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LANDFILL GAS CORRECTIVE ACTION UPDATE

BRIDGETON LANDFILL

BRIDGETON, ST. LOUIS COUNTY, MISSOURI

Submitted Pursuant to Section 23 of Agreed Order
Case No. 13SL-CC01088, Effective May 13, 2013

Prepared For:
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OCTOBER 15, 2015

Project No.: BT-024

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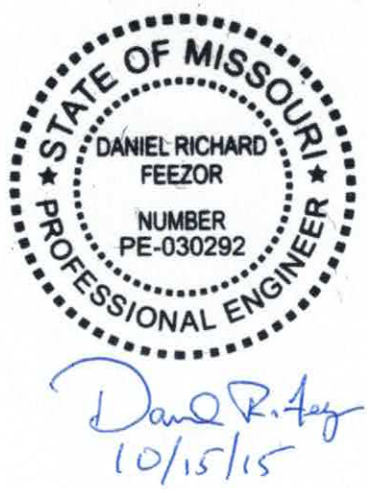

Daniel R. Feezor
10/15/15

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1.0 INTRODUCTION

On May 13, 2013, Bridgeton Landfill entered into an Agreed Order with the State of Missouri which requires actions to address what was called a subsurface smoldering event (SSE). Section 23 of the Agreed Order requires the preparation of an updated "Landfill Gas Corrective Action Plan" (CAP) and requests that the update consider SSE control measures. Bridgeton Landfill subsequently submitted such an updated CAP on July 26, 2013.

Section 5.0 of the July 2013 CAP proposed that weekly monitoring data would be summarized and reviewed in a quarterly report. The Missouri Department of Natural Resources (MDNR) accepted this proposal with a letter dated October 18, 2013. Bridgeton Landfill has subsequently submitted updated Corrective Action Plans each quarter. The purpose of this document is to provide monitoring data subsequent to the July 2015 CAP Update, and to review the current status of gas migration control measures.

The text of the July 2013 CAP is included in **Appendix A** for reference. This document will refer to the July 2013 CAP and will provide updates where appropriate.

2.0 REVIEW OF CURRENT GAS MIGRATION CONTROL STATUS

The Bridgeton Landfill (BL) continues an aggressive monitoring program and significant infrastructure investment with respect to landfill gas migration control at the facility.

Detailed graphs showing approximately one year of methane concentrations as measured in the probes from September 25, 2014 to September 28, 2015 are included in this document as **Appendix B**.

Table 1 lists the gas monitoring probes and their corresponding abbreviations, as presented in the July 2013 CAP, to clarify the historical graphs and the tabulated data for this monitoring period. The monitoring period is determined as July 26, 2015 through September 28, 2015.

Tables 2 through **5** present tabulated gas monitoring probe data for the monitoring period. Weekly water level readings were proposed by the July 2013 CAP and approved in the October 18, 2013 MDNR letter and are provided as depth to water (from top of well). Weekly water level readings for the monitoring period are contained in **Table 6**.

The following discussion highlights observations regarding methane specific to the data observed this monitoring period. A site plan that includes the locations of the gas monitoring probes can be found in **Appendix C**.

Newly Elevated Compliance Probes

No new Compliance Probes were measured at greater than 2.5% methane this monitoring period. All of the probes listed below that measured greater than or equal to 2.5% methane had recorded readings above the 2.5% threshold in previous quarters.

Probes with greater than or equal to 2.5% Methane: Quarterly Review

The following probes exhibited elevated concentrations of methane for the monitoring quarter. Weekly sampling shows methane percentages above 2.5% in these probes: GMP-14D, -14S, -01, -03, -05, -4S, -5S, -6S, TMP-1S, TMP-2D,TMP -2M, TMP-2S, TMP-3S and TMP-3M.

GMP-02 has measured below the 2.5% methane level for the last seven readings this monitoring period.

No Readings due to Extenuating Circumstances

No readings were obtained from GMP-02 from the week of 7/1/15 to 8/9/15 due to excessive pressure at the probe.

Probes below 2.5% methane

Many of the weekly measurements of probes continue to be below 2.5% methane. These include GMP-13D, GMP-13S, GMP-15D, GMP-15S, GMP-16D, GMP-16S, GMP-04D, GMP-06, GMP-07, GMP-08, GMP-09, GMP-10, GMP-11, GMP-12, GMP-5D, GMP-6D, GMP-7D, GMP-7S, TMP-1D, TMP-1M,TMP-3D, PZ-204-SS and PZ-204A-SS.

Quarterly-read probes

Sentry Probes currently being monitored on a quarterly basis are GMP-05, GMP-06, and GMP-07. In the most recent monitoring event (July 27, 2015), GMP-05 showed elevated methane measurements, while GMP-06 and GMP-07 were below 2.5% methane. Sentry Probe GMP-04 was decommissioned in March 2014. Although Compliance Probe GMP-08 was listed as a quarterly-read probe, it has been monitored more frequently during this monitoring period. It has exhibited methane readings all below 2.5% threshold.

Data Review

A review of the probe readings for this reporting period shows a general overall decrease in methane levels. The overall number of probes exceeding the 2.5% methane by volume decreased this quarter compared to last. Further, GMP-09 has remained in compliance since May of 2015.

3.0 RECENT GAS MIGRATION CONTROL EFFORTS

The July 2013 CAP and subsequent quarterly updates provided an overview of several ongoing and planned measures that should ultimately reduce gas migration. The following are gas migration control efforts initiated or completed in the third quarter of 2015.

Leachate Conveyance System

The southeast lift station and grit chamber structures have been installed and are fully operational. These were constructed in conjunction with the Phase A 18 inch landfill gas system upgrades.

General LFG System Modifications and Improvements:

The following improvements have been completed or initiated in the South Quarry at the Bridgeton Landfill:

- Operational efforts to increase vacuum and the effectiveness of landfill gas extraction to GEWs in the northeast corner of the south quarry. This includes, but is not limited to, the installation of a Phase C 18" Landfill Gas Header Pipe. This installation improved the drainage of condensate in the gas header system and increased the effective system vacuum in this area.

- Continued operation and monitoring of the landfill gas extraction system adjacent to Metropolitan Sewer District lift station just southwest of the south quarry.

- The installation of Phase A, B and C 18" Landfill Gas Header Piping. This improvement included over 2,500 ft. of new 18" HDPE piping to be utilized as landfill gas header. This improvement increased the overall system vacuum available for approximately half of the south quarry. Nearly every gas extraction point, perimeter extraction point, interceptor trench point and laterals connected to the new 18" header were improved. These improvements included increasing drainage for condensate management within laterals and multiple upgrades to the aforementioned connections. The location of the new header is presented graphically in **Appendix D**.

- The installation of two new liquid extraction sumps connected to previously installed landfill gas interceptor trenches located on the south and southwest sides of the south quarry. These sumps were installed to increase the capacity for liquid removal and thus increase the efficiency of landfill gas extraction. The as-built drawings documenting this construction has been included as **Appendix E**.

Leachate Pretreatment Facility:

The leachate pretreatment facility continued operation during the third quarter of 2015.

4.0 PROPOSED AND ONGOING GAS MIGRATION CONTROL EFFORTS

In addition to the recently-implemented measures discussed above, the following on-going efforts are in progress:

- Continue the operational evaluation on the northeast portion of the south quarry pursuant to addition of Phase C 18 inch header system upgrade. This improvement was installed to increase the system vacuum available in this area.

- The BL will continue the evaluation to expand the existing Perimeter Extraction System. The BL will monitor the effect of the two recently installed liquid removal sumps on the southwest and south side of the south quarry (**Attachment E**). Pursuant to the results of this monitoring, the BL will continue to evaluate the use of additional technology to control gas migration.

- The BL is planning the continued expansion of the 18" landfill gas header system (Phase D). This is designed to promote condensate drainage and enhance the system vacuum on the north side of the south quarry. The plan location for Phase D is shown in **Attachment D**.

- The BL will continue to intensely monitor the effects of the vast completed and on-going system improvements directly and indirectly related to landfill gas migration control.

5.0 CONTINUED MONITORING AND REPORTING

Bridgeton Landfill will continue with gas probe monitoring and reporting as specified in Section 5.0 of the July 2013 CAP. Therefore, the next update is proposed to be included in the January 15, 2015 quarterly report update.

TABLE 1

LIST OF LANDFILL GAS MONITORING PROBES

Bridgeton Landfill
Landfill Gas Monitoring Probes
July 2013

ID	CSV ID	POINT NAME	Ref Boring/installation Record	Type	Current Monitoring Frequency
GMP-01	BRIGMP01	MP01	GMP-01	Compliance probe	weekly
GMP-02	BRIGMP02	MP02	GMP-02	Compliance probe	weekly
GMP-03	BRIGMP03	MP03	GMP-03	Compliance probe	weekly
GMP-04*	BRIGMP04	MP04	GMP-04	Sentry probe	quarterly
GMP-05	BRIGMP05	MP05	GMP-05	Sentry probe	quarterly
GMP-06	BRIGMP06	MP06	PZ-201-SS	Sentry probe	quarterly
GMP-07	BRIGMP07	MP07	PZ-200-SS	Sentry probe	quarterly
GMP-08	BRIGMP08	MP08	GMP-08	Compliance probe	quarterly
GMP-09	BRIGMP09	MP09	GMP-09	Public Safety Probe	weekly
GMP-10	BRIGMP10	MP10	GMP-10	Public Safety Probe	weekly
GMP-11	BRIGMP11	MP11	GMP-11	Public Safety Probe	weekly
GMP-12	BRIGMP12	MP12	GMP-12	Public Safety Probe	weekly
GMP-4S	BRIGMP4S	BRIGMP4S	GMP-04	Compliance nested probe	weekly
GMP-4D	BRIGMP4D	BRIGMP4D	GMP-04	Compliance nested probe	weekly
GMP-5S	BRIGMP5S	BRIGMP5S	GMP-05	Compliance nested probe	weekly
GMP-5D	BRIGMP5D	BRIGMP5D	GMP-05	Compliance nested probe	weekly
GMP-6S	BRIGMP6S	BRIGMP6S	GMP-06	Compliance nested probe	weekly
GMP-6D	BRIGMP6D	BRIGMP6D	GMP-06	Compliance nested probe	weekly
GMP-7S	BRIGMP7S	BRIGMP7S	GMP-07	Compliance nested probe	weekly
GMP-7D	BRIGMP7D	BRIGMP7D	GMP-07	Compliance nested probe	weekly
GMP-13S	BRGMP13S	BRGMP13S	GMP-13	Compliance nested probe	weekly
GMP-13D	BRGMP13D	BRGMP13D	GMP-13	Compliance nested probe	weekly
GMP-14S	BRGMP14S	BRGMP14S	GMP-14	Compliance nested probe	weekly
GMP-14D	BRGMP14D	BRGMP14D	GMP-14	Compliance nested probe	weekly
GMP-15S	BRGMP15S	BRGMP15S	GMP-15	Compliance nested probe	weekly
GMP-15D	BRGMP15D	BRGMP15D	GMP-15	Compliance nested probe	weekly
GMP-16S	BRGMP16S	BRGMP16S	GMP-16	Compliance nested probe	weekly
GMP-16D	BRGMP16D	BRGMP16D	GMP-16	Compliance nested probe	weekly
TMP-1S	BRITMP1S	BRITMP1S	TMP-01	Investigative nested probe	weekly
TMP-1M	BRITMP1M	BRITMP1M	TMP-01	Investigative nested probe	weekly
TMP-1D	BRITMP1D	BRITMP1D	TMP-01	Investigative nested probe	weekly
TMP-2S	BRITMP2S	BRITMP2S	TMP-02	Investigative nested probe	weekly
TMP-2M	BRITMP2M	BRITMP2M	TMP-02	Investigative nested probe	weekly
TMP-2D	BRITMP2D	BRITMP2D	TMP-02	Investigative nested probe	weekly
TMP-3S	BRITMP3S	BRITMP3S	TMP-03	Investigative nested probe	weekly
TMP-3M	BRITMP3M	BRITMP3M	TMP-03	Investigative nested probe	weekly
TMP-3D	BRITMP3D	BRITMP3D	TMP-03	Investigative nested probe	weekly
PZ-204-SS	PZ2040SS	4OSS	PZ-204-SS	Public Safety Probe	weekly
PZ-204A-SS	PZ204ASS	4ASS	PZ-204-ASS	Public Safety Probe	weekly

* Well has been decommissioned

TABLE 2

COMPLIANCE GAS MONITORING PROBE DATA

JUNE 26, 2015 – SEPTEMBER 28, 2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-16D	weekly	1	7/1/2015	0	3.1	11.3	85.6	30	0.56
GMP-16D	weekly	1	7/6/2015	0	3.1	11.8	85.1	30	0.16
GMP-16D	weekly	1	7/13/2015	0	3.2	13.9	82.9	30	2.84
GMP-16D	weekly	1	7/20/2015	0	0.2	15.7	84.1	30	3.05
GMP-16D	weekly	1	7/27/2015	0	0.1	19.3	80.6	30	0.01
GMP-16D	weekly	1	8/3/2015	0	0.4	20.4	79.2	30	-0.4
GMP-16D	weekly	1	8/9/2015	0	0.4	20.4	79.2	30	5.98
GMP-16D	weekly	1	8/17/2015	0	1.1	19.3	79.6	30	0.03
GMP-16D	weekly	1	8/24/2015	0	0.8	19.4	79.8	30	0
GMP-16D	weekly	1	8/31/2015	0	0.1	20	79.9	30	0
GMP-16D	weekly	1	9/8/2015	0	0.1	19.8	80.1	30	0.01
GMP-16D	weekly	1	9/16/2015	0	0.4	20	79.6	30	-0.02
GMP-16D	weekly	1	9/21/2015	0	0.1	20.1	79.8	30	-0.26
GMP-16D	weekly	1	9/28/2015	0	0.1	18.8	81.1	30	0.03
GMP-16S	weekly	1	7/1/2015	0	0.2	20.9	78.9	30	-0.02
GMP-16S	weekly	1	7/6/2015	0	0.2	20.2	79.6	30	0.3
GMP-16S	weekly	1	7/13/2015	0	0.2	21.1	78.7	30	2.03
GMP-16S	weekly	1	7/20/2015	0	0.2	19.9	79.9	30	0.16
GMP-16S	weekly	1	7/27/2015	0	0.1	20.8	79.1	30	0
GMP-16S	weekly	1	8/3/2015	0	0.4	21.5	78.1	30	0.07
GMP-16S	weekly	1	8/9/2015	0	0.1	21.6	78.3	30	0.27
GMP-16S	weekly	1	8/17/2015	0	0.2	20.7	79.1	30	0
GMP-16S	weekly	1	8/24/2015	0	0.3	20.8	78.9	30	0.07
GMP-16S	weekly	1	8/31/2015	0	0.1	20.7	79.2	30	-0.01
GMP-16S	weekly	1	9/8/2015	0	0.1	20.1	79.8	30	0.01
GMP-16S	weekly	1	9/16/2015	0	0.1	20.4	79.5	30	0
GMP-16S	weekly	1	9/21/2015	0	0.2	20.5	79.3	30	-0.01
GMP-16S	weekly	1	9/28/2015	0	0.1	20.3	79.6	30	-0.01
GMP-08	quarterly	1	7/1/2015	0	1.8	15.8	82.4	30	0.02
GMP-08	quarterly	1	7/6/2015	0	1.7	15.5	82.8	30	0.05
GMP-08	quarterly	1	7/13/2015	0	14.5	3.3	82.2	30	0.02
GMP-08	quarterly	1	7/20/2015	0	13.9	4.4	81.7	30	0.03
GMP-08	quarterly	1	7/27/2015	0	1.3	14.9	83.8	30	-0.05
GMP-08	quarterly	1	8/3/2015	0	0.2	18.9	80.9	30	-0.01

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-08	quarterly	1	8/9/2015	0	13	5	82	30	0.02
GMP-08	quarterly	1	8/17/2015	0	1.2	17.3	81.5	30	0.01
GMP-08	quarterly	1	8/24/2015	0	13.6	4.8	81.6	30	0.02
GMP-08	quarterly	1	8/31/2015	0	1.9	12.1	86	30	0.01
GMP-08	quarterly	1	9/8/2015	0	1	16.3	82.7	30	0
GMP-08	quarterly	1	9/16/2015	0	14.5	5.6	79.9	30	0
GMP-08	quarterly	1	9/21/2015	0	0.1	19.7	80.2	30	0.01
GMP-08	quarterly	1	9/28/2015	0	0.1	19.7	80.2	30	0.02
GMP-7D	weekly	1	7/1/2015	0	0.8	20.9	78.3	30	0.01
GMP-7D	weekly	1	7/6/2015	0	0.3	20.3	79.4	30	0.01
GMP-7D	weekly	1	7/13/2015	0	0.2	21.6	78.2	30	0.01
GMP-7D	weekly	1	7/20/2015	0	1	20	79	30	0.01
GMP-7D	weekly	1	7/27/2015	0	0.6	20.7	78.7	30	-0.01
GMP-7D	weekly	1	8/3/2015	0	1.7	21.1	77.2	30	0
GMP-7D	weekly	1	8/9/2015	0	0.9	21.5	77.6	30	0.02
GMP-7D	weekly	1	8/17/2015	0	0.9	20.4	78.7	30	0.01
GMP-7D	weekly	1	8/24/2015	0	0.9	20.7	78.4	30	0.01
GMP-7D	weekly	1	8/31/2015	0	0.5	20.5	79	30	0
GMP-7D	weekly	1	9/8/2015	0	0.5	20.1	79.4	30	0.04
GMP-7D	weekly	1	9/16/2015	0	0.1	20.5	79.4	30	0
GMP-7D	weekly	1	9/21/2015	0	0.9	20.2	78.9	30	0.01
GMP-7D	weekly	1	9/28/2015	0	0.3	20.3	79.4	30	0.01
GMP-7S	weekly	1	7/1/2015	0	2.4	3	94.6	30	0
GMP-7S	weekly	1	7/6/2015	0	2.5	3.8	93.7	30	0
GMP-7S	weekly	1	7/13/2015	0	2.3	3.3	94.4	30	-0.01
GMP-7S	weekly	1	7/20/2015	0	2.9	2.2	94.9	30	13.11
GMP-7S	weekly	1	7/27/2015	0	2.8	4.8	92.4	30	0
GMP-7S	weekly	1	8/3/2015	0	1.8	5.7	92.5	30	0
GMP-7S	weekly	1	8/9/2015	0	2.8	4.4	92.8	30	0
GMP-7S	weekly	1	8/17/2015	0	2.4	5.3	92.3	30	0.01
GMP-7S	weekly	1	8/24/2015	0	3.7	2.9	93.4	30	0.01
GMP-7S	weekly	1	8/31/2015	0	3.3	5.3	91.4	30	0
GMP-7S	weekly	1	9/8/2015	0	3.2	5.4	91.4	30	0
GMP-7S	weekly	1	9/16/2015	0	3.5	4.7	91.8	30	0

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-7S	weekly	1	9/21/2015	0	1.2	5.4	93.4	30	0
GMP-7S	weekly	1	9/28/2015	0	3.4	4.7	91.9	30	0
GMP-15D	weekly	2	7/1/2015	0	0.4	20.7	78.9	30	0.1
GMP-15D	weekly	2	7/6/2015	0	0.4	19.8	79.8	30	0.1
GMP-15D	weekly	2	7/13/2015	0	0.3	21.2	78.5	30	0.01
GMP-15D	weekly	2	7/20/2015	0	0.3	19.9	79.8	30	0.13
GMP-15D	weekly	2	7/27/2015	0	0.1	20.7	79.2	30	-0.13
GMP-15D	weekly	2	8/3/2015	0	0.1	21.5	78.4	30	-0.06
GMP-15D	weekly	2	8/9/2015	0	0.3	21.4	78.3	30	0.01
GMP-15D	weekly	2	8/17/2015	0	0.3	20.5	79.2	30	0.04
GMP-15D	weekly	2	8/24/2015	0	0.2	20.8	79	30	0.03
GMP-15D	weekly	2	8/31/2015	0	0.1	20.6	79.3	30	0.03
GMP-15D	weekly	2	9/8/2015	0	0	20.3	79.7	30	0
GMP-15D	weekly	2	9/16/2015	0	0.3	20.4	79.3	30	-0.02
GMP-15D	weekly	2	9/21/2015	0	0.1	20.5	79.4	30	0.04
GMP-15D	weekly	2	9/28/2015	0	0.1	20.3	79.6	30	0.03
GMP-15S	weekly	2	7/1/2015	0	0.8	20.8	78.4	30	0.03
GMP-15S	weekly	2	7/6/2015	0	0.9	19.9	79.2	30	0.04
GMP-15S	weekly	2	7/13/2015	0	0.5	21.3	78.2	30	0.02
GMP-15S	weekly	2	7/20/2015	0	0.7	19.9	79.4	30	0.04
GMP-15S	weekly	2	7/27/2015	0	0.1	20.8	79.1	30	-0.05
GMP-15S	weekly	2	8/3/2015	0	0.3	21.5	78.2	30	-0.01
GMP-15S	weekly	2	8/9/2015	0	0.7	21.3	78	30	0.04
GMP-15S	weekly	2	8/17/2015	0	0.5	20.6	78.9	30	0
GMP-15S	weekly	2	8/24/2015	0	0.3	20.8	78.9	30	0.03
GMP-15S	weekly	2	8/31/2015	0	0.2	20.7	79.1	30	0.04
GMP-15S	weekly	2	9/8/2015	0	0	20.4	79.6	30	0.01
GMP-15S	weekly	2	9/16/2015	0	0	19.1	80.9	30	0
GMP-15S	weekly	2	9/21/2015	0	0.1	20.5	79.4	30	0.03
GMP-15S	weekly	2	9/28/2015	0	0.3	20.3	79.4	30	0.02
GMP-14D	weekly	3	7/1/2015	61.8	22.9	3	12.3	30	4.21
GMP-14D	weekly	3	7/6/2015	60.1	23.2	3	13.7	30	3.33
GMP-14D	weekly	3	7/13/2015	48.8	18.2	6.4	26.6	30	3.41
GMP-14D	weekly	3	7/20/2015	51.3	20.2	5.7	22.8	30	3.56

