0.244 | 0.246 | 52.9 | 52.9 | 15 | 15.1 | -29.84 | *No Adj. Made |
| GUDEW141 | 12:08 | 1/26/2019 | 58.8 | 40.6 | 0.6 | 0 | -36.26 | -36.3 | -0.011 | -0.002 | 50.9 | 51 | 0 | 0 | -36.3 | *Fully Open/*No Adj. Made |
| GUDEW142 | 12:11 | 1/26/2019 | 56.9 | 43 | 0.1 | 0 | 1.93 | -1.4 | -0.001 | -0.006 | 51.3 | 51.3 | 0 | 0 | -33.48 | *Inc. Flow/Vac. |
| GUDEW143 | 12:20 | 1/26/2019 | 56.3 | 43.7 | 0 | 0 | -30.8 | -30.8 | 0.063 | 0.055 | 52.3 | 52.3 | 7.5 | 7 | -30.79 | *Fully Open/*No Adj. Made |
| GUDEW144 | 12:27 | 1/26/2019 | 51.3 | 41.1 | 1.5 | 6.1 | -1.4 | -1.44 | -0.284 | -0.488 | 52.3 | 52.4 | 0 | 0 | -22.5 | *No Adj. Made |
| GUDEW145 | 12:29 | 1/26/2019 | 55.3 | 44.9 | 0 | N/A | -29.18 | -28.29 | -1.827 | -2.117 | 52.2 | 52.2 | 0 | 0 | -29.89 | *Inc. Flow/Vac. |
| GUDEW146 | 12:39 | 1/26/2019 | 57.2 | 34.8 | 0 | 8 | 0.65 | 0.18 | -0.011 | -0.033 | 52.6 | 52.8 | 0 | 0 | -3.55 | *Inc. Flow/Vac. |
| GUDEW147 | 12:44 | 1/26/2019 | 59.6 | 40.2 | 0.2 | 0 | 0.49 | -0.11 | -0.213 | -0.587 | 53.5 | 53.5 | 0 | 0 | -7.9 | *Inc. Flow/Vac. |
| GUDEW148 | 12:45 | 1/26/2019 | 56.6 | 39.3 | 0 | 4.1 | -0.31 | -2.12 | -0.883 | -2.313 | 53.4 | 53.5 | 0 | 0 | -7.25 | *Inc. Flow/Vac. |
| GUDEW149 | 12:47 | 1/26/2019 | 52.3 | 26.2 | 3.3 | 18.2 | -6.5 | -5.46 | -0.163 | -0.363 | 53.9 | 53.9 | 0 | 0 | -7.44 | *Dec. Flow/Vac. |
| GUDEW150 | 13:27 | 1/21/2019 | 62.1 | 26.6 | 2.6 | 8.7 | -32.52 | -32.51 | -0.009 | -0.009 | 60.5 | 60.4 | 0 | 0 | -46.75 | *No Adj. Made |
| GUDEW151 | 13:31 | 1/21/2019 | 37.3 | 28.1 | 1.2 | 33.4 | -29.69 | -28.09 | -0.018 | -0.011 | 70.7 | 71.4 | 0 | 0 | -46.34 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW152 | 14:45 | 1/7/2019 | 49 | 32.1 | 4.1 | 14.8 | -3.21 | -2.15 | -2.028 | -1.503 | 86.4 | 86.7 | 0 | 0 | -22.14 | *Dec. Flow/Vac. |
| GUDEW153 | 14:47 | 1/7/2019 | 30.7 | 18.5 | 12 | 38.8 | -0.91 | -0.37 | -0.025 | -0.025 | 87.2 | 87.1 | 0 | 0 | -23.47 | *Fully Closed/*Dec. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|------------------------------|
| GUDEW154 | 12:12 | 1/26/2019 | 14 | 12.9 | 14.4 | 58.7 | -3.52 | -3.51 | 3.542 | 3.538 | 51.9 | 51.9 | 122.8 | 122.7 | -34.22 | *Fully Closed/*No Adj. Made |
| GUDEW156 | 11:00 | 1/7/2019 | 34.6 | 32.7 | 1 | 31.7 | -11.48 | -13.19 | -0.021 | -0.019 | 85.6 | 85.8 | 0 | 0 | -58.17 | *Inc. Flow/Vac. |
| GUDEW157 | 10:33 | 1/7/2019 | 34.1 | 32.5 | 2.4 | 31 | -58.43 | -58.39 | -0.04 | -0.038 | 85.3 | 85.3 | 0 | 0 | -57.64 | *Barely Open/*No Adj. Made |
| GUDEW158 | 14:37 | 1/7/2019 | 21.9 | 10.1 | 15.3 | 52.7 | -8.88 | -8.83 | 0.027 | 0.026 | 86.5 | 86.5 | 9.9 | 9.7 | -8.79 | *Fully Closed/*No Adj. Made |
| GUDEW159 | 13:00 | 1/28/2019 | 47.4 | 19.3 | 5.2 | 28.1 | -8.66 | -8.62 | 0.004 | -0.001 | 55.3 | 55.4 | 4.1 | <<>> | -8.59 | *Barely Open/*Dec. Flow/Vac. |
| GUDEFLAR | 9:40 | 1/7/2019 | 37.4 | 26.7 | 4.7 | 31.2 | -78.98 | -78.64 | >>>> | >>>> | 64.3 | 64.2 | 431.8 | 431.8 | N/A | |
| GUDEFLAR | 17:48 | 1/17/2019 | 57.2 | 36.7 | 1.7 | 4.4 | -37.99 | -37.93 | >>>> | >>>> | 41 | 41.1 | 598 | 598 | N/A | |
| GUDEFLAR | 9:26 | 1/18/2019 | 42.1 | 30.6 | 3.7 | 23.6 | -56.79 | -57.57 | >>>> | >>>> | 67.5 | 67.5 | 426 | 426 | N/A | |
| GUDEFLAR | 15:37 | 1/18/2019 | 44.6 | 31.2 | 3.5 | 20.7 | -48.33 | -48.94 | >>>> | >>>> | 52.6 | 52.6 | 489.7 | 489.7 | N/A | |
| GUDEFLAR | 12:28 | 1/21/2019 | 41.9 | 31.2 | 4.1 | 22.8 | -12.33 | -14.51 | >>>> | >>>> | 48.6 | 47.9 | 389.4 | 389.4 | N/A | |
| GUDEFLAR | 18:24 | 1/22/2019 | 44 | 33.4 | 3.2 | 19.4 | -0.49 | -2.17 | 0.352 | 1.912 | 35.9 | 37.3 | 354 | 354 | N/A | |
| GUDEFLAR | 10:07 | 1/26/2019 | 58.6 | 41.3 | 0.1 | 0 | -23.1 | -23.73 | >>>> | >>>> | 38.8 | 38.8 | 534.2 | 534.2 | N/A | |
| GUDEFLAR | 17:07 | 1/28/2019 | 42.6 | 30.3 | 3.3 | 23.8 | -59.62 | -59.66 | >>>> | >>>> | 57.2 | 57.3 | 734.2 | 734.2 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells

February 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUEDS02 | 12:25 | 2/4/2019 | 54.7 | 39.4 | 0 | 5.9 | -56.54 | -56.54 | 0.001 | 0.004 | 73.7 | 73.7 | 0.9 | 1.9 | -56.55 | *Fully Open/*No Adj. Made |
| GUDEW001 | 12:33 | 2/22/2019 | 60.1 | 39.7 | 0.1 | 0.1 | -34.7 | -34.8 | 4.755 | 0.228 | 48 | 48 | 429 | 92 | -34.75 | *No Adj. Made |
| GUDEW002 | 12:34 | 2/22/2019 | 59.4 | 40.5 | 0 | 0.1 | -34.8 | -34.8 | -0.563 | -0.574 | 48 | 48 | <<>> | <<>> | -34.42 | *No Adj. Made |
| GUDEW003 | 12:36 | 2/22/2019 | 59.4 | 40.2 | 0.2 | 0.2 | -34.9 | -34.8 | 0.569 | 0.577 | 50 | 55 | 22 | 22 | -34.78 | *No Adj. Made |
| GUDEW004 | 14:19 | 2/11/2019 | 51.1 | 17.7 | 7.1 | 24.1 | -34.01 | -33.98 | -0.007 | -0.017 | 53.7 | 53.9 | <<>> | <<>> | -33.83 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW005 | 12:42 | 2/8/2019 | 23.1 | 13 | 14.1 | 49.8 | -2.47 | -2.05 | 0.002 | -0.005 | 67.3 | 67.5 | 2.6 | <<>> | -31.82 | *Dec. Flow/Vac. |
| GUDEW006 | 12:17 | 2/8/2019 | 27.3 | 22.4 | 0 | 50.3 | -0.2 | -0.2 | 0.006 | 0.007 | 69.7 | 69.7 | 1 | 1 | -18.87 | *Barely Open/*No Adj. Made |
| GUDEW010 | 12:13 | 2/8/2019 | 13.2 | 20.7 | 0.4 | 65.7 | -1.49 | -1.47 | 0.014 | 0.012 | 69.3 | 69.3 | 17.8 | 16.8 | -6.96 | *Barely Open/*No Adj. Made |
| GUDEW011 | 12:11 | 2/8/2019 | 13.7 | 22.1 | 0 | 64.2 | -1.35 | -1.39 | 0.018 | 0.013 | 69.6 | 69.6 | 1.7 | 1.4 | -4.99 | *Barely Open/*No Adj. Made |
| GUDEW012 | 12:09 | 2/8/2019 | 10.2 | 22 | 0 | 67.8 | -2.67 | -3.64 | 0.027 | 0.017 | 69.5 | 69.6 | 9.7 | 7.7 | -9.58 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW015 | 12:21 | 2/8/2019 | 69.7 | 30 | 0.4 | N/A | -31.95 | -32.04 | >>>> | >>>> | 69.6 | 69.6 | N/A | N/A | -32.24 | *Inc. Flow/Vac. |
| GUDEW016 | 12:23 | 2/8/2019 | 43.3 | 21.8 | 0 | 34.9 | -6.03 | -6.06 | 3.535 | 3.531 | 69.7 | 69.7 | 126.2 | 126.2 | -31.94 | *No Adj. Made |
| GUDEW017 | 12:27 | 2/8/2019 | 40.3 | 25.1 | 0 | 34.6 | -21.7 | -21.71 | >>>> | >>>> | 69.4 | 69.4 | N/A | N/A | -31.24 | *No Adj. Made |
| GUDEW018 | 12:32 | 2/8/2019 | 37.3 | 22.3 | 9.1 | 31.3 | -30.78 | -28.89 | -0.046 | -0.034 | 69.4 | 69.4 | <<>> | <<>> | -31.34 | *Dec. Flow/Vac. |
| GUDEW021 | 12:00 | 2/11/2019 | 61.7 | 36 | 1.4 | 0.9 | -42.23 | -42.26 | 0.023 | 0.022 | 62.5 | 62.5 | 9.3 | 9 | -42.26 | *No Adj. Made |
| GUDEW022 | 17:01 | 2/4/2019 | 49.2 | 25.4 | 5.5 | 19.9 | -47.86 | -46.7 | -0.016 | -0.004 | 76.5 | 76.3 | <<>> | <<>> | -47.94 | *Dec. Flow/Vac. |
| GUDEW023 | 12:32 | 2/11/2019 | 55.4 | 44.6 | 0 | 0 | -42.49 | -40.33 | 3.011 | 0.853 | 55.4 | 55.4 | 108.7 | 57.1 | -39.83 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:42 | 2/11/2019 | 60.4 | 39.5 | 0.1 | 0 | -1.14 | -2.56 | 0.016 | 0.004 | 53.9 | 53.8 | 8 | 4.1 | -39.53 | *Inc. Flow/Vac. |
| GUDEW025 | 13:30 | 2/8/2019 | 58.3 | 40.6 | 0.2 | 0.9 | -19.95 | -19.98 | 0.016 | -0.011 | 63.2 | 63.2 | 7.6 | <<>> | -18.86 | *Inc. Flow/Vac. |
| GUDEW026 | 12:28 | 2/22/2019 | 57.7 | 42 | 0.1 | 0.2 | -32.9 | -32.4 | 0.091 | -0.641 | 49 | 50 | 19 | <<>> | -32.95 | *No Adj. Made |
| GUDEW027 | 13:52 | 2/8/2019 | 63.2 | 36.8 | 0 | 0 | 0.76 | -4.4 | 0.003 | -0.006 | 62.8 | 63 | 3.6 | <<>> | -32.58 | *Inc. Flow/Vac. |
| GUDEW028 | 14:11 | 2/11/2019 | 60.1 | 39.6 | 0.2 | 0.1 | -37.18 | -39.55 | 0.105 | 0.554 | 54.2 | 54.5 | 52.7 | 122.7 | -39.44 | *Inc. Flow/Vac. |
| GUDEW029 | 13:57 | 2/8/2019 | 63 | 37 | 0 | 0 | 50.16 | -1.2 | 0.009 | 0.007 | 63.3 | 63.4 | 6.5 | 5.4 | -31.96 | *Inc. Flow/Vac. |
| GUDEW030 | 13:42 | 2/8/2019 | 58.2 | 40.1 | 0.8 | 0.9 | -32.97 | -32.95 | 0.014 | 0.006 | 61.7 | 61.7 | 18.7 | 11.7 | -32.95 | *Fully Open/*No Adj. Made |
| GUDEW031 | 13:39 | 2/8/2019 | 58.5 | 41.5 | 0 | 0 | -32.62 | -31.35 | 0.033 | 0.013 | 62 | 61.9 | 11.1 | 6.8 | -32.64 | *Inc. Flow/Vac. |
| GUDEW032 | 13:34 | 2/8/2019 | 34.9 | 15.4 | 11 | 38.7 | -30.52 | -30.39 | >>>> | >>>> | 64.1 | 64.1 | N/A | N/A | -30.75 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW034 | 13:23 | 2/8/2019 | 50.3 | 34.3 | 1.7 | 13.7 | -29.71 | -29.7 | 0.031 | 0.03 | 62.6 | 62.6 | 10.6 | 10.5 | -32.35 | *No Adj. Made |
| GUDEW035 | 13:26 | 2/8/2019 | 31 | 14.3 | 11.9 | 42.8 | -30.13 | -27.36 | 0.003 | 0.005 | 63 | 63 | 9 | 11.1 | -30.52 | *Dec. Flow/Vac. |
| GUDEW036 | 13:13 | 2/8/2019 | 65.1 | 28.4 | 2 | 4.5 | -32.48 | -32.49 | 0.022 | 0.019 | 70 | 69.9 | 24.3 | 22.7 | -32.48 | *No Adj. Made |
| GUDEW037 | 13:16 | 2/8/2019 | 63.8 | 36.2 | 0 | 0 | -30.96 | -31.72 | 0.048 | 0.053 | 68.2 | 68 | 36 | 37.6 | -32.08 | *Inc. Flow/Vac. |
| GUDEW038 | 13:20 | 2/8/2019 | 62.9 | 23.5 | 2.9 | 10.7 | -1.14 | -19.09 | 0.044 | 2.671 | 65.5 | 65.3 | 14.2 | 112.1 | -30.23 | *Inc. Flow/Vac. |
| GUDEW039 | 12:37 | 2/8/2019 | 0.3 | 1.2 | 21.6 | 76.9 | -1.44 | -1.41 | -0.025 | -0.031 | 68.4 | 68.4 | <<>> | <<>> | -19.03 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW050 | 12:38 | 2/22/2019 | 16.3 | 11.6 | 14.3 | 57.8 | -31.04 | -31.04 | 0.006 | 0.004 | 65 | 65 | <<>> | <<>> | -33.94 | *No Adj. Made |
| GUDEW051 | 12:40 | 2/22/2019 | 56.3 | 43.6 | 0 | 0.1 | -25.92 | -25.51 | 0.033 | 0.029 | 65 | 65 | 10.7 | 10 | -31.01 | *No Adj. Made |
| GUDEW052 | 12:43 | 2/22/2019 | 56.4 | 43.5 | 0 | 0.1 | -31.3 | -31.36 | 0.078 | -0.001 | 67 | 67 | 17.1 | <<>> | -31.22 | *No Adj. Made |
| GUDEW054 | 12:47 | 2/11/2019 | 67.8 | 32.1 | 0.1 | 0 | -0.27 | -24.26 | 0.037 | -0.011 | 53.4 | 53.5 | 12.9 | <<>> | -40.5 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW057 | 14:07 | 2/11/2019 | 63.5 | 34.2 | 1.4 | 0.9 | -7.28 | -11.48 | 0.02 | -0.002 | 53.8 | 53.8 | 9.1 | <<>> | -35.84 | *Inc. Flow/Vac. |
| GUDEW062 | 12:40 | 2/8/2019 | 68.2 | 31.2 | 0.7 | N/A | 0.92 | -0.14 | 0.01 | 0.008 | 67.8 | 67.6 | 6.5 | 5.7 | -31.68 | *Inc. Flow/Vac. |
| GUDEW070 | 12:45 | 2/22/2019 | 30.1 | 33.1 | 1.3 | 35.5 | -3.5 | -3.6 | 0.107 | 0.028 | 69 | 69 | 20 | 10 | -26.75 | *No Adj. Made |
| GUDEW071 | 12:48 | 2/22/2019 | 51.9 | 31.8 | 2.4 | 13.9 | -32.4 | -32.4 | 0.048 | 0.042 | 68 | 67 | 13.1 | 12.2 | -32.65 | *No Adj. Made |
| GUDEW072 | 12:50 | 2/22/2019 | 22.5 | 24.5 | 0 | 53 | -11.4 | -11.3 | 7.383 | 7.943 | 66 | 66 | 523 | 543 | -31.48 | *No Adj. Made |
| GUDEW073 | 12:51 | 2/22/2019 | 1.5 | 10.3 | 13.8 | 74.4 | -2.4 | -2.5 | -0.601 | -0.6 | 66 | 66 | <<>> | <<>> | -31.26 | *No Adj. Made |
| GUDEW074 | 14:04 | 2/11/2019 | 63.9 | 34.6 | 1.3 | 0.2 | -8.86 | -8.86 | 0.038 | 0.025 | 53.6 | 53.6 | 12.7 | 10.2 | -39.59 | *No Adj. Made |


| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|------------------------------|
| GUDEW075 | 13:48 | 2/8/2019 | 61.2 | 38.3 | 0.5 | 0 | -32.59 | -32.59 | 0.035 | 0.006 | 62.5 | 62.4 | 11.4 | 4.5 | -32.6 | *Fully Open*/Inc. Flow/Vac. |
| GUDEW076 | 13:45 | 2/8/2019 | 56.3 | 43.7 | 0 | 0 | -32.75 | -32.76 | -0.373 | -0.371 | 62 | 62 | <<<> | <<<> | -32.76 | *Fully Open*/No Adj. Made |
| GUDEW100 | 11:50 | 2/4/2019 | 55.1 | 41.3 | 0.2 | 3.4 | 14.83 | -68.68 | -0.011 | 0.029 | 65.6 | 65.7 | 0 | 4.8 | -68.38 | *Barely Open*/Inc. Flow/Vac. |
| GUDEW101 | 11:33 | 2/8/2019 | 60.9 | 39.1 | 0 | 0 | -36.09 | -36.1 | 0.004 | 0.001 | 74.5 | 74.5 | 1.8 | 0.8 | -36.1 | *Fully Open*/Inc. Flow/Vac. |
| GUDEW101 | 11:52 | 2/4/2019 | 54.5 | 36.8 | 1.3 | 7.4 | -67.7 | -67.66 | -0.013 | -0.003 | 66.1 | 66.2 | 0 | 0 | -67.64 | *No Adj. Made |
| GUDEW102 | 11:55 | 2/4/2019 | 59.3 | 39.3 | 0 | 1.4 | -65.37 | -65.33 | -0.005 | 0.004 | 67 | 67.1 | 0 | 1.8 | -64.67 | *Inc. Flow/Vac. |
| GUDEW103 | 11:59 | 2/4/2019 | 58.6 | 32.6 | 0 | 8.8 | -59.99 | -59.97 | -0.013 | -0.011 | 67.9 | 67.9 | 0 | 0 | -59.96 | *Fully Open*/No Adj. Made |
| GUDEW104 | 12:04 | 2/4/2019 | 26.7 | 16.1 | 12.4 | 44.8 | -57.7 | -57.67 | 0.003 | 0.004 | 68.2 | 68.2 | 1.5 | 1.9 | -57.1 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW105 | 12:09 | 2/4/2019 | 3.1 | 5.7 | 17.2 | 74 | -47.54 | -49.24 | 0.013 | 0.013 | 68.5 | 68.5 | 3.2 | 3.2 | -56.15 | *Dec. Flow/Vac. |
| GUDEW106 | 12:23 | 2/4/2019 | 20.3 | 24.2 | 0 | 55.5 | -13.06 | -14.53 | -0.025 | -0.013 | 74.2 | 74.1 | 0 | 0 | -56.64 | *Barely Open*/No Adj. Made |
| GUDEW107 | 12:31 | 2/4/2019 | 3.1 | 13.8 | 10.4 | 72.7 | -2.75 | -2.77 | -0.036 | -0.026 | 73.9 | 73.9 | 0 | 0 | -56.28 | *Barely Open*/No Adj. Made |
| GUDEW108 | 13:22 | 2/4/2019 | 40.7 | 37.7 | 0 | 21.6 | -45 | -45.01 | -0.024 | -0.023 | 78.9 | 78.9 | 0 | 0 | -56.21 | *No Adj. Made |
| GUDEW109 | 11:47 | 2/8/2019 | 57.4 | 42.6 | 0 | 0 | -35.96 | -35.94 | -0.027 | -0.023 | 71.7 | 71.7 | 0 | 0 | -36.24 | *Fully Open*/No Adj. Made |
| GUDEW110 | 11:50 | 2/8/2019 | 39.9 | 36.3 | 0.3 | 23.5 | -30.66 | -32.06 | -0.003 | 0 | 70.9 | 70.9 | 0 | 0 | -35.95 | *No Adj. Made |
| GUDEW111 | 11:54 | 2/8/2019 | 57.8 | 41.7 | 0.5 | 0 | -35.65 | -35.74 | -0.002 | 0.005 | 70.7 | 70.5 | 0 | 2.1 | -35.74 | *Inc. Flow/Vac. |
| GUDEW112 | 11:57 | 2/8/2019 | 57.4 | 42.6 | 0 | 0 | -35.74 | -35.77 | -0.055 | -0.042 | 70.3 | 70.3 | 0 | 0 | -35.77 | *Fully Open*/No Adj. Made |
| GUDEW113 | 11:58 | 2/8/2019 | 56.4 | 41.7 | 0 | 1.9 | -35.74 | -35.72 | -0.032 | -0.029 | 70 | 69.9 | 0 | 0 | -35.73 | *Fully Open*/No Adj. Made |
| GUDEW114 | 12:01 | 2/8/2019 | 17.8 | 21 | 6.6 | 54.6 | -7.57 | -6.85 | -0.005 | -0.001 | 69.4 | 69.3 | 0 | 0 | -35.63 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW115 | 12:03 | 2/8/2019 | 6.3 | 16.4 | 6.7 | 70.6 | -5.33 | -3.74 | 0.008 | 0.004 | 69.1 | 69.1 | 2.6 | 1.9 | -35.75 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW116 | 12:06 | 2/8/2019 | 12.8 | 22.9 | 1 | 63.3 | -0.87 | -0.85 | 0 | 0.001 | 68.9 | 69 | 0 | 0.9 | -35.96 | *Barely Open*/No Adj. Made |
| GUDEW117 | 11:31 | 2/8/2019 | 28.8 | 13.8 | 2.8 | 54.6 | -2.36 | -4.67 | 0.005 | 0.009 | 75.7 | 75.5 | 2.2 | 2.9 | -36.18 | *Inc. Flow/Vac. |
| GUDEW117 | 11:58 | 2/4/2019 | 35.2 | 11.1 | 0 | 53.7 | -0.05 | -1.11 | 0.011 | 0.011 | 67.6 | 67.7 | 3.3 | 3.3 | -61.39 | *Inc. Flow/Vac. |
| GUDEW118 | 12:01 | 2/4/2019 | 26.9 | 23.6 | 4.7 | 44.8 | -8.24 | -13.31 | -0.029 | 0.001 | 68 | 68.1 | 0 | 0.9 | -58.45 | *Barely Open*/No Adj. Made |
| GUDEW119 | 12:06 | 2/4/2019 | 55.3 | 37.6 | 0 | 7.1 | -56.54 | -56.53 | -0.015 | -0.013 | 68.2 | 68.2 | 0 | 0 | -56.41 | *Inc. Flow/Vac. |
| GUDEW120 | 12:18 | 2/4/2019 | 0.7 | 9.4 | 13.1 | 76.8 | -0.58 | -0.57 | -0.004 | -0.001 | 76.5 | 76.5 | 0 | 0 | -56.66 | *Barely Open*/No Adj. Made |
| GUDEW121 | 12:28 | 2/4/2019 | 11.4 | 17.7 | 7.4 | 63.5 | -0.16 | -0.16 | 0.007 | 0.006 | 73.7 | 73.8 | 2.4 | 2.4 | -56.63 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW122 | 11:48 | 2/8/2019 | 60 | 38.1 | 0 | 1.9 | -36.02 | -36.01 | -0.006 | -0.004 | 71.1 | 71.1 | 0 | 0 | -36.01 | *Fully Open*/No Adj. Made |
| GUDEW123 | 13:14 | 2/4/2019 | 64.2 | 34.3 | 0 | 1.5 | 0.07 | -0.04 | -0.008 | 0.001 | 78.5 | 78.5 | 0 | 0.8 | -56.48 | *Barely Open*/Inc. Flow/Vac. |
| GUDEW124 | 13:17 | 2/4/2019 | 14.3 | 17.5 | 1.3 | 66.9 | 0.4 | -0.39 | 0.002 | 0.003 | 78.6 | 78.6 | 1.2 | 1.7 | -56.86 | *Barely Open*/No Adj. Made |
| GUDEW125 | 13:06 | 2/4/2019 | 67.2 | 32.4 | 0 | 0.4 | -0.03 | -14.26 | 0.001 | -0.024 | 79 | 79 | 0.8 | 0 | -56.6 | *Inc. Flow/Vac. |
| GUDEW126 | 13:09 | 2/4/2019 | 12.4 | 7.3 | 16.3 | 64 | -56.59 | -55.51 | 0.005 | 0.008 | 78.5 | 78.3 | 2 | 2.5 | -55.24 | *Dec. Flow/Vac. |
| GUDEW127 | 13:19 | 2/4/2019 | 5.7 | 17.6 | 14.9 | 61.8 | 1.65 | 1.65 | -0.005 | -0.003 | 78.4 | 78.5 | 0 | 0 | -55.8 | *Fully Closed*/No Adj. Made |
| GUDEW128 | 13:31 | 2/4/2019 | 16.1 | 19.4 | 0 | 64.5 | -3.21 | -3.2 | -0.008 | -0.006 | 80.1 | 80.1 | 0 | 0 | -56.98 | *No Adj. Made |
| GUDEW129 | 11:42 | 2/8/2019 | 13.5 | 9.4 | 16.5 | 60.6 | -35.76 | -35.62 | 0 | 0.006 | 74 | 73.7 | 0 | 2.2 | -35.65 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW130 | 11:44 | 2/8/2019 | 67.9 | 30.3 | 0.9 | 0.9 | -35.89 | -35.85 | -0.014 | -0.012 | 72.6 | 72.6 | 0 | 0 | -35.83 | *Fully Open*/No Adj. Made |
| GUDEW131 | 11:56 | 2/11/2019 | 26.4 | 20.7 | 3.1 | 49.8 | -33.9 | -32.32 | -0.005 | -0.002 | 64.4 | 64.3 | 0 | 0 | -42.54 | *Dec. Flow/Vac. |
| GUDEW132 | 11:53 | 2/11/2019 | 37.9 | 23.5 | 0 | 38.6 | -43.28 | -43.08 | -0.021 | 0.005 | 65.4 | 65 | 0 | 2.2 | -42.84 | *Dec. Flow/Vac. |
| GUDEW133 | 12:21 | 2/4/2019 | 1.7 | 4.1 | 18.4 | 75.8 | -47.93 | -46.28 | -0.084 | -0.063 | 75.2 | 74.9 | 0 | 0 | -56.66 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW134 | 12:11 | 2/4/2019 | 0.2 | 6.6 | 14.7 | 78.5 | -0.13 | -0.13 | 0.005 | 0.007 | 69 | 69.1 | 2.2 | 2.4 | -56.53 | *Fully Closed*/No Adj. Made |
| GUDEW135 | 11:46 | 2/4/2019 | 34.4 | 22.2 | 8.9 | 34.5 | -7.77 | -7.74 | -0.007 | -0.005 | 65.8 | 65.7 | 0 | 0 | -75.52 | *Barely Open*/No Adj. Made |
| GUDEW137 | 12:03 | 2/11/2019 | 56 | 44 | 0 | 0 | -44.18 | -44.2 | >>>> | >>>> | 62.1 | 62.1 | N/A | N/A | -44.22 | *Fully Open*/Inc. Flow/Vac. |
| GUDEW138 | 12:08 | 2/11/2019 | 55.6 | 44.4 | 0 | 0 | -40.9 | -41.41 | 0.229 | 0.11 | 60.2 | 60.1 | 14 | 9.7 | -41.66 | *Inc. Flow/Vac. |
| GUDEW139 | 12:11 | 2/11/2019 | 55.2 | 38.7 | 2.1 | 4 | -41.83 | -41.71 | -0.005 | -0.003 | 59.7 | 59.7 | 0 | 0 | -41.53 | *Barely Open*/No Adj. Made |
| GUDEW140 | 12:19 | 2/11/2019 | 28.2 | 29.8 | 0 | 42 | -14.53 | -14.51 | -0.095 | -0.091 | 58.4 | 58.4 | 0 | 0 | -43.54 | *Barely Open*/No Adj. Made |
| GUDEW141 | 12:15 | 2/11/2019 | 59.3 | 40.6 | 0.1 | 0 | -43.49 | -43.49 | -0.012 | -0.007 | 58.6 | 58.6 | 0 | 0 | -43.5 | *Fully Open*/No Adj. Made |
| GUDEW142 | 17:05 | 2/4/2019 | 21.2 | 17.3 | 14 | 47.5 | -11.41 | -8.12 | 0.06 | 0.023 | 75.8 | 75.8 | 7.3 | 4.5 | -46.91 | *Dec. Flow/Vac. |
| GUDEW143 | 12:23 | 2/11/2019 | 56.4 | 43.5 | 0.1 | 0 | -42.27 | -42.25 | 0.013 | 0.022 | 56.5 | 56.5 | 3.3 | 4.3 | -42.24 | *Fully Open*/No Adj. Made |
| GUDEW144 | 12:27 | 2/11/2019 | 37.8 | 30.6 | 7.5 | 24.1 | -5.39 | -3.22 | -0.264 | -0.03 | 55.8 | 55.9 | 0 | 0 | -41.98 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW145 | 12:29 | 2/11/2019 | 34.2 | 27.6 | 9.1 | 29.1 | -1.07 | -1.08 | -0.018 | -0.018 | 56.1 | 56.1 | 0 | 0 | -39.76 | *Fully Closed*/No Adj. Made |
| GUDEW146 | 12:36 | 2/11/2019 | 56.7 | 43.2 | 0.1 | 0 | 4.02 | -3.35 | -0.008 | -3.005 | 55.2 | 55.3 | 0 | 0 | -40 | *Barely Open*/Inc. Flow/Vac. |
| GUDEW147 | 12:38 | 2/11/2019 | 9.7 | 24.9 | 0 | 65.4 | -3.28 | -1.2 | -2.453 | -0.528 | 54.8 | 54.7 | 0 | 0 | -40.79 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW148 | 14:02 | 2/8/2019 | 34.6 | 24.6 | 0 | 40.8 | -9.65 | -9.65 | -6.653 | -6.539 | 59.9 | 59.9 | 0 | 0 | -31.28 | *Barely Open*/No Adj. Made |
| GUDEW149 | 14:00 | 2/8/2019 | 32.1 | 15.9 | 11.2 | 40.8 | -5.38 | -4.84 | 0 | 0.002 | 60.3 | 60.2 | 0 | 1.5 | -30.74 | *Barely Open*/No Adj. Made |
| GUDEW150 | 11:47 | 2/11/2019 | 56.4 | 27.2 | 3.9 | 12.5 | -27.89 | -27.84 | -0.024 | -0.007 | 66.2 | 66.2 | 0 | 0 | -43.01 | *Barely Open*/No Adj. Made |
| GUDEW151 | 11:43 | 2/11/2019 | 50.8 | 32.2 | 3.8 | 13.2 | -8.22 | -8.21 | -0.015 | -0.011 | 67.6 | 67.5 | 0 | 0 | -8.2 | |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|----------------------------|
| GUDEW152 | 12:58 | 2/22/2019 | 31.9 | 22.2 | 7.5 | 38.4 | -16.8 | -16.9 | -0.052 | -0.034 | 66 | 66 | <<>> | <<>> | -17.06 | *No Adj. Made |
| GUDEW153 | 13:03 | 2/22/2019 | 54.5 | 37.9 | 0 | 7.6 | -2.6 | -2.6 | -6.132 | -4.224 | 65 | 66 | <<>> | <<>> | -28.24 | *No Adj. Made |
| GUDEW154 | 12:17 | 2/11/2019 | 32.7 | 22.3 | 4.6 | 40.4 | -0.26 | -0.24 | -0.027 | -0.029 | 58.4 | 58.4 | <<>> | <<>> | -43.64 | *Barely Open/*No Adj. Made |
| GUDEW156 | 13:12 | 2/4/2019 | 33.6 | 31.4 | 2.1 | 32.9 | -21.5 | -21.49 | 0.01 | 0.011 | 78.3 | 78.3 | 2.9 | 3.1 | -56.23 | *No Adj. Made |
| GUDEW157 | 13:07 | 2/22/2019 | 53.8 | 37.1 | 0.2 | 8.9 | -2.7 | -2.7 | -0.012 | -0.004 | 67 | 68 | <<>> | <<>> | -28.43 | *No Adj. Made |
| GUDEW158 | 14:14 | 2/8/2019 | 68.7 | 28.3 | 0.7 | 2.3 | -0.36 | -9.78 | 0.014 | -0.001 | 65.1 | 64.9 | 7.9 | <<>> | -8.43 | *Inc. Flow/Vac. |
| GUDEW159 | 13:37 | 2/8/2019 | 68.2 | 21.9 | 2.5 | 7.4 | -27.7 | -27.57 | -0.008 | -0.009 | 61.9 | 61.9 | <<>> | <<>> | -26.71 | *No Adj. Made |
| GUDEFLAR | 15:36 | 2/2/2019 | 49.7 | 33.1 | 2.8 | 14.4 | -68.78 | -68.81 | >>>> | >>>> | 60.4 | 60.4 | 620.4 | 620.4 | N/A | |
| GUDEFLAR | 11:18 | 2/11/2019 | 41.8 | 29.1 | 2.9 | 26.2 | -44.9 | -44.91 | >>>> | >>>> | 84.9 | 84.7 | 471.8 | 471.8 | N/A | |
| GUDEFLAR | 11:25 | 2/8/2019 | 40.6 | 29.7 | 3.1 | 26.6 | -37 | -37.07 | >>>> | >>>> | 78.2 | 78.1 | 427.3 | 427.3 | N/A | |
| GUDEFLAR | 11:12 | 2/4/2019 | 39.8 | 31.3 | 3.4 | 25.5 | -82.93 | -82.98 | >>>> | >>>> | 57.5 | 57.5 | 412.8 | 412.8 | N/A | |
| GUDEFLAR | 17:56 | 2/4/2019 | 37.8 | 27.7 | 5.2 | 29.3 | -36.06 | -36.15 | >>>> | >>>> | 67 | 67 | 424 | 424 | N/A | |
| GUDEFLAR | 12:21 | 2/22/2019 | 40.9 | 29.5 | 3.2 | 26.4 | -36.4 | -36.3 | 29.926 | >>>> | 70 | 69 | 408 | 408 | N/A | |
| GUDEFLAR | 11:25 | 2/23/2019 | 40.2 | 29.6 | 2.7 | 27.5 | -32.53 | -32.53 | >>>> | >>>> | 50.2 | 50.1 | 448.2 | 448.2 | N/A | |
| GUDEFLAR | 18:01 | 2/5/2019 | 41.7 | 28.7 | 3.2 | 26.4 | -35.51 | -35.51 | >>>> | >>>> | 72.9 | 72.9 | 430.8 | 430.8 | N/A | |
| GUDEFLAR | 8:05 | 2/6/2019 | 40.4 | 28.7 | 3.4 | 27.5 | -37.68 | -37.71 | >>>> | >>>> | 61.6 | 61.6 | 438 | 438 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131°F



APTIM
Gude Landfill
Rockville, MD
Gas Extraction Wells
March 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUDEDS02 | 13:07 | 3/23/2019 | 59.3 | 38.9 | 0.4 | 1.4 | -33.39 | -33.4 | -0.01 | -0.01 | 56.6 | 56.6 | 0 | 0 | -33.41 | *Fully Open/*No Adj. Made |
| GUDEFLAR | 9:30 | 3/5/2019 | 40.5 | 30.2 | 3.3 | 26 | -38.73 | -38.77 | >>>> | >>>> | 50.8 | 50.8 | 422 | 422 | N/A | |
| GUDEFLAR | 14:37 | 3/5/2019 | 42.3 | 31.4 | 2.7 | 23.6 | -27.75 | -27.76 | >>>> | >>>> | 63.8 | 64 | 423 | 423 | N/A | |
| GUDEFLAR | 13:46 | 3/23/2019 | 38 | 27.6 | 3.3 | 31.1 | -34.32 | -34.36 | >>>> | >>>> | 59.9 | 60 | 394.8 | 394.8 | N/A | |
| GUDEFLAR | 14:29 | 3/25/2019 | 40.9 | 29.5 | 3.4 | 26.2 | -29.24 | -29.23 | >>>> | >>>> | 74.7 | 74.6 | 402.5 | 402.5 | N/A | |
| GUDEFLAR | 11:25 | 3/29/2019 | 39.9 | 29.1 | 3.3 | 27.7 | -27.18 | -27.18 | >>>> | >>>> | 72.3 | 72.3 | 403.6 | 403.6 | N/A | |
| GUDEW001 | 13:01 | 3/25/2019 | 54.8 | 35.6 | 2.4 | 7.2 | -28.72 | -28.61 | 0.456 | 0.227 | 75.4 | 75.4 | 110.3 | 77.2 | -27.04 | *No Adj. Made |
| GUDEW002 | 13:10 | 3/25/2019 | 67.9 | 32.1 | 0 | 0 | -28.35 | -28.39 | 0.523 | 0.529 | 72.9 | 72.9 | 123.8 | 124.5 | -27.27 | *Fully Open/*No Adj. Made |
| GUDEW003 | 13:41 | 3/25/2019 | 0.4 | 4 | 20.6 | 75 | -0.88 | -0.32 | -0.016 | -0.007 | 72.3 | 72.4 | 0 | 0 | -28.24 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW004 | 10:25 | 3/25/2019 | 10.7 | 5.1 | 16.7 | 67.5 | -21.28 | -16.71 | 0.011 | 0.011 | 68.1 | 68 | 16 | 16.1 | -21.74 | *Dec. Flow/Vac. |
| GUDEW005 | 10:28 | 3/25/2019 | 62.8 | 37.1 | 0.2 | N/A | -19.87 | -19.85 | 0.022 | 0.02 | 70.4 | 70.5 | 9.1 | 8.8 | -19.69 | *No Adj. Made |
| GUDEW006 | 10:38 | 3/25/2019 | 19.7 | 19.1 | 0 | 61.2 | 0.11 | 0.12 | 0.018 | 0.018 | 73 | 73.1 | 1.7 | 1.7 | -13.38 | *Fully Closed/*No Adj. Made |
| GUDEW010 | 14:08 | 3/23/2019 | 0 | 1.3 | 19.4 | 79.3 | 0.11 | 0.11 | 0.11 | 0.032 | 60.1 | 60.1 | 53.6 | 28.8 | -8.04 | *Fully Closed/*No Adj. Made |
| GUDEW011 | 14:07 | 3/23/2019 | 13.9 | 19.9 | 0 | 66.2 | -1 | -1 | 0.018 | 0.017 | 61.1 | 61.1 | 1.7 | 1.7 | -8.01 | *Barely Open/*No Adj. Made |
| GUDEW012 | 14:04 | 3/23/2019 | 11.5 | 18.9 | 0.7 | 68.9 | -1.77 | -2.32 | 0.388 | 0.204 | 60.2 | 60.2 | 39 | 28.1 | -3.13 | *Barely Open/*No Adj. Made |
| GUDEW015 | 10:41 | 3/25/2019 | 61.7 | 26.7 | 2.8 | 8.8 | -27.23 | -27.23 | 0.03 | 0.028 | 72.1 | 72.1 | 11 | 10.5 | -27.1 | *No Adj. Made |
| GUDEW016 | 10:52 | 3/25/2019 | 50.4 | 21.7 | 0.1 | 27.8 | -3.88 | -8.52 | 3.159 | 6.971 | 76 | 76.5 | 120.8 | 179.6 | -26.18 | *Inc. Flow/Vac. |
| GUDEW017 | 10:48 | 3/25/2019 | 38.1 | 22.8 | 0.6 | 38.5 | -18.16 | -19 | >>>> | >>>> | 73.5 | 73.5 | N/A | N/A | -26.05 | *No Adj. Made |
| GUDEW018 | 10:45 | 3/25/2019 | 0 | 0.4 | 20.2 | 79.4 | -22.59 | -21.13 | -2.351 | -5.982 | 71.9 | 71.9 | <<<< | <<<< | -25.45 | *No Adj. Made |
| GUDEW021 | 12:58 | 3/25/2019 | 55.1 | 31.6 | 3.4 | 9.9 | -26.61 | -26.54 | 0.581 | 0.469 | 74.6 | 74.5 | 48.5 | 43.5 | -26.55 | *Dec. Flow/Vac. |
| GUDEW022 | 12:37 | 3/25/2019 | 34.2 | 18.2 | 10.4 | 37.2 | -23.26 | -21.67 | 0.556 | 0.58 | 75.3 | 75 | 46.9 | 48.1 | -27.42 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW023 | 12:30 | 3/25/2019 | 66.9 | 32.7 | 0.3 | 0.1 | -26.07 | -26.06 | 0.197 | 0.27 | 79.1 | 79.1 | 28.6 | 33.6 | -26.02 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:12 | 3/25/2019 | 53.2 | 37.1 | 0.2 | 9.5 | -1.8 | -2.81 | 0.016 | 0.009 | 78.9 | 78.9 | 7.7 | 5.8 | -24.34 | *Inc. Flow/Vac. |
| GUDEW025 | 11:39 | 3/25/2019 | 57.9 | 40.3 | 0.3 | 1.5 | -12.73 | -12.67 | 0.016 | 0.012 | 79 | 80.1 | 7.7 | 6.5 | -12.67 | *No Adj. Made |
| GUDEW026 | 13:23 | 3/25/2019 | 67.7 | 31 | 0.9 | 0.4 | -25.85 | -25.26 | 0.724 | 0.425 | 76.6 | 76.7 | 56.1 | 42.8 | -24.61 | *No Adj. Made |
| GUDEW027 | 11:25 | 3/25/2019 | 7.8 | 5.7 | 17.7 | 68.8 | -10.97 | -8.6 | 0.019 | 0.009 | 79.8 | 80.2 | 8.1 | 5.5 | -25.88 | *Barely Open/*No Adj. Made |
| GUDEW028 | 11:15 | 3/25/2019 | 62.5 | 37.2 | 0.3 | 0 | -19.34 | -19.3 | 0.343 | 0.612 | 80.1 | 79.9 | 97.5 | 130.9 | -19.05 | *Fully Open/*No Adj. Made |
| GUDEW029 | 12:01 | 3/25/2019 | 39.3 | 24.8 | 8 | 27.9 | -25.78 | -25.36 | 0.02 | 0.011 | 82.1 | 82.2 | 8.4 | 6.1 | -25.55 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW030 | 11:58 | 3/25/2019 | 57.5 | 39.1 | 1 | 2.4 | -25.68 | -25.68 | 0.024 | 0.021 | 79.7 | 80 | 24.4 | 22.6 | -25.26 | *Fully Open/*No Adj. Made |
| GUDEW031 | 11:54 | 3/25/2019 | 57.7 | 37.7 | 1.3 | 3.3 | -22.02 | -22.02 | 0.033 | 0.03 | 82.1 | 82.1 | 10.9 | 10.4 | -25.64 | *No Adj. Made |
| GUDEW032 | 11:52 | 3/25/2019 | 73.1 | 24.2 | 0.2 | 2.5 | -12.55 | -13.08 | >>>> | >>>> | 86.6 | 86.7 | N/A | N/A | -24.25 | *Inc. Flow/Vac. |
| GUDEW034 | 11:01 | 3/25/2019 | 48.9 | 34.8 | 0.7 | 15.6 | -24.55 | -24.55 | 0.305 | 0.305 | 78.8 | 78.8 | 34.1 | 34.1 | -24.54 | *No Adj. Made |
| GUDEW035 | 11:34 | 3/25/2019 | 71.5 | 27.1 | 0 | 1.4 | 20.2 | -16.33 | 0.055 | 0.031 | 77.9 | 77.9 | 42.8 | 30.5 | -22.96 | *Inc. Flow/Vac. |
| GUDEW036 | 11:11 | 3/25/2019 | 58.2 | 26.6 | 3.3 | 11.9 | -19.13 | -18.97 | 0.097 | 0.019 | 79.3 | 81.7 | 52.1 | 22.4 | -18.84 | *Dec. Flow/Vac. |
| GUDEW037 | 11:03 | 3/25/2019 | 61.5 | 36 | 0.1 | 2.4 | -25.61 | -25.73 | 0.066 | 0.066 | 79.9 | 79.8 | 41.7 | 41.7 | -25.76 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW038 | 10:58 | 3/25/2019 | 57.9 | 21.4 | 3.6 | 17.1 | -0.93 | -0.48 | 0.06 | 0.057 | 79.7 | 79.7 | 16.3 | 15.8 | -26.39 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW039 | 10:33 | 3/25/2019 | 12.5 | 6.3 | 14.7 | 66.5 | 0.13 | 0.13 | 0.008 | 0.008 | 73.4 | 73.4 | 5.3 | 5.3 | -12.93 | *Fully Closed/*No Adj. Made |
| GUDEW050 | 13:07 | 3/25/2019 | 61.9 | 37.8 | 0.4 | N/A | -0.43 | -1.43 | 0.397 | -0.14 | 73.7 | 73.4 | 107.9 | <<<< | -24.59 | *Inc. Flow/Vac. |
| GUDEW051 | 13:14 | 3/25/2019 | 68.7 | 31.3 | 0 | 0 | 0.58 | -2.38 | 0.16 | 0.055 | 72.9 | 73.1 | 27 | 15.6 | -25.09 | *Inc. Flow/Vac. |
| GUDEW052 | 13:16 | 3/25/2019 | 61 | 38.8 | 0.2 | 0 | -28.71 | -28.69 | 0.825 | 0.537 | 73.5 | 73.5 | 150.1 | 120.8 | -28.57 | *Fully Open/*No Adj. Made |
| GUDEW054 | 13:26 | 3/25/2019 | 8 | 5.5 | 18.8 | 67.7 | -25.99 | -24.57 | 1.485 | 0.352 | 74.3 | 73.6 | 75.2 | 36.1 | -23.5 | *Dec. Flow/Vac. |
| GUDEW057 | 11:18 | 3/25/2019 | 35.7 | 20.2 | 9.2 | 34.9 | -13.13 | -13.09 | 0.032 | 0.026 | 79.8 | 79.8 | 11 | 9.9 | -19.1 | *Barely Open/*No Adj. Made |
| GUDEW062 | 10:31 | 3/25/2019 | 66.9 | 33 | 0.1 | 0 | 0.26 | -16.63 | 0.02 | -0.729 | 73.6 | 73.7 | 9.1 | <<<< | -18.66 | *Inc. Flow/Vac. |
| GUDEW070 | 13:05 | 3/25/2019 | 46.6 | 20.6 | 7.5 | 25.3 | -6.29 | -6.28 | 0.345 | 0.214 | 74.2 | 74.3 | 38.6 | 30.2 | -27.58 | *Barely Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW071 | 13:19 | 3/25/2019 | 59.1 | 34.2 | 2 | 4.7 | -28.55 | -28.53 | 0.455 | 0.463 | 74.2 | 74.2 | 42.9 | 43.2 | -27.42 | *No Adj. Made |
| GUDEW072 | 13:30 | 3/25/2019 | 10.8 | 7.1 | 17.8 | 64.3 | -28.79 | -23.51 | 0.602 | 1.053 | 73 | 72.9 | 123.8 | 165.7 | -25.88 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW073 | 10:20 | 3/25/2019 | 61.7 | 37.2 | 0.7 | 0.4 | -21.54 | -21.54 | -0.001 | 0.006 | 67 | 67 | <<>> | 4.6 | -22.02 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW074 | 11:22 | 3/25/2019 | 67 | 32.8 | 0.2 | 0 | 3.26 | -24.2 | 0.03 | -0.001 | 79.4 | 79.4 | 11.2 | <<>> | -26.32 | *Inc. Flow/Vac. |
| GUDEW075 | 11:28 | 3/25/2019 | 60.4 | 35.7 | 1.2 | 2.7 | -25.88 | -25.88 | 0.011 | 0.01 | 78.7 | 78.8 | 6.2 | 6 | -25.84 | *No Adj. Made |
| GUDEW076 | 11:30 | 3/25/2019 | 57.9 | 39.7 | 0.1 | 2.3 | -26.01 | -26.01 | -3.123 | -3.017 | 79.6 | 79.7 | <<>> | <<>> | -25.99 | *Fully Open/*No Adj. Made |
| GUDEW100 | 12:34 | 3/23/2019 | 5.9 | 4.7 | 20 | 69.4 | -33.77 | -33.8 | -0.004 | -0.003 | 59.5 | 59.4 | 0 | 0 | -33.5 | *Barely Open/*No Adj. Made |
| GUDEW101 | 12:36 | 3/23/2019 | 59 | 35.9 | 0.8 | 4.3 | -33.84 | -33.82 | -0.055 | -0.041 | 58 | 58 | 0 | 0 | -33.81 | *Fully Open/*No Adj. Made |
| GUDEW102 | 12:39 | 3/23/2019 | 61.3 | 38.3 | 0 | 0.4 | -33.75 | -33.75 | -0.014 | -0.011 | 56.9 | 56.8 | 0 | 0 | -33.76 | *Fully Open/*No Adj. Made |
| GUDEW103 | 12:45 | 3/23/2019 | 61.9 | 38 | 0.1 | 0 | -33.57 | -33.64 | -0.014 | -0.012 | 54.9 | 54.9 | 0 | 0 | -33.41 | *Fully Open/*No Adj. Made |
| GUDEW103 | 10:42 | 3/29/2019 | 60.4 | 39.6 | 0 | 0 | -26.11 | -26.09 | -0.061 | -0.038 | 83.9 | 83.8 | 0 | 0 | -26.09 | *Fully Open/*No Adj. Made |
| GUDEW104 | 12:50 | 3/23/2019 | 22.9 | 11.6 | 14 | 51.5 | -33.62 | -33.63 | -0.007 | -0.006 | 54.4 | 54.4 | 0 | 0 | -33.24 | *No Adj. Made |
| GUDEW104 | 10:46 | 3/29/2019 | 23.2 | 10.5 | 13.2 | 53.1 | -26.07 | -26.06 | -0.025 | -0.018 | 82 | 82 | 0 | 0 | -26.07 | *Fully Open/*No Adj. Made |
| GUDEW105 | 12:54 | 3/23/2019 | 1.1 | 3 | 20.1 | 75.8 | -19.42 | -20.01 | 0.006 | 0.006 | 54.3 | 54.3 | 2.3 | 2.2 | -33.51 | *No Adj. Made |
| GUDEW105 | 10:51 | 3/29/2019 | 1.3 | 6.1 | 17.8 | 74.8 | -18.07 | -25.89 | -0.007 | 0.004 | 81.8 | 81.8 | 0 | 1.8 | -25.72 | *Inc. Flow/Vac. |
| GUDEW106 | 13:05 | 3/23/2019 | 23.2 | 24.1 | 0 | 52.7 | -12.13 | -12.14 | -0.019 | -0.019 | 56.5 | 56.5 | 0 | 0 | -33.43 | *No Adj. Made |
| GUDEW107 | 13:12 | 3/23/2019 | 1.8 | 10.9 | 11.8 | 75.5 | -1.41 | -1.41 | -0.041 | -0.037 | 55.4 | 55.4 | 0 | 0 | -33.42 | *No Adj. Made |
| GUDEW108 | 13:28 | 3/23/2019 | 56.9 | 38.4 | 0 | 4.7 | -28.02 | -30.27 | -0.016 | -0.013 | 57.6 | 57.5 | 0 | 0 | -33 | *Fully Open/*Inc. Flow/Vac. |
| GUDEW109 | 13:39 | 3/23/2019 | 59.1 | 38.7 | 0 | 2.2 | -33.07 | -33.08 | -0.02 | -0.019 | 58.5 | 58.6 | 0 | 0 | -33.1 | *Fully Open/*No Adj. Made |
| GUDEW110 | 13:43 | 3/23/2019 | 44.8 | 34.9 | 0 | 20.3 | -31.68 | -32.99 | -0.012 | -0.011 | 59.1 | 59.1 | 0 | 0 | -33.03 | *Inc. Flow/Vac. |
| GUDEW111 | 13:46 | 3/23/2019 | 58.1 | 39.3 | 0 | 2.6 | -33.07 | -33.08 | -0.007 | -0.008 | 60 | 60 | 0 | 0 | -33.09 | *Fully Open/*No Adj. Made |
| GUDEW112 | 13:48 | 3/23/2019 | 53.2 | 38.4 | 0 | 8.4 | -33.01 | -33.05 | -0.044 | -0.042 | 59.8 | 59.8 | 0 | 0 | -33.06 | *Fully Open/*No Adj. Made |
| GUDEW113 | 13:51 | 3/23/2019 | 55.1 | 38.5 | 0 | 6.4 | -33.18 | -33.16 | -0.028 | -0.026 | 59.2 | 59.2 | 0 | 0 | -33.15 | *Fully Open/*No Adj. Made |
| GUDEW114 | 13:55 | 3/23/2019 | 18 | 21.7 | 3.4 | 56.9 | -2.69 | -2.67 | -0.007 | -0.005 | 58.9 | 59 | 0 | 0 | -33.1 | *No Adj. Made |
| GUDEW115 | 13:57 | 3/23/2019 | 4.1 | 6.7 | 15.2 | 74 | -0.26 | -0.27 | 0.002 | 0.002 | 59.3 | 59.2 | 1.2 | 1.4 | -33.1 | *Barely Open/*No Adj. Made |
| GUDEW116 | 14:00 | 3/23/2019 | 8.8 | 19.5 | 2 | 69.7 | -0.56 | -0.54 | -0.011 | -0.01 | 59.2 | 59.2 | 0 | 0 | -33.1 | *Barely Open/*No Adj. Made |
| GUDEW117 | 12:42 | 3/23/2019 | 11.4 | 9.1 | 14.6 | 64.9 | -10.05 | -10.04 | 0.005 | 0.005 | 55.4 | 55.4 | 2.2 | 2.1 | -33.75 | *No Adj. Made |
| GUDEW117 | 10:40 | 3/29/2019 | 4 | 3 | 18.6 | 74.4 | -2.12 | -16.43 | -0.018 | -0.011 | 85.2 | 85.1 | 0 | 0 | -26.26 | *Inc. Flow/Vac. |
| GUDEW118 | 12:48 | 3/23/2019 | 34.6 | 26.5 | 3.8 | 35.1 | -9.07 | -9.07 | -0.012 | -0.01 | 54.7 | 54.7 | 0 | 0 | -33.55 | *No Adj. Made |
| GUDEW118 | 10:44 | 3/29/2019 | 33.1 | 26.8 | 4.2 | 35.9 | -4.32 | -16.91 | -0.027 | -0.007 | 83 | 82.9 | 0 | 0 | -26.09 | *Inc. Flow/Vac. |
| GUDEW119 | 12:52 | 3/23/2019 | 54.7 | 36.4 | 0.1 | 8.8 | -33.51 | -33.52 | -0.011 | -0.012 | 54.4 | 54.4 | 0 | 0 | -33.52 | *Fully Open/*No Adj. Made |
| GUDEW119 | 10:50 | 3/29/2019 | 56.3 | 38.6 | 0 | 5.1 | -22.99 | -25.98 | -0.018 | -0.014 | 81.7 | 81.7 | 0 | 0 | -25.84 | *Inc. Flow/Vac. |
| GUDEW120 | 13:00 | 3/23/2019 | 0.8 | 5.9 | 16.3 | 77 | -5.4 | -5.41 | -0.003 | -0.001 | 56 | 56 | 0 | 0 | -33.22 | *Barely Open/*No Adj. Made |
| GUDEW121 | 13:10 | 3/23/2019 | 0.6 | 9.3 | 12.6 | 77.5 | -0.14 | -0.12 | -0.011 | -0.01 | 56.1 | 56.1 | 0 | 0 | -33.49 | *Barely Open/*No Adj. Made |
| GUDEW122 | 13:41 | 3/23/2019 | 59.8 | 37.7 | 0 | 2.5 | -33.13 | -33.15 | -0.006 | -0.006 | 58.9 | 58.9 | 0 | 0 | -33.17 | *Fully Open/*No Adj. Made |
| GUDEW123 | 13:14 | 3/23/2019 | 0.5 | 3.5 | 18.9 | 77.1 | -0.05 | -0.06 | -0.01 | -0.008 | 55.1 | 55.1 | 0 | 0 | -33.42 | *No Adj. Made |
| GUDEW124 | 13:23 | 3/23/2019 | 1 | 4.8 | 17.6 | 76.6 | -6.03 | -6.07 | -0.014 | -0.013 | 57.8 | 57.8 | 0 | 0 | -29.46 | *No Adj. Made |
| GUDEW125 | 13:16 | 3/23/2019 | 9.3 | 7.1 | 16 | 67.6 | -21.07 | -21.07 | -0.025 | -0.023 | 55.5 | 55.5 | 0 | 0 | -33.18 | *No Adj. Made |
| GUDEW126 | 13:18 | 3/23/2019 | 13.2 | 7 | 17.1 | 62.7 | -32.95 | -32.94 | -0.005 | -0.005 | 55.7 | 55.7 | 0 | 0 | -33.43 | *No Adj. Made |
| GUDEW127 | 13:25 | 3/23/2019 | 6.1 | 21.1 | 13.5 | 59.3 | -0.49 | -0.49 | -0.024 | -0.016 | 58.2 | 58.2 | 0 | 0 | -33.18 | *No Adj. Made |
| GUDEW128 | 13:31 | 3/23/2019 | 28.4 | 19.1 | 0 | 52.5 | -3.52 | -3.51 | -0.016 | -0.015 | 57.5 | 57.5 | 0 | 0 | -31.82 | *No Adj. Made |
| GUDEW129 | 13:33 | 3/23/2019 | 65.8 | 34.2 | 0 | 0 | 4.08 | -5.96 | -0.014 | -0.008 | 58.3 | 58.4 | 0 | 0 | -32.97 | *Inc. Flow/Vac. |
| GUDEW130 | 13:37 | 3/23/2019 | 66.5 | 28.3 | 0.9 | 4.3 | -33.14 | -33.15 | -0.012 | -0.011 | 58.2 | 58.2 | 0 | 0 | -33.13 | *Fully Open/*No Adj. Made |
| GUDEW131 | 13:44 | 3/25/2019 | 68.8 | 30.9 | 0.2 | 0.1 | 7.06 | -5 | -0.023 | -0.039 | 71.8 | 71.9 | 0 | 0 | -24.28 | *Inc. Flow/Vac. |
| GUDEW132 | 13:47 | 3/25/2019 | 69.6 | 25.1 | 1 | 4.3 | -28.11 | -28.11 | -0.02 | -0.019 | 71.6 | 71.5 | 0 | 0 | -28.03 | *No Adj. Made |
| GUDEW133 | 13:02 | 3/23/2019 | 0.1 | 0.6 | 21.5 | 77.8 | -29.04 | -29.04 | -0.101 | -0.098 | 56.5 | 56.6 | 0 | 0 | -29.04 | *No Adj. Made |
| GUDEW134 | 12:56 | 3/23/2019 | 0 | 0.6 | 21.6 | 77.8 | -9.55 | -9.55 | -0.191 | -0.189 | 54.3 | 54.4 | 0 | 0 | -33.57 | *Barely Open/*No Adj. Made |
| GUDEW134 | 10:53 | 3/29/2019 | 0.7 | 3.5 | 19.9 | 75.9 | -4.38 | -19.62 | -0.063 | -0.585 | 81.8 | 81.8 | 0 | 0 | -25.75 | *Inc. Flow/Vac. |
| GUDEW135 | 14:31 | 3/23/2019 | 0.4 | 0.6 | 21.5 | 77.5 | -13.86 | -13.69 | -0.012 | -0.008 | 60.8 | 60.7 | 0 | 0 | -33.79 | *Barely Open/*No Adj. Made |
| GUDEW137 | 12:55 | 3/25/2019 | 58.2 | 41.8 | 0 | 0 | -29.53 | -29.52 | -0.557 | -0.554 | 74.4 | 74.4 | 0 | 0 | -29.39 | *Fully Open/*No Adj. Made |
| GUDEW138 | 12:52 | 3/25/2019 | 59.8 | 40.2 | 0 | 0 | -25.65 | -25.67 | -0.544 | -0.542 | 74.3 | 74.3 | 0 | 0 | -25.37 | *Fully Open/*No Adj. Made |
| GUDEW139 | 12:50 | 3/25/2019 | 56.6 | 36.4 | 2.1 | 4.9 | -25.02 | -26.22 | -0.852 | -0.57 | 74.3 | 74.3 | 0 | 0 | -25.48 | *No Adj. Made |
| GUDEW140 | 12:46 | 3/25/2019 | 36.2 | 32.8 | 0 | 31 | -11.83 | -11.8 | -0.437 | -0.435 | 74.5 | 74.5 | 0 | 0 | -27.37 | *No Adj. Made |
| GUDEW141 | 12:40 | 3/25/2019 | 60.2 | 39.7 | 0.1 | 0 | -28.74 | -28.71 | -0.48 | -0.485 | 74.2 | 74.2 | 0 | 0 | -27.39 | *Fully Open/*No Adj. Made |
| GUDEW142 | 12:44 | 3/25/2019 | 52.9 | 39.2 | 2.2 | 5.7 | -0.41 | -0.39 | -0.727 | -0.736 | 74.6 | 74.6 | 0 | 0 | -26.19 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW143 | 12:34 | 3/25/2019 | 56.7 | 40.2 | 0.1 | 3 | -26.52 | -26.1 | -0.261 | -0.258 | 78.2 | 78.2 | 0 | 0 | -25.36 | *No Adj. Made |
| GUDEW144 | 12:24 | 3/25/2019 | 57.4 | 42.6 | 0 | 0 | 3.93 | -1.37 | -0.598 | -0.711 | 76.2 | 75.9 | 0 | 0 | -18.9 | *Inc. Flow/Vac. |
| GUDEW145 | 12:27 | 3/25/2019 | 58.2 | 41.4 | 0 | 0.4 | -20.1 | -19.76 | -1.252 | -1.145 | 76.1 | 76.2 | 0 | 0 | -19.4 | *Fully Open/*No Adj. Made |
| GUDEW146 | 12:18 | 3/25/2019 | 60.1 | 39.8 | 0.2 | N/A | -3.75 | -3.72 | -9.649 | -9.182 | 77.4 | 77.4 | 0 | 0 | -8.09 | *No Adj. Made |
| GUDEW147 | 12:16 | 3/25/2019 | 3.7 | 19.4 | 0.2 | 76.7 | -0.92 | -0.92 | -1.024 | -1.018 | 78.1 | 78.1 | 0 | 0 | -23.17 | *Barely Open/*No Adj. Made |
| GUDEW148 | 12:05 | 3/25/2019 | 23.7 | 25.5 | 0 | 50.8 | -7.24 | -7.27 | -5.431 | -5.429 | 79.1 | 79 | 0 | 0 | -24.6 | *No Adj. Made |
| GUDEW149 | 12:07 | 3/25/2019 | 1 | 0.8 | 20.7 | 77.5 | 0.19 | 0.19 | -0.013 | -0.012 | 78.5 | 78.5 | 0 | 0 | -24.51 | *Fully Closed/*No Adj. Made |
| GUDEW150 | 13:52 | 3/25/2019 | 68.7 | 31.3 | 0 | 0 | 27.72 | -3.8 | -0.025 | -0.118 | 71.2 | 70.9 | 0 | 0 | -27.5 | *Inc. Flow/Vac. |
| GUDEW151 | 13:55 | 3/25/2019 | 63.8 | 36.2 | 0 | 0 | 3.4 | -7.08 | -0.029 | -0.082 | 70.7 | 70.3 | 0 | 0 | -27.58 | *Inc. Flow/Vac. |
| GUDEW152 | 10:15 | 3/25/2019 | 61.3 | 38.5 | 0.2 | 0 | -2.51 | -4.29 | -0.039 | 0.032 | 65 | 64.9 | 0 | 5.6 | -21.84 | *Inc. Flow/Vac. |
| GUDEW153 | 10:17 | 3/25/2019 | 66 | 33.9 | 0.1 | 0 | 0.37 | -10.72 | -0.035 | -0.033 | 65.1 | 65.4 | 0 | 0 | -21.62 | *Inc. Flow/Vac. |
| GUDEW154 | 12:42 | 3/25/2019 | 28.3 | 20.2 | 4.3 | 47.2 | 1.98 | 2.49 | -1.457 | -1.933 | 74.4 | 74.5 | <<<> | <<<> | -27.22 | *Fully Closed/*No Adj. Made |
| GUDEW156 | 13:20 | 3/23/2019 | 37 | 31.2 | 2.2 | 29.6 | -16.62 | -16.64 | -0.016 | -0.014 | 57.2 | 57.3 | 0 | 0 | -33.58 | *No Adj. Made |
| GUDEW157 | 12:58 | 3/23/2019 | 52.6 | 35.4 | 0.1 | 11.9 | -33.74 | -33.73 | -0.022 | -0.021 | 55.5 | 55.5 | 0 | 0 | -33.71 | *Fully Open/*No Adj. Made |
| GUDEW158 | 14:16 | 3/23/2019 | 18.2 | 7.1 | 15.8 | 58.9 | -8.13 | -8.27 | -2.681 | -2.353 | 59 | 59 | <<<> | <<<> | -8.25 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW159 | 11:42 | 3/25/2019 | 76.1 | 23.8 | 0 | 0.1 | -18.18 | -18.56 | 0.009 | 0.011 | 82.2 | 82.1 | 6.1 | 6.8 | -18.73 | *Fully Open/*Inc. Flow/Vac. |