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-14D	weekly	3	7/27/2015	52.9	20.4	5.6	21.1	30	1.06
GMP-14D	weekly	3	8/3/2015	49.3	19.2	6.4	25.1	30	1.76
GMP-14D	weekly	3	8/9/2015	46.7	16.2	7.5	29.6	30	0.98
GMP-14D	weekly	3	8/17/2015	44.9	18.3	7.5	29.3	30	1.9
GMP-14D	weekly	3	8/24/2015	41.3	15.6	8.7	34.4	30	0.01
GMP-14D	weekly	3	8/31/2015	44.9	18.2	7.8	29.1	30	2.28
GMP-14D	weekly	3	9/8/2015	38.5	15.7	9.8	36	30	1.92
GMP-14D	weekly	3	9/16/2015	40	17.4	8.6	34	30	1.92
GMP-14D	weekly	3	9/21/2015	42.8	17.8	7.8	31.6	30	2.07
GMP-14D	weekly	3	9/28/2015	45.4	19.4	6.8	28.4	30	1.83
GMP-14S	weekly	3	7/1/2015	27.5	9.4	12.8	50.3	30	-0.02
GMP-14S	weekly	3	7/6/2015	24.2	8.4	13.4	54	30	0
GMP-14S	weekly	3	7/13/2015	19.8	6.4	15.2	58.6	30	0
GMP-14S	weekly	3	7/20/2015	36.6	12.4	9.7	41.3	30	0
GMP-14S	weekly	3	7/27/2015	16.4	6.8	14.8	62	30	0
GMP-14S	weekly	3	8/3/2015	11.3	4.9	16.9	66.9	30	0
GMP-14S	weekly	3	8/9/2015	6.6	4	18	71.4	30	0
GMP-14S	weekly	3	8/17/2015	6.9	3.9	17.5	71.7	30	0
GMP-14S	weekly	3	8/24/2015	11.1	5.8	16.2	66.9	30	1.96
GMP-14S	weekly	3	8/31/2015	8.7	3.9	16.8	70.6	30	0
GMP-14S	weekly	3	9/8/2015	2.3	1.1	19	77.6	30	0.01
GMP-14S	weekly	3	9/16/2015	7.6	3.6	16.8	72	30	0
GMP-14S	weekly	3	9/21/2015	4.6	2	18.3	75.1	30	0
GMP-14S	weekly	3	9/28/2015	17.2	7.4	14.7	60.7	30	-0.01
GMP-4D	weekly	3	7/1/2015	0.1	0.6	20.7	78.6	30	-0.04
GMP-4D	weekly	3	7/6/2015	0.1	0.5	20.3	79.1	30	-0.12
GMP-4D	weekly	3	7/13/2015	0.2	0.3	21	78.5	30	-0.03
GMP-4D	weekly	3	7/20/2015	0.1	0.6	20.2	79.1	30	-0.01
GMP-4D	weekly	3	7/27/2015	0.2	1.2	20.2	78.4	30	0.01
GMP-4D	weekly	3	8/3/2015	0.2	0.3	21.4	78.1	30	-0.01
GMP-4D	weekly	3	8/9/2015	0.1	0.5	21.4	78	30	0.01
GMP-4D	weekly	3	8/17/2015	0.1	0.6	20.4	78.9	30	0.02
GMP-4D	weekly	3	8/24/2015	0.1	0.6	20.7	78.6	30	0.01
GMP-4D	weekly	3	8/31/2015	0.1	0.2	20.3	79.4	30	0.01

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-4D	weekly	3	9/8/2015	0	0	20.2	79.8	30	0.03
GMP-4D	weekly	3	9/16/2015	0	0.2	20.2	79.6	30	0.02
GMP-4D	weekly	3	9/21/2015	0	0.4	20.3	79.3	30	0.01
GMP-4D	weekly	3	9/28/2015	0	0.2	20.3	79.5	30	0
GMP-4S	weekly	3	7/1/2015	24.9	10.4	12.7	52	30	0.05
GMP-4S	weekly	3	7/6/2015	31.3	12.1	10.5	46.1	30	-0.01
GMP-4S	weekly	3	7/13/2015	33.5	11.2	10.3	45	30	0
GMP-4S	weekly	3	7/20/2015	29.4	10.7	11.2	48.7	30	0
GMP-4S	weekly	3	7/27/2015	19.6	6.5	15	58.9	30	0
GMP-4S	weekly	3	8/3/2015	17.8	6.2	15.9	60.1	30	0.01
GMP-4S	weekly	3	8/9/2015	11.2	4.2	17.6	67	30	0
GMP-4S	weekly	3	8/17/2015	11	4.3	16.9	67.8	30	0
GMP-4S	weekly	3	8/24/2015	13.9	5.2	16.3	64.6	30	0.02
GMP-4S	weekly	3	8/31/2015	11.2	4	16.7	68.1	30	0
GMP-4S	weekly	3	9/8/2015	0.9	0.4	19.8	78.9	30	0.01
GMP-4S	weekly	3	9/16/2015	4.5	2.5	18.4	74.6	30	0
GMP-4S	weekly	3	9/21/2015	2.5	1.5	19.4	76.6	30	0.01
GMP-4S	weekly	3	9/28/2015	2.3	1.2	19.4	77.1	30	0
GMP-5D	weekly	3	7/1/2015	0.2	3.3	20.1	76.4	30	0.04
GMP-5D	weekly	3	7/6/2015	0.1	2.3	19.9	77.7	30	-0.13
GMP-5D	weekly	3	7/13/2015	0.1	2.2	20.8	76.9	30	0.01
GMP-5D	weekly	3	7/20/2015	0.1	2.1	19.8	78	30	0
GMP-5D	weekly	3	7/27/2015	0.2	3.2	20.1	76.5	30	0.02
GMP-5D	weekly	3	8/3/2015	0.2	1.4	21.1	77.3	30	0.02
GMP-5D	weekly	3	8/9/2015	0.1	1.5	21.4	77	30	0.03
GMP-5D	weekly	3	8/17/2015	0.1	1.2	20.2	78.5	30	0.02
GMP-5D	weekly	3	8/24/2015	0.1	2.8	20.4	76.7	30	0.04
GMP-5D	weekly	3	8/31/2015	0.3	2.1	20	77.6	30	0.01
GMP-5D	weekly	3	9/8/2015	0.1	0.9	20	79	30	0.02
GMP-5D	weekly	3	9/16/2015	0.3	2.6	19.4	77.7	30	0.01
GMP-5D	weekly	3	9/21/2015	0.3	1.9	19.3	78.5	30	0.03
GMP-5D	weekly	3	9/28/2015	0.5	1.8	19.2	78.5	30	0.01
GMP-5S	weekly	3	7/1/2015	31.9	18.9	10	39.2	30	0.28
GMP-5S	weekly	3	7/6/2015	34.6	20.8	7.9	36.7	30	0.24

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Gas Monitoring Probe Data - Compliance Probes
06/26/2015 - 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-5S	weekly	3	7/13/2015	28.8	16.3	11.1	43.8	30	0.18
GMP-5S	weekly	3	7/20/2015	26.7	15.6	11.2	46.5	30	0.17
GMP-5S	weekly	3	7/27/2015	39.1	21.9	7.9	31.1	30	0.23
GMP-5S	weekly	3	8/3/2015	27.8	15.9	11.4	44.9	30	0.15
GMP-5S	weekly	3	8/9/2015	35.1	19.8	8.6	36.5	30	0.24
GMP-5S	weekly	3	8/17/2015	34.9	20.6	8.2	36.3	30	0.51
GMP-5S	weekly	3	8/24/2015	33.5	18.3	8.8	39.4	30	0.28
GMP-5S	weekly	3	8/31/2015	35	21	8.5	35.5	30	0.35
GMP-5S	weekly	3	9/8/2015	29	16.6	10.7	43.7	30	0.6
GMP-5S	weekly	3	9/16/2015	25.3	16.1	11.6	47	30	0.35
GMP-5S	weekly	3	9/21/2015	33.8	20.1	8.7	37.4	30	0.39
GMP-5S	weekly	3	9/28/2015	31.5	18.5	9.9	40.1	30	0.63
GMP-6D	weekly	3	7/1/2015	0.2	1.3	20.2	78.3	30	0.08
GMP-6D	weekly	3	7/6/2015	0	0	19.9	80.1	30	-0.1
GMP-6D	weekly	3	7/13/2015	0.1	0.3	21.2	78.4	30	0.01
GMP-6D	weekly	3	7/20/2015	0.3	0.2	20	79.5	30	0
GMP-6D	weekly	3	7/27/2015	0.7	0.2	20.3	78.8	30	-0.03
GMP-6D	weekly	3	8/3/2015	1.4	0.2	20.8	77.6	30	0.02
GMP-6D	weekly	3	8/9/2015	1.6	0.3	21	77.1	30	0.01
GMP-6D	weekly	3	8/17/2015	1.3	0.2	20	78.5	30	0.02
GMP-6D	weekly	3	8/24/2015	1.5	0.3	20.1	78.1	30	0.04
GMP-6D	weekly	3	8/31/2015	0.8	0.1	20.1	79	30	0.01
GMP-6D	weekly	3	9/8/2015	0.6	0.1	20.3	79	30	0
GMP-6D	weekly	3	9/16/2015	0.8	0.1	20	79.1	30	0
GMP-6D	weekly	3	9/21/2015	1	0.1	20	78.9	30	0
GMP-6D	weekly	3	9/28/2015	0.9	0.1	19.9	79.1	30	0.01
GMP-6S	weekly	3	7/1/2015	3.1	3.2	6.7	87	30	0.1
GMP-6S	weekly	3	7/6/2015	3.5	1.7	13.1	81.7	30	0.02
GMP-6S	weekly	3	7/13/2015	15	1.6	11.4	72	30	0.12
GMP-6S	weekly	3	7/20/2015	21.5	0.9	10.9	66.7	30	0.13
GMP-6S	weekly	3	7/27/2015	25.8	0.9	10.2	63.1	30	0.23
GMP-6S	weekly	3	8/3/2015	26.3	0.8	11.3	61.6	30	0.43
GMP-6S	weekly	3	8/9/2015	28.2	0.9	10.4	60.5	30	0.28
GMP-6S	weekly	3	8/17/2015	24.9	0.8	11	63.3	30	0.3

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-6S	weekly	3	8/24/2015	26	1.1	10.3	62.6	30	0.32
GMP-6S	weekly	3	8/31/2015	25	0.9	10.8	63.3	30	0.31
GMP-6S	weekly	3	9/8/2015	22.4	0.6	12.1	64.9	30	0.24
GMP-6S	weekly	3	9/16/2015	26.3	1	10.2	62.5	30	0.23
GMP-6S	weekly	3	9/21/2015	28.3	1	9.3	61.4	30	0.22
GMP-6S	weekly	3	9/28/2015	27	0.9	10.4	61.7	30	0.22
GMP-13D	weekly	4	7/1/2015	0	0.2	20.9	78.9	30	0.04
GMP-13D	weekly	4	7/6/2015	0	0.4	20.3	79.3	30	0.01
GMP-13D	weekly	4	7/13/2015	0	0.2	21.2	78.6	30	0.01
GMP-13D	weekly	4	7/20/2015	0	0.4	20.3	79.3	30	0.03
GMP-13D	weekly	4	7/27/2015	0	0.4	20.7	78.9	30	0.03
GMP-13D	weekly	4	8/3/2015	0.1	0.4	21.4	78.1	30	0.03
GMP-13D	weekly	4	8/9/2015	0	0.2	21.7	78.1	30	0.01
GMP-13D	weekly	4	8/17/2015	0	0.8	20.3	78.9	30	0.03
GMP-13D	weekly	4	8/24/2015	0.1	0.9	20.7	78.3	30	0.04
GMP-13D	weekly	4	8/31/2015	0	0.7	20.2	79.1	30	0.02
GMP-13D	weekly	4	9/8/2015	0	0.3	20.4	79.3	30	0.03
GMP-13D	weekly	4	9/16/2015	0	0.9	20.1	79	30	0.01
GMP-13D	weekly	4	9/21/2015	0	0.2	20.5	79.3	30	0.02
GMP-13D	weekly	4	9/28/2015	0	0.4	20.4	79.2	30	0.02
GMP-13S	weekly	4	7/1/2015	0	0.3	21	78.7	30	-0.01
GMP-13S	weekly	4	7/6/2015	0.1	0.8	20.4	78.7	30	-0.01
GMP-13S	weekly	4	7/13/2015	0.1	0.7	21.2	78	30	0
GMP-13S	weekly	4	7/20/2015	0	1	20.3	78.7	30	0
GMP-13S	weekly	4	7/27/2015	0.1	1.5	20.6	77.8	30	0
GMP-13S	weekly	4	8/3/2015	0.2	1.2	21.4	77.2	30	0
GMP-13S	weekly	4	8/9/2015	0	0.3	21.8	77.9	30	0
GMP-13S	weekly	4	8/17/2015	0.1	1.8	16.3	81.8	30	0
GMP-13S	weekly	4	8/24/2015	0.1	2.1	19.6	78.2	30	0.01
GMP-13S	weekly	4	8/31/2015	0.1	2	13.8	84.1	30	0
GMP-13S	weekly	4	9/8/2015	0	2.5	12.5	85	30	0
GMP-13S	weekly	4	9/16/2015	0	3	13.3	83.7	30	0.01
GMP-13S	weekly	4	9/21/2015	0.1	5.6	8	86.3	30	0
GMP-13S	weekly	4	9/28/2015	0.1	4.9	7.5	87.5	30	0

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Bridgeton Landfill

Gas Monitoring Probe Data - Compliance Probes
06/26/2015 - 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-01	weekly	4	7/1/2015	20.7	16.2	13.2	49.9	30	-0.04
GMP-01	weekly	4	7/6/2015	10.9	8.6	15.8	64.7	30	0.06
GMP-01	weekly	4	7/13/2015	7.6	6.8	18	67.6	30	0.01
GMP-01	weekly	4	7/20/2015	6.9	5.8	17.3	70	30	0.04
GMP-01	weekly	4	7/27/2015	4.3	6.7	18.2	70.8	30	0.06
GMP-01	weekly	4	8/3/2015	2.5	2.2	19.1	76.2	30	0.01
GMP-01	weekly	4	8/9/2015	5.1	2.4	19.3	73.2	30	0
GMP-01	weekly	4	8/17/2015	0.8	0.7	20.4	78.1	30	0
GMP-01	weekly	4	8/24/2015	0.2	0.3	21.4	78.1	30	0
GMP-01	weekly	4	8/31/2015	0.1	0.4	20.7	78.8	30	0.01
GMP-01	weekly	4	9/8/2015	0.3	0.8	20	78.9	30	0.02
GMP-01	weekly	4	9/16/2015	0	0	20.6	79.4	30	0
GMP-01	weekly	4	9/21/2015	0	0.1	20.7	79.2	30	0
GMP-01	weekly	4	9/28/2015	0	0.2	20.9	78.9	30	0
GMP-02	weekly	4	7/1/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	7/6/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	7/13/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	7/20/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	7/27/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	8/3/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	8/9/2015	NR	NR	NR	NR	NR	NR
GMP-02	weekly	4	8/18/2015	0.1	0.2	21.2	78.5	NR	NR
GMP-02	weekly	4	8/24/15	0.1	0	21.2	78.7	30	-0.48
GMP-02	weekly	4	8/31/15	0.1	0	20.5	79.4	30	-0.55
GMP-02	weekly	4	9/8/15	0	0	20.2	79.8	30	-0.11
GMP-02	weekly	4	9/16/15	0	0	20.2	79.8	30	-0.86
GMP-02	weekly	4	9/21/15	0	0	20.4	79.6	30	-0.46
GMP-02	weekly	4	9/28/15	0.1	0	20.2	79.7	30	-1.39
GMP-03	weekly	4	7/1/15	23.6	30.2	8.1	38.1	30	13.96
GMP-03	weekly	4	7/6/15	28.9	35.6	6.8	28.7	30	13.96
GMP-03	weekly	4	7/13/15	14	14.2	15.2	56.6	30	5.55
GMP-03	weekly	4	7/20/15	25.1	36.4	7.6	30.9	30	10.3
GMP-03	weekly	4	7/27/15	29.9	41.8	5.7	22.6	30	8.84
GMP-03	weekly	4	8/3/15	37.5	46.4	2.4	13.7	30	6.95

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-03	weekly	4	8/9/15	33.3	42.8	4.1	19.8	30	5.61
GMP-03	weekly	4	8/17/15	40.7	52.5	0	6.8	30	0.22
GMP-03	weekly	4	8/24/15	35.5	44.5	3	17	30	2.09
GMP-03	weekly	4	8/31/15	39.3	48.5	1.2	11	30	1.15
GMP-03	weekly	4	9/8/15	42.2	53.4	0	4.4	30	0.25
GMP-03	weekly	4	9/16/15	42.5	52.2	0	5.3	30	0.24
GMP-03	weekly	4	9/21/15	36.2	50.2	0	13.6	30	0.25
GMP-03	weekly	4	9/28/15	35.2	48.6	0	16.2	30	0.2

NR = No Reading

Note: NR in GMP-02 is due to excessive pressure.