Pressure ≥ 0

Oxygen $\geq 5\%$

Temperature $\geq 131^{\circ}F$

Gas Extraction Wells

April 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 11:51 | 4/2/2019 | 58.7 | 41.2 | 0.1 | 0 | -26.92 | -26.9 | -0.022 | -0.021 | 65.1 | 65.1 | 0 | 0 | -26.58 | *Fully Open/*No Adj. Made |
| GUDEFLAR | 10:44 | 4/2/2019 | 37.7 | 27.8 | 3.8 | 30.7 | -28.16 | -28.16 | >>>> | >>>> | 65.1 | 65 | 414.9 | 414.9 | N/A | |
| GUDEFLAR | 10:09 | 4/8/2019 | 40.2 | 28.5 | 3.6 | 27.7 | -26.09 | -26.05 | >>>> | >>>> | 76.4 | 76.4 | 411.9 | 411.9 | N/A | |
| GUDEFLAR | 10:22 | 4/12/2019 | 38.4 | 28.2 | 3.3 | 30.1 | -25.55 | -25.58 | >>>> | >>>> | 69.9 | 69.9 | 410.6 | 410.6 | N/A | |
| GUDEFLAR | 12:17 | 4/25/2019 | 40.2 | 28.7 | 3.3 | 27.8 | -19.67 | -19.67 | >>>> | >>>> | 84.8 | 84.7 | 400 | 400 | N/A | |
| GUDEFLAR | 13:39 | 4/25/2019 | 41.1 | 28.9 | 3.2 | 26.8 | -27.64 | -27.67 | >>>> | >>>> | 82.1 | 82.1 | 400 | 400 | N/A | |
| GUDEFLAR | 13:26 | 4/26/2019 | 42.1 | 28.8 | 2.8 | 26.3 | -32.81 | -32.67 | >>>> | >>>> | 84.3 | 84.2 | 431.1 | 431.1 | N/A | |
| GUDEW001 | 10:53 | 4/12/2019 | 53 | 34 | 3 | 10 | -24.22 | -23.98 | 0.036 | 0.032 | 73.5 | 73.5 | 30.4 | 30.4 | -24.02 | *Dec. Flow/Vac. |
| GUDEW002 | 10:43 | 4/12/2019 | 67.6 | 32 | 0.3 | 0.1 | -24.46 | -24.42 | 0.042 | 0.039 | 76.4 | 76.4 | 34.2 | 33.2 | -24.39 | *Fully Open/*No Adj. Made |
| GUDEW003 | 13:21 | 4/2/2019 | 0.3 | 4.2 | 20.7 | 74.8 | -2.3 | -1.84 | -0.016 | -0.015 | 67.2 | 67.2 | 0 | 0 | -25.65 | *Dec. Flow/Vac. |
| GUDEW003 | 10:32 | 4/12/2019 | 0.5 | 5.6 | 17.9 | 76 | -2.33 | -1.62 | -0.014 | -0.013 | 73.5 | 73.1 | 0 | 0 | -23.94 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW004 | 13:09 | 4/2/2019 | 76.6 | 23.3 | 0.1 | 0 | 4.92 | -14.29 | 0.032 | 0.026 | 65.9 | 65.7 | 32.9 | 28.8 | -25.66 | *Inc. Flow/Vac. |
| GUDEW005 | 13:04 | 4/2/2019 | 0 | 1 | 21.9 | 77.1 | -11.15 | -11.1 | 2.843 | 2.751 | 66.8 | 66.8 | 106.7 | 105 | -22.31 | *Fully Closed/*No Adj. Made |
| GUDEW006 | 12:59 | 4/2/2019 | 16.8 | 18.4 | 0 | 64.8 | 0 | -0.02 | 0.452 | 0.385 | 66.4 | 66.4 | 9.2 | 8.5 | -9.87 | *No Adj. Made |
| GUDEW010 | 12:54 | 4/2/2019 | 10.4 | 19.5 | 0.4 | 69.7 | -0.91 | -0.92 | 0.037 | 0.034 | 66.9 | 66.9 | 30.2 | 29.2 | -7.73 | *No Adj. Made |
| GUDEW011 | 12:53 | 4/2/2019 | 10.7 | 20.2 | 0 | 69.1 | -1.09 | -1.08 | 0.033 | 0.031 | 66.7 | 66.7 | 2.3 | 2.3 | -7.57 | *No Adj. Made |
| GUDEW012 | 12:47 | 4/2/2019 | 10.3 | 18.6 | 2.5 | 68.6 | -2.01 | -2.74 | 2.657 | 2.612 | 65.9 | 65.9 | 103.3 | 102.2 | -6.51 | *No Adj. Made |
| GUDEW015 | 11:29 | 4/8/2019 | 34.4 | 15.4 | 9.9 | 40.3 | -19.01 | -17.24 | -0.026 | -0.043 | 86.8 | 87.3 | <<<> | <<<> | -18.93 | *Dec. Flow/Vac. |
| GUDEW016 | 11:49 | 4/8/2019 | 51.2 | 20.8 | 0.4 | 27.6 | -6.44 | -8.79 | 5.554 | 7.725 | 85.8 | 86 | 159.6 | 188.2 | -18.45 | *Inc. Flow/Vac. |
| GUDEW017 | 11:37 | 4/8/2019 | 42.8 | 22.8 | 0.1 | 34.3 | -13.15 | -13.17 | >>>> | >>>> | 86.7 | 86.7 | N/A | N/A | -16.57 | *No Adj. Made |
| GUDEW018 | 11:32 | 4/8/2019 | 61.4 | 30.9 | 1.4 | 6.3 | -17.89 | -18.1 | 0 | -0.005 | 86.4 | 86.2 | <<<> | <<<> | -18.11 | *Inc. Flow/Vac. |
| GUDEW021 | 10:56 | 4/12/2019 | 34.3 | 20.1 | 9.3 | 36.3 | -22.26 | -22.02 | 0.95 | 0.932 | 75 | 75.6 | 61.5 | 60.9 | -22.27 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW022 | 11:05 | 4/12/2019 | 67.4 | 32.6 | 0 | 0 | 2.9 | -23.59 | -0.075 | 0.785 | 77.9 | 77.6 | <<<> | 58.3 | -24.05 | *Barely Open/*Inc. Flow/Vac. |
| GUDEW023 | 12:59 | 4/8/2019 | 66.4 | 31 | 0.7 | 1.9 | -18.58 | -18.58 | 0.008 | 0.007 | 93.5 | 93.5 | 5.6 | 5.1 | -18.57 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:48 | 4/8/2019 | 54 | 37.6 | 0 | 8.4 | -2.3 | -4.08 | -0.001 | -0.011 | 93.9 | 93.8 | <<<> | <<<> | -17.16 | *Inc. Flow/Vac. |
| GUDEW025 | 12:09 | 4/8/2019 | 58.6 | 40.9 | 0 | 0.5 | -8.68 | -8.6 | -0.002 | -0.008 | 88.8 | 89 | <<<> | <<<> | -10.04 | *No Adj. Made |
| GUDEW026 | 10:41 | 4/8/2019 | 68.3 | 31 | 0.3 | 0.4 | -21.09 | -20.98 | 0.01 | -0.005 | 85.2 | 85.2 | 6.3 | <<<> | -20.74 | *Fully Open/*No Adj. Made |
| GUDEW027 | 10:50 | 4/8/2019 | 7.8 | 5.6 | 17.1 | 69.5 | -1.84 | -1.24 | -0.004 | -0.012 | 86.6 | 86.7 | <<<> | <<<> | -20.31 | *Dec. Flow/Vac. |
| GUDEW028 | 11:10 | 4/8/2019 | 59.4 | 34.2 | 0.7 | 5.7 | -20.08 | -20.03 | -0.001 | 0.218 | 86.5 | 86.3 | <<<> | 77.1 | -20.02 | *No Adj. Made |
| GUDEW029 | 12:31 | 4/8/2019 | 25.8 | 14.6 | 11.6 | 48 | -17.9 | -16.22 | -0.008 | -0.016 | 90.9 | 91 | <<<> | <<<> | -18.56 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW030 | 12:24 | 4/8/2019 | 56.9 | 39.3 | 0.9 | 2.9 | -19.13 | -19.12 | -0.011 | -0.01 | 88.6 | 88.6 | <<<> | <<<> | -18.97 | *No Adj. Made |
| GUDEW031 | 12:19 | 4/8/2019 | 59 | 39.1 | 0.6 | 1.3 | -15.85 | -15.84 | -0.004 | -0.006 | 90.5 | 90.3 | <<<> | <<<> | -18.76 | *No Adj. Made |
| GUDEW032 | 12:15 | 4/8/2019 | 37.2 | 15.5 | 9.6 | 37.7 | -15.42 | -14.41 | >>>> | >>>> | 91.8 | 92.7 | N/A | N/A | -14.35 | *Dec. Flow/Vac. |
| GUDEW034 | 12:01 | 4/8/2019 | 49.1 | 35.1 | 0.5 | 15.3 | -17.89 | -17.87 | 0.504 | 0.503 | 89.4 | 89.5 | 44.1 | 44 | -18.97 | *No Adj. Made |
| GUDEW035 | 12:05 | 4/8/2019 | 43.6 | 18.1 | 7.6 | 30.7 | -15.52 | -10.58 | 0.025 | 0.005 | 89.8 | 89.6 | 25.6 | 10.9 | -16.07 | *Dec. Flow/Vac. |
| GUDEW036 | 11:15 | 4/8/2019 | 66.9 | 29.7 | 0.8 | 2.6 | -19.99 | -20.01 | -0.004 | -0.015 | 84.1 | 84 | <<<> | <<<> | -20.05 | *Fully Open/*No Adj. Made |
| GUDEW037 | 11:59 | 4/8/2019 | 62.1 | 35.5 | 0 | 2.4 | -18.73 | -18.72 | 0.053 | 0.048 | 88 | 88 | 37.5 | 35.6 | -18.64 | *No Adj. Made |
| GUDEW038 | 11:53 | 4/8/2019 | 60.9 | 20.4 | 3.9 | 14.8 | -1.27 | -1.24 | 0.063 | 0.064 | 88 | 88 | 16.7 | 16.8 | -19.16 | *Barely Open/*No Adj. Made |
| GUDEW039 | 11:25 | 4/8/2019 | 59.1 | 20 | 0 | 20.9 | 0.57 | -0.01 | 0.007 | 0.024 | 84.4 | 85.1 | 5.4 | 10.2 | -0.08 | *Inc. Flow/Vac. |
| GUDEW050 | 10:49 | 4/12/2019 | 18.7 | 12 | 14.3 | 55 | -1.75 | -1.09 | 0.091 | 0.076 | 74 | 73.7 | 49.1 | 44.8 | -20.87 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW051 | 10:41 | 4/12/2019 | 70.7 | 29.3 | 0 | 0 | -0.11 | -0.19 | 0.033 | 0.024 | 76.8 | 77.2 | 12.1 | 10.2 | -21.53 | *Inc. Flow/Vac. |
| GUDEW052 | 10:38 | 4/12/2019 | 60.8 | 38.3 | 0.6 | 0.3 | -24.48 | -24.47 | 0.029 | 0.028 | 74.5 | 74.6 | 27.3 | 26.7 | -24.48 | *Fully Open/*No Adj. Made |
| GUDEW054 | 10:44 | 4/8/2019 | 70.3 | 29.7 | 0 | 0 | 0.19 | -18.26 | -0.004 | -0.009 | 85.1 | 84.5 | <<<> | <<<> | -20.77 | *Inc. Flow/Vac. |
| GUDEW057 | 11:08 | 4/8/2019 | 37.1 | 21 | 8.3 | 33.6 | -13.37 | -9.88 | 0.008 | -0.004 | 88 | 88.1 | 5.4 | <<<> | -19.95 | *Dec. Flow/Vac. |
| GUDEW062 | 13:02 | 4/2/2019 | 0 | 1.2 | 21.7 | 77.1 | -22.52 | -22.51 | 2.749 | 2.744 | 66.6 | 66.7 | 103.4 | 103.3 | -22.27 | *Dec. Flow/Vac. |
| GUDEW070 | 10:47 | 4/12/2019 | 39.2 | 17.9 | 8.8 | 34.1 | -3.19 | -2.64 | 0.277 | 0.264 | 75.5 | 75.2 | 34.2 | 33.4 | -21.02 | *Dec. Flow/Vac. |
| GUDEW071 | 10:35 | 4/12/2019 | 55.1 | 31 | 3 | 10.9 | -24.47 | -24.31 | 0.038 | 0.018 | 73.5 | 73.2 | 12.1 | 8.2 | -24.22 | *Dec. Flow/Vac. |
| GUDEW072 | 10:37 | 4/8/2019 | 63.3 | 36.6 | 0 | 0.1 | 30.86 | -4.9 | 0.067 | -0.013 | 79.7 | 83.2 | 45.2 | <<<> | -23.64 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|------------------------------|
| GUDEW073 | 10:25 | 4/8/2019 | 57 | 35.6 | 1.6 | 5.8 | -24.79 | -24.76 | 0.035 | 0.028 | 79.5 | 79.4 | 11.3 | 10.2 | -24.18 | *No Adj. Made |
| GUDEW074 | 10:47 | 4/8/2019 | 44.2 | 24.4 | 5.7 | 25.7 | -20.32 | -18.86 | 0.058 | -0.037 | 84.5 | 84.6 | 14.9 | <<-> | -20.95 | *Dec. Flow/Vac. |
| GUDEW075 | 10:55 | 4/8/2019 | 61 | 35.9 | 0.8 | 2.3 | -20.24 | -20.23 | 0.031 | 0.022 | 86.2 | 86.2 | 10.8 | 9 | -20.26 | *Fully Open/**No Adj. Made |
| GUDEW076 | 10:58 | 4/8/2019 | 58 | 42 | 0 | 0 | -20.55 | -20.57 | 0.022 | 0.017 | 93.2 | 93.3 | 23.1 | 20 | -20.59 | *Fully Open/**No Adj. Made |
| GUDEW100 | 11:21 | 4/2/2019 | 9.6 | 7.6 | 17.2 | 65.6 | -27.7 | -27.71 | -0.018 | -0.017 | 70.9 | 70.8 | 0 | 0 | -27.67 | *Fully Open/**No Adj. Made |
| GUDEW101 | 11:23 | 4/2/2019 | 59.7 | 37.7 | 1.1 | 1.5 | -27.73 | -27.7 | -0.06 | -0.053 | 71.3 | 71.3 | 0 | 0 | -27.49 | *Fully Open/**No Adj. Made |
| GUDEW102 | 11:25 | 4/2/2019 | 59.8 | 40.1 | 0.1 | 0 | -27.47 | -27.47 | -0.073 | -0.054 | 71.4 | 71.4 | 0 | 0 | -27.36 | *Fully Open/**No Adj. Made |
| GUDEW103 | 11:30 | 4/2/2019 | 59.9 | 40 | 0.1 | 0 | -27.24 | -27.25 | -0.043 | -0.038 | 69.7 | 69.7 | 0 | 0 | -27.26 | *Fully Open/**No Adj. Made |
| GUDEW104 | 11:35 | 4/2/2019 | 22.8 | 10.8 | 14 | 52.4 | -27.29 | -27.27 | -0.045 | -0.043 | 69.2 | 69.2 | 0 | 0 | -27.18 | *Fully Open/**No Adj. Made |
| GUDEW105 | 11:39 | 4/2/2019 | 1.1 | 3.2 | 18.3 | 77.4 | -27.08 | -27.08 | -0.018 | -0.018 | 68.5 | 68.5 | 0 | 0 | -27 | *Fully Open/**No Adj. Made |
| GUDEW105 | 13:02 | 4/22/2019 | 11.9 | 19.1 | 0.3 | 68.7 | -22.33 | -22.32 | -0.033 | 0.044 | 76.6 | 76.3 | 0 | 6 | -22.24 | *Fully Open/**Inc. Flow/Vac. |
| GUDEW106 | 11:49 | 4/2/2019 | 21.9 | 23.5 | 0.3 | 54.3 | -9.87 | -9.87 | -0.035 | -0.031 | 65.7 | 65.7 | 0 | 0 | -27.01 | *No Adj. Made |
| GUDEW107 | 11:56 | 4/2/2019 | 2.1 | 10.3 | 13.3 | 74.3 | -0.9 | -0.89 | -0.061 | -0.05 | 64.5 | 64.5 | 0 | 0 | -26.17 | *No Adj. Made |
| GUDEW108 | 12:12 | 4/2/2019 | 59.3 | 40.4 | 0.1 | 0.2 | -26.04 | -26.05 | -0.034 | -0.032 | 67.3 | 67.3 | 0 | 0 | -26.06 | *Fully Open/**No Adj. Made |
| GUDEW109 | 12:23 | 4/2/2019 | 58.8 | 41.2 | 0 | 0 | -26.18 | -26.17 | -0.015 | -0.015 | 66.2 | 66.2 | 0 | 0 | -25.8 | *Fully Open/**No Adj. Made |
| GUDEW110 | 12:27 | 4/2/2019 | 42.8 | 36.5 | 0.1 | 20.6 | -25.92 | -25.93 | -0.04 | -0.036 | 67.2 | 67.2 | 0 | 0 | -25.81 | *Fully Open/**No Adj. Made |
| GUDEW111 | 12:31 | 4/2/2019 | 59.4 | 40.5 | 0.1 | 0 | -25.97 | -25.99 | -0.045 | -0.035 | 66.9 | 67 | 0 | 0 | -27.74 | *Fully Open/**No Adj. Made |
| GUDEW112 | 12:32 | 4/2/2019 | 55.5 | 40.1 | 0.1 | 4.3 | -26.2 | -26.18 | -0.08 | -0.077 | 67 | 67 | 0 | 0 | -26.14 | *Fully Open/**No Adj. Made |
| GUDEW113 | 12:35 | 4/2/2019 | 57.4 | 40.8 | 0 | 1.8 | -26.05 | -26.05 | -0.054 | -0.05 | 66.8 | 66.8 | 0 | 0 | -25.93 | *Fully Open/**No Adj. Made |
| GUDEW114 | 12:37 | 4/2/2019 | 18.4 | 22.8 | 3.6 | 55.2 | -1.3 | -1.29 | -0.025 | -0.019 | 66.5 | 66.5 | 0 | 0 | -25.7 | *No Adj. Made |
| GUDEW115 | 12:42 | 4/2/2019 | 2.1 | 20.5 | 0 | 77.4 | -3.86 | -2.49 | -0.031 | -0.027 | 67 | 67.1 | 0 | 0 | -25.78 | *No Adj. Made |
| GUDEW116 | 12:44 | 4/2/2019 | 11.7 | 20.9 | 2.1 | 65.3 | -0.12 | -0.12 | -0.045 | -0.039 | 66.5 | 66.5 | 0 | 0 | -25.93 | *Barely Open/**No Adj. Made |
| GUDEW117 | 11:27 | 4/2/2019 | 5.9 | 8.5 | 15.8 | 69.8 | -22.59 | -27.07 | -0.048 | -0.023 | 70.8 | 70.6 | 0 | 0 | -26.99 | *Fully Open/**Inc. Flow/Vac. |
| GUDEW117 | 12:55 | 4/22/2019 | 4.4 | 5.4 | 16.2 | 74 | -23.11 | -23.12 | -0.072 | -0.04 | 78.7 | 78.3 | 0 | 0 | -23.14 | *Fully Open/**No Adj. Made |
| GUDEW118 | 11:31 | 4/2/2019 | 26.6 | 25.2 | 6.5 | 41.7 | -25.57 | -25.55 | -0.047 | -0.04 | 69.4 | 69.4 | 0 | 0 | -27.2 | *No Adj. Made |
| GUDEW119 | 11:37 | 4/2/2019 | 58.1 | 39.1 | 0.1 | 2.7 | -27.14 | -27.16 | -0.04 | -0.035 | 69.2 | 69.2 | 0 | 0 | -27.04 | *Fully Open/**No Adj. Made |
| GUDEW120 | 11:45 | 4/2/2019 | 1.7 | 7.2 | 15.4 | 75.7 | -3.12 | -5.15 | -0.047 | -0.019 | 67.1 | 67 | 0 | 0 | -26.99 | *Inc. Flow/Vac. |
| GUDEW121 | 11:54 | 4/2/2019 | 8.7 | 15.3 | 7.8 | 68.2 | 0.22 | -0.02 | -0.032 | -0.004 | 64.9 | 64.7 | 0 | 0 | -26.49 | *Inc. Flow/Vac. |
| GUDEW122 | 12:25 | 4/2/2019 | 60 | 39.9 | 0 | 0.1 | -26.11 | -26.1 | -0.042 | -0.034 | 66.7 | 66.7 | 0 | 0 | -25.99 | *Fully Open/**No Adj. Made |
| GUDEW122 | 13:08 | 4/22/2019 | 58 | 38.7 | 0.2 | 3.1 | -21.96 | -20.76 | -0.036 | -0.036 | 77.2 | 77.3 | 0 | 0 | -20.76 | *Fully Open/**No Adj. Made |
| GUDEW123 | 12:01 | 4/2/2019 | 1 | 4.1 | 18.7 | 76.2 | 0.06 | 0.09 | -0.039 | -0.035 | 66 | 66 | 0 | 0 | -26.09 | *Fully Closed/**No Adj. Made |
| GUDEW124 | 12:08 | 4/2/2019 | 1.7 | 9.1 | 11.9 | 77.3 | -0.4 | -0.4 | -0.041 | -0.035 | 67.1 | 67.1 | 0 | 0 | -26.1 | *No Adj. Made |
| GUDEW125 | 11:59 | 4/2/2019 | 13.8 | 10.2 | 13.8 | 62.2 | -16.59 | -16.57 | -0.041 | -0.038 | 65.5 | 65.5 | 0 | 0 | -26.18 | *No Adj. Made |
| GUDEW126 | 12:03 | 4/2/2019 | 17.4 | 8.6 | 16.4 | 57.6 | -26.01 | -26.01 | -0.046 | -0.041 | 66.6 | 66.6 | 0 | 0 | -26.2 | *No Adj. Made |
| GUDEW127 | 12:10 | 4/2/2019 | 6.2 | 22.5 | 13.1 | 58.2 | 0.39 | 0.39 | -0.045 | -0.039 | 67 | 67 | 0 | 0 | -26.01 | *Fully Closed/**No Adj. Made |
| GUDEW128 | 12:15 | 4/2/2019 | 21.2 | 19.7 | 0.2 | 58.9 | -2.13 | -2.09 | -0.023 | -0.021 | 66.6 | 66.6 | 0 | 0 | -26.08 | *No Adj. Made |
| GUDEW129 | 12:18 | 4/2/2019 | 15.6 | 9.5 | 16.4 | 58.5 | -26.22 | -26.03 | -0.02 | -0.011 | 66.6 | 66.7 | 0 | 0 | -26.04 | *Dec. Flow/Vac. |
| GUDEW130 | 12:20 | 4/2/2019 | 69.7 | 29.8 | 0.6 | N/A | -26.07 | -26.08 | -0.036 | -0.031 | 66.2 | 66.2 | 0 | 0 | -26.1 | *Fully Open/**No Adj. Made |
| GUDEW130 | 13:06 | 4/22/2019 | 57.5 | 24.9 | 3.6 | 14 | -21.9 | -22.25 | -0.038 | -0.036 | 76.8 | 76.8 | 0 | 0 | -22.22 | *Fully Open/**Inc. Flow/Vac. |
| GUDEW131 | 13:38 | 4/2/2019 | 45.3 | 25.4 | 0.4 | 28.9 | -21.8 | -21.8 | -0.028 | -0.027 | 65 | 65 | 0 | 0 | -21.94 | *Fully Open/**No Adj. Made |
| GUDEW132 | 13:36 | 4/2/2019 | 53.2 | 21.8 | 2.1 | 22.9 | -25.86 | -25.84 | -0.021 | -0.019 | 64.2 | 64.2 | 0 | 0 | -25.84 | *No Adj. Made |
| GUDEW133 | 11:47 | 4/2/2019 | 0.3 | 1.4 | 21.4 | 76.9 | -24.14 | -24.14 | -0.075 | -0.073 | 66.4 | 66.4 | 0 | 0 | -26.93 | *No Adj. Made |
| GUDEW134 | 11:41 | 4/2/2019 | 0 | 1.1 | 21.1 | 77.8 | -23.33 | -23.32 | -0.417 | -0.342 | 67.6 | 67.5 | 0 | 0 | -27.01 | *No Adj. Made |
| GUDEW135 | 11:16 | 4/2/2019 | 59.5 | 40.3 | 0.2 | 0 | 2.54 | -16.03 | -0.072 | -0.071 | 73.5 | 73.2 | 0 | 0 | -27.34 | *Inc. Flow/Vac. |
| GUDEW137 | 10:59 | 4/12/2019 | 59.1 | 39.4 | 0.1 | 1.4 | -24.92 | -24.89 | -0.141 | -0.195 | 76.4 | 76.4 | 0 | 0 | -24.69 | *Inc. Flow/Vac. |
| GUDEW138 | 11:02 | 4/12/2019 | 57.3 | 42.7 | 0 | 0 | -18.61 | -18.7 | -0.012 | 0.037 | 78.2 | 78.3 | 0 | 11.5 | -17.42 | *Inc. Flow/Vac. |
| GUDEW139 | 11:09 | 4/12/2019 | 27.3 | 19.6 | 10.7 | 42.4 | -16.77 | -14.41 | -0.028 | -0.022 | 77.9 | 77.8 | 0 | 0 | -18.75 | *Dec. Flow/Vac. |
| GUDEW140 | 11:12 | 4/12/2019 | 38.4 | 32.3 | 0 | 29.3 | -9.15 | -9.13 | -0.079 | -0.074 | 77.3 | 77.2 | 0 | 0 | -24.22 | *No Adj. Made |
| GUDEW141 | 11:19 | 4/12/2019 | 61.8 | 37.9 | 0 | 0.3 | -23.8 | -23.78 | -0.039 | -0.033 | 77 | 77 | 0 | 0 | -23.84 | *Fully Open/**No Adj. Made |
| GUDEW142 | 11:15 | 4/12/2019 | 57.3 | 42.5 | 0.2 | 0 | -0.21 | -0.44 | -0.037 | -0.028 | 77.3 | 77.3 | 0 | 0 | -23.6 | *Inc. Flow/Vac. |
| GUDEW143 | 13:02 | 4/8/2019 | 57.3 | 42.7 | 0 | 0 | -18.64 | -18.64 | 0.045 | -0.034 | 94.1 | 94.1 | 6.2 | 0 | -18.92 | *Fully Open/**No Adj. Made |
| GUDEW144 | 12:54 | 4/8/2019 | 44 | 33.8 | 4.3 | 17.9 | -2.5 | -2.49 | -0.239 | -0.232 | 93.4 | 93.4 | 0 | 0 | -14.1 | *Barely Open/**No Adj. Made |
| GUDEW144 | 13:30 | 4/22/2019 | 38.8 | 29.3 | 6.6 | 25.3 | -5.94 | -16.65 | -0.259 | -1.008 | 80.7 | 80.6 | 0 | 0 | -19.11 | *Inc. Flow/Vac. |
| GUDEW145 | 12:51 | 4/8/2019 | 58.1 | 41.1 | 0 | 0.8 | -13.69 | -13.88 | -0.421 | -0.518 | 93.7 | 93.7 | 0 | 0 | -13.88 | *Inc. Flow/Vac. |
| GUDEW145 | 13:27 | 4/22/2019 | 58.2 | 41.7 | 0.1 | 0 | -17.61 | -17.67 | -0.538 | -1.509 | 80.4 | 80.4 | 0 | 0 | -18.12 | *Fully Open/**No Adj. Made |
| GUDEW146 | 12:41 | 4/8/2019 | 56.5 | 43.5 | 0 | 0 | 4.23 | 4.23 | 4.079 | 4.079 | 92 | 92 | 60.8 | 60.8 | 4.23 | *No Adj. Made |
| GUDEW147 | 12:45 | 4/8/2019 | 3.3 | 19.1 | 0 | 77.6 | -0.01 | -0.03 | -0.309 | -0.204 | 93.7 | 93.8 | 0 | 0 | -0.03 | *No Adj. Made |
| GUDEW148 | 12:37 | 4/8/2019 | 30.1 | 26.1 | 0 | 43.8 | -5.55 | -5.52 | -4.021 | -4.022 | 91.6 | 91.6 | 0 | 0 | -17.97 | *No Adj. Made |
| GUDEW149 | 12:35 | 4/8/2019 | 2.1 | 1.1 | 20.3 | 76.5 | -0.06 | -0.04 | -0.001 | 0.003 | 91.3 | 91.3 | 0 | 1.6 | -17.69 | *Fully Closed/**No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|------------------------------|
| GUDEW150 | 13:31 | 4/2/2019 | 46.7 | 22 | 6.7 | 24.6 | -25.79 | -24.35 | -0.044 | -0.019 | 64.4 | 64.3 | 0 | 0 | -25.49 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW151 | 13:26 | 4/2/2019 | 28.4 | 24.3 | 1.8 | 45.5 | -24.4 | -24.39 | -0.029 | -0.027 | 66 | 66 | 0 | 0 | -25.64 | *No Adj. Made |
| GUDEW152 | 13:18 | 4/2/2019 | 21.9 | 14.6 | 13.4 | 50.1 | -11.71 | -10.51 | >>>> | -10.037 | 67 | 67 | N/A | 0 | -25.83 | *Dec. Flow/Vac. |
| GUDEW153 | 13:15 | 4/2/2019 | 8.4 | 4.7 | 19.4 | 67.5 | -6.47 | -4.58 | -0.039 | -0.028 | 66.2 | 66.2 | 0 | 0 | -25.68 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW154 | 11:17 | 4/12/2019 | 32 | 21.9 | 4.1 | 42 | -0.09 | -0.09 | -0.027 | -0.027 | 76.8 | 76.7 | <<<> | <<<> | -23.88 | *Fully Closed*/No Adj. Made |
| GUDEW156 | 12:06 | 4/2/2019 | 39.1 | 33.5 | 1.6 | 25.8 | -13.9 | -13.88 | -0.03 | -0.027 | 66.5 | 66.5 | 0 | 0 | -26.31 | *No Adj. Made |
| GUDEW157 | 11:43 | 4/2/2019 | 47.1 | 34.7 | 1.9 | 16.3 | -27.23 | -27.18 | 0.158 | -0.021 | 67.3 | 67.3 | 11.8 | 0 | -27.01 | *No Adj. Made |
| GUDEW157 | 12:58 | 4/22/2019 | 47 | 34.9 | 2 | 16.1 | -23.03 | -23 | -0.053 | -0.042 | 77.8 | 77.6 | 0 | 0 | -23.02 | *Fully Open*/Inc. Flow/Vac. |
| GUDEW158 | 13:12 | 4/2/2019 | 13.8 | 6 | 17.6 | 62.6 | -10.55 | -10.03 | 0.035 | 0.028 | 65.8 | 65.8 | 11.5 | 10.3 | -10.48 | *Barely Open*/Dec. Flow/Vac. |
| GUDEW159 | 12:10 | 4/8/2019 | 74.8 | 25.2 | 0 | 0 | -10.18 | -10.21 | 0.022 | 0.013 | 90.1 | 90.1 | 9.7 | 7.4 | -10.45 | *Fully Open*/No Adj. Made |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells

June 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 12:26 | 6/3/2019 | 57.4 | 42.6 | 0 | 0 | -27.99 | -27.92 | 0.019 | 0.015 | 80.8 | 80.8 | 4.1 | 3.6 | -27.75 | *Fully Open/*No Adj. Made |
| GUDEW001 | 14:30 | 6/6/2019 | 54.9 | 32.5 | 2.2 | 10.4 | -32.1 | -32.11 | 0.087 | 0.086 | 96.6 | 96.7 | 46.5 | 46.4 | -34.33 | *No Adj. Made |
| GUDEW002 | 14:16 | 6/6/2019 | 68.7 | 27.2 | 0.1 | 4 | 57.94 | 57.96 | 0.005 | 0.002 | 98.1 | 98.1 | 12.2 | 7.2 | -34.14 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 13:50 | 6/6/2019 | 0.2 | 1.4 | 20.2 | 78.2 | -1.94 | -1.35 | -0.027 | 0.006 | 93 | 92.8 | 0 | 2.3 | -34.4 | *Dec. Flow/Vac. |
| GUDEW004 | 14:56 | 6/24/2019 | 28.3 | 20.2 | 4.3 | 47.2 | -29.17 | -29.15 | -0.004 | -0.004 | 72.3 | 72.3 | <<>> | <<>> | -31.8 | *Fully Closed/*No Adj. Made |
| GUDEW005 | 14:14 | 6/24/2019 | 0.5 | 5.6 | 17.9 | 76 | -27.38 | -27.46 | >>>> | >>>> | 72.4 | 72.6 | N/A | N/A | -31.6 | *Fully Closed/*No Adj. Made |
| GUDEW006 | 12:35 | 6/7/2019 | 25.6 | 17 | 0.2 | 57.2 | -0.1 | -0.09 | 0.013 | 0.011 | 92.7 | 92.7 | 1.5 | 1.4 | -2.65 | *No Adj. Made |
| GUDEW006 | 14:23 | 6/24/2019 | 38.4 | 32.3 | 0 | 29.3 | -0.18 | -0.15 | 0.059 | 0.053 | 75.7 | 75.7 | 3.3 | 3.1 | -31.4 | *No Adj. Made |
| GUDEW010 | 14:37 | 6/6/2019 | 2.6 | 5.8 | 12.8 | 78.8 | 0.08 | 0.07 | -0.021 | -0.021 | 97.2 | 97.2 | <<>> | <<>> | -25.47 | *Fully Closed/*No Adj. Made |
| GUDEW011 | 13:43 | 6/3/2019 | 16 | 19.9 | 0 | 64.1 | -0.75 | -0.72 | 0 | -0.001 | 85.4 | 85.3 | <<>> | <<>> | -18.18 | *No Adj. Made |
| GUDEW012 | 13:40 | 6/3/2019 | 5.6 | 14 | 5.2 | 75.2 | -2.77 | -0.28 | 2.634 | 0.098 | 86.4 | 87.2 | 100.7 | 18.8 | -19.22 | *Dec. Flow/Vac. |
| GUDEW015 | 12:41 | 6/7/2019 | 50.6 | 22.1 | 4.7 | 22.6 | -17.29 | -15.67 | 0.04 | 0.01 | 93.1 | 93.2 | 12.5 | 6.1 | -31.78 | *Dec. Flow/Vac. |
| GUDEW016 | 12:53 | 6/7/2019 | 37.5 | 19.6 | 0.5 | 42.4 | -15.08 | -15.08 | >>>> | >>>> | 96.4 | 96.4 | N/A | N/A | -31.88 | *No Adj. Made |
| GUDEW017 | 12:50 | 6/7/2019 | 0 | 0.1 | 20.3 | 79.6 | -0.07 | -0.06 | -0.001 | -0.003 | 93.6 | 93.6 | <<>> | <<>> | -31.74 | *Fully Closed/*No Adj. Made |
| GUDEW018 | 12:43 | 6/7/2019 | 56.5 | 27.3 | 1.9 | 14.3 | -31.49 | -31.49 | 0.006 | 0.004 | 92.9 | 92.9 | 0.9 | 0.8 | -31.51 | *Fully Open/*No Adj. Made |
| GUDEW021 | 13:58 | 6/4/2019 | 65.1 | 32.4 | 0 | 2.5 | 56.12 | 56.14 | -1.969 | -1.969 | 90.4 | 90.4 | <<>> | <<>> | -30.03 | *Fully Closed/*No Adj. Made |
| GUDEW021 | 14:02 | 6/4/2019 | 68.6 | 31.4 | 0 | 0 | -3.69 | -3.73 | 0.425 | 0.431 | 89.7 | 89.7 | 43.5 | 43.8 | -29.38 | *Inc. Flow/Vac. |
| GUDEW022 | 13:28 | 6/4/2019 | 68.7 | 31.3 | 0 | 0 | 50.06 | 50.1 | 0.002 | 0.001 | 88 | 87.9 | 3.2 | 2 | -32.04 | *Fully Closed/*No Adj. Made |
| GUDEW023 | 13:19 | 6/4/2019 | 66.4 | 33.4 | 0.2 | 0 | -30.32 | -30.32 | 0.01 | 0.006 | 88.5 | 88.4 | 6.2 | 4.6 | -30.32 | *Fully Open/*No Adj. Made |
| GUDEW023 | 13:33 | 6/4/2019 | 71 | 29 | 0 | 0 | -0.9 | -1.88 | 0.019 | 0.005 | 88.9 | 89 | 9.1 | 4.3 | -31.68 | *Inc. Flow/Vac. |
| GUDEW024 | 14:59 | 6/24/2019 | 52.9 | 39.2 | 2.2 | 5.7 | -2.84 | -2.83 | 0.019 | 0.016 | 76.1 | 75.9 | 8.5 | 7.8 | -31.6 | *No Adj. Made |
| GUDEW025 | 13:12 | 6/7/2019 | 52.1 | 36.9 | 1.7 | 9.3 | -19.72 | -19.73 | -0.002 | -0.003 | 95.1 | 95.1 | <<>> | <<>> | -32.77 | *No Adj. Made |
| GUDEW026 | 14:41 | 6/24/2019 | 65.8 | 29.6 | 1.1 | 3.5 | -29.86 | -29.94 | 0.014 | 0.01 | 74.1 | 74.1 | 7.3 | 6 | -31.6 | *Fully Open/*No Adj. Made |
| GUDEW027 | 14:44 | 6/24/2019 | 66.9 | 33 | 0.1 | 0 | 3.29 | -3.7 | 0.052 | -0.019 | 73 | 73 | 15 | <<>> | -32.3 | *Inc. Flow/Vac. |
| GUDEW028 | 14:31 | 6/24/2019 | 60.4 | 39.6 | 0 | 0 | -28.8 | -28.76 | 0.235 | -0.258 | 74.4 | 72.6 | 79 | <<>> | -31.9 | *Fully Open/*No Adj. Made |
| GUDEW029 | 13:43 | 6/7/2019 | 49.2 | 32.7 | 3.6 | 14.5 | -33.54 | -32.58 | 0.001 | -0.007 | 93.9 | 94.4 | 1.7 | <<>> | -33.2 | *Dec. Flow/Vac. |
| GUDEW030 | 13:29 | 6/7/2019 | 57.5 | 39.5 | 0.4 | 2.6 | -33.05 | -33.06 | 0.008 | 0.005 | 96.3 | 96.3 | 13.2 | 10.3 | -33.06 | *Fully Open/*No Adj. Made |
| GUDEW031 | 13:25 | 6/7/2019 | 59 | 38 | 0.7 | 2.3 | -27.34 | -27.33 | -0.002 | -0.002 | 97.1 | 97.3 | <<>> | <<>> | -32.91 | *No Adj. Made |
| GUDEW032 | 13:20 | 6/7/2019 | 27.7 | 11.1 | 12.5 | 48.7 | -32.28 | -3.87 | >>>> | 3.758 | 94.9 | 95.7 | N/A | 125.7 | -31.68 | *Barely Open/*Dec. Flow/Vac. |
| GUDEW034 | 13:05 | 6/7/2019 | 47.9 | 30.8 | 2.6 | 18.7 | -30 | -28.06 | 1.274 | 1.938 | 94.1 | 94 | 69.8 | 86.7 | -32.69 | *Dec. Flow/Vac. |
| GUDEW035 | 13:09 | 6/7/2019 | 53.5 | 21.2 | 4.7 | 20.6 | -31.95 | -28.06 | 0.024 | 0.003 | 93.9 | 94 | 24.8 | 9.1 | -31.89 | *Dec. Flow/Vac. |
| GUDEW036 | 14:28 | 6/24/2019 | 33.1 | 26.8 | 4.2 | 35.9 | -31.4 | -31.4 | -0.006 | -0.004 | 74 | 74.1 | <<>> | <<>> | -32.2 | *No Adj. Made |
| GUDEW037 | 14:51 | 6/24/2019 | 12.5 | 6.3 | 14.7 | 66.5 | -30.4 | -30.37 | 8.368 | 8.364 | 76.7 | 76.7 | 459.9 | 459.8 | -32.4 | *Fully Closed/*No Adj. Made |
| GUDEW038 | 13:00 | 6/7/2019 | 1.7 | 9.2 | 11.7 | 77.4 | -0.01 | 0 | 0.012 | 0.011 | 96.5 | 96.4 | 6.2 | 6 | -32.83 | *Fully Closed/*No Adj. Made |
| GUDEW039 | 14:19 | 6/24/2019 | 67.6 | 32 | 0.3 | 0.1 | -0.04 | -0.11 | 0.037 | 0.038 | 74 | 74 | 12.8 | 13.1 | -32.1 | *Inc. Flow/Vac. |
| GUDEW050 | 14:23 | 6/6/2019 | 61.9 | 38.1 | 0 | 0 | 5.91 | 5.93 | -0.288 | -0.295 | 96.8 | 96.8 | <<>> | <<>> | -31.26 | *Fully Closed/*No Adj. Made |
| GUDEW050 | 14:25 | 6/6/2019 | 62.1 | 37.4 | 0.3 | 0.2 | -0.96 | -0.93 | 0.069 | 0.067 | 96.2 | 96.2 | 43.5 | 42.6 | -33.17 | *Inc. Flow/Vac. |
| GUDEW051 | 14:11 | 6/6/2019 | 69.7 | 27.4 | 0 | 2.9 | 0.25 | 0.26 | 0.004 | 0.004 | 96.2 | 96.3 | 4.2 | 3.8 | -32 | *Fully Closed/*No Adj. Made |
| GUDEW051 | 14:12 | 6/6/2019 | 46.6 | 20.7 | 7.9 | 24.8 | -31.96 | -31.93 | -0.008 | -0.008 | 97.3 | 97.3 | <<>> | <<>> | -31.92 | *Inc. Flow/Vac. |
| GUDEW051 | 14:13 | 6/6/2019 | 42.6 | 19 | 8.1 | 30.3 | -7.27 | -6.48 | -0.001 | -0.002 | 97.4 | 97.5 | <<>> | <<>> | -32.25 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW052 | 14:06 | 6/6/2019 | 53.9 | 33.7 | 2.6 | 9.8 | -34.41 | -34.38 | 0.001 | -0.002 | 94.5 | 94.6 | 3.8 | <<>> | -34.38 | *Fully Open/*No Adj. Made |
| GUDEW054 | 14:39 | 6/24/2019 | 68 | 31.8 | 0.2 | 0 | -0.14 | -31.4 | 0.013 | -0.01 | 73.4 | 73.5 | 7.4 | <<>> | 29.8 | *Inc. Flow/Vac. |
| GUDEW057 | 14:33 | 6/24/2019 | 24.1 | 12.8 | 13.8 | 49.3 | -31.2 | -30.9 | 0.001 | -0.002 | 74 | 74.3 | 1.4 | <<>> | -31.2 | *Fully Closed/*No Adj. Made |
| GUDEW062 | 14:16 | 6/24/2019 | 1.7 | 1.4 | 21.6 | 75.3 | -14.28 | -14.9 | >>>> | >>>> | 73.1 | 73.1 | N/A | N/A | -31.8 | *Fully Closed/*No Adj. Made |
| GUDEW070 | 14:28 | 6/6/2019 | 17.9 | 8.2 | 14.7 | 59.2 | -32.09 | -18.14 | 1.719 | 1.09 | 96.1 | 96.3 | 80 | 64.6 | -34.27 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW071 | 14:09 | 6/6/2019 | 57.8 | 32 | 2.2 | 8 | -33.21 | -33.22 | -0.003 | -0.004 | 95.4 | 95.4 | <<>> | <<>> | -33.96 | *Fully Open/*No Adj. Made |
| GUDEW072 | 14:03 | 6/6/2019 | 54.5 | 38.1 | 1.9 | 5.5 | -30.66 | -30.65 | -0.001 | -0.003 | 95 | 95 | <<>> | <<>> | -34.19 | *No Adj. Made |
| GUDEW073 | 13:58 | 6/6/2019 | 58.4 | 35.6 | 1.6 | 4.4 | -1.68 | -10.66 | 0.008 | -0.007 | 93 | 92.5 | 5.5 | <<>> | -34.07 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|--------------------------------|
| GUDEW074 | 14:34 | 6/24/2019 | 35.7 | 20.2 | 9.2 | 34.9 | -23.41 | -23.51 | 0.054 | 0.036 | 74.4 | 74.1 | 14.2 | 11.5 | -32.1 | *Fully Closed/**No Adj. Made |
| GUDEW075 | 13:36 | 6/7/2019 | 57.1 | 33.8 | 1.6 | 7.5 | -33.31 | -33.3 | -0.032 | -0.028 | 92.2 | 92.1 | <<<> | <<<> | -33.3 | *No Adj. Made |
| GUDEW076 | 13:32 | 6/7/2019 | 58.4 | 41.4 | 0 | 0.2 | -33.15 | -33.13 | 0.042 | 0.04 | 95.3 | 95.3 | 31.7 | 30.8 | -33.1 | *Fully Open/**No Adj. Made |
| GUDEW100 | 11:38 | 6/3/2019 | 55 | 45 | 0 | 0 | 3.99 | -15.36 | -0.023 | 0.016 | 79.2 | 78.7 | 0 | 3.8 | -27.92 | *Inc. Flow/Vac. |
| GUDEW100 | 11:41 | 6/3/2019 | 53.3 | 42.2 | 1.4 | 3.1 | -25.37 | -25.39 | 0.01 | 0.01 | 78.5 | 78.5 | 2.9 | 3 | -28.07 | *No Adj. Made |
| GUDEW101 | 11:43 | 6/3/2019 | 58.3 | 41.7 | 0 | 0 | -28.07 | -28.04 | 0.003 | 0.008 | 78.8 | 78.8 | 1.5 | 2.6 | -28.04 | *Fully Open/**No Adj. Made |
| GUDEW102 | 11:47 | 6/3/2019 | 58.3 | 41.6 | 0.1 | 0 | -27.91 | -27.9 | -0.005 | 0.004 | 79.1 | 79.1 | 0 | 1.9 | -27.82 | *Fully Open/**No Adj. Made |
| GUDEW103 | 11:54 | 6/3/2019 | 59.1 | 40.7 | 0.2 | 0 | -27.91 | -27.92 | 0 | 0.003 | 81.1 | 81.1 | 0 | 1.6 | -27.81 | *Fully Open/**No Adj. Made |
| GUDEW104 | 12:01 | 6/3/2019 | 69 | 30.9 | 0.1 | 0 | 56.9 | 56.96 | -0.004 | -0.001 | 80.5 | 80.5 | 0 | 0 | -27.88 | *Fully Closed/**No Adj. Made |
| GUDEW104 | 12:04 | 6/3/2019 | 68.8 | 31.2 | 0 | 0 | -19.26 | -19.93 | 0.004 | 0.006 | 79.6 | 79.6 | 2 | 2.5 | -27.96 | *Inc. Flow/Vac. |
| GUDEW105 | 12:11 | 6/3/2019 | 2.4 | 4.3 | 15.2 | 78.1 | -27.91 | -27.93 | 0.002 | 0.008 | 79.6 | 79.7 | 1.2 | 2.5 | -27.93 | *Fully Open/**No Adj. Made |
| GUDEW105 | 13:24 | 6/6/2019 | 1.9 | 2 | 17.6 | 78.5 | -33.02 | -31.13 | -0.017 | 0.006 | 92.1 | 93.5 | 0 | 2.1 | -33.03 | *Fully Closed/**No Adj. Made |
| GUDEW106 | 12:23 | 6/3/2019 | 25.9 | 26.2 | 0.2 | 47.7 | -10.07 | -10.07 | -0.002 | -0.001 | 80.1 | 80.1 | 0 | 0 | -27.84 | *No Adj. Made |
| GUDEW107 | 12:30 | 6/3/2019 | 0.6 | 5.3 | 15.9 | 78.2 | -1.99 | -1.98 | 0.004 | 0.006 | 81 | 81 | 1.9 | 2.3 | -27.78 | *No Adj. Made |
| GUDEW107 | 13:09 | 6/6/2019 | 1.4 | 9.5 | 12.3 | 76.8 | -0.93 | -0.83 | 0.004 | 0.01 | 93.3 | 93.5 | 1.9 | 2.9 | -31.33 | *Dec. Flow/Vac. |
| GUDEW108 | 12:51 | 6/3/2019 | 58.1 | 41.9 | 0 | 0 | -27.71 | -27.7 | -0.023 | -0.002 | 83.4 | 83.5 | 0 | 0 | -27.71 | *Fully Open/**No Adj. Made |
| GUDEW109 | 13:07 | 6/3/2019 | 56.6 | 43.4 | 0 | 0 | -27.79 | -27.76 | -0.005 | -0.002 | 85.7 | 85.7 | 0 | 0 | -27.54 | *Fully Open/**No Adj. Made |
| GUDEW110 | 13:15 | 6/3/2019 | 49.7 | 38.9 | 0 | 11.4 | -27.58 | -27.58 | -0.021 | -0.019 | 87.5 | 87.5 | 0 | 0 | -27.51 | *Fully Open/**No Adj. Made |
| GUDEW111 | 13:19 | 6/3/2019 | 56.7 | 43.3 | 0 | 0 | -27.52 | -27.55 | -0.02 | -0.006 | 86.5 | 86.4 | 0 | 0 | -27.53 | *Fully Open/**No Adj. Made |
| GUDEW112 | 13:22 | 6/3/2019 | 54.2 | 42.5 | 0 | 3.3 | -27.48 | -27.48 | -0.066 | -0.063 | 86.1 | 86.1 | 0 | 0 | -27.48 | *Fully Open/**No Adj. Made |
| GUDEW113 | 13:28 | 6/3/2019 | 54.3 | 43.2 | 0 | 2.5 | -27.52 | -27.52 | 0.161 | -0.166 | 85 | 84.9 | 11.7 | 0 | -27.53 | *Fully Open/**No Adj. Made |
| GUDEW114 | 13:30 | 6/3/2019 | 12.6 | 18.6 | 7 | 61.8 | -7.06 | -7.03 | 0.004 | 0.006 | 85.1 | 85.1 | 1.9 | 2.3 | -27.4 | *No Adj. Made |
| GUDEW115 | 13:33 | 6/3/2019 | 0 | 11.4 | 9.4 | 79.2 | -3.52 | -3.49 | 0.003 | 0.004 | 85.1 | 85.1 | 1.5 | 1.9 | -27.35 | *Barely Open/**No Adj. Made |
| GUDEW116 | 13:36 | 6/3/2019 | 7.4 | 18.2 | 2.8 | 71.6 | -1.11 | -1.1 | 0.006 | 0.006 | 85.7 | 85.8 | 2.3 | 2.2 | -27.5 | *Barely Open/**No Adj. Made |
| GUDEW117 | 11:49 | 6/3/2019 | 5.5 | 7.5 | 15.2 | 71.8 | -27.87 | -27.85 | -0.002 | 0 | 79.6 | 79.6 | 0 | 0.5 | -27.73 | *No Adj. Made |
| GUDEW117 | 11:52 | 6/3/2019 | 6.5 | 7.8 | 15.2 | 70.5 | -27.68 | -27.67 | 0.006 | 0.006 | 80.4 | 80.4 | 2.2 | 2.3 | -27.86 | *Dec. Flow/Vac. |
| GUDEW117 | 13:30 | 6/6/2019 | 2.8 | 4.8 | 16.7 | 75.7 | -34.36 | -29.62 | -0.009 | -0.012 | 91.8 | 91.7 | 0 | 0 | -34.65 | *Dec. Flow/Vac. |
| GUDEW118 | 11:57 | 6/3/2019 | 33.1 | 29.2 | 4.4 | 33.3 | -25.52 | -25.51 | 0.008 | 0.01 | 80.8 | 80.8 | 2.5 | 2.8 | -27.84 | *No Adj. Made |
| GUDEW118 | 11:58 | 6/3/2019 | 32.8 | 28.9 | 4.5 | 33.8 | -13.77 | -13.74 | 0.007 | 0.008 | 80.8 | 80.8 | 2.5 | 2.6 | -27.92 | *Dec. Flow/Vac. |
| GUDEW119 | 12:06 | 6/3/2019 | 50.9 | 39.7 | 0 | 9.4 | -28.04 | -28.04 | 0.003 | 0.004 | 78 | 78 | 1.6 | 1.8 | -28.04 | *Fully Open/**No Adj. Made |
| GUDEW120 | 12:17 | 6/3/2019 | 0.8 | 7.4 | 14.2 | 77.6 | -9.18 | -9.18 | 0.022 | 0.023 | 80.9 | 81 | 4.3 | 4.4 | -27.92 | *No Adj. Made |
| GUDEW120 | 13:14 | 6/6/2019 | 0.2 | 4.7 | 15.4 | 79.7 | -9.56 | -4.33 | 0.006 | 0.001 | 92.6 | 92.7 | 2.3 | 0.9 | -32.54 | *Dec. Flow/Vac. |
| GUDEW121 | 12:28 | 6/3/2019 | 2.2 | 8.1 | 14.1 | 75.6 | -0.41 | -0.4 | 0.026 | 0.028 | 81.4 | 81.4 | 4.8 | 4.9 | -28.18 | *No Adj. Made |
| GUDEW121 | 13:12 | 6/6/2019 | 1.9 | 6.4 | 14.6 | 77.1 | -0.36 | -0.12 | 0.017 | 0.013 | 93.3 | 93.1 | 3.8 | 3.3 | -31.91 | *Dec. Flow/Vac. |
| GUDEW122 | 13:12 | 6/3/2019 | 57 | 43 | 0 | 0 | -27.64 | -27.65 | 0.004 | 0.005 | 85.5 | 85.5 | 1.9 | 2 | -27.57 | *No Adj. Made |
| GUDEW123 | 12:39 | 6/3/2019 | 11 | 16.3 | 8 | 64.7 | -0.18 | -0.19 | 0.003 | 0.005 | 79.6 | 79.7 | 1.6 | 2.2 | -27.67 | *No Adj. Made |
| GUDEW124 | 12:47 | 6/3/2019 | 8.9 | 17.7 | 0.5 | 72.9 | -0.3 | -0.3 | 0.006 | 0.007 | 81.9 | 81.9 | 2.3 | 2.5 | -27.76 | *No Adj. Made |
| GUDEW125 | 12:33 | 6/3/2019 | 68.7 | 31.2 | 0.1 | 0 | 0.24 | 0.27 | -0.003 | 0 | 80.7 | 80.7 | 0 | 0 | -27.63 | *Fully Closed/**No Adj. Made |
| GUDEW125 | 12:35 | 6/3/2019 | 48.8 | 22.9 | 6.1 | 22.2 | -11.52 | -11.51 | -0.003 | -0.001 | 79.2 | 79.2 | 0 | 0 | -27.68 | *Inc. Flow/Vac. |
| GUDEW125 | 12:36 | 6/3/2019 | 47 | 20.1 | 6.8 | 26.1 | -2.69 | -2.62 | 0.018 | 0.02 | 78.8 | 78.7 | 4.2 | 4.5 | -27.32 | *Fully Closed/**Dec. Flow/Vac. |
| GUDEW126 | 12:41 | 6/3/2019 | 65.4 | 34.5 | 0 | 0.1 | 3.44 | 3.48 | -0.004 | -0.003 | 79.5 | 79.5 | 0 | 0 | -27.71 | *No Adj. Made |
| GUDEW126 | 12:43 | 6/3/2019 | 65.3 | 34.7 | 0 | 0 | -11.34 | -11.8 | -0.016 | -0.013 | 79.7 | 79.7 | 0 | 0 | -27.48 | *Inc. Flow/Vac. |
| GUDEW127 | 12:48 | 6/3/2019 | 6.4 | 26.5 | 9.6 | 57.5 | -0.35 | -0.34 | 0.001 | 0.002 | 82.5 | 82.5 | 0.7 | 1.3 | -27.67 | *No Adj. Made |
| GUDEW128 | 12:55 | 6/3/2019 | 34.4 | 25 | 0.1 | 40.5 | -0.77 | -0.77 | -0.01 | -0.008 | 83.4 | 83.4 | 0 | 0 | -27.52 | *No Adj. Made |
| GUDEW129 | 12:57 | 6/3/2019 | 25.7 | 15.2 | 12.9 | 46.2 | -27.76 | -27.7 | 0.012 | 0.013 | 83.6 | 83.7 | 3.2 | 3.3 | -27.69 | *No Adj. Made |
| GUDEW129 | 13:01 | 6/3/2019 | 27.2 | 16 | 12.5 | 44.3 | -26.85 | -26.84 | 0.009 | 0.009 | 86 | 86 | 2.8 | 2.8 | -27.57 | *Dec. Flow/Vac. |
| GUDEW130 | 13:04 | 6/3/2019 | 68.6 | 30.6 | 0.8 | 0 | -27.59 | -27.6 | -0.023 | -0.015 | 85.8 | 85.9 | 0 | 0 | -27.45 | *Fully Open/**No Adj. Made |
| GUDEW131 | 13:35 | 6/6/2019 | 21.8 | 17.8 | 1.3 | 59.1 | -23.2 | -19.99 | 0.001 | 0.003 | 92.5 | 92.7 | 1.1 | 1.6 | -31.72 | *Dec. Flow/Vac. |
| GUDEW132 | 13:38 | 6/6/2019 | 1 | 3.3 | 18.5 | 77.2 | -25.04 | -23.65 | -0.011 | 0.003 | 92.8 | 92.7 | 0 | 1.5 | -34.42 | *Dec. Flow/Vac. |
| GUDEW133 | 12:21 | 6/3/2019 | 1.8 | 1.3 | 20 | 76.9 | -15.58 | -15.57 | -0.002 | 0 | 79.2 | 79.2 | 0 | 0.5 | -27.82 | *No Adj. Made |
| GUDEW133 | 13:16 | 6/6/2019 | 2.9 | 2.9 | 18.5 | 75.7 | -17.61 | -15.76 | -0.009 | -0.001 | 92.3 | 92.1 | 0 | 0 | -33.22 | *Dec. Flow/Vac. |
| GUDEW134 | 12:12 | 6/3/2019 | 0 | 1.4 | 20.1 | 78.5 | -27.53 | -27.52 | -8.106 | -8.103 | 79.7 | 79.7 | 0 | 0 | -27.52 | *Fully Closed/**No Adj. Made |
| GUDEW134 | 13:26 | 6/6/2019 | 0 | 0.8 | 20 | 79.2 | -32.53 | -10.15 | -9.977 | -0.204 | 93.1 | 93.1 | 0 | 0 | -33.73 | *Dec. Flow/Vac. |
| GUDEW135 | 11:34 | 6/3/2019 | 42.2 | 27.2 | 6.1 | 24.5 | -27.64 | -25.88 | 0.005 | 0.011 | 80.6 | 80.5 | 2 | 3.1 | -28.04 | *Dec. Flow/Vac. |
| GUDEW137 | 13:56 | 6/4/2019 | 58.5 | 40.4 | 0 | 1.1 | -32.44 | -32.44 | -0.011 | -0.009 | 90.2 | 90.2 | 0 | 0 | -32.43 | *Fully Open/**No Adj. Made |
| GUDEW138 | 13:53 | 6/4/2019 | 56 | 44 | 0 | 0 | -29.78 | -29.77 | 0.055 | 0.059 | 90.9 | 90.7 | 6.8 | 7 | -29.77 | *Fully Open/**No Adj. Made |
| GUDEW139 | 13:50 | 6/4/2019 | 36.9 | 26.5 | 7.6 | 29 | -27 | -24.82 | -0.001 | 0.003 | 90.1 | 91 | 0 | 1.7 | -29.83 | *Dec. Flow/Vac. |
| GUDEW140 | 13:46 | 6/4/2019 | 37.9 | 34.6 | 0 | 27.5 | -9.47 | -9.46 | -0.066 | -0.066 | 89.4 | 89.4 | 0 | 0 | -31.49 | *No Adj. Made |
| GUDEW141 | 13:34 | 6/4/2019 | 60.3 | 39.7 | 0 | 0 | -31.83 | -31.83 | -0.012 | -0.007 | 89.1 | 89 | 0 | 0 | -31.82 | *Fully Open/**No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments | |
|----------|-------|----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-----------------------------|-----------------------------|
| GUDEW142 | 13:37 | 6/4/2019 | 56 | 44 | 0 | 0 | 0.03 | 0.03 | -0.007 | -0.005 | 89.2 | 89.2 | 0 | 0 | -31.78 | *No Adj. Made | |
| GUDEW142 | 13:39 | 6/4/2019 | 56.1 | 43.9 | 0 | 0 | -0.37 | -0.37 | -0.019 | -0.016 | 89.5 | 89.5 | 0 | 0 | -31.65 | *Inc. Flow/Vac. | |
| GUDEW143 | 13:23 | 6/4/2019 | 55.9 | 44.1 | 0 | 0 | -30.45 | -30.45 | 0.009 | 0.013 | 89.1 | 89 | 2.7 | 3.3 | -30.43 | *Fully Open/*No Adj. Made | |
| GUDEW144 | 13:14 | 6/4/2019 | 57.3 | 42.7 | 0 | 0 | 0.53 | -0.64 | -0.258 | -0.254 | 87.6 | 87.5 | 0 | 0 | -30.18 | *Inc. Flow/Vac. | |
| GUDEW145 | 13:10 | 6/4/2019 | 56.6 | 43.2 | 0.2 | 0 | -30.62 | -30.6 | -0.976 | -0.975 | 88.7 | 88.7 | 0 | 0 | -30.6 | *Fully Open/*No Adj. Made | |
| GUDEW146 | 13:00 | 6/4/2019 | 55.4 | 44.4 | 0.3 | N/A | -24.41 | -24.46 | 0.109 | 0.303 | 88.3 | 88.3 | 9.6 | 16 | -25.09 | *No Adj. Made | |
| GUDEW147 | 13:02 | 6/4/2019 | 1.6 | 16 | 0.4 | 82 | -1.24 | -1.23 | -0.32 | -0.323 | 88.6 | 88.6 | 0 | 0 | -21.47 | *No Adj. Made | |
| GUDEW148 | 13:05 | 6/4/2019 | 18 | 23 | 0 | 59 | -4.29 | -4.26 | -2.628 | -2.547 | 88.3 | 88.4 | 0 | 0 | -28.1 | *No Adj. Made | |
| GUDEW149 | 13:07 | 6/4/2019 | 1.2 | 1.9 | 18.4 | 78.5 | -0.24 | -0.22 | 0 | 0.002 | 88.7 | 88.7 | 0 | 1.3 | -27.89 | *Fully Closed/*No Adj. Made | |
| GUDEW150 | 13:43 | 6/6/2019 | 53 | 21.8 | 5 | 20.2 | -34.44 | -33.76 | -0.028 | -0.002 | 92.7 | 92.8 | 0 | 0 | -34.54 | *Dec. Flow/Vac. | |
| GUDEW151 | 13:46 | 6/6/2019 | 39.7 | 27.1 | 1.5 | 31.7 | -14.28 | -14.29 | -0.015 | -0.014 | 92.4 | 92.4 | 0 | 0 | -34.19 | *No Adj. Made | |
| GUDEW152 | 13:52 | 6/6/2019 | 38.4 | 24.2 | 7.6 | 29.8 | 2.84 | 2.84 | 2.847 | 2.851 | 93.1 | 93.1 | 51.3 | 51.3 | -32.86 | *Fully Closed/*No Adj. Made | |
| GUDEW153 | 13:54 | 6/6/2019 | 66.6 | 33.1 | 0.3 | 0 | 0.08 | 0.09 | -0.017 | -0.016 | 93.8 | 93.8 | 0 | 0 | -34.2 | *Fully Closed/*No Adj. Made | |
| GUDEW153 | 13:56 | 6/6/2019 | 65.9 | 33.9 | 0.1 | 0.1 | -20.69 | -20.73 | -0.029 | -0.03 | 93.5 | 93.5 | 0 | 0 | -34.87 | *Inc. Flow/Vac. | |
| GUDEW154 | 13:41 | 6/4/2019 | 49.8 | 33.5 | 0.8 | 15.9 | -0.01 | 0 | -0.035 | -0.047 | 89.9 | 89.7 | <<>> | <<>> | -31.59 | *No Adj. Made | |
| GUDEW154 | 13:44 | 6/4/2019 | 50.3 | 34.3 | 0.8 | 14.6 | -0.45 | -0.45 | 0.463 | 0.462 | 89.3 | 89.3 | 43.3 | 43.3 | -29.49 | *Inc. Flow/Vac. | |
| GUDEW156 | 12:45 | 6/3/2019 | 39.9 | 34.4 | 1.2 | 24.5 | -13.78 | -13.77 | -0.007 | -0.005 | 80.7 | 80.7 | 0 | 0 | -27.91 | *No Adj. Made | |
| GUDEW157 | 12:15 | 6/3/2019 | 50.7 | 38.5 | 0.2 | 10.6 | -27.94 | -27.9 | 0.017 | 0.037 | 80.2 | 80.3 | 3.8 | 5.6 | -27.86 | *Fully Open/*No Adj. Made | |
| GUDEW158 | 14:33 | 6/6/2019 | 74 | 25.9 | 0.2 | N/A | 16.03 | 16.11 | -0.002 | -0.003 | 96.3 | 96.3 | <<>> | <<>> | -25.21 | *Fully Closed/*No Adj. Made | |
| GUDEW158 | 14:35 | 6/6/2019 | 73.1 | 26.8 | 0.1 | 0 | -19.4 | -19.42 | 0.011 | 0.009 | 96.3 | 96.3 | 6.5 | 6.1 | -25.23 | *Inc. Flow/Vac. | |
| GUDEW159 | 13:15 | 6/7/2019 | 71.6 | 21.2 | 1.3 | 5.9 | -32.4 | -32.93 | -0.648 | 1.434 | 95.4 | 95.3 | <<>> | <<>> | 80.6 | -32.96 | *Fully Open/*Inc. Flow/Vac. |
| GUDEFLAR | 11:21 | 6/3/2019 | 37.6 | 28 | 3.6 | 30.8 | -24.69 | -24.7 | >>>> | >>>> | 79.5 | 79.5 | 368.7 | 368.7 | N/A | | |
| GUDEFLAR | 14:06 | 6/3/2019 | 37.6 | 28.2 | 4 | 30.2 | -29.58 | -29.66 | >>>> | >>>> | 89.2 | 89.2 | 416.5 | 416.5 | N/A | | |
| GUDEFLAR | 11:51 | 6/4/2019 | 37.3 | 28 | 4.1 | 30.6 | -34.71 | -34.78 | >>>> | >>>> | 81.7 | 81.6 | 459.3 | 459.3 | N/A | | |
| GUDEFLAR | 14:44 | 6/6/2019 | 40.3 | 28.1 | 2.9 | 28.7 | -36.18 | -36.17 | >>>> | >>>> | 98.5 | 98.5 | 438.6 | 438.6 | N/A | | |
| GUDEFLAR | 10:51 | 6/7/2019 | 37.7 | 27.7 | 3.6 | 31 | -39.34 | -39.32 | >>>> | >>>> | 83.3 | 83.3 | 456.1 | 456.1 | N/A | | |
| GUDEFLAR | 14:05 | 6/7/2019 | 38.1 | 27.7 | 3.3 | 30.9 | -39.24 | -39.25 | >>>> | >>>> | 96.2 | 96.1 | 451 | 451 | N/A | | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells

July 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 11:02 | 7/3/2019 | 58.1 | 41.8 | 0.1 | 0 | -34.15 | -34.15 | 0.011 | 0.012 | 89.8 | 89.8 | 3.1 | 3.2 | -34.15 | *Fully Open/*No Adj. Made |
| GUDEW001 | 11:47 | 7/22/2019 | 56.6 | 36 | 1.1 | 6.3 | -33.42 | -33.42 | 1.751 | 1.749 | 100.6 | 100.6 | 212.8 | 212.7 | -34.64 | *No Adj. Made |
| GUDEW002 | 11:32 | 7/22/2019 | 71 | 28.6 | 0 | 0.4 | 50.24 | 50.25 | 0.01 | 0.008 | 100.6 | 100.5 | 17.9 | 15.6 | -35.03 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 14:33 | 7/3/2019 | 0.1 | 1.2 | 19.3 | 79.4 | -2.04 | -1.99 | 0.001 | 0.002 | 96.8 | 96.8 | 1.1 | 1.4 | -33.95 | *No Adj. Made |
| GUDEW004 | 14:21 | 7/3/2019 | 77.3 | 22.5 | 0.1 | 0.1 | 1.99 | -3.47 | 0.017 | 0.002 | 95.8 | 96.3 | 23.3 | 8.3 | -33.48 | *Inc. Flow/Vac. |
| GUDEW005 | 12:32 | 7/23/2019 | 66.1 | 33.7 | 0.2 | 0 | 1.72 | 1.72 | 0.009 | 0.008 | 80.9 | 80.9 | 5.9 | 5.7 | -34.65 | *Fully Closed/*No Adj. Made |
| GUDEW006 | 12:37 | 7/23/2019 | 0.3 | 1.1 | 20.8 | 77.8 | -0.09 | -0.08 | -0.001 | -0.003 | 82.7 | 82.7 | <<>> | <<>> | -2.6 | *Fully Closed/*No Adj. Made |
| GUDEW010 | 14:12 | 7/3/2019 | 0.1 | 1.3 | 19.3 | 79.3 | -0.06 | -0.05 | <<<< | <<<< | 95 | 95 | N/A | N/A | -33.92 | *No Adj. Made |
| GUDEW011 | 12:02 | 7/3/2019 | 16.3 | 19.2 | 0 | 64.5 | -0.9 | -0.89 | 0.019 | 0.012 | 95.1 | 95 | 1.7 | 1.4 | -34.09 | *No Adj. Made |
| GUDEW012 | 11:59 | 7/3/2019 | 0.1 | 1.8 | 18.3 | 79.8 | 0.01 | 0 | 0.009 | 0.009 | 94.8 | 95.1 | 5.4 | 5.4 | -34.09 | *Fully Closed/*No Adj. Made |
| GUDEW015 | 12:41 | 7/23/2019 | 33.1 | 17.5 | 4.1 | 45.3 | -16.64 | -14.16 | >>>> | >>>> | 83.4 | 83.5 | N/A | N/A | -33.83 | *Dec. Flow/Vac. |
| GUDEW016 | 12:43 | 7/23/2019 | 32.8 | 20.4 | 0.5 | 46.3 | -13.71 | -14.66 | >>>> | >>>> | 84.2 | 84.3 | N/A | N/A | -34.13 | *Inc. Flow/Vac. |
| GUDEW017 | 12:46 | 7/23/2019 | 33.8 | 21.4 | 0.1 | 44.7 | -16.53 | -16.52 | >>>> | >>>> | 84.8 | 84.8 | N/A | N/A | -33.64 | *No Adj. Made |
| GUDEW018 | 12:47 | 7/23/2019 | 0.3 | 1.6 | 18.7 | 79.4 | -33.78 | -33.76 | >>>> | >>>> | 84.9 | 84.8 | N/A | N/A | -33.75 | *No Adj. Made |
| GUDEW021 | 11:53 | 7/22/2019 | 31.5 | 18.1 | 10.9 | 39.5 | -33.49 | -30.51 | 0.91 | 3.031 | 100.1 | 100.3 | 57.8 | 107.1 | -33.56 | *Dec. Flow/Vac. |
| GUDEW022 | 12:06 | 7/22/2019 | 20.3 | 9.8 | 14.3 | 55.6 | -34.75 | -25.76 | 1.234 | 0.829 | 101.6 | 101.9 | 67 | 55.4 | -34.13 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW023 | 13:24 | 7/22/2019 | 64.8 | 30.2 | 0.9 | 4.1 | -33.01 | -33.01 | 0.009 | 0.009 | 101.5 | 101.4 | 5.6 | 5.6 | -33.02 | *Fully Open/*No Adj. Made |
| GUDEW024 | 14:30 | 7/22/2019 | 32 | 29.3 | 0.2 | 38.5 | -7.19 | -7.19 | 0.018 | -0.05 | 100.4 | 100.4 | 7.7 | <<>> | -30.5 | *No Adj. Made |
| GUDEW025 | 14:10 | 7/23/2019 | 55.7 | 40.3 | 1 | 3 | -20.98 | -20.96 | 0.017 | 0.004 | 85.1 | 85 | 7.6 | 3.7 | -20.96 | *Fully Open/*No Adj. Made |
| GUDEW026 | 11:18 | 7/22/2019 | 67.4 | 31.1 | 0.3 | 1.2 | -32.15 | -32.15 | 0.013 | 0.01 | 103.3 | 103.2 | 6.8 | 6 | -32.14 | *Fully Open/*No Adj. Made |
| GUDEW027 | 14:31 | 7/23/2019 | 12.8 | 7.9 | 17.3 | 62 | -11.18 | -8.87 | 0.034 | 0.017 | 84.7 | 84.9 | 11 | 7.6 | -34.96 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW028 | 12:19 | 7/23/2019 | 61.7 | 37.4 | 0.9 | 0 | -34.9 | -34.9 | 0.18 | 0.179 | 80.2 | 80.2 | 68.4 | 68.3 | -34.9 | *Fully Open/*No Adj. Made |
| GUDEW029 | 14:29 | 7/23/2019 | 3.6 | 7 | 18.1 | 71.3 | -21.76 | -18.67 | 0.038 | 0.002 | 84.8 | 84.8 | 11.3 | 2.2 | -35.06 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW030 | 14:22 | 7/23/2019 | 50.6 | 35.2 | 2.8 | 11.4 | -34.9 | -34.9 | 0.014 | 0.011 | 84.8 | 84.9 | 17.9 | 16.2 | -34.91 | *Fully Open/*No Adj. Made |
| GUDEW031 | 14:20 | 7/23/2019 | 59.5 | 40.4 | 0.1 | 0 | -30.42 | -30.53 | >>>> | >>>> | 85.4 | 85.4 | N/A | N/A | -30.53 | *Fully Open/*No Adj. Made |
| GUDEW032 | 14:13 | 7/23/2019 | 74 | 26 | 0 | 0 | 69.34 | 69.36 | <<<< | <<<< | 85.3 | 85.4 | N/A | N/A | -35.09 | *Fully Closed/*No Adj. Made |
| GUDEW034 | 14:03 | 7/23/2019 | 45.2 | 34.5 | 0.8 | 19.5 | -29.35 | -29.35 | 0.016 | 0.017 | 83.7 | 83.7 | 7.3 | 7.5 | -34.95 | *No Adj. Made |
| GUDEW035 | 14:06 | 7/23/2019 | 70.7 | 28.7 | 0.6 | 0 | -33.15 | -33.79 | 0.001 | 0 | 84.3 | 84.5 | 5.8 | 2.8 | -33.83 | *No Adj. Made |
| GUDEW036 | 12:26 | 7/23/2019 | 64.8 | 30 | 1.7 | 3.5 | -34.86 | -34.84 | 0.048 | 0.036 | 81.4 | 81.4 | 34.3 | 30.9 | -34.83 | *No Adj. Made |
| GUDEW037 | 12:55 | 7/23/2019 | 46.2 | 31.5 | 1.9 | 20.4 | -29.4 | -29.39 | 0.034 | 0.034 | 83.3 | 83.3 | 28.9 | 28.8 | -35.12 | *No Adj. Made |
| GUDEW038 | 12:52 | 7/23/2019 | 0.2 | 5.8 | 15.1 | 78.9 | -2.13 | -2.11 | 0.405 | 0.402 | 83.9 | 83.9 | 39 | 38.8 | -35.01 | *Fully Closed/*No Adj. Made |
| GUDEW039 | 12:36 | 7/23/2019 | 34.1 | 20.8 | 2.3 | 42.8 | -2.64 | -2.64 | 0.017 | 0.016 | 81.9 | 81.9 | 8 | 7.8 | -2.73 | *No Adj. Made |
| GUDEW050 | 11:35 | 7/22/2019 | 61 | 35 | 0.3 | 3.7 | 3.12 | -9.72 | -0.185 | 0.707 | 100.5 | 100.6 | <<>> | 140.4 | -9.72 | *Inc. Flow/Vac. |
| GUDEW050 | 11:37 | 7/22/2019 | 47.8 | 30.1 | 4.6 | 17.5 | -13.79 | -1.12 | 1.061 | 0.12 | 100.8 | 100.9 | 168.4 | 56.4 | -32.96 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW051 | 11:28 | 7/22/2019 | 70.5 | 27.3 | 0.1 | 2.1 | 0.24 | -0.13 | 0.031 | 0.009 | 100.7 | 100.7 | 11.4 | 6.2 | -33.31 | *Inc. Flow/Vac. |
| GUDEW051 | 11:30 | 7/22/2019 | 65.4 | 28 | 1.4 | 5.2 | -0.5 | -0.49 | 0.001 | 0.001 | 100.7 | 100.7 | 1.5 | 2.2 | -33.33 | *No Adj. Made |
| GUDEW052 | 11:26 | 7/22/2019 | 46.7 | 31.3 | 4.2 | 17.8 | -35.22 | -35.15 | 0.01 | 0.002 | 101.3 | 101.1 | 14.7 | 6 | -34.97 | *Dec. Flow/Vac. |
| GUDEW054 | 14:38 | 7/23/2019 | 35.5 | 17.6 | 10.2 | 36.7 | -35.09 | -0.08 | 0.258 | -0.003 | 85.6 | 85.7 | 31 | <<>> | -34.93 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW057 | 12:23 | 7/23/2019 | 39 | 22.2 | 8.4 | 30.4 | -32.14 | -26.7 | -0.005 | -0.004 | 80.6 | 80.8 | <<>> | <<>> | -34.73 | *Dec. Flow/Vac. |
| GUDEW062 | 12:31 | 7/23/2019 | 65.3 | 34.7 | 0 | 0 | 0.7 | 0.74 | 0.01 | 0.009 | 81 | 81 | 6.3 | 6 | -34.61 | *Fully Closed/*No Adj. Made |
| GUDEW070 | 11:40 | 7/22/2019 | 69.6 | 30.4 | 0 | 0 | 3.52 | -1.17 | -0.226 | 0.164 | 101.1 | 101.1 | <<>> | 26.7 | -4.01 | *Inc. Flow/Vac. |
| GUDEW070 | 11:44 | 7/22/2019 | 51.9 | 23.4 | 5.1 | 19.6 | -9.91 | 0.23 | 0.747 | 0.019 | 101.4 | 101.5 | 55.8 | 8.5 | -34.98 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW071 | 11:22 | 7/22/2019 | 39.5 | 23.1 | 7.2 | 30.2 | -34.1 | -33.25 | 0.007 | 0.002 | 102.2 | 101.9 | 4.7 | 2.3 | -35.04 | *Dec. Flow/Vac. |
| GUDEW072 | 14:30 | 7/3/2019 | 44.8 | 34.3 | 4.1 | 16.8 | -28.75 | -28.75 | -0.003 | -0.004 | 97 | 97 | <<>> | <<>> | -33.98 | *No Adj. Made |
| GUDEW073 | 12:16 | 7/23/2019 | 52.5 | 34.5 | 3.3 | 9.7 | -34.62 | -34.61 | -0.894 | -0.898 | 79.4 | 79.4 | <<>> | <<>> | -38.5 | *No Adj. Made |
| GUDEW074 | 14:35 | 7/23/2019 | 45.2 | 25.2 | 6.6 | 23 | -9.27 | -8.79 | 8.469 | 9.202 | 85.4 | 85.5 | 10.7 | 198.4 | -35.06 | *Dec. Flow/Vac. |
| GUDEW075 | 14:25 | 7/23/2019 | 57.4 | 42.6 | 0 | 0 | -34.69 | -34.68 | 0.093 | 0.09 | 84.8 | 84.8 | 18.1 | 17.9 | -34.65 | *Fully Open/*No Adj. Made |
| GUDEW076 | 14:24 | 7/23/2019 | 58.4 | 41 | 0.6 | 0 | -34.83 | -34.81 | 0.047 | 0.046 | 84.3 | 84.3 | 33.4 | 33.4 | -34.47 | *Fully Open/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW100 | 10:24 | 7/3/2019 | 0.4 | 1.6 | 18.7 | 79.3 | -21.96 | -23.12 | 0.012 | 0.013 | 92.3 | 91.5 | 3.2 | 3.3 | -34.48 | *Fully Closed/**No Adj. Made |
| GUDEW101 | 10:27 | 7/3/2019 | 42.9 | 37.6 | 0.9 | 18.6 | -34.52 | -34.5 | -0.007 | 0.003 | 89.9 | 89.7 | 0 | 1.6 | -34.49 | *Dec. Flow/Vac. |
| GUDEW102 | 10:29 | 7/3/2019 | 56 | 37.3 | 0.2 | 6.5 | -34.47 | -34.46 | 0.004 | 0.004 | 89.6 | 89.6 | 1.8 | 1.8 | -34.46 | *Fully Open/**No Adj. Made |
| GUDEW103 | 10:34 | 7/3/2019 | 60 | 39.8 | 0.2 | 0 | -34.28 | -34.27 | -0.01 | -0.008 | 90.5 | 90.5 | 0 | 0 | -34.26 | *Fully Open/**No Adj. Made |
| GUDEW104 | 10:40 | 7/3/2019 | 32.9 | 16.6 | 9.8 | 40.7 | -33.28 | -32.86 | 0.003 | 0.012 | 90.1 | 89.9 | 1.7 | 3.3 | -34 | *Dec. Flow/Vac. |
| GUDEW105 | 10:46 | 7/3/2019 | 0.3 | 1.7 | 19 | 79 | -0.68 | -0.67 | 0.016 | 0.016 | 88.3 | 88.3 | 3.8 | 3.8 | -34.17 | *No Adj. Made |
| GUDEW106 | 11:01 | 7/3/2019 | 24.1 | 26.4 | 0 | 49.5 | -8.39 | -8.39 | -0.008 | -0.006 | 89.3 | 89.4 | 0 | 0 | -34.35 | *No Adj. Made |
| GUDEW107 | 11:06 | 7/3/2019 | 0.6 | 4.8 | 16.8 | 77.8 | -0.23 | -0.22 | 0.019 | 0.018 | 90.4 | 90.5 | 4 | 3.9 | -33.86 | *No Adj. Made |
| GUDEW108 | 11:29 | 7/3/2019 | 52.6 | 42 | 0 | 5.4 | -34.88 | -34.88 | >>>> | >>>> | 93.3 | 93.4 | N/A | N/A | -34.81 | *No Adj. Made |
| GUDEW109 | 11:40 | 7/3/2019 | 57.5 | 42.1 | 0.5 | N/A | -34.92 | -34.93 | >>>> | >>>> | 94.1 | 94.1 | N/A | N/A | -34.92 | *Fully Open/**No Adj. Made |
| GUDEW110 | 11:42 | 7/3/2019 | 38 | 34.9 | 0.1 | 27 | -34.83 | -34.83 | >>>> | >>>> | 94.1 | 94.1 | N/A | N/A | -34.82 | *No Adj. Made |
| GUDEW111 | 11:45 | 7/3/2019 | 48.3 | 37.6 | 2.4 | 11.7 | -34.65 | -34.65 | >>>> | >>>> | 94.1 | 94.1 | N/A | N/A | -34.64 | *No Adj. Made |
| GUDEW112 | 11:47 | 7/3/2019 | 53.3 | 40.8 | 0.1 | 5.8 | -34.5 | -34.49 | >>>> | >>>> | 93.9 | 93.9 | N/A | N/A | -34.49 | *Fully Open/**No Adj. Made |
| GUDEW113 | 11:49 | 7/3/2019 | 51 | 40.2 | 0 | 8.8 | -34.41 | -34.41 | >>>> | >>>> | 93.9 | 93.8 | N/A | N/A | -34.41 | *Fully Open/**No Adj. Made |
| GUDEW114 | 11:53 | 7/3/2019 | 5.6 | 14 | 9.5 | 70.9 | -7.09 | -7.08 | -6.985 | -6.984 | 94 | 94 | 0 | 0 | -34.32 | *No Adj. Made |
| GUDEW115 | 11:54 | 7/3/2019 | 0.3 | 7.8 | 11.7 | 80.2 | -34.59 | -0.06 | >>>> | -0.021 | 93.9 | 93.9 | N/A | 0 | -34.23 | *Dec. Flow/Vac. |
| GUDEW116 | 11:57 | 7/3/2019 | 6.6 | 17.2 | 1.4 | 74.8 | -0.88 | -0.88 | -0.9 | -0.893 | 94.4 | 94.4 | 0 | 0 | -34.49 | *No Adj. Made |
| GUDEW117 | 10:32 | 7/3/2019 | 0.8 | 7.8 | 11.5 | 79.9 | -0.25 | -0.25 | 0.014 | 0.014 | 89.8 | 89.8 | 3.5 | 3.5 | -34.33 | *No Adj. Made |
| GUDEW118 | 10:36 | 7/3/2019 | 30.8 | 26.9 | 1.9 | 40.4 | -6.74 | -6.73 | 0.006 | 0.007 | 90.3 | 90.2 | 2.3 | 2.5 | -34.13 | *No Adj. Made |
| GUDEW119 | 10:43 | 7/3/2019 | 42.1 | 33.1 | 0.9 | 23.9 | -34.17 | -34.17 | -0.006 | -0.006 | 88.5 | 88.5 | 0 | 0 | -34.18 | *Fully Open/**No Adj. Made |
| GUDEW120 | 10:55 | 7/3/2019 | 0.8 | 8.2 | 13.4 | 77.6 | -1.56 | -1.56 | 0.021 | 0.018 | 88.8 | 88.8 | 4.3 | 3.9 | -34.38 | *No Adj. Made |
| GUDEW121 | 11:05 | 7/3/2019 | 6.6 | 17 | 6.2 | 70.2 | -0.12 | -0.12 | 0.007 | 0.009 | 90.2 | 90.2 | 2.4 | 2.8 | -34.06 | *No Adj. Made |
| GUDEW122 | 11:38 | 7/3/2019 | 57 | 42.2 | 0.8 | 0 | -34.9 | -34.89 | -0.01 | -0.008 | 93.8 | 93.9 | 0 | 0 | -34.89 | *Fully Open/**No Adj. Made |
| GUDEW123 | 11:12 | 7/3/2019 | 1.2 | 7.8 | 12.3 | 78.7 | -0.19 | -0.19 | -0.001 | 0 | 89.4 | 89.4 | 0 | 0 | -34.27 | *No Adj. Made |
| GUDEW124 | 11:21 | 7/3/2019 | 0.1 | 0.7 | 20 | 79.2 | -0.09 | -0.09 | 0.008 | 0.009 | 91.9 | 91.9 | 2.7 | 2.9 | -34.26 | *Fully Closed/**No Adj. Made |
| GUDEW125 | 11:10 | 7/3/2019 | 11 | 15 | 8.6 | 65.4 | -34.11 | -27.15 | -0.075 | -0.067 | 90 | 89.7 | 0 | 0 | -30.3 | *Dec. Flow/Vac. |
| GUDEW126 | 11:17 | 7/3/2019 | 10.3 | 5 | 17 | 67.7 | -31.46 | -28.23 | >>>> | >>>> | 90.8 | 90.8 | N/A | N/A | -34.19 | *Dec. Flow/Vac. |
| GUDEW127 | 11:25 | 7/3/2019 | 0.2 | 0.4 | 20.2 | 79.2 | -35 | -34.65 | 0.005 | 0.013 | 92.1 | 91.9 | 2.1 | 3.2 | -34.74 | *Dec. Flow/Vac. |
| GUDEW128 | 11:32 | 7/3/2019 | 28.8 | 24.6 | 0.2 | 46.4 | -0.4 | -0.4 | 0.005 | 0.005 | 92.8 | 92.8 | 2.1 | 2 | -34.61 | *No Adj. Made |
| GUDEW129 | 11:33 | 7/3/2019 | 63.9 | 36.1 | 0 | 0 | 2.94 | -0.02 | -0.006 | -2.229 | 93 | 93.1 | 0 | 0 | -34.7 | *Barely Open/**Inc. Flow/Vac. |
| GUDEW130 | 11:36 | 7/3/2019 | 64.2 | 31.8 | 0 | 4 | -34.78 | -34.77 | 0.006 | 0.006 | 93.4 | 93.4 | 2.3 | 2.4 | -34.48 | *Fully Open/**No Adj. Made |
| GUDEW131 | 14:48 | 7/3/2019 | 70.1 | 29.9 | 0 | 0 | 0.1 | 0.09 | 0.018 | 0.018 | 100.1 | 100.2 | 4.2 | 4.2 | -33.7 | *Fully Closed/**No Adj. Made |
| GUDEW132 | 14:45 | 7/3/2019 | 71 | 29 | 0 | 0 | 1.4 | 1.42 | 0.002 | 0.002 | 98 | 98 | 1.4 | 1.4 | -33.61 | *No Adj. Made |
| GUDEW133 | 10:53 | 7/3/2019 | 51 | 27 | 4.7 | 17.3 | -0.13 | -0.12 | 0.004 | 0.005 | 89 | 89 | 2 | 2.2 | -34.28 | *No Adj. Made |
| GUDEW134 | 10:48 | 7/3/2019 | 2.1 | 3.5 | 15.1 | 79.3 | -0.09 | -0.09 | 0.013 | 0.013 | 88.6 | 88.6 | 3.3 | 3.4 | -34.17 | *Fully Closed/**No Adj. Made |
| GUDEW135 | 10:22 | 7/3/2019 | 40.7 | 27.1 | 4.7 | 27.5 | -12.53 | -11.42 | 0.003 | 0.006 | 93.6 | 93.5 | 1.6 | 2.4 | -34.4 | *Dec. Flow/Vac. |
| GUDEW137 | 11:56 | 7/22/2019 | 35.4 | 32.7 | 0.1 | 31.8 | -35.61 | -35.6 | -0.038 | -0.041 | 101 | 101 | 0 | 0 | -35.24 | *No Adj. Made |
| GUDEW138 | 11:59 | 7/22/2019 | 57.9 | 41 | 1 | 0.1 | -33.25 | -33.24 | 0.016 | 0.024 | 101.4 | 101.5 | 3.7 | 4.4 | -33.23 | *Fully Open/**No Adj. Made |
| GUDEW139 | 12:01 | 7/22/2019 | 60.4 | 39.1 | 0 | 0.5 | 0.29 | 0.31 | -0.043 | -0.037 | 101.4 | 101.4 | 0 | 0 | -32.5 | *Fully Closed/**No Adj. Made |
| GUDEW140 | 12:09 | 7/22/2019 | 54.3 | 38.4 | 0.3 | 7 | -34.86 | -34.86 | -0.009 | -0.009 | 102.1 | 102.1 | 0 | 0 | -34.86 | *Fully Open/**No Adj. Made |
| GUDEW141 | 12:08 | 7/22/2019 | 55.2 | 38.4 | 0.4 | 6 | -34.91 | -34.91 | -0.024 | -0.023 | 102 | 102.1 | 0 | 0 | -34.9 | *Fully Open/**No Adj. Made |
| GUDEW142 | 12:14 | 7/22/2019 | 36.1 | 27.9 | 6.7 | 29.3 | -0.52 | -0.51 | -0.084 | 0.002 | 101.9 | 101.9 | 0 | 1.2 | -35.02 | *Barely Open/**No Adj. Made |
| GUDEW143 | 13:22 | 7/22/2019 | 56.6 | 41.7 | 0.1 | 1.6 | -33.13 | -33.13 | -0.003 | -0.003 | 101.6 | 101.6 | 0 | 0 | -32.96 | *Fully Open/**No Adj. Made |
| GUDEW144 | 13:28 | 7/22/2019 | 0.4 | 1 | 20.7 | 77.9 | 0.23 | 0.23 | >>>> | 0.008 | 100.4 | 100.4 | N/A | 2.6 | -32.69 | *Fully Closed/**No Adj. Made |
| GUDEW145 | 13:26 | 7/22/2019 | 59.7 | 40.1 | 0 | 0.2 | -33.13 | -33.11 | -1.058 | -1.058 | 101 | 101 | 0 | 0 | -32.81 | *Fully Open/**No Adj. Made |
| GUDEW146 | 13:32 | 7/22/2019 | 37.2 | 28.7 | 7.2 | 26.9 | 0.23 | 0.23 | 0.473 | -0.001 | 100.5 | 100.5 | 20.4 | 0 | -32.92 | *Fully Closed/**No Adj. Made |
| GUDEW147 | 13:30 | 7/22/2019 | 9.4 | 12.3 | 15 | 63.3 | 0.23 | -1.45 | -0.004 | -0.225 | 100.3 | 100.4 | 0 | 0 | -32.86 | *No Adj. Made |
| GUDEW148 | 13:35 | 7/22/2019 | 8.4 | 19.8 | 0.2 | 71.6 | -4.45 | -4.44 | -2.821 | -2.823 | 100.5 | 100.5 | 0 | 0 | -30.42 | *No Adj. Made |
| GUDEW149 | 13:37 | 7/22/2019 | 0.6 | 1.9 | 19.9 | 77.6 | 0.21 | 0.21 | -0.039 | -0.035 | 101 | 101 | 0 | 0 | -30.04 | *Fully Closed/**No Adj. Made |
| GUDEW150 | 14:40 | 7/3/2019 | 50.3 | 22.6 | 3.6 | 23.5 | -27.99 | -27.98 | 0.004 | 0.004 | 97.4 | 97.5 | 2 | 2 | 0.06 | *No Adj. Made |
| GUDEW151 | 14:37 | 7/3/2019 | 37 | 28.5 | 1.1 | 33.4 | -11.74 | -11.76 | -0.009 | -0.006 | 96.5 | 96.5 | 0 | 0 | -33.64 | *No Adj. Made |
| GUDEW152 | 14:24 | 7/3/2019 | 41.2 | 26.8 | 5.7 | 26.3 | 4.89 | 4.89 | 4.838 | 4.84 | 96.3 | 96.3 | 66.8 | 66.8 | -33.89 | *Fully Closed/**No Adj. Made |
| GUDEW153 | 14:26 | 7/3/2019 | 3.3 | 3.6 | 18.1 | 75 | -28.17 | -24.02 | 0.014 | 0.009 | 96.1 | 96 | 3.4 | 2.7 | -33.9 | *Dec. Flow/Vac. |
| GUDEW154 | 12:12 | 7/22/2019 | 50.1 | 36.4 | 0.6 | 12.9 | 0.25 | 0.27 | -0.029 | -0.031 | 102 | 101.9 | <<<> | <<<> | -34.86 | *Fully Closed/**No Adj. Made |
| GUDEW156 | 11:19 | 7/3/2019 | 27.2 | 27.4 | 4.4 | 41 | -24.93 | -18.96 | -0.012 | -0.009 | 91.5 | 91.5 | 0 | 0 | -34.61 | *Dec. Flow/Vac. |
| GUDEW157 | 10:50 | 7/3/2019 | 35.9 | 31.9 | 0.2 | 32 | -34.23 | -34.23 | -0.01 | -0.009 | 89.2 | 89.2 | 0 | 0 | -34.24 | *No Adj. Made |
| GUDEW158 | 14:16 | 7/3/2019 | 13.9 | 6.7 | 15.6 | 63.8 | -34.01 | -29.25 | 0.044 | 0.015 | 95.2 | 95.3 | 12.1 | 6.9 | -34.01 | *Dec. Flow/Vac. |
| GUDEW159 | 14:16 | 7/23/2019 | 75.4 | 24.6 | 0 | 0 | -35.49 | -35.54 | >>>> | >>>> | 85.4 | 85.4 | N/A | N/A | -35.55 | *Fully Open/**No Adj. Made |
| GUDEFLAR | 16:16 | 7/1/2019 | 51.7 | 37.6 | 1.8 | 8.9 | -17.14 | -17.57 | >>>> | >>>> | 115.6 | 115.3 | 405.1 | 405.1 | N/A | |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|----------|
| GUDEFLAR | 16:40 | 7/1/2019 | 50.4 | 36.5 | 2.3 | 10.8 | -22.13 | -22.13 | >>>> | >>>> | 102.5 | 102.5 | 444.8 | 444.8 | N/A | |
| GUDEFLAR | 14:48 | 7/2/2019 | 41.1 | 28.9 | 3.2 | 26.8 | -29.72 | -29.8 | >>>> | >>>> | 96.8 | 97.2 | 438.2 | 438.2 | N/A | |
| GUDEFLAR | 10:04 | 7/3/2019 | 37 | 28.5 | 3.5 | 31 | -30.68 | -30.72 | >>>> | >>>> | 84 | 84 | 397.9 | 397.9 | N/A | |
| GUDEFLAR | 14:57 | 7/3/2019 | 36.5 | 28.4 | 3.2 | 31.9 | -35.74 | -35.74 | >>>> | >>>> | 98.6 | 98.6 | 434.4 | 434.4 | N/A | |
| GUDEFLAR | 9:37 | 7/22/2019 | 33.5 | 26.1 | 3.9 | 36.5 | -35.46 | -35.49 | >>>> | >>>> | 92.9 | 92.9 | 425.6 | 425.6 | N/A | |
| GUDEFLAR | 11:07 | 7/22/2019 | 35 | 28 | 3.2 | 33.8 | -36.76 | -36.78 | >>>> | >>>> | 98.7 | 98.6 | 422.5 | 422.5 | N/A | |
| GUDEFLAR | 14:47 | 7/22/2019 | 38.4 | 24 | 2.1 | 35.5 | 0.25 | 0.25 | -0.024 | 0.001 | 104.2 | 104.5 | 417.2 | 417.2 | N/A | |
| GUDEFLAR | 11:56 | 7/23/2019 | 35.7 | 29.5 | 2.8 | 32 | -40.29 | -40.35 | >>>> | >>>> | 78.6 | 78.6 | 421.7 | 421.7 | N/A | |