TABLE 3

SENTRY GAS MONITORING PROBE DATA

JUNE 26, 2015 – SEPTEMBER 28, 2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-06	quarterly	1	7/27/2015	0	0.1	20.8	79.1	30	-0.02
GMP-07	quarterly	1	7/27/2015	0	5.3	17.2	77.5	30	0
GMP-05	quarterly	3	7/27/2015	64.6	35.4	0	0	30	54.57

Note: GMP-04 has been decommissioned

TABLE 4

INVESTIGATIVE GAS MONITORING PROBE DATA

JUNE 26, 2015 – SEPTEMBER 28, 2015

Gas Monitoring Probe Data - Investigative Probes
06/26/2015- 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
TMP-1D	weekly	4	7/1/2015	0.1	0.8	21.1	78	30	-0.06
TMP-1D	weekly	4	7/6/2015	0.2	0.6	20.3	78.9	30	1.16
TMP-1D	weekly	4	7/13/2015	0.1	0.2	21.4	78.3	30	0.02
TMP-1D	weekly	4	7/20/2015	0.2	0.4	20.6	78.8	30	1.39
TMP-1D	weekly	4	7/27/2015	0.1	0.3	20.4	79.2	30	0.98
TMP-1D	weekly	4	8/3/2015	0.2	0.3	20.9	78.6	30	0.05
TMP-1D	weekly	4	8/9/2015	0.1	0.3	21.5	78.1	30	0.04
TMP-1D	weekly	4	8/17/2015	0.4	0.4	20.8	78.4	30	0.2
TMP-1D	weekly	4	8/24/2015	0.1	0.2	21.5	78.2	30	0.73
TMP-1D	weekly	4	8/31/2015	0.1	0.5	20.8	78.6	30	0.14
TMP-1D	weekly	4	9/8/2015	0	0.3	20.9	78.8	30	0.02
TMP-1D	weekly	4	9/16/2015	0	0	20.7	79.3	30	0.03
TMP-1D	weekly	4	9/21/2015	0.1	0.2	21	78.7	30	0.02
TMP-1D	weekly	4	9/28/2015	0.1	0.4	20.8	78.7	30	0.32
TMP-1M	weekly	4	7/1/2015	0.3	5.2	20.2	74.3	30	-0.04
TMP-1M	weekly	4	7/6/2015	0.2	1.6	20.2	78	30	-0.02
TMP-1M	weekly	4	7/13/2015	0.2	0.5	21.3	78	30	-0.04
TMP-1M	weekly	4	7/20/2015	0.2	1.6	20.5	77.7	30	-0.11
TMP-1M	weekly	4	7/27/2015	0.2	0.9	20.5	78.4	30	0.01
TMP-1M	weekly	4	8/3/2015	0.1	0.4	21	78.5	30	-0.02
TMP-1M	weekly	4	8/9/2015	0.2	0.7	21.4	77.7	30	-0.01
TMP-1M	weekly	4	8/17/2015	0.1	0.6	21	78.3	30	-0.03
TMP-1M	weekly	4	8/24/2015	0.1	0.8	21.4	77.7	30	-0.03
TMP-1M	weekly	4	8/31/2015	0.2	1.8	20.7	77.3	30	-0.03
TMP-1M	weekly	4	9/8/2015	0.1	1.9	20.6	77.4	30	-0.02
TMP-1M	weekly	4	9/16/2015	0.1	0.4	20.6	78.9	30	-0.02
TMP-1M	weekly	4	9/21/2015	0.1	0.4	21	78.5	30	-0.02
TMP-1M	weekly	4	9/28/2015	0.2	1.1	20.7	78	30	-0.02
TMP-1S	weekly	4	7/1/2015	48.4	46.2	0.2	5.2	30	0.23
TMP-1S	weekly	4	7/6/2015	48	47.7	0.2	4.1	30	0.17
TMP-1S	weekly	4	7/13/2015	50	44.7	0.2	5.1	30	0.19
TMP-1S	weekly	4	7/20/2015	50.2	46.4	0.1	3.3	30	0.18
TMP-1S	weekly	4	7/27/2015	52.2	47.8	0	0	30	0.07
TMP-1S	weekly	4	8/3/2015	49.8	45.1	0.2	4.9	30	0.04

NR = No Reading

Gas Monitoring Probe Data - Investigative Probes
06/26/2015- 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
TMP-1S	weekly	4	8/9/2015	51.1	43.9	0	5	30	0.15
TMP-1S	weekly	4	8/17/2015	50.2	46.4	0.1	3.3	30	0.07
TMP-1S	weekly	4	8/24/2015	49.3	44.1	0.6	6	30	0.25
TMP-1S	weekly	4	8/31/2015	49.6	46.6	0.2	3.6	30	0.06
TMP-1S	weekly	4	9/8/2015	48	49	0.2	2.8	30	0.03
TMP-1S	weekly	4	9/16/2015	48.2	48.1	0.1	3.6	30	0.06
TMP-1S	weekly	4	9/21/2015	48.4	47.3	0	4.3	30	0.04
TMP-1S	weekly	4	9/28/2015	47.7	48	0.1	4.2	30	0.03
TMP-2D	weekly	4	7/1/2015	2.2	1.6	20.5	75.7	30	0.06
TMP-2D	weekly	4	7/6/2015	3.3	1.9	19.3	75.5	30	0.1
TMP-2D	weekly	4	7/13/2015	2.1	0.9	20.9	76.1	30	0.05
TMP-2D	weekly	4	7/20/2015	1.5	0.8	20.1	77.6	30	0.05
TMP-2D	weekly	4	7/27/2015	2.5	2	19.6	75.9	30	0.03
TMP-2D	weekly	4	8/3/2015	2	1.4	20.6	76	30	0.05
TMP-2D	weekly	4	8/9/2015	1.3	1.4	21	76.3	30	0.02
TMP-2D	weekly	4	8/17/2015	1.1	0.8	20.4	77.7	30	0
TMP-2D	weekly	4	8/24/2015	0.7	0.8	21.3	77.2	30	0.03
TMP-2D	weekly	4	8/31/2015	0.9	0.6	20.2	78.3	30	0
TMP-2D	weekly	4	9/8/2015	0.6	0.4	20.5	78.5	30	0.02
TMP-2D	weekly	4	9/16/2015	0.3	0.2	20.3	79.2	30	0.01
TMP-2D	weekly	4	9/21/2015	0.8	0.8	20.3	78.1	30	0.01
TMP-2D	weekly	4	9/28/2015	0.7	0.6	20.4	78.3	30	0
TMP-2M	weekly	4	7/1/2015	2.4	1.5	20.5	75.6	30	-0.09
TMP-2M	weekly	4	7/6/2015	5	3.5	18.7	72.8	30	0.06
TMP-2M	weekly	4	7/13/2015	9	5.4	18.5	67.1	30	0.04
TMP-2M	weekly	4	7/20/2015	4.2	3.5	19.2	73.1	30	-0.07
TMP-2M	weekly	4	7/27/2015	10.5	8.5	16.9	64.1	30	0.13
TMP-2M	weekly	4	8/3/2015	11.9	10	17.2	60.9	30	0.08
TMP-2M	weekly	4	8/9/2015	0.9	0.6	21.2	77.3	30	-0.02
TMP-2M	weekly	4	8/17/2015	15	16.2	14.7	54.1	30	-0.03
TMP-2M	weekly	4	8/24/2015	3.6	4	20	72.4	30	-0.01
TMP-2M	weekly	4	8/31/2015	0.5	0.4	20.4	78.7	30	0.02
TMP-2M	weekly	4	9/8/2015	3.6	4.1	19.1	73.2	30	0.02
TMP-2M	weekly	4	9/16/2015	0	2.1	17.5	80.4	30	0

NR = No Reading

Gas Monitoring Probe Data - Investigative Probes
06/26/2015- 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
TMP-2M	weekly	4	9/21/2015	2	2.3	19.7	76	30	-0.02
TMP-2M	weekly	4	9/28/2015	2.4	3	19.6	75	30	0.01
TMP-2S	weekly	4	7/1/2015	59.3	37.8	0	2.9	30	0.01
TMP-2S	weekly	4	7/6/2015	56.3	39.1	0.1	4.5	30	0.01
TMP-2S	weekly	4	7/13/2015	58.8	35.8	0	5.4	30	0
TMP-2S	weekly	4	7/20/2015	56.5	37.9	0.2	5.4	30	0
TMP-2S	weekly	4	7/27/2015	57.6	42.4	0	0	30	0.01
TMP-2S	weekly	4	8/3/2015	54.4	42.3	0	3.3	30	0.02
TMP-2S	weekly	4	8/9/2015	59.4	35.1	0	5.5	30	0.01
TMP-2S	weekly	4	8/17/2015	0.1	3.6	13.3	83	30	0
TMP-2S	weekly	4	8/24/2015	0	2.2	15.1	82.7	30	0
TMP-2S	weekly	4	8/31/2015	0	1.7	17.1	81.2	30	0
TMP-2S	weekly	4	9/8/2015	0	4.5	12.9	82.6	30	0
TMP-2S	weekly	4	9/16/2015	0	0.7	18.9	80.4	30	0
TMP-2S	weekly	4	9/21/2015	46.2	40.4	0	13.4	30	0
TMP-2S	weekly	4	9/28/2015	48.6	45.5	0	5.9	30	0
TMP-3D	weekly	4	7/1/2015	1.5	1.4	20.6	76.5	30	-2.58
TMP-3D	weekly	4	7/6/2015	0.3	1.2	20.1	78.4	30	-2.71
TMP-3D	weekly	4	7/13/2015	0.1	0.4	21.3	78.2	30	-7.87
TMP-3D	weekly	4	7/20/2015	1.9	2.6	19.6	75.9	30	-0.78
TMP-3D	weekly	4	7/27/2015	0.1	0.7	20.4	78.8	30	-2.39
TMP-3D	weekly	4	8/3/2015	0.4	0.2	21.2	78.2	30	0.08
TMP-3D	weekly	4	8/9/2015	0.1	0.2	21.4	78.3	30	-3.2
TMP-3D	weekly	4	8/17/2015	0.5	0.4	20.6	78.5	30	-2.27
TMP-3D	weekly	4	8/24/2015	0.6	0.7	21.2	77.5	30	-3.55
TMP-3D	weekly	4	8/31/2015	0.2	0.4	20.6	78.8	30	-3.04
TMP-3D	weekly	4	9/8/2015	0.2	0.4	20.5	78.9	30	-1.92
TMP-3D	weekly	4	9/16/2015	0.4	0.4	20.2	79	30	-5.67
TMP-3D	weekly	4	9/21/2015	0.1	2.2	20.2	77.5	30	-7.99
TMP-3D	weekly	4	9/28/2015	0.1	0.4	20.6	78.9	30	-4.26
TMP-3M	weekly	4	7/1/2015	15.5	12.9	15.6	56	30	-0.24
TMP-3M	weekly	4	7/6/2015	17	11	14.2	57.8	30	-0.17
TMP-3M	weekly	4	7/13/15	5.4	3.4	19.7	71.5	30	-2.8
TMP-3M	weekly	4	7/20/15	15.7	13.2	15.1	56	30	1.03

NR = No Reading

Gas Monitoring Probe Data - Investigative Probes
06/26/2015- 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
TMP-3M	weekly	4	7/27/15	24.3	19.8	12.3	43.6	30	1.58
TMP-3M	weekly	4	8/3/15	22	18.3	13	46.7	30	-0.7
TMP-3M	weekly	4	8/9/15	6.3	4.3	19.4	70	30	0.06
TMP-3M	weekly	4	8/17/15	13.2	11	15.9	59.9	30	-2.22
TMP-3M	weekly	4	8/24/15	6.2	6.1	19.1	68.6	30	-2.17
TMP-3M	weekly	4	8/31/15	12.1	9.2	16.3	62.4	30	1.23
TMP-3M	weekly	4	9/8/15	7.5	6.1	18	68.4	30	0.12
TMP-3M	weekly	4	9/16/15	8.2	6	17.4	68.4	30	1.67
TMP-3M	weekly	4	9/21/15	28.2	24.7	9.8	37.3	30	1.12
TMP-3M	weekly	4	9/28/15	29.4	25.8	9.5	35.3	30	3.66
TMP-3S	weekly	4	7/1/15	52.8	43.7	0	3.5	30	6.59
TMP-3S	weekly	4	7/6/15	50.8	46.1	0	3.1	30	4.09
TMP-3S	weekly	4	7/13/15	34.1	31.9	6.3	27.7	30	3.84
TMP-3S	weekly	4	7/20/15	52.6	45.3	0	2.1	30	7.62
TMP-3S	weekly	4	7/27/15	54.7	45.3	0	0	30	2.96
TMP-3S	weekly	4	8/3/15	52.4	44.1	0	3.5	30	4.56
TMP-3S	weekly	4	8/9/15	52.6	43.1	0	4.3	30	3.34
TMP-3S	weekly	4	8/17/15	52.3	44.7	0	3	30	3.64
TMP-3S	weekly	4	8/24/15	54.2	42.8	0	3	30	6.77
TMP-3S	weekly	4	8/31/15	52.9	44	0.1	3	30	2.04
TMP-3S	weekly	4	9/8/15	28.9	25.1	9.5	36.5	30	2
TMP-3S	weekly	4	9/16/15	53.2	44.2	0	2.6	30	1.46
TMP-3S	weekly	4	9/21/15	50	39.1	1.4	9.5	30	-3.02
TMP-3S	weekly	4	9/28/15	26.6	20.9	10	42.5	30	-0.37

NR = No Reading

TABLE 5

PUBLIC SAFETY GAS MONITORING PROBE DATA

JUNE 26, 2015 – SEPTEMBER 28, 2015

Gas Monitoring Probe Data - Public Safety Probes
06/26/2015 - 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-09	weekly	4	7/1/2015	0.0	0.6	20.9	78.5	30	-0.03
GMP-09	weekly	4	7/6/2015	0.0	0.3	20.1	79.6	30	0.03
GMP-09	weekly	4	7/13/2015	0.0	0.4	21.1	78.5	30	0.06
GMP-09	weekly	4	7/20/2015	0.0	0.5	20.2	79.3	30	0.58
GMP-09	weekly	4	7/27/2015	0.0	0.4	20.2	79.4	30	0.05
GMP-09	weekly	4	8/3/2015	0.0	0.4	21.3	78.3	30	0
GMP-09	weekly	4	8/9/2015	0.1	0.1	21.6	78.2	30	-0.03
GMP-09	weekly	4	8/17/2015	0.0	0.2	20.6	79.2	30	0
GMP-09	weekly	4	8/24/2015	0.0	0.1	21.5	78.4	30	0.03
GMP-09	weekly	4	8/31/2015	0.0	0.1	20.6	79.3	30	0
GMP-09	weekly	4	9/8/2015	0.0	0.2	20.3	79.5	30	0.04
GMP-09	weekly	4	9/16/2015	0.0	0.1	20.2	79.7	30	0.01
GMP-09	weekly	4	9/21/2015	0.0	0.1	20.6	79.3	30	0.03
GMP-09	weekly	4	9/28/2015	0.0	0.1	20.6	79.3	30	0
GMP-10	weekly	4	7/1/2015	0.0	0.8	16.5	82.7	30	-3.17
GMP-10	weekly	4	7/6/2015	0.0	0.4	18.4	81.2	30	-4.48
GMP-10	weekly	4	7/13/2015	0.0	0.4	18.5	81.1	30	0.04
GMP-10	weekly	4	7/20/2015	0.0	0.4	18.7	80.9	30	-0.43
GMP-10	weekly	4	7/27/2015	0.0	0.2	19.9	79.9	30	0.02
GMP-10	weekly	4	8/3/2015	0.0	0.3	20.7	79	30	-0.05
GMP-10	weekly	4	8/9/2015	0.0	0.1	21.6	78.3	30	-5.24
GMP-10	weekly	4	8/17/2015	0.0	0.3	19.1	80.6	30	-4.8
GMP-10	weekly	4	8/24/2015	0.0	0.3	19.8	79.9	30	-0.02
GMP-10	weekly	4	8/31/2015	0.0	0.3	19.3	80.4	30	0
GMP-10	weekly	4	9/8/2015	0.0	0.1	20.2	79.7	30	0.17
GMP-10	weekly	4	9/16/2015	0.0	0.1	19.2	80.7	30	0.03
GMP-10	weekly	4	9/21/2015	0.0	0.1	19.6	80.3	30	0.32
GMP-10	weekly	4	9/28/2015	0.0	0	20.5	79.5	30	0
GMP-11	weekly	4	7/1/2015	0.0	0.1	21.1	78.8	30	0
GMP-11	weekly	4	7/6/2015	0.0	0.1	20.4	79.5	30	-0.01
GMP-11	weekly	4	7/13/2015	0.0	0	21.4	78.6	30	-0.02
GMP-11	weekly	4	7/20/2015	0.0	0.1	20.5	79.4	30	0
GMP-11	weekly	4	7/27/2015	0.0	0	20.7	79.3	30	0
GMP-11	weekly	4	8/3/2015	0.0	0	21.5	78.5	30	0

NR = No Reading

Gas Monitoring Probe Data - Public Safety Probes
06/26/2015 - 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
GMP-11	weekly	4	8/9/2015	0.0	0	21.7	78.3	30	-0.03
GMP-11	weekly	4	8/17/2015	0.0	0	20.6	79.4	30	0
GMP-11	weekly	4	8/24/2015	0.0	0	21.4	78.6	30	0
GMP-11	weekly	4	8/31/2015	0.0	0	20.6	79.4	30	0
GMP-11	weekly	4	9/8/2015	0.0	0	20.5	79.5	30	-0.03
GMP-11	weekly	4	9/16/2015	0.0	0	20.5	79.5	30	-0.02
GMP-11	weekly	4	9/21/2015	0.0	0	20.5	79.5	30	0
GMP-11	weekly	4	9/28/2015	0.0	0	20.5	79.5	30	0
GMP-12	weekly	4	7/1/2015	0.0	0.1	21.2	78.7	30	0
GMP-12	weekly	4	7/6/2015	0.0	0	20.5	79.5	30	-0.02
GMP-12	weekly	4	7/13/2015	0.0	0	21.4	78.6	30	-0.02
GMP-12	weekly	4	7/20/2015	0.0	0.1	20.5	79.4	30	-0.02
GMP-12	weekly	4	7/27/2015	0.0	0	20.7	79.3	30	0
GMP-12	weekly	4	8/3/2015	0.0	0	21.5	78.5	30	0
GMP-12	weekly	4	8/9/2015	0.0	0	21.7	78.3	30	-0.05
GMP-12	weekly	4	8/17/2015	0.0	0	20.6	79.4	30	0
GMP-12	weekly	4	8/24/2015	0.0	0	21.3	78.7	30	0
GMP-12	weekly	4	8/31/2015	0.0	0	20.6	79.4	30	-0.01
GMP-12	weekly	4	9/8/2015	0.0	0	20.5	79.5	30	-0.02
GMP-12	weekly	4	9/16/2015	0.0	0	20.5	79.5	30	-0.01
GMP-12	weekly	4	9/21/2015	0.0	0	20.5	79.5	30	0
GMP-12	weekly	4	9/28/2015	0.0	0	20.5	79.5	30	0
4OSS	weekly	4	7/1/2015	0.0	0.2	20.8	79	30	1.59
4OSS	weekly	4	7/6/2015	0.0	0.2	20.1	79.7	30	0.19
4OSS	weekly	4	7/13/2015	0.0	0.1	21.2	78.7	30	0.01
4OSS	weekly	4	7/20/2015	0.0	0.2	20.3	79.5	30	0.08
4OSS	weekly	4	7/27/2015	0.0	0.1	20.6	79.3	30	0.02
4OSS	weekly	4	8/3/2015	0.0	0.1	21.4	78.5	30	0.02
4OSS	weekly	4	8/9/2015	0.0	0	21.4	78.6	30	-0.98
4OSS	weekly	4	8/17/2015	0.0	0.1	20.4	79.5	30	0.58
4OSS	weekly	4	8/24/2015	0.0	0.1	21.2	78.7	30	0.76
4OSS	weekly	4	8/31/2015	0.0	0.1	20.5	79.4	30	0.01
4OSS	weekly	4	9/8/2015	0.0	0	20.4	79.6	30	0.08
4OSS	weekly	4	9/16/2015	0.0	0	20.5	79.5	30	0.08

NR = No Reading

Gas Monitoring Probe Data - Public Safety Probes
06/26/2015 - 09/28/2015

Point Name	Frequency	Quadrant	Date	CH4	CO2	O2	Balance	Barometric Pressure	Relative Pressure
4OSS	weekly	4	9/21/2015	0.0	0.1	20.4	79.5	30	-0.63
4OSS	weekly	4	9/28/2015	0.0	0	20.4	79.6	30	-0.19
4ASS	weekly	4	7/1/2015	0.0	0.3	20.9	78.8	30	-1.67
4ASS	weekly	4	7/6/2015	0.0	0.4	20.1	79.5	30	-0.09
4ASS	weekly	4	7/13/2015	0.0	0.3	21.1	78.6	30	0.07
4ASS	weekly	4	7/20/2015	0.0	0.3	20.2	79.5	30	0.04
4ASS	weekly	4	7/27/2015	0.0	0.2	20.5	79.3	30	-0.01
4ASS	weekly	4	8/3/2015	0.0	0.1	21.4	78.5	30	0
4ASS	weekly	4	8/9/2015	0.0	0.1	21.4	78.5	30	-0.13
4ASS	weekly	4	8/17/2015	0.0	0.1	20.4	79.5	30	-0.03
4ASS	weekly	4	8/24/15	0.0	0.2	21.2	78.6	30	-0.45
4ASS	weekly	4	8/31/15	0.0	0.1	20.5	79.4	30	0.01
4ASS	weekly	4	9/8/15	0.0	0	20.4	79.6	30	0
4ASS	weekly	4	9/16/15	0.0	0.1	20.4	79.5	30	0
4ASS	weekly	4	9/21/15	0.0	0.1	20.5	79.4	30	0
4ASS	weekly	4	9/28/15	0.0	0	20.5	79.5	30	0