Pressure ≥ 0

Oxygen $\geq 5\%$

Temperature $\geq 131^\circ F$

Gas Extraction Wells

August 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 11:07 | 8/8/2019 | 54.9 | 41.3 | 0 | 3.8 | -35.91 | -35.92 | -0.018 | -0.014 | 95 | 95 | 0 | 0 | -35.92 | *No Adj. Made |
| GUDEW001 | 13:42 | 8/8/2019 | 60.7 | 39.3 | 0 | 0 | -37.11 | -37.09 | 0.103 | 0.034 | 101.9 | 101.9 | 50 | 28.2 | -37.04 | *Fully Open/*No Adj. Made |
| GUDEW002 | 13:25 | 8/8/2019 | 68.2 | 29.7 | 0 | 2.1 | 48.86 | 48.87 | <<<< | <<<< | 102.5 | 102.5 | N/A | N/A | -37.86 | *Fully Closed/*No Adj. Made |
| GUDEW003 | 11:26 | 8/7/2019 | 0.1 | 0.7 | 19.2 | 80 | -4.15 | 0.1 | -0.018 | -0.008 | 100.7 | 100.8 | 0 | 0 | -24.13 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW004 | 11:15 | 8/7/2019 | 50.5 | 16.9 | 6 | 26.6 | -16.31 | -13.17 | 0.013 | 0.009 | 100 | 100.3 | 18.5 | 15.4 | -24.01 | *Dec. Flow/Vac. |
| GUDEW005 | 11:10 | 8/7/2019 | 63.7 | 35.8 | 0.4 | 0.1 | -21.16 | -21.16 | >>>> | >>>> | 99.1 | 99.1 | N/A | N/A | -21.16 | *Fully Open/*No Adj. Made |
| GUDEW006 | 10:33 | 8/7/2019 | 44.9 | 30 | 0 | 25.1 | -0.05 | -0.05 | 0.036 | 0.029 | 92.4 | 92.4 | 2.5 | 2.2 | -0.53 | *No Adj. Made |
| GUDEW010 | 12:39 | 8/8/2019 | 0.7 | 5.2 | 8.8 | 85.3 | 0.11 | 0.11 | -0.024 | -0.023 | 102.1 | 102.1 | <<<> | <<<> | -37.48 | *Fully Closed/*No Adj. Made |
| GUDEW011 | 12:35 | 8/8/2019 | 29.1 | 22.7 | 0 | 48.2 | -0.07 | -0.07 | 0.025 | 0.02 | 102.8 | 102.8 | 2 | 1.8 | -37.57 | *No Adj. Made |
| GUDEW012 | 12:33 | 8/8/2019 | 25.4 | 18.9 | 2 | 53.7 | 0.12 | 0.12 | -0.005 | -0.005 | 103.7 | 103.7 | <<<> | <<<> | -37.72 | *Fully Closed/*No Adj. Made |
| GUDEW015 | 10:35 | 8/7/2019 | 67.3 | 25.6 | 0.2 | 6.9 | 6.48 | -2.72 | 0.004 | 0.003 | 95.9 | 99.4 | 4 | 3.4 | -19.14 | *Inc. Flow/Vac. |
| GUDEW015 | 10:37 | 8/7/2019 | 68.1 | 28.5 | 1 | 2.4 | -8.35 | -8.39 | 0.028 | 0.024 | 103.2 | 103.2 | 10.6 | 9.8 | -19.2 | *No Adj. Made |
| GUDEW016 | 10:39 | 8/7/2019 | 50 | 30.1 | 0 | 19.9 | -8.54 | -8.54 | 0.464 | 0.466 | 100.8 | 100.8 | 43 | 43.1 | -19.38 | *No Adj. Made |
| GUDEW017 | 10:42 | 8/7/2019 | 52.1 | 31.4 | 0 | 16.5 | -10.8 | -10.8 | >>>> | >>>> | 98.4 | 98.4 | N/A | N/A | -17.03 | *Fully Closed/*No Adj. Made |
| GUDEW018 | 10:45 | 8/7/2019 | 65.5 | 30 | 0.4 | 4.1 | -19.34 | -19.35 | 0 | 0.001 | 97.3 | 97.3 | 0.2 | 0.3 | -19.35 | *No Adj. Made |
| GUDEW021 | 13:49 | 8/8/2019 | 67.5 | 32.5 | 0 | 0 | 47.78 | 9.2 | -0.213 | -0.083 | 102.2 | 101.5 | <<<> | <<<> | 8.51 | *Inc. Flow/Vac. |
| GUDEW021 | 13:52 | 8/8/2019 | 68.1 | 30.8 | 0 | 1.1 | -10.05 | -10.1 | 0.102 | 0.101 | 102 | 102 | 20.6 | 20.5 | -35.94 | *No Adj. Made |
| GUDEW022 | 13:34 | 8/9/2019 | 48.3 | 25.7 | 4.8 | 21.2 | -7.37 | -5.66 | 0.146 | 0.112 | 105.6 | 105.7 | 23.9 | 20.8 | -25.56 | *Dec. Flow/Vac. |
| GUDEW023 | 13:24 | 8/9/2019 | 65 | 29.8 | 0.4 | 4.8 | -23.93 | -23.93 | 0.014 | 0.012 | 106 | 106 | 7.3 | 6.6 | -23.93 | *Fully Open/*No Adj. Made |
| GUDEW023 | 12:32 | 8/23/2019 | 51.1 | 18.4 | 4.1 | 26.4 | -36.46 | -35.95 | 0.031 | 0.003 | 96.8 | 96.8 | 10.7 | 3 | -35.92 | *Dec. Flow/Vac. |
| GUDEW024 | 13:08 | 8/9/2019 | 42.5 | 32.2 | 0 | 25.3 | -5.25 | -3.63 | 0.02 | 0.038 | 104.8 | 104.9 | 8.3 | 11.7 | -21.94 | *Dec. Flow/Vac. |
| GUDEW025 | 12:45 | 8/9/2019 | 54.4 | 39.4 | 0.7 | 5.5 | -12.28 | -12.29 | 0.022 | 0.018 | 104.7 | 104.7 | 8.8 | 7.9 | -22.17 | *No Adj. Made |
| GUDEW026 | 11:47 | 8/7/2019 | 47.4 | 21 | 6.2 | 25.4 | -22.09 | -19.96 | 0.015 | 0.001 | 99.8 | 101.6 | 7.3 | 1 | -22.02 | *Dec. Flow/Vac. |
| GUDEW027 | 12:18 | 8/7/2019 | 66.3 | 33.7 | 0 | 0 | 2.79 | -0.19 | 0.06 | 0.007 | 104 | 104.6 | 15.6 | 5.1 | -22.21 | *Inc. Flow/Vac. |
| GUDEW027 | 12:20 | 8/7/2019 | 26.2 | 12.8 | 13.2 | 47.8 | -2.65 | -0.51 | 0 | 0.003 | 104.5 | 104.5 | <<<> | 3 | -22.22 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW027 | 12:58 | 8/23/2019 | 68.2 | 31.5 | 0.3 | 0 | 0.64 | -3.22 | -1.019 | 3.042 | 94.5 | 94.5 | <<<> | 118.1 | -36.1 | *Inc. Flow/Vac. |
| GUDEW028 | 11:51 | 8/7/2019 | 59.3 | 37.5 | 0.2 | 3 | -21.93 | -21.91 | 0.005 | 0.006 | 105.4 | 105.4 | 11.2 | 11.9 | -21.9 | *Fully Open/*No Adj. Made |
| GUDEW029 | 12:58 | 8/9/2019 | 56.1 | 43.9 | 0 | 0 | -10.87 | -10.89 | 0.016 | 0.015 | 105 | 105 | 7.4 | 7.1 | -22.18 | *No Adj. Made |
| GUDEW030 | 12:55 | 8/9/2019 | 57.9 | 41 | 0.3 | 0.8 | -22.44 | -22.44 | 0.011 | 0.009 | 105 | 105 | 16.2 | 14.1 | -22.36 | *Fully Open/*No Adj. Made |
| GUDEW031 | 12:52 | 8/9/2019 | 59.9 | 36.8 | 0 | 3.3 | -17.57 | -17.58 | 0.409 | 0.413 | 104.7 | 104.7 | 39.8 | 40 | -22.34 | *No Adj. Made |
| GUDEW032 | 12:48 | 8/9/2019 | 74.7 | 18.2 | 4.8 | 2.3 | 69.5 | 69.53 | <<<< | <<<< | 104.7 | 104.7 | N/A | N/A | -22.5 | *Fully Closed/*No Adj. Made |
| GUDEW034 | 10:52 | 8/7/2019 | 41.1 | 30.2 | 0.1 | 28.6 | -16.46 | -11.85 | 0.054 | 0.033 | 96.3 | 96.3 | 13.9 | 10.9 | -20.66 | *Dec. Flow/Vac. |
| GUDEW035 | 12:42 | 8/9/2019 | 72.1 | 27.9 | 0 | 0 | 17.86 | 18.4 | 0.027 | 0.026 | 104.7 | 104.7 | 28.9 | 27.9 | -22.14 | *Fully Closed/*No Adj. Made |
| GUDEW036 | 11:59 | 8/7/2019 | 63.2 | 28.8 | 0.8 | 7.2 | -21.9 | -21.89 | 0.012 | 0.01 | 104.7 | 104.7 | 17.3 | 16.2 | -21.89 | *Fully Open/*No Adj. Made |
| GUDEW037 | 10:56 | 8/7/2019 | 41.9 | 32 | 0 | 26.1 | -20.37 | -19.15 | 0.331 | 0.07 | 97.1 | 98 | 91.1 | 41.2 | -20.63 | *Fully Closed/*No Adj. Made |
| GUDEW037 | 13:28 | 8/23/2019 | 35.6 | 29.2 | 0.4 | 34.8 | -33.33 | -27.87 | 0.567 | -5.137 | 95.1 | 95.1 | 117.4 | <<<> | -37.19 | *Dec. Flow/Vac. |
| GUDEW038 | 10:49 | 8/7/2019 | 36.6 | 16.4 | 5.8 | 41.2 | -0.4 | -0.31 | 0.069 | 0.057 | 96.7 | 96.7 | 16.5 | 14.9 | -20.5 | *Dec. Flow/Vac. |
| GUDEW039 | 11:03 | 8/7/2019 | 33.5 | 21.2 | 1.7 | 43.6 | -0.39 | -0.4 | 0.031 | 0.03 | 98.9 | 98.9 | 10.6 | 10.5 | -0.46 | *No Adj. Made |
| GUDEW050 | 13:29 | 8/8/2019 | 61 | 36.1 | 0 | 2.9 | 11.34 | -16.24 | -0.037 | 0.054 | 102.3 | 102 | <<<> | 37.3 | -36.05 | *Inc. Flow/Vac. |
| GUDEW050 | 13:32 | 8/8/2019 | 53.4 | 35.3 | 1.9 | 9.4 | -26.15 | -24.36 | 0.145 | 0.145 | 100.7 | 100.6 | 60.2 | 60.1 | -37.14 | *Dec. Flow/Vac. |
| GUDEW050 | 12:24 | 8/23/2019 | 37.4 | 24.8 | 7.2 | 30.6 | -20.4 | -18.89 | >>>> | >>>> | 92.3 | 92.3 | N/A | N/A | -37.06 | *Dec. Flow/Vac. |
| GUDEW051 | 13:20 | 8/8/2019 | 70.3 | 29.7 | 0 | 0 | 0.18 | -1.89 | -0.085 | -0.001 | 102.3 | 102.4 | <<<> | <<<> | -36.24 | *Inc. Flow/Vac. |
| GUDEW051 | 13:22 | 8/8/2019 | 65.8 | 28.2 | 0.7 | 5.3 | -4.75 | -4.73 | 0.015 | 0.011 | 103.1 | 103.1 | 7.8 | 6.6 | -36.36 | *No Adj. Made |
| GUDEW051 | 12:37 | 8/23/2019 | 20.5 | 9.4 | 14.8 | 55.3 | -1.29 | -0.69 | 0.897 | 0.387 | 92.1 | 92 | 60.1 | 39.1 | -36.77 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW052 | 13:14 | 8/8/2019 | 49.4 | 33.5 | 2.8 | 14.3 | -38.04 | -37.76 | 0.014 | 0 | 101 | 101.6 | 17.8 | <<<> | -37.75 | *Dec. Flow/Vac. |
| GUDEW054 | 12:07 | 8/7/2019 | 65.8 | 34.2 | 0 | 0 | 0.92 | -4.53 | 0.047 | 0.017 | 104.3 | 104.3 | 13.7 | 8.2 | -22.19 | *Inc. Flow/Vac. |
| GUDEW054 | 12:09 | 8/7/2019 | 66.2 | 33.2 | 0.1 | 0.5 | -19.48 | -20.03 | 0.019 | 0.012 | 104.4 | 104.4 | 8.3 | 6.7 | -22.18 | *No Adj. Made |
| GUDEW057 | 11:56 | 8/7/2019 | 51.5 | 28.9 | 3.7 | 15.9 | -6.56 | -5.49 | -0.004 | 0 | 104.6 | 104.6 | <<<> | <<<> | -21.76 | *Dec. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW062 | 11:07 | 8/7/2019 | 62.4 | 31.5 | 0 | 6.1 | 1.43 | -1.57 | 0.04 | 0.011 | 98.7 | 98.8 | 12.7 | 6.5 | -20.99 | *Inc. Flow/Vac. |
| GUDEW062 | 11:08 | 8/7/2019 | 0.5 | 1.3 | 19.2 | 79 | -3.66 | -1.82 | -0.014 | -0.02 | 98.8 | 98.8 | <<>> | <<>> | -21.03 | *Fully Closed*/Dec. Flow/Vac. |
| GUDEW070 | 13:34 | 8/8/2019 | 68.7 | 27.5 | 0 | 3.8 | 4.58 | -1.26 | 0.02 | -0.072 | 100.3 | 100.3 | 9.2 | <<>> | -2.8 | *Inc. Flow/Vac. |
| GUDEW070 | 13:36 | 8/8/2019 | 57.2 | 26.2 | 3.2 | 13.4 | -12.04 | -1.41 | 0.126 | 0.008 | 100.5 | 100.8 | 22.2 | 5.5 | -37.91 | *Fully Closed*/Dec. Flow/Vac. |
| GUDEW071 | 13:17 | 8/8/2019 | 48 | 28.6 | 3.8 | 19.6 | -34.24 | -32.32 | 0.029 | 0.004 | 101.3 | 101.4 | 10 | 3.6 | -37.9 | *Dec. Flow/Vac. |
| GUDEW072 | 11:30 | 8/7/2019 | 47.8 | 35.7 | 3.4 | 13.1 | -19.25 | -15.68 | 0.014 | 0.012 | 100.5 | 100.5 | 18 | 16.8 | -24.4 | *Dec. Flow/Vac. |
| GUDEW073 | 11:35 | 8/7/2019 | 53.9 | 36.2 | 2 | 7.9 | -20.25 | -10.43 | 0.015 | 0.008 | 100.6 | 100.7 | 7.3 | 5.4 | -24.38 | *Dec. Flow/Vac. |
| GUDEW074 | 12:04 | 8/7/2019 | 43.2 | 25.6 | 6.1 | 25.1 | -22.11 | -21.06 | 0.032 | 0.01 | 104.4 | 104.3 | 10.6 | 5.9 | -22.13 | *Dec. Flow/Vac. |
| GUDEW075 | 12:25 | 8/7/2019 | 57 | 35.5 | 1.3 | 6.2 | -22.11 | -22.11 | 0.012 | 0.009 | 105.1 | 105.2 | 6.4 | 5.5 | -22.11 | *Dec. Flow/Vac. |
| GUDEW076 | 12:28 | 8/7/2019 | 55.3 | 40.8 | 0.3 | 3.6 | -22.15 | -22.12 | 0.04 | 0.037 | 105.2 | 105.2 | 30.9 | 29.6 | -22.12 | *Fully Open*/No Adj. Made |
| GUDEW100 | 10:23 | 8/8/2019 | 55.6 | 42.8 | 0.1 | 1.5 | -0.25 | -2.78 | -0.008 | 0.001 | 91.1 | 91 | 0 | 0.8 | -35.8 | *Inc. Flow/Vac. |
| GUDEW100 | 10:25 | 8/8/2019 | 53.5 | 44 | 0.2 | 2.3 | -7.99 | -7.97 | 0.001 | 0.001 | 90.4 | 90.4 | 0.8 | 0.9 | -35.83 | *No Adj. Made |
| GUDEW101 | 10:29 | 8/8/2019 | 42 | 35.4 | 0.9 | 21.7 | -35.81 | -35.11 | 0.006 | 0.004 | 90 | 90 | 2.1 | 1.8 | -35.63 | *Dec. Flow/Vac. |
| GUDEW102 | 10:31 | 8/8/2019 | 51.6 | 39.3 | 0 | 9.1 | -35.73 | -35.73 | -0.011 | -0.009 | 90.3 | 90.3 | 0 | 0 | -35.73 | *No Adj. Made |
| GUDEW103 | 10:39 | 8/8/2019 | 58.2 | 40.7 | 0 | 1.1 | -35.77 | -35.73 | -0.013 | -0.01 | 91.2 | 91.2 | 0 | 0 | -35.71 | *Fully Closed*/No Adj. Made |
| GUDEW104 | 10:44 | 8/8/2019 | 44.7 | 26.6 | 4.6 | 24.1 | -2.94 | -1.35 | -0.032 | 0.008 | 91.7 | 91.7 | 0 | 2.7 | -35.46 | *Dec. Flow/Vac. |
| GUDEW105 | 10:49 | 8/8/2019 | 43.2 | 27.1 | 2.8 | 26.9 | -0.46 | -0.46 | -0.017 | -0.016 | 91.3 | 91.3 | 0 | 0 | -35.24 | *Fully Closed*/No Adj. Made |
| GUDEW105 | 14:18 | 8/29/2019 | 41.6 | 30 | 1.5 | 26.9 | -0.86 | -12.24 | -0.008 | -0.029 | 87 | 87.1 | 0 | 0 | -51.36 | *Inc. Flow/Vac. |
| GUDEW106 | 11:04 | 8/8/2019 | 22.4 | 27 | 0 | 50.6 | -8.12 | -7.02 | -0.04 | -0.017 | 94.8 | 94.9 | 0 | 0 | -36 | *Dec. Flow/Vac. |
| GUDEW107 | 11:11 | 8/8/2019 | 1.5 | 11.6 | 12.2 | 74.7 | -0.75 | -0.69 | -0.049 | -0.011 | 95.4 | 95.4 | 0 | 0 | -36.18 | *Fully Closed*/No Adj. Made |
| GUDEW108 | 11:35 | 8/8/2019 | 45.6 | 37.2 | 0.1 | 17.1 | -35.81 | -35.82 | -0.018 | -0.017 | 96.4 | 96.4 | 0 | 0 | -35.81 | *Fully Open*/No Adj. Made |
| GUDEW109 | 11:50 | 8/8/2019 | 57.1 | 42.9 | 0 | 0 | -35.48 | -35.46 | -0.02 | -0.018 | 98.6 | 98.7 | 0 | 0 | -35.45 | *Fully Open*/No Adj. Made |
| GUDEW110 | 11:55 | 8/8/2019 | 32.6 | 31.9 | 0.5 | 35 | -35.38 | -31.57 | -0.028 | -0.014 | 98.8 | 98.9 | 0 | 0 | -35.33 | *Dec. Flow/Vac. |
| GUDEW111 | 12:00 | 8/8/2019 | 49.4 | 40.4 | 0.1 | 10.1 | -35.2 | -35.2 | 0 | -0.001 | 98.6 | 98.6 | 0 | 0 | -34.87 | *No Adj. Made |
| GUDEW112 | 12:03 | 8/8/2019 | 50 | 40.7 | 0 | 9.3 | -35.07 | -35.07 | -0.108 | -0.109 | 98.9 | 99 | 0 | 0 | -34.88 | *Fully Open*/No Adj. Made |
| GUDEW113 | 12:06 | 8/8/2019 | 45 | 38.8 | 0 | 16.2 | -35.04 | -35 | 0.045 | -0.057 | 98.9 | 98.9 | 6 | 0 | -34.74 | *Fully Open*/No Adj. Made |
| GUDEW114 | 12:22 | 8/8/2019 | 2.9 | 11.2 | 11.7 | 74.2 | -4.82 | -2.88 | -0.006 | -0.004 | 111.5 | 111.2 | 0 | 0 | -37.77 | *Dec. Flow/Vac. |
| GUDEW115 | 12:27 | 8/8/2019 | 0 | 6 | 14 | 80 | -2.05 | -0.97 | -0.003 | -0.004 | 107.8 | 107.6 | 0 | 0 | -38.06 | *Dec. Flow/Vac. |
| GUDEW116 | 12:31 | 8/8/2019 | 6 | 17.8 | 1.8 | 74.4 | -0.87 | -0.85 | -0.009 | -0.009 | 104.2 | 104.1 | 0 | 0 | -38.22 | *No Adj. Made |
| GUDEW117 | 10:37 | 8/8/2019 | 0.4 | 6.1 | 11.8 | 81.7 | -0.14 | -0.14 | 0 | 0 | 91.1 | 91.1 | 0 | 0.5 | -35.51 | *Fully Closed*/No Adj. Made |
| GUDEW118 | 10:41 | 8/8/2019 | 17.7 | 21 | 4.7 | 56.6 | -5.41 | -2.7 | -0.002 | -0.001 | 91.4 | 91.5 | 0 | 0 | -35.42 | *Dec. Flow/Vac. |
| GUDEW119 | 10:47 | 8/8/2019 | 40.4 | 32.5 | 1 | 26.1 | -35.53 | -31.59 | -0.047 | -0.021 | 91.6 | 91.5 | 0 | 0 | -35.03 | *Dec. Flow/Vac. |
| GUDEW120 | 10:57 | 8/8/2019 | 0.4 | 8.7 | 11.8 | 79.1 | -1.25 | -0.08 | -0.017 | -0.003 | 93.8 | 93.9 | 0 | 0 | -35.87 | *Fully Closed*/No Adj. Made |
| GUDEW121 | 11:10 | 8/8/2019 | 14.5 | 23 | 0.1 | 62.4 | -0.05 | 0.01 | -0.002 | 0.001 | 95.3 | 95.3 | 0 | 0.7 | -36.13 | *Dec. Flow/Vac. |
| GUDEW122 | 11:52 | 8/8/2019 | 55.8 | 39.9 | 0 | 4.3 | -35.55 | -35.54 | -0.012 | -0.011 | 98.8 | 98.8 | 0 | 0 | -35.54 | *Fully Open*/No Adj. Made |
| GUDEW123 | 11:19 | 8/8/2019 | 18.5 | 20.4 | 0.3 | 60.8 | 0.02 | 0.03 | -0.013 | -0.012 | 94.4 | 94.4 | 0 | 0 | -36.13 | *No Adj. Made |
| GUDEW124 | 11:30 | 8/8/2019 | 26.3 | 25.2 | 0 | 48.5 | -0.02 | 0 | -0.013 | -0.011 | 96.7 | 96.7 | 0 | 0 | -35.82 | *No Adj. Made |
| GUDEW125 | 11:15 | 8/8/2019 | 67.3 | 32.7 | 0 | 0 | 0.57 | -9.61 | -0.017 | -0.024 | 94.9 | 94.8 | 0 | 0 | -10.05 | *Inc. Flow/Vac. |
| GUDEW125 | 11:17 | 8/8/2019 | 63.6 | 30.8 | 1.2 | 4.4 | -12.34 | -12.35 | -0.023 | -0.023 | 94.6 | 94.6 | 0 | 0 | -36.05 | *No Adj. Made |
| GUDEW126 | 11:22 | 8/8/2019 | 64.3 | 35.7 | 0 | 0 | 0.94 | -7.39 | -0.013 | -0.02 | 94.4 | 94.6 | 0 | 0 | 0.05 | *Inc. Flow/Vac. |
| GUDEW126 | 11:22 | 8/8/2019 | 64.3 | 35.7 | 0 | 0 | 0.94 | -7.39 | -0.013 | -0.02 | 94.4 | 94.6 | 0 | 0 | 0.05 | *Inc. Flow/Vac. |
| GUDEW126 | 11:24 | 8/8/2019 | 63 | 33.4 | 0.5 | 3.1 | -15.78 | -15.8 | -0.023 | -0.023 | 95.1 | 95.1 | 0 | 0 | -35.93 | *No Adj. Made |
| GUDEW127 | 11:32 | 8/8/2019 | 0.5 | 4.2 | 17.5 | 77.8 | -0.53 | -0.41 | -0.038 | -0.002 | 96.7 | 96.5 | 0 | 0 | -35.44 | *Dec. Flow/Vac. |
| GUDEW128 | 11:38 | 8/8/2019 | 18.3 | 15 | 6.1 | 60.6 | -0.09 | -0.09 | -0.17 | -0.168 | 96.5 | 96.5 | 0 | 0 | -35.43 | *Fully Closed*/No Adj. Made |
| GUDEW129 | 11:44 | 8/8/2019 | 63.3 | 36.7 | 0 | 0 | 0.39 | -5.37 | 0 | -0.006 | 97.8 | 98.1 | 0 | 0 | -35.28 | *Inc. Flow/Vac. |
| GUDEW129 | 11:45 | 8/8/2019 | 63.7 | 36.3 | 0 | 0 | -9.98 | -10 | -0.054 | -0.05 | 98.3 | 98.3 | 0 | 0 | -35.28 | *No Adj. Made |
| GUDEW130 | 11:47 | 8/8/2019 | 46 | 29 | 0 | 25 | -35.51 | -35.49 | -0.064 | -0.055 | 98.5 | 98.5 | 0 | 0 | -35.49 | *Fully Open*/No Adj. Made |
| GUDEW131 | 12:53 | 8/8/2019 | 68.1 | 18.9 | 0.4 | 12.6 | 0.01 | 0.06 | -0.018 | -0.013 | 101 | 101.1 | 0 | 0 | 0.1 | *Fully Closed*/No Adj. Made |
| GUDEW132 | 12:58 | 8/8/2019 | 64.6 | 22.8 | 0 | 12.6 | 0.73 | -4.75 | -0.05 | -0.008 | 102.3 | 102.6 | 0 | 0 | -37.75 | *Inc. Flow/Vac. |
| GUDEW132 | 12:59 | 8/8/2019 | 68.3 | 28.1 | 0 | 3.6 | -7.97 | -7.97 | -8.032 | -8.039 | 102.6 | 102.7 | 0 | 0 | -7.98 | *No Adj. Made |
| GUDEW133 | 11:00 | 8/8/2019 | 69.2 | 30.3 | 0.1 | 0.4 | -2.92 | -11.35 | -0.112 | -0.048 | 94 | 94.4 | 0 | 0 | -35.89 | *Inc. Flow/Vac. |
| GUDEW133 | 11:02 | 8/8/2019 | 68 | 31.6 | 0 | 0.4 | -13.87 | -13.95 | -0.052 | -0.046 | 94.4 | 94.4 | 0 | 0 | -35.92 | *No Adj. Made |
| GUDEW134 | 10:51 | 8/8/2019 | 10.3 | 13.1 | 8.7 | 67.9 | -0.06 | -0.04 | -0.048 | -0.036 | 91.1 | 91.1 | 0 | 0 | -35.33 | *Fully Closed*/No Adj. Made |
| GUDEW135 | 10:00 | 8/8/2019 | 59.1 | 40.9 | 0 | 0 | 0.83 | -4.33 | -0.009 | -0.001 | 79 | 79.2 | 0 | 0 | -35.62 | *Inc. Flow/Vac. |
| GUDEW135 | 10:03 | 8/8/2019 | 56.3 | 39.4 | 0.9 | 3.4 | -16.28 | -16.29 | -0.007 | -0.006 | 80 | 80 | 0 | 0 | -35.49 | *No Adj. Made |
| GUDEW137 | 13:59 | 8/9/2019 | 43 | 39.5 | 0 | 17.5 | -26.2 | -26.19 | -0.052 | -0.053 | 103 | 103 | 0 | 0 | -26.19 | *Fully Open*/No Adj. Made |
| GUDEW138 | 13:57 | 8/9/2019 | 57.4 | 42.2 | 0 | 0.4 | -24.21 | -24.2 | 0.086 | 0.087 | 103.7 | 103.7 | 8.5 | 8.5 | -24.2 | *No Adj. Made |
| GUDEW138 | 12:11 | 8/23/2019 | 29.6 | 25.9 | 3 | 41.5 | -33.26 | -22.47 | >>>> | >>>> | 94.2 | 94.2 | N/A | N/A | -35.01 | *Dec. Flow/Vac. |
| GUDEW139 | 13:52 | 8/9/2019 | 61 | 39 | 0 | 0 | 0.45 | -2.99 | -0.059 | -0.02 | 105.2 | 104.7 | 0 | 0 | -24.35 | *Inc. Flow/Vac. |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-------------------------------|
| GUDEW139 | 13:55 | 8/9/2019 | 36.5 | 28.1 | 7.9 | 27.5 | -3.77 | -1.92 | -0.021 | -0.01 | 104.4 | 104.4 | 0 | 0 | -24.33 | *Fully Closed*/Dec. Flow/Vac. |
| GUDEW140 | 13:44 | 8/9/2019 | 58.4 | 41.6 | 0 | 0 | 0.6 | -0.03 | -0.039 | -0.023 | 105.9 | 105.7 | 0 | 0 | -25.6 | *Inc. Flow/Vac. |
| GUDEW140 | 13:47 | 8/9/2019 | 58.1 | 41.9 | 0 | 0 | -0.75 | -0.81 | -0.048 | -0.051 | 105.5 | 105.5 | 0 | 0 | -25.54 | *No Adj. Made |
| GUDEW141 | 13:36 | 8/9/2019 | 54.7 | 39.8 | 0 | 5.5 | -25.85 | -25.73 | -0.017 | -0.012 | 105.8 | 105.8 | 0 | 0 | -25.66 | *Fully Open*/No Adj. Made |
| GUDEW142 | 13:39 | 8/9/2019 | 48.3 | 37.6 | 2.3 | 11.8 | 0.08 | 0.06 | -0.005 | -0.003 | 105.9 | 105.9 | 0 | 0 | -25.65 | *No Adj. Made |
| GUDEW143 | 13:31 | 8/9/2019 | 56 | 44 | 0 | 0 | -24.3 | -24.3 | -0.009 | -0.004 | 105.9 | 105.9 | 0 | 0 | -24.24 | *Fully Open*/No Adj. Made |
| GUDEW144 | 13:21 | 8/9/2019 | 45.4 | 37.5 | 3.5 | 13.6 | -0.64 | -0.64 | -0.195 | -0.193 | 105.9 | 105.9 | 0 | 0 | -23.74 | *Barely Open*/No Adj. Made |
| GUDEW145 | 13:18 | 8/9/2019 | 55.6 | 44.4 | 0 | 0 | -23.98 | -23.98 | -1.266 | -1.268 | 106.4 | 106.4 | 0 | 0 | -23.98 | *Fully Open*/No Adj. Made |
| GUDEW146 | 13:15 | 8/9/2019 | 53.9 | 46.1 | 0 | 0 | -18.44 | -18.45 | >>>> | >>>> | 106 | 106 | N/A | N/A | -18.44 | *No Adj. Made |
| GUDEW147 | 13:10 | 8/9/2019 | 13.4 | 23.5 | 0 | 63.1 | -0.78 | -0.78 | -1.093 | -1.09 | 104.7 | 104.7 | 0 | 0 | -22.34 | *Barely Open*/No Adj. Made |
| GUDEW148 | 13:03 | 8/9/2019 | 25.2 | 29.2 | 0 | 45.6 | -2.84 | -2.85 | -2.087 | -2.093 | 104.7 | 104.6 | 0 | 0 | -21.71 | *No Adj. Made |
| GUDEW149 | 13:05 | 8/9/2019 | 0.6 | 0.7 | 20.4 | 78.3 | 0.17 | 0.16 | -0.007 | -0.005 | 104.6 | 104.5 | 0 | 0 | -21.53 | *Fully Closed*/No Adj. Made |
| GUDEW150 | 13:04 | 8/8/2019 | 47.7 | 23.7 | 2.5 | 26.1 | -28.65 | -27.42 | -0.01 | -0.006 | 101.9 | 101.5 | 0 | 0 | -37.62 | *Dec. Flow/Vac. |
| GUDEW151 | 13:09 | 8/8/2019 | 38.1 | 31.2 | 0.4 | 30.3 | -10.79 | -10.8 | -0.024 | -0.022 | 104.2 | 104.2 | 0 | 0 | -37.76 | *No Adj. Made |
| GUDEW152 | 11:21 | 8/7/2019 | 45.3 | 31 | 4.2 | 19.5 | 3.73 | 3.74 | 3.586 | 3.586 | 100.1 | 100.1 | 57.1 | 57.1 | -24.14 | *Fully Closed*/No Adj. Made |
| GUDEW153 | 11:22 | 8/7/2019 | 66 | 32.6 | 0 | 1.4 | 0.51 | 0.53 | -0.021 | -0.02 | 100 | 100 | 0 | 0 | -23.85 | *Fully Closed*/No Adj. Made |
| GUDEW154 | 13:40 | 8/9/2019 | 51.8 | 38.1 | 0.2 | 9.9 | 0.1 | 0.13 | -0.009 | -0.014 | 106 | 106 | <<<> | <<<> | -17.61 | *No Adj. Made |
| GUDEW156 | 11:27 | 8/8/2019 | 53.7 | 40.5 | 0.9 | 4.9 | -0.49 | -1.44 | -0.008 | 0 | 96.2 | 96.3 | 0 | 0 | -35.94 | *Inc. Flow/Vac. |
| GUDEW156 | 11:29 | 8/8/2019 | 54 | 40.5 | 0.7 | 4.8 | -3.92 | -3.92 | -0.002 | -0.002 | 96.6 | 96.6 | 0 | 0 | -35.89 | *No Adj. Made |
| GUDEW157 | 10:55 | 8/8/2019 | 37.4 | 32.7 | 0 | 29.9 | -35.44 | -19.46 | 0.175 | -0.049 | 91.6 | 92.7 | 11.8 | 0 | -35.31 | *Fully Closed*/No Adj. Made |
| GUDEW158 | 12:41 | 8/8/2019 | 72.1 | 27.9 | 0 | 0 | -32.02 | -32.06 | >>>> | >>>> | 101.6 | 101.7 | N/A | N/A | -37.83 | *Inc. Flow/Vac. |
| GUDEW158 | 12:43 | 8/8/2019 | 69.3 | 28.5 | 0.2 | 2 | -34.34 | -34.38 | >>>> | >>>> | 101.8 | 101.8 | N/A | N/A | -37.77 | *No Adj. Made |
| GUDEW159 | 12:46 | 8/9/2019 | 72.5 | 26.1 | 0 | 1.4 | -22.38 | -22.36 | 0.213 | 0.211 | 104.5 | 104.6 | 30.2 | 30.1 | -22.33 | *Fully Open*/No Adj. Made |
| GUDEFLAR | 10:18 | 8/7/2019 | 51.7 | 36.2 | 1.7 | 10.4 | 6.61 | -22.37 | -6.689 | >>>> | 88.2 | 88.3 | 444.3 | 444.3 | N/A | |
| GUDEFLAR | 9:50 | 8/8/2019 | 34.7 | 28.1 | 3.5 | 33.7 | -32.14 | -32.14 | >>>> | >>>> | 76.1 | 76.2 | 387.8 | 387.8 | N/A | |
| GUDEFLAR | 14:15 | 8/8/2019 | 37.2 | 29.4 | 2 | 31.4 | -39.36 | -39.39 | >>>> | >>>> | 106.9 | 107 | 416.3 | 416.3 | N/A | |
| GUDEFLAR | 14:32 | 8/9/2019 | 38.6 | 28.9 | 2.7 | 29.8 | -34.71 | -34.78 | >>>> | >>>> | 104.3 | 104.3 | 442.6 | 442.6 | N/A | |
| GUDEFLAR | 13:19 | 8/21/2019 | 34.1 | 27.4 | 2.4 | 36.1 | -42 | -42 | >>>> | >>>> | 0 | 0 | 401.8 | 401.8 | N/A | |
| GUDEFLAR | 13:30 | 8/21/2019 | 34.2 | 27.9 | 2.1 | 35.8 | -46.36 | -46.33 | >>>> | >>>> | 437.2 | 0 | 437.2 | 437.2 | N/A | |
| GUDEFLAR | 13:24 | 8/22/2019 | 34.5 | 28.1 | 2.2 | 35.2 | -48.99 | -48.99 | >>>> | >>>> | 425 | 0 | 425 | 425 | N/A | |
| GUDEFLAR | 14:31 | 8/23/2019 | 35 | 29.3 | 2 | 33.7 | -48.46 | -48.54 | >>>> | >>>> | 96.2 | 96.2 | 446.1 | 446.1 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells
September 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 10:57 | 9/27/2019 | 50.2 | 37 | 0.4 | 12.4 | -64.89 | -64.89 | 0.004 | 0.005 | 83.2 | 83.1 | 1.8 | 2 | -64.89 | *No Adj. Made |
| GUDEW001 | 14:38 | 9/27/2019 | 46.4 | 29.1 | 4.1 | 20.4 | -61.99 | -58.61 | >>>> | >>>> | 90.8 | 90.7 | N/A | N/A | -62.74 | *Dec. Flow/Vac. |
| GUDEW002 | 14:24 | 9/27/2019 | 71.4 | 28.4 | 0.2 | 0 | 40.7 | 40.72 | 0.014 | 0.014 | 92.8 | 92.8 | 21.2 | 20.9 | -62.85 | *No Adj. Made |
| GUDEW003 | 12:29 | 9/27/2019 | 0 | 0.6 | 18.7 | 80.7 | -3.25 | -3.25 | 0.004 | 0.004 | 90.4 | 90.4 | 1.9 | 1.9 | -63.05 | *No Adj. Made |
| GUDEW004 | 12:19 | 9/27/2019 | 76.5 | 23.5 | 0 | 0 | 4.25 | 4.28 | 0.011 | 0.012 | 93.3 | 93.3 | 18.5 | 19.6 | -63.21 | *No Adj. Made |
| GUDEW005 | 10:33 | 9/12/2019 | 67.2 | 32.7 | 0.1 | 0 | 0.15 | 0.16 | 0.014 | 0.013 | 87.6 | 87.6 | 7.4 | 7.1 | -46.21 | *Fully Closed/*No Adj. Made |
| GUDEW006 | 11:55 | 9/12/2019 | 20.8 | 19.6 | 0.3 | 59.3 | -0.21 | -0.21 | 0.007 | 0.007 | 97.9 | 97.9 | 1 | 1 | -5.57 | *No Adj. Made |
| GUDEW010 | 12:03 | 9/27/2019 | 45.9 | 27.1 | 4.7 | 22.3 | -63.46 | -63.44 | >>>> | >>>> | 90.1 | 90.4 | N/A | N/A | -63.44 | *Dec. Flow/Vac. |
| GUDEW011 | 11:59 | 9/27/2019 | 28.8 | 22.3 | 0 | 48.9 | -0.57 | -0.52 | 0.013 | 0.012 | 89.6 | 89.6 | 1.4 | 1.4 | -63.38 | *No Adj. Made |
| GUDEW012 | 11:55 | 9/27/2019 | 12.7 | 14.6 | 5.1 | 67.6 | -63.46 | -0.19 | >>>> | 0.026 | 89.3 | 89 | N/A | 9.5 | -63.4 | *Dec. Flow/Vac. |
| GUDEW015 | 11:59 | 9/12/2019 | 25.5 | 11.3 | 11.2 | 52 | -50.74 | -44.67 | 0.094 | 0.057 | 97.8 | 97.3 | 17.8 | 13.9 | -53.24 | *Fully Closed/*No Adj. Made |
| GUDEW016 | 11:06 | 9/12/2019 | 29.1 | 19 | 0.4 | 51.5 | -20.84 | -3.56 | >>>> | 3.134 | 93.1 | 92.9 | N/A | 113.7 | -50.68 | *Dec. Flow/Vac. |
| GUDEW017 | 11:01 | 9/12/2019 | 26.6 | 20.6 | 0.1 | 52.7 | -45.42 | -46.87 | >>>> | >>>> | 92.6 | 93.1 | N/A | N/A | -46.88 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW018 | 10:57 | 9/12/2019 | 50.4 | 27 | 3.1 | 19.5 | -45.44 | -45.34 | 0.078 | 0.002 | 92.1 | 92.2 | 3.6 | 0.5 | -45.33 | *Dec. Flow/Vac. |
| GUDEW021 | 10:09 | 9/30/2019 | 33 | 19.1 | 9.7 | 38.2 | -66.4 | -64.15 | 0.843 | 0.186 | 76.3 | 76.3 | 54.3 | 25.1 | -64.14 | *Dec. Flow/Vac. |
| GUDEW022 | 10:23 | 9/30/2019 | 66.4 | 33.5 | 0.1 | 0 | 17.18 | 17.21 | -0.025 | -0.027 | 77 | 77 | <<<> | <<<> | -65.2 | *Fully Closed/*No Adj. Made |
| GUDEW023 | 10:38 | 9/30/2019 | 9.5 | 10.2 | 11.9 | 68.4 | -12.53 | -12.52 | 4.702 | 4.689 | 80.7 | 80.6 | 126.6 | 126.4 | -66.51 | *No Adj. Made |
| GUDEW024 | 10:49 | 9/30/2019 | 61.3 | 37.8 | 0.7 | 0.2 | -39.48 | -44.09 | 0.752 | 5.604 | 79 | 78.8 | 54.1 | 149.5 | -66.36 | *No Adj. Made |
| GUDEW025 | 12:09 | 9/12/2019 | 53.7 | 36.8 | 1.2 | 8.3 | -28.62 | -28.62 | 0.012 | 0.011 | 99.3 | 99.3 | 6.3 | 6 | -53.14 | *No Adj. Made |
| GUDEW026 | 14:08 | 9/27/2019 | 66.6 | 29.5 | 0.4 | 3.5 | -25.47 | -25.49 | 0.005 | 0.003 | 92.7 | 92.7 | 4.4 | 3.1 | -61.81 | *Inc. Flow/Vac. |
| GUDEW027 | 10:01 | 9/30/2019 | 10.4 | 7.5 | 16.3 | 65.8 | -17.46 | -15.78 | 0.004 | 0.004 | 76 | 76 | 3.6 | 3.5 | -65.17 | *Dec. Flow/Vac. |
| GUDEW028 | 13:32 | 9/12/2019 | 56.3 | 33 | 1.3 | 9.4 | -55.36 | -55.36 | 3.233 | 3.237 | 100.1 | 100.1 | 284.1 | 284.2 | -55.36 | *Fully Open/*No Adj. Made |
| GUDEW029 | 10:03 | 9/30/2019 | 0 | 0.6 | 19.5 | 79.9 | -8.11 | -8.08 | -0.002 | -0.002 | 75.7 | 75.7 | <<<> | <<<> | -65.18 | *Fully Closed/*No Adj. Made |
| GUDEW030 | 12:28 | 9/12/2019 | 53 | 36.2 | 1.1 | 9.7 | -53.2 | -53.2 | 0.011 | 0.014 | 99.9 | 99.9 | 15.6 | 17.6 | -53.2 | *Fully Closed/*No Adj. Made |
| GUDEW031 | 12:25 | 9/12/2019 | 60.4 | 35.5 | 0.4 | 3.7 | -28.39 | -28.88 | 0.013 | 0.009 | 102.4 | 101 | 6.6 | 5.4 | -52.4 | *Inc. Flow/Vac. |
| GUDEW032 | 12:15 | 9/12/2019 | 76.3 | 23.6 | 0.1 | 0 | 64.42 | 51.1 | <<<< | <<<< | 97.2 | 97.4 | N/A | N/A | -53 | *Inc. Flow/Vac. |
| GUDEW032 | 12:18 | 9/12/2019 | 78 | 21.5 | 0.5 | 0 | -0.64 | -1.13 | 0.509 | 1.048 | 98 | 98 | 50.3 | 72.7 | -53.17 | *No Adj. Made |
| GUDEW034 | 10:48 | 9/12/2019 | 36.7 | 28 | 1.7 | 33.6 | -19.97 | -18.85 | 0.027 | 0.021 | 90.3 | 90.3 | 9.7 | 8.6 | -47.43 | *Dec. Flow/Vac. |
| GUDEW035 | 12:05 | 9/12/2019 | 65.3 | 25.7 | 1.7 | 7.3 | -10 | -9.94 | 0.015 | 0.014 | 100.1 | 100.1 | 20.6 | 19.4 | -49.54 | *No Adj. Made |
| GUDEW036 | 13:26 | 9/12/2019 | 57 | 26.5 | 2.7 | 13.8 | -55.34 | -55.22 | 0.015 | 0.007 | 100.4 | 100.2 | 18.9 | 12.9 | -55.2 | *Dec. Flow/Vac. |
| GUDEW037 | 10:46 | 9/12/2019 | 34.8 | 28.7 | 0.6 | 35.9 | -27.86 | -19.7 | 0.052 | 0.028 | 90.1 | 90.1 | 35 | 25.8 | -46.97 | *Dec. Flow/Vac. |
| GUDEW038 | 10:52 | 9/12/2019 | 65.4 | 23.9 | 1.4 | 9.3 | -1.17 | -41.57 | 0.126 | 7.407 | 91.1 | 91.1 | 23.8 | 179.9 | -41.58 | *Fully Closed/*No Adj. Made |
| GUDEW038 | 10:54 | 9/12/2019 | 45.3 | 18.2 | 6.2 | 30.3 | -45.1 | -0.25 | 8.208 | 0.008 | 91.2 | 91.3 | 182 | 5.4 | -44.44 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW039 | 10:41 | 9/12/2019 | 20.2 | 13.2 | 7 | 59.6 | -2.32 | -2.1 | 0.028 | 0 | 88.6 | 88.8 | 10.1 | <<<> | -5.46 | *Dec. Flow/Vac. |
| GUDEW050 | 14:29 | 9/27/2019 | 65.2 | 34.6 | 0.1 | 0.1 | 16.8 | -12.55 | -0.024 | -0.019 | 92.9 | 92.9 | <<<> | <<<> | -62.17 | *Inc. Flow/Vac. |
| GUDEW050 | 14:31 | 9/27/2019 | 56.7 | 35.5 | 1.1 | 6.7 | -37.02 | -37.08 | 0.136 | 0.135 | 93.4 | 93.5 | 58.2 | 57.9 | -64.78 | *No Adj. Made |
| GUDEW051 | 14:27 | 9/27/2019 | 70.8 | 28.7 | 0 | 0.5 | -0.01 | -7.88 | 0.013 | 0.001 | 92.6 | 92.7 | 7.4 | 1.9 | -62.62 | *Inc. Flow/Vac. |
| GUDEW052 | 14:12 | 9/27/2019 | 42 | 28.5 | 5.3 | 24.2 | -62.4 | -59.07 | 0.008 | 0.009 | 93.5 | 93.6 | 12.6 | 13.5 | -62.61 | *Dec. Flow/Vac. |
| GUDEW054 | 9:57 | 9/30/2019 | 41.4 | 23.4 | 7.3 | 27.9 | -64.75 | -64.25 | >>>> | >>>> | 75.8 | 75.9 | N/A | N/A | -64.25 | *Dec. Flow/Vac. |
| GUDEW057 | 13:29 | 9/12/2019 | 53.2 | 28.3 | 3.1 | 15.4 | -3.87 | -3.87 | -0.004 | 0 | 99.9 | 99.9 | <<<> | <<<> | -55.26 | *No Adj. Made |
| GUDEW062 | 10:36 | 9/12/2019 | 0.2 | 1.4 | 18.5 | 79.9 | 0.44 | 0.45 | -0.004 | -0.004 | 87.6 | 87.6 | <<<> | <<<> | -46.13 | *Fully Closed/*No Adj. Made |
| GUDEW070 | 14:34 | 9/27/2019 | 70.7 | 29.2 | 0.1 | 0 | 3.66 | 3.67 | 0.004 | 0.004 | 92.3 | 92.2 | 4 | 3.8 | -62.65 | *No Adj. Made |
| GUDEW071 | 14:21 | 9/27/2019 | 31.9 | 19.8 | 8.5 | 39.8 | -51.45 | -49.01 | 0.013 | 0.011 | 93.6 | 93.6 | 6.4 | 5.9 | -62.71 | *Dec. Flow/Vac. |
| GUDEW072 | 14:03 | 9/27/2019 | 49.3 | 35.1 | 2.7 | 12.9 | -45.55 | -44.57 | 0.03 | 0.032 | 91.9 | 92 | 26.2 | 27.1 | -62.59 | *Dec. Flow/Vac. |
| GUDEW073 | 14:01 | 9/27/2019 | 60.2 | 17.3 | 2.7 | 19.8 | -45.32 | -45.34 | 0.02 | 0.019 | 91.7 | 91.7 | 8.7 | 8.5 | -62.32 | *No Adj. Made |
| GUDEW074 | 9:54 | 9/30/2019 | 41 | 22.6 | 7.4 | 29 | -62.73 | -60.98 | -0.006 | -0.002 | 75.9 | 75.9 | <<<> | <<<> | -64.67 | *Dec. Flow/Vac. |
| GUDEW075 | 12:41 | 9/12/2019 | 54.1 | 34.2 | 1.6 | 10.1 | -53.11 | -53.09 | 0.021 | 0.018 | 99.6 | 99.6 | 8.3 | 7.6 | -53.09 | *Fully Open/*No Adj. Made |
| GUDEW076 | 12:38 | 9/12/2019 | 54.2 | 38.2 | 0.4 | 7.2 | -52.89 | -52.9 | >>>> | 0.58 | 99.9 | 99.9 | N/A | 116.8 | -52.9 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-----------------------------|
| GUDEW100 | 10:22 | 9/27/2019 | 57.5 | 40 | 0.4 | 2.1 | -0.96 | -18.71 | -0.015 | 0.008 | 77.1 | 77.1 | 0 | 2.7 | -65.71 | *Inc. Flow/Vac. |
| GUDEW100 | 10:24 | 9/27/2019 | 57.5 | 40.6 | 0.5 | 1.4 | -59.33 | -59.85 | -0.009 | -0.006 | 77.1 | 77.1 | 0 | 0 | -65.1 | *No Adj. Made |
| GUDEW101 | 10:25 | 9/27/2019 | 38.2 | 31.2 | 2.8 | 27.8 | -63.48 | -63.48 | 0.05 | -0.024 | 78 | 78 | 6.2 | 0 | -63.49 | *No Adj. Made |
| GUDEW102 | 10:27 | 9/27/2019 | 40.5 | 33.1 | 0.3 | 26.1 | -65.5 | -65.5 | 0.002 | 0.002 | 78.6 | 78.7 | 1.2 | 1.2 | -65.5 | *No Adj. Made |
| GUDEW103 | 10:32 | 9/27/2019 | 46 | 34.7 | 0.9 | 18.4 | -65.37 | -65.36 | 0 | -0.003 | 79.8 | 79.8 | 0.5 | 0 | -65.35 | *No Adj. Made |
| GUDEW104 | 10:36 | 9/27/2019 | 27.4 | 16.8 | 9.9 | 45.9 | -2.03 | -2.03 | -0.013 | -0.011 | 80.6 | 80.6 | 0 | 0 | -65.16 | *Fully Closed/*No Adj. Made |
| GUDEW105 | 10:41 | 9/27/2019 | 2.1 | 13.4 | 5.7 | 78.8 | -23.39 | -21.19 | -0.038 | -0.04 | 80.1 | 80.2 | 0 | 0 | -65.01 | *Dec. Flow/Vac. |
| GUDEW106 | 10:54 | 9/27/2019 | 17.4 | 22.9 | 1.9 | 57.8 | -10.39 | -10.38 | -0.014 | -0.013 | 83.8 | 83.8 | 0 | 0 | -65.03 | *No Adj. Made |
| GUDEW107 | 11:03 | 9/27/2019 | 35.5 | 24.8 | 1.3 | 38.4 | -0.23 | -0.24 | -3.548 | 0.022 | 84.6 | 84.8 | 0 | 4.5 | -10.18 | *No Adj. Made |
| GUDEW108 | 11:20 | 9/27/2019 | 20.8 | 23.4 | 7.8 | 48 | -64.43 | -53.38 | -0.033 | -0.028 | 86.3 | 86.1 | 0 | 0 | -53.14 | *Dec. Flow/Vac. |
| GUDEW109 | 11:30 | 9/27/2019 | 44.6 | 37.4 | 0.7 | 17.3 | -64.56 | -64.55 | -0.02 | -0.021 | 89.3 | 89.2 | 0 | 0 | -64.28 | *No Adj. Made |
| GUDEW110 | 11:36 | 9/27/2019 | 19.6 | 23 | 5.1 | 52.3 | -49.22 | -43.2 | -0.015 | -0.015 | 89.3 | 89.4 | 0 | 0 | -64.51 | *Dec. Flow/Vac. |
| GUDEW111 | 11:39 | 9/27/2019 | 46.5 | 37.4 | 0.7 | 15.4 | -64.5 | -64.5 | -0.009 | -0.009 | 88.7 | 88.7 | 0 | 0 | -64.33 | *No Adj. Made |
| GUDEW112 | 11:41 | 9/27/2019 | 49.4 | 37.7 | 0.4 | 12.5 | -64.3 | -64.3 | 0.1 | -0.163 | 88.1 | 88.1 | 8.7 | 0 | -64.32 | *No Adj. Made |
| GUDEW113 | 11:44 | 9/27/2019 | 42 | 34.9 | 0.3 | 22.8 | -64.41 | -64.39 | -0.264 | 0.085 | 89.9 | 90 | 0 | 8 | -64.37 | *Fully Open/*No Adj. Made |
| GUDEW114 | 11:47 | 9/27/2019 | 28.2 | 20.5 | 9.8 | 41.5 | -0.34 | -0.36 | -0.01 | -0.006 | 90.1 | 90.1 | 0 | 0 | -64.12 | *Fully Closed/*No Adj. Made |
| GUDEW115 | 11:49 | 9/27/2019 | 0 | 0.7 | 19.4 | 79.9 | -0.36 | -0.33 | 0.008 | 0.006 | 91.6 | 91.6 | 2.7 | 2.2 | -64 | *Fully Closed/*No Adj. Made |
| GUDEW116 | 11:52 | 9/27/2019 | 4.8 | 17.6 | 2.3 | 75.3 | -1.5 | -1.42 | -0.023 | -0.017 | 91 | 90.9 | 0 | 0 | -64.37 | *Dec. Flow/Vac. |
| GUDEW117 | 10:30 | 9/27/2019 | 0 | 3 | 15.7 | 81.3 | -0.64 | -0.65 | 0.005 | 0.004 | 79.6 | 79.5 | 2 | 1.8 | -65.41 | *Fully Closed/*No Adj. Made |
| GUDEW118 | 10:34 | 9/27/2019 | 0.1 | 1.5 | 18.1 | 80.3 | -1.08 | -1.09 | 0.003 | 0.004 | 79.9 | 80 | 1.6 | 1.8 | -65.22 | *Fully Closed/*No Adj. Made |
| GUDEW119 | 10:38 | 9/27/2019 | 29.6 | 28.2 | 3.4 | 38.8 | -51.55 | -51.55 | -0.02 | -0.022 | 79.9 | 79.9 | 0 | 0 | -65.85 | *Fully Closed/*No Adj. Made |
| GUDEW120 | 10:47 | 9/27/2019 | 10.2 | 17.2 | 1.9 | 70.7 | -0.34 | -0.33 | 0.007 | 0.008 | 84.6 | 84.4 | 2.5 | 2.6 | -64.89 | *Fully Closed/*No Adj. Made |
| GUDEW121 | 11:01 | 9/27/2019 | 40.7 | 32.3 | 0.2 | 26.8 | -0.25 | -0.29 | -0.006 | 0 | 83.6 | 83.7 | 0 | 0.5 | -64.68 | *Inc. Flow/Vac. |
| GUDEW122 | 11:31 | 9/27/2019 | 45.5 | 35.5 | 0.2 | 18.8 | -64.49 | -64.5 | -0.013 | -0.012 | 89.9 | 89.9 | 0 | 0 | -64.5 | *Fully Closed/*No Adj. Made |
| GUDEW123 | 11:08 | 9/27/2019 | 0.7 | 10.7 | 8.3 | 80.3 | -0.3 | -0.29 | -0.008 | -0.005 | 84.4 | 84.4 | 0 | 0 | -64.64 | *No Adj. Made |
| GUDEW124 | 11:13 | 9/27/2019 | 2.6 | 19.3 | 1.9 | 76.2 | -0.27 | -0.27 | -0.004 | -0.004 | 83.5 | 83.5 | 0 | 0 | -61.2 | *Fully Closed/*No Adj. Made |
| GUDEW125 | 11:05 | 9/27/2019 | 8.4 | 13.7 | 9.2 | 68.7 | -12.88 | -11.42 | -0.053 | -0.047 | 85.2 | 85.2 | 0 | 0 | -64.52 | *Dec. Flow/Vac. |
| GUDEW126 | 11:33 | 9/27/2019 | 44.7 | 33.5 | 0.4 | 21.4 | -2.26 | -0.25 | 0.044 | 0.042 | 88.8 | 88.8 | 6.2 | 6.1 | -64.46 | *Fully Closed/*No Adj. Made |
| GUDEW127 | 11:15 | 9/27/2019 | 0.1 | 2.8 | 18.1 | 79 | -0.94 | -0.92 | -0.003 | -0.002 | 85.2 | 85.2 | 0 | 0 | -0.23 | *Fully Closed/*No Adj. Made |
| GUDEW128 | 11:22 | 9/27/2019 | 0.1 | 3.6 | 14.1 | 82.2 | -0.25 | -0.25 | 0.019 | 0.017 | 85.8 | 85.7 | 4.1 | 3.9 | -64.45 | *Fully Closed/*No Adj. Made |
| GUDEW129 | 11:24 | 9/27/2019 | 55.6 | 34.1 | 1.5 | 8.8 | -60.2 | -60.21 | -0.02 | -0.022 | 85.1 | 84.9 | 0 | 0 | -60.21 | *Fully Open/*No Adj. Made |
| GUDEW130 | 11:27 | 9/27/2019 | 22.3 | 23.5 | 1 | 53.2 | -64.54 | -64.54 | 0.004 | -0.001 | 87 | 87 | 1.6 | 0 | -64.55 | *No Adj. Made |
| GUDEW131 | 12:43 | 9/27/2019 | 71.1 | 22.6 | 0 | 6.3 | -0.07 | -0.07 | -0.007 | -0.006 | 91.5 | 91.5 | 0 | 0 | -0.1 | *Inc. Flow/Vac. |
| GUDEW132 | 12:40 | 9/27/2019 | 19 | 19.2 | 0 | 61.8 | -15.02 | -14.99 | -5.434 | -0.006 | 91.7 | 91.7 | 0 | 0 | -62.52 | *No Adj. Made |
| GUDEW133 | 10:50 | 9/27/2019 | 10.6 | 15.6 | 7.3 | 66.5 | -12.96 | -11.19 | -0.061 | -0.039 | 83.7 | 83.6 | 0 | 0 | -64.99 | *Dec. Flow/Vac. |
| GUDEW134 | 10:43 | 9/27/2019 | 12.2 | 15.8 | 7.7 | 64.3 | -0.4 | -0.4 | 0.005 | 0.004 | 80.9 | 80.9 | 2 | 1.9 | -65.08 | *Fully Closed/*No Adj. Made |
| GUDEW135 | 10:20 | 9/27/2019 | 37.1 | 29 | 3.4 | 30.5 | -17.53 | -17.55 | -0.009 | -0.008 | 77.1 | 77.1 | 0 | 0 | -65.74 | *No Adj. Made |
| GUDEW137 | 10:11 | 9/30/2019 | 17.2 | 24.9 | 2.1 | 55.8 | -67.85 | -67.83 | -0.357 | -0.357 | 76.5 | 76.6 | 0 | 0 | -67.82 | *Dec. Flow/Vac. |
| GUDEW138 | 10:16 | 9/30/2019 | 65.9 | 33.9 | 0.1 | 0.1 | 36.72 | 35.04 | -0.019 | -0.001 | 76.7 | 76.4 | 0 | 0 | -65.59 | *Inc. Flow/Vac. |
| GUDEW138 | 10:19 | 9/30/2019 | 61.3 | 38.7 | 0 | 0 | 33.59 | 33.6 | -0.006 | -0.003 | 76.4 | 76.5 | 0 | 0 | -65.73 | *No Adj. Made |
| GUDEW139 | 10:21 | 9/30/2019 | 62.5 | 37.3 | 0.1 | 0.1 | -0.37 | -0.37 | 0.047 | 0.041 | 76.5 | 76.5 | 6.8 | 6.3 | -65.17 | *No Adj. Made |
| GUDEW140 | 10:26 | 9/30/2019 | 60.6 | 39.4 | 0 | 0 | -1.79 | -1.78 | -0.043 | -0.043 | 76.9 | 76.9 | 0 | 0 | -65.3 | *No Adj. Made |
| GUDEW141 | 10:31 | 9/30/2019 | 26.4 | 29.1 | 1.1 | 43.4 | -66.17 | -66.18 | 0.001 | 0 | 77.9 | 77.9 | 0.8 | 0.5 | -66.18 | *No Adj. Made |
| GUDEW142 | 10:30 | 9/30/2019 | 27.6 | 20.9 | 10.7 | 40.8 | -1.28 | -0.77 | -0.878 | -0.38 | 77.3 | 77.4 | 0 | 0 | -65.93 | *Dec. Flow/Vac. |
| GUDEW143 | 10:34 | 9/30/2019 | 40.3 | 25.4 | 0.4 | 33.9 | -12.74 | -12.73 | 0.118 | 0.114 | 81.1 | 81.2 | 20.7 | 20.3 | -66.04 | *No Adj. Made |
| GUDEW144 | 10:47 | 9/30/2019 | 39.1 | 21.6 | 8.1 | 31.2 | -27.5 | -27.38 | -0.085 | -0.088 | 78.8 | 78.9 | <<>> | <<>> | -66.09 | *No Adj. Made |
| GUDEW145 | 10:44 | 9/30/2019 | 19.6 | 17.4 | 3.4 | 59.6 | -0.71 | -0.67 | 0.148 | 0.067 | 76.2 | 76.2 | 23.9 | 16 | -65.89 | *No Adj. Made |
| GUDEW146 | 11:03 | 9/30/2019 | 5 | 4.7 | 16.8 | 73.5 | -2.2 | -2.1 | 0.046 | 0.042 | 0 | 0 | 6 | 6 | -66.17 | *No Adj. Made |
| GUDEW147 | 10:56 | 9/30/2019 | 0 | 8.4 | 11 | 80.6 | -0.4 | -0.4 | 0.044 | 0.042 | 0 | 0 | 6 | 6 | -66.04 | *No Adj. Made |
| GUDEW148 | 11:05 | 9/30/2019 | 51.2 | 36.6 | 0.9 | 11.3 | -65.5 | -65.5 | 0.175 | 0.164 | 0 | 0 | 12 | 12 | -65.62 | *No Adj. Made |
| GUDEW149 | 11:08 | 9/30/2019 | 1.3 | 2.1 | 17.2 | 79.4 | 0.32 | 0.3 | -0.03 | -0.029 | 89.5 | 89.4 | 0 | 0 | -66.06 | *No Adj. Made |
| GUDEW150 | 12:34 | 9/27/2019 | 70.5 | 28.8 | 0.6 | 0.1 | 14.74 | 14.74 | -0.011 | -0.007 | 89.5 | 89.5 | 0 | 0 | -62.63 | *Inc. Flow/Vac. |
| GUDEW150 | 12:36 | 9/27/2019 | 70.1 | 29.9 | 0 | 0 | -8.28 | -8.29 | -0.041 | -0.041 | 89.9 | 89.9 | 0 | 0 | -56.41 | *No Adj. Made |
| GUDEW151 | 12:32 | 9/27/2019 | 33 | 26.8 | 0.3 | 39.9 | -8.98 | -8.97 | -0.007 | -0.007 | 89.4 | 89.4 | 0 | 0 | -62.91 | *No Adj. Made |
| GUDEW152 | 12:23 | 9/27/2019 | 50.7 | 31.3 | 2.6 | 15.4 | 2.17 | 2.19 | 1.945 | 2.033 | 92.4 | 92.4 | 42.8 | 43.7 | -63.18 | *Fully Closed/*No Adj. Made |
| GUDEW153 | 12:25 | 9/27/2019 | 62.5 | 34.4 | 0.1 | 3 | 0.09 | -0.68 | -0.002 | -0.004 | 92 | 91.9 | 0 | 0 | -63.03 | *Inc. Flow/Vac. |
| GUDEW154 | 10:27 | 9/30/2019 | 53.5 | 38.3 | 1.2 | 7 | -0.36 | -0.36 | -0.006 | -0.007 | 77 | 77 | <<>> | <<>> | -56.05 | *No Adj. Made |
| GUDEW156 | 11:10 | 9/27/2019 | 30.8 | 31.1 | 0.4 | 37.7 | -7.61 | -7.59 | -0.009 | -0.007 | 82.9 | 82.8 | 0 | 0 | -64.81 | *Dec. Flow/Vac. |
| GUDEW157 | 10:45 | 9/27/2019 | 48.2 | 31.8 | 3.5 | 16.5 | -1.53 | -1.51 | -0.006 | -0.004 | 86.2 | 86.7 | 0 | 0 | -64.85 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|------------------------|------------------------|-----------------------|----------------|---------------------------------------|--|--------------------------------------|---------------------------------------|--------------------------|---------------------------|---------------------------|----------------------------|----------------------------------|---------------------------|
| GUDEW158 | 12:11 | 9/27/2019 | 62 | 37.1 | 0.1 | 0.8 | -61.93 | -61.92 | 0.009 | 0.009 | 99.2 | 99.3 | 5.2 | 5.3 | -61.91 | *Fully Open/*No Adj. Made |
| GUDEW159 | 12:12 | 9/12/2019 | 73.5 | 23.4 | 0.6 | 2.5 | -53.49 | -53.41 | 0.01 | 0.002 | 97.4 | 97.3 | 6.1 | 2.6 | -53.36 | *Fully Open/*No Adj. Made |
| GUDEFLAR | 10:18 | 9/12/2019 | 30.9 | 25.3 | 3.3 | 40.5 | -52.11 | -52.16 | >>>> | >>>> | 82.7 | 82.8 | 413.2 | 413.2 | N/A | |
| GUDEFLAR | 13:20 | 9/13/2019 | 32.4 | 29.7 | 3.1 | 34.8 | -60.26 | -60.3 | >>>> | >>>> | 78.4 | 78.4 | 382.6 | 382.6 | N/A | |
| GUDEFLAR | 12:01 | 9/30/2019 | 35.8 | 26.9 | 3.8 | 33.5 | -71.05 | -71.09 | >>>> | >>>> | 73.8 | 73.7 | 431.4 | 431.4 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells

October 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|----------------------------|
| GUEDS02 | 12:26 | 10/3/2019 | 51.9 | 41.5 | 0 | 6.6 | -73.29 | -73.29 | 0.016 | 0.016 | 79.6 | 79.6 | 3.4 | 3.4 | -73.29 | *Fully Open/No Adj. Made |
| GUDEW001 | 11:09 | 10/4/2019 | 59.5 | 39.2 | 1.3 | 0 | -23.39 | -23.39 | >>>> | >>>> | 80.6 | 80.7 | N/A | N/A | -46.36 | *No Adj. Made |
| GUDEW002 | 10:55 | 10/4/2019 | 67.9 | 32 | 0.1 | 0 | 40.9 | 40.9 | 0.011 | 0.009 | 79.8 | 79.8 | 18.6 | 16.8 | -46.82 | *Fully Closed/No Adj. Made |
| GUDEW003 | 13:49 | 10/3/2019 | 0 | 0.5 | 22.1 | 77.4 | -4.91 | -4.7 | -0.006 | 0 | 83 | 83 | 0 | 0 | -52.94 | *Dec. Flow/Vac. |
| GUDEW004 | 13:07 | 10/8/2019 | 75.3 | 24.7 | 0 | 0 | 2.59 | -9.26 | 0.016 | 0.01 | 75.8 | 75.5 | 22.6 | 17.5 | -50.33 | *Inc. Flow/Vac. |
| GUDEW004 | 13:09 | 10/8/2019 | 61.8 | 20.7 | 3.7 | 13.8 | -2.61 | -2.6 | 0.009 | 0.01 | 74.6 | 74.5 | 16.3 | 16.9 | -50.13 | *No Adj. Made |
| GUDEW005 | 13:43 | 10/8/2019 | 36.6 | 23.3 | 8.3 | 31.8 | -46.55 | -45.97 | -0.001 | -0.001 | 75.3 | 74.9 | <<>> | <<>> | -46.68 | *Dec. Flow/Vac. |
| GUDEW006 | 14:25 | 10/8/2019 | 22.9 | 20.5 | 0.1 | 56.5 | -0.32 | -0.32 | 0.015 | 0.013 | 77.5 | 77.4 | 1.6 | 1.5 | -0.33 | *No Adj. Made |
| GUDEW010 | 13:39 | 10/3/2019 | 54.8 | 32.8 | 3.1 | 9.3 | -53.05 | -53.05 | 3.292 | 3.303 | 83.6 | 83.6 | 290.9 | 291.4 | -53.02 | *No Adj. Made |
| GUDEW011 | 13:33 | 10/3/2019 | 31.5 | 24.4 | 0 | 44.1 | -0.32 | -0.32 | 0.007 | 0.007 | 83.5 | 83.5 | 1.1 | 1.1 | -53.01 | *No Adj. Made |
| GUDEW012 | 13:28 | 10/3/2019 | 56.1 | 28 | 0.1 | 15.8 | -0.18 | -0.29 | -0.044 | 0.341 | 83.1 | 83.1 | <<>> | 38.6 | -26.32 | *Inc. Flow/Vac. |
| GUDEW015 | 14:20 | 10/8/2019 | 72.1 | 27.9 | 0 | 0 | 4.42 | 2.71 | 0.013 | 0.007 | 81.7 | 80.2 | 7.4 | 5.6 | -44.33 | *Inc. Flow/Vac. |
| GUDEW016 | 14:36 | 10/8/2019 | 46.8 | 21.7 | 0 | 31.5 | -0.87 | -0.87 | 0.293 | 0.293 | 80.3 | 80.6 | 35.6 | 35.6 | -45.02 | *No Adj. Made |
| GUDEW017 | 14:33 | 10/8/2019 | 60.5 | 25.2 | 0 | 14.3 | -1.94 | -1.93 | 1.594 | 1.592 | 78.1 | 78.1 | 86.5 | 86.4 | -44.77 | *No Adj. Made |
| GUDEW018 | 14:28 | 10/8/2019 | 46.1 | 27.1 | 4.4 | 22.4 | -44.97 | -44.98 | 0.014 | 0.014 | 77.6 | 77.6 | 1.5 | 1.5 | -44.98 | *No Adj. Made |
| GUDEW021 | 14:07 | 10/3/2019 | 72.8 | 27.2 | 0 | 0 | 39.14 | 31.74 | 0.005 | -0.005 | 85.3 | 85.3 | 4.6 | <<>> | -51.62 | *Inc. Flow/Vac. |
| GUDEW021 | 11:13 | 10/4/2019 | 61.4 | 35.2 | 0.9 | 2.5 | -46.48 | -46.48 | 0.002 | 0.001 | 79.9 | 79.9 | 2.3 | 2.1 | -46.48 | *No Adj. Made |
| GUDEW022 | 13:02 | 10/4/2019 | 64.6 | 35.2 | 0.2 | 0 | 15.33 | -1.14 | -0.143 | -0.141 | 80.2 | 80.2 | <<>> | <<>> | -46.04 | *Dec. Flow/Vac. |
| GUDEW022 | 13:04 | 10/4/2019 | 57 | 27.7 | 3.8 | 11.5 | -42.75 | -37.5 | 0.354 | 0.355 | 79.1 | 79.1 | 37.2 | 37.5 | -46.15 | *Dec. Flow/Vac. |
| GUDEW023 | 13:20 | 10/4/2019 | 65.9 | 32.3 | 1.2 | 0.6 | -45.1 | -45.09 | 0.009 | 0.009 | 81.4 | 81.4 | 5.7 | 5.8 | -45.09 | *No Adj. Made |
| GUDEW024 | 13:28 | 10/4/2019 | 25.3 | 29.6 | 0.1 | 45 | -6.5 | -6.49 | 0.018 | 0.11 | 81.2 | 81.2 | 7.8 | 19.9 | -44.01 | *No Adj. Made |
| GUDEW025 | 14:51 | 10/8/2019 | 56.1 | 38.3 | 0.6 | 5 | -24.18 | -24.17 | 0.007 | 0.005 | 84 | 83.9 | 4.8 | 4.3 | -24.16 | *No Adj. Made |
| GUDEW026 | 10:44 | 10/4/2019 | 66.7 | 33 | 0.3 | 0 | -31.09 | -45.21 | 0.002 | -0.008 | 79.7 | 80.1 | 2.4 | <<>> | -45.71 | *Inc. Flow/Vac. |
| GUDEW027 | 13:28 | 10/8/2019 | 68 | 32 | 0 | 0 | 0.6 | -0.51 | 0.006 | 0.007 | 71.8 | 71.6 | 5.1 | 5.4 | -46.81 | *Inc. Flow/Vac. |
| GUDEW027 | 13:30 | 10/8/2019 | 54.4 | 26.8 | 3.5 | 15.3 | -1.11 | -1.04 | 2.18 | 0.005 | 71.8 | 71.8 | 4.6 | 4.4 | -46.79 | *Dec. Flow/Vac. |
| GUDEW028 | 13:18 | 10/8/2019 | 60.4 | 36.6 | 0.8 | 2.2 | -47.25 | -47.24 | -0.001 | 0 | 70.8 | 70.9 | <<>> | 0 | -47.24 | *No Adj. Made |
| GUDEW029 | 15:07 | 10/8/2019 | 17.4 | 14.5 | 14 | 54.1 | -45.08 | -34.82 | -0.002 | 0.006 | 81.6 | 81.5 | <<>> | 4.4 | -45.38 | *Dec. Flow/Vac. |
| GUDEW030 | 15:04 | 10/8/2019 | 52 | 36.6 | 1.2 | 10.2 | -45.26 | -45.26 | 0.008 | 0.008 | 81.9 | 81.9 | 13.7 | 13.1 | -45.26 | *No Adj. Made |
| GUDEW031 | 15:01 | 10/8/2019 | 57.8 | 38.6 | 0.3 | 3.3 | -35.1 | -35.09 | 0.025 | 0.026 | 81.8 | 81.8 | 9.4 | 9.5 | -45.01 | *No Adj. Made |
| GUDEW032 | 14:59 | 10/8/2019 | 59.9 | 22.4 | 2.9 | 14.8 | 0.63 | 2.28 | -0.442 | -3.798 | 81.1 | 81.2 | <<>> | <<>> | -45.13 | *No Adj. Made |
| GUDEW034 | 14:08 | 10/8/2019 | 38.1 | 29.4 | 0.9 | 31.6 | -16.8 | -16.8 | 0.144 | 0.14 | 77.4 | 77.4 | 23.3 | 23 | -45.66 | *No Adj. Made |
| GUDEW035 | 14:49 | 10/8/2019 | 40.4 | 17.7 | 7.8 | 34.1 | -29.63 | -27.04 | 0.006 | 0.009 | 86.2 | 86.1 | 12.4 | 14.6 | -45.39 | *Dec. Flow/Vac. |
| GUDEW036 | 13:50 | 10/8/2019 | 1.9 | 1.2 | 21.8 | 75.1 | -45.72 | -40.27 | -0.023 | -0.015 | 74.2 | 74.4 | <<>> | <<>> | -0.39 | *Dec. Flow/Vac. |
| GUDEW037 | 14:00 | 10/8/2019 | 35.8 | 29.3 | 0.2 | 34.7 | -18.24 | -18.24 | 0.001 | 0.004 | 77.4 | 77.4 | 4.7 | 10.1 | -45.86 | *No Adj. Made |
| GUDEW038 | 14:13 | 10/8/2019 | 58.5 | 23.9 | 2.4 | 15.2 | -1.3 | -1.21 | 0.112 | 0.093 | 81 | 81 | 22.2 | 20.2 | -45.44 | *Dec. Flow/Vac. |
| GUDEW039 | 14:03 | 10/8/2019 | 0 | 0.9 | 21.6 | 77.5 | -0.31 | -0.32 | 0.003 | 0.002 | 77.4 | 77.5 | 3 | 2.3 | -0.43 | *Barely Open/No Adj. Made |
| GUDEW050 | 11:00 | 10/4/2019 | 12.3 | 7.7 | 17.4 | 62.6 | -44.38 | -34.49 | 0.81 | 0.239 | 77.6 | 77.3 | 140.5 | 76.5 | -49.09 | *Dec. Flow/Vac. |
| GUDEW051 | 10:57 | 10/4/2019 | 69.1 | 27.4 | 0.4 | 3.1 | -0.22 | -0.17 | 0.005 | 0.005 | 78.8 | 78.9 | 4.7 | 4.4 | -46.72 | *No Adj. Made |
| GUDEW052 | 10:49 | 10/4/2019 | 59.6 | 40 | 0.4 | 0 | -7.3 | -7.62 | 0.006 | 0.003 | 80.7 | 80.8 | 11.9 | 9.1 | -49.02 | *Inc. Flow/Vac. |
| GUDEW054 | 13:44 | 10/4/2019 | 5.8 | 2.8 | 16.9 | 74.5 | -41.55 | -41.11 | >>>> | >>>> | 77.9 | 78.3 | N/A | N/A | -47.19 | *Dec. Flow/Vac. |
| GUDEW057 | 13:23 | 10/8/2019 | 46.7 | 26.8 | 5.3 | 21.2 | -7.66 | -7.56 | 0 | -0.001 | 71.2 | 71.2 | 1 | <<>> | -46.88 | *Dec. Flow/Vac. |
| GUDEW062 | 13:47 | 10/8/2019 | 66.2 | 33.1 | 0.3 | 0.4 | -0.46 | -0.44 | 0.01 | 0.009 | 73.1 | 73.1 | 6.5 | 6.1 | -46.17 | *No Adj. Made |
| GUDEW070 | 11:03 | 10/4/2019 | 67.8 | 32.1 | 0.1 | 0 | 3.09 | 3.39 | -0.039 | -0.038 | 78.8 | 79.4 | <<>> | <<>> | 3.4 | *No Adj. Made |
| GUDEW071 | 10:51 | 10/4/2019 | 58.7 | 41.3 | 0 | 0 | 13.66 | 8.04 | 0.014 | 0.014 | 81.7 | 81.6 | 7.5 | 7.2 | -47.13 | *Inc. Flow/Vac. |
| GUDEW072 | 10:40 | 10/4/2019 | 53.5 | 34.7 | 2 | 9.8 | -14.8 | -14.81 | 0.036 | 0.034 | 79.5 | 79.5 | 30.7 | 29.8 | -47.87 | *No Adj. Made |
| GUDEW073 | 13:46 | 10/4/2019 | 52.6 | 37.5 | 2.5 | 7.4 | -25.78 | -25.79 | 0.123 | 0.111 | 81.2 | 81.3 | 21.1 | 20.2 | -47.34 | *No Adj. Made |
| GUDEW074 | 10:39 | 10/4/2019 | 57.7 | 42.1 | 0.2 | 0 | -1.21 | -5.59 | -0.004 | 0.939 | 80.5 | 80.3 | <<>> | 62.1 | -47.96 | *Inc. Flow/Vac. |
| GUDEW075 | 13:34 | 10/8/2019 | 56.3 | 35.7 | 1.3 | 6.7 | -46.48 | -46.48 | -0.029 | -0.025 | 72.6 | 72.6 | <<>> | <<>> | -46.47 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|-----------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-----------------------------|
| GUDEW076 | 13:37 | 10/8/2019 | 54.7 | 39.9 | 0 | 5.4 | -46.26 | -46.26 | 0.036 | 0.037 | 73.3 | 73.3 | 29.2 | 29.6 | -46.26 | *No Adj. Made |
| GUDEW100 | 11:35 | 10/3/2019 | 50.2 | 42.4 | 2.2 | 5.2 | -73.5 | -73.5 | -0.01 | -0.009 | 81.8 | 81.8 | 0 | 0 | -73.49 | *No Adj. Made |
| GUDEW101 | 11:38 | 10/3/2019 | 37.9 | 33.8 | 3 | 25.3 | -60.68 | -51.77 | -0.024 | -0.011 | 81.4 | 81.4 | 0 | 0 | -73.55 | *Dec. Flow/Vac. |
| GUDEW102 | 11:40 | 10/3/2019 | 39.6 | 37.2 | 0 | 23.2 | -73.65 | -73.65 | -0.002 | -0.002 | 81.2 | 81.2 | 0 | 0 | -73.65 | *No Adj. Made |
| GUDEW103 | 11:45 | 10/3/2019 | 45.3 | 37.7 | 1 | 16 | -73.56 | -73.56 | -0.022 | -0.02 | 80.8 | 80.7 | 0 | 0 | -73.55 | *No Adj. Made |
| GUDEW104 | 11:51 | 10/3/2019 | 31.9 | 20.4 | 9.1 | 38.6 | -4.31 | -4.29 | -0.01 | -0.005 | 79.2 | 79.1 | 0 | 0 | -73.41 | *No Adj. Made |
| GUDEW105 | 12:09 | 10/3/2019 | 3.1 | 15.3 | 4.7 | 76.9 | -18.75 | -16.83 | -0.046 | -0.036 | 79.8 | 79.8 | 0 | 0 | -73.61 | *Dec. Flow/Vac. |
| GUDEW106 | 12:23 | 10/3/2019 | 20.9 | 25.3 | 0.3 | 53.5 | -10.51 | -10.5 | -0.017 | -0.018 | 79.6 | 79.6 | 0 | 0 | -73.61 | *No Adj. Made |
| GUDEW107 | 12:35 | 10/3/2019 | 6.5 | 17.4 | 4.2 | 71.9 | -0.18 | -0.19 | 0.024 | 0.021 | 80.9 | 80.9 | 4.5 | 4.2 | -73.28 | *Fully Closed*/No Adj. Made |
| GUDEW108 | 12:52 | 10/3/2019 | 34.9 | 29.7 | 4.3 | 31.1 | -36.07 | -31.71 | -0.017 | -0.017 | 82.7 | 82.8 | 0 | 0 | -73.24 | *Dec. Flow/Vac. |
| GUDEW109 | 13:02 | 10/3/2019 | 49.3 | 38.9 | 0.5 | 11.3 | -73.39 | -73.38 | -0.036 | -0.035 | 84.4 | 84.4 | 0 | 0 | -73.37 | *No Adj. Made |
| GUDEW110 | 13:06 | 10/3/2019 | 29.4 | 29.7 | 2.3 | 38.6 | -30.54 | -30.54 | -0.011 | -0.011 | 84.4 | 84.4 | 0 | 0 | -73.38 | *No Adj. Made |
| GUDEW111 | 13:11 | 10/3/2019 | 49.2 | 41.4 | 0.4 | 9 | -73.22 | -73.22 | -0.006 | -0.007 | 85 | 85 | 0 | 0 | -73.22 | *No Adj. Made |
| GUDEW112 | 13:14 | 10/3/2019 | 52.1 | 42 | 0.2 | 5.7 | -73.13 | -73.11 | -0.01 | 0.021 | 85.3 | 85.3 | 0 | 4 | -73.11 | *No Adj. Made |
| GUDEW113 | 13:15 | 10/3/2019 | 47.1 | 39.2 | 0.1 | 13.6 | -73.05 | -73.05 | -0.061 | 0.024 | 85.4 | 85.4 | 0 | 4.2 | -73.05 | *No Adj. Made |
| GUDEW114 | 13:18 | 10/3/2019 | 56.5 | 43 | 0.6 | N/A | -0.11 | -0.88 | -0.008 | -0.006 | 85 | 84.9 | 0 | 0 | -72.87 | *Inc. Flow/Vac. |
| GUDEW115 | 13:21 | 10/3/2019 | 0.1 | 0.7 | 21.8 | 77.4 | -0.21 | -0.21 | 0 | 0 | 84.4 | 84.4 | 0 | 0.5 | -65.31 | *Fully Closed*/No Adj. Made |
| GUDEW116 | 13:25 | 10/3/2019 | 9.5 | 20.3 | 0 | 70.2 | -0.8 | -0.65 | -0.008 | -0.006 | 84 | 84 | 0 | 0 | -73.03 | *Dec. Flow/Vac. |
| GUDEW117 | 11:43 | 10/3/2019 | 0.2 | 5.8 | 14.6 | 79.4 | -0.54 | -0.54 | 0.005 | 0.005 | 81.1 | 81 | 2.2 | 2 | -73.46 | *No Adj. Made |
| GUDEW118 | 11:47 | 10/3/2019 | 0.1 | 0.9 | 21.4 | 77.6 | -1.03 | -1.03 | 0.002 | 0.004 | 80.7 | 80.7 | 1.3 | 1.8 | -73.34 | *No Adj. Made |
| GUDEW119 | 11:58 | 10/3/2019 | 30.6 | 30.4 | 3.7 | 35.3 | -50.52 | -45.31 | -0.02 | -0.02 | 80.3 | 80.3 | 0 | 0 | -73.61 | *Dec. Flow/Vac. |
| GUDEW120 | 12:18 | 10/3/2019 | 19.2 | 20.4 | 0 | 60.4 | -0.28 | -0.29 | -0.002 | -0.003 | 79.1 | 79.1 | 0 | 0 | -73.56 | *Fully Closed*/No Adj. Made |
| GUDEW121 | 12:32 | 10/3/2019 | 5.9 | 20.2 | 3.1 | 70.8 | -0.31 | -0.32 | -0.007 | -0.004 | 80 | 80 | 0 | 0 | -73.27 | *No Adj. Made |
| GUDEW122 | 13:04 | 10/3/2019 | 50.1 | 38.5 | 0.2 | 11.2 | -73.28 | -73.28 | -0.026 | -0.025 | 84.6 | 84.6 | 0 | 0 | -73.29 | *No Adj. Made |
| GUDEW123 | 12:41 | 10/3/2019 | 1 | 11.9 | 8.8 | 78.3 | -0.3 | -0.29 | -0.001 | -0.001 | 81.3 | 81.3 | 0 | 0 | -72.19 | *No Adj. Made |
| GUDEW124 | 12:47 | 10/3/2019 | 14.2 | 24.5 | 0 | 61.3 | -0.31 | -0.3 | 0 | -0.001 | 82.1 | 82.2 | 0 | 0 | -73.04 | *No Adj. Made |
| GUDEW125 | 12:38 | 10/3/2019 | 63 | 36.9 | 0.1 | 0 | -0.32 | -4.02 | -0.019 | -0.024 | 80.9 | 80.9 | 0 | 0 | -72.68 | *Inc. Flow/Vac. |
| GUDEW126 | 12:44 | 10/3/2019 | 13.6 | 6.7 | 17.8 | 61.9 | -67.67 | -62.74 | -0.004 | -0.009 | 81.5 | 81.5 | 0 | 0 | -73.14 | *Dec. Flow/Vac. |
| GUDEW127 | 12:50 | 10/3/2019 | 0.2 | 1.6 | 21.7 | 76.5 | -0.35 | -0.35 | -0.007 | -0.004 | 82.2 | 82.3 | 0 | 0 | -73.2 | *No Adj. Made |
| GUDEW128 | 12:56 | 10/3/2019 | 5.7 | 6.2 | 16.8 | 71.3 | -0.27 | -0.27 | -0.008 | -0.007 | 83.6 | 83.7 | 0 | 0 | -73.18 | *Fully Closed*/No Adj. Made |
| GUDEW129 | 12:58 | 10/3/2019 | 55.6 | 36.8 | 1.6 | 6 | -67.89 | -67.91 | 0.083 | -0.022 | 84 | 84 | 8.1 | 0 | -67.91 | *No Adj. Made |
| GUDEW130 | 13:00 | 10/3/2019 | 26.3 | 25.8 | 0.8 | 47.1 | -73.27 | -73.29 | -0.044 | -0.016 | 84.2 | 84.3 | 0 | 0 | -73.29 | *No Adj. Made |
| GUDEW131 | 14:02 | 10/3/2019 | 72.5 | 23.4 | 0.1 | 4 | -0.06 | -2.79 | -0.002 | -0.108 | 84.5 | 84.5 | 0 | 0 | -52.27 | *Inc. Flow/Vac. |
| GUDEW131 | 14:03 | 10/3/2019 | 72.3 | 23.1 | 0 | 4.6 | -5.66 | -5.68 | -0.081 | -0.079 | 84.9 | 84.9 | 0 | 0 | -51.8 | *No Adj. Made |
| GUDEW132 | 13:59 | 10/3/2019 | 22.5 | 20.8 | 0 | 56.7 | -14.24 | -14.25 | -0.011 | -0.011 | 83.5 | 83.5 | 0 | 0 | -52.67 | *No Adj. Made |
| GUDEW133 | 12:21 | 10/3/2019 | 50.8 | 31.7 | 0.1 | 17.4 | -0.31 | -0.84 | -0.003 | -0.002 | 79.2 | 79.3 | 0 | 0 | -73.41 | *Inc. Flow/Vac. |
| GUDEW134 | 12:03 | 10/3/2019 | 10.9 | 13.3 | 11.4 | 64.4 | -0.28 | -0.28 | 0 | -0.001 | 79.7 | 79.7 | 0 | 0 | -73.38 | *Fully Closed*/No Adj. Made |
| GUDEW135 | 11:32 | 10/3/2019 | 37.5 | 31 | 3.2 | 28.3 | -16.34 | -15.77 | -0.007 | -0.005 | 81.8 | 81.8 | 0 | 0 | -73.68 | *Dec. Flow/Vac. |
| GUDEW137 | 14:11 | 10/3/2019 | 18.7 | 26.5 | 1.1 | 53.7 | -52.25 | -52.26 | -0.232 | -0.235 | 85.7 | 85.7 | 0 | 0 | -52.2 | *No Adj. Made |
| GUDEW138 | 12:57 | 10/4/2019 | 55.6 | 44.4 | 0 | 0 | 19.18 | 18.63 | 0 | 0.002 | 81.5 | 82 | 0 | 1.4 | -46.68 | *Inc. Flow/Vac. |
| GUDEW139 | 13:00 | 10/4/2019 | 57.4 | 42.4 | 0.3 | N/A | -0.48 | -0.42 | 0.035 | 0.028 | 82.8 | 82.9 | 5.7 | 5.1 | -46.13 | *No Adj. Made |
| GUDEW140 | 13:09 | 10/4/2019 | 57 | 43 | 0 | 0 | -3.02 | -4.51 | -0.057 | -0.3 | 79.1 | 79.1 | 0 | 0 | -46.17 | *Inc. Flow/Vac. |
| GUDEW141 | 13:06 | 10/4/2019 | 30.7 | 31.7 | 0.2 | 37.4 | -46.33 | -46.33 | 0 | -0.001 | 78.1 | 78.1 | 0 | 0 | -46.33 | *No Adj. Made |
| GUDEW142 | 13:12 | 10/4/2019 | 56.1 | 43.9 | 0 | 0 | -0.08 | -0.13 | -0.008 | -0.006 | 81.4 | 81.8 | 0 | 0 | -45.29 | *Inc. Flow/Vac. |
| GUDEW143 | 13:16 | 10/4/2019 | 57 | 42.8 | 0.2 | 0 | -45.17 | -45.17 | 0.008 | 0.008 | 81.6 | 81.6 | 2.6 | 2.5 | -45.17 | *No Adj. Made |
| GUDEW144 | 13:25 | 10/4/2019 | 19.4 | 15.5 | 13.8 | 51.3 | -0.81 | -0.28 | -0.327 | -0.006 | 83.2 | 83.3 | 0 | 0 | -45.64 | *Dec. Flow/Vac. |
| GUDEW145 | 13:22 | 10/4/2019 | 52.3 | 38 | 0.1 | 9.6 | -45.22 | -45.21 | -1.378 | -1.381 | 81.6 | 81.6 | 0 | 0 | -45.2 | *No Adj. Made |
| GUDEW146 | 13:32 | 10/4/2019 | 1.6 | 19.7 | 1.9 | 76.8 | -1.03 | -1.03 | -0.275 | -0.275 | 81.7 | 81.7 | 0 | 0 | -43.84 | *No Adj. Made |
| GUDEW147 | 13:30 | 10/4/2019 | 1.6 | 19.3 | 1.5 | 77.6 | -1.15 | -1.13 | -0.244 | -0.243 | 81.3 | 81.3 | 0 | 0 | -43.72 | *No Adj. Made |
| GUDEW148 | 13:37 | 10/4/2019 | 5.9 | 22.4 | 0.4 | 71.3 | -6.61 | -2.25 | -3.976 | -0.429 | 82 | 81.5 | 0 | 0 | -44.91 | *Dec. Flow/Vac. |
| GUDEW149 | 13:35 | 10/4/2019 | 0 | 0.6 | 21.7 | 77.7 | -0.24 | -0.24 | 0.009 | 0.009 | 82.4 | 82.4 | 2.8 | 2.8 | -36.02 | *No Adj. Made |
| GUDEW150 | 13:56 | 10/3/2019 | 29.6 | 19.4 | 6.3 | 44.7 | -49.01 | -48.06 | 0.001 | -0.002 | 83.5 | 83.4 | 1 | 0 | -50.69 | *Dec. Flow/Vac. |
| GUDEW151 | 13:53 | 10/3/2019 | 64.9 | 35.1 | 0 | 0 | -0.03 | -1.17 | -0.014 | -0.13 | 83.2 | 83.2 | 0 | 0 | -51.76 | *Inc. Flow/Vac. |
| GUDEW152 | 9:48 | 10/4/2019 | 53.3 | 33.7 | 2.9 | 10.1 | 1.61 | 1.61 | 2.011 | 2.014 | 77.4 | 77.4 | 44 | 44 | -48.52 | *No Adj. Made |
| GUDEW153 | 9:46 | 10/4/2019 | 11 | 6.6 | 18.4 | 64 | -4.27 | -3.6 | 0.004 | 0.001 | 77.8 | 77.7 | 2 | 1.1 | -48.55 | *Dec. Flow/Vac. |
| GUDEW154 | 13:14 | 10/4/2019 | 54.1 | 41.5 | 0.1 | 4.3 | -0.21 | -0.23 | -0.019 | -0.024 | 82.9 | 82.9 | <<>> | <<>> | -44.99 | *No Adj. Made |
| GUDEW156 | 12:46 | 10/3/2019 | 35.4 | 33.1 | 0.9 | 30.6 | -7.1 | -7.1 | -0.009 | -0.008 | 82.1 | 82.1 | 0 | 0 | -73.43 | *No Adj. Made |
| GUDEW157 | 12:12 | 10/3/2019 | 49.4 | 34.4 | 3.9 | 12.3 | -1.62 | -1.61 | -0.013 | -0.011 | 79.6 | 79.6 | 0 | 0 | -73.45 | *No Adj. Made |
| GUDEW158 | 13:43 | 10/3/2019 | 59.8 | 39.5 | 0.7 | 0 | -51.94 | -51.93 | 0.046 | 0.045 | 82.7 | 82.8 | 12.6 | 12.5 | -51.93 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|------------|------------------------|------------------------|-----------------------|----------------|---------------------------------------|--|--------------------------------------|---------------------------------------|--------------------------|---------------------------|---------------------------|----------------------------|----------------------------------|---------------|
| GUDEW159 | 14:58 | 10/8/2019 | 66.2 | 23.6 | 1.7 | 8.5 | -45.05 | -45.05 | 0.135 | 0.134 | 80.9 | 80.9 | 23.5 | 23.4 | -45.06 | *No Adj. Made |
| GUDEFLAR | 14:49 | 10/1/2019 | 31.2 | 27.2 | 3.5 | 38.1 | -71.64 | -71.65 | >>>> | >>>> | 94.9 | 95.1 | 320.8 | 320.8 | N/A | |
| GUDEFLAR | 11:20 | 10/3/2019 | 33.8 | 29.8 | 3.4 | 33 | -74.66 | -74.66 | >>>> | >>>> | 81.3 | 81.3 | 320.8 | 320.8 | N/A | |
| GUDEFLAR | 13:55 | 10/4/2019 | 35.3 | 30.5 | 3 | 31.2 | -75.92 | -75.89 | >>>> | >>>> | 85.6 | 85.5 | 311.2 | 311.2 | N/A | |
| GUDEFLAR | 22:31 | 10/8/2019 | 34 | 29.3 | 3.3 | 33.4 | -78.5 | -78.51 | >>>> | >>>> | 69.6 | 69.6 | 314 | 314 | N/A | |
| GUDEFLAR | 12:58 | 10/15/2019 | 35.1 | 29.4 | 3.3 | 32.2 | -80.11 | -80.12 | >>>> | >>>> | 80.7 | 80.6 | 306 | 306 | N/A | |
| GUDEFLAR | 12:05 | 10/19/2019 | 39.5 | 32.3 | 2.2 | 26 | -74.58 | -74.59 | >>>> | >>>> | 70.2 | 70.2 | 400.2 | 400.2 | N/A | |
| GUDEFLAR | 12:44 | 10/21/2019 | 35.1 | 30.4 | 2.9 | 31.6 | -80.74 | -80.72 | >>>> | >>>> | 65.9 | 65.9 | 310.2 | 310.2 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Gas Extraction Wells

November 2019

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H ₂ O) | Adjusted Static Press. (in. H ₂ O) | Initial Diff. Press. (in. H ₂ O) | Adjusted Diff. Press. (in. H ₂ O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H ₂ O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|--|---|---|--|--------------------|---------------------|---------------------|----------------------|---|-------------------------------|
| GUEDS02 | 10:21 | 11/15/2019 | 43.6 | 37.2 | 0.3 | 18.9 | -84.18 | -84.16 | 0.005 | 0.006 | 61.2 | 61.2 | 2 | 2 | -84.16 | *Fully Open/*No Adj. Made |
| GUDEW001 | 12:16 | 11/12/2019 | 57.3 | 37.5 | 2.1 | 3.1 | -36.16 | -36.16 | 0.261 | 0.261 | 52.6 | 52.6 | 84.1 | 84.1 | -58.73 | *No Adj. Made |
| GUDEW002 | 11:57 | 11/12/2019 | 68.4 | 31.5 | 0.1 | 0 | 36.27 | 36.25 | <<<< | <<<< | 54.1 | 54.1 | N/A | N/A | -59.16 | *No Adj. Made |
| GUDEW003 | 11:31 | 11/12/2019 | 0 | 1.3 | 21.5 | 77.2 | -3.9 | -3.11 | 0.01 | 0.004 | 51.4 | 51.4 | 3 | 1.9 | -58.83 | *Dec. Flow/Vac. |
| GUDEW004 | 11:14 | 11/12/2019 | 52.5 | 18 | 7 | 22.5 | -7.24 | -7.32 | 0.011 | 0.008 | 0 | 53.7 | 19.1 | 15.3 | -59.56 | *No Adj. Made |
| GUDEW005 | 11:46 | 11/14/2019 | 62 | 37.7 | 0.3 | 0 | 0.6 | -0.6 | 0.284 | 0.859 | 49.6 | 49.8 | 35.8 | 62.9 | -0.84 | *Inc. Flow/Vac. |
| GUDEW006 | 11:34 | 11/14/2019 | 31.3 | 24 | 0.5 | 44.2 | -0.32 | -0.32 | 0.007 | 0.007 | 49.8 | 49.9 | 1.1 | 1.1 | -0.33 | *No Adj. Made |
| GUDEW010 | 11:25 | 11/15/2019 | 28.6 | 23.6 | 0.1 | 47.7 | -0.14 | -0.14 | -0.02 | -0.02 | 63.4 | 63.4 | <<>> | <<>> | -45.95 | *No Adj. Made |
| GUDEW011 | 11:21 | 11/15/2019 | 31.3 | 24.7 | 0 | 44 | -0.18 | -0.19 | 0.018 | 0.018 | 63.4 | 63.4 | 1.8 | 1.8 | -45.47 | *No Adj. Made |
| GUDEW012 | 11:17 | 11/15/2019 | 23.5 | 22.8 | 0.1 | 53.6 | -0.44 | -0.43 | 0.23 | 0.23 | 63.8 | 63.6 | 30.3 | 30.3 | -46.58 | *No Adj. Made |
| GUDEW015 | 11:53 | 11/18/2019 | 71.4 | 28.6 | 0 | 0 | 4.83 | -0.19 | 0.026 | 0.018 | 62.3 | 61.6 | 11 | 9.1 | -42.44 | *Inc. Flow/Vac. |
| GUDEW015 | 11:56 | 11/18/2019 | 70 | 29.8 | 0.2 | 0 | -1.17 | -1.16 | 0.018 | 0.017 | 60.8 | 60.8 | 8.8 | 8.6 | -42.29 | *No Adj. Made |
| GUDEW016 | 11:28 | 11/18/2019 | 55 | 23.7 | 0 | 21.3 | 0 | -0.5 | -0.123 | 0.329 | 60.7 | 60.6 | <<>> | 39 | -42.54 | *Inc. Flow/Vac. |
| GUDEW016 | 11:29 | 11/18/2019 | 54.4 | 24 | 0 | 21.6 | -0.46 | -0.48 | 0.323 | 0.328 | 60.7 | 60.7 | 38.6 | 38.9 | -43.54 | *No Adj. Made |
| GUDEW017 | 11:49 | 11/18/2019 | 70.5 | 29 | 0 | 0.5 | -2.15 | -2.16 | 2.091 | 2.09 | 62.3 | 62.3 | 102.2 | 102.2 | -42.04 | *No Adj. Made |
| GUDEW018 | 11:38 | 11/18/2019 | 57.9 | 34 | 0.9 | 7.2 | -27.82 | -27.81 | 0.01 | 0.011 | 62.4 | 62.3 | 1.3 | 1.4 | -42.88 | *No Adj. Made |
| GUDEW021 | 12:20 | 11/12/2019 | 59.8 | 34.7 | 2 | 3.5 | -60.21 | -60.23 | -0.042 | -0.04 | 52.8 | 52.8 | <<>> | <<>> | -60.64 | *No Adj. Made |
| GUDEW022 | 12:33 | 11/12/2019 | 65 | 35 | 0.1 | N/A | 20.64 | 20.67 | -0.006 | -0.008 | 52.8 | 52.8 | <<>> | <<>> | -57.22 | *Fully Closed/*No Adj. Made |
| GUDEW023 | 12:46 | 11/12/2019 | 65.6 | 33 | 1.4 | 0 | -57.89 | -57.89 | 0.018 | 0.016 | 52.5 | 52.5 | 7.8 | 7.6 | -57.86 | *Fully Open/*No Adj. Made |
| GUDEW024 | 12:54 | 11/12/2019 | 26 | 29.1 | 0.4 | 44.5 | -7.11 | -7.11 | -0.067 | -0.065 | 52.7 | 52.7 | <<>> | <<>> | -55.51 | *No Adj. Made |
| GUDEW025 | 11:16 | 11/18/2019 | 55 | 38 | 2.1 | 4.9 | -22.02 | -22.02 | 0.019 | 0.02 | 62.3 | 62.3 | 8.4 | 8.5 | 42.72 | *No Adj. Made |
| GUDEW026 | 11:42 | 11/12/2019 | 65.9 | 33.6 | 0.5 | 0 | -59.16 | -59.83 | >>>> | -0.013 | 52 | 52 | N/A | <<>> | -56.47 | *No Adj. Made |
| GUDEW027 | 12:17 | 11/14/2019 | 67.6 | 31.9 | 0.5 | 0 | 0.48 | -8.64 | 0.018 | 0.011 | 53 | 53.2 | 9 | 6.7 | -55.24 | *Inc. Flow/Vac. |
| GUDEW027 | 12:18 | 11/14/2019 | 29.7 | 16 | 12.1 | 42.2 | -28.91 | -9.69 | 0.012 | 0.014 | 53.7 | 53.8 | 6.7 | 7.2 | -55.34 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW028 | 11:04 | 11/18/2019 | 60.9 | 36.8 | 1.1 | 1.2 | -43.87 | -43.86 | 0.049 | 0.048 | 64.8 | 64.8 | 34.4 | 35.1 | -44.99 | *Fully Open,*No Adj. Made |
| GUDEW029 | 12:13 | 11/14/2019 | 27.6 | 22.8 | 10.9 | 38.7 | -29.3 | -23.7 | -0.004 | 0.003 | 52.3 | 52.5 | <<>> | 3.2 | -55.61 | *Dec. Flow/Vac. |
| GUDEW030 | 12:09 | 11/14/2019 | 59.1 | 40 | 0.5 | 0.4 | -55.81 | -55.81 | 0.015 | 0.015 | 51.2 | 51.2 | 19.2 | 18.7 | -55.8 | *Fully Open/*No Adj. Made |
| GUDEW031 | 12:06 | 11/14/2019 | 61.1 | 38.2 | 0.6 | 0.1 | -19.03 | -18.96 | 0.017 | 0.013 | 50.3 | 50.3 | 8.1 | 7.2 | -55.9 | *Inc. Flow/Vac. |
| GUDEW032 | 12:41 | 11/14/2019 | 70.7 | 25.6 | 1.1 | 2.6 | 51.79 | 51.79 | <<<< | <<<< | 54.6 | 54.6 | N/A | N/A | 51.82 | *Fully Closed/*No Adj. Made |
| GUDEW034 | 12:50 | 11/14/2019 | 37.5 | 30.4 | 0.7 | 31.4 | -15.84 | -15.84 | 0.028 | 0.026 | 54.1 | 54.1 | 10.2 | 9.8 | -54.04 | *No Adj. Made |
| GUDEW035 | 11:18 | 11/18/2019 | 69.3 | 30.7 | 0 | 0 | 46.49 | 46.49 | 0.017 | 0.015 | 62 | 62 | 23.4 | 22.5 | -43.01 | *Fully Closed,*No Adj. Made |
| GUDEW036 | 10:56 | 11/18/2019 | 68.8 | 31.2 | 0 | 0 | 1.36 | -1.74 | 0.012 | 0.01 | 67.6 | 67.3 | 19.1 | 16.8 | -43.28 | *Inc. Flow/Vac. |
| GUDEW036 | 10:58 | 11/18/2019 | 68.1 | 31.9 | 0.1 | N/A | -1.92 | -1.89 | 0.016 | 0.016 | 66.7 | 66.7 | 21.5 | 21.5 | -43.86 | *No Adj. Made |
| GUDEW037 | 12:54 | 11/14/2019 | 32.9 | 26.4 | 1.9 | 38.8 | -1.24 | -1.24 | 0.348 | 0.346 | 55 | 55 | 99.5 | 99.1 | -2.16 | *No Adj. Made |
| GUDEW038 | 11:24 | 11/18/2019 | 20.5 | 14.1 | 9.6 | 55.8 | -2.09 | -1.57 | 0.198 | 0.188 | 62.2 | 62.1 | 28.3 | 27.6 | -43.83 | *Dec. Flow/Vac. |
| GUDEW039 | 11:39 | 11/14/2019 | 37.3 | 21.9 | 0.2 | 40.6 | -0.08 | 0.31 | -0.146 | -0.146 | 50.5 | 50.5 | <<>> | <<>> | 1.1 | *No Adj. Made |
| GUDEW050 | 12:07 | 11/12/2019 | 60.3 | 39.7 | 0 | 0 | 27.81 | 7.72 | 0.01 | 0.001 | 52.6 | 52.7 | 17.5 | 6 | -63.2 | *Inc. Flow/Vac. |
| GUDEW050 | 12:09 | 11/12/2019 | 59.1 | 40.9 | 0 | 0 | -11.05 | -11.47 | 0.009 | 0.007 | 52.9 | 52.9 | 15.5 | 13.6 | -62.25 | *No Adj. Made |
| GUDEW051 | 11:51 | 11/12/2019 | 67.6 | 32.1 | 0.3 | 0 | -0.38 | -3.28 | -0.284 | 0.005 | 54.2 | 54.1 | <<>> | 4.7 | -59.43 | *Inc. Flow/Vac. |
| GUDEW051 | 11:54 | 11/12/2019 | 53.4 | 25.9 | 5.2 | 15.5 | -5.21 | -1.58 | 0.009 | 0.006 | 53.8 | 53.7 | 6.1 | 4.9 | -59.69 | *Dec. Flow/Vac. |
| GUDEW052 | 11:46 | 11/12/2019 | 60.1 | 39 | 0.9 | 0 | -34.23 | -42.56 | 0.031 | 0.006 | 52.7 | 52.8 | 28.4 | 12.5 | -58.99 | *Inc. Flow/Vac. |
| GUDEW054 | 12:23 | 11/14/2019 | 62.7 | 37.3 | 0 | 0 | 3.57 | -2.21 | -0.148 | 0.341 | 54.4 | 54.4 | <<>> | 39.1 | -55 | *Inc. Flow/Vac. |
| GUDEW054 | 12:25 | 11/14/2019 | 63.3 | 36.5 | 0.2 | 0 | -33.17 | -33.2 | 0.586 | 1.022 | 54.9 | 54.9 | 49.7 | 65.9 | -54.7 | *No Adj. Made |
| GUDEW057 | 11:00 | 11/18/2019 | 67.1 | 31.9 | 1.1 | N/A | 13.76 | 13.82 | 0.01 | 0.01 | 65.7 | 65.7 | 6.5 | 6.6 | -43.48 | *Fully Closed,*No Adj. Made |
| GUDEW062 | 10:49 | 11/18/2019 | 65.9 | 32.4 | 1.6 | 0.1 | 5.18 | 5.2 | -5.973 | -6.039 | 69.9 | 69.9 | <<>> | <<>> | -44.02 | *Fully Closed,*No Adj. Made |
| GUDEW070 | 12:01 | 11/12/2019 | 67.6 | 32.4 | 0 | 0 | 7.97 | -2.83 | -0.122 | 0.222 | 54 | 53.9 | <<>> | 32.3 | -2.85 | *Inc. Flow/Vac. |
| GUDEW070 | 12:03 | 11/12/2019 | 63.6 | 29.1 | 2.4 | 4.9 | -9.67 | -7.77 | 0.005 | 0.006 | 52.6 | 52.6 | 4.4 | 5 | -58.9 | *Fully Closed/*Dec. Flow/Vac. |
| GUDEW071 | 11:49 | 11/12/2019 | 41.3 | 32 | 2.4 | 24.3 | -51.46 | -51.47 | -0.006 | -0.003 | 54 | 54 | <<>> | <<>> | -59.06 | *No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-----------------------------|
| GUDEW072 | 11:34 | 11/12/2019 | 57.7 | 41.2 | 1.1 | 0 | -46.43 | -46.48 | >>>> | >>>> | 53.4 | 53.4 | N/A | N/A | -59.52 | *No Adj. Made |
| GUDEW073 | 11:39 | 11/12/2019 | 60.1 | 39 | 0.8 | 0.1 | -19.34 | -19.34 | 0 | 0 | 51.8 | 51.8 | 0 | 0 | -59.78 | *No Adj. Made |
| GUDEW074 | 11:06 | 11/18/2019 | 2.7 | 12 | 4.5 | 80.8 | -0.04 | -0.04 | -0.022 | -0.02 | 64.4 | 64.4 | <<<< | <<<< | -45.46 | *Fully Closed,*No Adj. Made |
| GUDEW075 | 12:34 | 11/14/2019 | 56.1 | 36.4 | 1.8 | 5.7 | -54.49 | -54.49 | 0.028 | 0.028 | 54.5 | 54.6 | 10 | 9.9 | -54.49 | *No Adj. Made |
| GUDEW076 | 12:31 | 11/14/2019 | 57.9 | 40 | 0.1 | 2 | -54.39 | -54.39 | 0.088 | 0.083 | 54.4 | 54.4 | 46.5 | 45.5 | -54.39 | *Fully Open/*No Adj. Made |
| GUDEW100 | 9:43 | 11/15/2019 | 63.9 | 34.2 | 1.4 | 0.5 | -2.29 | -11.04 | -0.055 | -0.038 | 59.3 | 59.2 | 0 | 0 | -85.18 | *Inc. Flow/Vac. |
| GUDEW100 | 9:44 | 11/15/2019 | 64.5 | 34.5 | 1 | 0 | -32.31 | -32.9 | -0.024 | -0.024 | 59 | 59 | 0 | 0 | -85.19 | *No Adj. Made |
| GUDEW101 | 9:47 | 11/15/2019 | 52.6 | 41 | 2.2 | 4.2 | -85.24 | -85.24 | -0.014 | -0.013 | 59 | 59 | 0 | 0 | -85.23 | *Fully Open/*No Adj. Made |
| GUDEW102 | 9:52 | 11/15/2019 | 27.3 | 32.8 | 0.6 | 39.3 | -84.93 | -84.93 | -0.01 | -0.01 | 58.9 | 58.9 | 0 | 0 | -84.93 | *Fully Open/*No Adj. Made |
| GUDEW103 | 9:57 | 11/15/2019 | 35.1 | 32.9 | 2.9 | 29.1 | -84.95 | -72.97 | -0.024 | -0.029 | 59 | 59 | 0 | 0 | -84.84 | *Dec. Flow/Vac. |
| GUDEW104 | 10:03 | 11/15/2019 | 61.5 | 38.1 | 0.4 | 0 | 23.46 | 23.51 | -0.009 | -0.01 | 58.7 | 58.7 | 0 | 0 | -83.45 | *Fully Closed/*No Adj. Made |
| GUDEW105 | 10:09 | 11/15/2019 | 2.5 | 15.1 | 5.8 | 76.6 | -26.12 | -26.12 | -0.044 | -0.043 | 59.7 | 59.7 | 0 | 0 | -84.17 | *No Adj. Made |
| GUDEW106 | 10:19 | 11/15/2019 | 19 | 24.9 | 2.5 | 53.6 | -10.89 | -10.89 | -0.039 | -0.036 | 60.9 | 60.9 | 0 | 0 | -84.96 | *No Adj. Made |
| GUDEW107 | 10:25 | 11/15/2019 | 0.1 | 4.8 | 17.1 | 78 | -1.42 | -1.42 | -0.008 | -0.007 | 60.8 | 60.8 | 0 | 0 | -84.06 | *Fully Closed/*No Adj. Made |
| GUDEW108 | 10:43 | 11/15/2019 | 30.1 | 34 | 2.2 | 33.7 | -22.04 | -20.64 | -0.018 | -0.019 | 61.7 | 61.7 | 0 | 0 | -83.87 | *Dec. Flow/Vac. |
| GUDEW109 | 10:53 | 11/15/2019 | 45.3 | 39 | 1.1 | 14.6 | -83.85 | -83.88 | -0.036 | -0.037 | 62.1 | 62.1 | 0 | 0 | -83.87 | *No Adj. Made |
| GUDEW110 | 10:58 | 11/15/2019 | 27.1 | 30.5 | 2.7 | 39.7 | -32.47 | -31.15 | -0.013 | -0.013 | 62.8 | 62.8 | 0 | 0 | -83.71 | *Dec. Flow/Vac. |
| GUDEW111 | 11:01 | 11/15/2019 | 50.1 | 40.1 | 0.9 | 8.9 | -83.55 | -83.56 | -0.019 | -0.019 | 63 | 63 | 0 | 0 | -83.58 | *Fully Open/*No Adj. Made |
| GUDEW112 | 11:03 | 11/15/2019 | 51.4 | 39.8 | 0.8 | 8 | -83.15 | -81.74 | 0.096 | -0.042 | 62.8 | 62.8 | 8.5 | 0 | -82.89 | *Fully Open/*No Adj. Made |
| GUDEW113 | 11:07 | 11/15/2019 | 48.4 | 39 | 0.1 | 12.5 | -83.02 | -82.53 | -0.102 | 0.016 | 63.2 | 63.2 | 0 | 3.4 | -83.42 | *Fully Open/*No Adj. Made |
| GUDEW114 | 11:10 | 11/15/2019 | 8.2 | 17.9 | 6.7 | 67.2 | -3.32 | -3.3 | -0.013 | -0.012 | 63.7 | 63.7 | 0 | 0 | -82.03 | *No Adj. Made |
| GUDEW115 | 11:12 | 11/15/2019 | 18 | 17.7 | 2.4 | 61.9 | -0.1 | -0.1 | -0.005 | -0.005 | 64 | 64 | 0 | 0 | -80.79 | *Fully Closed/*No Adj. Made |
| GUDEW116 | 11:14 | 11/15/2019 | 35.1 | 26.5 | 0.2 | 38.2 | -0.1 | -0.1 | -0.017 | -0.017 | 63.6 | 63.6 | 0 | 0 | -81.24 | *Fully Closed/*No Adj. Made |
| GUDEW117 | 9:53 | 11/15/2019 | 0 | 5.7 | 16.2 | 78.1 | -0.59 | -0.61 | 0.001 | 0.001 | 59.1 | 59.1 | 0.8 | 1.1 | -82.63 | *Fully Closed/*No Adj. Made |
| GUDEW118 | 9:59 | 11/15/2019 | 0 | 1.9 | 19.1 | 79 | -1.68 | -1.68 | 0.007 | 0.006 | 58.9 | 58.9 | 2.5 | 2.3 | -84.6 | *Fully Closed/*No Adj. Made |
| GUDEW119 | 10:05 | 11/15/2019 | 28.6 | 30.5 | 3.4 | 37.5 | -38.94 | -36.26 | -0.01 | -0.016 | 58.5 | 58.5 | 0 | 0 | -83.57 | *Dec. Flow/Vac. |
| GUDEW120 | 10:16 | 11/15/2019 | 24.6 | 20.6 | 0.7 | 54.1 | -0.23 | -0.22 | -0.015 | -0.014 | 60.6 | 60.5 | 0 | 0 | -84.21 | *Fully Closed/*No Adj. Made |
| GUDEW121 | 10:23 | 11/15/2019 | 0.1 | 9.6 | 12.5 | 77.8 | -0.23 | -0.24 | -0.002 | -0.003 | 61.6 | 61.6 | 0 | 0 | -83.7 | *Fully Closed/*No Adj. Made |
| GUDEW122 | 10:55 | 11/15/2019 | 36.7 | 34.4 | 0.9 | 28 | -83.71 | -83.71 | 0.004 | 0 | 62.2 | 62.2 | 1.6 | 0 | -83.34 | *Fully Open/*No Adj. Made |
| GUDEW123 | 10:30 | 11/15/2019 | 1 | 2.5 | 19.4 | 77.1 | -0.25 | -0.25 | -0.007 | -0.007 | 61.2 | 61.3 | 0 | 0 | -84.57 | *Fully Closed/*No Adj. Made |
| GUDEW124 | 10:39 | 11/15/2019 | 1.9 | 17.9 | 4.2 | 76 | -0.23 | -0.24 | -0.017 | -0.017 | 62.5 | 62.5 | 0 | 0 | -84.08 | *Fully Closed/*No Adj. Made |
| GUDEW125 | 10:27 | 11/15/2019 | 7.5 | 12.3 | 12.1 | 68.1 | -6.55 | -5.92 | -0.029 | -0.029 | 60.5 | 60.4 | 0 | 0 | -84.01 | *Dec. Flow/Vac. |
| GUDEW126 | 10:33 | 11/15/2019 | 65.3 | 34.1 | 0.6 | 0 | 3.66 | -0.66 | -0.025 | -0.019 | 61.8 | 62.1 | 0 | 0 | -83.68 | *Inc. Flow/Vac. |
| GUDEW126 | 10:34 | 11/15/2019 | 65.4 | 34.3 | 0.3 | 0 | -6.26 | -6.31 | -0.022 | -0.022 | 62.3 | 62.4 | 0 | 0 | -83.56 | *No Adj. Made |
| GUDEW127 | 10:40 | 11/15/2019 | 0.7 | 6.5 | 19.2 | 73.6 | -0.52 | -0.52 | -0.005 | -0.005 | 61.7 | 61.6 | 0 | 0 | -84.17 | *Fully Closed/*No Adj. Made |
| GUDEW128 | 10:46 | 11/15/2019 | 9.5 | 11.8 | 13.6 | 65.1 | -0.3 | -0.3 | -0.017 | -0.016 | 61.5 | 61.5 | 0 | 0 | -84.01 | *Fully Closed/*No Adj. Made |
| GUDEW129 | 10:48 | 11/15/2019 | 37 | 33.5 | 0.5 | 29 | -39.22 | -39.37 | 0.004 | -0.002 | 61.4 | 61.4 | 1.9 | 0 | -83.75 | *Fully Closed/*No Adj. Made |
| GUDEW130 | 10:51 | 11/15/2019 | 57.4 | 31 | 1.2 | 10.4 | -84.09 | -83.47 | -0.01 | -0.011 | 61.8 | 61.7 | 0 | 0 | -83.51 | *Fully Open/*No Adj. Made |
| GUDEW131 | 11:39 | 11/15/2019 | 3.1 | 9.8 | 11.3 | 75.8 | -11.03 | -8.95 | -0.066 | -0.054 | 63.2 | 63.3 | 0 | 0 | -44.77 | *Dec. Flow/Vac. |
| GUDEW132 | 11:37 | 11/15/2019 | 18.9 | 18 | 1.1 | 62 | -15.05 | -13.83 | -0.02 | -0.018 | 62.8 | 62.8 | 0 | 0 | -47.64 | *Dec. Flow/Vac. |
| GUDEW133 | 10:13 | 11/15/2019 | 6.4 | 5.7 | 17.9 | 70 | -3.74 | -3.29 | -0.007 | -0.01 | 60.8 | 60.9 | 0 | 0 | -84.46 | *Dec. Flow/Vac. |
| GUDEW134 | 10:07 | 11/15/2019 | 12.8 | 17.2 | 6.6 | 63.4 | -0.24 | -0.24 | -0.004 | -0.004 | 59 | 59 | 0 | 0 | -84.53 | *Fully Closed/*No Adj. Made |
| GUDEW135 | 9:49 | 11/15/2019 | 34.3 | 31.8 | 4.1 | 29.8 | -49.28 | -47.95 | -0.004 | -0.008 | 58.8 | 58.8 | 0 | 0 | -84.84 | *Dec. Flow/Vac. |
| GUDEW137 | 12:24 | 11/12/2019 | 18.5 | 28.2 | 1.1 | 52.2 | -58.73 | -54.34 | -0.24 | -0.082 | 52.9 | 53 | 0 | 0 | -58.64 | *Dec. Flow/Vac. |
| GUDEW138 | 12:27 | 11/12/2019 | 56.2 | 43.7 | 0 | 0.1 | 8.1 | 8.1 | 0.004 | 0.004 | 53.4 | 53.4 | 1.9 | 2 | -57.25 | *Fully Closed/*No Adj. Made |
| GUDEW139 | 12:30 | 11/12/2019 | 59.9 | 40.1 | 0 | 0 | 7.91 | 7.96 | -0.008 | -0.007 | 53.2 | 53.1 | 0 | 0 | -23.92 | *Fully Closed/*No Adj. Made |
| GUDEW140 | 12:41 | 11/12/2019 | 35.4 | 34.4 | 0.1 | 30.1 | -15.75 | -15.76 | -0.443 | -0.446 | 52.5 | 52.5 | 0 | 0 | -57.07 | *No Adj. Made |
| GUDEW141 | 12:35 | 11/12/2019 | 37.9 | 35.3 | 0.3 | 26.5 | -56.56 | -56.56 | -0.001 | 0 | 52.5 | 52.5 | 0 | 0 | -56.59 | *No Adj. Made |
| GUDEW142 | 12:37 | 11/12/2019 | 31 | 25.3 | 10.1 | 33.6 | -0.91 | -0.91 | -0.099 | -0.097 | 52.4 | 52.4 | 0 | 0 | -56.75 | *Fully Closed/*No Adj. Made |
| GUDEW143 | 12:43 | 11/12/2019 | 56.5 | 43.2 | 0.4 | N/A | -57.57 | -57.42 | 0.006 | 0.006 | 52.7 | 52.7 | 2.2 | 2.3 | -57.42 | *Fully Open/*No Adj. Made |
| GUDEW144 | 12:49 | 11/12/2019 | 56.1 | 43.9 | 0 | 0 | -0.04 | -0.53 | -0.017 | -0.085 | 52.4 | 52.5 | 0 | 0 | -48.32 | *Inc. Flow/Vac. |
| GUDEW145 | 12:51 | 11/12/2019 | 54.5 | 41.4 | 0.5 | 3.6 | -55.95 | -57.09 | -1.956 | -1.745 | 52.6 | 52.6 | 0 | 0 | -57.12 | *Inc. Flow/Vac. |
| GUDEW146 | 12:57 | 11/12/2019 | 0 | 3.3 | 15.3 | 81.4 | -0.51 | -0.49 | 0.012 | 0.012 | 52 | 52 | 3.4 | 3.3 | -54.9 | *Fully Closed/*No Adj. Made |
| GUDEW147 | 12:56 | 11/12/2019 | 3.4 | 18.8 | 1.6 | 76.2 | -0.92 | -0.92 | -0.024 | -0.023 | 52.1 | 52.1 | 0 | 0 | -55.09 | *Barely Open/*No Adj. Made |
| GUDEW148 | 13:00 | 11/12/2019 | 11.8 | 23.7 | 0.1 | 64.4 | -1.83 | -1.84 | -0.526 | -0.65 | 52.2 | 52.2 | 0 | 0 | -55.69 | *No Adj. Made |
| GUDEW149 | 13:02 | 11/12/2019 | 0 | 1.7 | 21.2 | 77.1 | -0.34 | -0.34 | 0.011 | 0.01 | 52.1 | 52.1 | 3.2 | 3.1 | -44.91 | *Fully Closed/*No Adj. Made |
| GUDEW150 | 11:35 | 11/15/2019 | 36.8 | 19.6 | 8.4 | 35.2 | -31.35 | -30.76 | -0.044 | -0.02 | 62.8 | 62.8 | 0 | 0 | -47.68 | *Dec. Flow/Vac. |
| GUDEW151 | 11:31 | 11/15/2019 | 9.8 | 20.1 | 2.6 | 67.5 | -36.81 | -31.87 | -0.057 | -0.027 | 61.6 | 61.8 | 0 | 0 | -47.61 | *Dec. Flow/Vac. |
| GUDEW152 | 11:22 | 11/12/2019 | 56.2 | 34.6 | 2.4 | 6.8 | -0.19 | -0.18 | -0.055 | -0.055 | 50.7 | 50.7 | 0 | 0 | -59.22 | *Fully Closed/*No Adj. Made |

| Well ID | Time | Date | CH ₄ (%) | CO ₂ (%) | O ₂ (%) | Balance (%) | Initial Static Press. (in. H2O) | Adjusted Static Press. (in. H2O) | Initial Diff. Press. (in. H2O) | Adjusted Diff. Press. (in. H2O) | Initial Temp. (°F) | Adjusted Temp. (°F) | Initial Flow (scfm) | Adjusted Flow (scfm) | Available Vacuum (in. H2O) | Comments |
|----------|-------|------------|---------------------|---------------------|--------------------|-------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--------------------|---------------------|---------------------|----------------------|----------------------------|-----------------------------|
| GUDEW153 | 11:24 | 11/12/2019 | 62 | 37.9 | 0.1 | 0 | -0.21 | -1.56 | -0.009 | -0.003 | 51.1 | 51.2 | 0 | 0 | -59.21 | *Inc. Flow/Vac. |
| GUDEW153 | 11:26 | 11/12/2019 | 61.4 | 38.5 | 0.1 | 0 | -2.72 | -2.71 | -0.003 | -0.003 | 51.3 | 51.3 | 0 | 0 | -59.02 | *Fully Closed/*No Adj. Made |
| GUDEW154 | 12:39 | 11/12/2019 | 59 | 33.5 | 6 | 1.5 | -0.27 | -0.27 | -0.089 | -0.088 | 52.5 | 52.5 | <<<> | <<<> | -57 | *Fully Closed/*No Adj. Made |
| GUDEW156 | 10:37 | 11/15/2019 | 27.3 | 30.6 | 2.8 | 39.3 | -8.64 | -7.91 | -0.003 | -0.008 | 62.3 | 62.3 | 0 | 0 | -74.34 | *Dec. Flow/Vac. |
| GUDEW157 | 10:11 | 11/15/2019 | 1.3 | 2.4 | 19.2 | 77.1 | -5.97 | -6.03 | -0.01 | -0.009 | 60.1 | 60.1 | 0 | 0 | -46.67 | *No Adj. Made |
| GUDEW158 | 11:26 | 11/15/2019 | 61.6 | 37.6 | 0.8 | 0 | -46.16 | -46.16 | 0.027 | 0.026 | 64.4 | 64.4 | 9.8 | 9.6 | -46.15 | *Fully Open/*No Adj. Made |
| GUDEW159 | 12:38 | 11/14/2019 | 72.4 | 26.9 | 0.7 | 0 | -1.51 | -1.47 | 0.014 | 0.012 | 54.2 | 54.3 | 7.9 | 7.5 | -1.5 | *No Adj. Made |
| GUDEFLAR | 18:33 | 11/5/2019 | 40.9 | 30.5 | 3.3 | 25.3 | 7.2 | 7.2 | -2.838 | -6.935 | 50 | 50 | 450 | 450 | N/A | |
| GUDEFLAR | 10:02 | 11/12/2019 | 34.1 | 28.2 | 4.1 | 33.6 | -82.75 | -82.75 | >>>> | >>>> | 61.2 | 61.2 | 333.7 | 333.7 | N/A | |
| GUDEFLAR | 12:28 | 11/15/2019 | 33.2 | 27.4 | 3.8 | 35.6 | -83.8 | -83.86 | >>>> | >>>> | 51.2 | 51.2 | 309.4 | 309.4 | N/A | |
| GUDEFLAR | 10:30 | 11/18/2019 | 35.2 | 28.3 | 3.6 | 32.9 | -83.71 | -83.73 | >>>> | >>>> | 70.5 | 70.5 | 314.1 | 314.1 | N/A | |
| GUDEFLAR | 11:22 | 11/27/2019 | 36.8 | 29.3 | 3.1 | 30.8 | -82.93 | -81.83 | >>>> | >>>> | 76.4 | 79 | 298.7 | 298.7 | N/A | |

Pressure ≥ 0

Oxygen ≥ 5%

Temperature ≥ 131° F

Appendix B

Construction Permit and As-Built Drawings

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Robert L. Ehrlich, Jr.
Governor

Kendal P. Philbrick
Secretary

DEPARTMENT OF THE ENVIRONMENT

Air and Radiation Management Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

Construction Permit

Operating Permit

PERMIT NO. 031-9-0738 M

DATE ISSUED June 3, 2004

PERMIT FEE \$400.00 (Paid)

In accordance with
EXPIRATION DATE COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

Montgomery Co. Division of Solid Waste Services
Department of Public Works and Transportation
16101 Frederick Road
Derwood, MD 20855
Attn: Robert Wilson, Section Chief

SITE

Gude Landfill
600 East Gude Drive
Rockville, MD 20850
Montgomery County
Premises # 2253

SOURCE DESCRIPTION

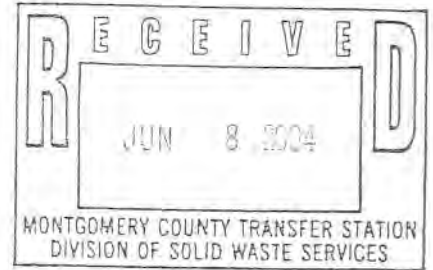
Installation of two (2) enclosed landfill gas flares to control emissions at an existing landfill.

This source is subject to the conditions described on the attached pages.

Karen Y. [Signature]
Program Manager

Angel [Signature]
Director, Air and Radiation Management Administration

MONTGOMERY COUNTY DIVISION OF SOLID WASTE SERVICES
GUDE LANDFILL
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-9- 0738 M



INDEX

- Part A – General Provisions
- Part B – Applicable Regulations
- Part C – Construction Conditions
- Part D – Operating Conditions

Part A – General Provisions

- (1) The Application for 2 (two) enclosed ground landfill gas flares (form AMA-6) received on April 12, 2004 is incorporated into this permit by reference.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

- (2) Upon presentation of credentials, representatives of the Maryland Department of the Environment (“MDE” or the “Department”) and the Montgomery County Department of Environmental Protection shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee’s property and permitted to:
- (a) inspect any construction authorized by this permit;
 - (b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;
 - (c) inspect any monitoring equipment required by this permit;
 - (d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit, and
 - (e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit.
- (3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.

MONTGOMERY COUNTY DIVISION OF SOLID WASTE SERVICES
GUDE LANDFILL
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-9- 0738 M

- (4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of nuisance or air pollution.
- (5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.

Part B – Applicable Regulations

- (1) This source is subject to all applicable Federal and local requirements, including 40 CFR 60 Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills.
- (2) This source is subject to all applicable federally enforceable state air pollution control requirements including, but not limited to, the following regulations:
 - (a) COMAR 26.11.01.07C, which requires that the Permittee report to the Department occurrences of excess emissions.
 - (b) COMAR 26.11.02.09A, which requires that the Permittee obtain a permit-to-construct if an installation is to be modified in a manner that will cause changes in the quantity, nature, or characteristics of emissions from the installation as referenced in this permit.
 - (c) COMAR 26.11.06.02C(2), which prohibits visible emissions other than water in uncombined form.
 - (d) COMAR 26.11.06.03B(2), which limits the concentration of particulate matter in any exhaust gases to not more than 0.03 grains per standard cubic foot of dry exhaust gas.
 - (e) COMAR 26.11.19.20 D(1) & (2) which states:
 - (1) A person who owns or operates an MSW landfill shall prepare and submit a design capacity report to the Department not later than November 1, 1997. The report shall contain the following information:
 - (a) A map or a plot of the landfill providing the size and the location of the landfill and the area in which MSW is or will be land filled;
 - (b) The date the MSW landfill began accepting MSW;
 - (c) The date the MSW landfill ceased or is estimated to cease accepting MSW;
 - (d) The maximum design capacity of the MSW landfill in tons or cubic yards; and

MONTGOMERY COUNTY DIVISION OF SOLID WASTE SERVICES
GUDE LANDFILL
PERMIT-TO-CONSTRUCT CONDITIONS
PERMIT No. 031-9- 0738 M

- (e) The amount of MSW accepted in tons or cubic yards for each operating year.
- (2) Notwithstanding the permit to construct requirements in COMAR 26.11.02, a person who increases the maximum design capacity of an existing MSW landfill after November 1, 1997, shall amend and resubmit the design capacity report required in Sec. D(1) of this regulation within 90 days of the issuance of any permit that authorizes the increase or any other change that increases the maximum design capacity of the landfill.
- (3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:
 - (a) COMAR 26.11.06.08 – Nuisance. “An installation or premises may not be operated or maintained in such a manner that nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution.”
 - (b) COMAR 26.11.06.09 – Odors. “A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that nuisance or air pollution is created.”

Part C – Construction Conditions

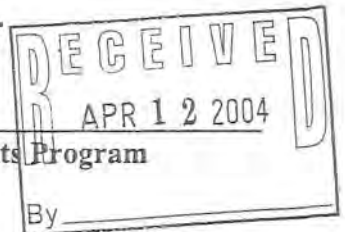
- (1) Except as otherwise provided in this part, the two enclosed ground landfill gas flares shall be constructed in accordance with specifications included in the application.
- (2) The landfill gas flare shall be designed to operate at a minimum combustion efficiency of at least 98%.

Part D – Operating Conditions

- (1) Except as otherwise provided in this part, the two enclosed ground landfill flares shall be operated in accordance with specifications included in the application.
- (2) Nothing in this permit authorizes the violation of any rule or regulation or the creation of nuisance or air pollution.
- (3) If any provision of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provisions shall be considered and deleted from the permit.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
 (410) 537-3230 ▪ 1-800-633-6101 ▪ www.mde.state.md.us



Air and Radiation Management Administration ▪ Air Quality Permits Program

**Application for Permit to Construct
 Gas Cleaning or Emission Control Equipment**

| | | | |
|--|--|--|---|
| 1. Owner of Installation Montgomery County Division of Solid Waste Services Department of Public Works and Transportation | | Telephone No. (301) 840-2371 | Date of Application 04/08/2004 |
| 2. Mailing Address 16101 Frederick Rd. | | City Derwood | Zip Code 20855 |
| 3. Equipment Location Gude Landfill | | City/Town or P.O. Rockville | County Montgomery |
| 4. Signature of Owner or Operator <i>Robert Willson</i> | | Title Section Chief | Print or Type Name Robert Willson |
| 5. Application Type: | | Alteration <input type="checkbox"/> | New Construction <input checked="" type="checkbox"/> |
| 6. Date Construction is to Start: (Estimate) August 1, 2004 | | Completion Date (Estimate): November 1, 2004 | |
| 7. Type of Gas Cleaning or Emission Control Equipment: | | | |
| Simple Cyclone <input type="checkbox"/> Multiple Cyclone <input type="checkbox"/> Afterburner <input type="checkbox"/> Electrostatic Precipitator <input type="checkbox"/> | | | |
| Scrubber <input type="checkbox"/> _____ (type) Other <input checked="" type="checkbox"/> Enclosed Landfill Gas Flare _____ (type) | | | |
| 8. Gas Cleaning Equipment Manufacturer John Zink or Equivalent | | Model No. ZTOF | Collection Efficiency (Design Criteria) 98% VOC Destruction |
| 9. Type of Equipment which Control Equipment is to Service: Landfill Gas Emissions | | | |
| 10. Stack Test to be Conducted: | | | |
| Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> _____ (Date) | | | |
| (Stack Test to be Conducted By) _____ | | | |
| 11. Cost of Equipment \$250,000 (estimated) | | | |
| Estimated Erection Cost \$150,000 (estimated) | | | |

12. The Following Shall Be Design Criteria:

| | <u>INLET</u> | | <u>OUTLET</u> |
|------------------------------------|----------------------------|---------------|-------------------|
| Gas Flow Rate | 1200 (600 per flare) ACFM* | | _____ ACFM* |
| Gas Temperature | 70-120 °F | | 1500-1900 °F |
| Gas Pressure | 5 INCHES W.G. | | N/A INCHES W.G. |
| | | PRESSURE DROP | N/A |
| Dust Loading | N/A GRAINS/ACFD** | | N/A GRAINS/ACFD** |
| Moisture Content | 100 % | | N/A % |
| OR | | | N/A |
| Wet Bulb Temperature | N/A °F | | _____ °F |
| Liquid Flow Rate (Wet Scrubber) | N/A GALLONS/MINUTE | | |

(WHEN SCRUBBER LIQUID OTHER THAN WATER INDICATE COMPOSITION OF SCRUBBING MEDIUM IN WEIGHT %)

* = ACTUAL CUBIC FEET PER MINUTE ** = ACTUAL CUBIC FEET DRY

WHEN APPLICATION INVOLVES THE REDUCTION OF GASEOUS POLLUTANTS, PROVIDE THE CONCENTRATION OF EACH POLLUTANT IN THE GAS STREAM IN VOLUME PERCENT. INCLUDE THE COMPOSITION OF THE GASES ENTERING THE CLEANING DEVICE AND THE COMPOSITION OF EXHAUSTED GASES BEING DISCHARGED INTO THE ATMOSPHERE. USE AVAILABLE SPACE IN ITEM 15 ON PAGE 3.

13. Particle Size Analysis

| <u>Size of Dust Particles Entering Cleaning Unit</u> | <u>% of Total Dust</u> | <u>% to be Collected</u> |
|--|------------------------|--------------------------|
| 0 to 10 Microns | N/A | N/A |
| 10 to 44 Microns | _____ | _____ |
| Larger than 44 Microns | _____ | _____ |

14. For Afterburner Construction Only:

Volume of Contaminated Air _____ N/A _____ CFM (DO NOT INCLUDE COMBUSTION AIR)

Gas Inlet Temperature _____ °F

Capacity of Afterburner _____ BTU/HR

Diameter (or area) of Afterburner Throat _____

Combustion Chamber _____ (diameter) _____ (length) Operating Temperature at Afterburner _____ °F

Retention Time of Gases _____

15. Show Location of Dust Cleaning Equipment in the System. Draw or Sketch Flow Diagram Showing Emission Path from Source to Exhaust Point to Atmosphere.

See attached process flow diagram.

S

Date Received: Local _____ State 4/12/04

Acknowledgement Date: 4/14/04

By Vas Rusu

Reviewed By:

Local _____

State Vas Rusu

Returned to Local:

Date _____

By _____

Application Returned to Applicant:

Date _____

By _____

REGISTRATION NUMBER OF ASSOCIATED EQUIPMENT:

| | | | | | |
|---|---|---|---|---|---|
| 9 | 0 | 7 | 3 | 8 | M |
|---|---|---|---|---|---|

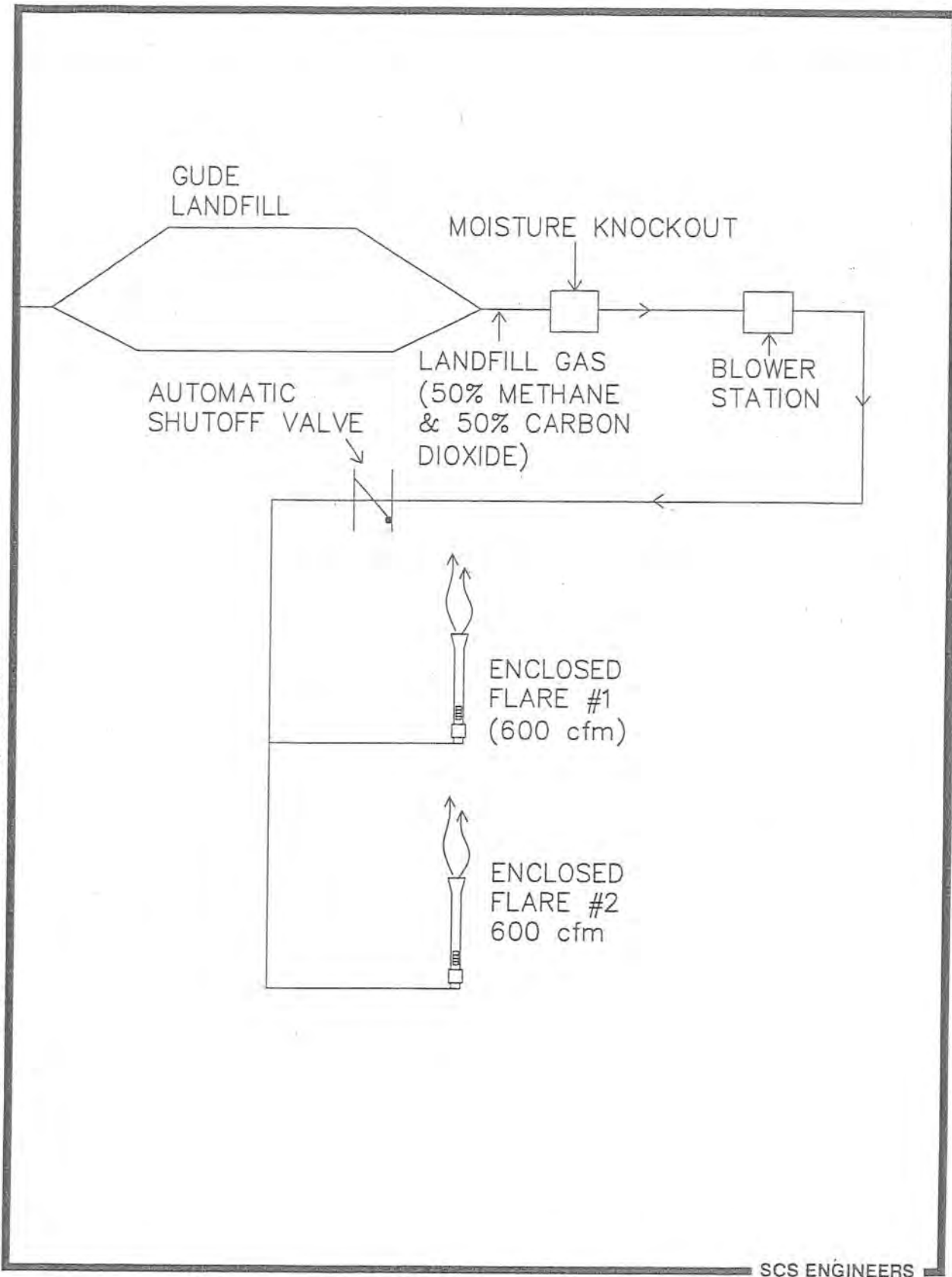
PREMISES NUMBER:

| | | |
|---|---|---|
| 0 | 3 | 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| 2 | 2 | 5 | 3 |
|---|---|---|---|

Emission Calculations Revised By _____ Date _____

DRAWN BY: RTU DATE: 03/26/04 FILE NAME: M: /022030392/GUDEDIAGRAM



SCS ENGINEERS

FIGURE 1 - PROCESS FLOW DIAGRAM: GUDE LANDFILL

**Estimated Flare Emissions Calculations
Gude Landfill**

Calculated by: RTU
Checked by: JGR

| Pollutant | Table 1: Emission Summary Emissions Per Flare (ton/yr) | Total (ton/yr) |
|-----------------|--|-------------------|
| NO _x | 6.3 | 12.6 |
| CO | 15.8 | 31.5 |
| PM | 1.3 | 2.6 |
| SO ₂ | 1.2 | 2.4 |
| VOC | 0.2 | 0.4 |

1. Assumed methane content = 50.0%
2. Maximum LFG flow rate = 600 cfm per flare
3. Assumed methane flow rate = 300 cfm per flare
4. Flare control efficiency = 98.0% [min. mfrg.'s guaranteed destruction]

Calculate the maximum NO_x Emissions

The emission of NO_x is estimated using the John Zink emission factor of 0.08 lb/MMBTU for operating temp of 1,800 °F.

Using 50% methane flow rate the CO emissions are:

$$= (525,600 \text{ min/yr})(0.08 \text{ lb/MMBTU})(\text{LFG flow rate})(500 \text{ BTU/ft}^3)(1/10^6)(1 \text{ ton}/2000 \text{ lb})$$

$$= \quad \quad \quad \mathbf{6.3 \text{ tons/yr NO}_x \text{ emissions per flare}}$$

where:

$$\text{methane flow rate} = \quad \quad \quad 600 \text{ cfm}$$

Calculate the Maximum CO Emissions

The emission of CO is estimated using the John Zink emission factor of 0.2 lb CO/MMBTU.

Using the methane flow rate the CO emissions are:

$$= (525,600 \text{ min/yr})(0.2 \text{ lb/MMBTU})(\text{LFG Flow Rate, cfm})(500 \text{ Btu/ft}^3)(1/10^6)(1 \text{ ton}/2000 \text{ lb})$$

$$= \quad \quad \quad \mathbf{15.8 \text{ tons/yr CO emissions per flare}}$$

where:

$$\text{LFG flow rate} = \quad \quad \quad 600 \text{ cfm}$$

Calculate the Maximum PM10 Emissions

The emission of PM10 is estimated using the EPA's AP-42 emission factor (Table 2.4-5) of 17 lb PM/10⁶ dscf methane. Divide lb/10⁶ dscf by 16,700 to obtain lb/hr/dscfm.

- * AP-42 emissions factors do not distinguish between PM10 and PM2.5 emissions, though AP-42 does suggest that, for LFG particulate flare emissions, PM10 and PM2.5 emissions are equivalent.

Using the 50% methane flow rate the PM10 emissions are:

$$= [(17 \text{ lb PM}) / (16,700)] * (\text{methane flow rate cfm}) * (1 \text{ ton}/2,000 \text{ lb}) * (8,760 \text{ hr/year})$$

$$= \qquad \qquad \qquad \mathbf{1.3 \text{ tons/yr PM10 emissions per flare}}$$

where:

$$\text{methane flow rate} = \qquad \qquad \qquad 300 \text{ cfm}$$

Calculate Maximum SOx Emissions

The emission of sulfur oxides (SOx) is estimated using the LFG flow rate to the flare and the AP-42 default concentration of 46.9 ppmv of total reduced sulfur compounds.

First, calculate the volume flow rate of sulfur to the flare using AP-42 equation 2.4(3)

$$= (\text{Maximum LFG flow rate, cfm}) * [(46.9 \text{ ppm}) / (1,000,000)] * (1 \text{ m}^3/35.31 \text{ ft}^3) * (525600 \text{ min/yr})$$

$$= \qquad \qquad \qquad 419 \text{ m}^3 \text{ sulfur/yr}$$

where:

LFG flow rate is converted from cfm to cubic meters per year

Next, calculate the mass flow rate of sulfur to the flare using AP-42 equation 2.4(4)

$$= [(\text{sulfur volume flow}) * (32 \text{ g/mol})] / [(8.205 \times 10^{-5}) * (1000 \text{ g/kg}) * (298 \text{ K})]$$

$$= \qquad \qquad \qquad 548 \text{ kg sulfur/yr}$$

where:

32 g/gmol is the molecular weight of sulfur

8.205x10⁻⁵ is the ideal gas conversion factor

298 K is the assumed temperature of the LFG (equivalent to 25 deg C)

$$\text{sulfur vol. flow (m}^3\text{/yr)} = \qquad \qquad \qquad 419 \text{ cfm}$$

Finally, calculate the SO_x flare emissions using AP-42 equation 2.4(7)

$$= (\text{sulfur mass flow to the flare, kg}) * (2.0) * (2.2 \text{ lb/kg}) * (1 \text{ ton}/2,000 \text{ lb})$$

$$= \quad \quad \quad \mathbf{1.2 \text{ tons/yr SO}_x \text{ emissions per flare}}$$

where:

2.0 is the ratio of the molecular weight of SO₂ to that of sulfur
sulfur mass flow (kg/yr) = 548 cfm

Calculate the VOC Emissions

The emission of Volatile Organic Compounds (VOCs) is estimated using the LFG flow rate to the flare and the AP-42 default concentration of 235 ppmv of VOCs (from Table 2-4.2 note c).

First, calculate the volume flow rate of VOC to the flare using AP-42 equation 2.4(3)

$$= (\text{LFG flow rate, cfm}) * [(235 \text{ ppm}) / (1,000,000)] * (1 \text{ m}^3/35.31 \text{ ft}^3) * (525600 \text{ min/yr})$$

$$= \quad \quad \quad \mathbf{2099 \text{ m}^3/\text{yr VOC total flare emissions}}$$

where:

LFG flow rate is converted from cfm to cubic meters per year

Next, calculate the mass flow rate of VOCs to the flare using AP-42 equation 2.4(4)

$$= [(\text{VOC volume flow}) * (86.18 \text{ g/mol})] / [(8.205 \times 10^{-5}) * (1000 \text{ g/kg}) * (298 \text{ K})]$$

$$= \quad \quad \quad \mathbf{7,398 \text{ kg VOC/yr}}$$

where:

86.18 g/gmol is the molecular weight of Hexane (VOC as Hexane from AP-42 Table 2-4.2 note c)

8.205×10^{-5} is the ideal gas conversion factor

298 K is the assumed temperature of the LFG (equivalent to 25 deg C)

VOC vol. flow (m³/yr) = 2,099 m³/yr

Finally, calculate the VOC flare emissions using AP-42 equation 2.4(5)

$$= (\text{VOC mass flow to the flare}) * (100\% - 98\% \text{ destruction efficiency}) * (2.2 \text{ lb/kg}) * (1 \text{ ton}/2,000 \text{ lb})$$

$$= \quad \quad \quad \mathbf{0.2 \text{ tons VOC emissions from flare}}$$

where:

VOC mass flow (kg/yr) = 7,398 cfm

SECTION 11170

ENCLOSED GROUND FLARES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall supply all materials, equipment, and labor needed to procure, fabricate, shop test, deliver, install, start-up, and field test a complete landfill gas flaring package consisting of two (2) enclosed ground flares, as specified herein, including all appurtenances to provide a complete system ready for operation at the Gude Landfill.
- B. Related Work Described Elsewhere

Section 15090: Blower Motor Assembly
Section 16930: Instrumentation and Control Panels.
- C. If necessary, modifications shall be made in the manufacturer's standard product to make it conform to the specific requirements of the Specifications and to requirements contained in regulations issued by public agencies.
- D. Equipment shall include all production line improvements made prior to the delivery or Contract date. All equipment and components shall comply with applicable requirements of the standards of ASME, AGA, NFPA, and the Underwriters' Laboratories. Equipment shall not have been in service, except for shop tests, at any time prior to delivery. The equipment shall be furnished factory-assembled to the extent possible and ready for installation.

1.2 QUALIFICATIONS

- A. Two (2) Enclosed Ground Flares, including all ancillary equipment, shall be furnished by a manufacturer who is fully experienced, reputable, and qualified in the manufacture of the equipment to be furnished. The manufacturer shall have experience in supplying equipment for landfill gas service, and shall have a minimum of five years experience in design and manufacture of this type of equipment. It shall have a minimum of five similar installations in successful operation in the United States.
- B. The Enclosed Ground Flares shall be manufactured by John Zink Company, Perennial Energy, or approved equal.

1.3 SUBMITTALS

- A. Drawings: The CONTRACTOR shall prepare and submit to the ENGINEER, for review and approval, manufacturer's drawings and other information pertaining to the assembly, operation, adjustments, and maintenance and repairs of equipment delivered under this Section, together with detailed parts lists and/or photographs. The CONTRACTOR shall prepare and submit drawings showing the general arrangement, layout, orientation, elevations, and dimensions of the flare, pilot/ignition assembly, and other flare appurtenances. The CONTRACTOR shall submit a piping and instrumentation diagram. The CONTRACTOR shall also submit complete control panel diagrams and elevations showing all components, wires, connections, and numbered terminals, and complete electrical interconnect diagrams showing all wires and terminals between the control panel and external devices (See Section 16930 for more details).
- B. Catalog Cuts and Specification Sheets: The CONTRACTOR shall submit information describing the make and model number for all components and physical dimensions for the following: flame arrester, valves, actuators, and flow meter.
- C. The CONTRACTOR shall submit information showing the total weight of the equipment, including the weight of the single largest item
- D. O & M Manual: Three (3) copies of a complete draft O & M manual shall be submitted for review three (3) weeks prior to flare delivery. The draft manual must include a detailed checklist specifying how all controls, safeties, etc. will be tested during start-up. Vender information (for example, user manuals for the PLC and phone dialer) shall not be included with the draft manuals. The CONTRACTOR shall submit to the ENGINEER three (3) copies of a final operations and maintenance manual two weeks after startup of the flare that incorporate the ENGINEER's comments on the draft manual. The manual shall be prepared specifically for this installation and shall include all required catalog cuts, specification sheets, record drawings, equipment list, descriptions, health and safety issues, and information necessary to instruct operating personnel unfamiliar with such equipment.
- E. The CONTRACTOR shall submit detailed instructions on the proper handling, unloading, storage, and installation of all equipment in an outside environment.
- F. Prior to testing, the CONTRACTOR shall submit for review and approval a detailed outline of test procedures including step-by-step descriptions of the proposed test, a list of all test equipment, test equipment calibration dates, and sign-off sheets.