NR = No Reading

TABLE 6

GAS MONITORING PROBE WATER LEVEL DATA

JUNE 26, 2015 - SEPTEMBER 28, 2015

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-08	07/01/15	1	30.21	No Comment
GMP-16D	07/01/15	1	5	No Comment
GMP-16S	07/01/15	1	5.21	No Comment
GMP-7D	07/01/15	1	14.33	No Comment
GMP-7S	07/01/15	1	12.1	No Comment
GMP-15D	07/01/15	2	8.45	No Comment
GMP-15S	07/01/15	2	6.54	No Comment
GMP-14D	07/01/15	3	2.76	No Comment
GMP-14S	07/01/15	3	3.37	No Comment
GMP-4D	07/01/15	3	4.4	No Comment
GMP-4S	07/01/15	3	4.11	No Comment
GMP-5D	07/01/15	3	18	No Comment
GMP-5S	07/01/15	3	10.49	No Comment
GMP-6D	07/01/15	3	9.8	No Comment
GMP-6S	07/01/15	3	6.42	No Comment
4ASS	07/01/15	4	4.16	No Comment
4OSS	07/01/15	4	5.67	No Comment
GMP-01	07/01/15	4	10.91	No Comment
GMP-02	07/01/15	4	NR	No Comment
GMP-03	07/01/15	4	8.5	No Comment
GMP-09	07/01/15	4	5.28	No Comment
GMP-10	07/01/15	4	7.94	No Comment
GMP-11	07/01/15	4	0	No Comment
GMP-12	07/01/15	4	0	No Comment
GMP-13D	07/01/15	4	8.92	No Comment
GMP-13S	07/01/15	4	5.4	No Comment
TMP-1D	07/01/15	4	16.9	No Comment
TMP-1M	07/01/15	4	16.93	No Comment
TMP-1S	07/01/15	4	15.68	No Comment
TMP-2D	07/01/15	4	15.88	No Comment
TMP-2M	07/01/15	4	14.1	No Comment
TMP-2S	07/01/15	4	13.33	No Comment
TMP-3D	07/01/15	4	9.24	No Comment
TMP-3M	07/01/15	4	9.85	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-3S	07/01/15	4	11.9	No Comment
GMP-08	07/06/15	1	30.16	No Comment
GMP-16D	07/06/15	1	5.04	No Comment
GMP-16S	07/06/15	1	5.2	No Comment
GMP-7D	07/06/15	1	14.55	No Comment
GMP-7S	07/06/15	1	12.62	No Comment
GMP-15D	07/06/15	2	8.5	No Comment
GMP-15S	07/06/15	2	6.71	No Comment
GMP-14D	07/06/15	3	3.1	No Comment
GMP-14S	07/06/15	3	3.3	No Comment
GMP-4D	07/06/15	3	4.63	No Comment
GMP-4S	07/06/15	3	4.4	No Comment
GMP-5D	07/06/15	3	18.03	No Comment
GMP-5S	07/06/15	3	10.85	No Comment
GMP-6D	07/06/15	3	9.7	No Comment
GMP-6S	07/06/15	3	6.51	No Comment
4ASS	07/06/15	4	4.67	No Comment
4OSS	07/06/15	4	5.5	No Comment
GMP-01	07/06/15	4	11.2	No Comment
GMP-02	07/06/15	4	NR	No Comment
GMP-03	07/06/15	4	8.69	No Comment
GMP-09	07/06/15	4	4.77	No Comment
GMP-10	07/06/15	4	8.4	No Comment
GMP-11	07/06/15	4	0	No Comment
GMP-12	07/06/15	4	0	No Comment
GMP-13D	07/06/15	4	8.78	No Comment
GMP-13S	07/06/15	4	5.65	No Comment
TMP-1D	07/06/15	4	16.69	No Comment
TMP-1M	07/06/15	4	17.76	No Comment
TMP-1S	07/06/15	4	15.52	No Comment
TMP-2D	07/06/15	4	18.23	No Comment
TMP-2M	07/06/15	4	14.3	No Comment
TMP-2S	07/06/15	4	13.69	No Comment
TMP-3D	07/06/15	4	8.43	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-3M	07/06/15	4	9.75	No Comment
TMP-3S	07/06/15	4	11.84	No Comment
GMP-08	07/13/15	1	29.98	No Comment
GMP-16D	07/13/15	1	4.71	No Comment
GMP-16S	07/13/15	1	4.95	No Comment
GMP-7D	07/13/15	1	14.1	No Comment
GMP-7S	07/13/15	1	12.21	No Comment
GMP-15D	07/13/15	2	8.44	No Comment
GMP-15S	07/13/15	2	6.64	No Comment
GMP-14D	07/13/15	3	3.36	No Comment
GMP-14S	07/13/15	3	3.27	No Comment
GMP-4D	07/13/15	3	4.57	No Comment
GMP-4S	07/13/15	3	4.39	No Comment
GMP-5D	07/13/15	3	18.02	No Comment
GMP-5S	07/13/15	3	10.75	No Comment
GMP-6D	07/13/15	3	9.65	No Comment
GMP-6S	07/13/15	3	6.47	No Comment
4ASS	07/13/15	4	4.61	No Comment
4OSS	07/13/15	4	5.28	No Comment
GMP-01	07/13/15	4	11.5	No Comment
GMP-02	07/13/15	4	NR	No Comment
GMP-03	07/13/15	4	8.66	No Comment
GMP-09	07/13/15	4	4.41	No Comment
GMP-10	07/13/15	4	8.7	No Comment
GMP-11	07/13/15	4	0	No Comment
GMP-12	07/13/15	4	0	No Comment
GMP-13D	07/13/15	4	8.62	No Comment
GMP-13S	07/13/15	4	5.54	No Comment
TMP-1D	07/13/15	4	16.39	No Comment
TMP-1M	07/13/15	4	16.84	No Comment
TMP-1S	07/13/15	4	15.32	No Comment
TMP-2D	07/13/15	4	18.49	No Comment
TMP-2M	07/13/15	4	14.45	No Comment
TMP-2S	07/13/15	4	13.93	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-3D	07/13/15	4	9.27	No Comment
TMP-3M	07/13/15	4	8.64	No Comment
TMP-3S	07/13/15	4	11.98	No Comment
GMP-08	07/20/15	1	30	No Comment
GMP-16D	07/20/15	1	5.09	No Comment
GMP-16S	07/20/15	1	5.22	No Comment
GMP-7D	07/20/15	1	14.03	No Comment
GMP-7S	07/20/15	1	12.6	No Comment
GMP-15D	07/20/15	2	8.89	No Comment
GMP-15S	07/20/15	2	7.08	No Comment
GMP-14D	07/20/15	3	4.04	No Comment
GMP-14S	07/20/15	3	4.43	No Comment
GMP-4D	07/20/15	3	5.61	No Comment
GMP-4S	07/20/15	3	5.41	No Comment
GMP-5D	07/20/15	3	18.48	No Comment
GMP-5S	07/20/15	3	11.4	No Comment
GMP-6D	07/20/15	3	10	No Comment
GMP-6S	07/20/15	3	7.21	No Comment
4ASS	07/20/15	4	4.52	No Comment
4OSS	07/20/15	4	5.49	No Comment
GMP-01	07/20/15	4	11.84	No Comment
GMP-02	07/20/15	4	NR	No Comment
GMP-03	07/20/15	4	8.99	No Comment
GMP-09	07/20/15	4	6.48	No Comment
GMP-10	07/20/15	4	8.61	No Comment
GMP-11	07/20/15	4	0	No Comment
GMP-12	07/20/15	4	0	No Comment
GMP-13D	07/20/15	4	8.47	No Comment
GMP-13S	07/20/15	4	5.89	No Comment
TMP-1D	07/20/15	4	17.32	No Comment
TMP-1M	07/20/15	4	17.5	No Comment
TMP-1S	07/20/15	4	11.84	No Comment
TMP-2D	07/20/15	4	19.6	No Comment
TMP-2M	07/20/15	4	15.76	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-2S	07/20/15	4	15.32	No Comment
TMP-3D	07/20/15	4	9.4	No Comment
TMP-3M	07/20/15	4	9.35	No Comment
TMP-3S	07/20/15	4	12.22	No Comment
GMP-06	07/27/15	1	6.18	No Comment
GMP-07	07/27/15	1	21.24	No Comment
GMP-08	07/27/15	1	30	No Comment
GMP-16D	07/27/15	1	5.4	No Comment
GMP-16S	07/27/15	1	5.59	No Comment
GMP-7D	07/27/15	1	14.91	No Comment
GMP-7S	07/27/15	1	13.03	No Comment
GMP-15D	07/27/15	2	9.02	No Comment
GMP-15S	07/27/15	2	7.38	No Comment
GMP-05	07/27/15	3	6.2	No Comment
GMP-14D	07/27/15	3	4.99	No Comment
GMP-14S	07/27/15	3	5.06	No Comment
GMP-4D	07/27/15	3	6.99	No Comment
GMP-4S	07/27/15	3	5.93	No Comment
GMP-5D	07/27/15	3	18.67	No Comment
GMP-5S	07/27/15	3	11.81	No Comment
GMP-6D	07/27/15	3	10.16	No Comment
GMP-6S	07/27/15	3	7.3	No Comment
4ASS	07/27/15	4	4.85	No Comment
4OSS	07/27/15	4	5.55	No Comment
GMP-01	07/27/15	4	11.8	No Comment
GMP-02	07/27/15	4	NR	No Comment
GMP-03	07/27/15	4	9.33	No Comment
GMP-09	07/27/15	4	6.96	No Comment
GMP-10	07/27/15	4	DRY	No Comment
GMP-11	07/27/15	4	0	No Comment
GMP-12	07/27/15	4	0	No Comment
GMP-13D	07/27/15	4	8.39	No Comment
GMP-13S	07/27/15	4	6.79	No Comment
TMP-1D	07/27/15	4	17.76	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-1M	07/27/15	4	18.25	No Comment
TMP-1S	07/27/15	4	16.97	No Comment
TMP-2D	07/27/15	4	20.62	No Comment
TMP-2M	07/27/15	4	16.2	No Comment
TMP-2S	07/27/15	4	15.33	No Comment
TMP-3D	07/27/15	4	10.13	No Comment
TMP-3M	07/27/15	4	10.25	No Comment
TMP-3S	07/27/15	4	12.18	No Comment
GMP-08	08/03/15	1	30.11	No Comment
GMP-16D	08/03/15	1	5.86	No Comment
GMP-16S	08/03/15	1	5.95	No Comment
GMP-7D	08/03/15	1	15.4	No Comment
GMP-7S	08/03/15	1	13.74	No Comment
GMP-15D	08/03/15	2	9.32	No Comment
GMP-15S	08/03/15	2	7.71	No Comment
GMP-14D	08/03/15	3	5.66	No Comment
GMP-14S	08/03/15	3	5.92	No Comment
GMP-4D	08/03/15	3	6.52	No Comment
GMP-4S	08/03/15	3	6.55	No Comment
GMP-5D	08/03/15	3	19.06	No Comment
GMP-5S	08/03/15	3	12.2	No Comment
GMP-6D	08/03/15	3	10.5	No Comment
GMP-6S	08/03/15	3	7.74	No Comment
4ASS	08/03/15	4	5.17	No Comment
4OSS	08/03/15	4	6.4	No Comment
GMP-01	08/03/15	4	11.9	No Comment
GMP-02	08/03/15	4	NR	No Comment
GMP-03	08/03/15	4	9.7	No Comment
GMP-09	08/03/15	4	7.67	No Comment
GMP-10	08/03/15	4	8.91	No Comment
GMP-11	08/03/15	4	0	No Comment
GMP-12	08/03/15	4	0	No Comment
GMP-13D	08/03/15	4	8.13	No Comment
GMP-13S	08/03/15	4	7.26	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
TMP-1D	08/03/15	4	18.12	No Comment
TMP-1M	08/03/15	4	18.14	No Comment
TMP-1S	08/03/15	4	17.26	No Comment
TMP-2D	08/03/15	4	19.33	No Comment
TMP-2M	08/03/15	4	16.59	No Comment
TMP-2S	08/03/15	4	15.66	No Comment
TMP-3D	08/03/15	4	10.37	No Comment
TMP-3M	08/03/15	4	10.45	No Comment
TMP-3S	08/03/15	4	12.29	No Comment
GMP-08	08/09/15	1	29.98	No Comment
GMP-16D	08/09/15	1	5.46	No Comment
GMP-16S	08/09/15	1	5.57	No Comment
GMP-7D	08/09/15	1	14.67	No Comment
GMP-7S	08/09/15	1	13.4	No Comment
GMP-15D	08/09/15	2	8.91	No Comment
GMP-15S	08/09/15	2	7.25	No Comment
GMP-14D	08/09/15	3	5.22	No Comment
GMP-14S	08/09/15	3	5.81	No Comment
GMP-4D	08/09/15	3	6.8	No Comment
GMP-4S	08/09/15	3	6.7	No Comment
GMP-5D	08/09/15	3	18.63	No Comment
GMP-5S	08/09/15	3	11.99	No Comment
GMP-6D	08/09/15	3	10.25	No Comment
GMP-6S	08/09/15	3	7.14	No Comment
4ASS	08/09/15	4	4.99	No Comment
4OSS	08/09/15	4	8.74	No Comment
GMP-01	08/09/15	4	11.9	No Comment
GMP-02	08/09/15	4	NR	No Comment
GMP-03	08/09/15	4	9.41	No Comment
GMP-09	08/09/15	4	6.52	No Comment
GMP-10	08/09/15	4	8.7	No Comment
GMP-11	08/09/15	4	0	No Comment
GMP-12	08/09/15	4	0	No Comment
GMP-13D	08/09/15	4	8.3	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-13S	08/09/15	4	7.46	No Comment
TMP-1D	08/09/15	4	17.24	No Comment
TMP-1M	08/09/15	4	17.63	No Comment
TMP-1S	08/09/15	4	16.3	No Comment
TMP-2D	08/09/15	4	15.59	No Comment
TMP-2M	08/09/15	4	15.46	No Comment
TMP-2S	08/09/15	4	15.29	No Comment
TMP-3D	08/09/15	4	10.04	No Comment
TMP-3M	08/09/15	4	10.46	No Comment
TMP-3S	08/09/15	4	12.15	No Comment
GMP-08	08/17/15	1	29.83	No Comment
GMP-16D	08/17/15	1	5.61	No Comment
GMP-16S	08/17/15	1	5.72	No Comment
GMP-7D	08/17/15	1	14.99	No Comment
GMP-7S	08/17/15	1	13.63	No Comment
GMP-15D	08/17/15	2	9.19	No Comment
GMP-15S	08/17/15	2	7.44	No Comment
GMP-14D	08/17/15	3	5.81	No Comment
GMP-14S	08/17/15	3	5.86	No Comment
GMP-4D	08/17/15	3	7.19	No Comment
GMP-4S	08/17/15	3	7.05	No Comment
GMP-5D	08/17/15	3	18.74	No Comment
GMP-5S	08/17/15	3	12.37	No Comment
GMP-6D	08/17/15	3	10.54	No Comment
GMP-6S	08/17/15	3	7.31	No Comment
4ASS	08/17/15	4	5.1	No Comment
4OSS	08/17/15	4	10.31	No Comment
GMP-01	08/17/15	4	DRY, 11.90	No Comment
GMP-03	08/17/15	4	10.28	No Comment
GMP-09	08/17/15	4	7.14	No Comment
GMP-10	08/17/15	4	8.9	No Comment
GMP-11	08/17/15	4	0	No Comment
GMP-12	08/17/15	4	0	No Comment
GMP-13D	08/17/15	4	8.26	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-13S	08/17/15	4	7.83	No Comment
TMP-1D	08/17/15	4	17.65	No Comment
TMP-1M	08/17/15	4	17.68	No Comment
TMP-1S	08/17/15	4	16.76	No Comment
TMP-2D	08/17/15	4	15.92	No Comment
TMP-2M	08/17/15	4	16.15	No Comment
TMP-2S	08/17/15	4	16.21	No Comment
TMP-3D	08/17/15	4	10.3	No Comment
TMP-3M	08/17/15	4	10.42	No Comment
TMP-3S	08/17/15	4	12.45	No Comment
GMP-02	08/18/15	4	NR	No Comment
GMP-08	08/24/15	1	29.84	No Comment
GMP-16D	08/24/15	1	5.48	No Comment
GMP-16S	08/24/15	1	5.57	No Comment
GMP-7D	08/24/15	1	14.4	No Comment
GMP-7S	08/24/15	1	13.51	No Comment
GMP-15D	08/24/15	2	9	No Comment
GMP-15S	08/24/15	2	7.36	No Comment
GMP-14D	08/24/15	3	5.94	No Comment
GMP-14S	08/24/15	3	5.21	No Comment
GMP-4D	08/24/15	3	7.39	No Comment
GMP-4S	08/24/15	3	7.13	No Comment
GMP-5D	08/24/15	3	18.7	No Comment
GMP-5S	08/24/15	3	11.93	No Comment
GMP-6D	08/24/15	3	10.44	No Comment
GMP-6S	08/24/15	3	6.98	No Comment
4ASS	08/24/15	4	4.72	No Comment
4OSS	08/24/15	4	12.14	No Comment
GMP-01	08/24/15	4	DRY, 11.90	No Comment
GMP-02	08/24/15	4	4.3	No Comment
GMP-03	08/24/15	4	10.18	No Comment
GMP-09	08/24/15	4	6.28	No Comment
GMP-10	08/24/15	4	8.78	No Comment
GMP-11	08/24/15	4	0	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-12	08/24/15	4	0	No Comment
GMP-13D	08/24/15	4	8.3	No Comment
GMP-13S	08/24/15	4	7.58	No Comment
TMP-1D	08/24/15	4	17.1	No Comment
TMP-1M	08/24/15	4	18.09	No Comment
TMP-1S	08/24/15	4	16.62	No Comment
TMP-2D	08/24/15	4	15.69	No Comment
TMP-2M	08/24/15	4	15.86	No Comment
TMP-2S	08/24/15	4	15.5	No Comment
TMP-3D	08/24/15	4	10.48	No Comment
TMP-3M	08/24/15	4	10.84	No Comment
TMP-3S	08/24/15	4	11.86	No Comment
GMP-08	08/31/15	1	29.83	No Comment
GMP-16D	08/31/15	1	5.8	No Comment
GMP-16S	08/31/15	1	5.94	No Comment
GMP-7D	08/31/15	1	15.21	No Comment
GMP-7S	08/31/15	1	14.04	No Comment
GMP-15D	08/31/15	2	9.29	No Comment
GMP-15S	08/31/15	2	7.54	No Comment
GMP-14D	08/31/15	3	6.19	No Comment
GMP-14S	08/31/15	3	6.27	No Comment
GMP-4D	08/31/15	3	7.57	No Comment
GMP-4S	08/31/15	3	7.43	No Comment
GMP-5D	08/31/15	3	18.98	No Comment
GMP-5S	08/31/15	3	12.5	No Comment
GMP-6D	08/31/15	3	10.69	No Comment
GMP-6S	08/31/15	3	7.5	No Comment
4ASS	08/31/15	4	5.08	No Comment
4OSS	08/31/15	4	9.45	No Comment
GMP-01	08/31/15	4	DRY, 11.90	No Comment
GMP-02	08/31/15	4	2.6	No Comment
GMP-03	08/31/15	4	10.19	No Comment
GMP-09	08/31/15	4	7.74	No Comment
GMP-10	08/31/15	4	9.1	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-11	08/31/15	4	0	No Comment
GMP-12	08/31/15	4	0	No Comment
GMP-13D	08/31/15	4	8.31	No Comment
GMP-13S	08/31/15	4	8.52	No Comment
TMP-1D	08/31/15	4	18.25	No Comment
TMP-1M	08/31/15	4	18.29	No Comment
TMP-1S	08/31/15	4	17.4	No Comment
TMP-2D	08/31/15	4	16.65	No Comment
TMP-2M	08/31/15	4	16.84	No Comment
TMP-2S	08/31/15	4	16.57	No Comment
TMP-3D	08/31/15	4	10.47	No Comment
TMP-3M	08/31/15	4	10.79	No Comment
TMP-3S	08/31/15	4	12.2	No Comment
GMP-08	09/08/15	1	29.86	No Comment
GMP-16D	09/08/15	1	6.15	No Comment
GMP-16S	09/08/15	1	6.28	No Comment
GMP-7D	09/08/15	1	16.51	No Comment
GMP-7S	09/08/15	1	14.72	No Comment
GMP-15D	09/08/15	2	9.64	No Comment
GMP-15S	09/08/15	2	7.81	No Comment
GMP-14D	09/08/15	3	6.6	No Comment
GMP-14S	09/08/15	3	6.53	No Comment
GMP-4D	09/08/15	3	7.91	No Comment
GMP-4S	09/08/15	3	7.77	No Comment
GMP-5D	09/08/15	3	19.3	No Comment
GMP-5S	09/08/15	3	12.91	No Comment
GMP-6D	09/08/15	3	10.98	No Comment
GMP-6S	09/08/15	3	7.92	No Comment
4ASS	09/08/15	4	5.29	No Comment
4OSS	09/08/15	4	8.77	No Comment
GMP-01	09/08/15	4	DRY, 11.90	No Comment
GMP-02	09/08/15	4	6.6	No Comment
GMP-03	09/08/15	4	10.31	No Comment
GMP-09	09/08/15	4	8.44	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-10	09/08/15	4	9.3	No Comment
GMP-11	09/08/15	4	0	No Comment
GMP-12	09/08/15	4	0	No Comment
GMP-13D	09/08/15	4	8.36	No Comment
GMP-13S	09/08/15	4	8.56	No Comment
TMP-1D	09/08/15	4	18.99	No Comment
TMP-1M	09/08/15	4	19.29	No Comment
TMP-1S	09/08/15	4	18.28	No Comment
TMP-2D	09/08/15	4	17.46	No Comment
TMP-2M	09/08/15	4	17.45	No Comment
TMP-2S	09/08/15	4	17.38	No Comment
TMP-3D	09/08/15	4	11.15	No Comment
TMP-3M	09/08/15	4	11.6	No Comment
TMP-3S	09/08/15	4	11.5	No Comment
GMP-08	09/16/15	1	29.9	No Comment
GMP-16D	09/16/15	1	6.28	No Comment
GMP-16S	09/16/15	1	6.37	No Comment
GMP-7D	09/16/15	1	16.74	No Comment
GMP-7S	09/16/15	1	14.96	No Comment
GMP-15D	09/16/15	2	9.85	No Comment
GMP-15S	09/16/15	2	8.02	No Comment
GMP-14D	09/16/15	3	6.84	No Comment
GMP-14S	09/16/15	3	6.83	No Comment
GMP-4D	09/16/15	3	8.28	No Comment
GMP-4S	09/16/15	3	8.12	No Comment
GMP-5D	09/16/15	3	19.48	No Comment
GMP-5S	09/16/15	3	13.23	No Comment
GMP-6D	09/16/15	3	11.11	No Comment
GMP-6S	09/16/15	3	8.09	No Comment
4ASS	09/16/15	4	5.25	No Comment
4OSS	09/16/15	4	8.73	No Comment
GMP-01	09/16/15	4	DRY, 11.90	No Comment
GMP-02	09/16/15	4	6.96	No Comment
GMP-03	09/16/15	4	10.65	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-09	09/16/15	4	8.95	No Comment
GMP-10	09/16/15	4	9.22	No Comment
GMP-11	09/16/15	4	0	No Comment
GMP-12	09/16/15	4	0	No Comment
GMP-13D	09/16/15	4	8.44	No Comment
GMP-13S	09/16/15	4	8.93	No Comment
TMP-1D	09/16/15	4	19.25	No Comment
TMP-1M	09/16/15	4	19.55	No Comment
TMP-1S	09/16/15	4	18.53	No Comment
TMP-2D	09/16/15	4	17.83	No Comment
TMP-2M	09/16/15	4	17.74	No Comment
TMP-2S	09/16/15	4	17.9	No Comment
TMP-3D	09/16/15	4	11.7	No Comment
TMP-3M	09/16/15	4	11.93	No Comment
TMP-3S	09/16/15	4	12.38	No Comment
GMP-08	09/21/15	1	29.92	No Comment
GMP-16D	09/21/15	1	6.3	No Comment
GMP-16S	09/21/15	1	6.44	No Comment
GMP-7D	09/21/15	1	16.7	No Comment
GMP-7S	09/21/15	1	14.99	No Comment
GMP-15D	09/21/15	2	9.86	No Comment
GMP-15S	09/21/15	2	8.1	No Comment
GMP-14D	09/21/15	3	6.87	No Comment
GMP-14S	09/21/15	3	6.9	No Comment
GMP-4D	09/21/15	3	8.31	No Comment
GMP-4S	09/21/15	3	8.39	No Comment
GMP-5D	09/21/15	3	19.68	No Comment
GMP-5S	09/21/15	3	13.42	No Comment
GMP-6D	09/21/15	3	11.16	No Comment
GMP-6S	09/21/15	3	8.11	No Comment
4ASS	09/21/15	4	5.31	No Comment
4OSS	09/21/15	4	8.7	No Comment
GMP-01	09/21/15	4	DRY, 11.90	No Comment
GMP-02	09/21/15	4	7.03	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-03	09/21/15	4	10.77	No Comment
GMP-09	09/21/15	4	8.9	No Comment
GMP-10	09/21/15	4	9.25	No Comment
GMP-11	09/21/15	4	0	No Comment
GMP-12	09/21/15	4	0	No Comment
GMP-13D	09/21/15	4	8.54	No Comment
GMP-13S	09/21/15	4	9	No Comment
TMP-1D	09/21/15	4	19.65	No Comment
TMP-1M	09/21/15	4	19.65	No Comment
TMP-1S	09/21/15	4	18.83	No Comment
TMP-2D	09/21/15	4	17.95	No Comment
TMP-2M	09/21/15	4	17.84	No Comment
TMP-2S	09/21/15	4	DRY, 18.35	No Comment
TMP-3D	09/21/15	4	11.87	No Comment
TMP-3M	09/21/15	4	12.02	No Comment
TMP-3S	09/21/15	4	12.52	No Comment
GMP-08	09/28/15	1	29.95	No Comment
GMP-16D	09/28/15	1	6.31	No Comment
GMP-16S	09/28/15	1	6.44	No Comment
GMP-7D	09/28/15	1	16.74	No Comment
GMP-7S	09/28/15	1	15	No Comment
GMP-15D	09/28/15	2	9.87	No Comment
GMP-15S	09/28/15	2	8.08	No Comment
GMP-14D	09/28/15	3	6.9	No Comment
GMP-14S	09/28/15	3	6.91	No Comment
GMP-4D	09/28/15	3	8.3	No Comment
GMP-4S	09/28/15	3	8.44	No Comment
GMP-5D	09/28/15	3	19.8	No Comment
GMP-5S	09/28/15	3	13.45	No Comment
GMP-6D	09/28/15	3	11.18	No Comment
GMP-6S	09/28/15	3	8.16	No Comment
4ASS	09/28/15	4	5.4	No Comment
4OSS	09/28/15	4	8.72	No Comment
GMP-01	09/28/15	4	DRY, 11.90	No Comment

NR = No Reading

Gas Monitoring Probe Data - Water Level Readings
06/26/2015 - 09/28/2015

Point Name	Date	Quadrant	Depth to Water (ft)	Comments
GMP-02	09/28/15	4	6.99	No Comment
GMP-03	09/28/15	4	10.82	No Comment
GMP-09	09/28/15	4	8.91	No Comment
GMP-10	09/28/15	4	9.22	No Comment
GMP-11	09/28/15	4	0	No Comment
GMP-12	09/28/15	4	0	No Comment
GMP-13D	09/28/15	4	8.55	No Comment
GMP-13S	09/28/15	4	9	No Comment
TMP-1D	09/28/15	4	19.66	No Comment
TMP-1M	09/28/15	4	19.67	No Comment
TMP-1S	09/28/15	4	18.83	No Comment
TMP-2D	09/28/15	4	17.93	No Comment
TMP-2M	09/28/15	4	17.85	No Comment
TMP-2S	09/28/15	4	DRY, 18.35	No Comment
TMP-3D	09/28/15	4	11.88	No Comment
TMP-3M	09/28/15	4	12.07	No Comment
TMP-3S	09/28/15	4	12.5	No Comment

NR = No Reading

APPENDIX A

LANDFILL GAS CORRECTIVE ACTION PLAN UPDATE, JULY 26, 2013

BRIDGETON LANDFILL

LANDFILL GAS CORRECTIVE ACTION PLAN UPDATE

Submitted Pursuant to Section 23 of Agreed Order
Case No. 13SL-CC01088, Effective May 13, 2013

Bridgeton Landfill, LLC
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Bridgeton, MO 63044

Technical Contributors:

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July 26, 2013

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1.0 INTRODUCTION

On May 13, 2013, Bridgeton Landfill entered into an Agreed Order with the State of Missouri which requires actions to address what was called a subsurface smoldering event (SSE). Section 23 of the Agreed Order requires the preparation of an updated "Landfill Gas Corrective Action Plan" (CAP) and requests that the update consider SSE control measures.

Missouri Solid Waste Management Regulations require that subsurface landfill gas be controlled so that it does not exceed 2.5% (which is equal to 50% of the lower explosive limit, or LEL) in the ground at the facility property boundary. If this level is exceeded at the property boundary, the facility must implement enhanced monitoring and corrective measures. Corrective Action Plans are frequently used to present and communicate these measures.

Bridgeton Landfill has been monitoring for gas migration using permanent gas monitoring probes since 1998. Since that time, landfill gas Corrective Action Plans have been implemented, additional monitoring locations have been added, and many control features have been installed. These efforts have been previously documented and are incorporated by reference as background for this current work.

Lateral landfill gas migration is common at unlined municipal solid waste (MSW) landfills, and especially in quarry fill environments. Bridgeton Landfill has some areas where the property line is close to solid waste limits (near the edge of the quarry wall) and monitoring has detected methane near the property line in certain locations. In addition, the SSE that Bridgeton Landfill has been experiencing since 2010, and that intensified in 2012, has further challenged methane control in those areas.

The purpose of this document, as required by the Agreed Order, is to provide an update to the November 27, 2012 CAP that considers the SSE control measures. As such, this document includes monitoring data up to July 2013, reviews the status of gas migration control, presents recent (since the approved November 27, 2012 CAP) efforts to reduce methane migration, and discusses forward-going monitoring and reporting procedures. It is intended that this CAP supplements and/or supersedes the previous CAPs and agreements.

2.0 REVIEW OF CURRENT GAS MIGRATION CONTROL STATUS

The intensification of the SSE has created conditions that have made control of gas migration more challenging, including:

- Increased pressure within the landfill waste with pressure-gradient which forces gas outward;
- Increased liquid generation resulting in steam and saturated gas which effects collection efficiency, and
- Carefully controlled and reduced application of gas extraction well vacuum with efforts to minimize oxygen content in the gas well.

Detailed graphs showing methane concentrations for the past three years are included in Appendix A. Appendix B includes a list of the gas monitoring probes monitored at the Bridgeton Landfill along with the boring logs and/or construction logs for each probe. Please note, the gas monitoring probes has been referenced with different abbreviations and the table in Appendix B is included to provide clarity.

As can be seen on the graphs, there are several compliance point and sentry monitoring probe locations that have been historically elevated (GMP-01, GMP-04, GMP-05 GMP-06 and GMP-07), as well as elevated levels in new gas monitoring probes where monitoring began in October 2012 after the SSE intensified (GMP-5S, GMP-14S, GMP-14D). Temporary monitoring probes installed to determine the rate and extent of the methane migration in the vicinity of impacted probe GMP-01 (TMP-1S, TMP-2S, TMP-2M, TMP-2D, TMP-3S, TMP-3M, and TMP-3D) have also exhibited elevated levels of methane since installation.

Due to the additional gas monitoring probes, which initiated monitoring in October 2012 to better define the zone of migration on the eastern boundary of the landfill, GMP-04 through GMP-07 located closer to the landfill are typically monitored on a quarterly basis but are sentry probes and are no longer utilized as the compliance probes in accordance with Missouri Solid Waste Law and Rules. Tables 1 through 4 present the probe results for the monitoring period November 21, 2012 through July 5, 2013.

Along the southern boundary of the landfill, adjacent to Boenker Road, GMP-01 has continued to show elevated levels above the regulatory threshold. Corrective measures have not been effective to address the migration in this vicinity. Corrective actions taken to date have focused on methane migration within the soil overburden due to investigative action demonstrating shallow migration. However, after the installation of the interceptor trench, which was constructed to the soil/bedrock interface between the waste disposal area and impacted GMP-01, elevated levels continued to be exhibited in GMP-01. Due to the ineffectiveness of the perimeter gas wells (2005) and interceptor trench (2010) installed in the vicinity of GMP-01 to eliminate or reduce methane impacts, further investigation was deemed necessary under the conditions of the Settlement Agreement.

In order to effectively determine the zone of migration in the vicinity of GMP-01, temporary probes (TMP-1, TMP-2 and TMP-3) were installed as investigation probes to better define the zone of migration. In order to do this, each temporary probe were installed as nested probes with three monitored zones – shallow (S), middle (M) and deep (D). The shallow zone was screened within the soil overburden; the middle zone was screened through the uppermost weathered/fractured bedrock and the deep zone within the saturated bedrock. As presented in Appendix A, TMP-1 located west of GMP-01 is impacted with elevated methane levels within the soil overburden and weathered bedrock. TMP-2, located east of GMP-01, and TMP-3, located north of GMP-01, has observed elevated methane in each of the monitored zones. It is likely the observed elevated methane within the deep monitored zone observed in TMP-2 and TMP-3 are a result of diffusion transport due to these probes located less than 75 feet from the waste mass as well as the pressure-gradient force caused by the SSE as noted with increased relative pressure during monitoring of the probes.

As noted in the TMP boring logs, weathered bedrock was observed at lower elevations than the base of the interceptor trench. TMP-1, located west of GMP-1, the weathered bedrock was observed between 36 feet below ground surface (bgs) to 66.5 feet bgs. TMP-2, located east of GMP-1, the weathered bedrock was observed between 18 feet bgs to 47 feet bgs. TMP-3, located between the landfill and GMP-1, the weathered bedrock was observed between 31 feet bgs to 50 feet bgs. TMP-2, located between the landfill and GMP-1, the weathered bedrock was observed between 31 feet bgs to 50 feet bgs. Due to weathered bedrock observed at lower elevations than the base of the interceptor trench, it is likely methane continues to migrate through these weathered zones. Table 3 presents the temporary gas monitoring probe data.

The intensification of the SSE in 2012, resulting in increased pressure within the landfill, brought challenges associated within dewatering the interceptor trench located south of the waste boundary and maintaining sufficient vacuum on select gas extraction wells located within the south quarry. As a result, elevated levels of methane continue to be observed since October 2012.

Currently the public safety probes located across Boenker Road, on private property (GMP-09, GMP-10, GMP-11, and GMP-12) have no detectable levels of methane and have not observed elevated methane in two years (GMP-11). There is no evidence of methane migration onto adjacent properties at this time. Table 4 presents the gas monitoring probe data for the public safety probes.

Along the east property boundary, adjacent to the south quarry, elevated methane has been observed at two gas monitoring probe locations utilized for compliance: GMP-5S, GMP-14S, GMP-14D. The gas monitoring probes installed between August and September 2012 were installed as nested probes with two monitoring zones - shallow (S) and deep (D). The shallow zone was screened within the soil overburden; the deep zone was screened through the uppermost weathered bedrock to approximately 10 feet below the historic low water table.

The intent of these nested probes is to determine if methane migration is occurring at the property boundary as well as to ascertain the zone in which it is occurring. Similar to GMP-01, weathered bedrock was observed below the soil overburden at GMP-14 where GMP-14D is screened. The weathered bedrock is likely providing a zone of migration within the deeper zone, GMP-14D.

As described in Section 3.0, Bridgeton Landfill has performed recent improvements that should ultimately reduce landfill gas migration.

3.0 RECENT GAS MIGRATION CONTROL EFFORTS

Many recent additional measures have been recently undertaken that should ultimately reduce gas migration, including:

1. The SSE has impacted the facility's infrastructure designed to remove liquid efficiently from the waste mass which results in increased liquid in the force main and the gas conveyance system resulting in a reduction of their efficiency to remove landfill gas. Adding new gas extraction wells, replacing compromised gas extraction wells, and adding liquid pumps and extraction points will improve landfill gas collection and improve overall efficiency of the system. The following features have been installed per the November 27, 2012 CAP and in addition to the measures proposed in the CAP:

    - In November 2012 the Bridgeton Landfill installed 5 new trench wells, 5 new liquid sumps, and 7 new gas extraction wells.
    - During the January 1, 2013 through June 30, 2013 period the following additional extraction points were installed at the Bridgeton Landfill:
    - In February 2013 the Bridgeton Landfill installed 9 new gas extraction wells,
    - In March 2013 the Bridgeton Landfill installed 3 new gas extraction wells,
    - In April 2013 the Bridgeton Landfill installed 11 new gas extraction wells,
    - In May 2013 the Bridgeton Landfill installed 13 new gas extraction wells,

2. Addition of a 2,500 scfm utility flare in the southeastern portion of the disposal area in June 2013. This flare has improved vacuum distribution around the well field, especially in the southern and southeastern end where migration has been problematic.

3. Installation of 25 perimeter liquid sumps connected by perforated liquid/gas collection piping in May and June 2013. These were installed as part of the South Quarry capping project, and will allow collection of additional gas at the perimeter of the landfill, and

4. Placement of 32 acres of geomembrane cap and enhanced gas collection features which should be completed in August 2013. The cap will allow additional vacuum to be pulled from the cover integrity system consisting of a composite liner system which will reduce concern for oxygen intrusion. This should result in better long term gas capture and, in time, reduced gas pressure.

An updated as-built map that shows all of these features that were in place as of June 30, 2013 is included in Appendix C.

Due to the increased liquid generation and increased pressure within the landfill the improvements completed within the past nine months have not yet resulted in a reduction of methane observed within the gas monitoring probes. It is premature to evaluate the

effectiveness of the recent gas migration control efforts outlined in this section due to impacts associated with increased liquid generation and the continued dynamic movement and changes of the SSE in the South Quarry area.

4.0 PROPOSED AND ONGOING GAS MIGRATION CONTROL EFFORTS

The recent additional measures outlined in Section 3.0 are on-going efforts to improve landfill gas control at the Bridgeton Landfill. These upgrades should reduce pressure within the waste mass that may be contributing to the exceedances and in turn alleviate methane migration along the southern and eastern property boundaries. Improvements to the landfill are on-going and will continue until the SSE is controlled. Below are additional improvements that are being proposed or currently implemented:

1. The SSE has resulted in an increase in condensate generation. In order to improve liquid removal at the site a third party consultant has been contracted to evaluate the effectiveness of the existing force main. Due to the increased liquid movement within the force main pressure has built up within the system resulting in back pressure and reduced pump functionality. Pressure relief valves have been installed on numerous pneumatic pumps to address this issue. However, due to the increased liquid generation additional capacity within the force main is needed. As such, the preliminary design proposes utilizing the existing force main for management of liquid removed from the LCSs and a second separate force main for liquids removed from the remaining extraction points. The additional liquid force main will allow optimum operations of the pumps while providing increased available vacuum on the landfill gas collection system. This corrective action measure will be submitted to the MDNR in third quarter 2013 sealed by a Missouri Professional Engineer.

2. In order to improve liquid management once the liquids are removed from the disposal area the Bridgeton Landfill has contracted with a third party consulting firm for additional storage and pretreatment of the extracted liquid. During the second quarter 2013 the landfill installed a 316,000 gallon above ground liquid storage and treatment tank The preliminary treatment plant design includes incorporation of the existing 96,000 gallon tank located near Boenker Road, the newly installed 316,000 gallon tank, four-1,000,000 gallon tanks and a pretreatment facility. This will provide the landfill additional capacity to remove the liquid from the disposal area at a design capacity of 300,000 gallons per day. The treatment plant design will be submitted to the MDNR in third quarter 2013 sealed by a Missouri Professional Engineer.

3. The Bridgeton Landfill has submitted a Permit to Construct application to the St. Louis County Department of Health for the installation of two 4,000 scfm utility flares. These utility flares would replace the existing enclosed flares with a design flow of 3,500 scfm each. The replacement of the enclosed flares with the two 4,000 scfm utility flares coupled with the existing 3,500 scfm John Zink utility flare and the 2,500 scfm LFG Specialties utility flare will provide a combined design flow of the four utility flares of 14,000 scfm. Authorization to Construct is anticipated to be issued by the end of July 2013. The installation of the 4,000 scfm utility flares is anticipated to be completed shortly after permit issuance with operations of each unit by the end of third quarter

2013. Utility flares are better suited to handle the lower heating value gas at the Bridgeton Landfill resulting in less downtime of the control devices.

4. A natural gas line has been installed in the vicinity of the flare compound. It will be connected to the gas collection system if the lower heating value or hydrogen concentration drop below levels to effectively operate the landfill gas control devices.

5. The Bridgeton Landfill will be upgrading the landfill gas coolers at the east utility flare (2,500 scfm LFG Specialties) and at the flare compound in the near future. This improvement will result in additional vacuum available to the well field.

The improvements associated with the liquid conveyance system and the landfill gas control devices are essential to address methane migration at the facility. These efforts should result in a decrease in pressure within the landfill and improved landfill gas collection efficiencies within the south quarry. The liquid force main modification and the liquid treatment system will be submitted to the MDNR for review and approval. The landfill appreciates the continued support to address the SSE in a timely manner and appreciates an expedited review of these submittals.