1.4 DESIGN CRITERIA

- A. The landfill gas flare system shall be designed to operate continuously at the following service conditions.

| Parameter | Value |
|--|--|
| Number Required | 2 |
| Maximum LFG Flow, each flare | 600 scfm |
| Maximum Btu Rate (HHV), each flare | 18 MMBtu/hr. |
| Flare Inlet Pressure: Maximum | 5 in.-w.c. |
| Turndown Ratio (based on Btu) | 7:1 |
| Gas Composition Range: | |
| Example LFG Composition & Flow, each flare | 600 scfm @ 50% methane 100 scfm @ 50% methane 170 scfm @ 30% methane |
| Hydrogen Sulfide | up to 2,000 ppm |
| Moisture Content | saturated |
| Site Elevation | 420 ft. M.S.L. |
| Pilot Gas | Propane |
| Maximum Stack Emissions: | |
| NO _x (HHV) | 0.06 lbs/MMBtu @1600 °F |
| CO (HHV) | 0.20 lbs/MMBtu |
| Operating Temperature | 1500 to 1900 °F |
| Minimum Residence Time | 0.3 seconds @1500 °F |

1.5 PERFORMANCE REQUIREMENTS

- A. The following performance requirements shall be guaranteed by the CONTRACTOR:
1. Each supplied flare assembly shall meet the design and performance criteria, including the emission limits, specified herein.
 2. The flare shall be complete with adjustment features that will allow odor-free operation of the flare under significant changes in gas composition.
 3. The flare shall provide both a minimum 98 percent by weight, destruction and removal efficiency of nonmethane organic compounds (NMOC) as measured by

U.S. Environmental Protection Agency (EPA) Method 25C and an outlet NMOC concentration that shall not exceed 20 ppmv measured as hexane and corrected to 3 percent oxygen.

4. Exhaust from the flare stack shall have no visible flame and no visible emissions.
5. The burner heads shall be designed to provide a sufficient pressure drop at minimum flow and heat content conditions in order to maintain a stable flame and proper destruction. The burners must operate with a stable flame over the entire operating range.
6. The burner shall be designed so that flame lift-off from the burner does not occur, and shall be an anti-flash back design.
7. The flare shall be configured to operate on LFG only and maintain operating temperature, provided the methane content is greater than 25 percent. The flare shall allow for and use supplementary fuel if the methane content falls below 25 percent.

1.6 APPLICABLE CODES AND STANDARDS

- A. All equipment shall be manufactured in accordance with codes and guidelines as specifically detailed herein and in accordance with applicable portions of the following (latest edition):
 1. Local Laws and Ordinances.
 2. State and Federal Laws.
 3. National Electrical Code.
 4. National Electrical Manufacturers Association (NEMA).
 5. Underwriters Laboratories (UL).
 6. Uniform Building Code (UBC).
 7. American National Standards Institute (ANSI).
 8. American Society of Mechanical Engineers (ASME).
 9. Institute of Electrical and Electronic Engineers (IEEE).
 10. Instrument Society of America (ISA).
 11. Industrial Risk Insurance (IRI).
 12. Factory Mutual (FM).
 13. National Fire Protection Agency (NFPA).

PART 2 MATERIALS

2.1 EQUIPMENT

- A. The landfill gas flare system shall have the following items as a minimum:
1. Two (2) stacks and burners for landfill gas.
 2. One (1) flame arrester for each flare stack.
 3. Control system (see Section 16930 for more details).
 4. Auxiliary equipment and piping (see Sections 15090 and 16930 for more details).
 5. Ignition by propane pilot system with electric igniter and pressure regulator.
 6. Controls and piping for supplemental fuel.
 7. Spare parts.

2.2 STACK AND BURNERS

- A. The CONTRACTOR shall provide two (2) enclosed flares, with a minimum turndown ratio of 7:1 (based on Btu rate). The stack shall be constructed of ASTM A-36 carbon steel, at a minimum, with a minimum thickness of 1/4-inch. BOCA Code and local Building Code requirements shall be met, including structural loading for 110 mph winds. Welds shall be full penetration. LFG burners shall be made from 304L series stainless steel, at a minimum, with a minimum thickness of 16 gauge. The manifold shall be of a sectional header arrangement to accommodate the removal and repair of individual flanged headers.
- B. The refractory shall be a lightweight ceramic insulating blanket, manufactured by A.P. Green or equal, installed at the factory. The flare shall not require warm-up or cool-down procedures to avoid refractory damage. The shell skin temperature shall not exceed 250 degrees F under maximum Btu loading conditions. A minimum of two (2) layers of ceramic fiber insulation blanket shall be provided. One 1-inch-thick layer of ceramic fiber blanket of 8lbs/ft³ density shall be installed, using overlap outer face construction methods, over one 1-inch-thick layer of ceramic fiber blanket of 6lbs/ft³ density. Insulation shall be attached to stack wall and floor with Inconel 601 series, or as approved by the ENGINEER as equal, anchors, pins, and keepers. A 304 S.S. rain guard shall be provided at the top of the flare stack to prevent water seeping into the insulation. A 2-inch heat and flame resistant sight port shall be provided.
- C. The exposed carbon steel surfaces of the flare shall be sand blasted (SSPC - SP6) and have one (1) finish coat of rust-resistant, heat-resistant primer and one (1) finish coat applied at the shop/factory. The primer shall have high zinc content (minimum 50 percent by weight) suitable for the operating temperatures, such as Sherwin Williams Zinc Clad II or approved equal, suitable for a corrosive environment with high hydrogen sulfide LFG. Primer coat shall be 2 to 3 mils DFT and finish coat shall be minimum 1.5 dry mils. The CONTRACTOR shall remove rust and repaint equipment that experiences blistering, cracking, peeling, rusting, or other failure during the first year of

operation under normal flare temperature conditions (< 2000 °F). One (1) gallon of touch-up paint shall be supplied with the flare. The color of the finish coat shall be approved by the OWNER.

- D. At all levels of performance, the sound pressure shall not exceed 85 dbA over a frequency range of 37.8 to 9,600 cycles per second. Measurement shall be made a distance of three (3) feet from the outer face of the flare. In addition, the sound pressure for all blower and flaring equipment shall not exceed 55 dbA at a distance of 150 feet from the flaring equipment. The equipment manufacturer shall guarantee that the equipment furnished for this project does not exceed the specified sound pressures.
- E. All factory-finished equipment shall be protected from damage during shipment, thoroughly cleaned after shipment, and touched up as directed by the ENGINEER. If the factory finish had, in the opinion of the ENGINEER, been damaged, the equipment shall be given one (1) finish field coat.
- F. Each flare stack shall have a galvanized ladder mounted to it to allow servicing of the thermocouples. The ladder shall comply with OSHA requirements and include a hood shield at the top of the ladder and safety harness attachment lugs. Protective screening shall be provided behind the ladder.
- G. A brass or stainless steel nameplate shall be attached to the flare in a conspicuous place. The following information shall be plainly marked on the nameplate: name and address of the manufacturer, serial number, model number, and any other information necessary for complete identification.
- H. An access manway shall be provided on the unit for inspection and maintenance of the burners. Access may be provided by hinging one set of louvers, or by a separate bolted or locked manway.
- I. A set of minimum two (2) sampling ports shall be spread horizontally and located at least 2 feet above the flame zone and at least 1/2 stack diameter below the top of the flare shroud. Sampling ports shall be installed 90 degrees apart, and shall consist of 4-inch NPT ports with insulated plugs.
- J. Eyebolts shall be provided above each sampling port to properly support sampling probe and trains.
- K. The flare stack shall be provided with lifting lugs near the top of the flare to permit the lifting and upright suspension of the flare at these points. The flare shall arrive on the site with internal supports necessary to permit the lifting of the flare by the lifting lugs without damage to the refractory or other flare components and all necessary covering and weather protection to enable outside storage prior to installation.
- L. The flare stack shall be assembled at the factory to the extent possible. Instructions for any unavoidable on-site assembly shall be provided per submittal requirements.

- M. The flare stack shall be installed on the concrete slab. All necessary support angles to install the flare on the concrete slab shall be furnished by the flare manufacturer. A base ring template made of 1/4" carbon steel shall be used to assist in setting the anchor bolts. The landfill gas inlet flange and pilot gas pipe connection furnished with the flare shall extend a minimum of 6 inches beyond the outermost dimension of the flare.

2.3 FLAME ARRESTER

- A. Flame arresters (2) shall be suitable for installation on lines containing saturated LFG.
- B. The CONTRACTOR shall supply an eccentric flame arrester compatible to the required flow rates for each flare. Maximum head loss through the flame arrester shall not exceed 5 in.-w.c. at the maximum flow rate. Each flame arrester be provided with 125-pound, ANSI flange connections for compatibility with the LFG header pipe. Each flame arrester and all LFG piping and fittings downstream of the flame arrester shall be provided by the flare manufacturer. The housing construction shall be cast aluminum and shall have a drain connection with manual valve. The flame arrester shall be manufactured by Varec, Groth, or as approved by the ENGINEER as equal.
- C. The bank assembly shall be all aluminum and shall be so arranged for removal from the housing to facilitate inspection and cleaning, without removal of the housing from the pipe. The net free area through the bank assembly shall not be less than four times that of the corresponding size pipe. All grids of the bank shall be arranged for individual removal.
- D. The CONTRACTOR shall provide a differential pressure (Dwyer Capsuhelic or equal) indicator across the flame arrester, including connecting piping, mount, and isolation valves.

2.4 CONTROL SYSTEM

The control panel(s) for the system shall be compliant with NEMA 4 specifications at a minimum and shall house all control functions for the flares and blowers. See Section 16930 for details.

2.5 AUXILIARY EQUIPMENT

Auxiliary equipment for each flare shall include the following:

- A. Temperature Indication:

Three (3) thermocouples installed at various stack heights to appropriately monitor anticipated minimum, maximum, and intermediate flow temperatures. A selector switch shall be provided to allow operator selection of any thermocouple.

- B. Automatic temperature control via makeup air dampers.

- C. Ultraviolet scanner (self-checking) flame monitoring with NFPA-approved flame safeguard controller as manufactured by Honeywell, or as approved by the ENGINEER as equal.
- D. Explosion-proof purge blower.
- E. Automatic control valves. Each flare assembly shall include an automatic control valve. The valve shall open when prompted by the flare control panel and closed by loss of electrical power, flame failure, or blower failure. It shall be a pneumatically operated butterfly valve, bubble-tight, wafer-style, equipped with a stainless steel disk and Viton or Teflon seat. The operator shall have a manual override and be equipped as a spring fail close device. It shall close when directed by the logic in less than 5 seconds. The compressed gas necessary to operate the valve shall be supplied by a nitrogen bottle (to be supplied by others).

2.6 IGNITION PROCEDURE

- A. The pilot and main flame for each flare shall be controlled by a PLC using ultraviolet (UV) scanner(s), thermocouples and timers to perform the following functions:
 1. System startup shall begin with a 5-minute purge cycle, using a purge blower, to evacuate any fugitive hydrocarbons from the flare. Limit switch on flare shut-off valve must indicate closure during the purge cycle. After purge is completed, spark ignition of propane creates pilot flame. Prove the pilot flame by a self-checking flame scanner.
 2. When pilot is successfully ignited, automatic control valve is activated. Open limit switch on main valve activates blower(s).
 3. When main flame is successfully ignited (as detected by a UV scanner), pilot gas is shut off.
 4. If pilot is not ignited after three attempts within the pre-selected time interval (as set on the timer), the pilot is shut off, a trouble light is illuminated, and the auto dialer signal is initiated.
 5. If main flame is not ignited within the pre-selected time interval, the pilot is shut off, and the trouble light is illuminated.
 6. If the main flame fails (either loss of flame or high or low temperature condition for either flare), a contact closure shall signal the inlet valve to close, the blower(s) to turn off and an alarm and auto-dialer signals to activate.
 7. In the event of loss of flame, the flare and blower shall automatically restart after an adjustable time delay of 5 to 15 minutes.
- B. In the event of a power failure, the flare and blowers shall automatically restart when power resumes. After 15 minutes, an alarm and auto-dialer signal is activated.

2.8 SPARE PARTS - The CONTRACTOR shall provide the following spare parts:

- A. 1 UV scanner
- B. 1 Flame scanner controller/amplifier
- C. 4 Thermocouple assemblies
- D. 1 Spark plug
- E. 2 Igniter rod insulators
- F. 1 Sight port assembly
- G. 6 Panel lights
- H. 1 Pressure gauge
- I. 1 Solenoid valve (for propane pilot)
- J. 1 Damper actuator
- K. 1 Pressure Switch
- L. 1 Gallon of paint

PART 3 EXECUTION

- 3.1 Prior to shipment, the flare manufacturer shall test all interlocks, relays, blowers, valves, instrumentation and controls. Testing of proper start-up, operating and shutdown sequences is required, together with and required adjustment or corrections. The main flare burners do not need to be operated.
- 3.2 The flare manufacturer's representative shall be on site for up to 4 days (defined as 8 hour days at the site) during flare system start-up to provide start-up troubleshooting, to perform a QA/QC check of the installation work, to identify any defects requiring corrective action, to confirm all controls and safeties, to demonstrate equipment operation, health and safety issues, and to train on-site personnel using the draft O&M manual. Successful demonstration of all equipment, controls, and failure modes is required for final acceptance of the system. All labor, equipment, field testing, supplies and other necessary items to perform the blower/flare start-up shall be provided by the CONTRACTOR.
- 3.3 The CONTRACTOR shall coordinate all aspects of the work with the blower manufacturer and with the flare manufacturer.

END OF SECTION



16406 US ROUTE 224 E
 FINDLAY, OH 45840-9761
 PHONE: (800) 331-7683 or (419) 424-4999
 FAX: (419) 424-4939 or (419) 424-4991

LANDFILL GAS ENCLOSED FLARE #EF63018
 GUDE LANDFILL
 ROCKVILLE, MD

DWG No.

- 1953-TTL
- 1953-PID-SHT1
- 1953-PID-SHT2
- 1953-M1
- 1953-M2
- 1953-M3
- 1953-KOP
- 1953-EPD
- 1953-EM1-SHT1
- 1953-EM1-SHT2
- 1953-EP1-SHT1
- 1953-EP1-SHT2
- 1953-EP1-SHT3
- 1953-EE1-SHT1
- 1953-EE1-SHT2
- 1953-EP2
- 1953-ER1
- 1953-E01
- 1953-E02
- 1953-E03
- 1953-E04
- 1953-E05
- 1953-E06
- 1953-E07
- 1953-E08
- 1953-E09
- 1953-E10
- 1953-E11
- 1953-AD1
- 1953-EP3
- 1953-EP4
- 1953-EP5

LIST OF DRAWINGS

- TITLE SHEET
- PIPING AND INSTRUMENTATION DIAGRAM AND BILL OF MATERIAL
- PIPING AND INSTRUMENTATION DIAGRAM AND BILL OF MATERIAL
- BLOWER SKID ASSEMBLY
- ENCLOSED FLARE NOZZLE ORIENTATION
- ELECTRICAL CONTROL RACK ASSEMBLY
- KNOCK OUT POT ASSEMBLY
- ONE LINE POWER DISTRIBUTION DIAGRAM
- POWER DISTRIBUTION PANEL ELECTRICAL SCHEMATIC
- POWER DISTRIBUTION PANEL ELECTRICAL SCHEMATIC
- POWER DISTRIBUTION PANEL ENCLOSURE LAYOUT
- POWER DISTRIBUTION PANEL BACKPLATE LAYOUT AND TERMINAL STRIP LAYOUT
- POWER DISTRIBUTION PANEL BILL OF MATERIALS
- FLAME-TROL IV ENCLOSURE LAYOUT
- FLAME-TROL IV BUTTON & LIGHT DETAILS
- FLAME-TROL IV BACKPLATE LAYOUT
- FLAME-TROL IV PLC CARD STACKUP
- FLAME-TROL IV ELECTRICAL SCHEMATIC
- FLAME-TROL IV ELECTRICAL SCHEMATIC
- FLAME-TROL IV ELECTRICAL SCHEMATIC
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- FLAME-TROL IV ELECTRICAL SCHEMATIC
- FLAME-TROL IV ELECTRICAL SCHEMATIC
- FLAME-TROL IV AUTO-DIALER CONNECTIONS
- AUTO-DIALER ENCLOSURE LAYOUT
- ENCLOSED FLARE JUNCTION BOX
- ENCLOSED FLARE JUNCTION BOX

LEGEND

INSTRUMENT OR FUNCTION SYMBOLS

| LOCALLY MOUNTED | PANEL MOUNTED FRONT | PANEL MOUNTED BACK | |
|-----------------|---------------------|--------------------|--------------------------------|
| | | | INSTRUMENT |
| | | | SHARED DISPLAY, SHARED CONTROL |
| | | | COMPUTER FUNCTION |
| | | | PLC CONTROL |

- RESET
- PURGE
- INTERLOCK
- INSTRUMENTS SHARING COMMON HOUSING
- ALARM HORN
- INDICATING LIGHT
- NOZZLE SCHEDULE POINT
- DESIGN PARAMETER SCHEDULE POINT
- SAMPLE SCHEDULE POINT

PIPING & INSTRUMENT LINE SYMBOLS

- FLOW DIRECTION
- MAIN FLOW
- SECONDARY FLOW
- PNEUMATIC SIGNAL
- ELECTRIC SIGNAL
- HYDRAULIC SIGNAL
- CAPILLARY TUBING
- ELECTROMAGNETIC (GUIDED)
- BOUNDARY
- SUPPLIED BY OTHERS

VALVES, REGULATORS, AND OTHER DEVICES

- GATE VALVE
- ANGLE VALVE
- BALL VALVE
- GLOBE VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- THREE WAY VALVE
- PLUG VALVE
- NEEDLE VALVE
- MANUALLY OPERATED VALVE
- SOLENOID OPERATED VALVE
- PNEUMATICALLY OPERATED VALVE
- ELECTRIC MOTOR OPERATED VALVE
- DIAPHRAGM OPERATED VALVE
- PRESSURE RELIEF VALVE
- PRESSURE REDUCING REGULATOR
- PRESSURE REDUCING REGULATOR (SELF CONTAINED)
- BACK PRESSURE REGULATOR (SELF CONTAINED)
- FLANGED CONNECTION
- FLEXIBLE CONNECTION
- INSULATION
- REDUCER
- VENTURI TUBE
- FLOW STRAIGHTENER
- ORIFICE PLATE
- UNION
- STRAINER
- FLAME ARRESTER
- DAMPER (AUTOMATED)
- BLOWER OR PUMP

TABLE OF STANDARD IDENTIFICATION LETTERS

| | FIRST LETTER | SECOND LETTER | THIRD LETTER | FOURTH LETTER |
|---|---------------------------|------------------------------|-------------------------|---------------|
| A | ANALYSIS | ALARM | ALARM | |
| B | BURNER, COMBUSTION | USER'S CHOICE | CONTROL | CLOSED |
| C | CONNECTION, USER'S CHOICE | CONTROL | | |
| D | DIFFERENTIAL | DIFFERENTIAL | | |
| E | VOLTAGE | SENSOR | | |
| F | FLOW RATE | USER'S CHOICE | | |
| G | GAUGE | GLASS, VIEWING DEVICE | | HIGH |
| H | HAND | USER'S CHOICE | HIGH | |
| I | CURRENT (ELECTRICAL) | INDICATOR | | |
| J | POWER | USER'S CHOICE | | |
| K | TIME | CONTROL STATION | | |
| L | LEVEL | | LOW | LOW |
| M | USER'S CHOICE, MECHANICAL | USER'S CHOICE, DELIVERY | | |
| N | USER'S CHOICE, REMOTE | USER'S CHOICE | | |
| O | USER'S CHOICE | ORIFICE, RESTRICTION | | OPEN |
| P | PRESSURE, VACUUM | POINT (TEST) CONNECTION | DEVICE, BLOWER | |
| Q | QUANTITY | INTEGRATE, TOTALIZE | | |
| R | RADIATION | RECORDER | | |
| S | SPEED, FREQUENCY | SAFETY | SWITCH | SWITCH |
| T | TEMPERATURE | TRANSMIT | | |
| U | MULTIVARIABLE | MULTIFUNCTION | MULTIFUNCTION | MULTIFUNCTION |
| V | VIBRATION | VALVE, DAMPER, LOUVER | VALVE, DAMPER, LOUVER | |
| W | WEIGHT, FORCE | WELL | | |
| X | UNCLASSIFIED | X AXIS, EXCHANGER, SEPARATOR | UNCLASSIFIED | UNCLASSIFIED |
| Y | EVENT, STATE | Y AXIS | RELAY, COMPUTE, CONVERT | |
| Z | POSITION, DIMENSION | Z AXIS | DRIVER, ACTUATE | |

ABBREVIATIONS

- AS AIR SUPPLY
- COND CONDENSATE
- CPLG COUPLING
- CS CARBON STEEL
- ES ELECTRICAL SUPPLY
- ESD EMERGENCY SHUT DOWN
- GS GAS SUPPLY
- HDPE HIGH DENSITY POLYETHYLENE
- IAS INSTRUMENT AIR SUPPLY
- KOP KNOCK-OUT TANK
- LFG LANDFILL GAS
- MCC MOTOR CONTROL CENTER
- MS MOTOR STARTER
- PS PIPE STAND/SUPPORT
- PVC POLYVINYL CHLORIDE
- SC SAMPLE CONNECTION
- SS STAINLESS STEEL
- WS WATER SUPPLY

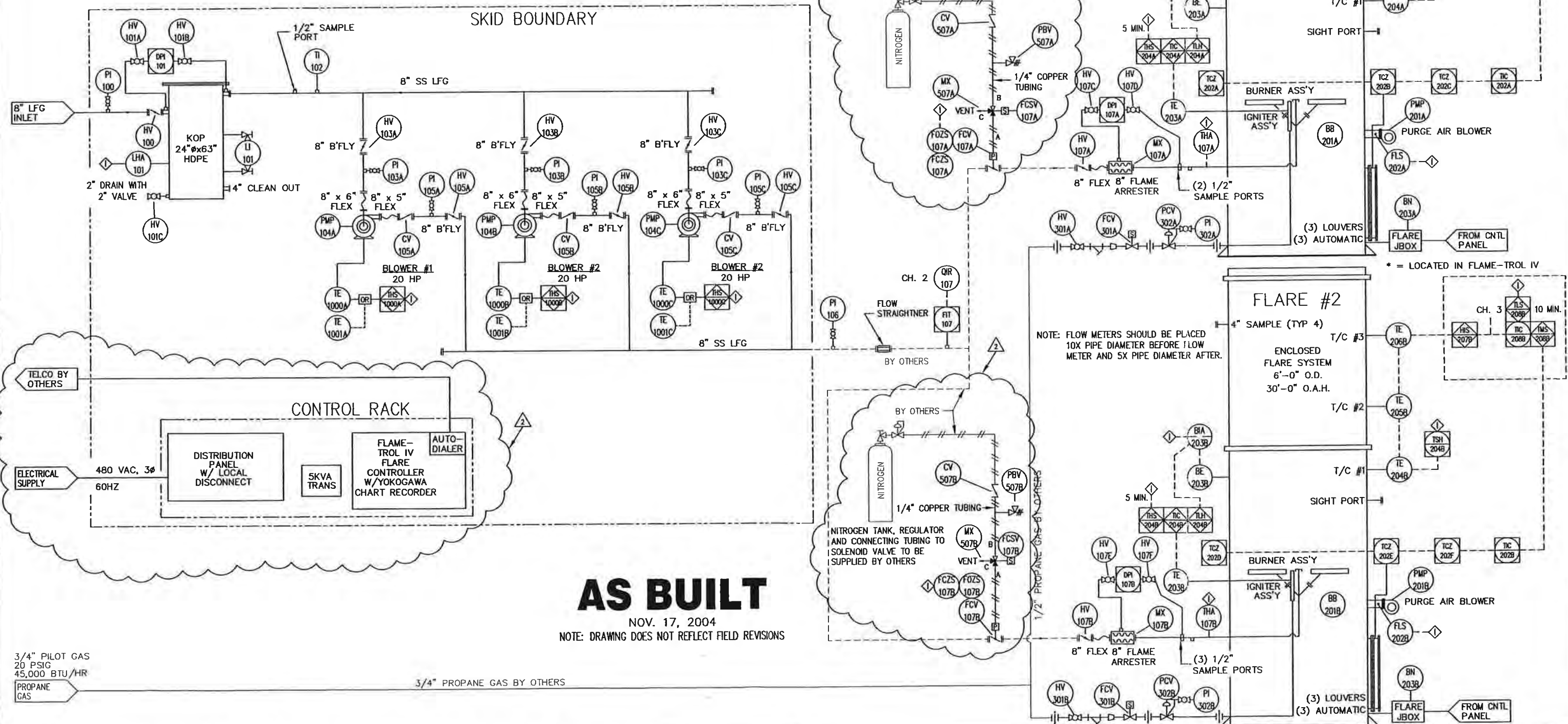
| STATE | AIR FLOW |
|---|------------|
| (ENERGIZED) | B C → A |
| (NON-ENERGIZED) (FAIL TO THIS STATE) | B C → A |

FCSV-107A & B

NOTES:

P & ID SYMBOLS ARE SHOWN FOR GENERAL REPRESENTATION ONLY. SEE ASSEMBLY DRAWINGS FOR COMPONENT PLACEMENT & CONFIGURATION.

* = LOCATED IN FLAME-TROL IV



AS BUILT

NOV. 17, 2004

NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS

3/4" PILOT GAS
20 PSIG
45,000 BTU/HR
PROPANE GAS

3/4" PROPANE GAS BY OTHERS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|--------------------------|----------|-----|
| 3 | AS BUILT | 10/17/04 | CLK |
| 2 | MODIFIED AIR SYSTEM | 10/15/04 | TRS |
| 1 | 8" x 6" FLEX WAS 8" x 5" | 10/11/04 | CLK |

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PIPING AND INSTRUMENTATION DIAGRAM

| | | | |
|------------------|-----------------------|------------------------------------|----------------|
| DRAWN BY: CLK | DESIGNED BY: LZ | APPROVED BY: LZ | SCALE: NONE |
| DATE: 7/1/04 | PROJECT NO: 847042 | CUSTOMER: MONTGOMERY COUNTY, MD | |

| | | |
|---|--------------|--------------------------------|
| PROJECT NAME: LANDFILL GAS ENCLOSED FLARE #EF63018 | | GUDE LANDFILL ROCKVILLE, MD |
| SERIAL NO: 1953 | DATE: PID | ISSUE: 1 |

EQUIPMENT / INSTRUMENT LEGEND

| SERVICE | ITEM | QTY | DESCRIPTION | SUPPLIER | PART NO. | SCALE / SET POINT |
|----------|-----------|-----|--|------------------|--------------|------------------------|
| LFG | PI-100 | 1 | VACUUM GAUGE | LFG | PFG100-OH20V | 0 - 100 IN. W.C. |
| LFG | HV-100 | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| COND. | LHA-101 | 1 | HIGH CONDENSATE LEVEL SWITCH | LFG | ECLS100X120 | |
| COND. | LI-101 | 1 | SIGHT GAUGE | LFG | PFGS-V | VISUAL |
| COND. | LI-101 | 1 | 1/2" WATER GAUGE CONBRACO 2 PER SET HEAVY DUTY | LFG | PFGS-V | |
| COND. | LI-101 | 2 | PROTECTION RODS | LFG | SR316S | |
| | DPI-101 | 1 | DIFFERENTIAL PRESSURE INDICATOR | DWYER-MAGNEHELIC | PFG2010PD | 0"-10" H2O |
| | HV-101A | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| | HV-101B | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| | HV-101C | 1 | 2" BALL VALVE | LFG | PFV2P | |
| LFG | TI-102 | 1 | INLET HEADER TEMPERATURE GAUGE | LFG | PFGT300400 | 0 TO 250' F |
| LFG | PI-103A | 1 | INLET HEADER VACUUM GAUGE | LFG | PFG100-OH20V | -100 - 0 IN. W.C. |
| LFG | PI-103B | 1 | INLET HEADER VACUUM GAUGE | LFG | PFG100-OH20V | -100 - 0 IN. W.C. |
| LFG | PI-103C | 1 | INLET HEADER VACUUM GAUGE | LFG | PFG100-OH20V | -100 - 0 IN. W.C. |
| LFG | HV-103A | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | HV-103B | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | HV-103C | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | PMP-104A | 1 | LANDFILL GAS BLOWER | HSI | 5204 | 600 SCFM @ 60 IN. W.C. |
| LFG | PMP-104B | 1 | LANDFILL GAS BLOWER | HSI | 5204 | 600 SCFM @ 60 IN. W.C. |
| LFG | PMP-104C | 1 | LANDFILL GAS BLOWER | HSI | 5204 | 600 SCFM @ 60 IN. W.C. |
| LFG | CV-105A | 1 | 8" CHECK VALVE | LFG | VWC08CAB | |
| LFG | CV-105B | 1 | 8" CHECK VALVE | LFG | VWC08CAB | |
| LFG | CV-105C | 1 | 8" CHECK VALVE | LFG | VWC08CAB | |
| LFG | HV-105A | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | HV-105B | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | HV-105C | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | PI-105A | 1 | OUTLET HEADER PRESSURE GAUGE | LFG | PFG100-OH20V | 0 - 20 IN. W.C. |
| LFG | PI-105B | 1 | OUTLET HEADER PRESSURE GAUGE | LFG | PFG100-OH20V | 0 - 20 IN. W.C. |
| LFG | PI-105C | 1 | OUTLET HEADER PRESSURE GAUGE | LFG | PFG100-OH20V | 0 - 20 IN. W.C. |
| LFG | PI-106 | 1 | OUTLET HEADER PRESSURE GAUGE | LFG | PFG100-OH20V | 0 - 20 IN. W.C. |
| LFG | FI-107 | 1 | GAS FLOW METER PROBE W/TOTALIZER | FCI | ST98 | 1300 SCFM |
| LFG | QR-107 | 1 | CHART RECORDER | YOKOGAWA | | |
| LFG | HV-107A | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | HV-107B | 1 | 8" LEVER ACTUATED MANUAL BUTTERFLY VALVE | LFG | VWB080B-M-L | |
| LFG | FCV-107A | 1 | 8" PNEUMATICALLY ACTUATED HEADER VALVE | LFG | VWB080B-P-F | |
| FCV-107A | FOZS-107A | 1 | POS. SWITCH FCV-107A OPEN SUP. W/ FCV-107A | | | |
| FCV-107A | FOZS-107A | 1 | POS. SWITCH FCV-107A CLOSED SUP. W/ FCV-107A | | | |
| FCV-107A | FCSV-107A | 1 | AIR SUPPLY 3-WAY SOLENOID VALVE FOR FCV-107A | LFG | WITH VALVE | |
| LFG | FCV-107B | 1 | 8" PNEUMATICALLY ACTUATED HEADER VALVE | LFG | VWB080B-P-F | |
| FCV-107B | FOZS-107B | 1 | POS. SWITCH FCV-107B OPEN SUP. W/ FCV-107B | | | |
| FCV-107B | FOZS-107B | 1 | POS. SWITCH FCV-107B CLOSED SUP. W/ FCV-107B | | | |
| FCV-107B | FCSV-107B | 1 | AIR SUPPLY 3-WAY SOLENOID VALVE FOR FCV-107B | LFG | WITH VALVE | |
| LFG | MX-107A | 1 | 8" FLAME ARRESTOR | LFG | FABAH-LJ | |
| LFG | MX-107B | 1 | 8" FLAME ARRESTOR | LFG | FABAH-LJ | |
| | DPI-107A | 1 | DIFFERENTIAL PRESSURE INDICATOR | DWYER-MAGNEHELIC | 2010 | 0"-10" H2O |
| | DPI-107B | 1 | DIFFERENTIAL PRESSURE INDICATOR | DWYER-MAGNEHELIC | 2010 | 0"-10" H2O |
| | HV-107C | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| | HV-107D | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| | HV-107E | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| | HV-107F | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| STACK | THA-107A | 1 | FLARE INLET HIGH TEMPERATURE ALARM | LFG | ESTB1X68-X | 300 DEG. F. |
| STACK | THA-107B | 1 | FLARE INLET HIGH TEMPERATURE ALARM | LFG | ESTB1X68-X | 300 DEG. F. |
| | BB-201A | 1 | IGNITION PLUG | LFG | ESPI64 | 5 MIN. |
| | BB-201B | 1 | IGNITION PLUG | LFG | ESPI64 | 5 MIN. |
| STACK | BE-203A | 1 | ULTRAVIOLET FLAME SCANNER | LFG | EUVSCNRA | |
| STACK | BE-203B | 1 | ULTRAVIOLET FLAME SCANNER | LFG | EUVSCNRA | |
| | BIA-203A | 1 | FLAME DETECTOR RELAY | | | 3 SEC. DELAY |
| | BIA-203B | 1 | FLAME DETECTOR RELAY | | | 3 SEC. DELAY |
| | BN-203A | 1 | IGNITION TRANSFORMER | LFG | EIGNTRNS | |

| SERVICE | ITEM | QTY | DESCRIPTION | SUPPLIER | PART NO. | SCALE / SET POINT |
|-----------|-----------|-----|--|----------|----------------|----------------------------|
| | BN-203B | 1 | IGNITION TRANSFORMER | LFG | EIGNTRNS | |
| PURGE | PMP-201A | 1 | PURGE AIR BLOWER | LFG | EBP300A1 | |
| PURGE | PMP-201B | 1 | PURGE AIR BLOWER | LFG | EBP300A1 | |
| PURGE | FLS-202A | 1 | PURGE AIR FLOW SWITCH | LFG | EGPS12X120 | |
| PURGE | FLS-202B | 1 | PURGE AIR FLOW SWITCH | LFG | EGPS12X120 | |
| | TIC-202A | 1 | AIR LOUVER TEMPERATURE CONTROLLER | | | 0' F TO 2000' F |
| | TIC-202B | 1 | AIR LOUVER TEMPERATURE CONTROLLER | | | 0' F TO 2000' F |
| COMB. AIR | TCZ-202A | 1 | LOUVER "A" ACTUATOR | LFG | ELVRACT4-20MA | |
| COMB. AIR | TCZ-202B | 1 | LOUVER "B" ACTUATOR | LFG | ELVRACT4-20MA | |
| COMB. AIR | TCZ-202C | 1 | LOUVER "C" ACTUATOR | LFG | ELVRACT4-20MA | |
| COMB. AIR | TCZ-202D | 1 | LOUVER "A" ACTUATOR | LFG | ELVRACT4-20MA | |
| COMB. AIR | TCZ-202E | 1 | LOUVER "B" ACTUATOR | LFG | ELVRACT4-20MA | |
| COMB. AIR | TCZ-202F | 1 | LOUVER "C" ACTUATOR | LFG | ELVRACT4-20MA | |
| STACK | TE-203A | 1 | PILOT THERMOCOUPLE | LFG | ETCE18W410K | TYPE "K" |
| STACK | TE-203B | 1 | PILOT THERMOCOUPLE | LFG | ETCE18W410K | TYPE "K" |
| | TSH-204A | 1 | THERMOCOUPLE SELECTION | | | |
| | TSH-204B | 1 | THERMOCOUPLE SELECTION | | | |
| | TIC-204A | 1 | PILOT TEMPERATURE CONTROLLER | | | |
| | TIC-204B | 1 | PILOT TEMPERATURE CONTROLLER | | | |
| | TIS-204A | 1 | PILOT OFF RELAY FCV-301A CLOSED | | | 300 DEG. F |
| | TIS-204B | 1 | PILOT OFF RELAY FCV-301B CLOSED | | | 300 DEG. F |
| | TLH-204A | 1 | BLOWER ON RELAY | | | 200 DEG. F |
| | TLH-204B | 1 | BLOWER ON RELAY | | | 200 DEG. F |
| STACK | TE-204A | 1 | LOWER STACK THERMOCOUPLE NO.1 | LFG | ETCA20W24K | TYPE "K" |
| STACK | TE-205A | 1 | MIDDLE STACK THERMOCOUPLE NO.2 | LFG | ETCA20W24K | TYPE "K" |
| STACK | TE-206A | 1 | UPPER STACK THERMOCOUPLE NO.3 | LFG | ETCA20W24K | TYPE "K" |
| STACK | TE-204B | 1 | LOWER STACK THERMOCOUPLE NO.1 | LFG | ETCA20W24K | TYPE "K" |
| STACK | TE-205B | 1 | MIDDLE STACK THERMOCOUPLE NO.2 | LFG | ETCA20W24K | TYPE "K" |
| STACK | TE-206B | 1 | UPPER STACK THERMOCOUPLE NO.3 | LFG | ETCA20W24K | TYPE "K" |
| | HIS-207A | 1 | FLARE HIGH TEMPERATURE SHUT-DOWN | | | 2000 DEG. F |
| | HIS-207B | 1 | FLARE HIGH TEMPERATURE SHUT-DOWN | | | 2000 DEG. F |
| | TIC-208A | 1 | FLARE TEMPERATURE CONTROLLER | | | |
| | TIC-208B | 1 | FLARE TEMPERATURE CONTROLLER | | | |
| | TLS-208A | 1 | FLARE LOW TEMPERATURE SHUT-DOWN | | | < 1400 DEG. F, 10 MIN. |
| | TLS-208B | 1 | FLARE LOW TEMPERATURE SHUT-DOWN | | | < 1400 DEG. F, 10 MIN. |
| | TMS-208A | 1 | FLARE AT TEMPERATURE | | | > 1400 DEG. F, X SEC. MIN. |
| | TMS-208B | 1 | FLARE AT TEMPERATURE | | | > 1400 DEG. F, X SEC. MIN. |
| PROPANE | HV-301A | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| PROPANE | HV-301B | 1 | 1/2" BALL VALVE | LFG | PFV012S | |
| PROPANE | FCV-301A | 1 | PROPANE GAS SHUT-OFF SOLENOID VALVE | LFG | PFS012Y120VEXP | |
| PROPANE | FCV-301B | 1 | PROPANE GAS SHUT-OFF SOLENOID VALVE | LFG | PFS012Y120VEXP | |
| PROPANE | PCV-302A | 1 | PROPANE GAS PRESSURE REGULATOR | LFG | PFD012B | SET TO 5 PSIG |
| PROPANE | PCV-302B | 1 | PROPANE GAS PRESSURE REGULATOR | LFG | PFD012B | SET TO 5 PSIG |
| PROPANE | PI-302A | 1 | PROPANE GAS PRESSURE GAUGE | LFG | PFG212PSI15 | |
| PROPANE | PI-302B | 1 | PROPANE GAS PRESSURE GAUGE | LFG | PFG212PSI15 | |
| NITROGEN | PBV-507A | 1 | PRESSURE RELIEF VALVE | LFG | POPOFF VALVE | |
| NITROGEN | CV-507A | 1 | CHECK VALVE | LFG | PFV014ZC | 0-50 PSIG |
| NITROGEN | PBV-507B | 1 | PRESSURE RELIEF VALVE | LFG | POPOFF VALVE | |
| NITROGEN | CV-507B | 1 | CHECK VALVE | LFG | PFV014ZC | 0-50 PSIG |
| FCV-107A | MX-507A | 1 | VENT | LFG | PFD014BW | |
| FCV-107B | MX-507B | 1 | VENT | LFG | PFD014BW | |
| | TE-1000A | 1 | BLOWER BEARING RTD UNIT (FRONT BEARING) | | | |
| | TE-1000B | 1 | BLOWER BEARING RTD UNIT (FRONT BEARING) | | | |
| | TE-1000C | 1 | BLOWER BEARING RTD UNIT (FRONT BEARING) | | | |
| | TE-1001A | 1 | BLOWER BEARING RTD UNIT (REAR BEARING) | | | |
| | TE-1001B | 1 | BLOWER BEARING RTD UNIT (REAR BEARING) | | | |
| | TE-1001C | 1 | BLOWER BEARING RTD UNIT (REAR BEARING) | | | |
| | TIS-1000A | 1 | HIGH BLOWER BEARING TEMPERATURE SHUTDOWN | | | |
| | TIS-1000B | 1 | HIGH BLOWER BEARING TEMPERATURE SHUTDOWN | | | |
| | TIS-1000C | 1 | HIGH BLOWER BEARING TEMPERATURE SHUTDOWN | | | |

AS BUILT

NOV. 17, 2004

NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



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PIPING AND INSTRUMENTATION DIAGRAM

PROJECT NAME
LANDFILL GAS ENCLOSED FLARE #EF63018
GUDE LANDFILL
ROCKVILLE, MD

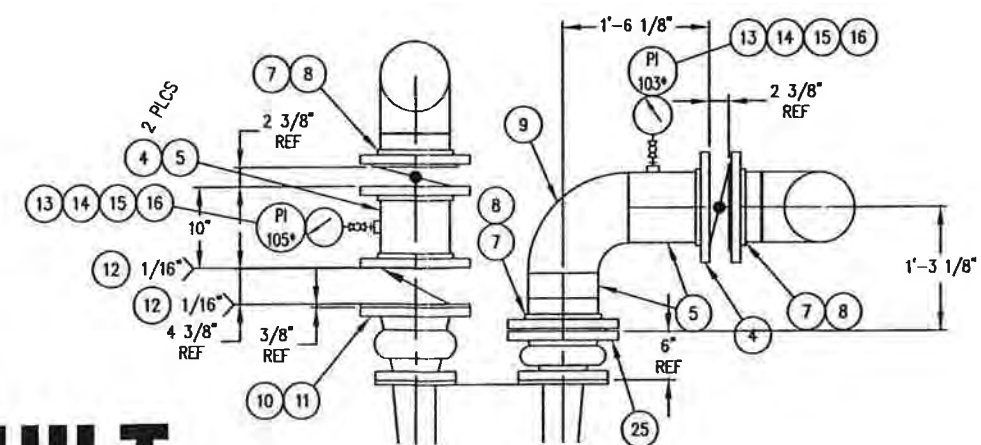
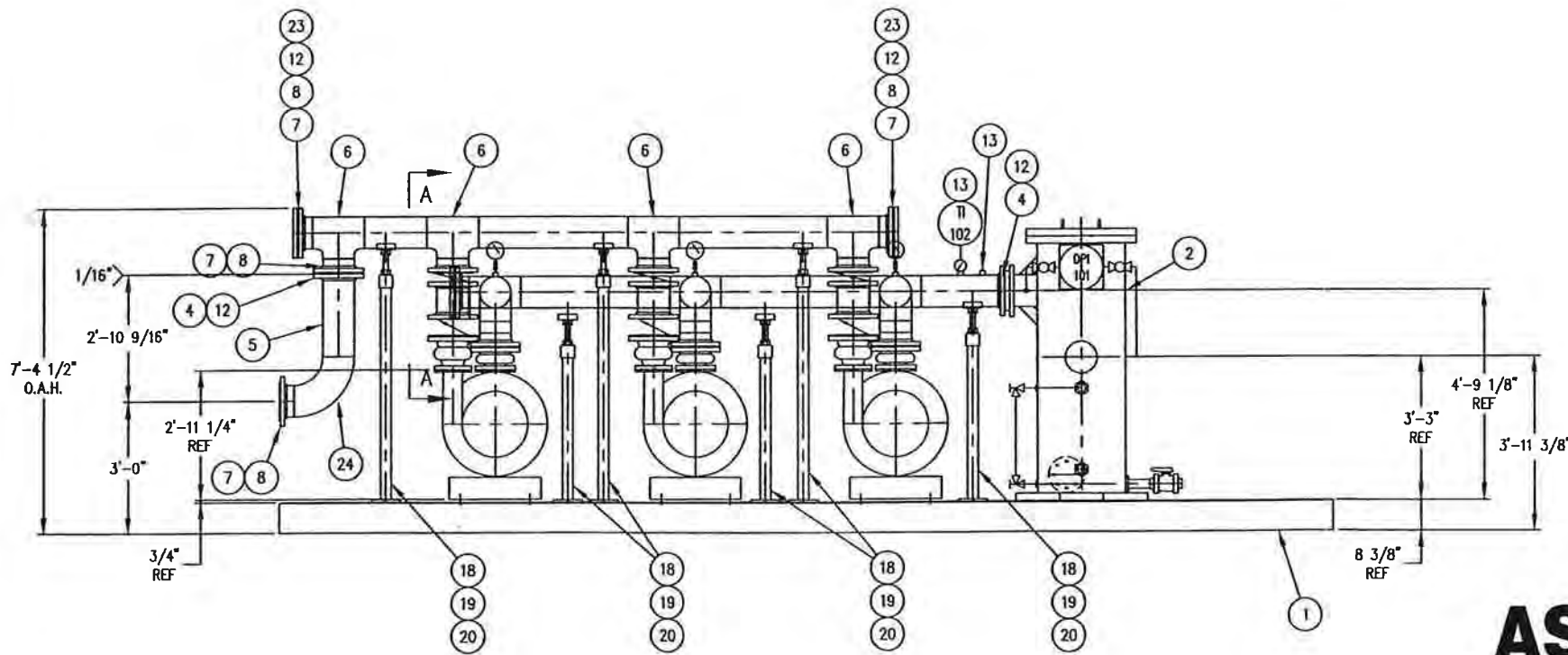
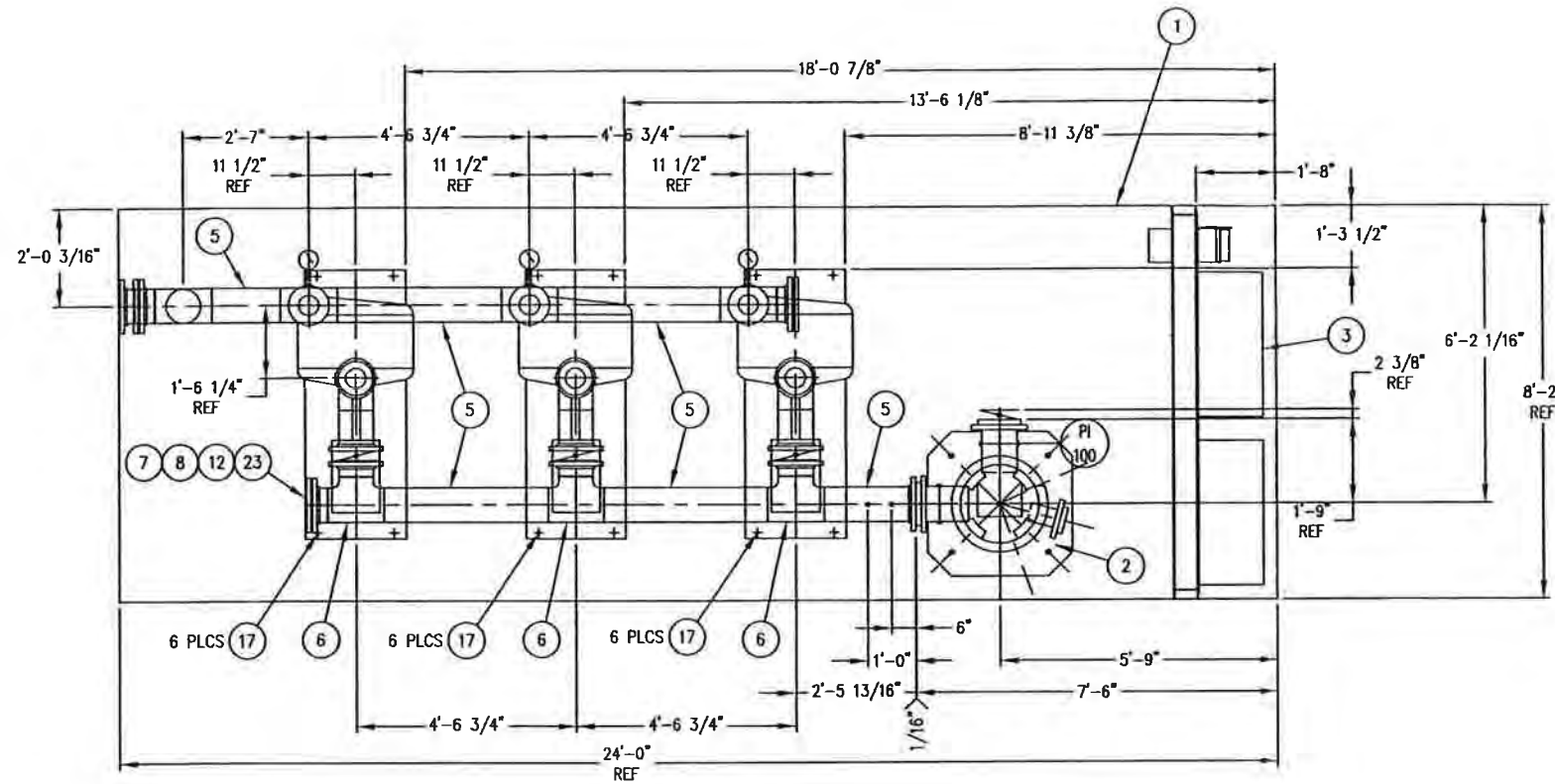
DRAWN BY: CLK
ENGINEER: LZ
APPROVED BY: LZ
DATE: 7/1/04
PROJECT NO: 847042

CUSTOMER: MONTGOMERY COUNTY, MD
SERIAL NO: 1953
DWG NO: PID
DATE: 2

1 AS BUILT
REV DESCRIPTION / ISSUE
10/17/04 CLK
DATE BY

BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | SUPPLIER | PART NO. |
|------|-----|----------------------------------|----------|-----------------|
| 1 | 1 | SKID ASSEMBLY | LFG | 1953-STLL |
| 2 | 1 | 24" DIA x 63" LG KOP ASSEMBLY | LFG | 1953-KOP |
| 3 | 1 | ELECTRICAL CONTROL RACK ASSEMBLY | LFG | 1953-M3 |
| 4 | 11 | FLANGE RFSO SS 150# 8" | LFG | WFO8S3 |
| 5 | 16 | PIPE 304SS SCH10 8" | LFG | PW8S10 |
| 6 | 7 | TEE 304SS SCH10 8" | LFG | WFT08000800S10 |
| 7 | 13 | STUB END 304SS SCH10 8" | LFG | WFO8S10 |
| 8 | 13 | LAP JOINT FLANGE GALV 8" | LFG | WFLJ8GALV |
| 9 | 3 | ELL 90° SR 304SS SCH10 8" | LFG | WFS0800S10 |
| 10 | 3 | FLEX JOINT 8" x 5" x 9" | LFG | |
| 11 | 3 | BACKING RING 8" | LFG | VFJBR838S |
| 12 | 10 | GASKET F-F NON-ASBESTOS 8" | LFG | WFG8NA |
| 13 | 8 | COUPLING HALF THRD CS 1/2" | LFG | FLOOR STOCK |
| 14 | 6 | PIPE NIPPLE SS 1/4" x 2" LG. | LFG | FLOOR STOCK |
| 15 | 6 | REDUCER SS 1/2" x 1/4" | LFG | FLOOR STOCK |
| 16 | 6 | GAGE VALVE 1/4" | LFG | PFGV014S |
| 17 | 18 | RUBBER ISOLATION PAD | LFG | VP3SDUROMETER |
| 18 | 6 | PIPE SUPPORT ASSEMBLY 8" | LFG | PIPESUPPORT8 |
| 19 | 6 | PIPE SUPPORT BASE | LFG | PIPESUPPORTBASE |
| 20 | 6 | PIPE BLK SCH40 2" | LFG | PW2B40 |
| 21 | 1 | PIPE 304SS SCH40 1/2" | LFG | PW012S40 |
| 22 | 1 | PIPE BLK SCH40 1/2" | LFG | PW012B40 |
| 23 | 3 | FLANGE BLIND SS 8" | LFG | WFB08S |
| 24 | 1 | ELL 90° LR 304SS SCH10 8" | LFG | WFL0800S10 |
| 25 | 3 | FLEX JOINT 8" x 6" | LFG | VFJ8X6B |



NOTES:

- ALL BOLTS, CAP SCREWS AND NUTS WILL BE SAE GRADE 8 WITH YELLOW ZINC DICHROMATE PLATING. THREADED RODS WILL BE STAINLESS STEEL. ALL THREADS WILL BE UNIFIED NATIONAL COARSE.
- ALL 1/8"-1 1/2" PIPES WILL BE STANDARD BLACK PIPE ASTM A53 OR ASTM A106. ALL 1/8"-1 1/2" PIPE NIPPLES WILL BE STANDARD BLACK PIPE ASTM A733. 3. ALL 1/8"-1 1/2" PIPE FITTINGS (ELBOWS, TEES, BUSHINGS & ETC.) WILL BE STANDARD (CLASS 150) WITH A BLACK FINISH.
- EXTERNAL PIPE SURFACES TO BE BLASTED TO SP-7 SPECIFICATIONS, APPLIES TO CARBON STEEL PIPING ONLY.
- ALL CARBON STEEL VESSELS AND PIPE EXTERNALS TO BE COATED WITH RUST PROHIBITING SHERWIN WILLIAMS B67R5 RED OXIDE RECOATABLE PRIMER AND FINISHED WITH A 3 MIL COAT OF SLATE GREY COLORED INDUSTRIAL ACRYLIC POLYURETHANE, SHERWIN WILLIAMS ACROLON 218 HS.
- FLARE STACK TO BE COATED WITH A 6 MIL COAT OF AMERON DIMETCOTE 25-1.
- INSTALL GAUGES TO FACE CONTROL RACK SIDE.
- ALL INTERNAL SURFACES OF PIPES & FITTINGS BETWEEN THE BLOWERS AND THE FLARE WILL BE BLASTED TO SP-7 SPECIFICATIONS AND COATED WITH SHERWIN WILLIAMS PHENICON HS FLAKE FILLED SOLID EPOXY.
- ALL PIPE BUTT WELD JOINTS WILL HAVE A 1/8" ROOT OPENING.

AS BUILT

NOV. 17, 2004

SECTION A-A

3 PLACES

SCALE: 2X



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 3 | AS BUILT | 10/17/04 | CLK |
| 2 | ADDED ITEM 25 | 10/11/04 | CLK |
| 1 | 9" LG FLEX JOINT WAS 6" | 9/20/04 | CLK |
| 0 | ISSUED FOR CONSTRUCTION | 9/16/04 | CLK |

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| BLOWER SKID ASSEMBLY | | | |
|----------------------|--------------|--------------------|---------|
| DRAWN BY: CLK | ENGINEER: LZ | APPROVED BY: LZ | SIZE: D |
| SCALE: 1/2" = 1'-0" | DATE: 7/7/04 | PROJECT NO: 847042 | |

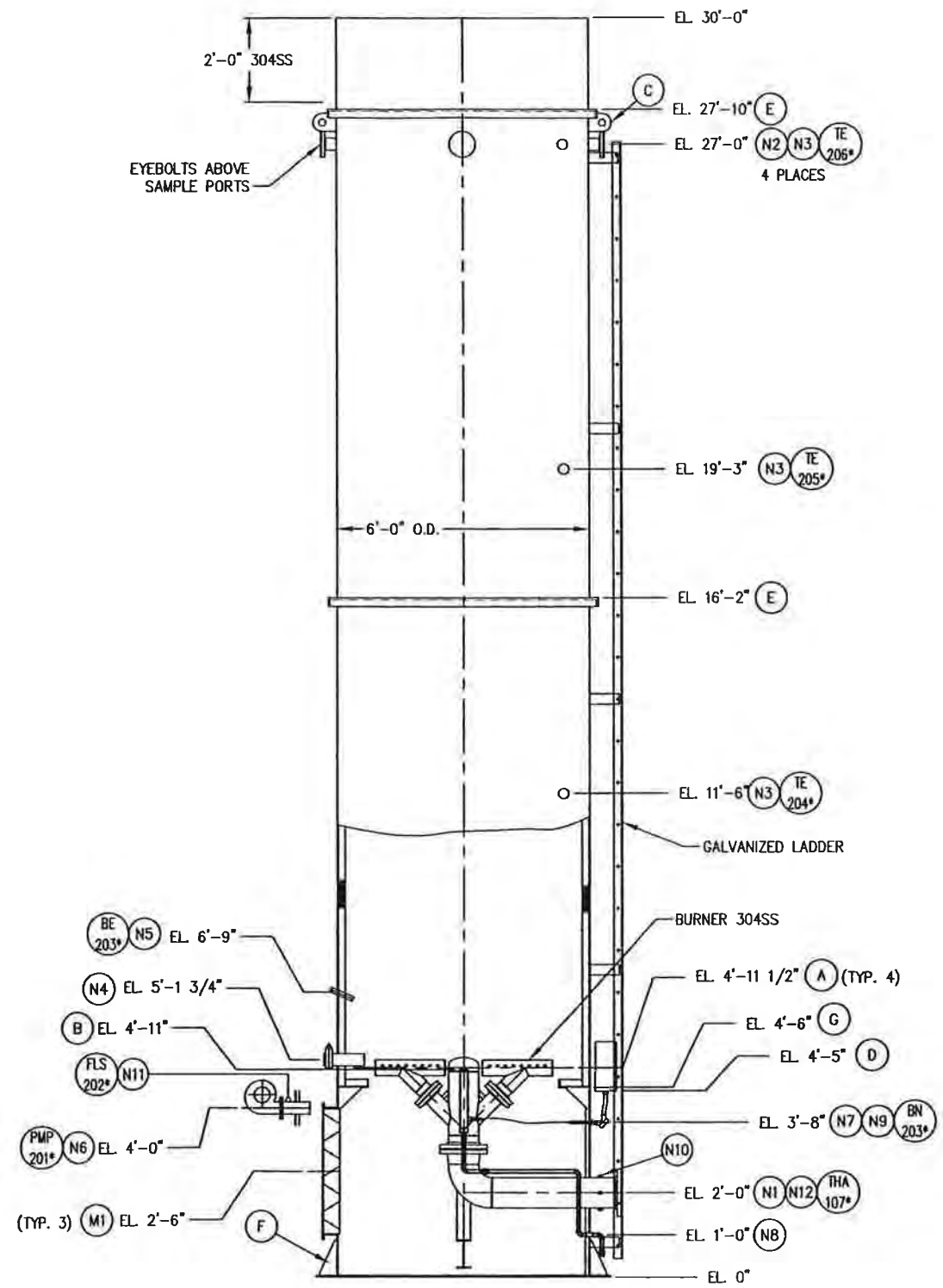
| PROJECT NAME: LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
|--|-----------------|-------------|----------|
| GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DISC NO: M1 | SHEET: 1 |

NOZZLE SCHEDULE

| MARK | REQ'D | SIZE | NOZ PROJ | NECK THKNS | MAT'L | RATING | TYPE | SERVICE |
|------|-------|-----------|----------|------------|-------|--------|---------|--------------------------|
| A | 4 | 5" | - | SCH 10S | 304SS | 150# | SS PIPE | FLARE ARMS |
| B | 1 | 2" | 18" | SCH 10S | 304SS | 150# | SS PIPE | IGNITER ASSEMBLY |
| C | 2 | - | - | 1/2" | CS | - | PL | LIFTING LUG |
| D | 1 | 12W x 14H | - | - | - | - | NEMA 4 | FLARE JUNCTION BOX |
| E | 2 | 2 1/2" | - | 1/4" | CS | - | ANGLE | ANGLE STIFFENER |
| F | 8 | - | - | 1/2" | CS | - | PLATE | ANCHOR CHAIR |
| G | 1 | 1/4" | - | - | CS | - | PLATE | BAFFLE PLATE |
| M1 | 3 | 30W x 36H | 4" | 1/4" | CS | - | SQ FLG | LOUVER |
| N1 | 1 | 8" | 9" | SCH 40 | CS | 150# | CS PIPE | LANDFILL GAS INLET |
| N2 | 4 | 4" | - | - | CS | 150# | TK FLG | SAMPLE PORT |
| N3 | 3 | 1" | - | - | CS | 150# | TK FLG | THERMOWELL (FLARE) |
| N4 | 1 | 3" | - | - | CS | 150# | TK FLG | SIGHT PORT |
| N5 | 1 | 1" | - | - | CS | 150# | TK FLG | U.V. SCANNER |
| N6 | 1 | 4" | 6" | SCH 40 | CS | 150# | CS PIPE | PURGE BLOWER |
| N7 | 1 | 1/2" | - | - | CS | 3000# | F'CPLG | THERMOWELL (PILOT) |
| N8 | 1 | 1/2" | - | - | CS | 3000# | F'CPLG | PILOT GAS INLET |
| N9 | 1 | 1/2" | - | - | CS | 3000# | F'CPLG | IGNITER ROD |
| N10 | 2 | 1/2" | - | - | CS | 3000# | H'CPLG | SAMPLE |
| N11 | 1 | 1/2" | - | - | CS | 150# | TK FLG | PURGE BLOWER FLOW SWITCH |
| N12 | 1 | 1/2" | - | - | CS | 3000# | H'CPLG | TEMPERATURE SWITCH |
| N14 | 1 | 20" X 36" | - | - | CS | - | - | MANWAY |
| N15 | 1 | - | - | - | CS | - | - | LADDER |

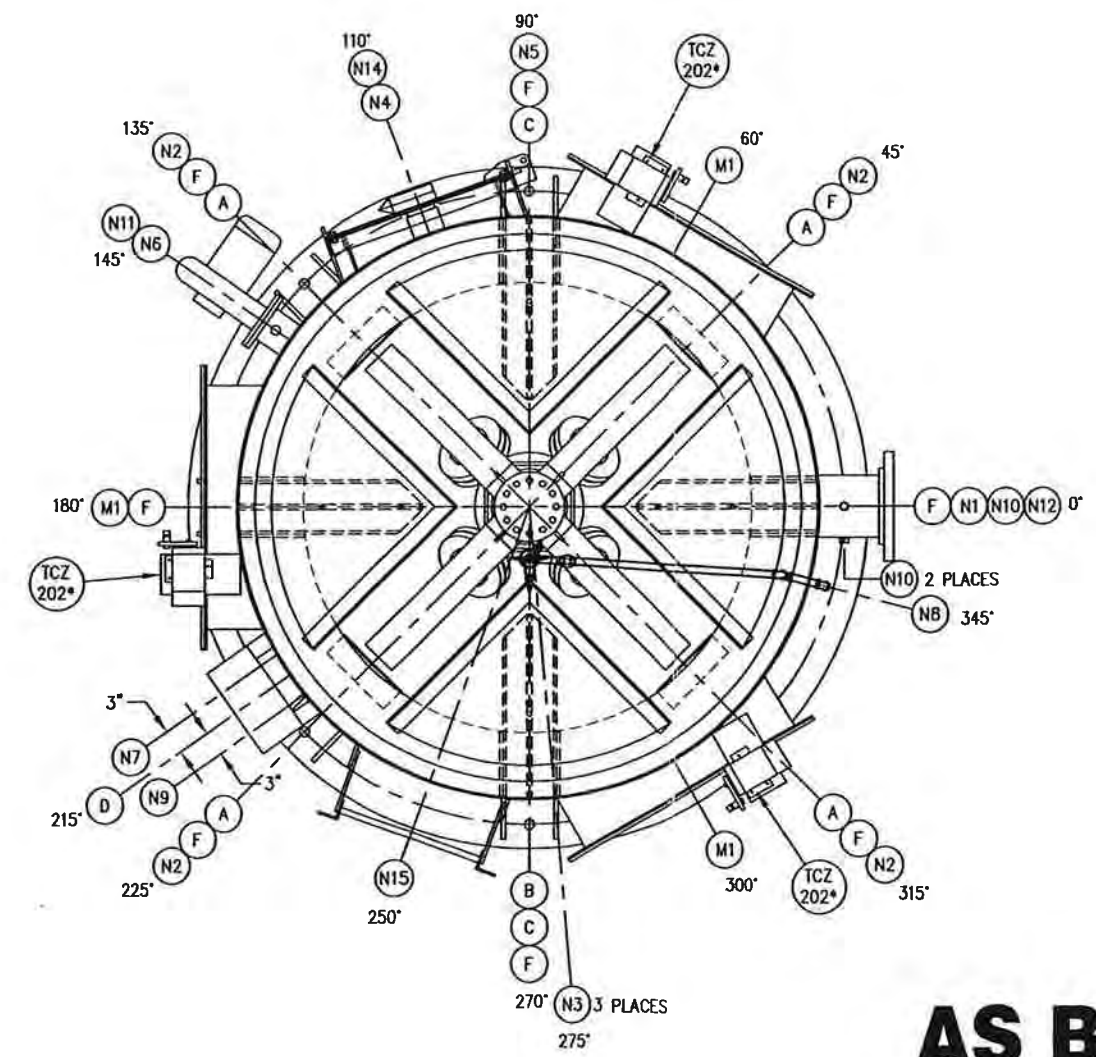
NOTES:

- ENCLOSED FLARE MODEL EF63016
 - FLARE APPROXIMATE WEIGHT = 8,000 LBS
 - WIND LOADING FOR 110 MPH (PER ASCE 7-93 EXP. C)
 - SHEAR FORCE = XXX KIPS
 - COUPLE @ BASE = XXX FT-KIPS
 - INSULATION: MOUNTED ON INCONEL ANCHORS (9" C/C SPACING)
 - TYPE 1 - 1" A.P. GREEN, "INSWOOL-HP" 8# DENSITY (2400F)
 - TYPE 2 - 1" A.P. GREEN, "INSWOOL-HP" 6# DENSITY (2400F)
- a. INSULATE SHELL BELOW BAFFLE PLATE WITH (1) LAYER TYPE 1 INSULATION
 b. INSULATE TOP OF BAFFLE PLATE WITH (1) LAYER TYPE 1 INSULATION OVERLAPPED ON (1) LAYER OF TYPE 2 INSULATION.
 c. INSULATE SHELL ABOVE BAFFLE PLATE LONGITUDINALLY WITH (1) LAYER TYPE 1 INSULATION OVERLAPPED ON (1) LAYER TYPE 1 INSULATION.
 d. ADD (2) CIRCUMFERENTIAL BAND OF TYPE 1 INSULATION AGAINST SHELL DIRECTLY ABOVE BAFFLE PLATE.



ELEVATION
NOT TRUE ORIENTATION

NOTE: NAMEPLATE ON FLARE AS OUTLINED



NOZZLE ORIENTATION
SCALE: 2X

AS BUILT
NOV. 17, 2004

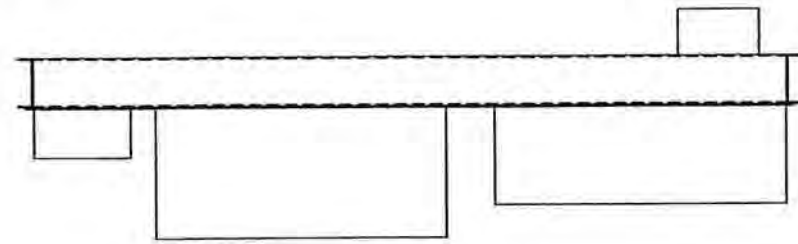


| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 10/17/04 | CLK |
| 0 | ISSUED FOR CONSTRUCTION | 9/14/04 | CLK |

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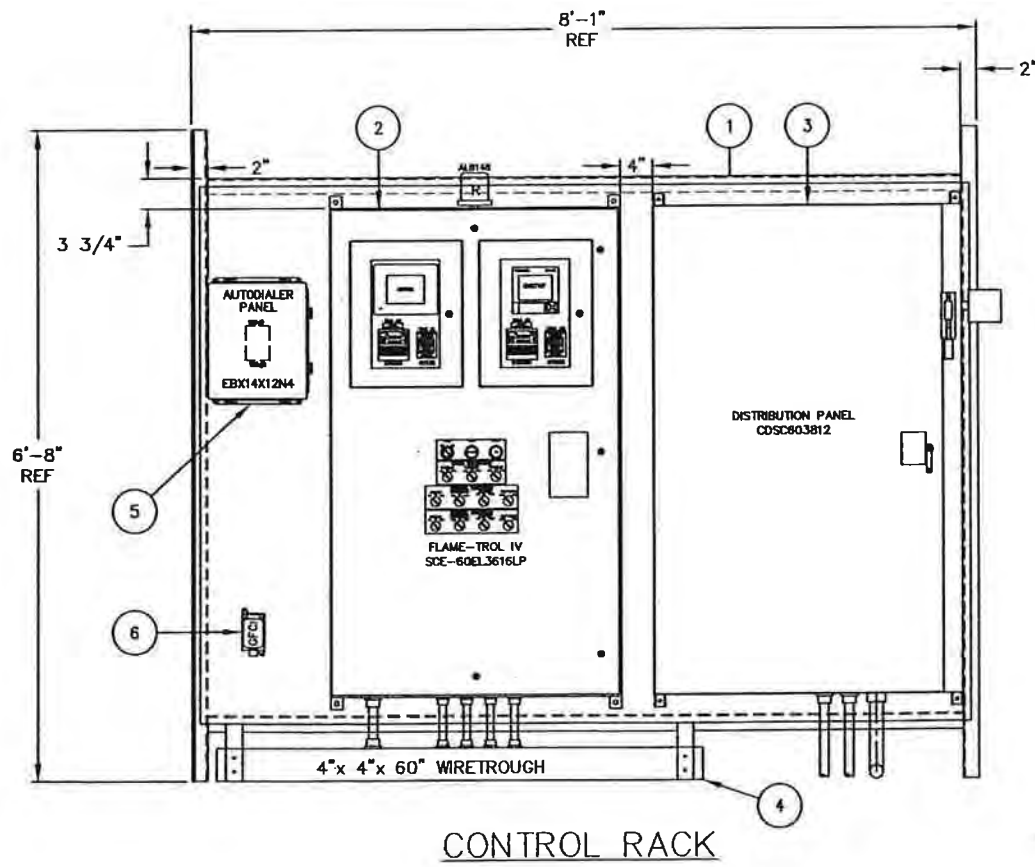
| ENCLOSED FLARE NOZZLE ORIENTATION | | | |
|-----------------------------------|--------------|--------------------|--------|
| DRAWN BY: CLK | CHECKED: LZ | APPROVED BY: LZ | ISS: D |
| SCALE: 1/2" = 1'-0" | DATE: 7/7/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | SERIAL NO. | | DWG NO. | | PWT. | |
|--------------------------------------|--|-----------------------|--|---------|--|------|--|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | 1953 | | M2 | | 1 | |
| GUDE LANDFILL ROCKVILLE, MD | | MONTGOMERY COUNTY, MD | | | | | |

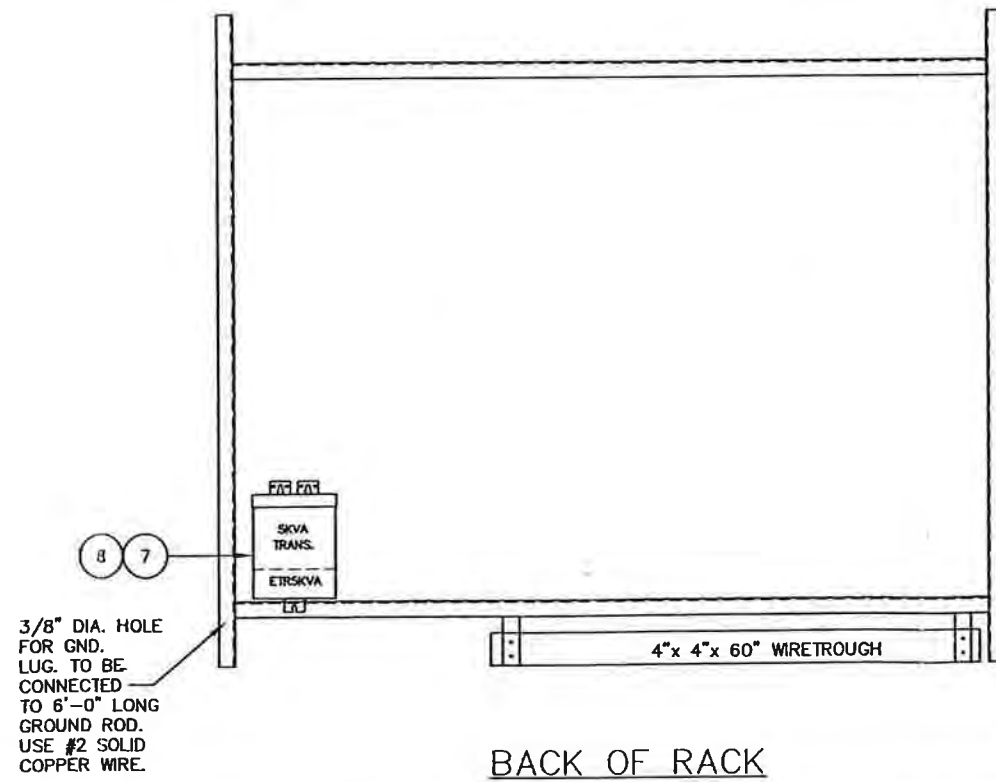


PLAN VIEW

| BILL OF MATERIAL | | | | |
|------------------|-----|--|----------|----------|
| ITEM | QTY | DESCRIPTION | SUPPLIER | PART NO. |
| 1 | 1 | CONTROL RACK ASSEMBLY | LFG | 1953-S3 |
| 2 | 1 | FLAME-TROL IV ASSEMBLY (SCE-60EL3616LP) | LFG | 1953-EE1 |
| 3 | 1 | DISTRIBUTION PANEL ASSEMBLY (COSC603812) | LFG | 1953-EP1 |
| 4 | 1 | 4" x 4" x 60" NEMA 3R WIRE TROUGH | HOFFMAN | A-4460RT |
| 5 | 1 | AUTO-DIALER PANEL (EBX14X12N4) | LFG | 1953-EP6 |
| 6 | 1 | UTILITY RECEPTACLE | LFG | 1953-EP1 |
| 7 | 1 | SKVA STEPDOWN TRANSFORMER (ETRSKVA) | LFG | 1953-EP1 |
| 8 | 1 | SKVA TRANSFORMER STRAP | LFG | SKVABRK |



CONTROL RACK



BACK OF RACK

AS BUILT
NOV. 17, 2004



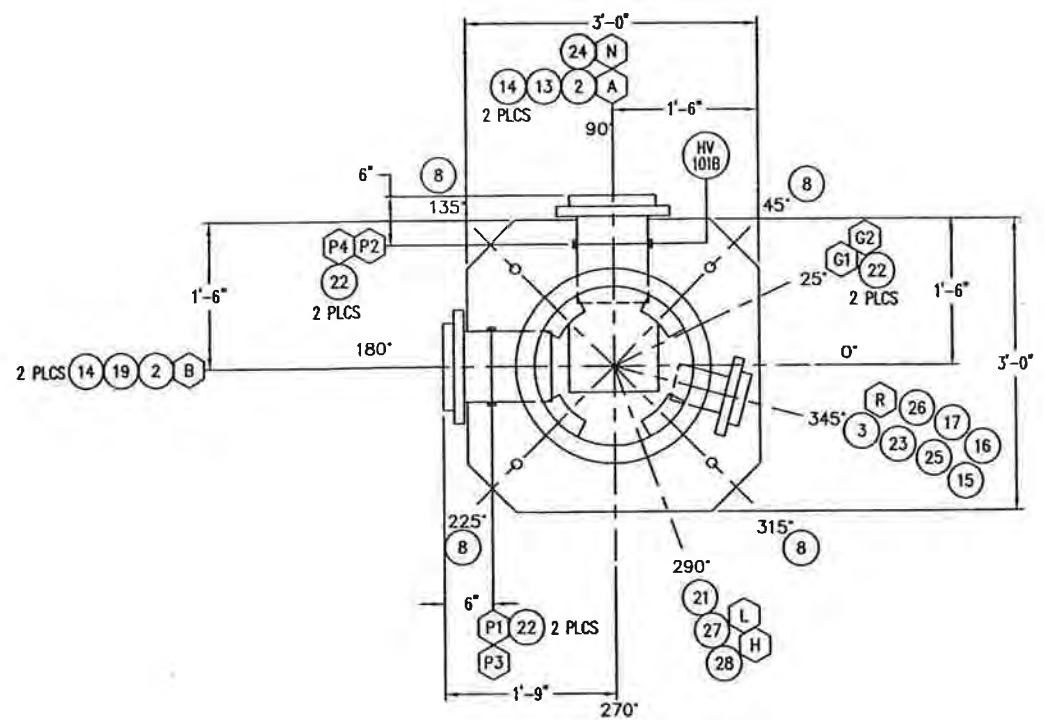
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 2 | AS BUILT | 10/17/04 | CLK |
| 1 | ADDED ITEM 9 | 10/5/04 | CLK |
| 0 | ISSUED FOR CONSTRUCTION | 9/14/04 | CLK |

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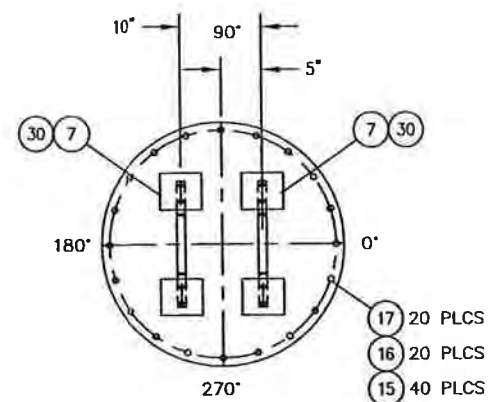
| ELECTRICAL CONTROL RACK ASSEMBLY | | | | PROJECT NAME | | | |
|----------------------------------|---------------|--------------------|---------|--|-----------------|------------|----------|
| DRWN BY: CLK | ENGR: LZ | APPROVED BY: LZ | SIZE: D | LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| SCALE: 1" = 1'-0" | DATE: 9/14/04 | PROJECT NO: 847042 | | CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DWG NO: M3 | SHEET: 1 |

BILL OF MATERIAL

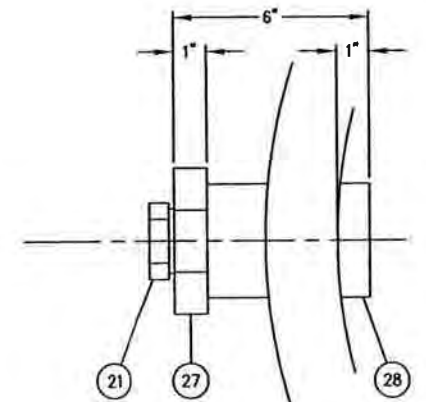
| ITEM | QTY | DESCRIPTION | SUPPLIER | PART NO. |
|------|-----|---|----------|-------------|
| 1 | 1 | 24" DIA. HDPE SDR17 PIPE x 5'-8" | LFG | PW24HDPE17 |
| 2 | 2 | 8" KOP INLET/OUTLET HDPE SDR11 FLANGE ADAPTER | LFG | SPECIAL |
| 3 | 1 | 4" CLEAN OUT HDPE SDR-11 FLANGE ADAPTOR | LFG | SPECIAL |
| 4 | 1 | LID | LFG | SPECIAL |
| 5 | 1 | LID ADAPTER RING | LFG | SPECIAL |
| 6 | 1 | NEOPRENE GASKET | LFG | SPECIAL |
| 7 | 2 | LIFTING LUG 304 SS 1" x 1/4" BAR (SEE DETAIL SHT #2) | LFG | SB01X14S |
| 8 | 4 | MIST PAD TABS (SEE DETAIL SHT #2) | LFG | PW24HDPE17 |
| 9 | 1 | 10 MICRON 304 SS DEMISTER OD TO MATCH TANK ID | LFG | SPECIAL |
| 10 | 1 | KOP BASE - 2" THICK HDPE PLATE (SEE DETAIL SHT #2) | LFG | HP5X102 |
| 11 | 1 | KOP HIGH LEVEL SWITCH | LFG | 1953-PID |
| 12 | 1 | 1" DIA. SS THREADED PLUG | LFG | FLOOR STOCK |
| 13 | 1 | 2" PVC CLOSED NIPPLE SCH80 | LFG | FLOOR STOCK |
| 14 | 4 | GUSSETS 1" THICK HDPE (SEE DETAIL SHT #2) | LFG | HP4X1001 |
| 15 | 56 | 5/8" FLAT WASHER CS | LFG | FLOOR STOCK |
| 16 | 28 | 5/8" - 11 UNC BOLT CS - 4 1/2" LG | LFG | FLOOR STOCK |
| 17 | 28 | 5/8" - 11 UNC HEX NUT CS | LFG | FLOOR STOCK |
| 18 | 1 | 1/2" THK HDPE PLATE - 11" x 1'-5 1/4" (SEE DETAIL SHT #2) | LFG | HP4X1012 |
| 19 | 1 | BACKUP RINGS FOR 8" FLANGE ADAPTER | LFG | SPECIAL |
| 20 | 2 | GUSSETS 1/2" THICK HDPE (SEE DETAIL SHT #2) | LFG | HP4X1012 |
| 21 | 2 | 2" x 1" REDUCING BUSHING SS THRD | LFG | FLOOR STOCK |
| 22 | 6 | 3/4" x 1/2" SS REDUCER BUSHING | LFG | FLOOR STOCK |
| 23 | 1 | BACKUP RINGS FOR 4" FLANGE ADAPTER | LFG | SPECIAL |
| 24 | 1 | 2 1/2" x 2" REDUCING BUSHING SS THRD | LFG | SPECIAL |
| 25 | 1 | 4" DIA GASKET | LFG | WFG4NA |
| 26 | 1 | 4" DIA 1/4" THICK BLIND FLANGE | LFG | FLOORSTOCK |
| 27 | 2 | FLANGE 1" THICK HDPE (SEE DETAIL SHT #2) | LFG | HP4X1001 |
| 28 | 2 | PIPE 3" HDPE SDR17 - 5" LG | LFG | PW3HDPE17 |
| 29 | 1 | DIFFERENTIAL PRESSURE INDICATOR PROCESS | LFG | DPIPIPESTD |
| 30 | 4 | HANDLE COVER 4 1/2" x 5 1/8" x 1" HDPE | LFG | HP4X1001 |



NOZZLE ORIENTATION



LID PLAN



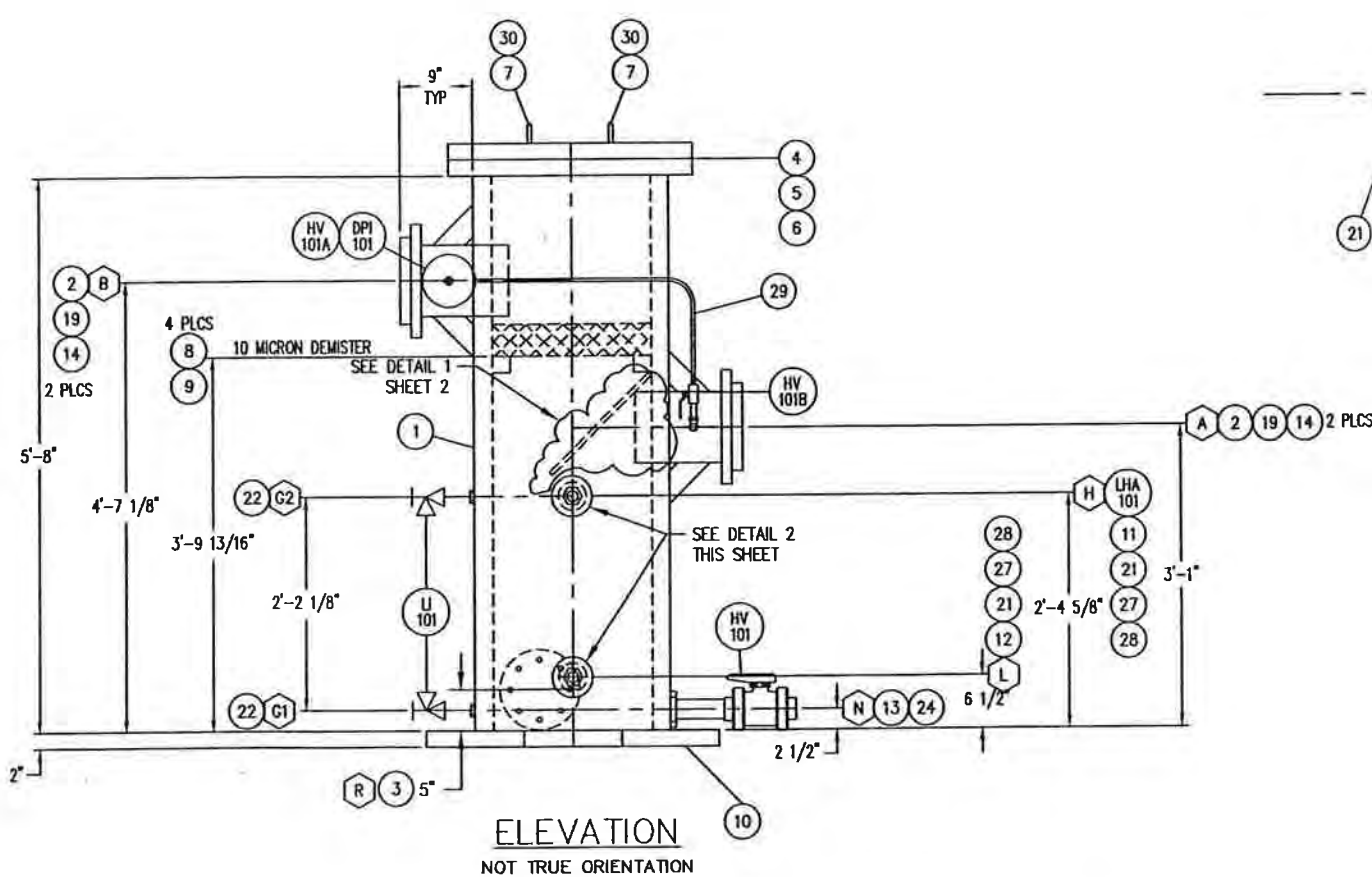
DETAIL 2
SCALE: 4X
2 PLACES

NOZZLE SCHEDULE

| MARK | SIZE | SIZE | EXT | PROJ | RATING | MATL | DESCRIPTION |
|------|------|------|-----|------|---------|------|-------------------------|
| A | 2 | 8 | 9 | 2 | SDR-11 | HDPE | GAS INLET |
| B | 2 | 8 | 9 | 2 | SDR-11 | HDPE | GAS OUTLET |
| N | 24 | 2 | - | - | BUSHING | SS | CONDENSATE DRAIN |
| G1 | 22 | 1/2 | - | - | BUSHING | SS | GAGE |
| G2 | 22 | 1/2 | - | - | BUSHING | SS | GAGE |
| H | 21 | 1 | - | - | BUSHING | SS | HIGH LEVEL ALARM SWITCH |
| L | 21 | 1 | - | - | BUSHING | SS | PLUG |
| P1 | 22 | 1/2 | - | - | BUSHING | SS | PLUG |
| P2 | 22 | 1/2 | - | - | BUSHING | SS | DIFFERENTIAL PORT |
| P3 | 22 | 1/2 | - | - | BUSHING | SS | DIFFERENTIAL PORT |
| P4 | 22 | 1/2 | - | - | H.CPLG. | CS | PRESSURE GAUGE |
| R | 3 | 4 | 6 | - | SDR-11 | HDPE | CLEAN OUT |

NOTES:

- ALL BOLTS, CAP SCREWS AND NUTS WILL BE SAE GRADE 8 WITH YELLOW ZINC DICHROMATE PLATING. THREADED RODS WILL BE LOW CARBON STEEL WITH YELLOW ZINC DICHROMATE PLATING. ALL THREADS WILL BE UNIFIED NATIONAL COARSE.
- ALL FLANGE BOLT HOLES TO STRADDLE HORIZONTAL AND VERTICAL CENTERLINES.
- SHOP TO REMOVE SHARP EDGES OFF OF ALL INTERNAL SURFACES.