Monitoring results of the nested gas and temporary monitoring probes have shown that methane is migrating through the weathered bedrock and additional controls are likely needed to address these exceedances. However, due to increased liquid generation associated with the SSE, the effectiveness of the recent improvements could not be determined. It is requested to further evaluate the zone of migration of the impacted gas monitoring and temporary monitoring probes with weekly water level readings and monitoring of the impacted probes to better delineate if methane is migrating through deeper zones. It is requested that this evaluation period be extended through the third quarter 2013. At that time a comprehensive corrective action plan will be submitted evaluating the impact of the recently-completed capping, other recent measures, and the proposed measures described above. During this period the landfill will continue to complete improvements to the liquid conveyance system in efforts to minimize liquids within the gas collection system.

5.0 CONTINUED MONITORING AND REPORTING

The Bridgeton Landfill will initiate weekly monitoring of all monitoring probes including the gas monitoring probes, sentry probes and temporary monitoring probes. The Bridgeton Landfill proposes that landfill gas corrective summary reports to be incorporated into the quarterly report and submitted by the 15th of each month following a calendar quarter. These reports will summarize all corrective action completed to address methane migration within the prior quarter and, if elevated levels persist, provide a corrective action plan to address the methane exceedances.

Bridgeton Landfill understands that the submittal of quarterly landfill gas corrective action summary reports and corrective action plans is at a higher frequency than outlined in Paragraph 4 of the January 17, 2011 Settlement Agreement between the MDNR and the Bridgeton Landfill but believes that incorporation in the quarterly report is valuable.

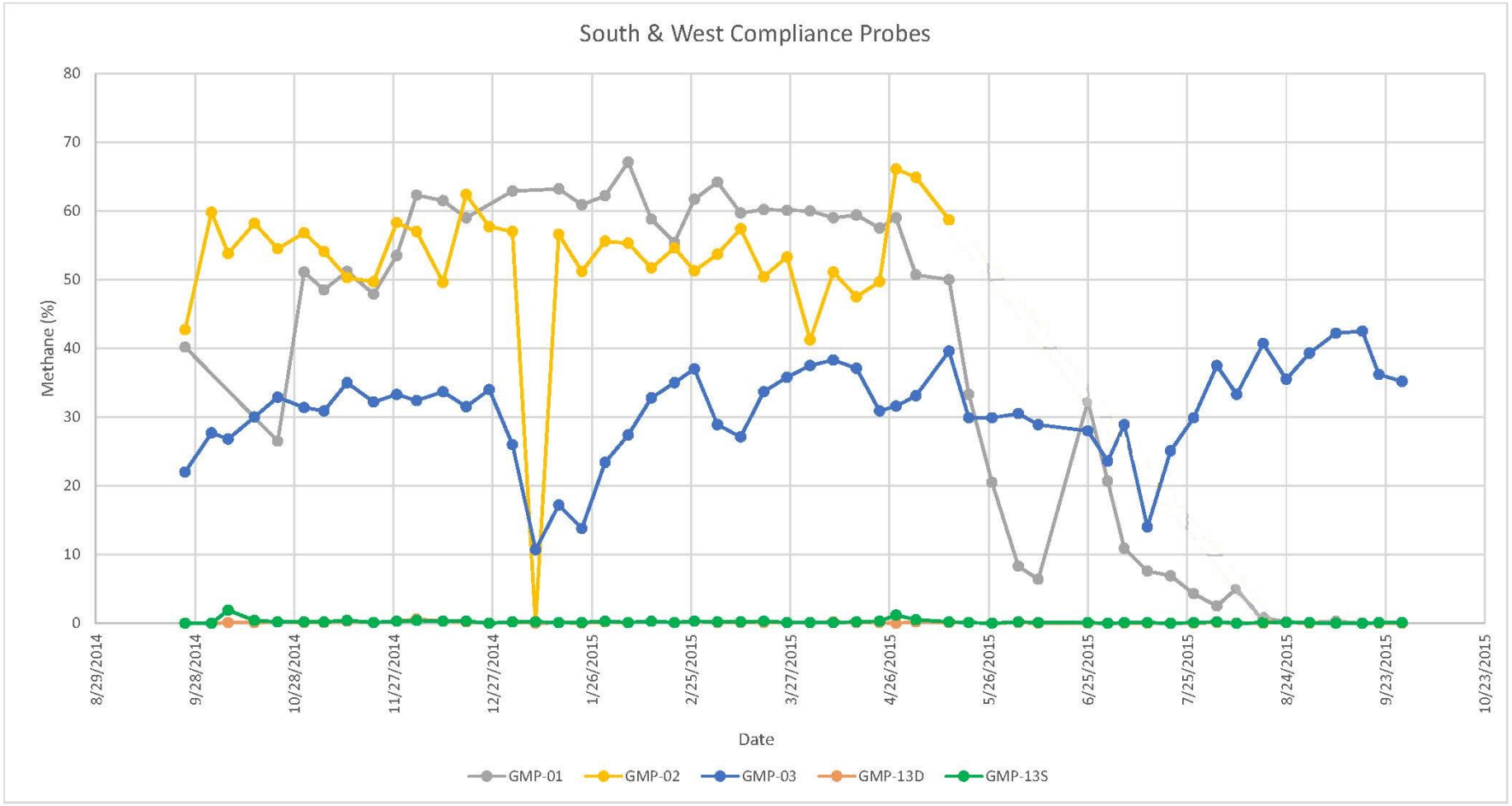
This section of the report will include at a minimum a review previous data, evaluate effectiveness of efforts made to control migration, and propose additional measures directed at eliminating detection levels in gas monitoring probes. As a regular procedure, these reports will be submitted by the 15th of each month following a calendar quarter.

Bridgeton Landfill will continue to take aggressive action to control the impacts of the SSE, evaluate corrective measures to address methane migration within the weathered bedrock and improve gas collection within the limits of waste. Any major new gas migration control features needed--particularly those located outside the limit of waste--would be designed and sealed by a Missouri professional engineer and submitted to the MDNR for comment and approval.

The MDNR will continue to provide ongoing review, comment, and approval of actions as it deems necessary. This reporting process will continue until Bridgeton Landfill demonstrates uninterrupted compliance with the MDNR's methane regulations (all compliance gas monitoring probes less than 2.5% methane) for a period of one year.

APPENDIX B

GAS MONITORING PROBE METHANE LEVEL GRAPHS


South & West Compliance Probes
Methane (%)
80
70
60
50
40
30
20
10
0
8/29/2014
9/28/2014
10/28/2014
11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
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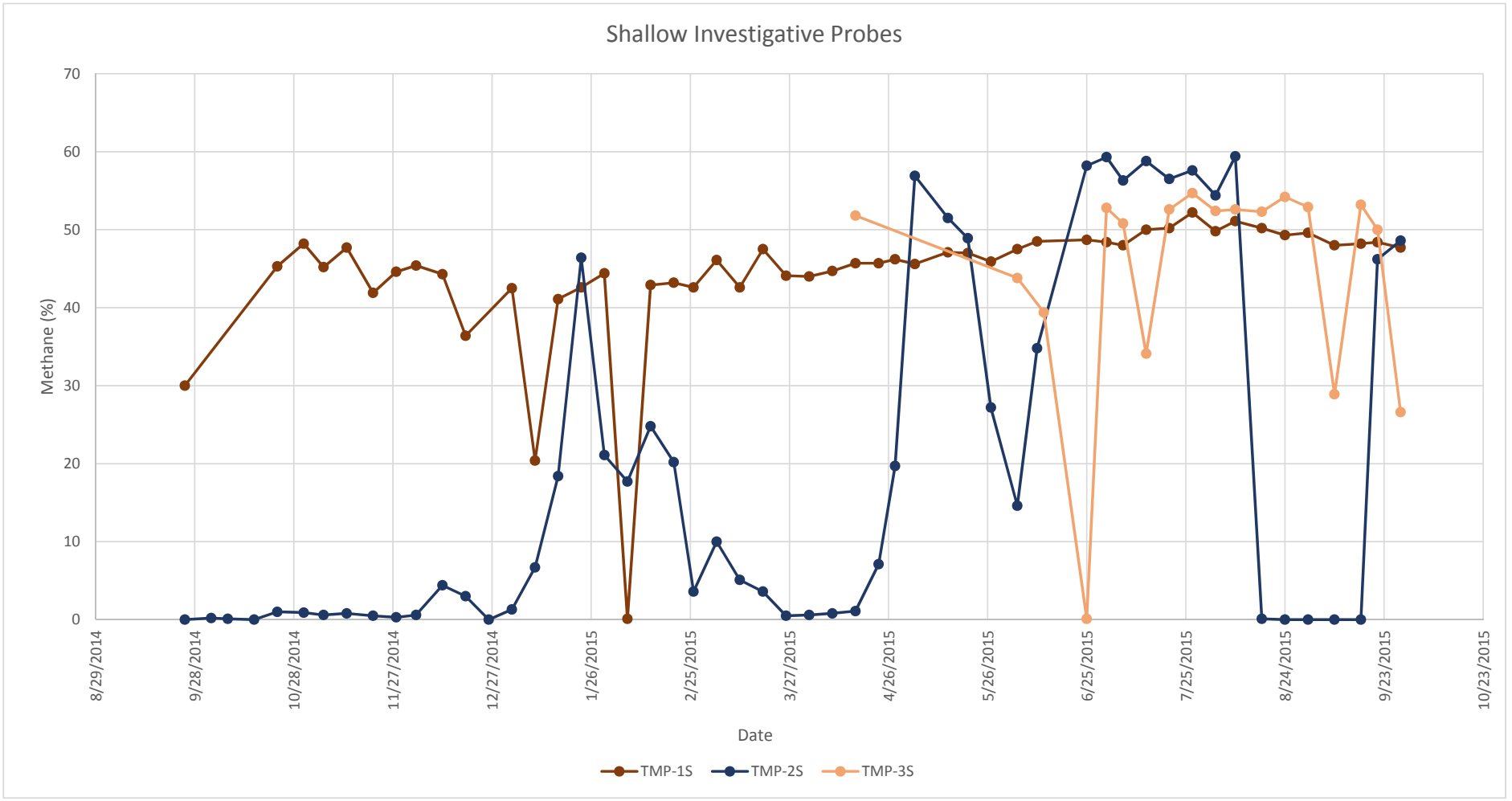
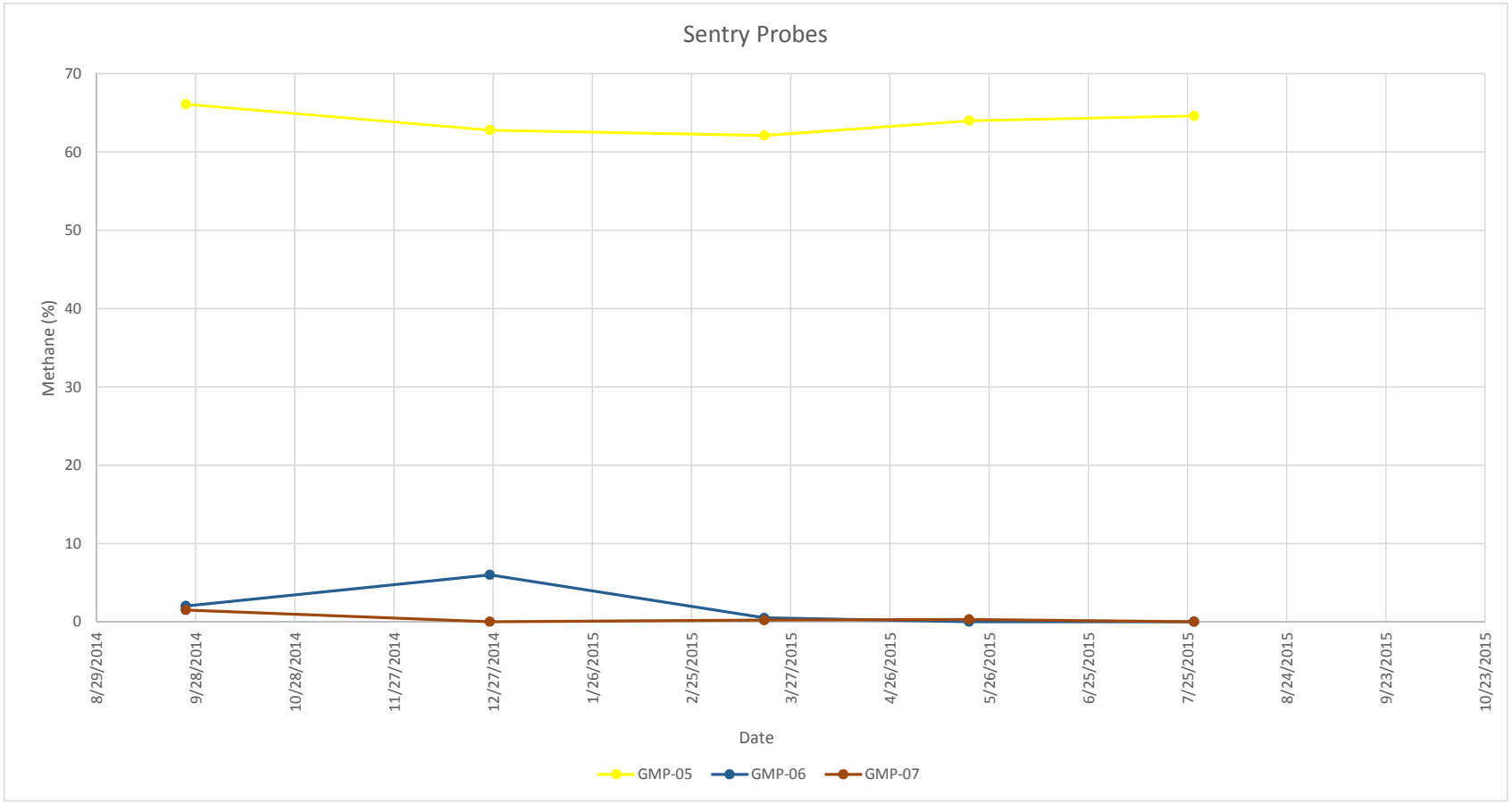
Date
GMP-01
GMP-02
GMP-03
GMP-13D
GMP-13S


Shallow Investigative Probes
Methane (%)
70
60
50
40
30
20
10
0
8/29/2014
9/28/2014
10/28/2014
11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
7/25/2015
8/24/2015
9/23/2015
10/23/2015
Date
TMP-1S
TMP-2S
TMP-3S


Sentry Probes
70
60
50
40
30
20
10
0
Methane (%)
8/29/2014
9/28/2014
10/28/2014
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12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
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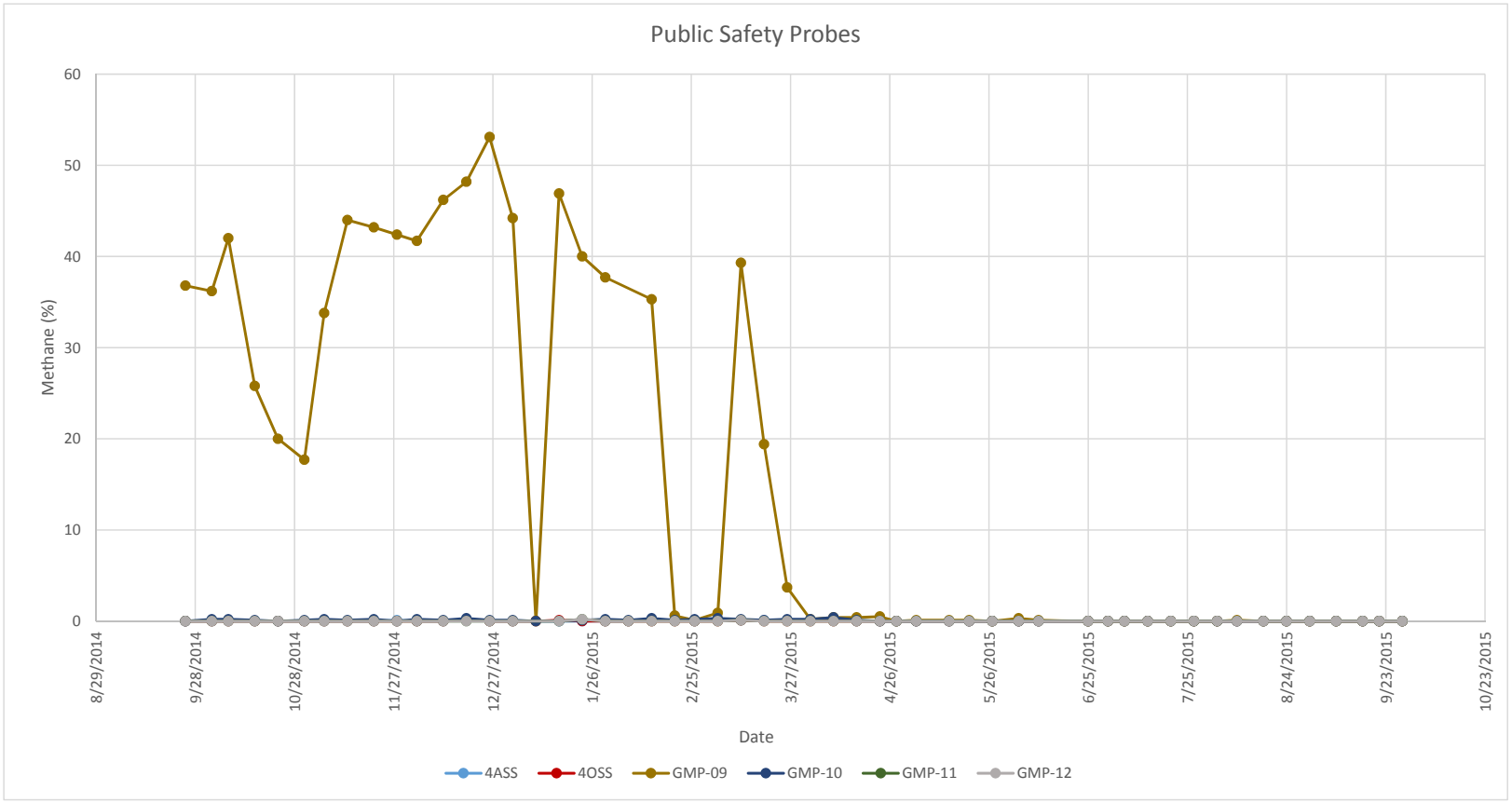
Date
GMP-05
GMP-06
GMP-07


Public Safety Probes
Methane (%)
60
50
40
30
20
10
0
8/29/2014
9/28/2014
10/28/2014
11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
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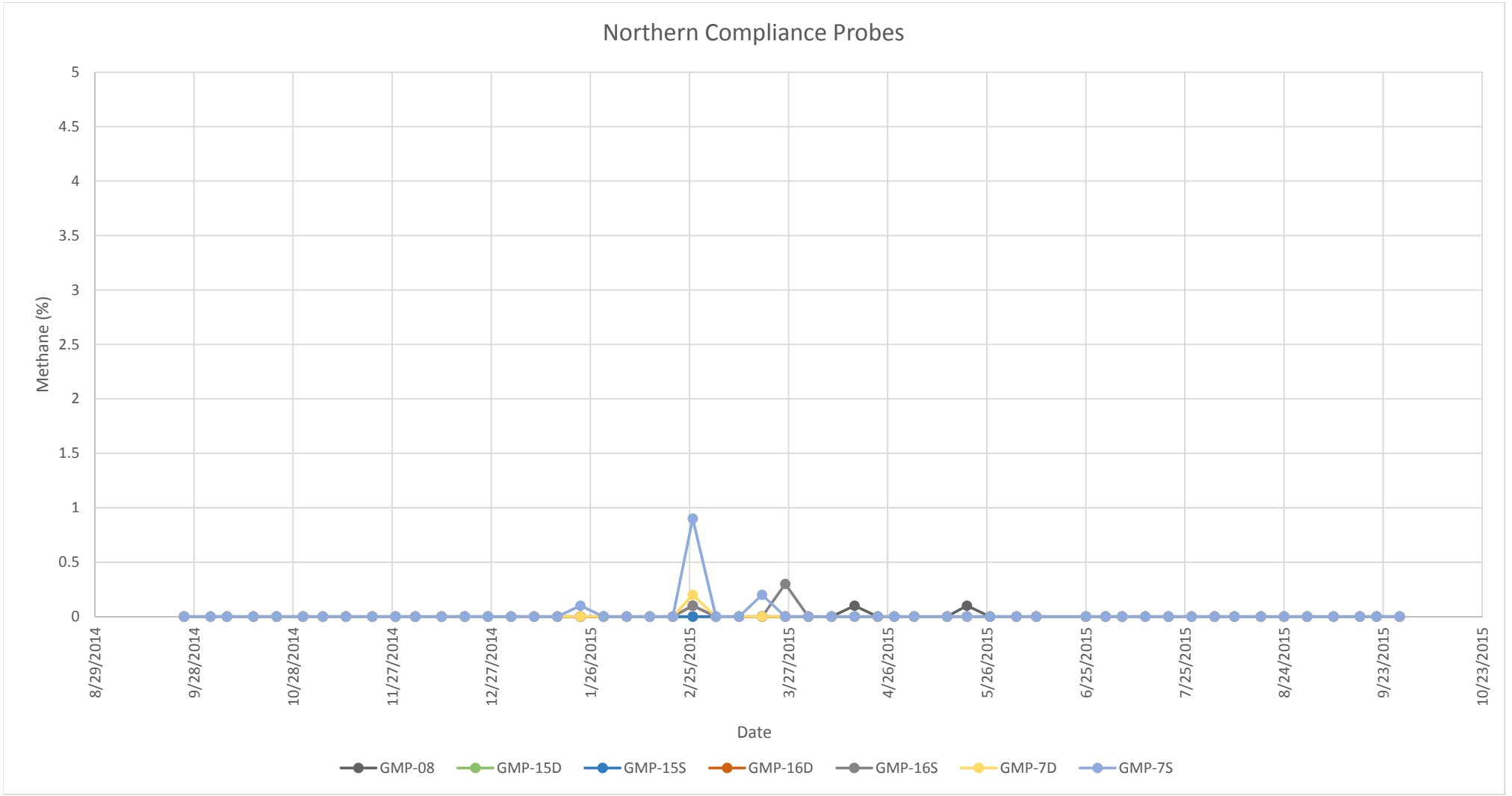
GMP-10
GMP-11
GMP-12