ELEVATION
NOT TRUE ORIENTATION

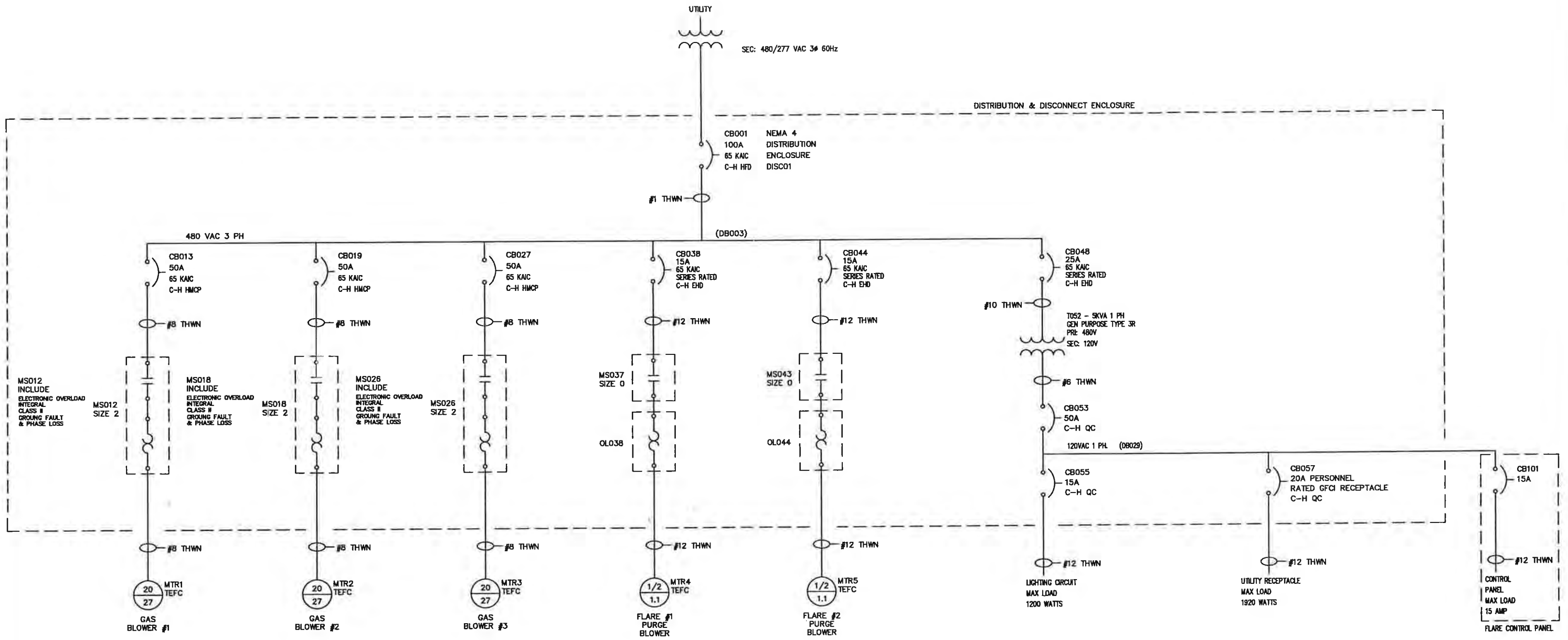
AS BUILT
NOV. 17, 2004

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| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/17/04 | CLK |
| 0 | ISSUED FOR CONSTRUCTION | 9/15/04 | KZM |

| | | | | | | | |
|---|---------------|--------------------|--|---|-----------------|-------------|-------------|
| 24" DIA. x 48" LG HDPE KNOCK OUT POT ASSEMBLY | | | | PROJECT NAME: LANDFILL GAS UTILITY FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| SCALE: 1" = 1'-0" | DATE: 9/15/04 | PROJECT NO: 847042 | | CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DWG NO: KOP | SHEET NO: 1 |





FOR REFERENCE ONLY



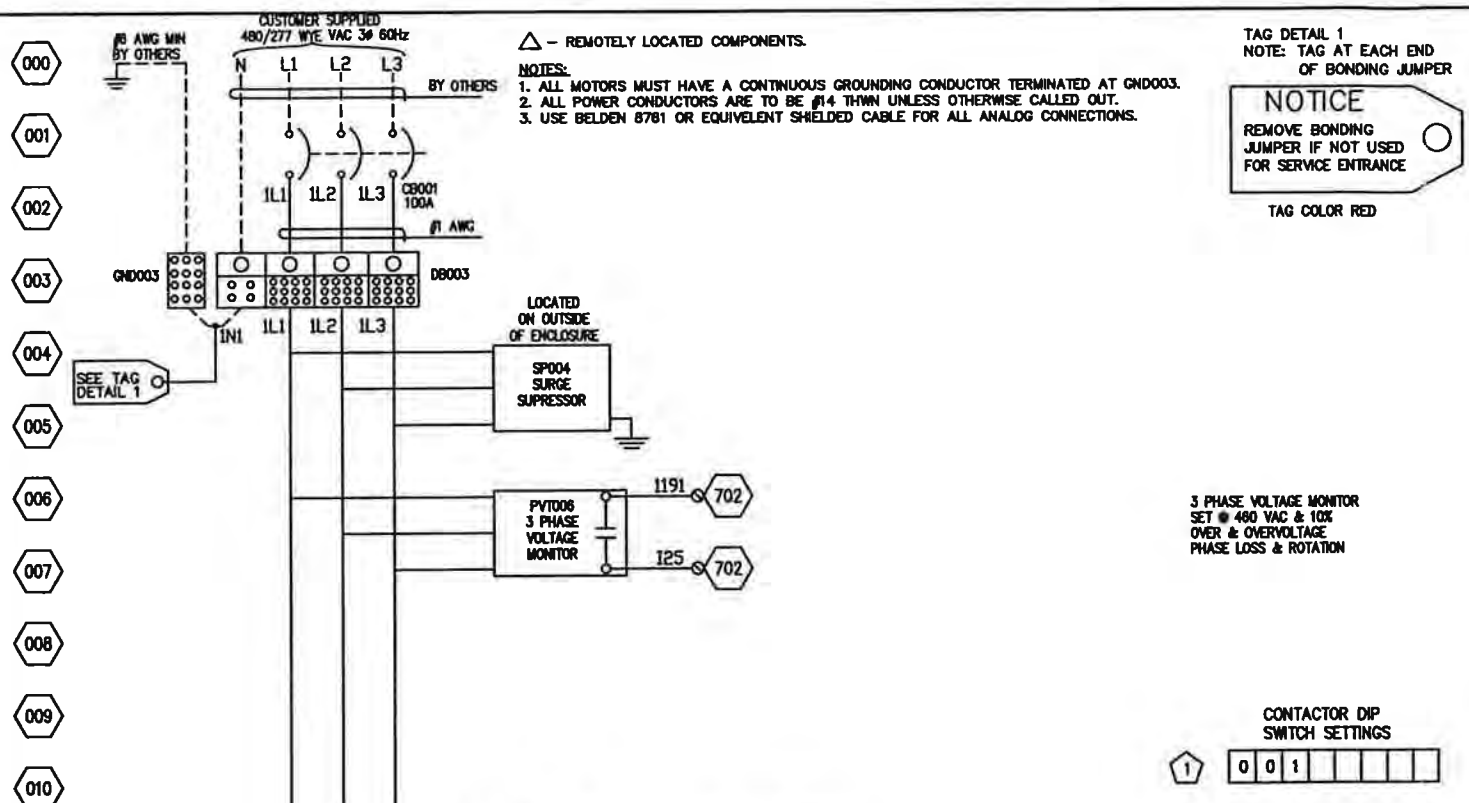
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| WIRE COLOR CODE | | | |
|-------------------|-------|--------------------|---------|
| SIGNAL | COLOR | | |
| DC | BLUE | GROUND | GREEN |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE |
| POWER CONNECTIONS | BLACK | | |

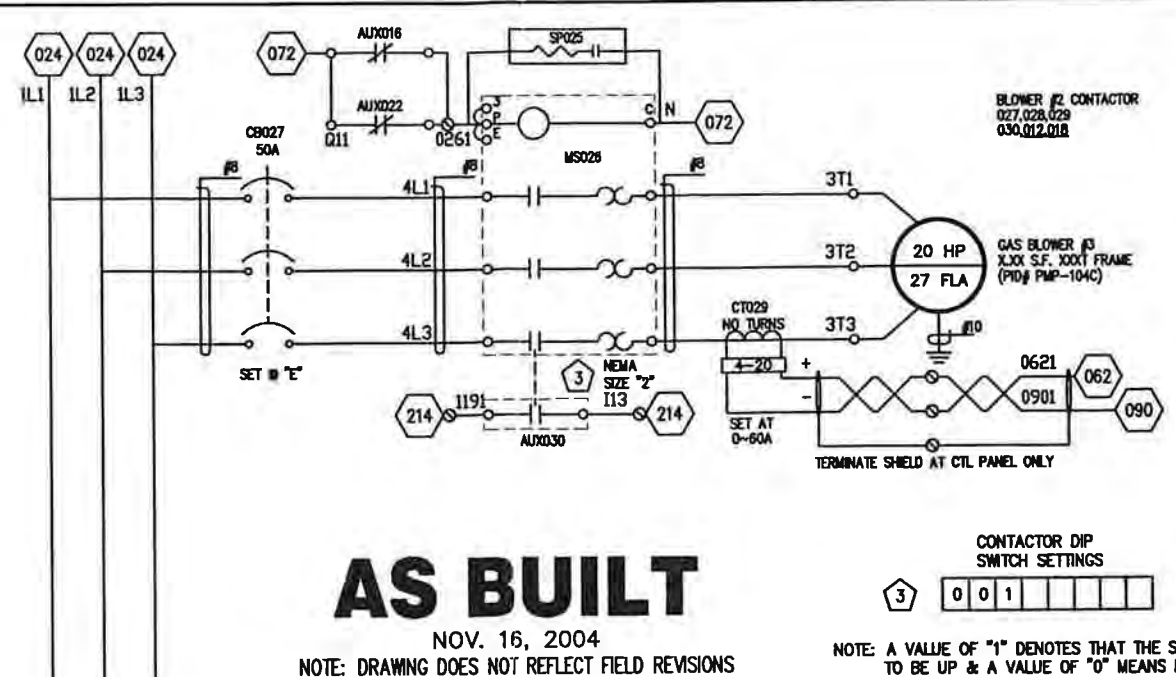
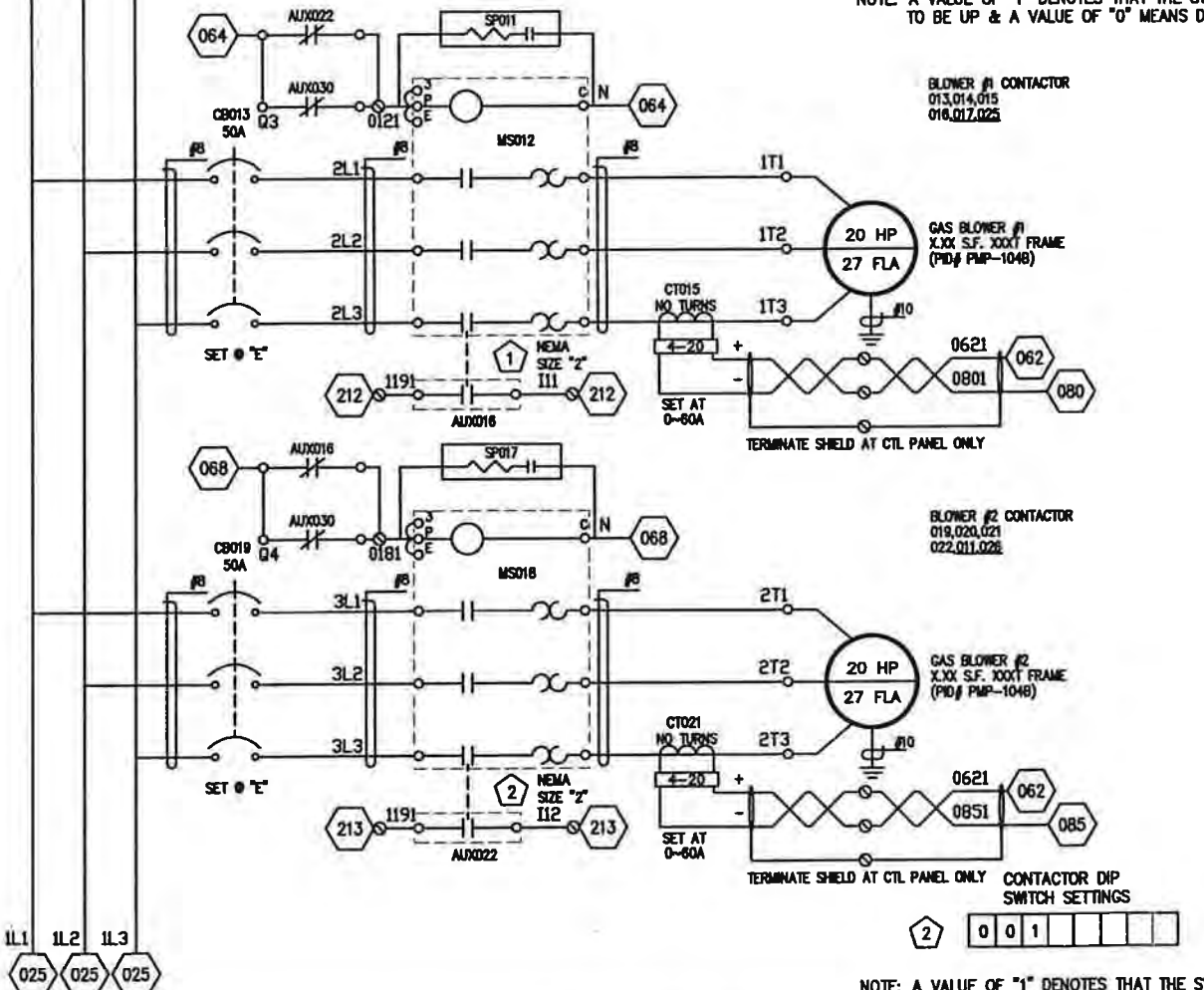
| SYSTEM ELECTRICAL ONE LINE POWER DIAGRAM | | | |
|--|--------------------|-----------------|-------------|
| DRAWN BY: TRS | ENGINEER: GWM | APPROVED BY: LK | SCALE: NONE |
| DATE: 09/11/04 | PROJECT NO: 847042 | | |

| PROJECT NAME | | | |
|--------------------------------------|--|------------|---------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| GUDE LANDFILL | | | |
| ROCKVILLE, MD | | | |
| CUSTOMER | | SERIAL NO. | DWG NO. |
| MONTGOMERY COUNTY, MD | | 1953 | EPD |



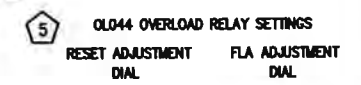
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AS BUILT

NOV. 16, 2004
 NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



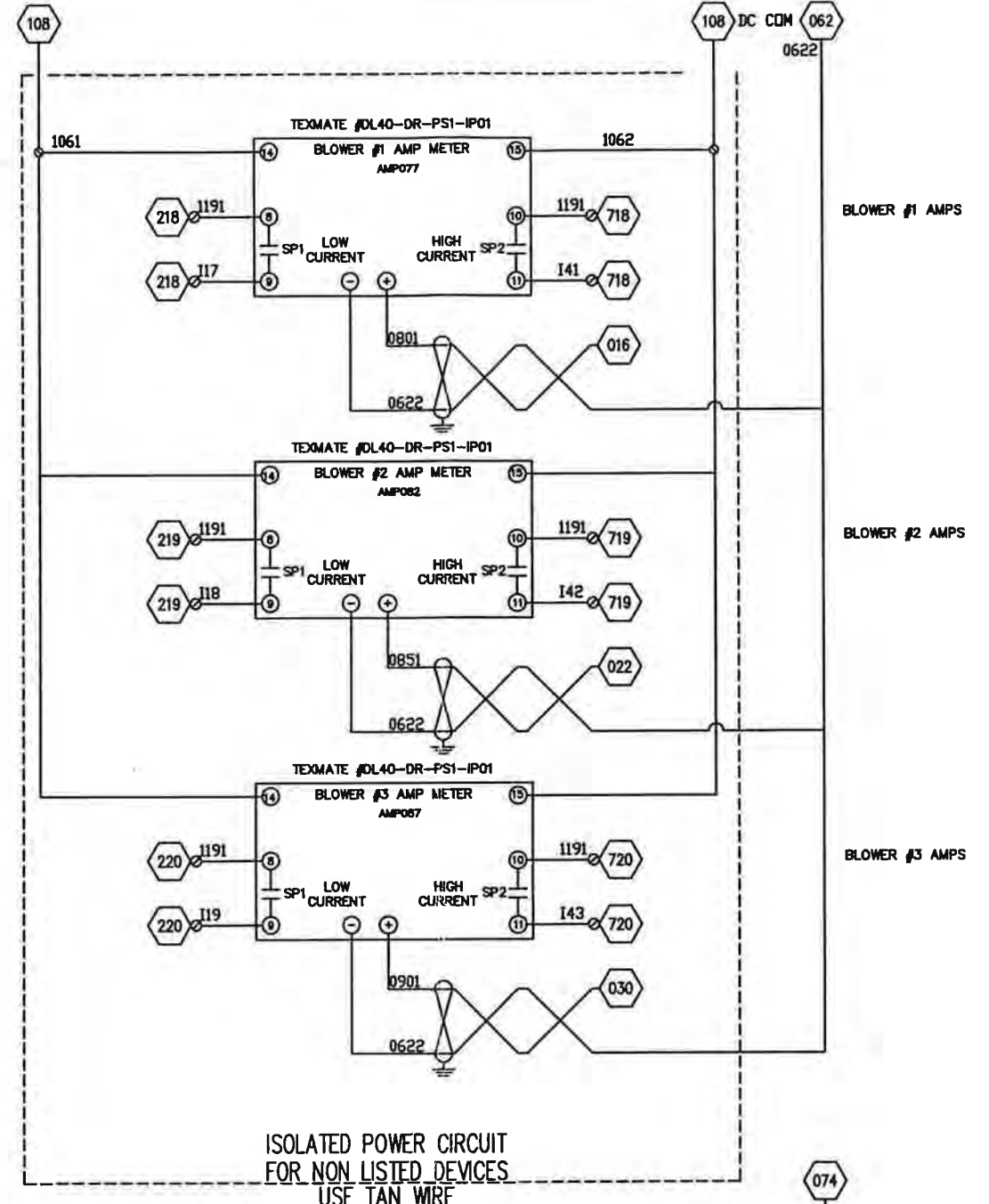
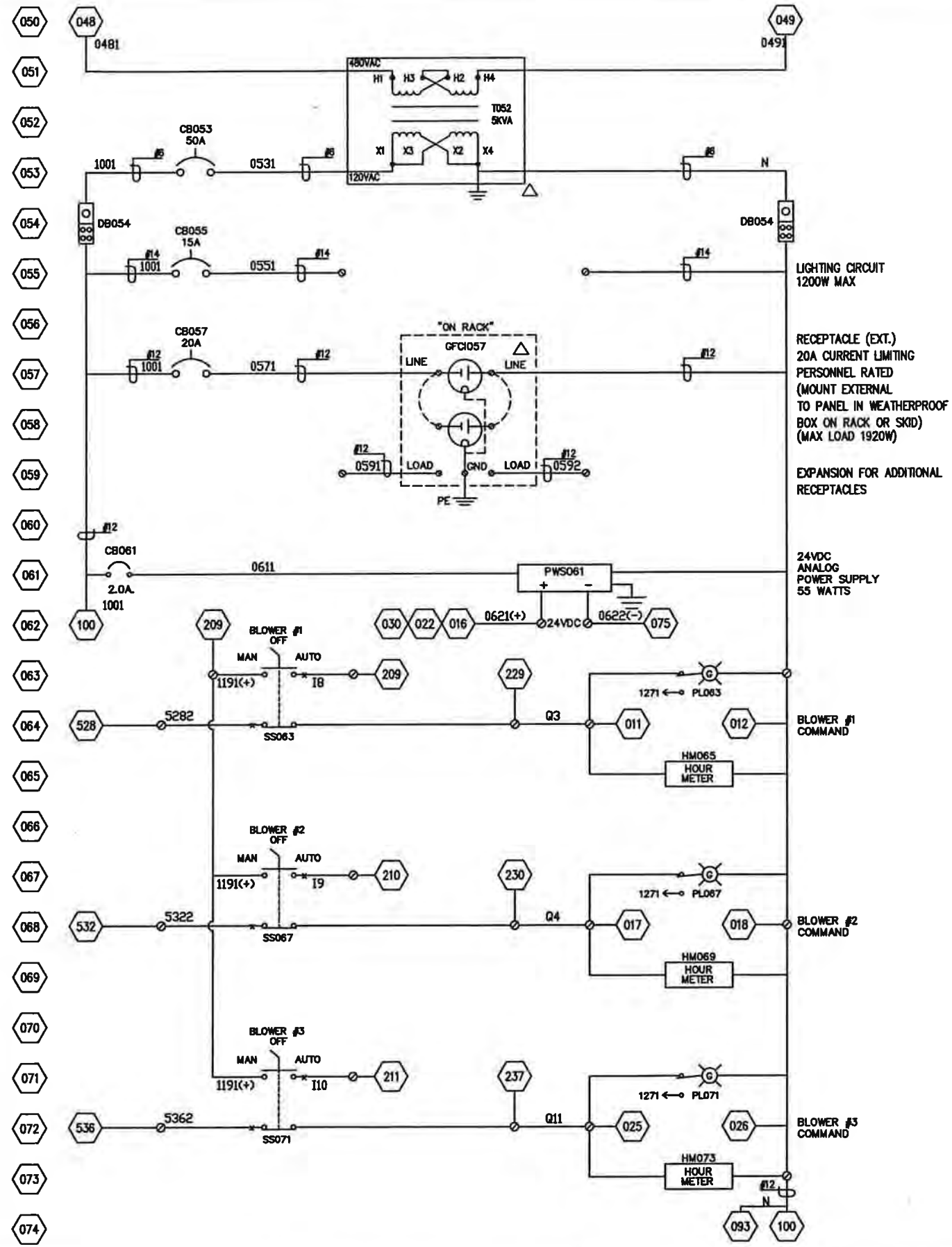
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|---------------------|----------|----|
| 1 | AS BUILT | 11/16/04 | TR |

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| WIRE COLOR CODE | | SIGNAL | | SIGNAL | |
|------------------|-------|--------------------|---------|--------|-------|
| SIGNAL | COLOR | SIGNAL | COLOR | SIGNAL | COLOR |
| DC | BLUE | GROUND | GREEN | | |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW | | |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE | | |
| POWER WIRING | BLACK | | | | |

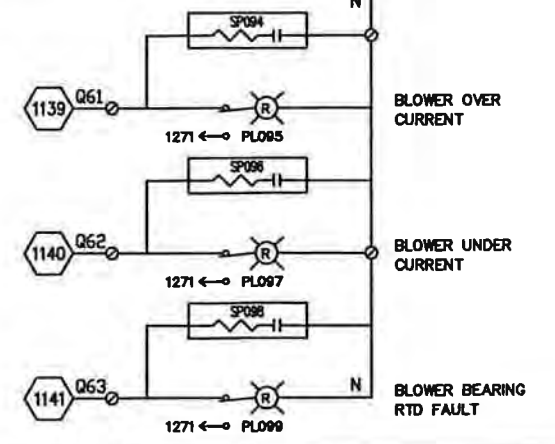
| MOTOR CONTROL CENTER ASSEMBLY 480VAC CONNECTIONS | | |
|---|--------------------|------------------|
| ENGINEER: TRS | DESIGNER: RSR | APPROVED BY: LWZ |
| DATE: 09/09/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--|--|------------|----------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GIDE LANDFILL ROCKVILLE, MD | | | |
| MONTGOMERY COUNTY, MD | | YEAR: 1953 | REV: EM1 |



AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



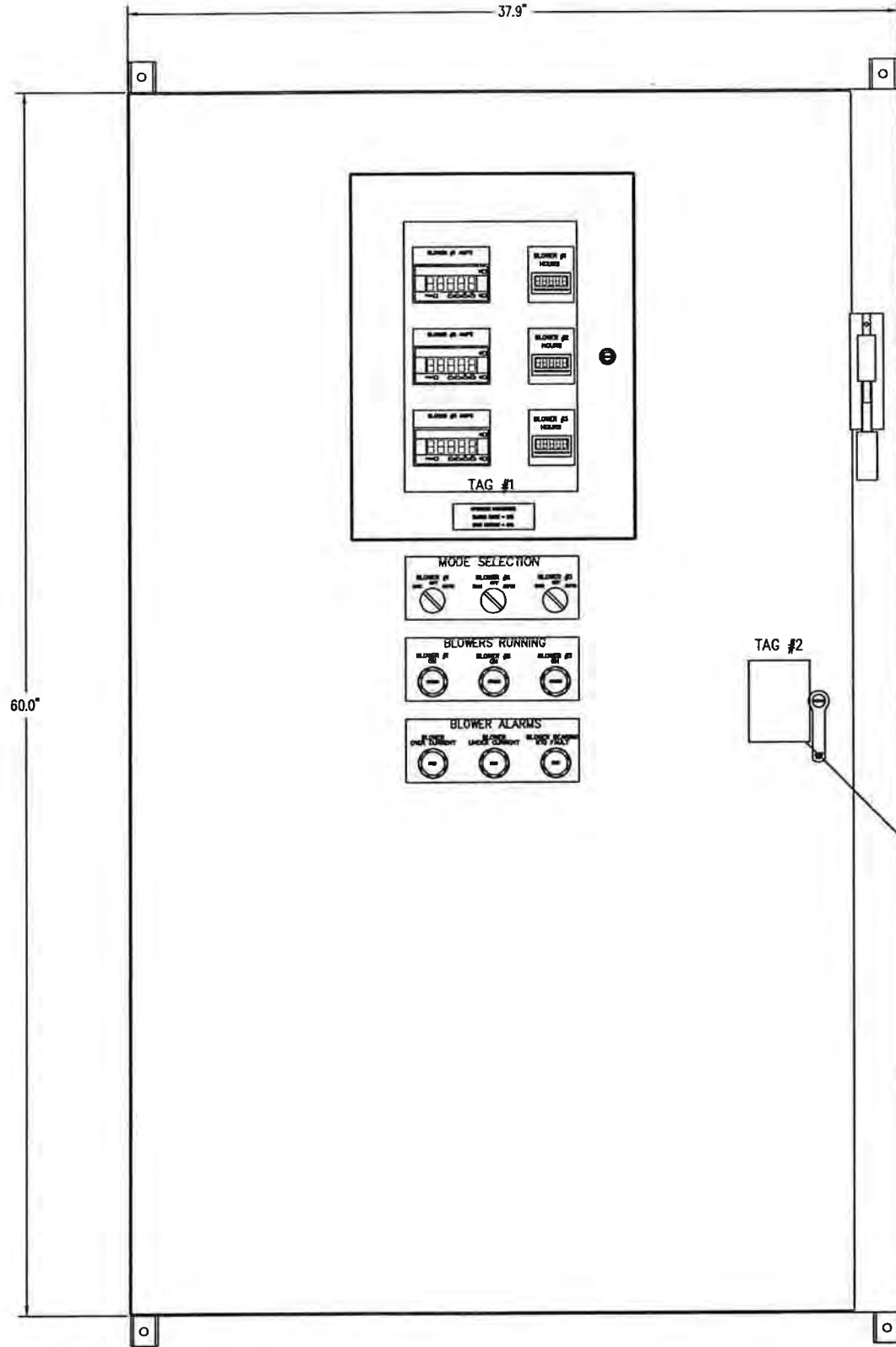
| REV | DESCRIPTION / ISSUE | DATE | BY |
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| 1 | AS BUILT | 11/16/04 | TRS |

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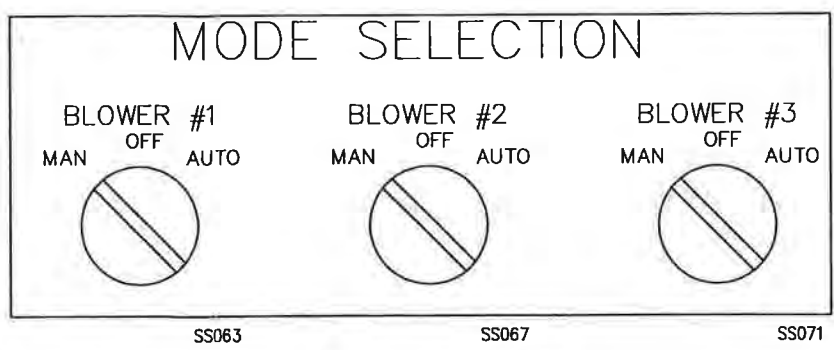
| WIRE COLOR CODE | | | |
|------------------|-------|--------------------|---------|
| SIGNAL | COLOR | SIGNAL | COLOR |
| DC | BLUE | GROUND | GREEN |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE |
| POWER WIRING | BLACK | | |

| MOTOR CONTROL CENTER ASSEMBLY 120VAC CONNECTIONS | | | |
|--|-------------|-------------|------|
| DRIVER | CONSUMER | APPROVED BY | REV. |
| TRS | RSR | LWZ | D |
| DATE | PROJECT NO. | | |
| 09/29/04 | 847042 | | |

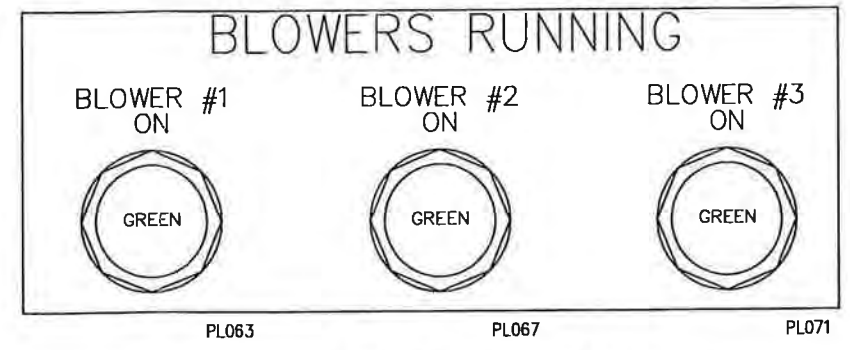
| PROJECT NAME | | | |
|--------------------------------------|------|----|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| GUIDE LANDFILL | | | |
| ROCKVILLE, MD | | | |
| MONTGOMERY COUNTY, MD | | | |
| DATE | REV. | BY | CHK. |
| 1953 | EM1 | | 2/2 |



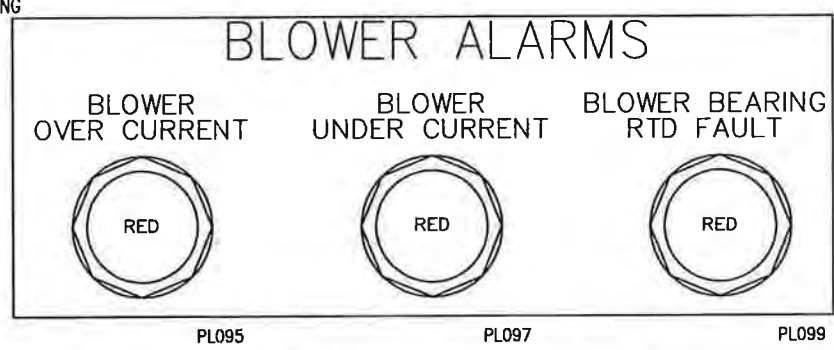
DISTRIBUTION ENCLOSURE
SCALE: 4:1



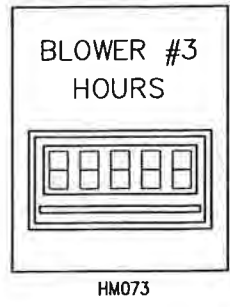
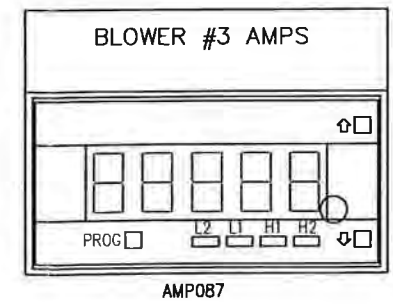
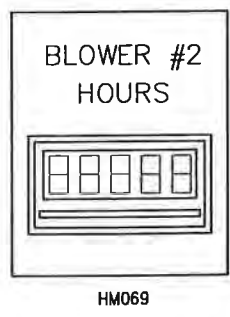
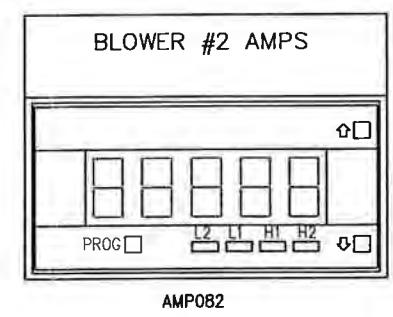
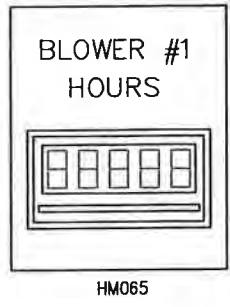
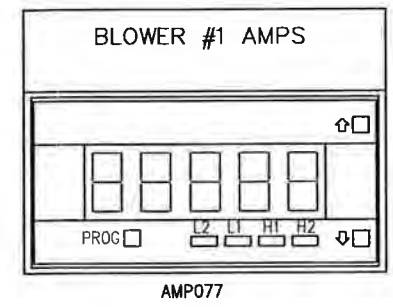
BLOWER CONTROLS
SCALE: FULL



BLOWER RUN INDICATORS
SCALE: FULL



BLOWER FAULT INDICATORS
SCALE: FULL



DISTRIBUTION INSTRUMENTATION
SCALE: FULL

TAG #2

TAG #2

Shaw LFG SPECIALTIES
16406 U.S. RTE. 224 EAST
FINDLAY OH 45840-9761
(419) 424-4999
(800) 331-7683

MODEL NO. FLAMETROL IV
SERIAL NO. 1953
PANEL: DISTRIBUTION

VOLTS - 480VAC PHASE - 3PH
FREQ - 60HZ
FULL LOAD AMPS - 100A
LARGEST MOTOR - 20HP 27 FLA
MAX. S.C.C. - 65kAIC RMS Sym.
Wiring Diagram: 1953-EM1
Date Code: 11/2004

NOTE: UL INFORMATION TAG

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



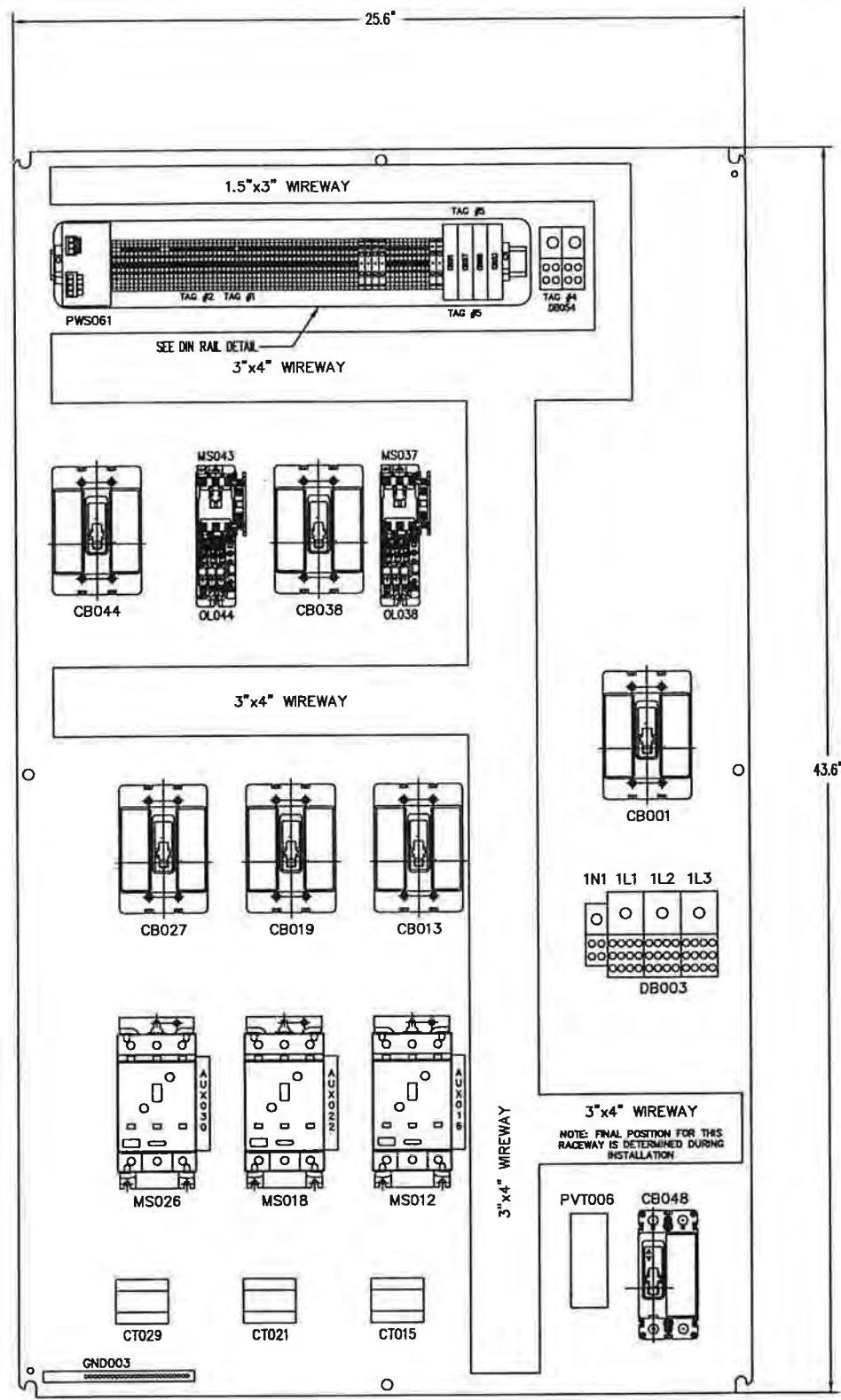
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-----------------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | REVISED DISTRIBUTION PANEL LAYOUT | 11/04/04 | TRS |

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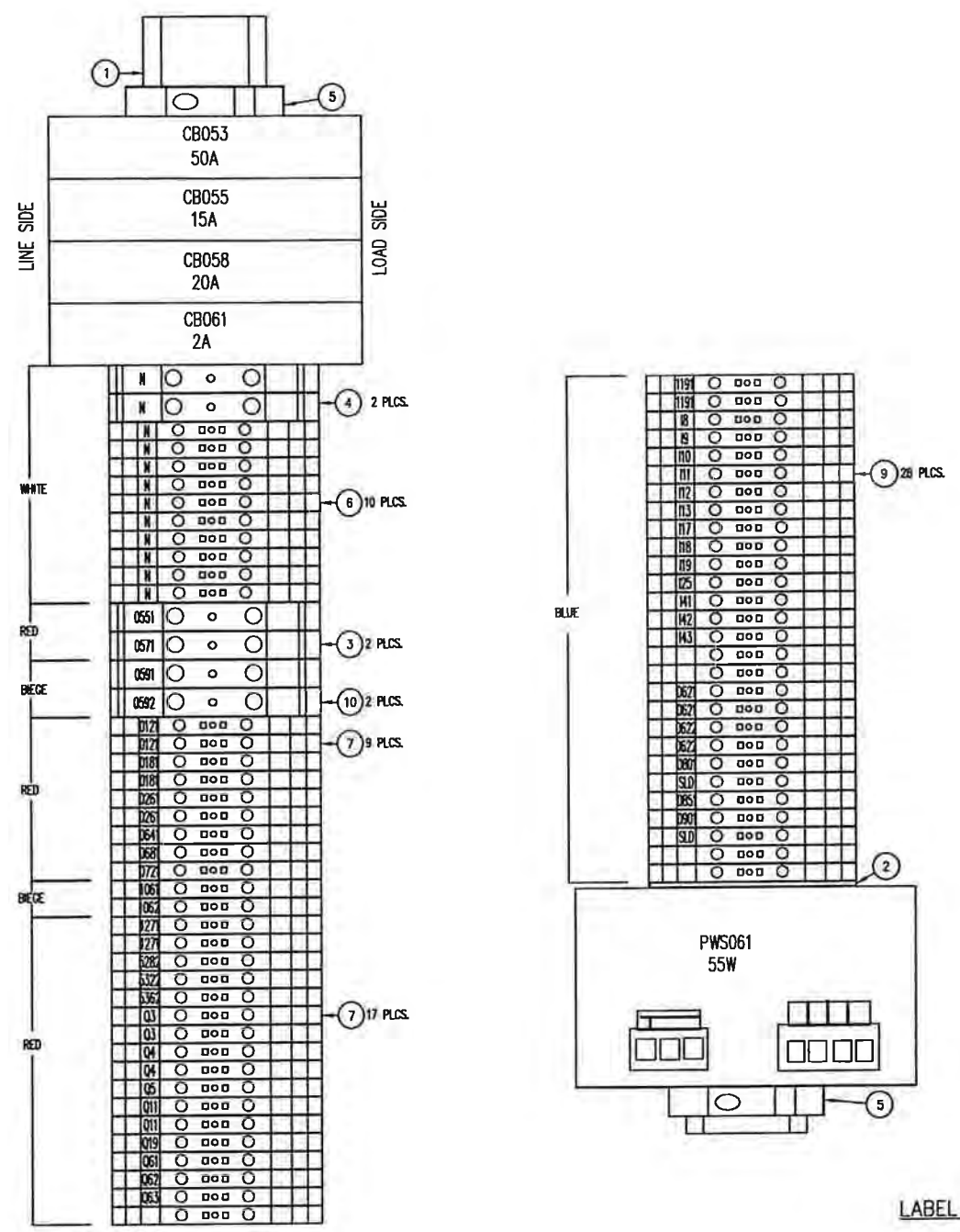
| WIRE COLOR CODE | | | |
|------------------|-------|--------------------|---------|
| SIGNAL | COLOR | SIGNAL | COLOR |
| DC | BLUE | GROUND | GREEN |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE |
| POWER WIRING | BLACK | | |

| MOTOR CONTROL CENTER ENCLOSURE ASSEMBLY | | | |
|---|-----------|--------------|-------|
| DRAWN BY: | ENGINEER: | APPROVED BY: | SIZE: |
| TRS | RSR | LWZ | D |
| SCALE: | DATE: | PROJECT NO: | |
| AS SHOWN | 09/29/04 | 847042 | |

| PROJECT NAME | | | |
|--|------------|---------|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO: | DWG NO: | REV: |
| MONTGOMERY COUNTY, MD | 1953 | EP1 | 1/3 |



BACK PLATE OF MCC ENCLOSURE
SCALE: 4:1



DIN RAIL DETAIL
SCALE: FULL

LABEL & PLAQUE DETAIL

TAG #1
Use 105° C rated copper wire.

TAG #2
WEDMULLER WDU6
TORQUE to 7.1 lb-in

TAG #3
↓

TAG #4
NSI DB #4-#14 WIRE
TORQUE TO 35-110 LB-IN

TAG #5
C-H QC BREAKERS
TORQUE to 30 lb-in

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|---------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |

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| WIRE COLOR CODE | | | |
|------------------|-------|--------------------|---------|
| SIGNAL | COLOR | SIGNAL | COLOR |
| DC | BLUE | GROUND | GREEN |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE |
| POWER WIRING | BLACK | | |

| MOTOR CONTROL CENTER ENCLOSURE ASSEMBLY | | | |
|---|----------|-------------|------|
| SCALE | DATE | PROJECT NO. | SIZE |
| AS SHOWN | 09/29/04 | 847042 | D |

| PROJECT NAME | | | |
|--|------------|---------|------|
| CUSTOMER | SERIAL NO. | DWG NO. | REV. |
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | 1953 | EP1 | 2/3 |

BILL OF MATERIAL (MOTOR CONTROL CENTER)

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|--------|-----|--|----------------|-----------------------|-------------|
| AMP077 | 1 | 4-20mA CONTROLLER (AMP METER) | TEXTMATE | DL40-DR-PSI-IP01-OR12 | NON STOCK |
| AMP082 | 1 | 4-20mA CONTROLLER (AMP METER) | TEXTMATE | DL40-DR-PSI-IP01-OR12 | NON STOCK |
| AMP087 | 1 | 4-20mA CONTROLLER (AMP METER) | TEXTMATE | DL40-DR-PSI-IP01-OR12 | NON STOCK |
| AUX016 | 1 | AUXILIARY CONTACT KIT | CUTLER HAMMER | W22 | EMS3PAUXW22 |
| AUX022 | 1 | AUXILIARY CONTACT KIT | CUTLER HAMMER | W22 | EMS3PAUXW22 |
| AUX030 | 1 | AUXILIARY CONTACT KIT | CUTLER HAMMER | W22 | EMS3PAUXW22 |
| CB001 | 1 | DISCONNECT BREAKER (100A) | CUTLER HAMMER | HFD3100L | CHHFD3100L |
| CB013 | 1 | MOTOR CIRCUIT PROTECTOR (50A) | CUTLER HAMMER | HMCP050K2C | EMCP50A3P |
| CB019 | 1 | MOTOR CIRCUIT PROTECTOR (50A) | CUTLER HAMMER | HMCP050K2C | EMCP50A3P |
| CB027 | 1 | MOTOR CIRCUIT PROTECTOR (50A) | CUTLER HAMMER | HMCP050K2C | EMCP50A3P |
| CB038 | 1 | CIRCUIT BREAKER (15A 3 POLE) | CUTLER HAMMER | EHD3015L | NON STOCK |
| CB044 | 1 | CIRCUIT BREAKER (15A 3 POLE) | CUTLER HAMMER | EHD3015L | NON STOCK |
| CB048 | 1 | CIRCUIT BREAKER (25A 2 POLE) | CUTLER HAMMER | EHD2025L | CHEHD2025L |
| --- | 3 | DIN RAIL ADAPTER (FOR CB053-058) | CUTLER HAMMER | QCDINADAPT | DINADAPT |
| CB053 | 1 | CIRCUIT BREAKER (50A 1 POLE) | CUTLER HAMMER | QC-1050 | CHQC1050 |
| CB055 | 1 | CIRCUIT BREAKER (15A 1 POLE) | CUTLER HAMMER | QC-1015 | CHQC1015 |
| CB057 | 1 | CIRCUIT BREAKER (20A 1 POLE) | CUTLER HAMMER | QC-1020 | CHQC1020 |
| CB061 | 1 | CIRCUIT BREAKER (2A) | GE | V07102 | ECB2A1PD |
| CT015 | 1 | CURRENT TRANSFORMER W/ 4-20mA OUTPUT | HAWKEYE | H-921 | ECT-H921 |
| CT021 | 1 | CURRENT TRANSFORMER W/ 4-20mA OUTPUT | HAWKEYE | H-921 | ECT-H921 |
| CT029 | 1 | CURRENT TRANSFORMER W/ 4-20mA OUTPUT | HAWKEYE | H-921 | ECT-H921 |
| GND003 | 1 | GROUNDING BAR 24 POINTS | GE | TGK24 | FLOOR STOCK |
| DB003 | 1 | DISTRIBUTION BLOCK (1)-#2/0-#14 LINE x (4)-#4-#14 LOAD | NSI | AS-K1-H4 | EDBASK1H4 |
| DB003 | 1 | DISTRIBUTION BLOCK COVER (FOR AS SERIES BLOCKS) | NSI | CS | EDBCVR-S |
| DB003 | 3 | DISTRIBUTION BLOCK (1)-350MCM-#6 LINE x (12)-#4-#14 LOAD | NSI | AM-P1-H12 | NON STOCK |
| DB003 | 4 | DISTRIBUTION BLOCK COVER (FOR AM SERIES BLOCKS) | NSI | CM | EDBCVR-M |
| DB054 | 2 | DISTRIBUTION BLOCK (1)-#2/0-#14 LINE x (4)-#4-#14 LOAD | NSI | AS-K1-H4 | EDBASK1H4 |
| DB054 | 2 | DISTRIBUTION BLOCK COVER (FOR CS SERIES BLOCKS) | NSI | CS | EDBCVR-S |
| DISC | 1 | DISTRIBUTION PANEL ENCLOSURE | HOFFMAN | C-DSC603812 | NON STOCK |
| DISC | 1 | MOTOR CONTROL CENTER BACK PLATE | HOFFMAN | C-P6036 | NON STOCK |
| DISC | 1 | ENCLOSURE MTG FEET | HOFFMAN | C-MFK | EBXMTGFT |
| DISC | 1 | FLEX SHAFT FLANGE MOUNTED DISCONNECT W/ ACTUATOR CABLE | CUTLER HAMMER | F1503CX | NON STOCK |
| DISC | 1 | HINGED WINDOW KIT NEMA 4 | SCE | SCE-HWK1814 | NON STOCK |
| HM065 | 1 | HOUR METER | REDDINGTON | 53202000 | EAHOURMTR |
| HM069 | 1 | HOUR METER | REDDINGTON | 53202000 | EAHOURMTR |
| HM073 | 1 | HOUR METER | REDDINGTON | 53202000 | EAHOURMTR |
| MS012 | 1 | MOTOR STARTER ADVANTAGE SZ 2 FVNR 120V COIL NO GC PRT | CUTLER HAMMER | W200M2CFYC7 | CHW200M2CFC |
| MS018 | 1 | MOTOR STARTER ADVANTAGE SZ 2 FVNR 120V COIL NO GC PRT | CUTLER HAMMER | W200M2CFYC7 | CHW200M2CFC |
| MS026 | 1 | MOTOR STARTER ADVANTAGE SZ 2 FVNR 120V COIL NO GC PRT | CUTLER HAMMER | W200M2CFYC7 | CHW200M2CFC |
| MS037 | 1 | MOTOR STARTER FREEDOM SZ 0 FVNR 120V COIL | CUTLER HAMMER | AN16ANOAC | NON STOCK |
| MS043 | 1 | MOTOR STARTER FREEDOM SZ 0 FVNR 120V COIL | CUTLER HAMMER | AN16ANOAC | NON STOCK |
| SP004 | 1 | 3 PHASE SERVICE ENTRANCE SURGE PROTECTOR 600 VAC RATED | CUTLER HAMMER | CHSA03 | ESA30600V |
| SP011 | 1 | SNUBBER CIRCUIT FOR NEMA 2 STARTERS | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP017 | 1 | SNUBBER CIRCUIT FOR NEMA 2 STARTERS | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP025 | 1 | SNUBBER CIRCUIT FOR NEMA 2 STARTERS | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP036 | 1 | SNUBBER CIRCUIT FOR NEMA 0 STARTERS | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP042 | 1 | SNUBBER CIRCUIT FOR NEMA 0 STARTERS | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP094 | 1 | SNUBBER CIRCUIT | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP096 | 1 | SNUBBER CIRCUIT | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SP098 | 1 | SNUBBER CIRCUIT | RK ELECTRONICS | RSC2A-6 | EMCSNUB-CR |
| SS063 | 1 | 3 POSITION ROTARY SWITCH (BLOWER #1 MAN./OFF/AUTO) | GE | CR104PSG34891 | ESW3PM1CB |
| SS067 | 1 | 3 POSITION ROTARY SWITCH (BLOWER #2 MAN./OFF/AUTO) | GE | CR104PSG34891 | ESW3PM1CB |
| SS071 | 1 | 3 POSITION ROTARY SWITCH (BLOWER #3 MAN./OFF/AUTO) | GE | CR104PSG34891 | ESW3PM1CB |
| OL038 | 1 | HEATER PACK FOR PURGE BLOWER (0.819A-1.32A) FOR 1/2 HP | CUTLER HAMMER | H2004B-3 | NON STOCK |
| OL044 | 1 | HEATER PACK FOR PURGE BLOWER (0.819A-1.32A) FOR 1/2 HP | CUTLER HAMMER | H2004B-3 | NON STOCK |
| PL063 | 1 | GREEN PUSH TO TEST PILOT LIGHT | GE | CR104PLT32G | EPL120VT6-G |
| PL067 | 1 | GREEN PUSH TO TEST PILOT LIGHT | GE | CR104PLT32G | EPL120VT6-G |
| PL071 | 1 | GREEN PUSH TO TEST PILOT LIGHT | GE | CR104PLT32G | EPL120VT6-G |
| PL095 | 1 | RED PUSH TO TEST PILOT LIGHT | GE | CR104PLT32R | EPL120VT6-R |
| PL097 | 1 | RED PUSH TO TEST PILOT LIGHT | GE | CR104PLT32R | EPL120VT6-R |
| PL099 | 1 | RED PUSH TO TEST PILOT LIGHT | GE | CR104PLT32R | EPL120VT6-R |
| PVT006 | 1 | THREE PHASE VOLTAGE RELAY (MICROPROCESSOR) | RK ELECTRONICS | PVTR-201-A2C | NON STOCK |
| PWS061 | 1 | POWER SUPPLY 120 VAC IN 55W @ 50 DEG. C | WEIDMULLER | 9927480024 | EPS120V55W |
| 24" | 1 | 1 1/2" x 3" WIRING DUCT | PANDUIT | G1.5X3L6 | EWV1.5X3-LG |
| 24" | 1 | 1 1/2" WIREWAY COVER | PANDUIT | C1.5L6 | EWV1.5-LG |
| 60" | 1 | 3"x4" WIRING DUCT | PANDUIT | G3X4L6 | EWV3X4-LG |
| 60" | 1 | 3" WIREWAY COVER | PANDUIT | C3L6 | EWV3-LG |
| 1 | 16" | DIN RAIL TS 35x7.5 (5mm SLOT) | WEIDMULLER | 0514500000 | FLOOR STOCK |
| 2 | 1 | TERMINAL BLOCK END PLATE WAP 2.5-10 | WEIDMULLER | 1050000000 | FLOOR STOCK |
| 3 | 2 | TERMINAL BLOCK 20-10AWG 600 VAC WDU 4 RED | WEIDMULLER | 1020140000 | EWDU4RT |
| 4 | 2 | TERMINAL BLOCK 20-10AWG 600 VAC WDU 4 WHITE | WEIDMULLER | 1036700000 | EWDU4WS |
| 5 | 2 | TERMINAL BLOCK END BLOCK WEW 35/2 | WEIDMULLER | 1037810000 | FLOOR STOCK |
| 1 | 1 | BLANK TERMINAL LABELS FOR 6mm WS12/6 10 TAGS EACH | WEIDMULLER | 1609900000 | FLOOR STOCK |
| 6 | 10 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 WHITE | WEIDMULLER | 1036800000 | EWDU2.5WS |
| 7 | 25 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 RED | WEIDMULLER | 1020040000 | EWDU2.5RT |
| 8 | 2 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 BIEGE | WEIDMULLER | 1020000000 | EWDU2.5BI |
| 9 | 28 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 BLUE | WEIDMULLER | 1020080000 | EWDU2.5BL |
| 10 | 2 | TERMINAL BLOCK 20-10AWG 600 VAC WDU 4 BIEGE | WEIDMULLER | 1061060000 | EWDU4BI |
| - | 7 | BLANK TERMINAL LABELS FOR 5mm WS12/5 10 TAGS EACH | WEIDMULLER | 1061060000 | FLOOR STOCK |

BILL OF MATERIAL (UTILITY RECEPTACLE)

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|---------|-----|--|--------------|----------|-----------|
| GFCIO57 | 1 | 20A PERSONNEL RATED 125V GFCI RECEPTACLE | HUBBELL | GF5352IC | EGFCI |
| GFCIO57 | 1 | NEMA 4 SINGLE GANG RECEPTACLE BOX | HUBBELL | 5320-0 | EGFCI-BOX |
| GFCIO57 | 1 | WEATHER PROOF COVER FOR GFCI RECEPTACLE W/ BOX MATE UP | HUBBELL | 50002-0 | EGFCI-CVR |

BILL OF MATERIAL (MISC. RACK COMPONENTS)

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|------|-----|------------------|---------------|------------|----------|
| T052 | 1 | TRANSFORMER 5KVA | CUTLER HAMMER | S20N11505N | ETR5KVA |

AS BUILT

NOV. 16, 2004

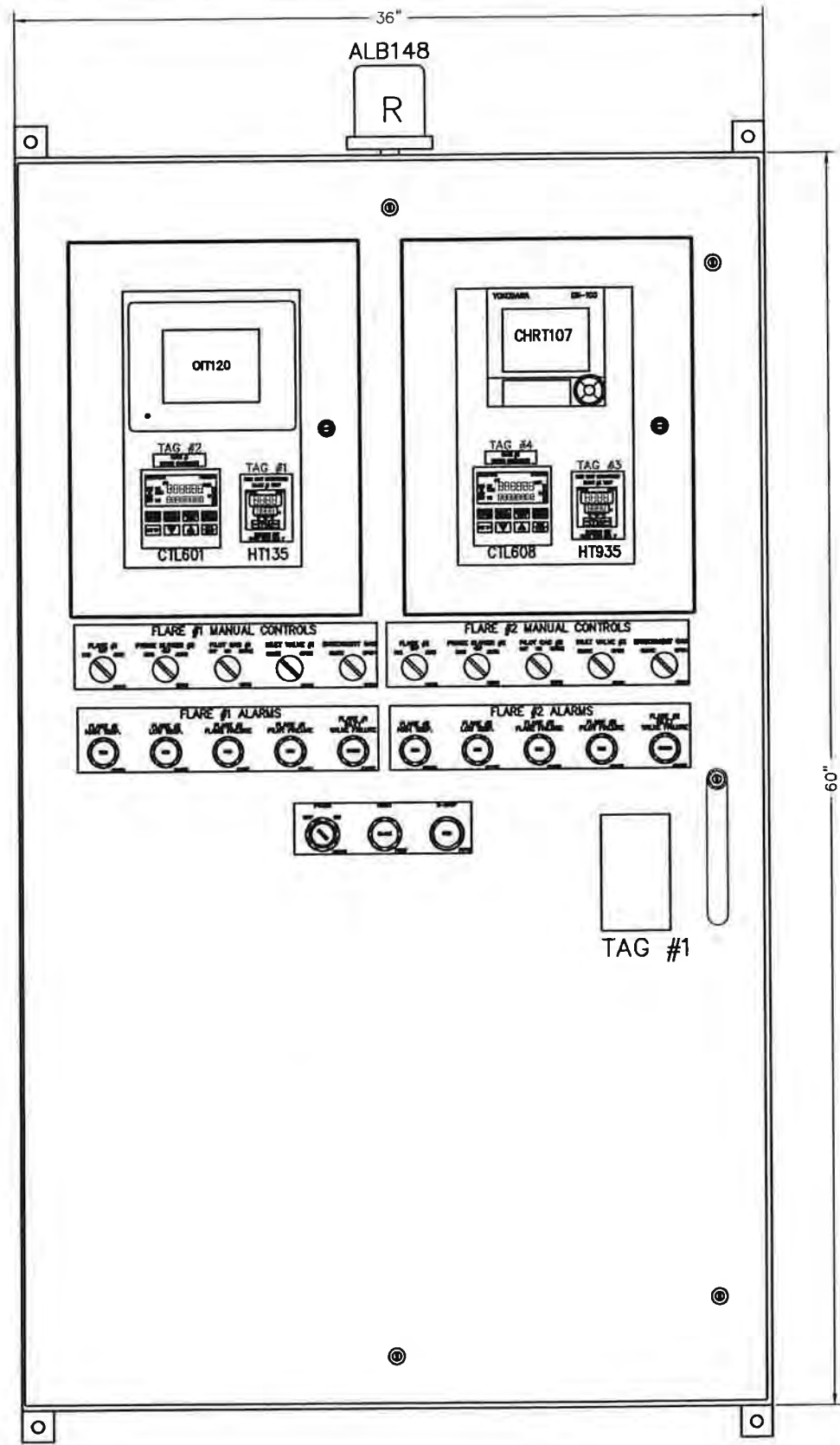
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|--|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | REVISED PART NUMBERS FOR AMMETERS AND WINDOW KIT | 11/04/04 | TRS |

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| WIRE COLOR CODE | | | | MOTOR CONTROL CENTER ENCLOSURE ASSEMBLY | | | | PROJECT NAME | | | |
|------------------|-------|--------------------|---------|---|----------|-------------|------|--------------------------------------|---------|------|--|
| SIGNAL | COLOR | SIGNAL | COLOR | DRWN BY | CHKD BY | APPROVED BY | SIZE | LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| DC | BLUE | GROUND | GREEN | TRS | RSR | LWZ | D | GUDE LANDFILL | | | |
| 120VAC | RED | EXTERNALLY POWERED | YELLOW | | | | | ROCKVILLE, MD | | | |
| NEUTRAL (120VAC) | WHITE | INTRINSICALLY SAFE | LT BLUE | | | | | MONTGOMERY COUNTY, MD | | | |
| POWER WRING | BLACK | | | SCALE | DATE | PROJECT NO. | | SERIAL NO. | DRG NO. | REV. | |
| | | | | AS SHOWN | 09/29/04 | 847042 | | 1953 | EP1 | 3/3 | |



NEMA 4 ENCLOSURE LAYOUT
SCALE: 4:1

TAG #1

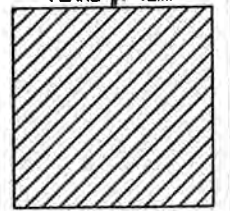
Shaw LFG SPECIALTIES
 16406 U.S. RTE. 224 EAST
 FINDLAY, OH 45840-9761
 PHONE: (419) 424-4999
 FAX: (419) 424-4991

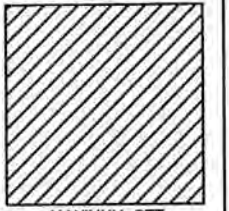
FLAME CONTROL PANEL
 MODEL NO. FLAMETROL IV
 SERIAL NO. 1953
 PANEL: CONTROL PANEL

120 VAC, 1 PH, 60 HZ
 FULL LOAD AMPS - 15A MAX
 Wiring Diagram: 1953-EE1
 Date Code: 11/2004

WARNING: DISCONNECT SUPPLY
 BEFORE SERVICING

Caution: Yellow wiring
 may be energized
 when main disconnect
 is opened.

TAG #2
 HIGH LIMIT CONTROLLER
 FLARE #1 TEMP

 MAXIMUM SET
 POINT 2000 DEG. F

TAG #4
 HIGH LIMIT CONTROLLER
 FLARE TEMP

 MAXIMUM SET
 POINT 2000 DEG. F

TAG #3
 FLARE #1
 LOUVER CONTROLLER

TAG #5
 FLARE #2
 LOUVER CONTROLLER

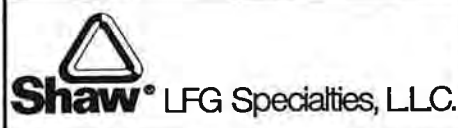
TAG #5
 OPERATING PARAMETERS
 BLOWER SURGE = XXA
 OVER CURRENT = XXA

TAG #6
 WARNING:
 ONLY USE ENRICHMENT GAS
 WHEN GAS CONTENT
 IS <25% BY VOLUME

LABEL DETAIL
 SCALE: FULL

AS BUILT

NOV. 16, 2004
 NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS

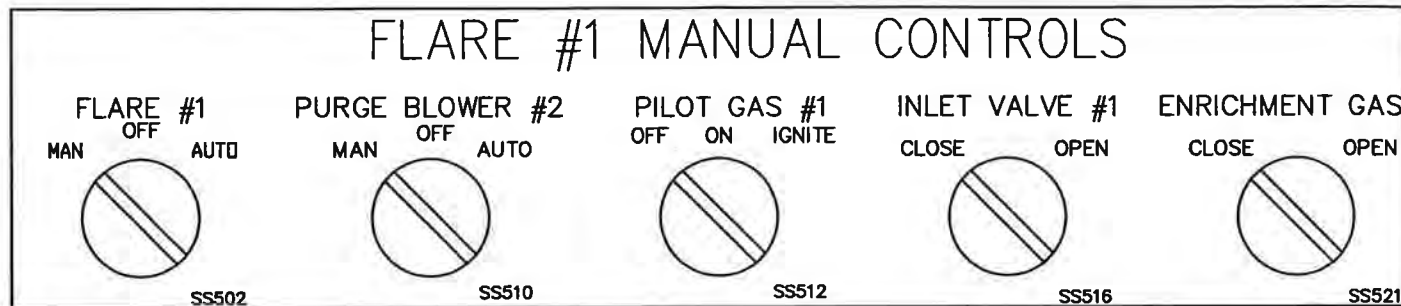


| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

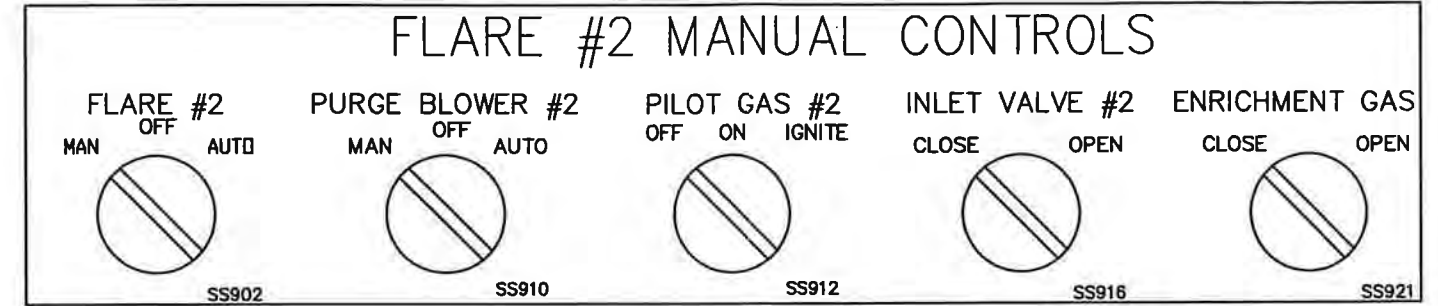
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| FLAME-TROL IV ENCLOSURE LAYOUT | | | |
|--------------------------------|-------------|-------------|------|
| DRAWN BY | DESIGNED BY | APPROVED BY | REV. |
| TRS | RSR | LWZ | D |
| SCALE | DATE | PROJECT NO. | |
| AS SHOWN | 08/10/04 | 847042 | |

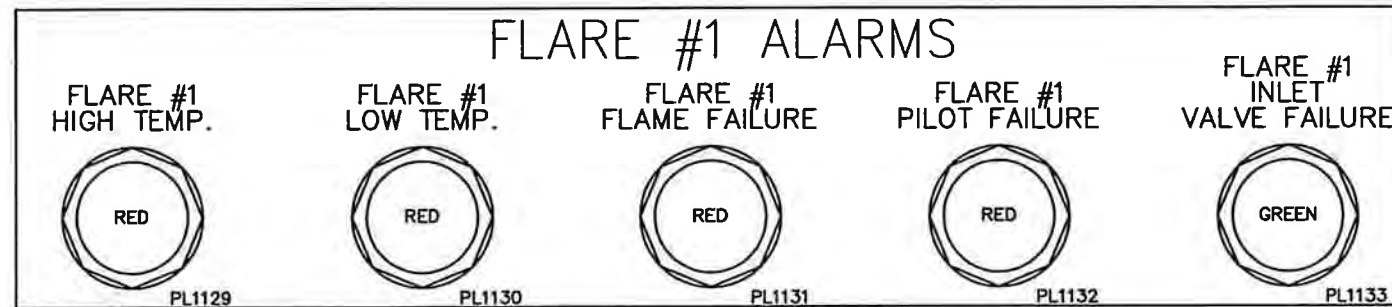
| PROJECT NAME | | | |
|--|------|-----------|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER | YEAR | ISSUE NO. | DATE |
| MONTGOMERY COUNTY, MD | 1953 | EE1 | 1 |



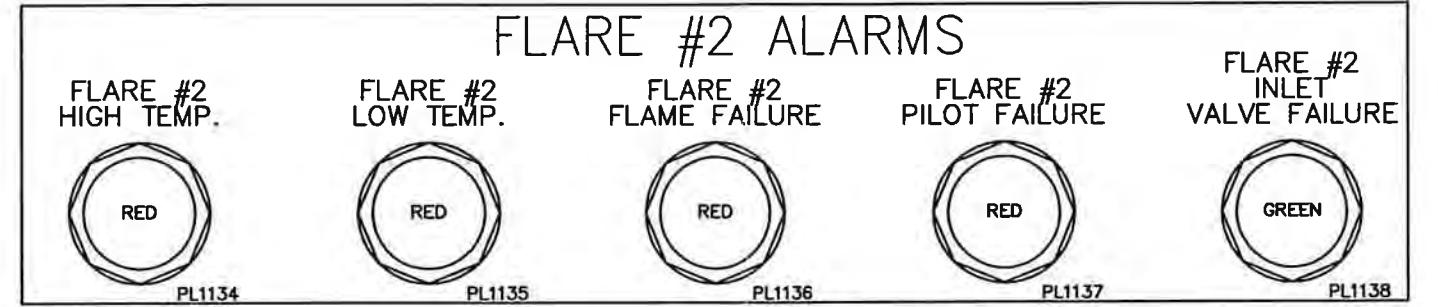
BUTTON DETAIL #1
SCALE: FULL



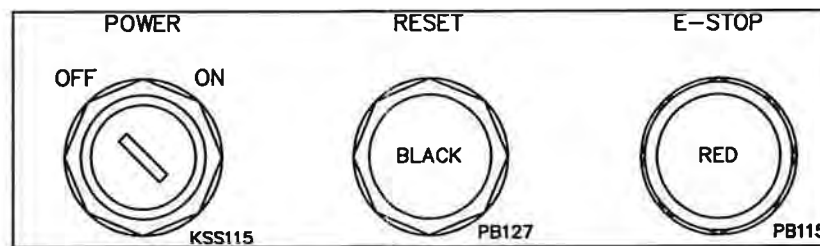
BUTTON DETAIL #2
SCALE: FULL



LIGHT DETAIL #1
SCALE: FULL



LIGHT DETAIL #2
SCALE: FULL



BUTTON DETAIL #3
SCALE: FULL

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

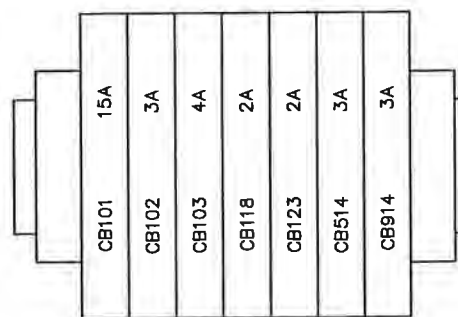
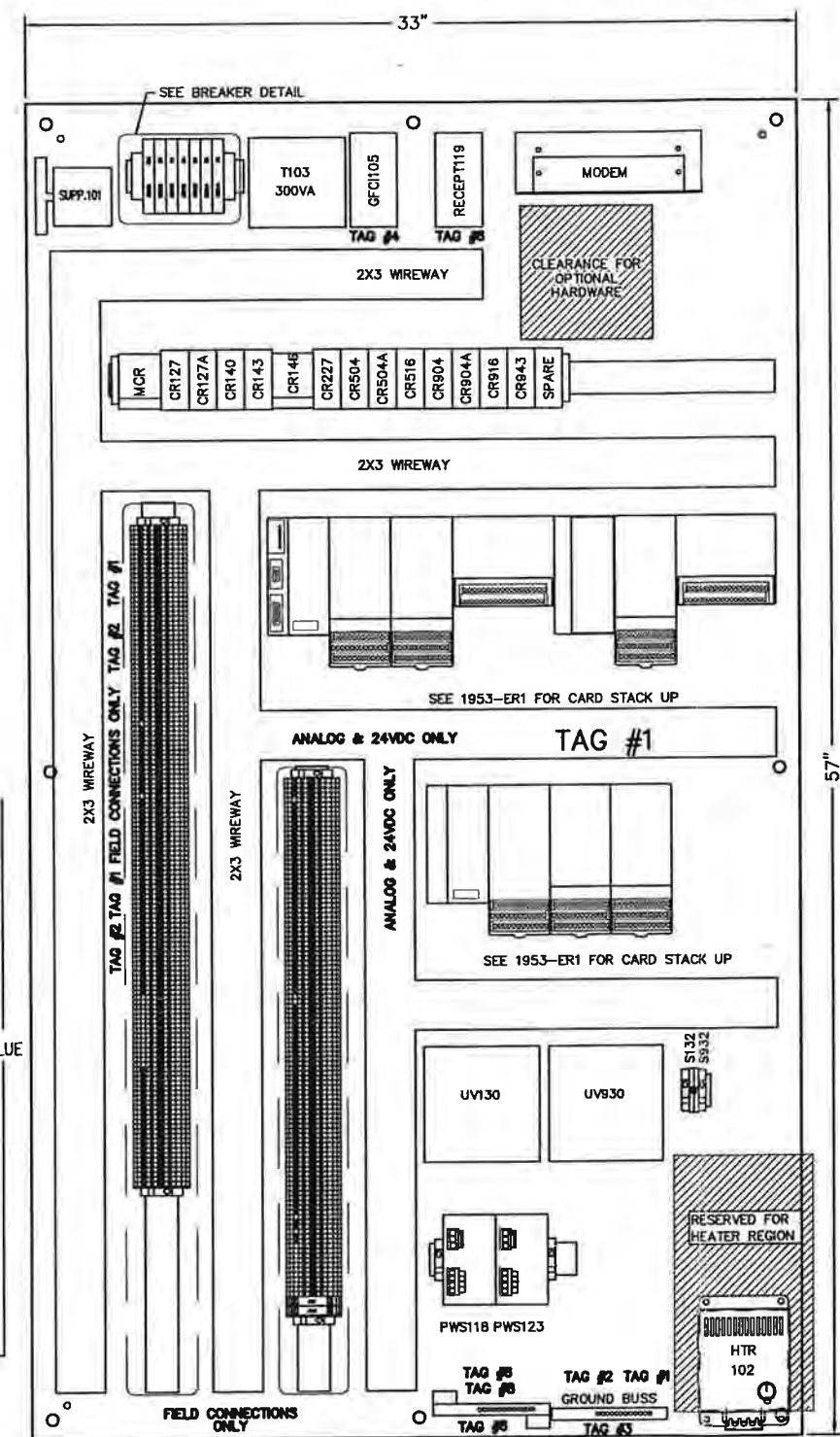
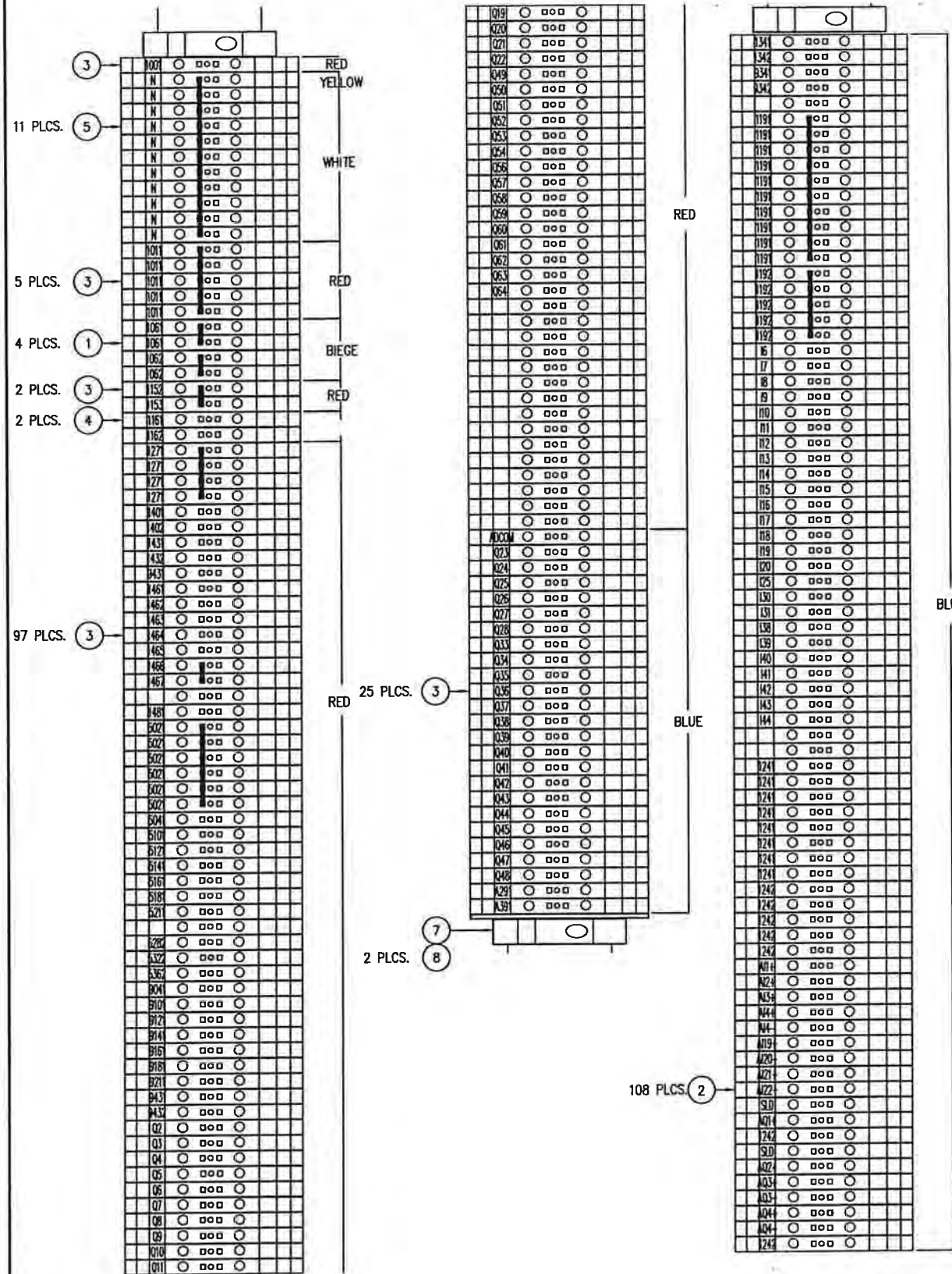
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| FLAME-TROL IV BUTTON & LIGHT DETAILS | | | |
|---|-------------------|------------------------|------------|
| DESIGNED BY: TRS | DRAWN BY: RSR | APPROVED BY: LWZ | DATE: D |
| SCALE: AS SHOWN | DATE: 08/10/04 | PROJECT NO.: 847042 | |

| PROJECT NAME | | | |
|--|--------------------|-----------------|------------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: MONTGOMERY COUNTY, MD | SHEET NO.: 1953 | DWG NO.: EE1 | DATE: 2 |

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



LABEL & PLAQUE DETAIL

TAG #1
USE 105° C RATED COPPER WIRE

TAG #2
WEIDMULLER TERMINAL

| WDU 2.5 | UL | CSA |
|-------------------|--------------|--------------|
| RATED VOLTAGE | 600V | 600V |
| RATED CURRENT | 25A | 25A |
| WIRE SIZE | #22...12 AWG | #26...12 AWG |
| TORQUE lb.in (Nm) | 7.1 (0.8) | |

TAG #3
⊕

TAG #4
GE TGK12
TORQUE to 30 lb-in

TAG #5
WARNING - Use Of The Following Components Is Dependent Upon The Additional Protection Afforded By The Ground Fault Circuit Interrupter And The Overcurrent Protective Device. Provided, Do Not Remove Or Defeat These Protective Components. CHART RECORDER (CR1107) FLOW METER(F4606)
The Ground Fault Circuit Interrupter Should Be Checked Periodically For Proper Operation.