Northern Compliance Probes
Methane (%)
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4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
8/29/2014
9/28/2014
10/28/2014
11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
7/25/2015
8/24/2015
9/23/2015
10/23/2015
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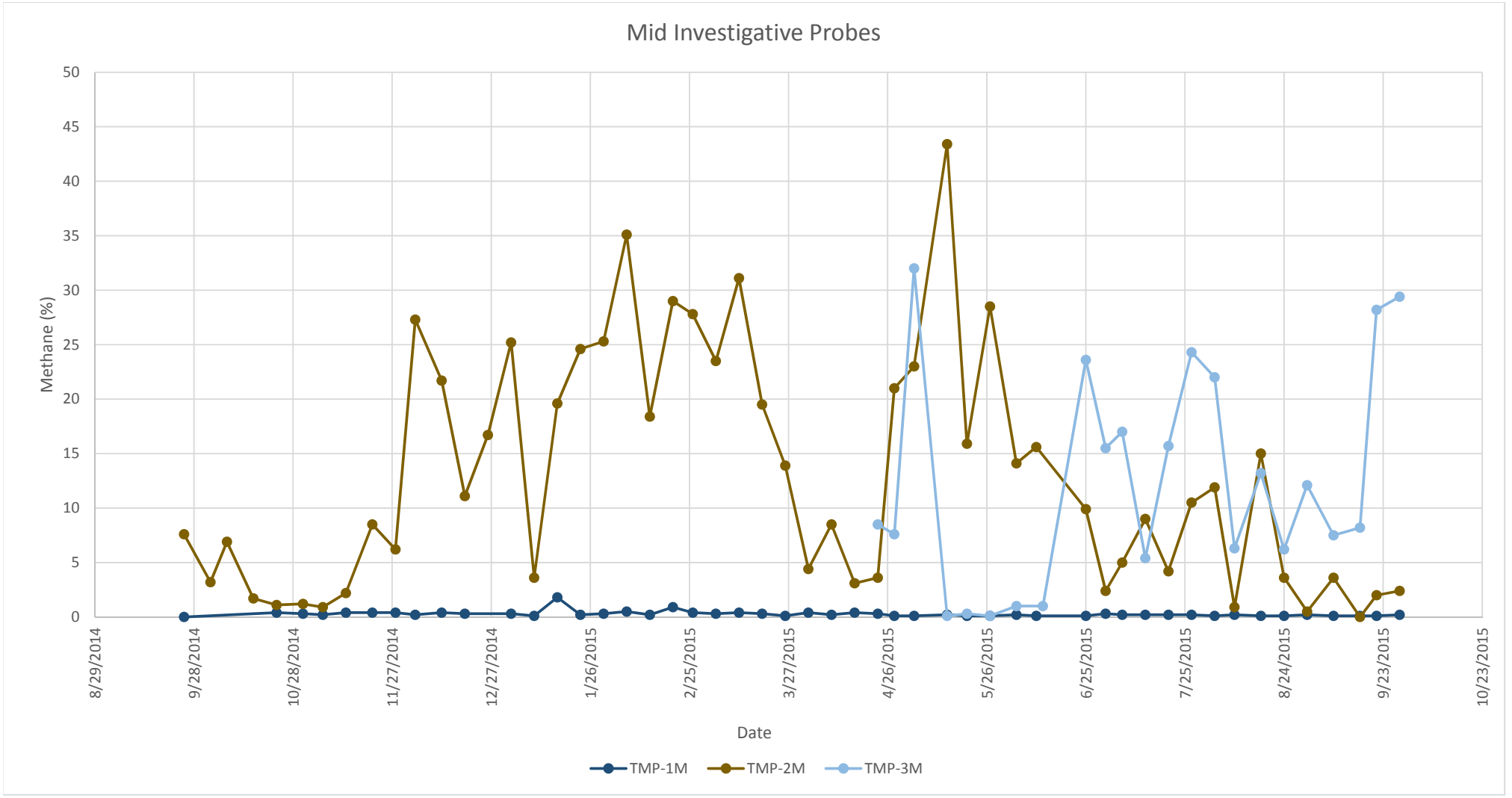
GMP-16D
GMP-16S
GMP-7D
GMP-7S


Mid Investigative Probes
Methane (%)
50
45
40
35
30
25
20
15
10
5
0
8/29/2014
9/28/2014
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11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
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9/23/2015
10/23/2015
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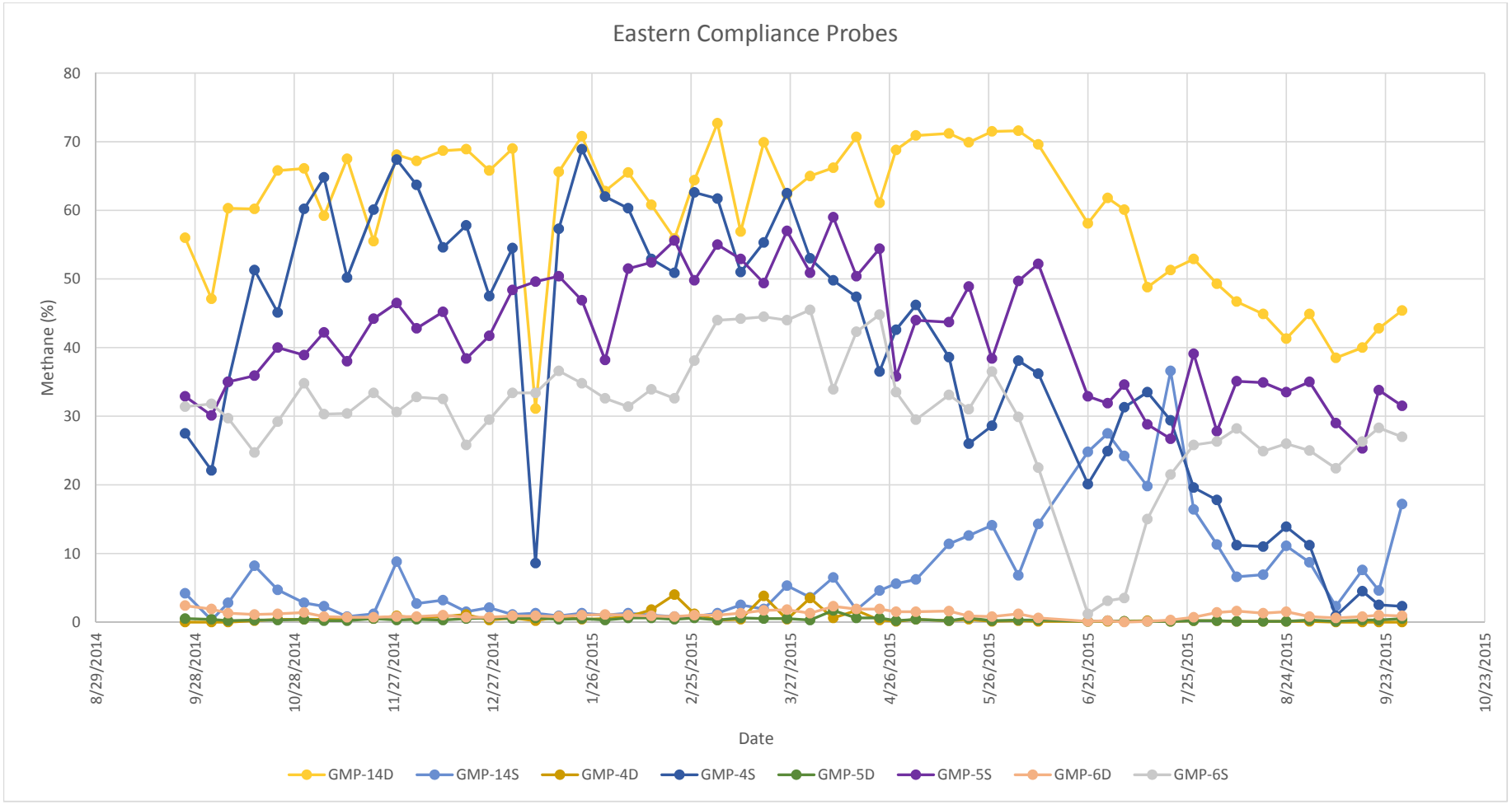
TMP-2M
TMP-3M


Eastern Compliance Probes
Methane (%)
80
70
60
50
40
30
20
10
0
8/29/2014
9/28/2014
10/28/2014
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12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
7/25/2015
8/24/2015
9/23/2015
10/23/2015
Date
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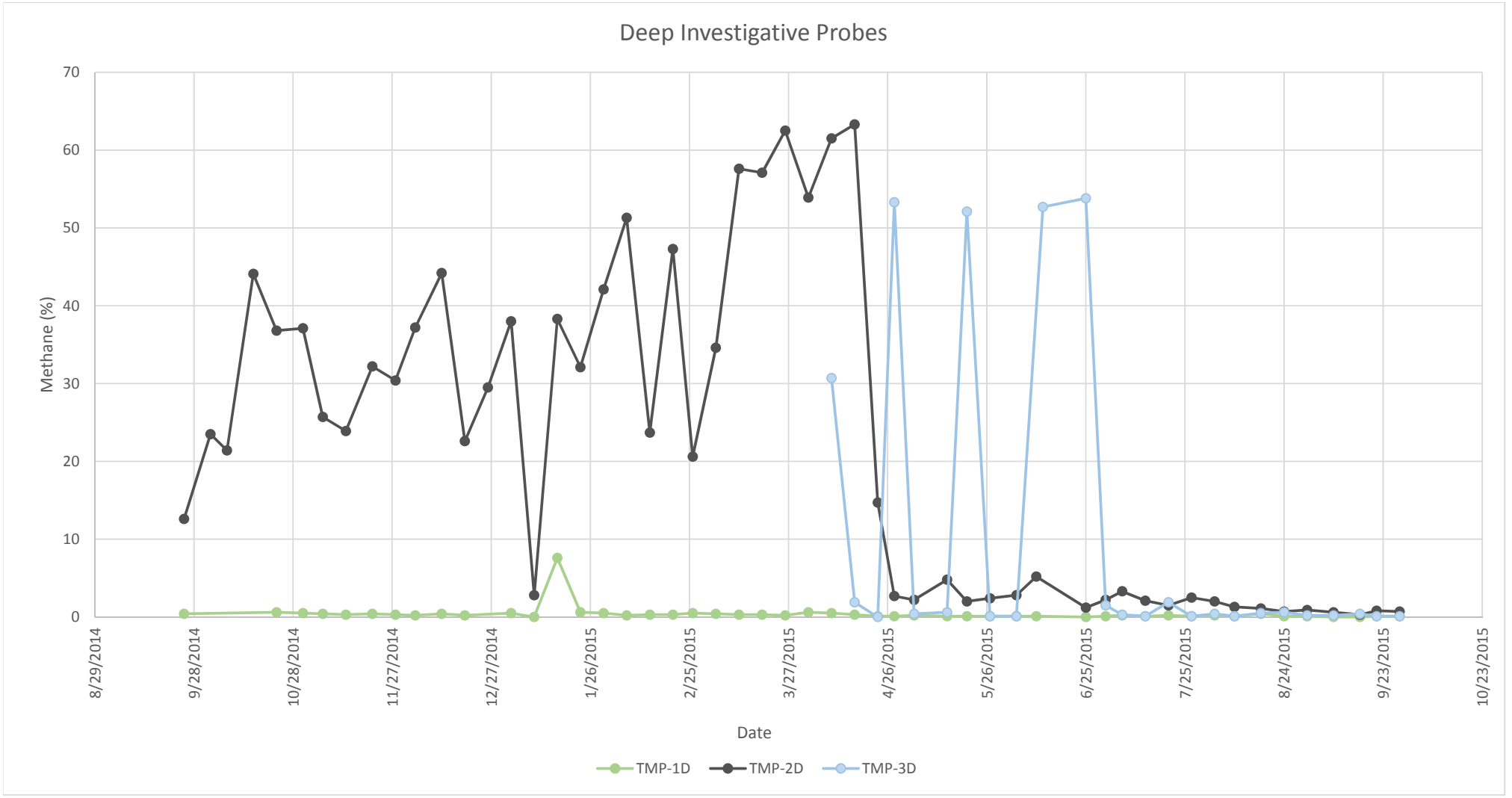
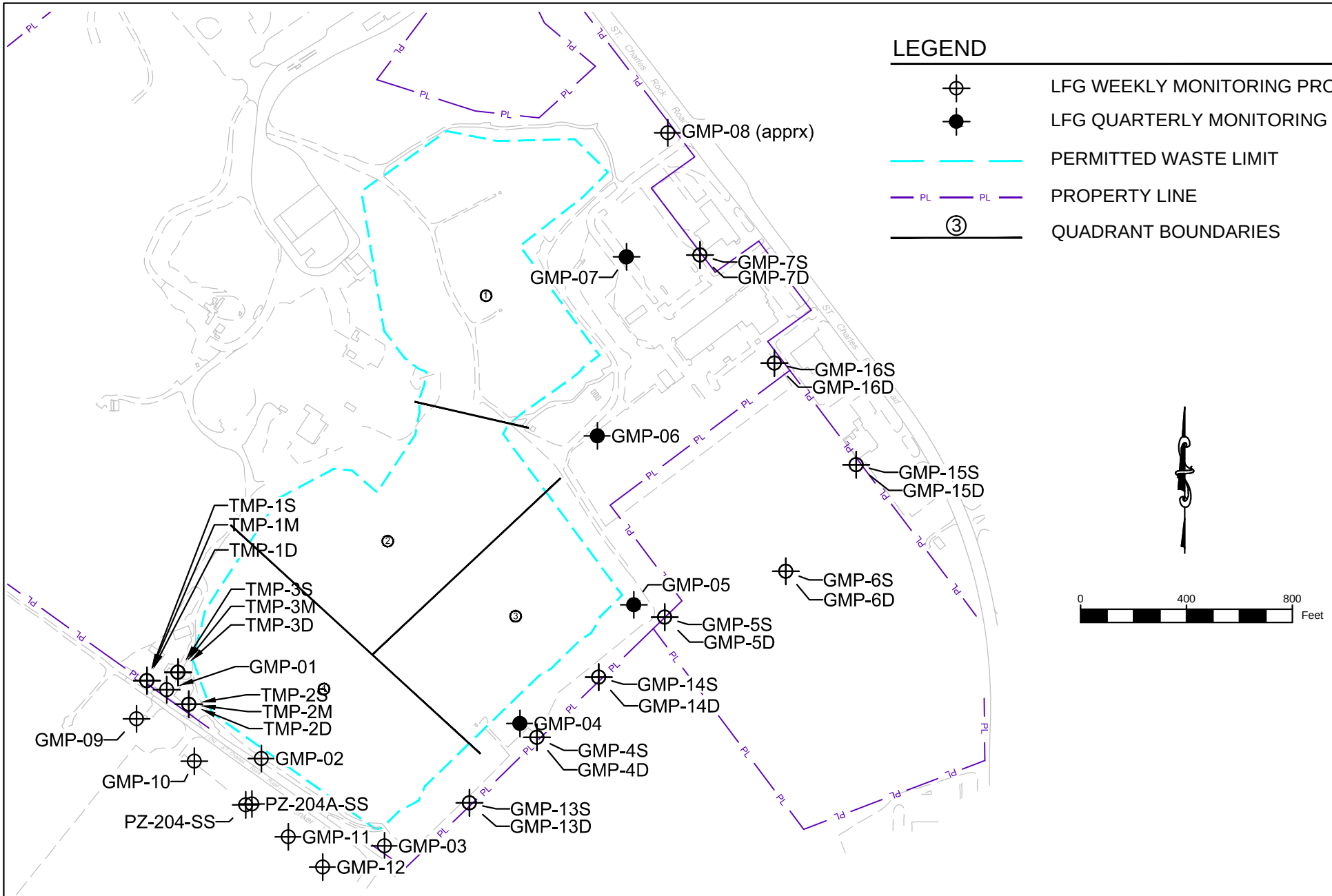
GMP-14S
GMP-4D
GMP-4S
GMP-5D
GMP-5S
GMP-6D
GMP-6S


Deep Investigative Probes
Methane (%)
70
60
50
40
30
20
10
0
8/29/2014
9/28/2014
10/28/2014
11/27/2014
12/27/2014
1/26/2015
2/25/2015
3/27/2015
4/26/2015
5/26/2015
6/25/2015
7/25/2015
8/24/2015
9/23/2015
10/23/2015
Date
TMP-1D
TMP-2D
TMP-3D

APPENDIX C

INFRASTRUCTURE SITE PLAN, GAS MONITORING PROBE LOCATIONS



BRIDGETON LANDFILL LLC
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

BRIDGETON LANDFILL
SITE INFRASTRUCTURE

GAS MONITORING PROBES

PROJECT NUMBER: BT-024

FILE PATH: BT-024\Corrective Action Plan Updates\2014 October\3 - Appendices\Appendix C\Drawing\gas Monitoring System 2nd Quarter 2014.dwg

Engineering for a Better World
FEEZOR ENGINEERING, INC.