TAG #6
RECEPT119 FOR MODEM & PROGRAMMING ONLY

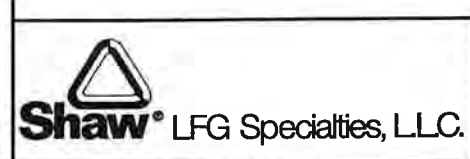
TAG #7
GE VersMax
IC200CHXXX CARRIERS
TORQUE TO 4.4-5.5 lb-in

TAG #8
ISOLATED GROUND FOR SIGNAL ONLY.

TAG #9
GND(TE)

TAG #10
GND(PE)

TAG #11
RECEPT FOR AUTODIALER ONLY



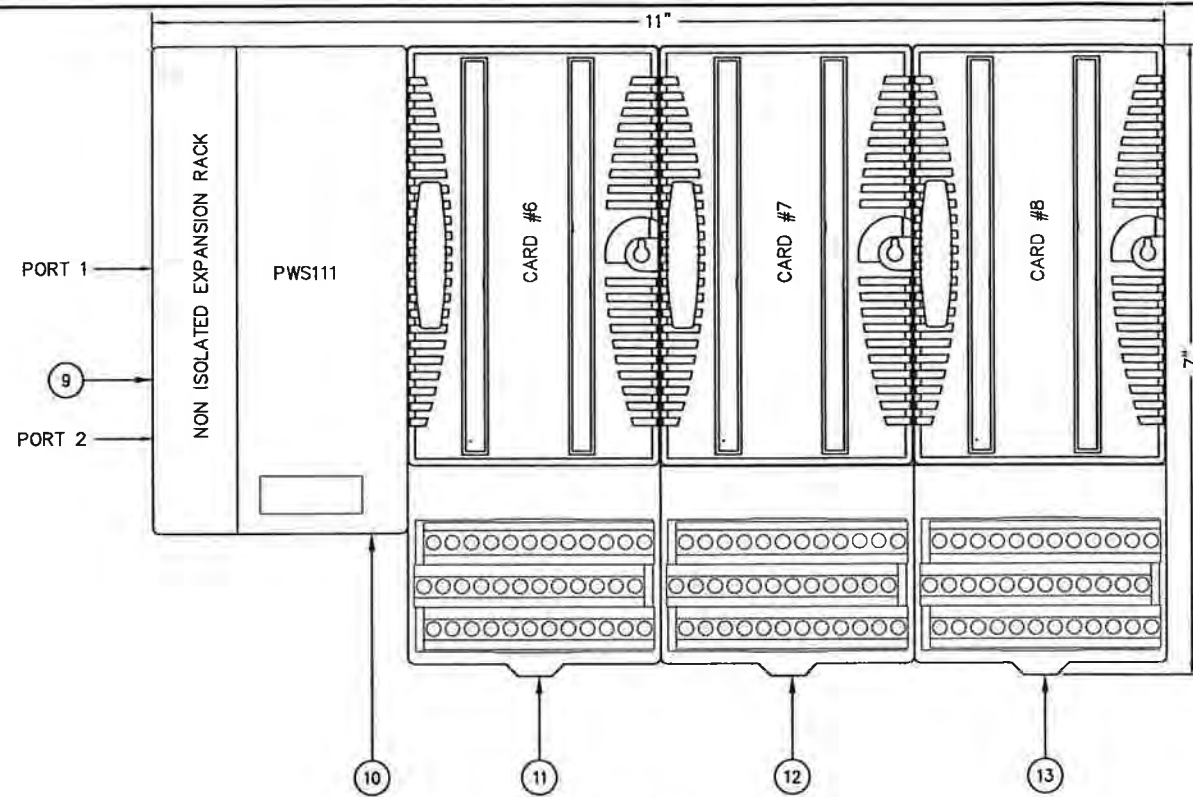
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| DRAWN BY | ENGINEER | APPROVED BY | SIZE |
|----------|----------|-------------|------|
| TRS | RSR | LWZ | D |

| SCALE | DATE | PROJECT NO. |
|----------|----------|-------------|
| AS SHOWN | 08/10/04 | 847042 |

| PROJECT NAME | SERIAL NO. | DWG NO. | SHEET |
|--|------------|---------|-------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | 1953 | EP2 | 1 |



PLC GROUP #2 CARD STACKUP

SCALE: FULL

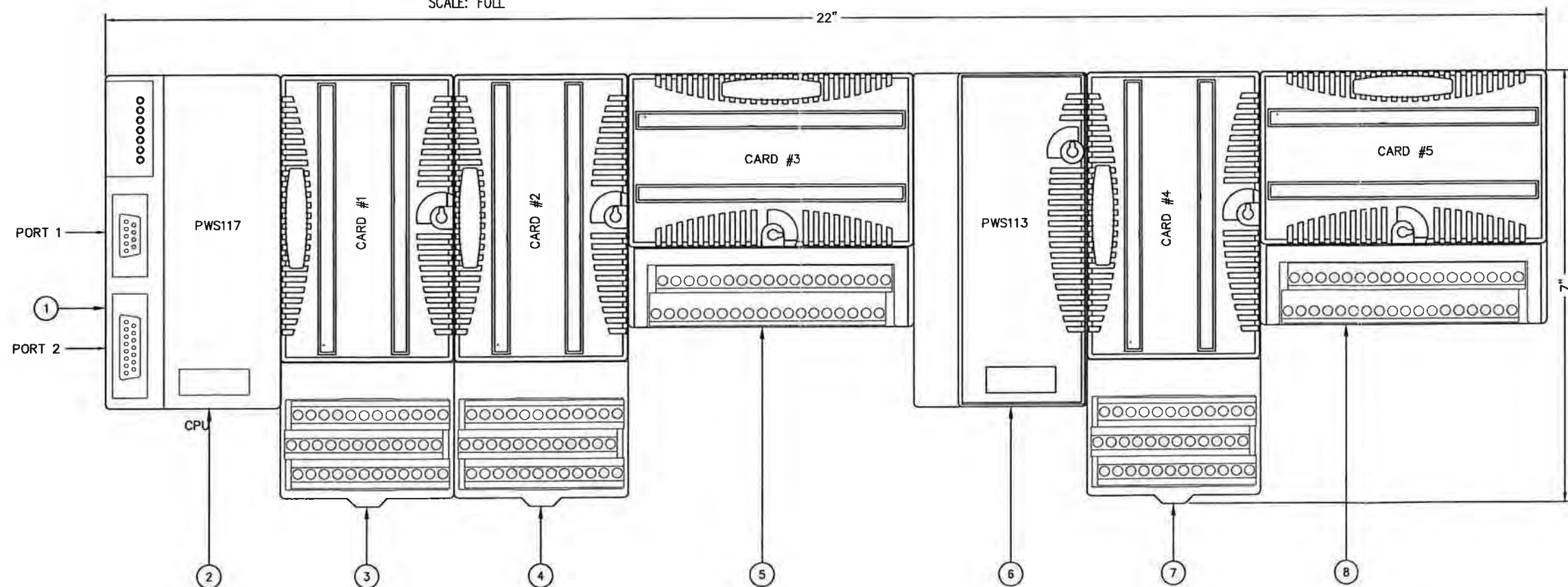
| PLC GROUP #1 | | | | |
|--------------|-------------|-------------|---|-----------|
| NO. | CARD | CARRIER | DESCRIPTION | SEE SHEET |
| 1 | IC200CPU001 | | PLC CPU | 1953-E01 |
| 2 | IC200PWR102 | | PLC POWER SUPPLY, (PWS117) | 1953-E01 |
| 3 | IC200MDD840 | IC200CHS022 | DIGITAL COMBINATION CARD, (20)-24VDC INPUTS, (12)-RELAY OUTPUTS | 1953-E02 |
| 4 | IC200ALG430 | IC200CHS022 | ANALOG COMBINATION CARD, (4)-4-20mA INPUTS, (2)-4-20mA OUTPUTS | 1953-E03 |
| 5 | IC200ALG630 | IC200CHS002 | 7 CHANNEL THERMOCOUPLE CARD | 1953-E04 |
| 6 | IC200PWR102 | IC200PWB001 | PLC POWER SUPPLY, (PWS113) | 1953-E01 |
| 7 | IC200MDD840 | IC200CHS022 | DIGITAL COMBINATION CARD, (20)-24VDC INPUTS, (12)-RELAY OUTPUTS | 1953-E07 |
| 8 | IC200ALG630 | IC200CHS002 | 7 CHANNEL THERMOCOUPLE CARD | 1953-E08 |

| PLC GROUP #2 | | | | |
|--------------|-------------|-------------|--|-----------|
| NO. | CARD | CARRIER | DESCRIPTION | SEE SHEET |
| 9 | IC200ERM002 | | NON ISOLATED EXPANSION RACK | 1953-E01 |
| 10 | IC200PWR102 | | PLC POWER SUPPLY, (PWS111) | 1953-E01 |
| 11 | IC200ALG430 | IC200CHS022 | ANALOG COMBINATION CARD, (4)-4-20mA INPUTS, (2)-4-20mA OUTPUTS | 1953-E10 |
| 12 | IC200MDL940 | IC200CHS022 | 16 CHANNEL RELAY OUTPUT CARD | 1953-E11 |
| 13 | IC200MDL940 | IC200CHS022 | 16 CHANNEL RELAY OUTPUT CARD | 1953-E11 |

USE IC200CBL600 EXPANSION CABLE TO CONNECT PLC GROUP #1 TO PLC GROUP #2

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



PLC GROUP #1 CARD STACKUP

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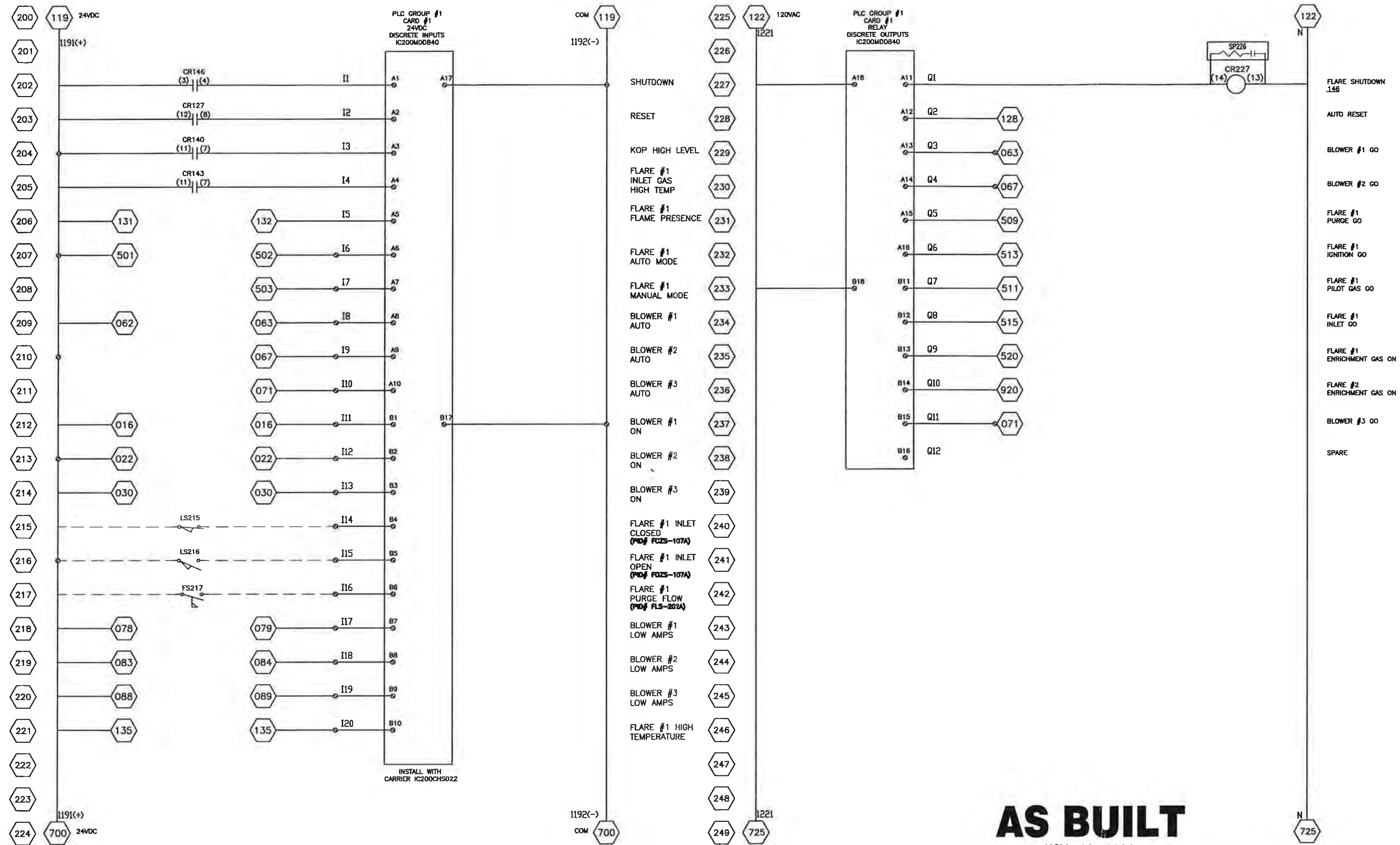


| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| | | | |
|-------------------------------------|------------------|-----------------------|-----------|
| FLAME-TROL IV PLC CARD STACK--UP | | | |
| DRAWN BY TRS | ENGINEER RSR | APPROVED BY LWZ | SIZE D |
| SCALE AS SHOWN | DATE 08/10/04 | PROJECT NO. 847042 | |

| | | | | | |
|--|--|-----------------------------------|--------------------|----------------|----------|
| PROJECT NAME LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | CUSTOMER MONTGOMERY COUNTY, MD | SERIAL NO. 1953 | DWG NO. ER1 | SHT 1 |
|--|--|-----------------------------------|--------------------|----------------|----------|



AS BUILT
 NOV. 16, 2004
 NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



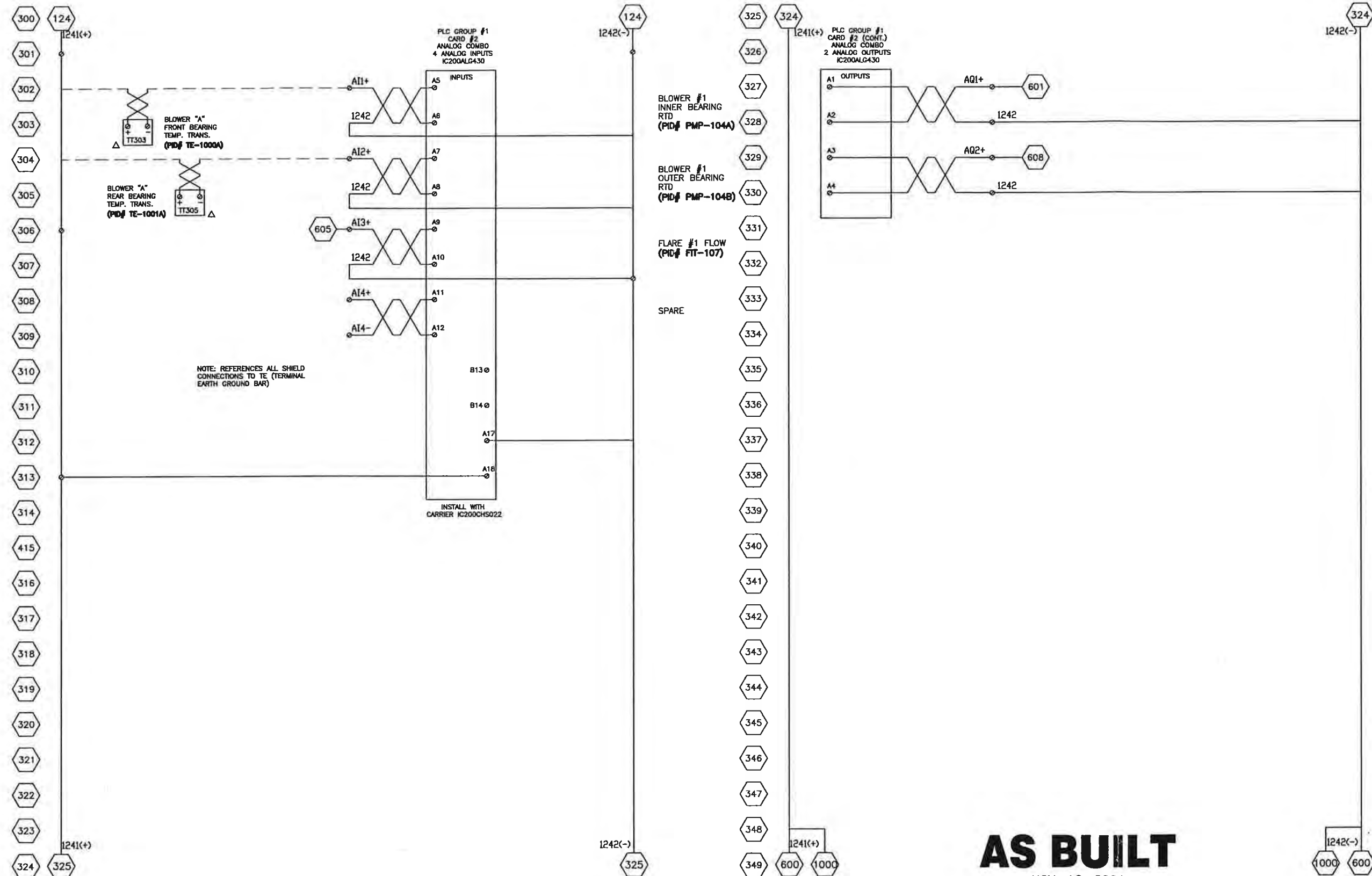
| REV | DESCRIPTION / ISSUE | DATE | BY |
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| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CARD #1 (DIGITAL INPUTS & OUTPUTS) | | | |
|--|----------------|--------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--------------------------------------|--|------------|----------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| GUDE LANDFILL | | | |
| ROCKVILLE, MD | | | |
| CUSTOMER | | SERIAL NO: | DWG NO: |
| MONTGOMERY COUNTY, MD | | 1953 | E2 |
| | | | SHEET: 1 |



AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
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| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

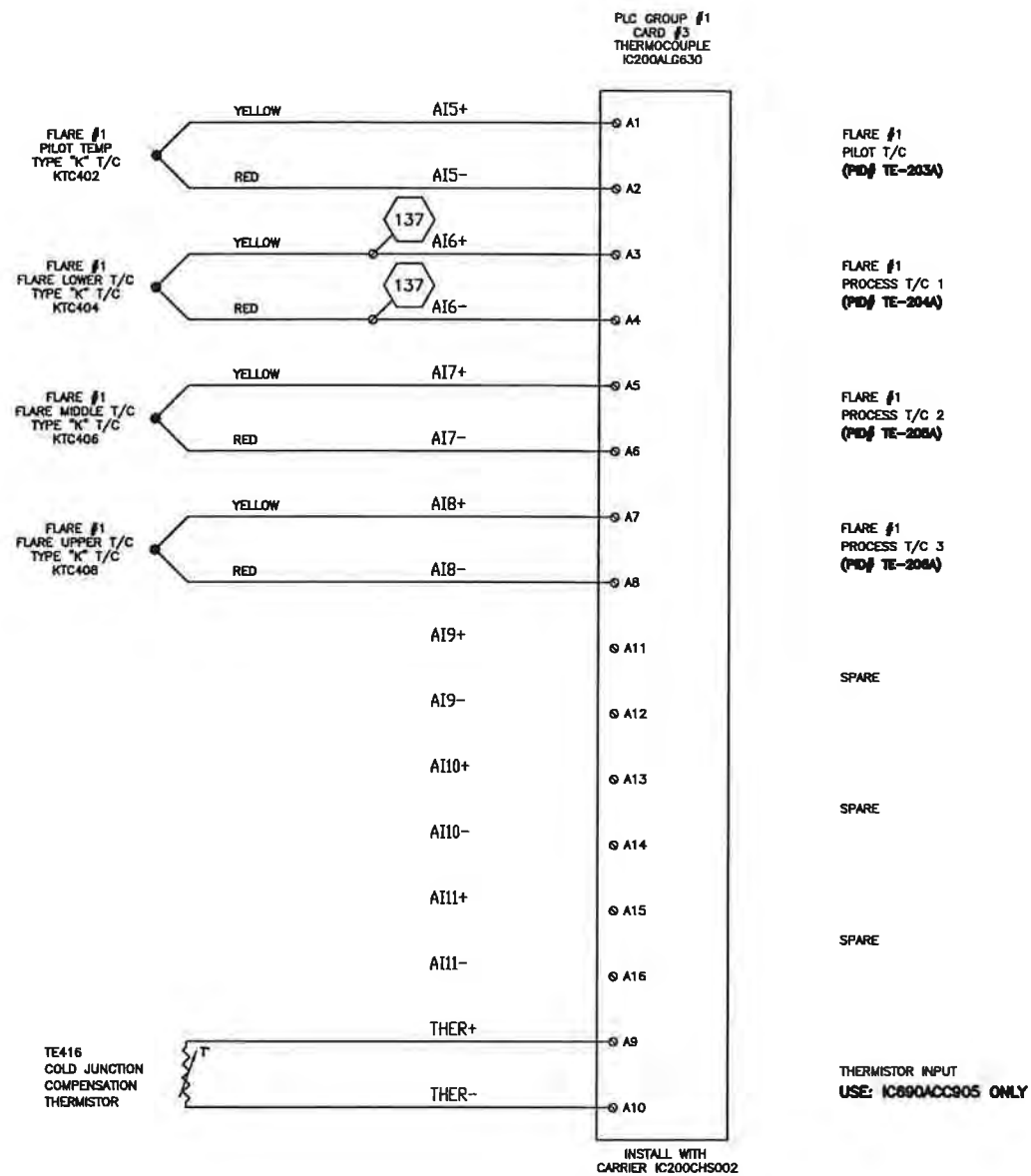
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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CARD #2 (ANALOG I-O) | | | |
|--|----------------|--------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--------------------------------------|--|------------|----------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| GUDE LANDFILL | | | |
| ROCKVILLE, MD | | | |
| CUSTOMER | | SERIAL NO. | DWG NO. |
| MONTGOMERY COUNTY, MD | | 1953 | E3 |
| | | | SHEET: 1 |

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NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



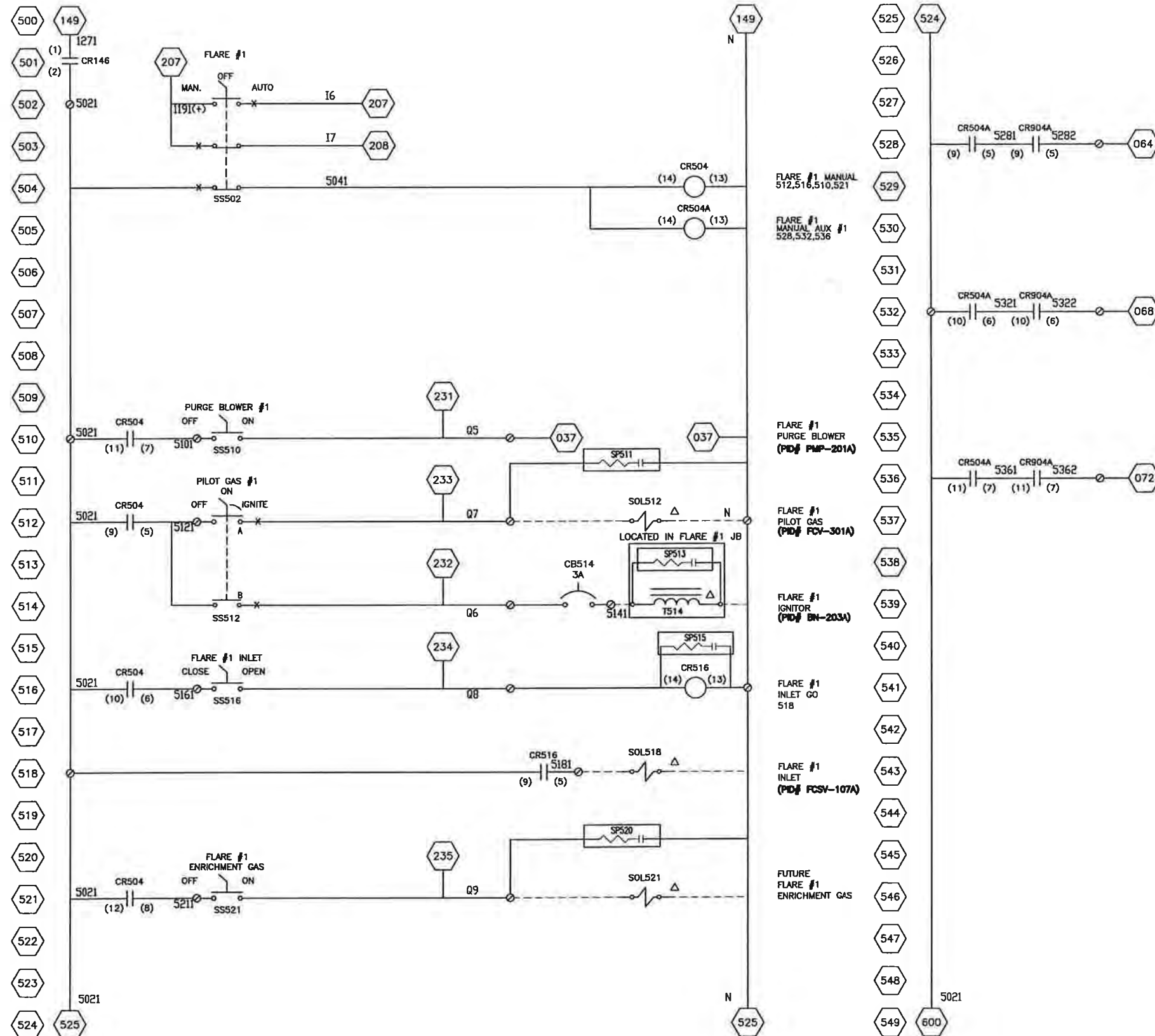
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|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| Δ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CARD #3 (THERMOCOUPLE CONNECTIONS) | | | |
|---|-------------------|---------------------|------------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO.: | 847042 |

| PROJECT NAME | | | |
|--|-------------|----------|--------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO.: | DWG NO.: | SHEET: |
| MONTGOMERY COUNTY, MD | 1953 | E4 | 1 |



AS BUILT

NOV. 16, 2004

NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS

NOTE: SUPPRESSORS ARE TO BE LOCATED AS CLOSE TO DEVICE AS POSSIBLE



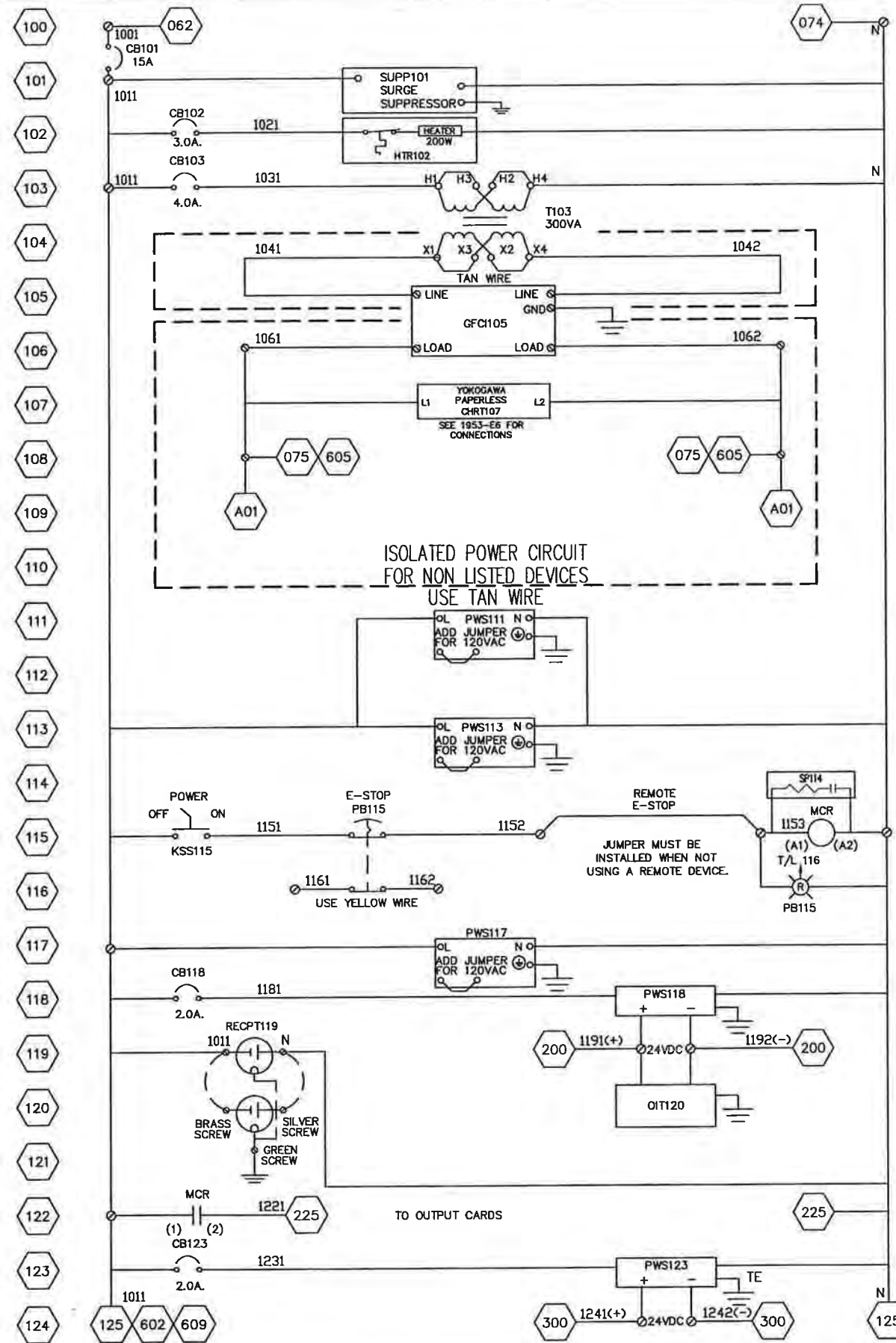
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊖ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC MANUAL CONTROLS | | | |
|---|-------------------|---------------------|-------------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SHEET: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO.:847042 | |

| PROJECT NAME | | | |
|--|-------------|----------|-------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO.: | DWG NO.: | SHT.: |
| MONTGOMERY COUNTY, MD | 1953 | E5 | 1 |



200W PANEL HEATER

CHART RECORDER CONNECTIONS

PLC POWER SUPPLY

PLC POWER SUPPLY

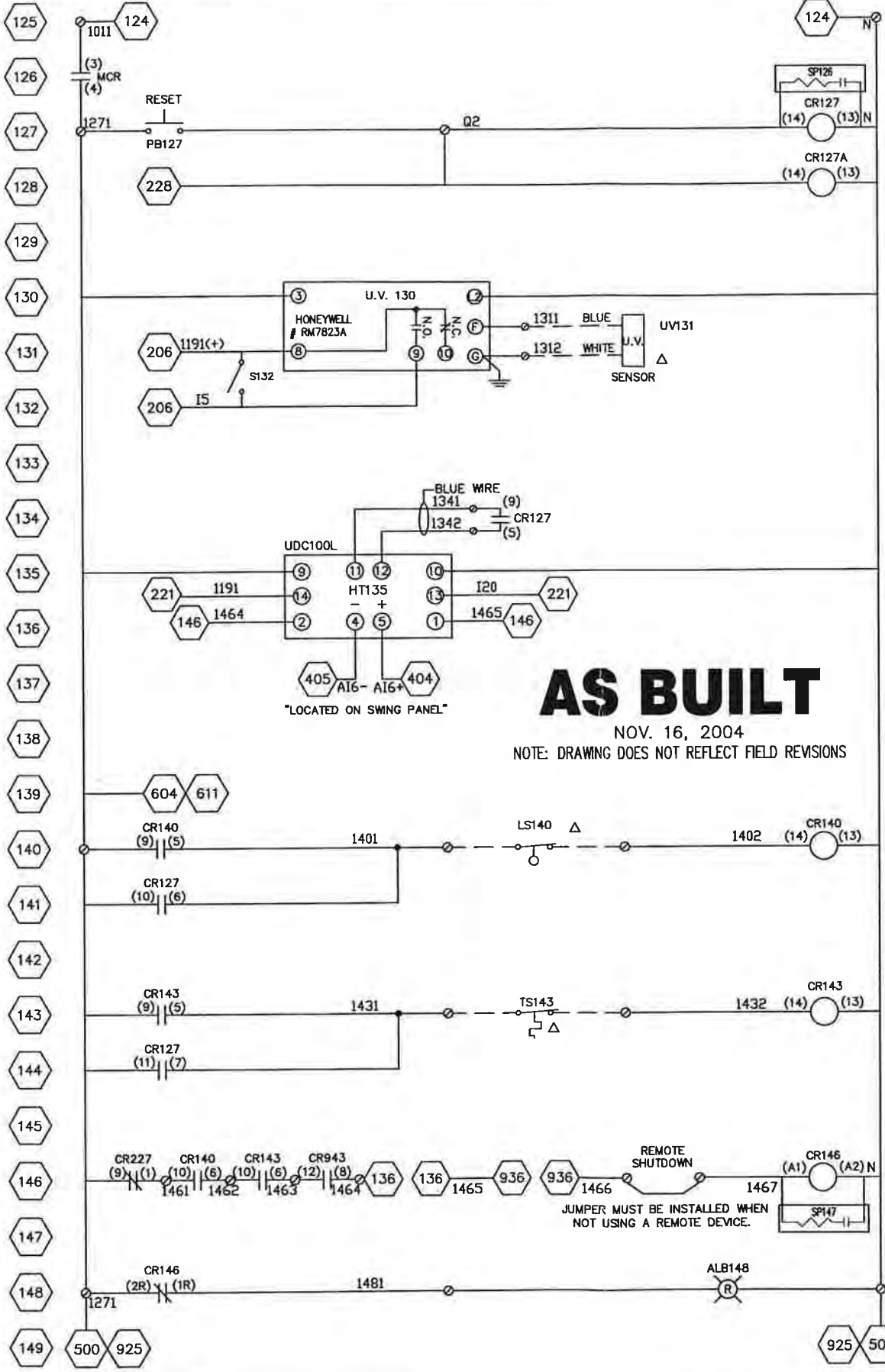
MASTER CONTROL RELAY 122,126

POWER ON

PLC POWER SUPPLY

24VDC OIT & DIGITAL POWER SUPPLY 55 WATTS

24VDC ANALOG POWER SUPPLY 55 WATTS



FLARE #1 UV FLAME RELAY (PID# BIA-203A)

FLARE #1 UV SENSOR (PID# BE-203A)

FLARE #1 HIGH LIMIT CONTROLLER (PID# THA-107A) SP=2000
NOTE: MAX. SETPOINT IS 2000F

HIGH KOP LEVEL 140,146,204,Δ32

FLARE #1 HIGH GAS INLET TEMP. SHUTDOWN 143,146,205

SHUTDOWN RELAY 501,148,Δ29,202

REMOTE SHUTDOWN INDICATION

ALARM BEACON



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-----------------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | MODIFIED LOUVER POWER CONNECTIONS | 11/02/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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SYMBOL LEGEND

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| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊞ | TERMINAL POINT (SWING DOOR) |
| Δ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

FLAME-TROL IV SCHEMATIC (POWER SUPPLIES AND INTERLOCKS)

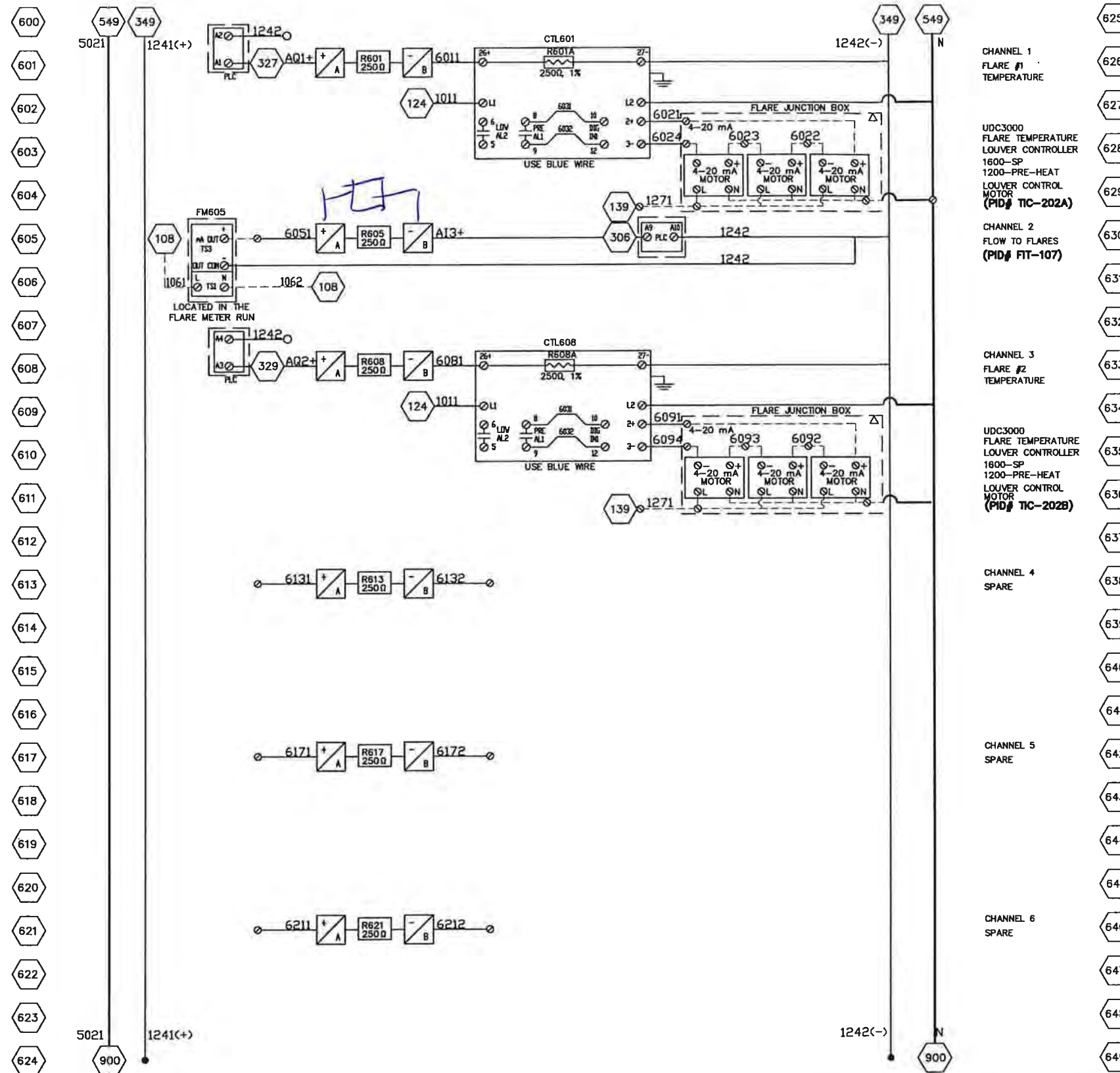
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| DRAWN BY: TRS | DESIGNED BY: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

PROJECT NAME: LANDFILL GAS ENCLOSED FLARE #EF63018
GUDE LANDFILL
ROCKVILLE, MD

| | | | |
|---------------------------------|-----------------|------------|--------|
| CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DWG NO: E1 | SHT: 1 |
|---------------------------------|-----------------|------------|--------|

CHRT107 ANALOG CONNECTIONS
(PID # QIR-107)
SEE 1953-E1 FOR MAIN POWER CONNECTIONS

NOTES:
1. ALL SHIELD CONNECTIONS SHALL BE REFERENCED TO TE (TERMINAL EARTH) GROUND BAR
2. USE BELDEN 8761 FOR ANALOG SIGNALS.



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AS BUILT
NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



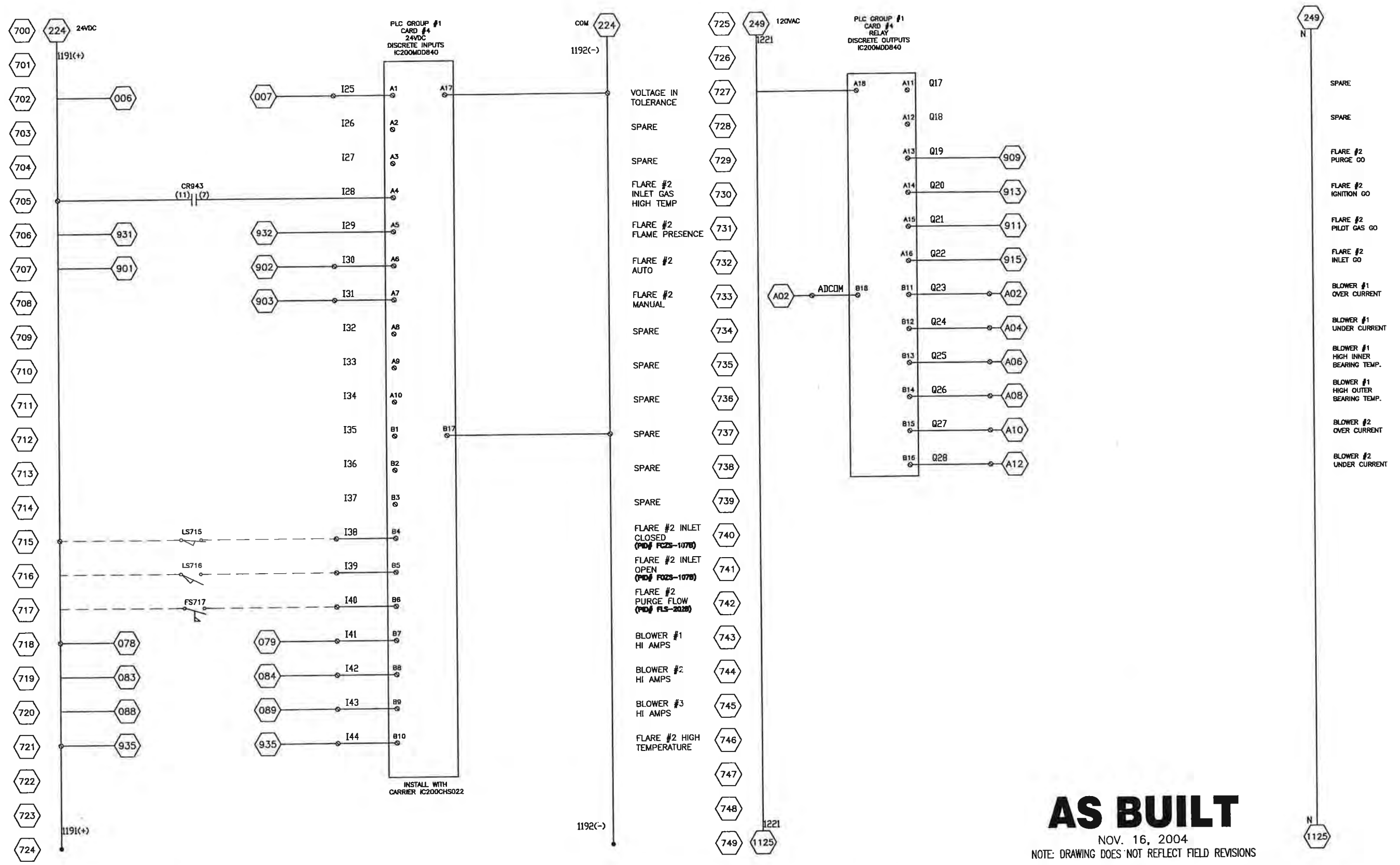
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-----------------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | MODIFIED LOUVER POWER CONNECTIONS | 11/02/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CHART RECORDER CONNECTIONS | | | |
|--|----------------|--------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LVZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | CUSTOMER | |
|--------------------------------------|--|-----------------------|------------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | MONTGOMERY COUNTY, MD | |
| GUDE LANDFILL | | SERIAL NO: 1953 | DWG NO: E6 |
| ROCKVILLE, MD | | | SHEET: 1 |



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NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

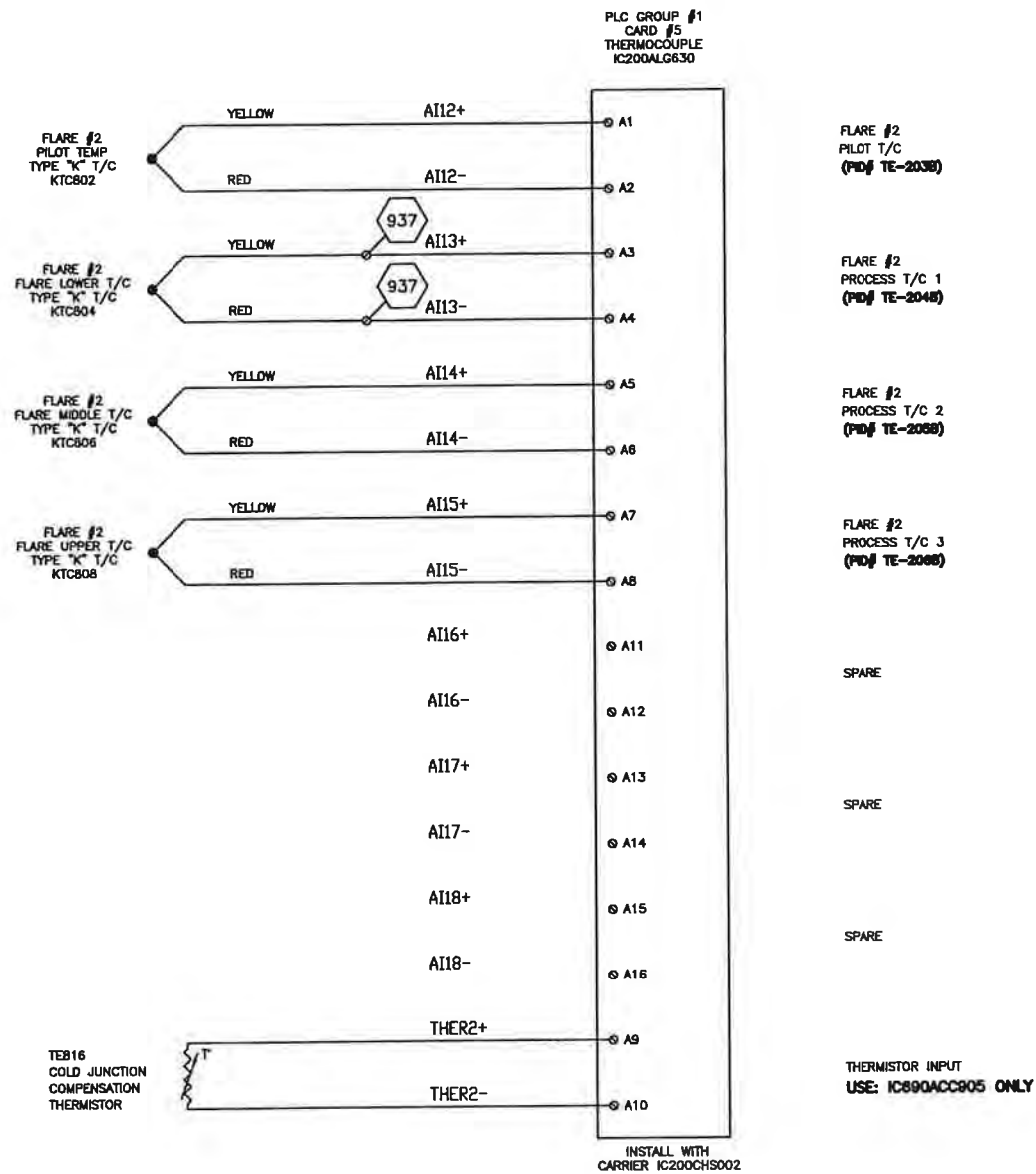
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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CARD #4 (DIGITAL INPUTS & OUTPUTS) | | | |
|--|----------------|--------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--------------------------------------|------------|---------|--------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 | | | |
| GUDE LANDFILL | | | |
| ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO: | DWG NO: | SHEET: |
| MONTGOMERY COUNTY, MD | 1953 | E7 | 1 |

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AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
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| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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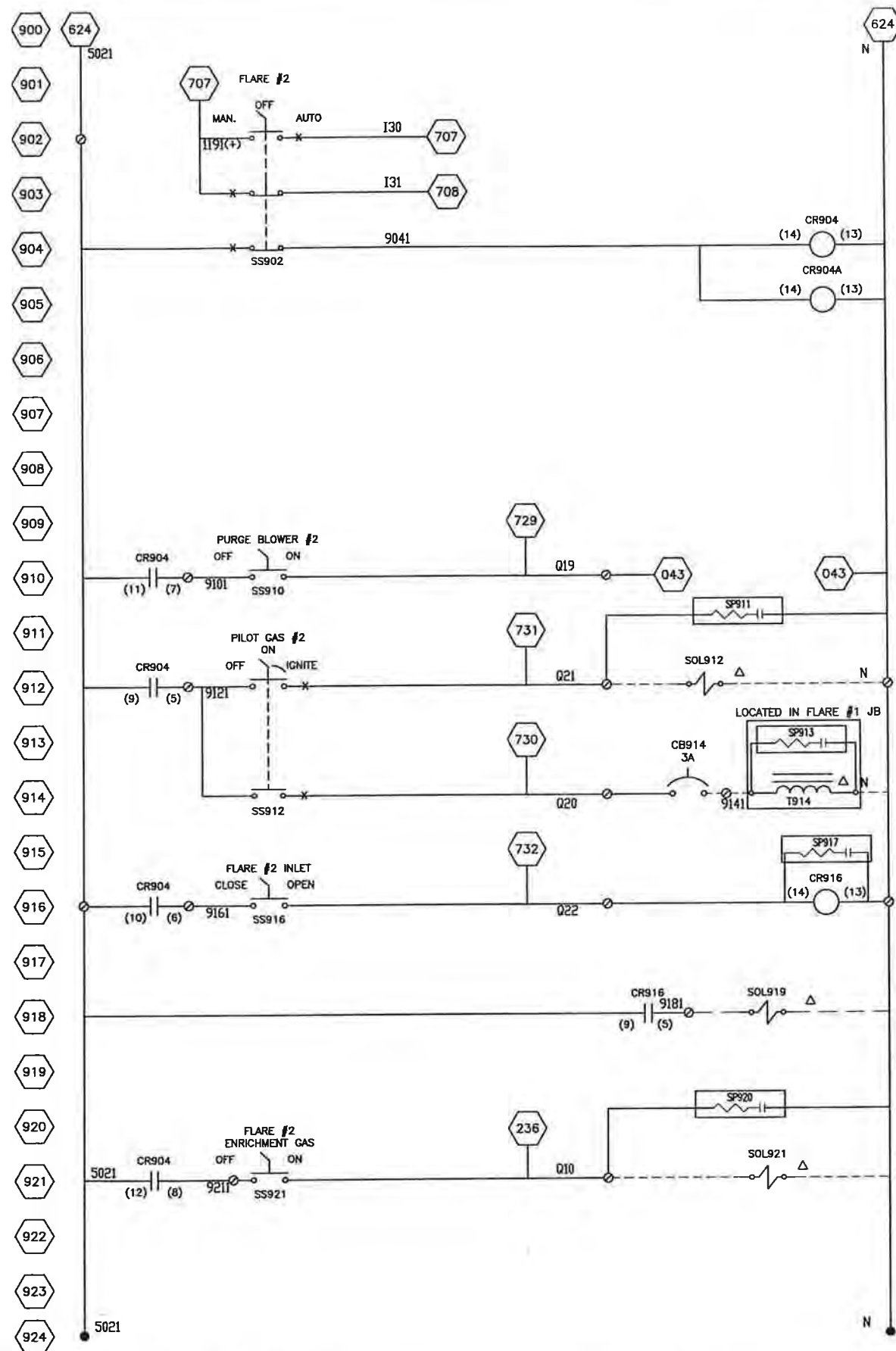
SYMBOL LEGEND

| | |
|-----|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

FLAME-TROL IV SCHEMATIC
CARD #5 (THERMOCOUPLE CONNECTIONS)

| | | | |
|-----------|-----------|--------------|-------|
| DRAWN BY: | ENGINEER: | APPROVED BY: | SIZE: |
| TRS | RSR | I.WZ | D |
| SCALE: | DATE: | PROJECT NO.: | |
| NONE | 08/10/04 | 847042 | |

| | | | | |
|-----------------------|--|--------------------------------------|----------|-------|
| PROJECT NAME: | | LANDFILL GAS ENCLOSED FLARE #EF63018 | | |
| | | GUDE LANDFILL ROCKVILLE, MD | | |
| CUSTOMER: | | SERIAL NO.: | DWG NO.: | SHT.: |
| MONTGOMERY COUNTY, MD | | 1953 | EB | 1 |



624 N

FLARE #2 MANUAL
912,916,910,921

FLARE #2 MANUAL AUX
528,532,536

FLARE #2 PURGE BLOWER
(PID# PMP-2018)

FLARE #2 PILOT GAS
(PID# FCV-3018)

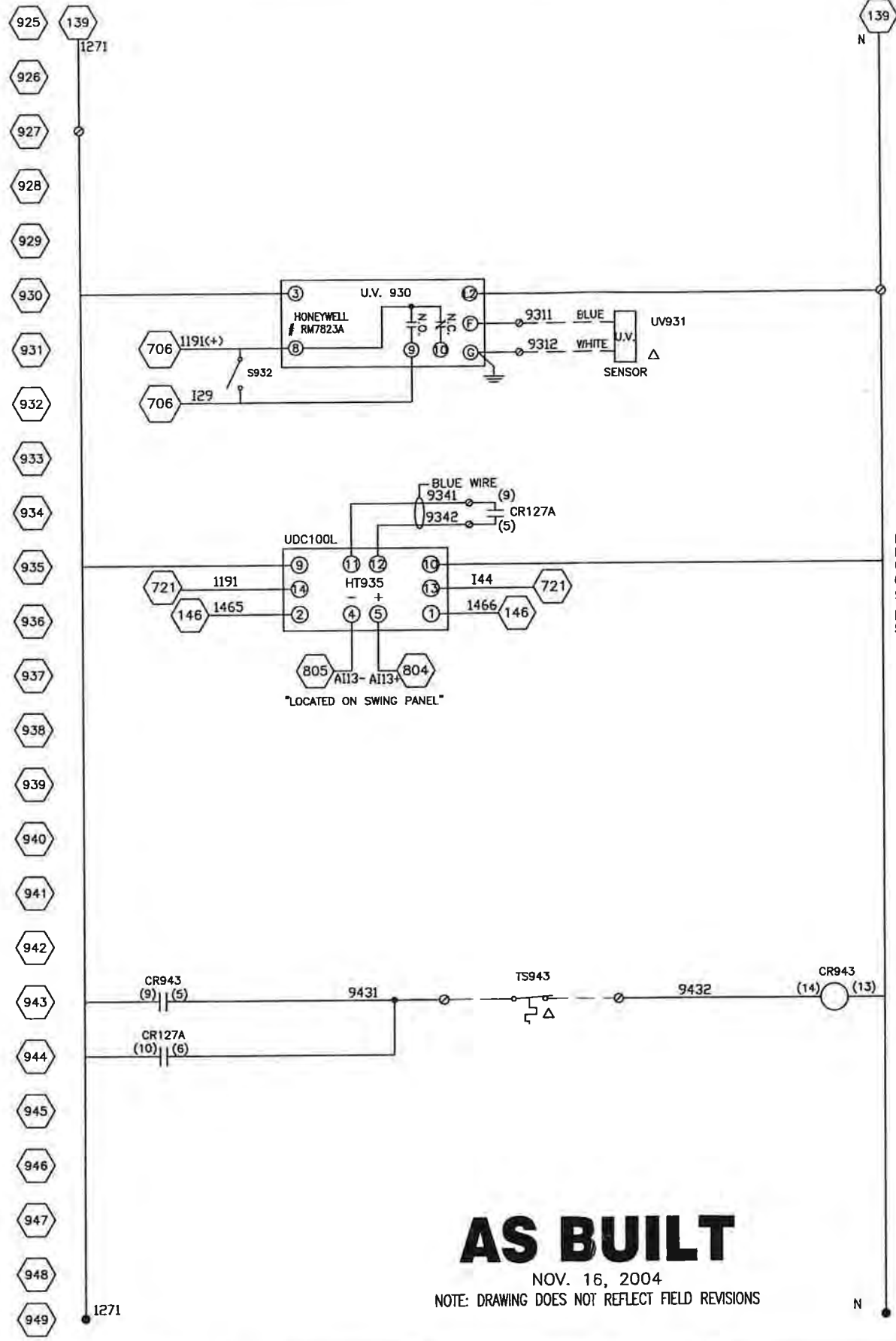
FLARE #2 IGNITOR
(PID# BN-2038)

FLARE #2 INLET GO
918

FLARE #2 INLET
(PID# FCSV-1078)

FUTURE
FLARE #2
ENRICHMENT GAS

624 N



139 N

FLARE #2 UV FLAME RELAY
(PID# BIA-2038)

FLARE #2 UV SENSOR
(PID# BE-2038)

FLARE #2 HIGH LIMIT
CONTROLLER
(PID# TSH-2048)
SP=2000
NOTE: MAX.
SETPOINT IS 2000°F

FLARE #2 HIGH GAS INLET TEMP.
SHUTDOWN
943,705,146
(PID# THA-1078)

139 N

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



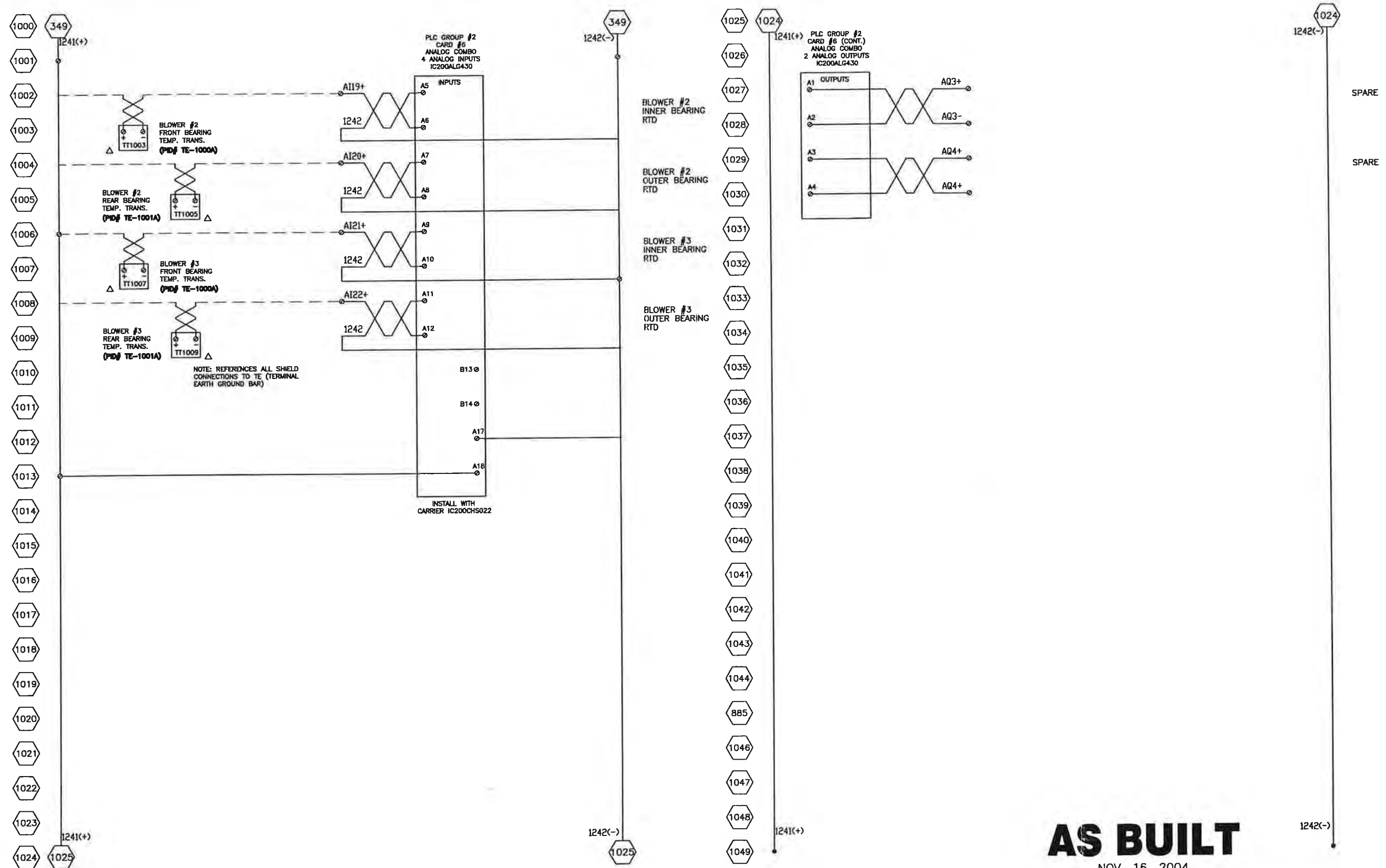
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|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | | | |
|---------------|-----------------------------|--|--|
| ⊙ | TERMINAL POINT (BACK PLATE) | | |
| ⊠ | TERMINAL POINT (SWING DOOR) | | |
| Δ | SKID MOUNTED DEVICES | | |
| --- | SKID WIRING | | |
| --- | 14 GA. WIRE | | |

| FLAME-TROL IV SCHEMATIC MANUAL CONTROLS | | | |
|---|----------------|--------------------|-----------|
| DRAWN BY: TRS | DESIGNED: RSR | APPROVED BY: LWZ | ISSUED: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--|------------|---------|--------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO: | DWG NO: | SHEET: |
| MONTGOMERY COUNTY, MD | 1953 | E9 | 1 |



AS BUILT

NOV. 16, 2004

NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



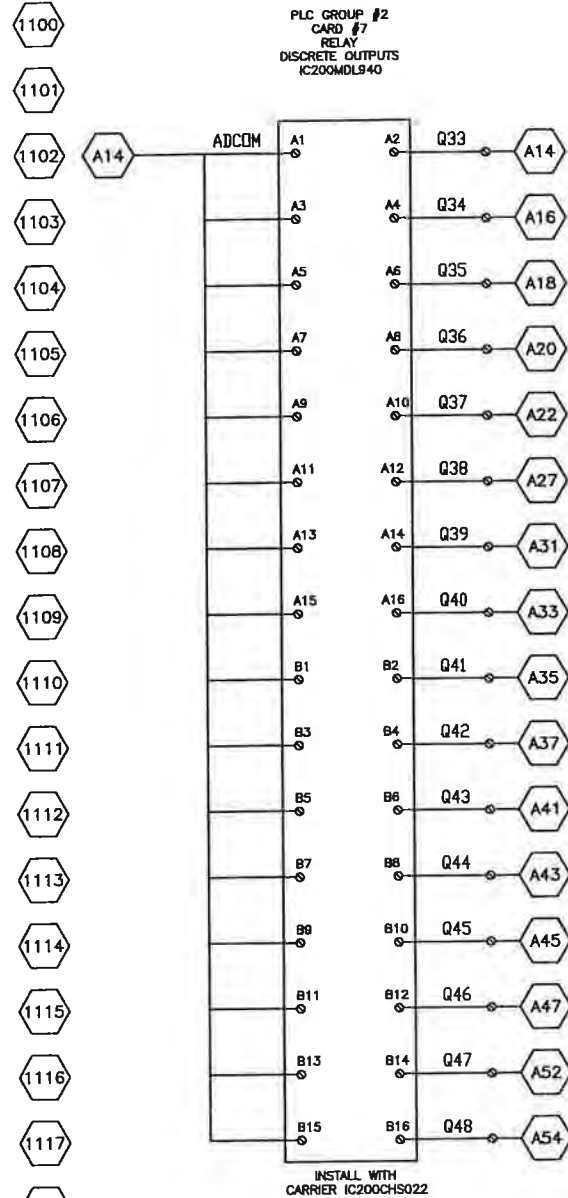
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|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊚ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

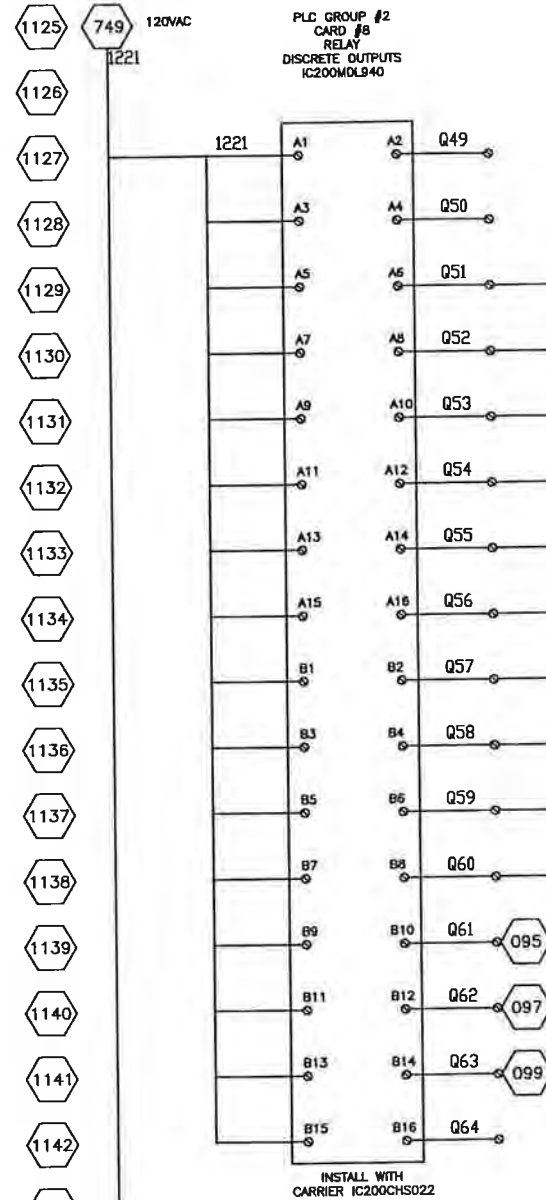
| FLAME-TROL IV SCHEMATIC RTD CONNECTIONS | | | |
|---|----------------|--------------------|---------|
| DRAWN BY: TRS | CHKD BY: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: 847042 | |

| PROJECT NAME | | | |
|--|------------|---------|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | SERIAL NO: | DWG NO: | SHT: |
| MONTGOMERY COUNTY, MD | 1953 | E10 | 1 |



INSTALL WITH
CARRIER IC200CHS022

- 1100
 - 1101
 - 1102
 - 1103
 - 1104
 - 1105
 - 1106
 - 1107
 - 1108
 - 1109
 - 1110
 - 1111
 - 1112
 - 1113
 - 1114
 - 1115
 - 1116
 - 1117
 - 1118
 - 1119
 - 1120
 - 1121
 - 1122
 - 1123
 - 1124
- BLOWER #2
HIGH INNER
BEARING TEMP.
 - BLOWER #2
HIGH OUTER
BEARING TEMP.
 - BLOWER #3
OVER CURRENT
 - BLOWER #3
UNDER CURRENT
 - BLOWER #3
HIGH INNER
BEARING TEMP.
 - BLOWER #3
HIGH OUTER
BEARING TEMP.
 - FLARE #1
FLAME FAILURE
 - FLARE #1
HIGH TEMP.
 - FLARE #1
LOW TEMP.
 - INLET #1
FAILURE
 - FLARE #2
FLAME FAILURE
 - FLARE #2
HIGH TEMP.
 - FLARE #2
LOW TEMP.
 - INLET #2
FAILURE
 - FLARE #2
PILOT FAILURE
 - FLARE #2
PILOT FAILURE



INSTALL WITH
CARRIER IC200CHS022

- 1125
- 1126
- 1127
- 1128
- 1129
- 1130
- 1131
- 1132
- 1133
- 1134
- 1135
- 1136
- 1137
- 1138
- 1139
- 1140
- 1141
- 1142
- 1143
- 1144
- 1145
- 1146
- 1147
- 1148
- 1149

- SPARE
- SPARE
- FLARE #1
HIGH TEMPERATURE
- FLARE #1
LOW TEMPERATURE
- FLARE #1
FLAME FAILURE
- FLARE #1
PILOT FAILURE
- FLARE #1
INLET FAILURE
- FLARE #2
HIGH TEMPERATURE
- FLARE #2
LOW TEMPERATURE
- FLARE #2
FLAME FAILURE
- FLARE #2
PILOT FAILURE
- FLARE #2
INLET FAILURE
- BLOWER OVER
CURRENT
- BLOWER UNDER
CURRENT
- BLOWER BEARING
RTD FAULT
- SPARE

AS BUILT

NOV. 16, 2004

NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



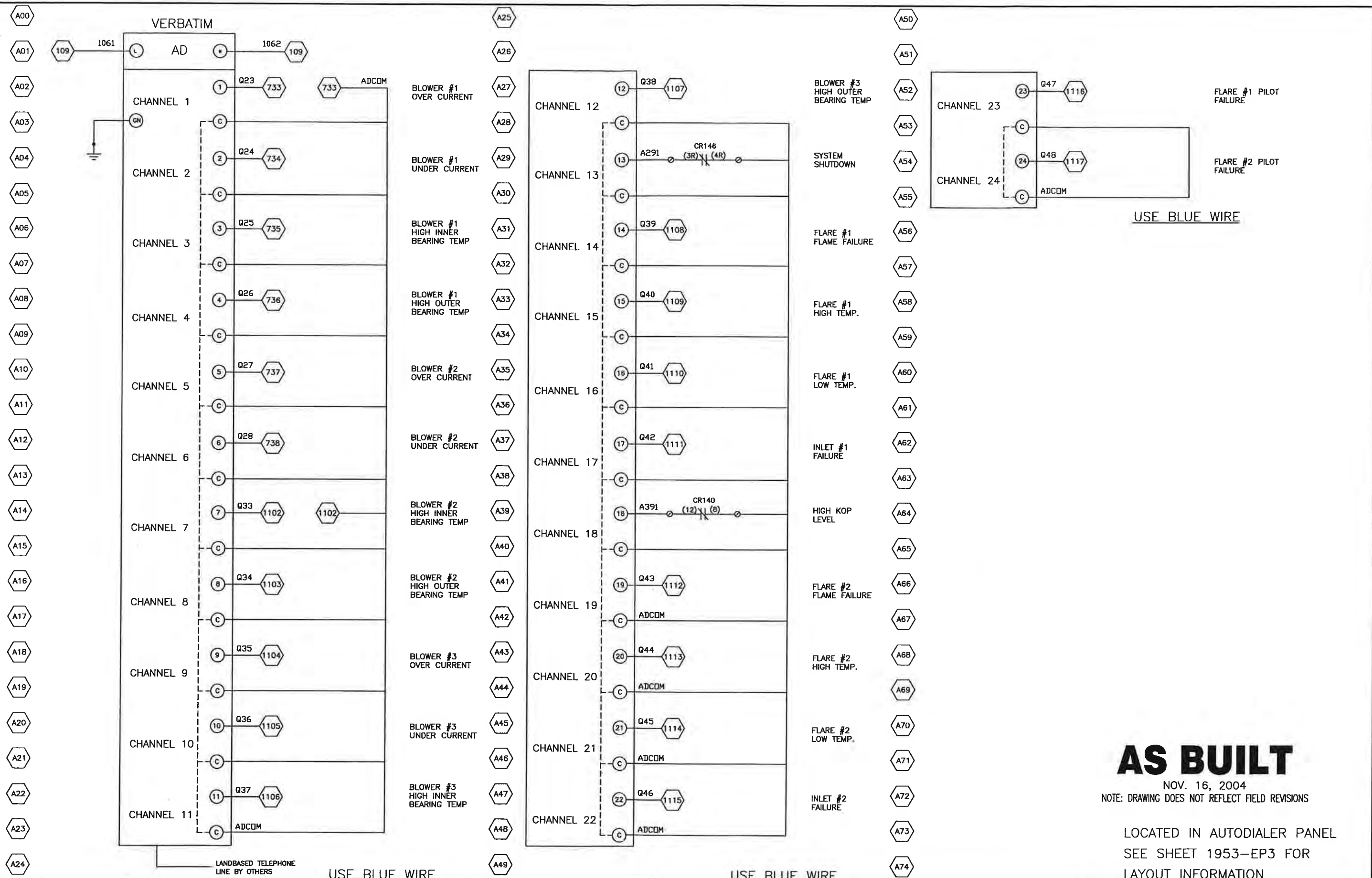
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | REVISED CONNECTIONS | 10/27/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | |
|---------------|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

| FLAME-TROL IV SCHEMATIC CARD #4 (DIGITAL OUTPUTS) | | | |
|--|---------------------|---------------------|------------|
| DRAWN BY: TRS | DESIGNED BY: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO.: | 847042 |

| PROJECT NAME | | | |
|--|-----------------------|-------------|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | MONTGOMERY COUNTY, MD | SERIAL NO.: | 1953 |
| DWG NO.: | E11 | DATE: | 1 |