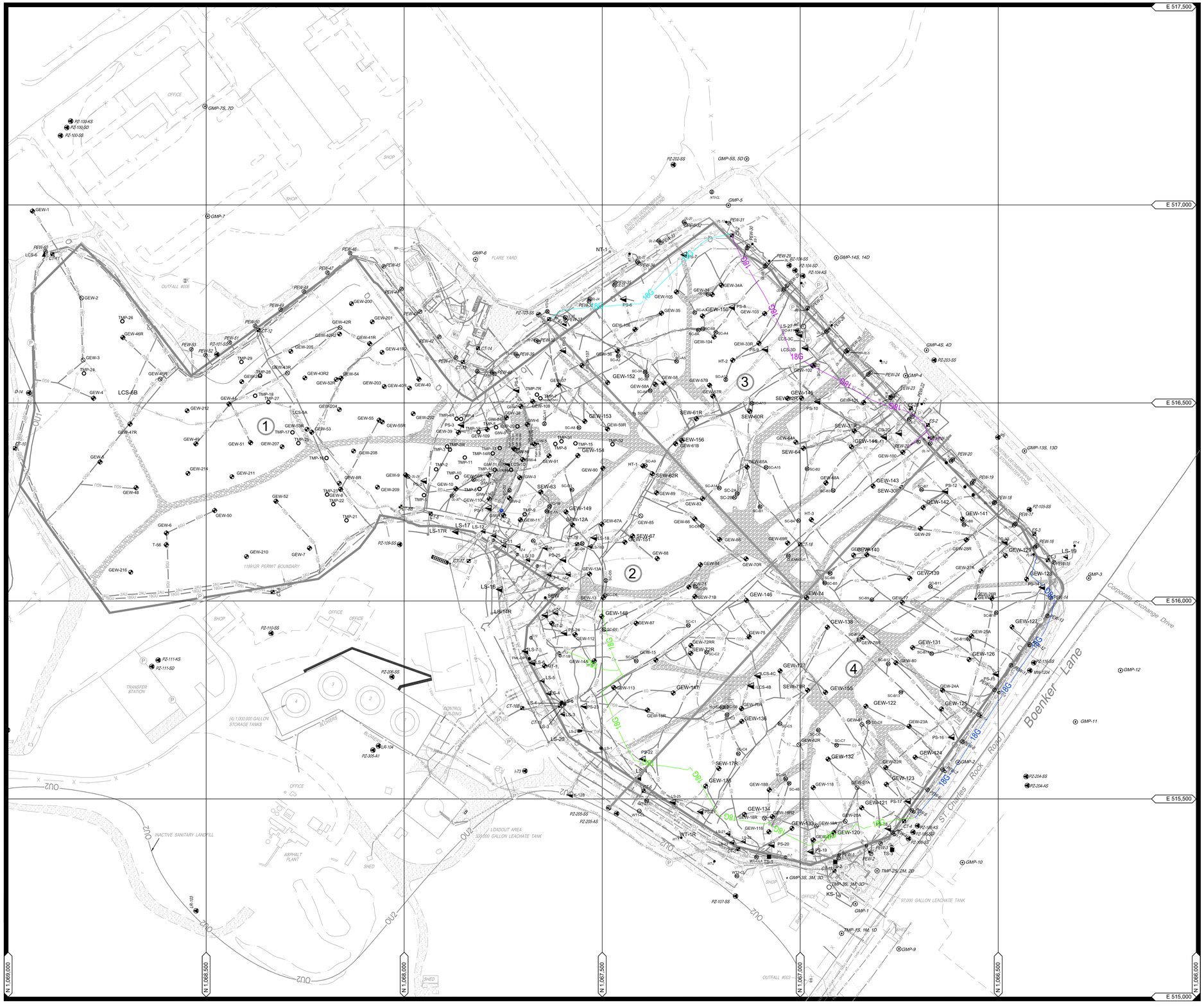
DECEMBER 2013
DESIGNED BY: PML
APPROVED BY: ---

REVISION	DATE

DRAWING NO.:
001

APPENDIX D

18” LANDFILL GAS COLLECTION HEADER EXPANSION



LEGEND

- SOLID WASTE BOUNDARY
- GAS MONITORING PROBE
- PIEZOMETER MONITORING WELL
- GAS EXTRACTION WELL
- DUAL GAS EXTRACTION WELL
- SURFACE EXTRACTION WELL
- PERIMETER GAS EXTRACTION WELL
- LFG ISOLATION VALVE
- LEACHATE ISOLATION VALVE
- FLOW METER
- GRIT CHAMBER
- LIFT STATION
- CONDENSATE SUMP
- CONDENSATE TRAP/HEADER CONNECTION SUMP
- LEACHATE COLLECTION SUMP
- HORIZONTAL COLLECTION SUMP
- PERIMETER SUMP
- LEACHATE COLLECTION SUMP
- SURFACE COLLECTOR
- TEMPERATURE MONITORING PROBE
- SUBSURFACE RCP WELLS
- TRENCH SUMP
- INTERCEPTION TRENCH RISER
- PERIMETER LEACHATE SUMP
- WELL HEAD RISER
- WELL BORE BOOT
- TRENCH SUMP
- OVER LINER TIE IN POINT
- GAS INTERCEPTOR WELL
- CLEAN OUT
- QUADRANT #
- POWER PANEL
- QUARRY WALL
- LEACHATE COLLECTION PIPING
- DUAL CONTAINED LCS FORCEMAIN (SIZE VARIES)
- DUAL CONTAINED PERIMETER FORCEMAIN (SIZE VARIES)
- LEACHATE COLLECTION PIPING (SIZE VARIES)
- TOE DRAIN
- 4" PERFORATED TRENCH DRAIN
- BUBBLE SUCKER
- AIR LINE
- AIR LINE (PRESSURIZED BELOW GROUND)
- BURIED LFG COLLECTION PIPING (SIZE VARIES)
- 2" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 4" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 6" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 8" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 10" STEEL GROUND LFG COLLECTION PIPING
- ABOVE GROUND LFG COLLECTION HEADER PIPING (SIZE VARIES)
- 2" PRESSURIZED AIR / 2" FORCEMAIN IN COMMON TRENCH
- ABOVEGROUND ELECTRIC LINE
- NATURAL GAS LINE
- WATERMAIN
- UNDERGROUND ELECTRIC LINE
- FIBER OPTIC LINE
- FENCE LINE
- INTERCEPTOR TRENCH
- BUILDING
- HAUL ROAD
- PHASE A 18" LFG HEADER
- PHASE B 18" LFG HEADER
- PHASE C 18" LFG HEADER
- PHASE D 18" LFG HEADER

0 100 200 Feet

BRIDGETON LANDFILL, LLC 13570 ST. CHARLES ROCK ROAD BRIDGETON, MISSOURI 63044	BRIDGETON LANDFILL SECOND QUARTER 2015 SITE INFRASTRUCTURE	Engineering for a Better World FEEZOR ENGINEERING, INC.	JULY 2015 DESIGNED BY: AMR APPROVED BY:	DRAWING NO.: D
18" LANDFILL GAS COLLECTION HEADER EXPANSION				
PROJECT NO: BT-057	FILE PATH: G:\Users\You\Dropbox\Bridgeton\BT-057\drawings\Infrastructure Site Plan 2014 Qt - CAD\arch\Title Block 42x30 XREF - TEMPLATE.dwg		REVISION	DATE

APPENDIX E

IT TRENCH MODIFICATION

INTERCEPTOR TRENCH
SUMPS AS BUILT

BRIDGETON LANDFILL, LLC

OCTOBER 2015

PREPARED FOR:

BRIDGETON LANDFILL, LLC
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

LOCATION MAP

N

SOURCE:

Engineering for a Better World
FEEZOR ENGINEERING, INC.

3405 HOLLENBERG DRIVE
BRIDGETON, MO 63044
TEL. (314) 736-5794

INDEX OF DRAWINGS

STATE OF MISSOURI
AARON L KARLAS
NUMBER PE-2014035807
PROFESSIONAL ENGINEER

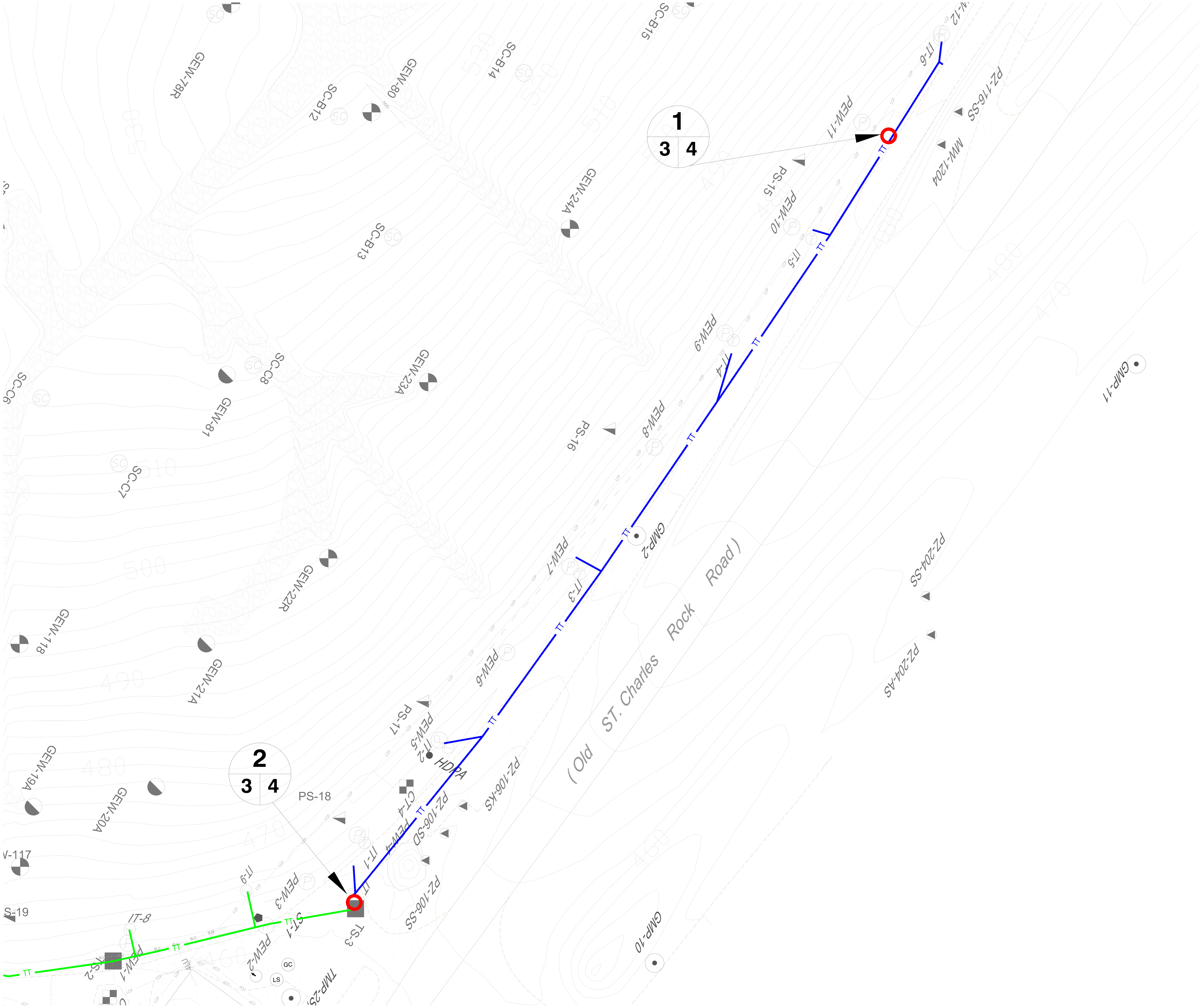
8/31/15

Aaron L. Karlas, P.E.

MO No: PE-2014035807 Date

CHANGES TO THIS PLAN/DRAWING SET REQUIRE WRITTEN APPROVAL BY FEI.

BRIDGETON LANDFILL, LLC 13570 ST. CHARLES ROCK ROAD BRIDGETON, MISSOURI 63044	BRIDGETON LANDFILL INTERCEPTION TRENCH SUMPS AS BUILT	SEPTEMBER 2015	DRAWING NO.:
		APPROVED BY:	
FULL SITE EXISTING CONDITIONS	Engineering for a Better World FEEZOR ENGINEERING, INC.		**002**
PROJECT NUMBER: BT-073 FILE PATH:		REVISION DATE	



LEGEND

- BUILDING
- EXISTING TOPO
- GAS MONITORING PROBE
- PIEZOMETER MONITORING WELL
- GAS EXTRACTION WELL
- DUAL GAS EXTRACTION WELL
- SURFACE EXTRACTION WELL
- PERIMETER GAS EXTRACTION WELL
- LFG ISOLATION VALVE
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- SUBSURFACE RCP WELLS
- TRENCH SUMP
- INTERCEPTION TRENCH RISER
- PERIMETER LEACHATE SUMP
- WELL HEAD RISER
- WELL BORE BOOT
- TRENCH SUMP
- OVER LINER TIE IN POINT
- GAS INTERCEPTOR WELL
- CLEAN OUT
- POWER PANEL
- FENCE LINE
- EXISTING SE INTERCEPTION TRENCH
- EXISTING SW INTERCEPTION TRENCH
- AS-BUILT SUMP LOCATION

0 100 200 Feet

BRIDGETON LANDFILL, LLC
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

BRIDGETON LANDFILL INTERCEPTION TRENCH SUMPS AS BUILT

PLAN VIEW

FEEZOR ENGINEERING, INC. — Engineering for a Better World

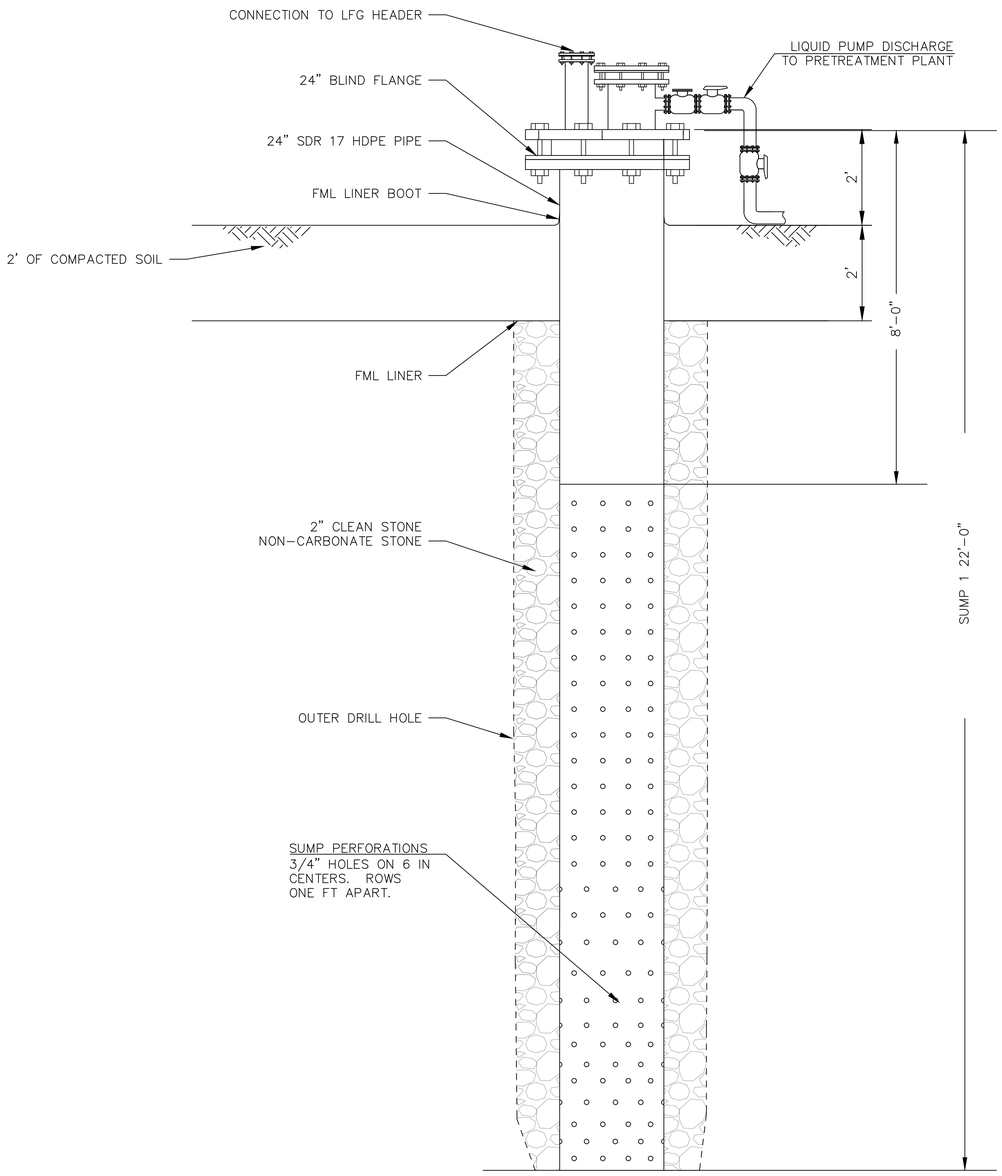
SEPTEMBER 2015

APPROVED BY:

REVISION | DATE

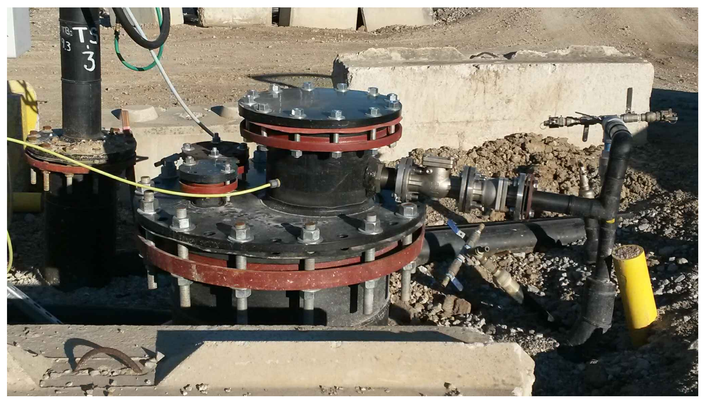
DRAWING NO.: 003

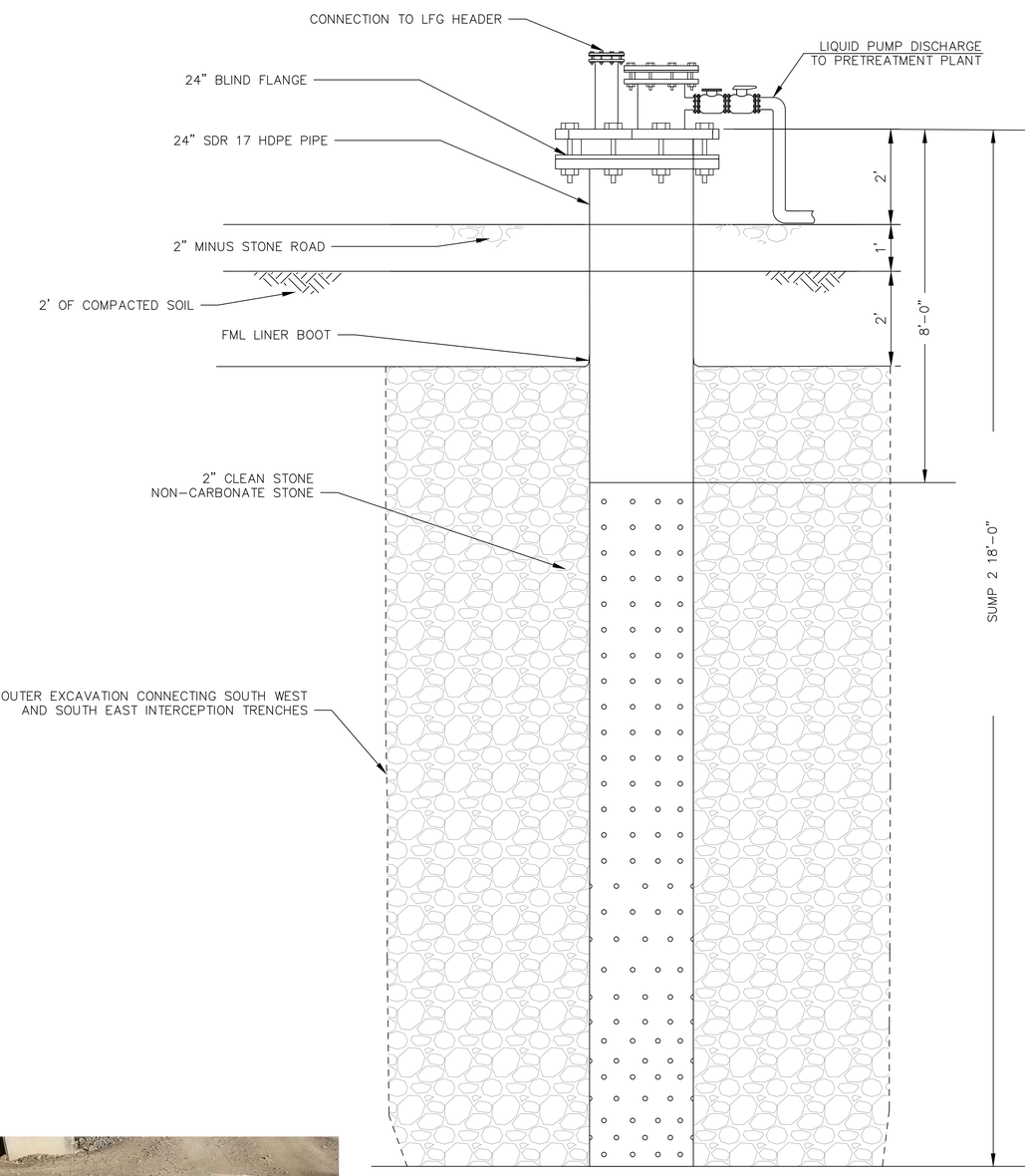
PROJECT NUMBER: BT-073 | FILE PATH:



INTERCEPTOR TRENCH SUMP 1 DETAIL

1
3 | 4





INTERCEPTOR TRENCH SUMP 2 DETAIL

2
3 | 4

BRIDGETON LANDFILL, LLC 13570 ST. CHARLES ROCK ROAD BRIDGETON, MISSOURI 63044	BRIDGETON LANDFILL INTERCEPTION TRENCH MODIFICATIONS AS BUILT	Engineering for a Better World FEEZOR ENGINEERING, INC.	OCTOBER 2015 DESIGNED BY: AW APPROVED BY: ALK
SUMP DETAILS			
PROJECT NUMBER: BT-073	FILE PATH: C:\Users\DaveDesktop\Bridgeton Weekly Gas Probes\Corrective Action Plan Updates\2015 October\3 - Appendices\Appendix E\BT-073 SW Sump Details.dwg	REVISION	DATE

DRAWING NO.: **004**