AS BUILT
 NOV. 16, 2004
 NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS

LOCATED IN AUTODIALER PANEL
 SEE SHEET 1953-EP3 FOR
 LAYOUT INFORMATION



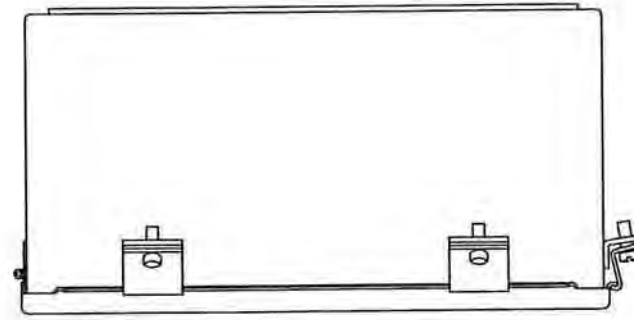
| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 1 | AS BUILT | 11/16/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| FLAME-TROL IV AUTODIALER CONNECTIONS | | | | PROJECT NAME | | |
|--------------------------------------|----------------|--------------------|---------------------------------|--------------------------------------|-------------|----------|
| DRAWN BY: TRS | CHKD BY: RSR | APPROVED BY: LWZ | SIZE: D | LANDFILL GAS ENCLOSED FLARE #EF63018 | | |
| SCALE: NONE | DATE: 08/10/04 | PROJECT NO: B47042 | CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DWG NO: AD1 | SHEET: 1 |

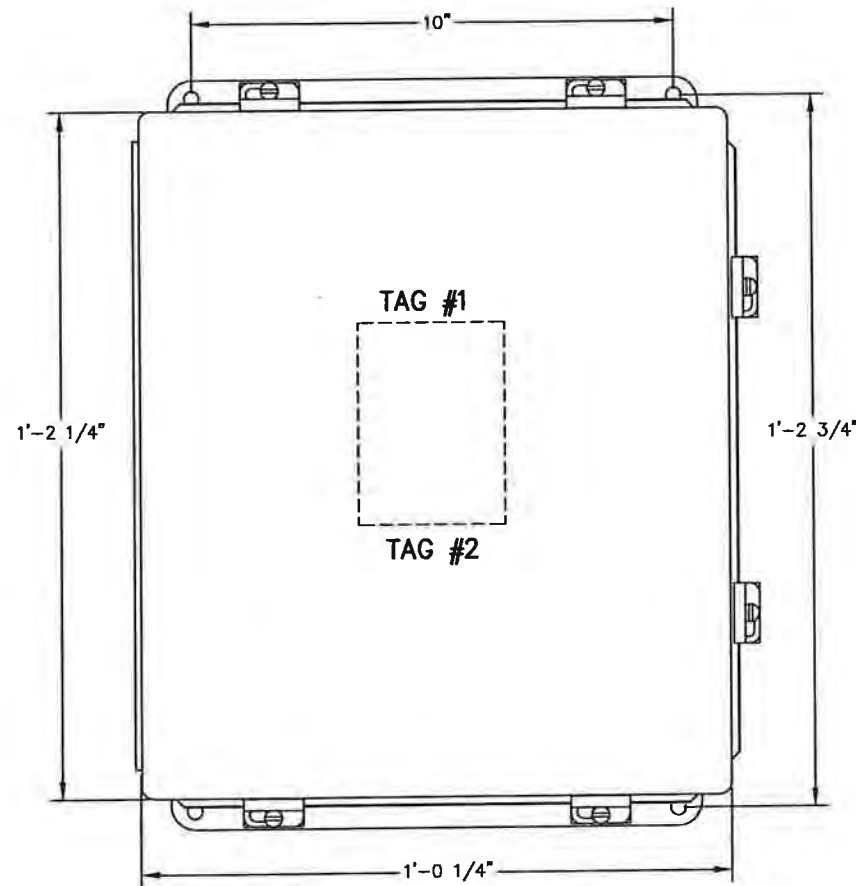
BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|------|-----|--------------------------------|--------------|------------|-------------|
| 1 | 1 | ENCLOSURE NEMA 4 14x 12x 6 | HOFFMAN | A-1412CHNF | EBX14X12N4 |
| 1 | 1 | ENCLOSURE PLATE 14 x 12 | HOFFMAN | A-14PT2 | EBX14X12P |
| 1 | 1 | GROUND BAR | GE | TGK04 | FLOOR STOCK |
| 1 | 1 | 24 CHANNEL VERBATIM AUTODIALER | RACO | VSS24C | NON STOCK |



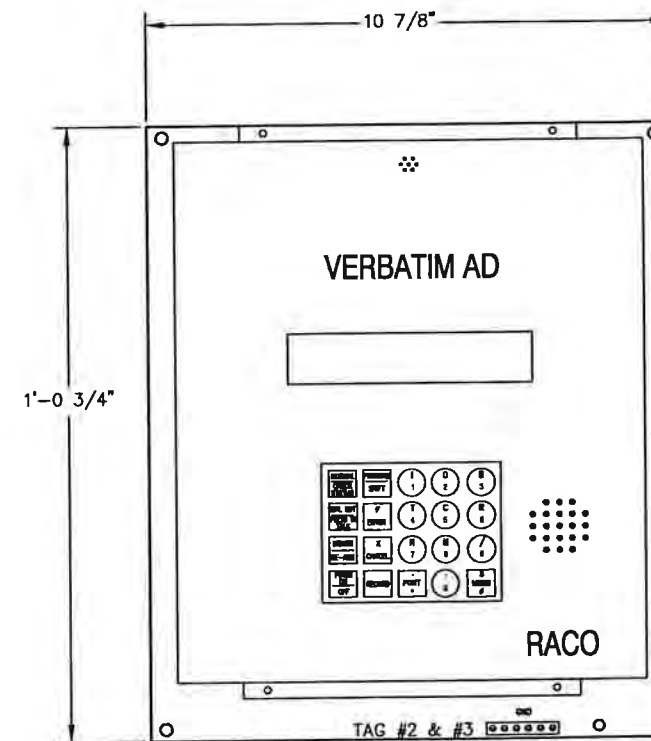
ENCLOSURE PROFILE

(PLAN)
SCALE: 2:1



FRONT VIEW OF ENCLOSURE

(ELEVATION)
SCALE: 2:1



BACKPLATE OF ENCLOSURE

SCALE: 2:1

TAG #1

Shaw LFG SPECIALTIES
16406 U.S. RTE. 224 EAST
FINDLAY, OH 45840-9761
(419) 424-4999
(800) 331-7683

FLAME CONTROL PANEL (J-BOX)
MODEL NO. FLAMETROL IV
SERIAL NO. 1953
PANEL: AUTODIALER PANEL

Wiring Diagram: 1953-EP3
Date Code: 11/2004

TAG #2

GROUND

TAG #3

GE TGK04
TORQUE TO
30 lb-in

AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-------------------------|----------|-----|
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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SYMBOL LEGEND

| | |
|-----|-----------------------------|
| ⊙ | TERMINAL POINT (BACK PLATE) |
| ⊠ | TERMINAL POINT (SWING DOOR) |
| △ | SKID MOUNTED DEVICES |
| --- | SKID WIRING |
| --- | 14 GA. WIRE |

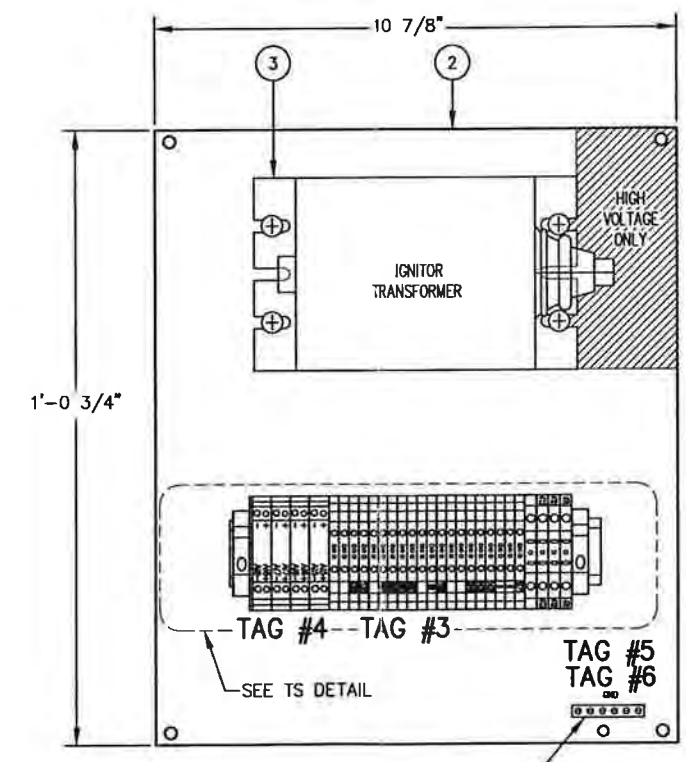
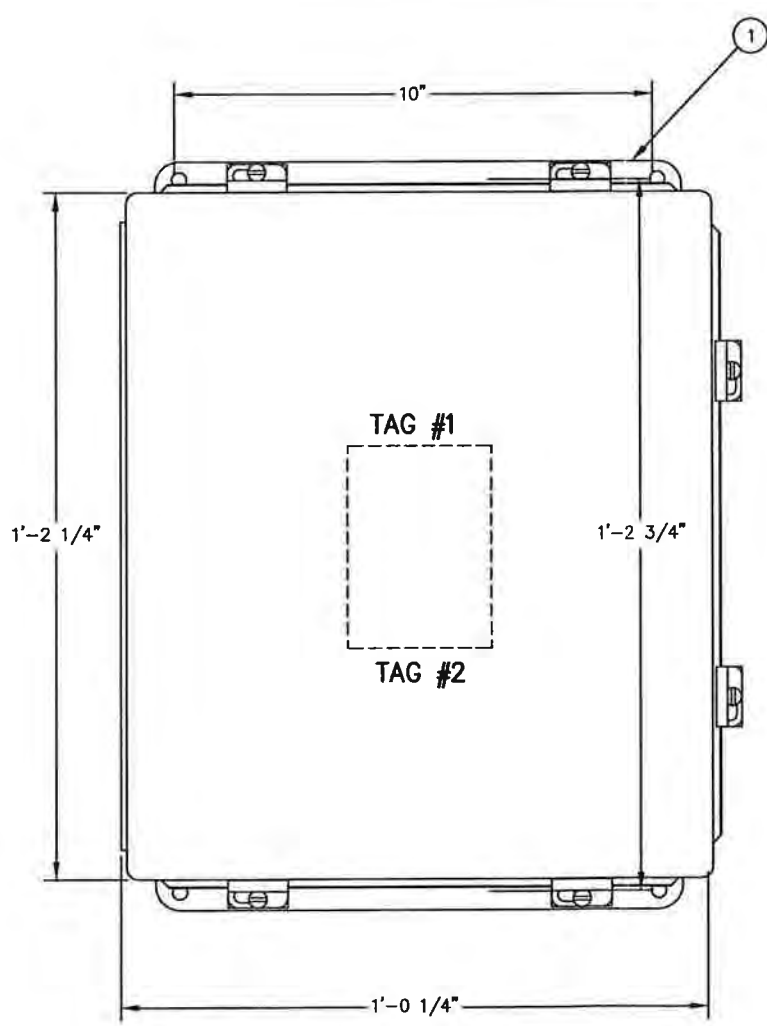
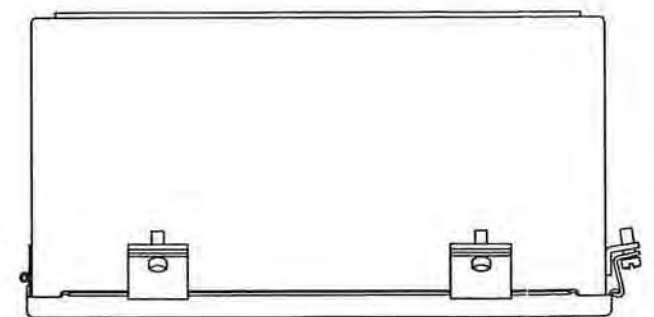
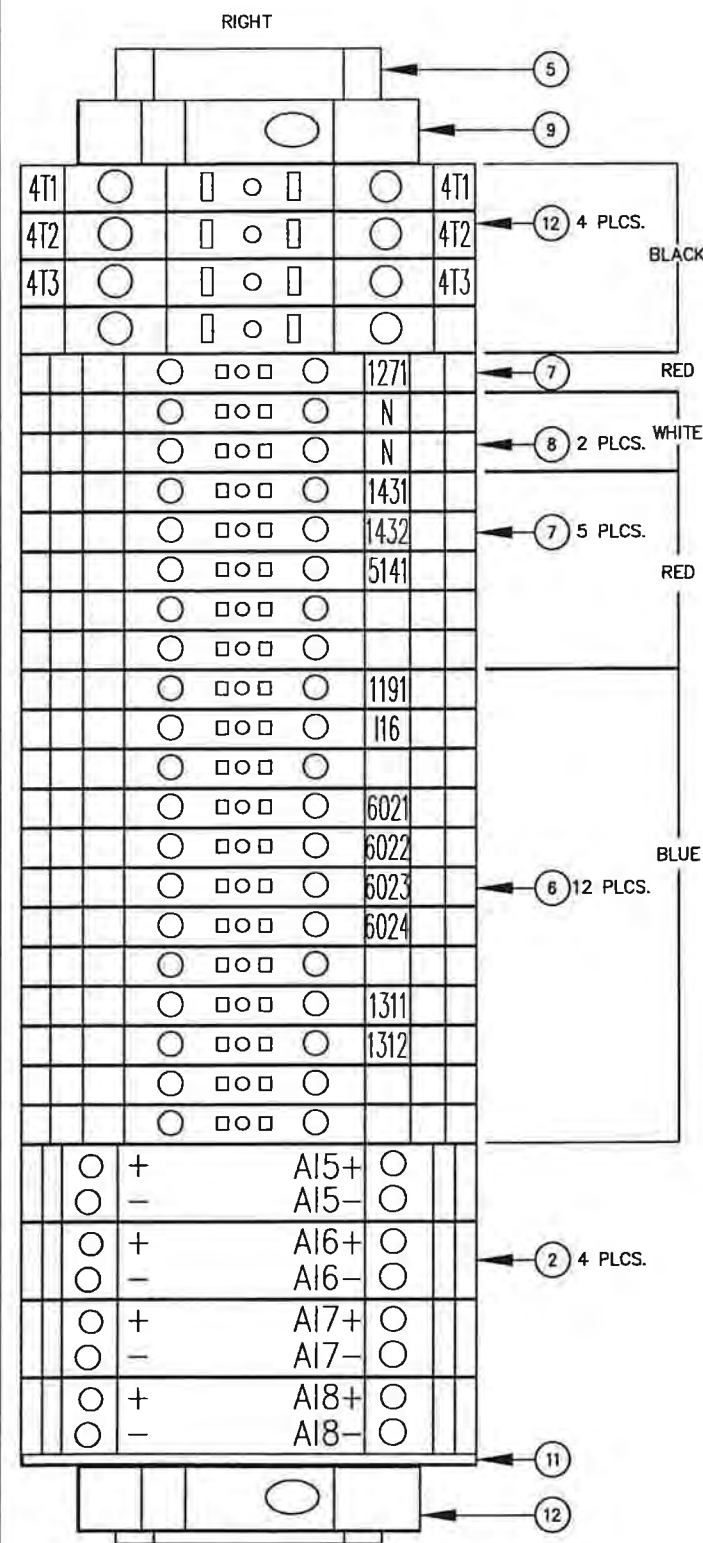
ENCLOSED FLARE #2 ELECTRICAL IGNITOR BOX FOR FLAME-TROL IV

| | | | |
|-----------------|----------------|--------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: AS SHOWN | DATE: 08/10/04 | PROJECT NO: 847042 | |

| | | | | |
|--|---------------------------------|-----------------|-------------|--------|
| PROJECT NAME: LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | CUSTOMER: MONTGOMERY COUNTY, MD | SERIAL NO: 1953 | DWG NO: EP3 | SHT: 1 |
|--|---------------------------------|-----------------|-------------|--------|

BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|------|-----|--|--------------|------------|-------------|
| 1 | 1 | ENCLOSURE NEMA 4 14x 12x 6 | HOFFMAN | A-1412CHNF | EBX14X12N4 |
| 2 | 1 | ENCLOSURE PLATE 14 x 12 | HOFFMAN | A-14P12 | EBX14X12P |
| 3 | 1 | 150 VA IGNITION TRANSFORMER (120 VAC PRI. 6 KVAC SEC.) | FRANCEFORMER | 6EEGV-2 | 1881-PID |
| 4 | 4 | TYPE "K" T/C TERMINAL WDU 2.5/TC | WIEDMULLER | 1024100000 | ETB12TC-W |
| 5 | 2 | TERMINAL BLOCK END BLOCK WEW 35/2 | WIEDMULLER | 1061200000 | FLOOR STOCK |
| 6 | 12 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 BLUE | WIEDMULLER | 1020080000 | EWDU2.5BL |
| 7 | 6 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 RED | WIEDMULLER | 1020040000 | EWDU2.5RT |
| 8 | 2 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 WHITE | WIEDMULLER | 1038000000 | EWDU2.5WS |
| 9 | 1 | GROUND BAR | GE | TGK04 | FLOOR STOCK |
| 10 | 10* | DIN RAIL TS 35x7.5 (5mm SLOT) | WIEDMULLER | 0514500000 | FLOOR STOCK |
| 11 | 1 | TERMINAL BLOCK END PLATE WAP 2.5-10 | WIEDMULLER | 1050000000 | FLOOR STOCK |
| 12 | 4 | TERMINAL BLOCK 20-10AWG 600 VAC WDU 4 BLACK | WIEDMULLER | 1020110000 | FLOOR STOCK |
| | 2 | BLANK TERMINAL LABELS FOR 5mm WS12/5 10 TAGS EACH | WIEDMULLER | 1061060000 | FLOOR STOCK |



TAG #1

Shaw LFG SPECIALTIES
16406 U.S. RTE. 224 EAST
FINDLAY, OH 45840-9761
(419) 424-4999
(800) 331-7683

FLAME CONTROL PANEL (J-BOX)
MODEL NO. FLAMETROL IV
SERIAL NO. 1953
PANEL: EF1 J-BOX

VOLTS - 480VAC, PHASE - 3PH
FREQ - 60HZ

LARGEST MOTOR - 1/2HP, 1.1FLA

Wiring Diagram: 1953-EP4
Date Code: 11/2004

TAG #2
480 VAC

TAG #3
WIEDMULLER WDU2.5
TORQUE TO
7.1 lb-in

TAG #4
WIEDMULLER WDU2.5/TC
TORQUE TO
7.1 lb-in

TAG #5
GROUND

TAG #6
GE TGK04
TORQUE TO
30 lb-in

AS BUILT
NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-----------------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | MODIFIED LOUVER POWER CONNECTIONS | 11/02/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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SYMBOL LEGEND

- TERMINAL POINT (BACK PLATE)
- TERMINAL POINT (SWING DOOR)
- △ SKID MOUNTED DEVICES
- SKID WIRING
- 14 GA. WIRE

ENCLOSED FLARE #1 ELECTRICAL IGNITOR BOX FOR FLAME-TROL IV

| | | | |
|-----------------|----------------|---------------------|---------|
| DRAWN BY: TRS | ENGINEER: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: AS SHOWN | DATE: 08/10/04 | PROJECT NO.: B47042 | |

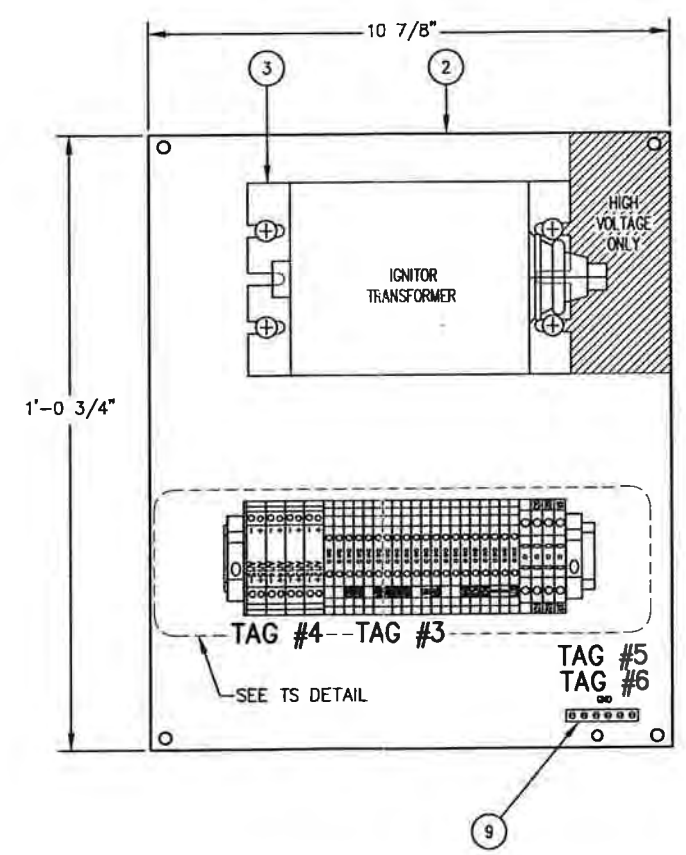
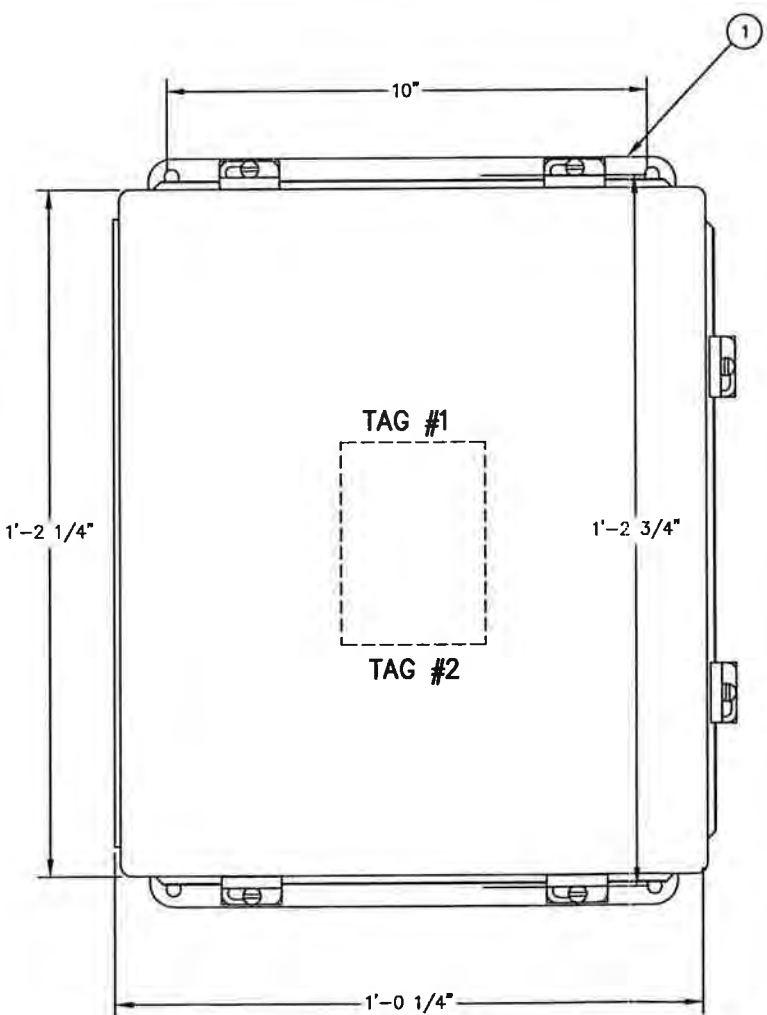
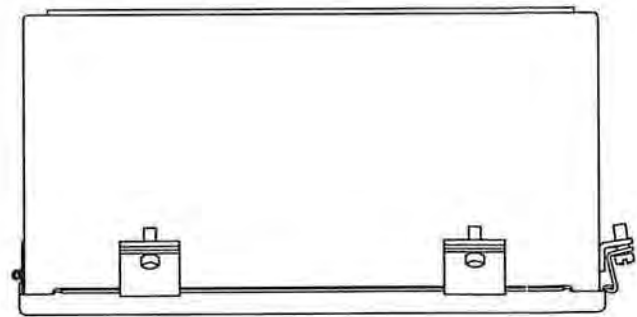
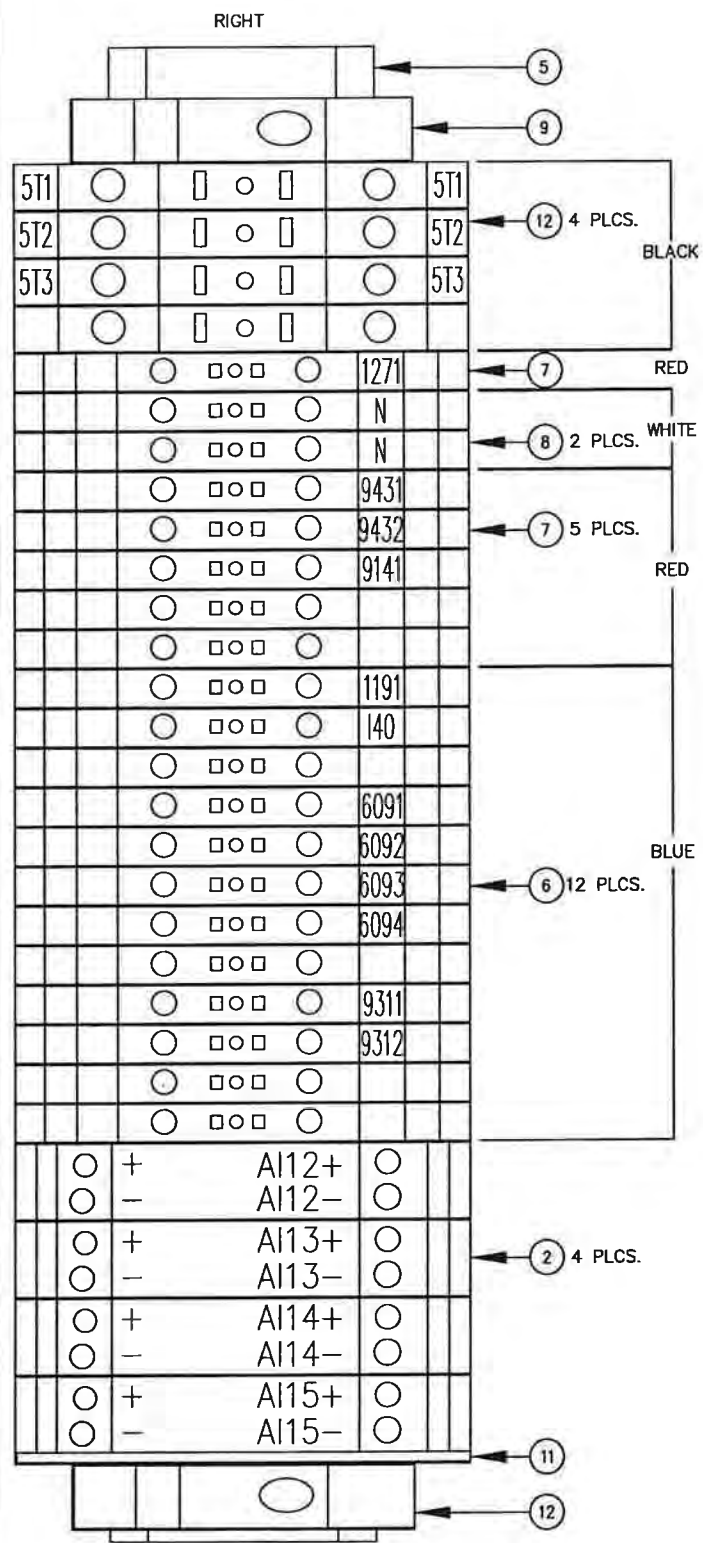
PROJECT NAME: LANDFILL GAS ENCLOSED FLARE #EF63018
GUDE LANDFILL
ROCKVILLE, MD

CUSTOMER: MONTGOMERY COUNTY, MD

SERIAL NO.: 1953
DIB NO.: EP4
SHEET: 1

BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | MANUFACTURER | SUPPLIER | PART NO. |
|------|-----|--|--------------|------------|-------------|
| 1 | 1 | ENCLOSURE NEMA 4 14x 12x 6 | HOFFMAN | A-1412CHNF | EBX14X12N4 |
| 2 | 1 | ENCLOSURE PLATE 14 x 12 | HOFFMAN | A-14P12 | EBX14X12P |
| 3 | 1 | 150 VA IGNITION TRANSFORMER (120 VAC PRI. 6 KVAC SEC.) | FRANCEFORMER | 6EEGV-2 | 18B1-PID |
| 4 | 4 | TYPE "K" T/C TERMINAL WDU 2.5/TC | WIEDMULLER | 1024100000 | ETB12TC-W |
| 5 | 2 | TERMINAL BLOCK END BLOCK WEW 35/2 | WIEDMULLER | 1061200000 | FLOOR STOCK |
| 6 | 12 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 BLUE | WIEDMULLER | 1020080000 | EWDU2.5BL |
| 7 | 6 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 RED | WIEDMULLER | 1020040000 | EWDU2.5RT |
| 8 | 2 | TERMINAL BLOCK 22-12AWG 600 VAC WDU 2.5 WHITE | WIEDMULLER | 1038000000 | EWDU2.5WS |
| 9 | 1 | GROUND BAR | GE | TGK04 | FLOOR STOCK |
| 10 | 10* | DIN RAIL TS 35x7.5 (5mm SLOT) | WIEDMULLER | 0514500000 | FLOOR STOCK |
| 11 | 1 | TERMINAL BLOCK END PLATE WAP 2.5-10 | WIEDMULLER | 1050000000 | FLOOR STOCK |
| 12 | 4 | TERMINAL BLOCK 20-10AWG 600 VAC WDU 4 BLACK | WIEDMULLER | 1020110000 | FLOOR STOCK |
| | 2 | BLANK TERMINAL LABELS FOR 5mm WS12/5 10 TAGS EACH | WIEDMULLER | 1061060000 | FLOOR STOCK |



AS BUILT

NOV. 16, 2004
NOTE: DRAWING DOES NOT REFLECT FIELD REVISIONS

TAG #1

Shaw LFG SPECIALTIES
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FINDLAY, OH 45840-9761
(419) 424-4999
(800) 331-7683

FLAME CONTROL PANEL (J-BOX)
MODEL NO. FLAMETROL IV
SERIAL NO. 1953
PANEL: EF2 J-BOX

VOLTS - 480VAC, PHASE - 3PH
FREQ - 60HZ

LARGEST MOTOR - 1/2HP, 1.1FLA

Wiring Diagram: 1953-EP5
Date Code: 11/2004

TAG #2
480 VAC

TAG #3
WIEDMULLER WDU2.5
TORQUE TO
7.1 lb-in

TAG #4
WIEDMULLER WDU2.5/TC
TORQUE TO
7.1 lb-in

TAG #5
GROUND

TAG #6
GE TGK04
TORQUE TO
30 lb-in



| REV | DESCRIPTION / ISSUE | DATE | BY |
|-----|-----------------------------------|----------|-----|
| 2 | AS BUILT | 11/16/04 | TRS |
| 1 | MODIFIED LOUVER POWER CONNECTIONS | 11/02/04 | TRS |
| 0 | ISSUED FOR CONSTRUCTION | 10/21/04 | TRS |

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| SYMBOL LEGEND | | | |
|---------------|-----------------------------|--|--|
| ○ | TERMINAL POINT (BACK PLATE) | | |
| □ | TERMINAL POINT (SWING DOOR) | | |
| △ | SKID MOUNTED DEVICES | | |
| --- | SKID WIRING | | |
| | 14 GA. WIRE | | |

| ENCLOSED FLARE #2, ELECTRICAL IGNITOR BOX FOR FLAME-TROL IV | | | |
|---|------------------|--------------------|---------|
| DRAWN BY: TRS | DESIGNED BY: RSR | APPROVED BY: LWZ | SIZE: D |
| SCALE: AS SHOWN | DATE: 08/10/04 | PROJECT NO: B47042 | |

| PROJECT NAME | | | |
|--|-----------------------|------------|------|
| LANDFILL GAS ENCLOSED FLARE #EF63018 GUDE LANDFILL ROCKVILLE, MD | | | |
| CUSTOMER: | MONTGOMERY COUNTY, MD | SERIAL NO: | 1953 |
| ONE NO: | EP5 | SHEET: | 1 |

Appendix C

CB&I-Provided Information

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Gude Well Pictures

DS02



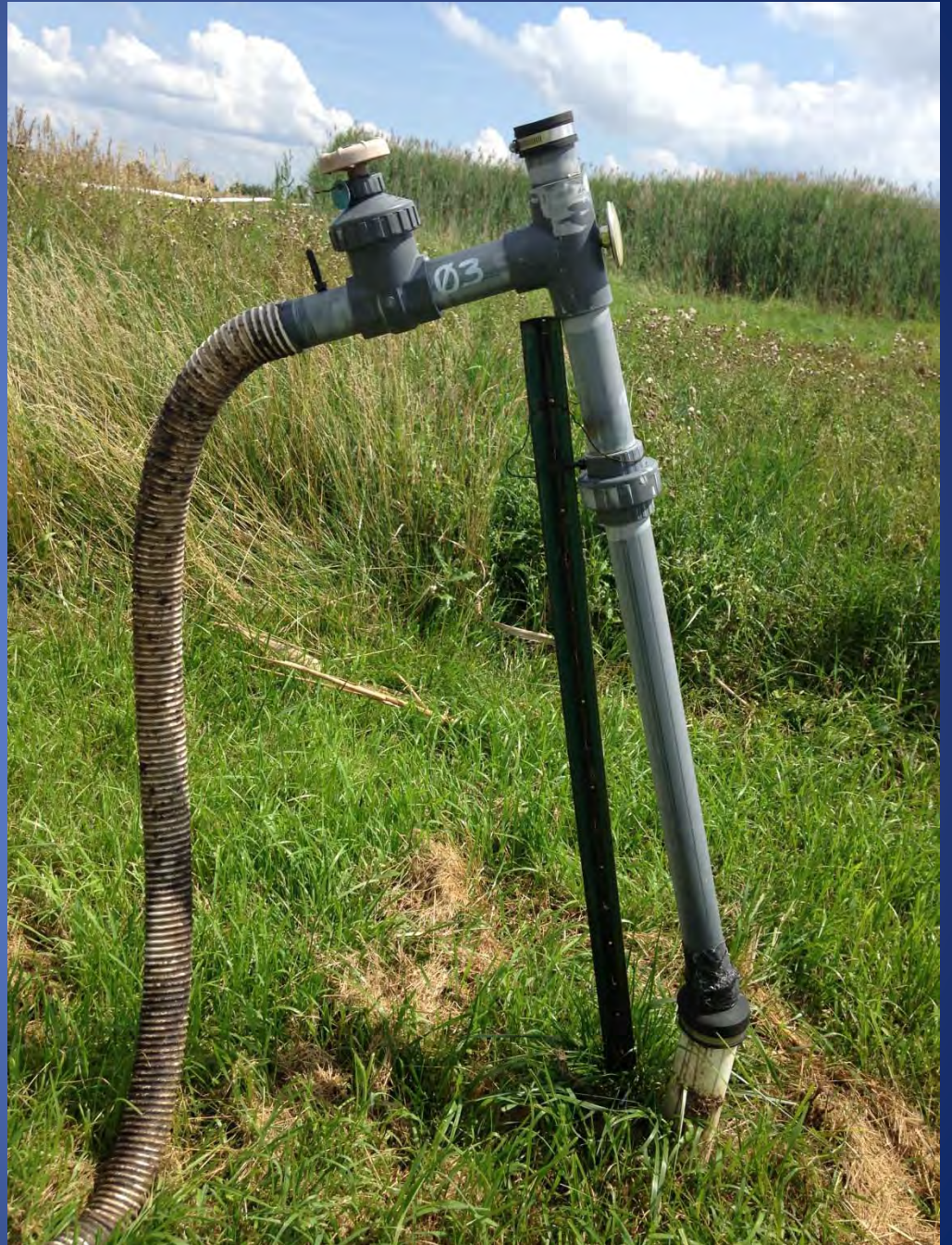
EW1



EW2



EW3



EW4



EW5



EW6



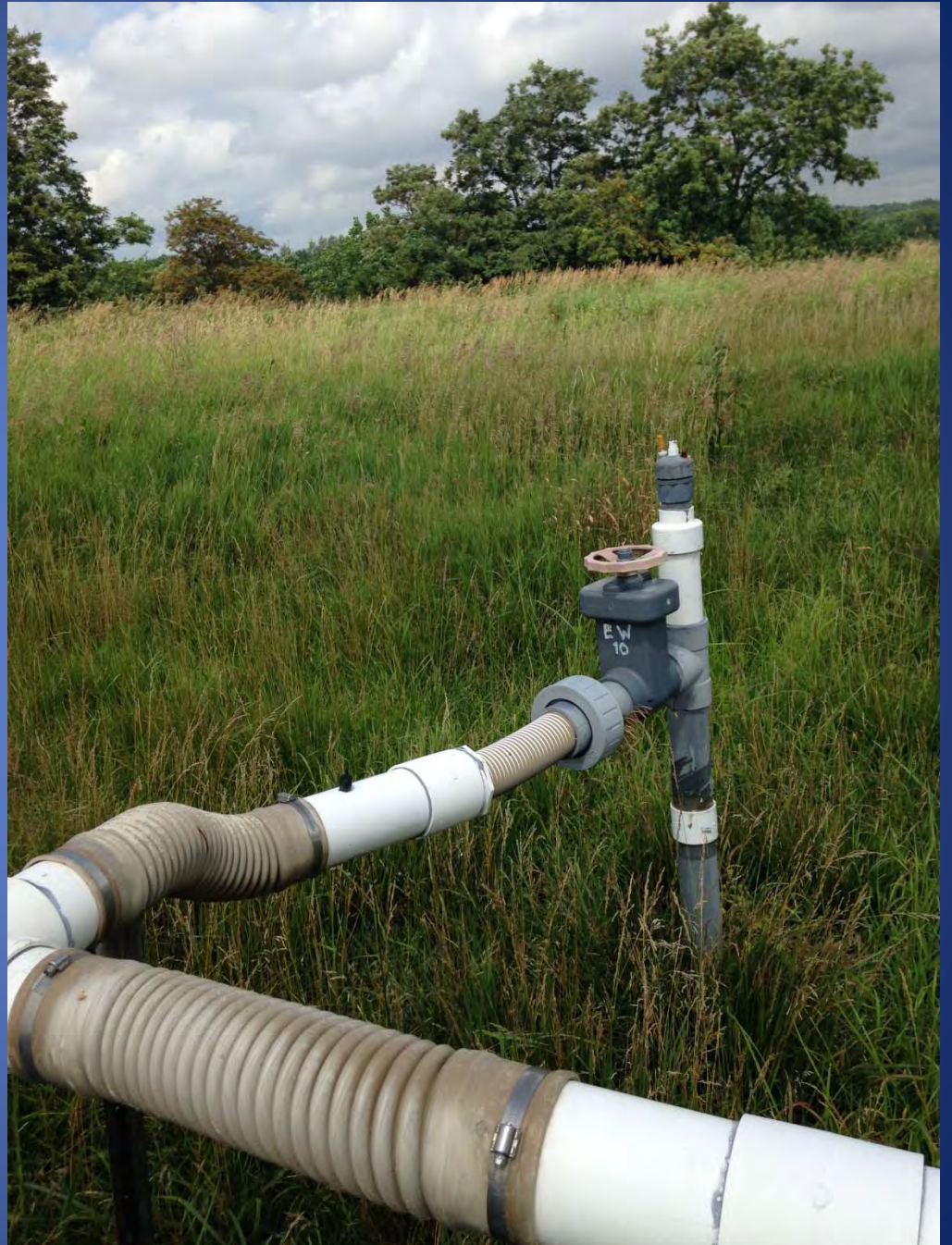
EW7



EW9



EW10



EW11



EW12



EW14



EW15



EW16



EW17



EW18



EW19



EW20



EW21



EW21



EW23



EW25



EW26



EW26



EW27



EW27



EW28



EW29



EW29



EW30



EW30



EW31



EW31





CB&I Environmental & Infrastructure, Inc.
16406 US Route 224 East
Findlay, Ohio 45840
Tel: +1 419 424 4999
Fax: +1 419 424 4991
www.CBI.com

July 31, 2015

Ms. Amanda Moore
Project Manager
Northeast Maryland Waste Disposal Authority
100 South Charles Street
Tower II – Suite 402
Baltimore, Maryland 21201

**Ref: Pre –Contract Commencement Inspection – GCCS
Contract Control #00293
Operation & Maintenance of the Oaks and Gude Landfill Gas to Energy (LFGTE) Systems
Laytonsville, and Rockville, Montgomery County, Maryland**

Dear Ms. Moore:

As required by Section 3.9 of the Operation and Maintenance Agreement dated June 8, 2015, CB&I was to perform a visual pre-contract commencement inspection of the Oaks and Gude Landfill Gas to Energy facilities prior to mobilization. CB&I has completed the initial pre-contract commencement inspection for the Oaks and Gude Gas Collection and Control System (GCCS).

The GCCS inspections were completed from 6/30/15 through 7/17/15 by Mr. Kevin Rellinger, CB&I Operations Manager, and Scott Harteis, Jason Martin, and James Blecher, CB&I Technicians.

The intent of the pre-contract commencement visual inspection is to determine, to the extent that the conditions could be visibly assessed, any pre-existing damage or non-performed maintenance associated with the Oaks and Gude GCCS Landfill Systems.

Attached are the inspection notes/findings for the Oaks and Gude GCCS. In general, there do appear to be a number of maintenance items that have not been currently or completely performed as of the time of this inspection. Reference the attached list for details.

After your review, please let us know if these items have been addressed by the outgoing Operator or if these items are to be inherited by CB&I. Note that if these items remain unchanged upon our mobilization, this will significantly alters the initially intended maintenance schedule.



If you have any questions or require additional information, please feel free to contact me at 419-618-8253 or via e-mail: kevin.rellinger@cbi.com.

Respectfully submitted,

Kevin M. Rellinger
Operations Manager
CB&I Environmental & Infrastructure, Inc.

C: Rao Malladi, Montgomery County DEP - DSWS
M. McGuigan, CB&I
G. Autolitano, CB&I
J. Esmet, CB&I
File

Attachments



Oaks and Gude Landfill Gas to Energy GCCS Inspection – June 30, through 17, 2015

The following notes/findings were prepared by Mr. Jason Martin, CB&I Well Field Technician, based on visual observations and inspections of the wellfield and its gas collection systems:

Oaks GCCS

Initial visual inspection of the surrounding wellfield and facilities were completed on 6/24/15. Initial set-up of Montgomery county flare facilities were completed on 6/30/15. All other visual observations and hands-on inspections were completed after this date.

- Oaks Landfill consists of 15 vertical gas wells and 32 horizontal gas wells monitored monthly. The surrounding landscape is overgrown with mowed paths to each well for access. On 7/1/15 liquid levels on the vertical extraction wells were completed. The overall “average” depth of liquid in the vertical wells is 8.5 feet. The horizontal wells make up a majority of the LFG collection system and produce a majority of the LFG powering the engine plant. These wells cannot be measured for liquid build up.
- 16 of the horizontal gas wells are located below ground in fiberglass/plastic vaults. These wells are controlled by butterfly valves. During rainy conditions, the vaults fill up with surface water, making it difficult to collect gas readings or make adjustments to the wells. Recommend installing a valve extension on each of these horizontal wells to be accessed just below the cover of the valve vault. Also, install braided hoses to take LFG reads in the event the vaults are submerged. These horizontal wells were not visually labeled and require labeling for future locating of each well.
- The Kanaflex hoses are weathered showing age from UV rays. These hoses need to be replaced and secured correctly to prevent future oxygen intrusion. Sample fittings are also weathered, deteriorated and in need of replacement.
- On 7/7/15 liquid levels were inspected in each of the 6 sumps surrounding the landfill. The overall “average” depth of water was 4.6 feet. SCS Field Services had removed their sump pumps with no permanent pumping system currently in place. Condensate is discharged into a mobile container and disposed of at the treatment facility located on site at Oaks. On 7/9/15 and 7/10/15 sumps 4 & 5 were pumped in an effort to evaluate the reduction of liquid levels. These sumps recharge with liquid in a few hours and will require a high end pump to remove large amounts of liquid at a time. Total vertical depth of these sumps is between 15 and 20 feet. On 7/29/15 the sumps were vacuumed out to empty and to establish a clean baseline to operate going forward.
- One sump is located at the inlet of the engine plant with an installed pneumatic pump. The pump status will need to be evaluated in the future when the engine plant is down. The sump has available vacuum equal to the blower pressure and the pneumatic pump has air available and provided from the plant air compressor.



- On 7/21/15, the two utility flares at Oaks were evaluated. The sight glass for the knockout pot needs to be replaced. The oil filled bulbs on the blower need to be replaced. The shaft seals on the main blower bearing are leaking. The backup diesel motor requires new oil and fuel filters as well as a new air filter. The UV sensor on Flare 1r one needs to be cleaned and spark plug needs to be replaced. Thermocouples and insulation on Flare 1 need to be repaired. Flare 2 does not have either thermocouples or UV sensor.
- Updated as-built for site is needed.

Gude GCCS

Initial visual inspection of the surrounding well field and facilities were completed on 6/24/15. Initial inspection of the well field started on 7/2/15.

- Gude Landfill consists of 105 vertical gas wells monitored monthly. The entire gas collection system is above ground with the exception of a few road crossings throughout the landfill. The header is primarily PVC pipe. The landscape is overgrown with mowed pathways to provide access to the gas wells. On 7/9/15 liquid level measurements were completed. The overall “average” depth of liquid in the vertical wells is 11.7 feet. Keep in mind this is only an average as the wells at Gude show large amounts of liquid within the vertical wells.
- Two sumps are located in the well field. Sump “A” is located closest to the plant and has a total depth of 16.5 feet. Sump “B” is located in the center of the well field and has a total depth of 12 feet. All connections for sump “B” are below grade including one valve that has an extended stem to operate open or shut. There is no gearbox on the stem and no markings to determine what location the valve is in when turning the stem. Recommend installing valves on each side of these sumps to allow the ability to isolate the sump from the LFG collection system and pump each sump without affecting plant operations. No current installation as-builds, for these sumps at this time. Permanent pumps could also be installed to allow pumps to commence during plant operation in order to avoid valve installation.
- One sump is located at the inlet of the plant. It is below grade and has an installed pneumatic pump. No evaluation of the pump status has been completed, due to the plant being in operation. The sump has available vacuum equal to the blower pressure and the pneumatic pump has air available and provided from the plant air compressor. This pump was previously under vacuum pulling in oxygen from the air discharge side of the pump. The installed pump should be serviced and inspected.
- The well field has many joints and connection points throughout the header system with a high potential of oxygen intrusion. The wellheads on the perimeter wells are new orifice plate type well heads and appear to be in good condition. The wellheads in the core of the landfill are primarily pitot tube type well heads. Many of the wellheads do not have pitot tubes installed. Flow readings are



inaccurate from these wells. Kanaflex hoses throughout the entire wellfield are weathered, aged and in need of replacement to prevent future issues. This can also be contributed to settlement throughout the landfill.

- The sample fittings throughout the entire wellfield are weathered, deteriorated and falling apart. Some of quick connection fittings on the gas header have been plugged with grass or dirt. These areas need to be replaced with new sample fittings to prevent oxygen intrusion. Some of the connections on the header are being held together by rubber Fernco's, which expand and contract and do not provide much surface area to grip the PVC header pipes. These areas are potential sources of oxygen intrusion. The sections of PVC pipe should be glued and coupled together. Many well casings have been replaced with flexible hoses and are being held up-right by metal fence posts. The flexible hoses on these wells need to be eliminated.
- On 7/21/15, the two enclosed flares at Gude were evaluated. Overall, both enclosed flares appear to be in good condition. The knockout pot needs a new sight glass. Flare 1 requires a new burner tip. There is only one louver motor enabled on each of the enclosed flares. Flare 1 does have a burner tube with a large hole in it and these should be replaced.
- Updated as-built for site is needed.



Spare Parts List Requested for Oaks

| Item | Qty | Size |
|------------------------|--------|---------|
| Kanalflex | 300 ft | 2" |
| Kanalflex | 100 ft | 3" |
| Barbed fittings | 150 | 1/4" |
| Quick connects | 300 | 1/4" |
| Power lock clamps | 30 | 2" |
| Power lock clamps | 30 | 3" |
| Adjustable hose clamps | 40 | 2" & 4" |
| PVC pipe Sch 80 | 100ft | 2" |
| HDPE Pipe | 240ft | 2" |
| HDPE Pipe - Perf | 200ft | 4" |
| HDPE Pipe | 240ft | 4" |
| HDPE Pipe | 120ft | 6" |
| HDPE Pipe | 120ft | 8" |
| Oil Fill Bulbs | 4 | |
| Oil Filters | 4 | |
| Fuel Filter | 4 | |
| UV Sensor | 2 | |
| Thermocouple | 3 | |
| Spark Plugs for Flare | 2 | |
| Electrofusion Coupling | 4 | 4" |
| Electrofusion Coupling | 4 | 6" |
| Electrofusion Coupling | 4 | 8" |
| 2" Landtec Wellhead | 4 | 2" |



Spare Parts List Requested for Gude

| Item | Size | Qty | Unit |
|------------------------|--------------------------------|-----|------|
| Kanalflex | 2" | 800 | ft |
| Kanalflex | 3" | 200 | ft |
| Barbed fittings | 1/4" | 150 | ea |
| Quick connects | 1/4" | 300 | ea |
| Power lock clamps | 2" | 50 | ea |
| Adjustable hose clamps | 2", 4", 6", 8", 10", 12" | 60 | ea |
| Flexible header hose | 4" | 15 | ea |
| Flexible header hose | 6" | 15 | ea |
| Flexible header hose | 8" | 5 | ea |
| Flexible header hose | 10" | 5 | ea |
| Flexible header hose | 12" | 5 | ea |
| Fernco | 2X4 | 40 | ea |
| PVC pipe Sch 40 | 2" | 400 | ft |
| PVC pipe Sch 40 | 3" | 100 | ft |
| PVC pipe Sch 40 | 4" | 400 | ft |
| PVC pipe Sch 40 | 10" | 100 | ft |
| PVC Coupling Sch 40 | 2" | 40 | ea |
| PVC Coupling Sch 40 | 3" | 20 | ea |
| PVC Coupling Sch 40 | 4" | 30 | ea |
| PVC Coupling Sch 40 | 8" | 5 | ea |
| PVC Coupling Sch 40 | 10" | 5 | ea |
| Spark Plug for Flare | | 2 | ea |
| Thermocouple | | 3 | ea |
| Louver Motor | | 2 | ea |
| Bearings for Blowers | | 2 | ea |

Gude Well Pictures

EW150



EW151



EW152



EW153



EW154



EW154



EW155



EW155



Probe 26



EW155



EW156



EW156



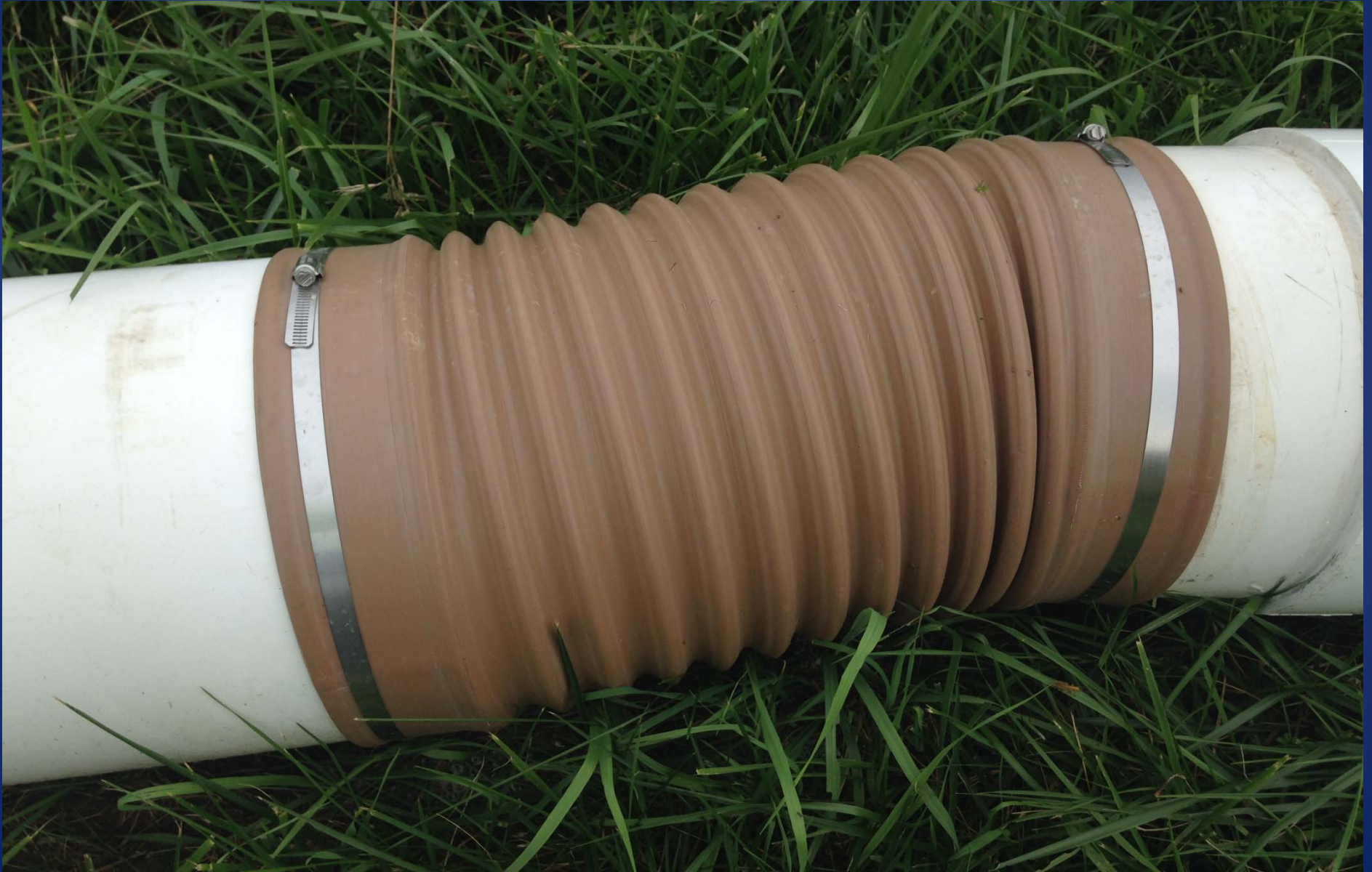
EW157



EW157



New flex hose on the above ground header



Old flex hose on the above ground header



4" flex hose



Sump



Gude Well Pictures

EW129



EW130



EW131



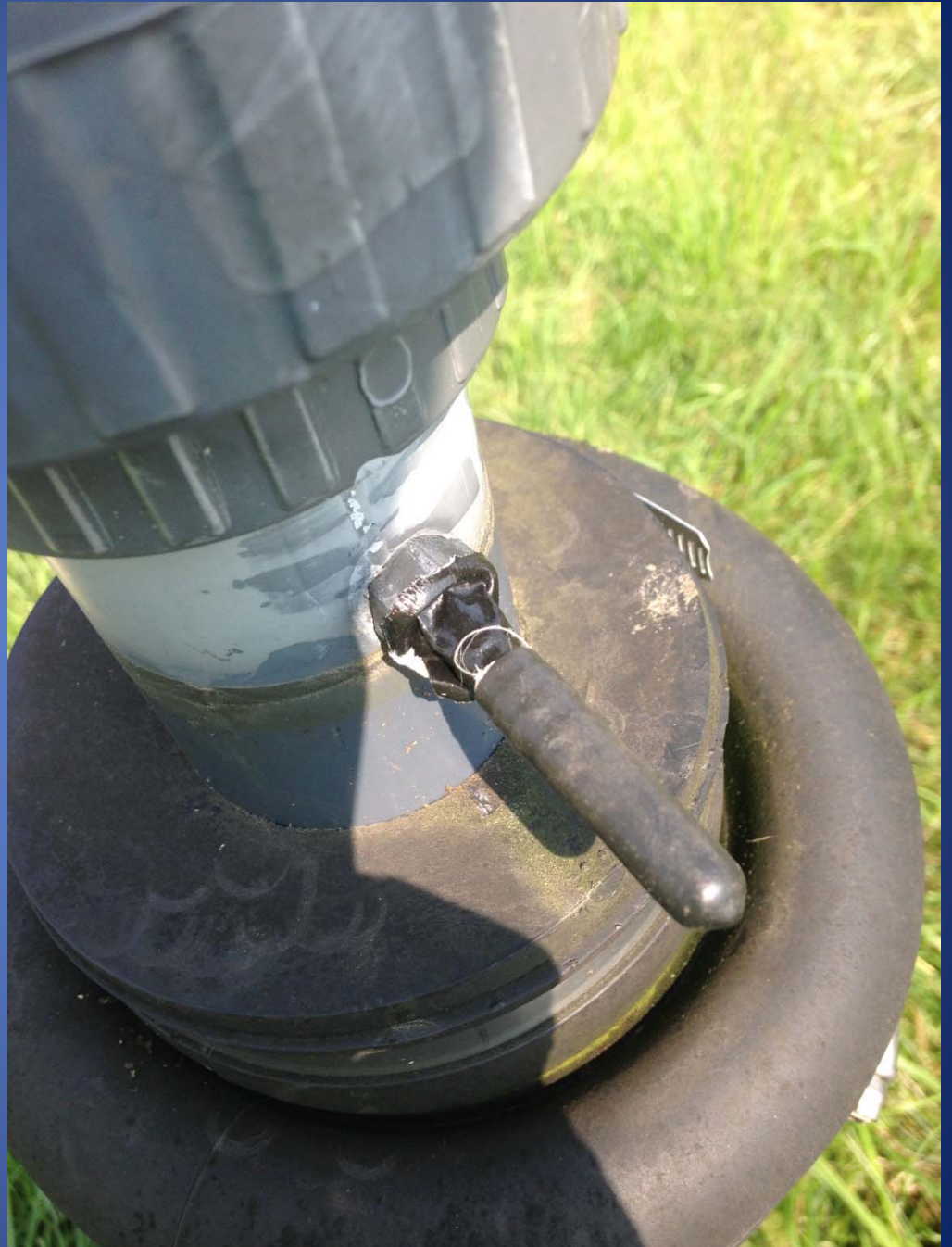
EW131



EW132



EW132



EW133



EW133



120 & 133



EW134



EW134



EW135



EW141



EW142



EW143



EW143



EW145



EW146



EW147



EW148



EW149



Gude Well Pictures

EW112



EW113



EW114



EW115



EW117



EW117



EW118



EW118



EW119



EW119



EW120



EW120



EW121



EW121



EW122



EW122



EW123



EW123



EW124



EW124



EW124



EW125



EW126



EW127



EW128



Gude Well Pictures

EW62



EW70



EW70



EW71



EW72



EW73



EW73



EW75



EW76



EW100



EW101



EW102



EW103



EW104



EW105



EW106



EW107



EW108



EW109



EW110



EW110



EW111



Gude Well Pictures

EW32



EW34



EW35



EW36



EW36
Cracked cap



EW36



EW37



EW38



EW39



EW43



EW43



EW44



EW44



EW50



EW51



EW52



EW57



EW57
No pitot tube



EW62



Appendix D
Well Inspection Logs

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**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 3

3" well!

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 3.6' *+7" or less*

Depth to Water: 7.2 Total Depth: 43.0

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type _____

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

N/A

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose

Approximate Length: 30"
Hose Condition: Good Fair Poor
Comments: _____
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping

Size 3" Material pvc
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 4

Weather Conditions: sunny Air Temperature: 30

Height from Existing Grade to Bottom of Wellhead: 7' to top of wellhead -

Depth to Water: 20.0 Total Depth: 33.5

*pitot tube
gone
all glude
67" to
bottom
of tee*

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair Poor _____

Adjustment Valve – Functional? Yes 3" No _____

Type Spears Gate

Comments _____

Sample Ports:

Upstream (below orifice plate) N/A Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) N/A Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

Impact Pressure Port Size 1/4" Material plastic bulb
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Static Pressure Port Size 1/4" Material plastic
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose

Approximate Length: 24"
Hose Condition: Good Fair Poor
Comments: 3" mfr. tube
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping

Size 3" Material pvc
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____
Cap taped on to prevent air leaks
Tall stickup - stood on jeep bumper to access

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 6

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 60" 52

Depth to Water: 24.9 Total Depth: 34.3

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type 1" gate valve

Comments _____

*3" valve
2" stack up
1" valve
(!)*

Sample Ports:

Upstream (below orifice plate) N/A Size _____
Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) N/A Size _____
Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No
Temperature Probe Port? Yes No _____
Condition: Good _____ Fair _____ Poor _____

Quick connect

Pitot Tube Sample Ports

Tube intact, 1 leg only

Impact Pressure Port Size 1/4 Material plastic bush
Dust Cap? Yes No _____
Condition: Good Fair _____ Poor _____
Comments: _____

Static Pressure Port Size 1/4" Material bush
Dust Cap? Yes No _____
Condition: Good Fair _____ Poor _____
Comments: _____

QC
temp +
VOC

Flexible Hose

Approximate Length: 3'7"
Hose Condition: Good _____ Fair Poor _____
Comments: _____
Hose Clamps: Good _____ Fair _____ Poor _____
Comments: No clamps - glued to 90 + Bushing
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 3" Material buried pvc
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 7

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 46" tall 3" PVC

Depth to Water: 44.6 Total Depth: 51.0

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition No wellhead Good _____ Fair _____ Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type _____

Comments N/A

Sample Ports:

Upstream (below orifice plate) N/A Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) N/A Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

Impact Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Static Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose

Approximate Length: _____
Hose Condition: Good Fair Poor
Comments: _____
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping

Size _____ Material
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 9

2" PVC, no wellhead,

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 3.1'

Depth to Water: 16.6 Total Depth: 46.6

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition N/A Good _____ Fair _____ Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type _____

Comments No valve or wellhead

Sample Ports: N/A

Upstream (below orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes N/A No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

N/A
Impact Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments:

Static Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments:

Flexible Hose

N/A
Approximate Length:
Hose Condition: Good Fair Poor
Comments:
Hose Clamps: Good Fair Poor
Comments:
Audible Leaks? Yes No

Lateral or Header Piping

adjacent 4" - not hooked up.
Size Material
Overall Condition: Good Fair Poor

Overall Field Observations or Comments:

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 11

Weather Conditions: sunny Air Temperature: 30°

2" well sticking - Franco below grade 2-3"

Height from Existing Grade to Bottom of Wellhead: 3' 6" to top of well

Depth to Water: 23.7 Total Depth: 37.5'

33" - bottom 2" tee

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead - Overall Condition Good Fair _____ Poor _____

Adjustment Valve - Functional? Yes No _____

Type 1" spears

Comments _____

Sample Ports:

N/A

Upstream (below orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) *N/A* Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No _____
Temperature Probe Port? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____

Quick connect (?)

Pitot Tube Sample Ports

Impact Pressure Port Size 1/4" Material barb plastic
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size 1/4" Material barb brass
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

pitot tube intact

Flexible Hose

Approximate Length: None - glued to LFC-Header w/ bushing
Hose Condition: Good _____ Fair _____ Poor _____
Comments: _____
Hose Clamps: Good _____ Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 4" Material pvc
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

system pressure port - quick connect

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 12

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 42" 13" to cap.

Depth to Water: ~ 37-17 Total Depth: 47.0
tough read.

~~Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____~~

~~LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____~~

~~Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____~~

Wellhead – Overall Condition Good _____ Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" spans

Comments _____

Sample Ports: N/A

Upstream (below orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) N/A Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

tube intact

Impact Pressure Port Size 1/4" Material quick connect
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Static Pressure Port Size 1/4" Material barb plastic
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose

Approximate Length: 12"
Hose Condition: Good Fair Poor
Comments: 3" mfr.
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping

Size 3" Material PVC
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 14

Weather Conditions: sunny

Air Temperature: 30° *open*

Cap screwed to well casing. Did not

Height from Existing Grade to Bottom of Wellhead: _____

Depth to Water: _____ Total Depth: _____

3" pvc.

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair _____ Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type _____

Comments _____

Sample Ports:

Upstream (below orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size _____

Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No _____

Temperature Probe Port? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Pitot Tube Sample Ports

Impact Pressure Port Size _____ Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Static Pressure Port Size _____ Material _____

Dust Cap? Yes _____ No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Flexible Hose

Approximate Length: _____

Hose Condition: Good _____ Fair _____ Poor _____

Comments: _____

Hose Clamps: Good _____ Fair _____ Poor _____

Comments: _____

Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size _____ Material _____

Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 16

Weather Conditions: sunny Air Temperature: _____

Height from Existing Grade to Bottom of Wellhead: 4.5' to cap

Depth to Water: 40.5 Total Depth: 44.3'

*2" insert
glued 3" well
bushing
8"
to bottom
of tee.*

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" spear

Comments _____

Sample Ports:

Upstream (below orifice plate)

Size 1/4"

Material glass

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate)

Size 1/4"

Material glass

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No *plastic*
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

Impact Pressure Port Size *1/4"* Material *brass*
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____
tube intact

Static Pressure Port Size *1/4"* Material *brass*
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose
Approximate Length: *N/A* *teraco 2" to 3" length*
Hose Condition: Good Fair Poor
Comments: _____
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping
Size *3"* Material *PVC*
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 100

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 3.6'

Depth to Water: 20.7 Total Depth: 26.2 5" union

~~Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____~~

~~LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____~~

~~Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____~~

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" sprays

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No _____
Temperature Probe Port? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____

Pitot Tube Sample Ports

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 3'
Hose Condition: Good _____ Fair Poor _____
Comments: _____
Hose Clamps: Good Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

2' stub to

Size 8" Material PVC
Overall Condition: Good Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 106

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 4'7" 12" unim

Depth to Water: 38.3 Total Depth: 40.7

~~Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____~~

~~LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____~~

~~Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____~~

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type _____

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports N/A

Impact Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Static Pressure Port Size Material
Dust Cap? Yes No
Condition: Good Fair Poor
Comments: _____

Flexible Hose
Approximate Length: 4' 2"
Hose Condition: Good Fair Poor
Comments: _____
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes No

Lateral or Header Piping
Size Material
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 114

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: _____

Depth to Water: 37.8 Total Depth: 37.8

40' remote to top.

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" sprays

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No
Temperature Probe Port? Yes No _____
Condition: Good Fair _____ Poor _____

Pitot Tube Sample Ports

N/A

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

N/A

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 62' _____
Hose Condition: Good _____ Fair Poor _____
Comments: _____
Hose Clamps: Good Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 6" _____ Material PVC _____
Overall Condition: Good Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 116 - remote

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: _____

Depth to Water: 32.9 Total Depth: 33.8'

remote
27" ↑
to top
4" casing

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" 4 pieces

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No
Temperature Probe Port? Yes No _____
Condition: Good Fair _____ Poor _____

Pitot Tube Sample Ports

Impact Pressure Port NA Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port N/A Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 80' _____
Hose Condition: Good Fair _____ Poor _____
Comments: _____
Hose Clamps: Good _____ Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size _____ Material _____
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 133

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 4.7' remote

Depth to Water: 20.9 Total Depth: 37.2

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good _____ Fair Poor _____

Adjustment Valve – Functional? Yes No _____ *Siamese pipe traps water*

Type _____

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic barb

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No _____
Temperature Probe Port? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____

Pitot Tube Sample Ports

N/A

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

N/A

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 30"
Hose Condition: Good _____ Fair _____ Poor _____
Comments: _____
Hose Clamps: Good _____ Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 8' Material PVC
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 134

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: remote 5.3'

Depth to Water: 14.1 Total Depth: 27.4

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type _____

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4

Material plastic

Dust Cap? Yes No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size _____

Material _____

Dust Cap? Yes No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports *N/A*
Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose *4.8'*
Approximate Length: _____
Hose Condition: Good Fair Poor
Comments: _____
Hose Clamps: Good Fair Poor
Comments: _____
Audible Leaks? Yes _____ No

Lateral or Header Piping
Size *8'* Material *PVC*
Overall Condition: Good Fair Poor

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 135

Weather Conditions: Sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 2.9'

Depth to Water: 14.1' Total Depth: 22.0'

*10" top casing
to top union*

~~Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____~~

~~LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____~~

~~Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____~~

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes _____ No _____

Type Spears 2" gate

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4" plastic

Material _____

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good _____ Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No _____
Temperature Probe Port? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____

Pitot Tube Sample Ports

N/A

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 3'
Hose Condition: Good _____ Fair _____ Poor _____
Comments: _____
Hose Clamps: Good _____ Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____ N/A

Lateral or Header Piping

Size 4" short Material PVC to 8" header
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 147

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: 3.5' 6" well casing

Depth to Water: 42.8 Total Depth: 43.6 10" to sch. 80. drain

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type 2" spear

Comments _____

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes _____ No
Temperature Probe Port? Yes No _____
Condition: Good Fair _____ Poor _____

*vac. part
quick connect*

Pitot Tube Sample Ports

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 50"
Hose Condition: Good Fair _____ Poor _____
Comments: _____
Hose Clamps: Good Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 4" Material pvc
Overall Condition: Good _____ Fair _____ Poor _____

Overall Field Observations or Comments: _____

**Landfill Gas Extraction Well
Field Condition Assessment Inspection**

Site Name: Gude Landfill, Rockville Maryland

Date: 3/5/19

Well No. 157

Weather Conditions: sunny Air Temperature: 30°

Height from Existing Grade to Bottom of Wellhead: remote 4.4'

Depth to Water: ~~36.7~~ Total Depth: 41.3

Gas Quality Readings: CH₄ _____ CO₂ _____ O₂ _____ Balance _____

LFG Temperature at Wellhead: _____ LFG Flow at Wellhead: _____

Static Pressure: _____ Differential Pressure: _____ Atmospheric Pressure: _____

Wellhead – Overall Condition Good Fair _____ Poor _____

Adjustment Valve – Functional? Yes No _____

Type spring

Comments 2"

Sample Ports:

Upstream (below orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Downstream (above orifice plate) Size 1/4"

Material plastic

Dust Cap? Yes No _____

Condition: Good Fair _____ Poor _____

Comments: _____

Temperature Probe? Yes No
Temperature Probe Port? Yes No
Condition: Good Fair Poor

Pitot Tube Sample Ports

N/A

Impact Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Static Pressure Port Size _____ Material _____
Dust Cap? Yes _____ No _____
Condition: Good _____ Fair _____ Poor _____
Comments: _____

Flexible Hose

Approximate Length: 27"
Hose Condition: Good _____ Fair Poor _____
Comments: _____
Hose Clamps: Good Fair _____ Poor _____
Comments: _____
Audible Leaks? Yes _____ No _____

Lateral or Header Piping

Size 4" lateral Material PVC
Overall Condition: Good Fair _____ Poor _____

Overall Field Observations or Comments: _____

Appendix E

Field Investigation Photo Logs

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EW-3



EW-4



EW-6



EW-7



EW-9



EW-11



EW-12



EW-14



EW-16



EW-100



EW-106



EW-114



EW-116



EW-133



EW-134



EW-135



EW-147



EW-157



Abandoned Header near Former EW-19



Abandoned Header near Former EW-20

Appendix F

Historical Disposal Records

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Montgomery County
Historical Waste Disposal Records and Projections at the Gude Landfill

| Fiscal Year (FY) | Waste Volume (Tons) | Variation Per Year (%) | Waste Volume Reduction (50%) | Tip Fee Per Ton (\$/Ton) | Comments |
|---|--------------------------------|-----------------------------------|---|-------------------------------------|-----------------|
| FY64 | 269,971 | --- | 134,986 | --- | Notes 1 and 2 |
| FY65 | 279,080 | 3.26% | 139,540 | --- | Notes 1 and 2 |
| FY66 | 288,496 | 3.26% | 144,248 | --- | Notes 1 and 2 |
| FY67 | 298,229 | 3.26% | 149,115 | --- | Notes 1 and 2 |
| FY68 | 308,291 | 3.26% | 154,146 | --- | Notes 1 and 2 |
| FY69 | 318,693 | 3.26% | 159,346 | --- | Notes 1 and 2 |
| FY70 | 329,445 | 3.26% | 164,723 | --- | Notes 1 and 2 |
| FY71 | 340,560 | 3.26% | 170,280 | --- | Notes 1 and 2 |
| FY72 | 352,051 | 3.26% | 176,025 | --- | Notes 1 and 2 |
| FY73 | 363,928 | 3.26% | 181,964 | --- | Notes 1 and 2 |
| FY74 | 376,207 | 3.26% | 376,207 | --- | Note 3 |
| FY75 | 388,900 | 3.26% | 388,900 | --- | Note 3 |
| FY76 | 382,600 | 1.65% | 382,600 | \$8.00 | Note 4 |
| FY77 | 378,500 | 1.08% | 378,500 | \$8.70 | Note 4 |
| FY78 | 406,400 | 6.87% | 406,400 | \$9.50 | Note 4 |
| FY79 | 422,700 | 3.86% | 422,700 | \$12.00 | Note 4 |
| FY80 | 404,800 | 4.42% | 404,800 | \$12.00 | Note 4 |
| FY81 | 417,000 | 2.93% | 417,000 | \$14.00 | Note 4 |
| FY82 | 408,632 | 2.05% | 408,632 | \$14.00 | Note 4 |
| 19 Year Operation | | 3.26% | 5,160,111 | | |
| Historical Waste Volume Estimate | | | 4,800,000 | | |
| Variance | | | 8% | | |

Note 1. Waste volumes from FY64 - FY74 are back-calculated (e.g. projected) based on the average variation in waste tonnage records for FY75 - FY82.

Note 2. County Incinerator operated at Gude Landfill from approximately 1964 - 1973. Assume 50% waste reduction for waste volumes from FY64 - FY73.

Note 3. County Incinerator closed and was dismantled 1973 - 1975. Assume zero waste reduction for waste volumes from FY74 - FY75.

Note 4. Records generated by Bob Wilson, former Central Operations Chief, Montgomery County DSWS, June 25, 1990 and in FY01.

RE: Montgomery County, Maryland
Quantity of Waste Disposal at the landfill

TIP FEE PER TON

| | | | |
|--------|---------|-------|------------------|
| FY 75 | 388900 | 8.00 | } Gude |
| FY 76 | 382600 | 8.70 | |
| FY 77 | 378500 | 9.50 | |
| FY 78 | 406400 | 12.00 | |
| FY 79 | 422700 | 12.00 | |
| FY 80 | 404800 | 14.00 | |
| FY 81 | 417000 | 14.00 | |
| FY 82 | 408632 | 22.00 | } Oaks 7,013,468 |
| FY 83 | 341214 | 31.00 | |
| FY 84 | 352207 | 31.00 | |
| FY 85 | 459632 | 31.00 | |
| FY 86 | 508869 | 31.00 | |
| FY 87 | 550690 | 38.00 | |
| FY 88 | 587110 | 42.00 | |
| FY 89 | 642492 | 46.00 | |
| FY 90 | 671853 | 53.00 | |
| FY 91 | 633303 | 61.00 | |
| FY 92 | 505064 | 71.00 | |
| FY 93 | 398260 | 73.00 | |
| FY 94 | 510534 | 57.00 | |
| FY 95 | 488860 | 59.00 | |
| FY 96 | 144714 | 59.00 | |
| FY 97 | 166548 | 44.00 | |
| TIPFEE | | 44.00 | |
| FY 98 | 52,178* | 44.00 | |
| FY 99 | | 44.00 | |
| FY 00 | | 44.00 | |

* 52,178 → Oaks

121,322 - 52,178 → Outside County

June 25, 1990

CHRONOLOGY OF SOLID WASTE ACTIVITIES
Montgomery County 1965-1990

1965-1969

- o COG Black & Veatch Study
Rail haul not feasible
- o Incinerator at Southlawn
- o Southlawn Landfill acquired & opened
- o Incinerator ash at Southlawn Landfill
- o COG Black & Veatch
Regional landfill not recommended

1970

- o County plans then drops new 1,000 TPD incinerator & Bulkies Shredder
- o Decision to seek new landfill
- o Sanitary Landfill Advisory Committee established
- o Travilah Quarry recommended by Committee
Considered & dropped

1971

- o Gude Nursery selected then dropped for Landfill to study more sites
- o Decision to expand Southlawn Landfill into ravine
- o Green Assoc. Study 4 Landfill sites
- o Decision to search for long-term plan
- o Decision on temporary solution
Expand Southlawn Landfill onto part of Gude & Fairland Landfills,
both 3-year use.

1972

- o Per Study-Rail haul not recommended
- o HRA search for long-term landfill
- o Per Study of alternate disposal systems-recommended
Refuse derived fuel/Pepco system

1973-1975

- o Council - Rail haul as temporary measure until refuse derived fuel on line
- o Rail haul bids fail - no sites found
- o Council directs new rail haul bid effort
- o Incinerator closed & dismantled
- o Executive recommends Site 33
- o Site 30
 - Council selects site 30 for 3-5 year life use
 - Study of Site 30
 - Design of Site 30
 - Acquire Site 30
- o Gude & Fairland landfills acquired, designed, opened; Southlawn reclaimed
- o Council adopts RDF/Pepeco as long-term system
- o Transfer Station & Resource Recovery site selected - 355 & Shady Grove Road
- o GFCC preliminary design of Resource Recovery Facility & PEPCO Study
- o Transfer Station and Resource Recovery Facility site acquired

1976

- o Rail haul bids fail
- o State denies Site 30 permit
- o Gude/Southlawn reaches permit design contours Fairland finished & closed
- o Council puts Resource Recovery project on hold to watch new plants

1977

- o Redesign of Gude/Southlawn Landfill - Weston
- o New landfill site search - Dames & Moore - 12 candidate sites
- o Emergency State Health Order - requires Landfill permits by June, 1978
- o County officials visit Resource Recovery plants