COMPLIANCE / ENGINEERING / REMEDIATION

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September 21, 2009

Ms. Karen Spray
Colorado Oil & Gas Conservation Commission
P.O. Box 2651
Durango, CO 81302-2651

RE: 4M Operations and Maintenance Report

Ms. Spray:

LT Environmental, Inc. (LTE) is pleased to submit Operations and Maintenance (O&M) Report for the 4M Outcrop Mitigation Project in La Plata County Colorado to the Colorado Department of Natural Resources (DNR) Colorado Oil & Gas Conservation Commission (COGCC).

Background

The objective of the 4M methane mitigation system is to demonstrate the economical and technical viability to recover and use the uncontrolled methane along the Outcrop. Additional system goals are to operate while helping protect the environment, including reducing carbon emissions and improving plant growth. To accomplish these objectives, LTE designed and installed vapor collection and barrier systems for methane collection at both the South Fork Texas Creek and Pine River sites. At the South Fork Texas Creek site, the recovered methane is being used to run a turbine, which is generating electricity to operate the collection system. The turbine is also returning any excess power to the local electrical grid for credit as a renewable energy resource. The design, installation, and startup of the 4M methane mitigation system was completed in 2008 and 2009. Normal operation, including O&M activities, has occurred since May 2009 (post-startup) as detailed in this report.

Mitigation System Design, Installation, and Startup

LTE completed the Mitigation System Design in 2008, based on historical data and data collected during the 2008 soil vapor survey over the methane collection areas. The subsurface piping and vapor barriers were installed and the concrete building pads were poured in October 2008. The installation area was then seeded and straw covered in November 2008, prior to winter weather. Over the winter months (November 2008 through March 2009), equipment was ordered following mineral rights clarification and approval of the final access agreement by British Petroleum (BP) and the COGCC. Installation of the remediation system was completed from April 8, 2009 through May 7, 2009. Startup testing was accomplished May 5, 2009 through May 7, 2009.

Mitigation System Operation and Maintenance

During normal operation, gas qualities remained fairly consistent at both sites. Methane levels have remained around 80% at the South Fork Texas Creek site (Figure 1). Methane levels have remained

near 35% at the Pine River site (Figure 2). The Pine River site occasionally experienced low methane levels which automatically shutdown the methane mitigation system. Early data is slightly skewed since the system would remain off (even after methane levels returned to normal levels) until the system could be manually restarted. This meant that data was collected even when the system was down and methane was not being pumped to the gas meters. The installation of a time-delay relay at the Pine River site will allow for the system to turn on after methane levels return to an acceptable level, allowing for more consistent operation and accurate data collection. Currently, all four collection zones are being utilized at each of the two sites.

During startup, it was noticed that inaccurate readings were being collected from the oxygen meters at both sites. Further investigation revealed that the factory had shipped the meters with incorrect internal settings. The oxygen meters were removed from the site and shipped back to the factory for adjustment and sensor replacement. The new meters were installed in June 2009 and have been functioning correctly since the repairs.

Shortly after startup, the phase converter began shutting off due to software issues. The unique application as part of the methane mitigation system necessitated several iterations of software versions and internal boards. The current software version and internal boards have been functioning without issue since July 2009, indicating that the phase converter issues have been resolved.

O&M activities conducted in the reporting period included:

- Completion of routine O&M checks to monitor and adjust system performance;
- Field screening the inlet gas quality;
- Collecting gas quality data stored in the data loggers for analysis;
- Collecting weather station data for analysis;
- Replacement of defective oxygen meters at both sites (under warranty);
- Replacement of software/hardware on the phase converter at the South Fork Texas Creek site (under warranty);
- Installation of a time-delay relay at the Pine River site; and
- Methane mitigation system maintenance, which included changing oil and filters in the compressor system.

Operation of the remediation system will continue with a focus on system optimization and data collection. The turbine was set at 10 kilowatts (KW) at the conclusion of startup. Since July 2009, after the phase converter and gas meter issues were rectified, the turbine has been gradually ramped up from the 10 KW setting to a current operational rate of 14 KW. Thus far, the system has been

able to sustain operation without vacuum/pressure or gas quality disruptions with the turbine running at 14 KW. With normal system operation utilizing approximately 6 KW of electrical power, the remaining 8 KW are currently being placed back into the grid for a net gain.

Summary and Conclusions

Visual observations (vegetation) and field readings (electrical generation) suggest that the methane mitigation system is operating successfully. Considerable vegetative growth has occurred in areas previously prohibitive of vegetative growth at both sites. Additionally, a substantial amount of excess electricity has been produced and returned to the grid at the South Fork Texas Creek site. The electrical meter was installed with a reading of 50,000 kilowatt-hours (KWH). The methane mitigation system consumed almost 2,000 KWH of electricity during the installation period. The startup period allowed the site to recover an excess of approximately 2,000 KWH. In July 2009, after all startup issues had been resolved and normal operation began, the electrical meter read approximately 50,000 KWH.

From July 2009 to date, the methane mitigation system has been operating with a focus on system optimization. From July 1, 2009 to September 1, 2009, the electrical meter has reduced from 49880 KWH to 42,380 KWH (Figure 3). At the current rate, the excess electricity generated is estimated to reach 50,000 KWH in January 2010 (Figure 4). The optimization of the methane mitigation system will continue with a stepwise increase in the electrical generation.

LTE appreciates the opportunity to provide services to the COGCC. Please call us at 303-433-9788 if you have any questions or comments regarding this report.

Sincerely,

LT ENVIRONMENTAL, INC.

Matthew R. Vielhaber, P.E.
Project Engineer

Christopher E. Shephard, P.E.
Principal/Group Manager

Attachments: Figure 1 - South Fork Texas Creek Methane Levels
Figure 2 - Pine River Methane Levels
Figure 3 - South Fork Texas Creek Electrical Results
Figure 4 - South Fork Texas Creek Forecasted Electrical Results

FIGURES

FIGURE 1

South Fork Texas Creek Methane Levels

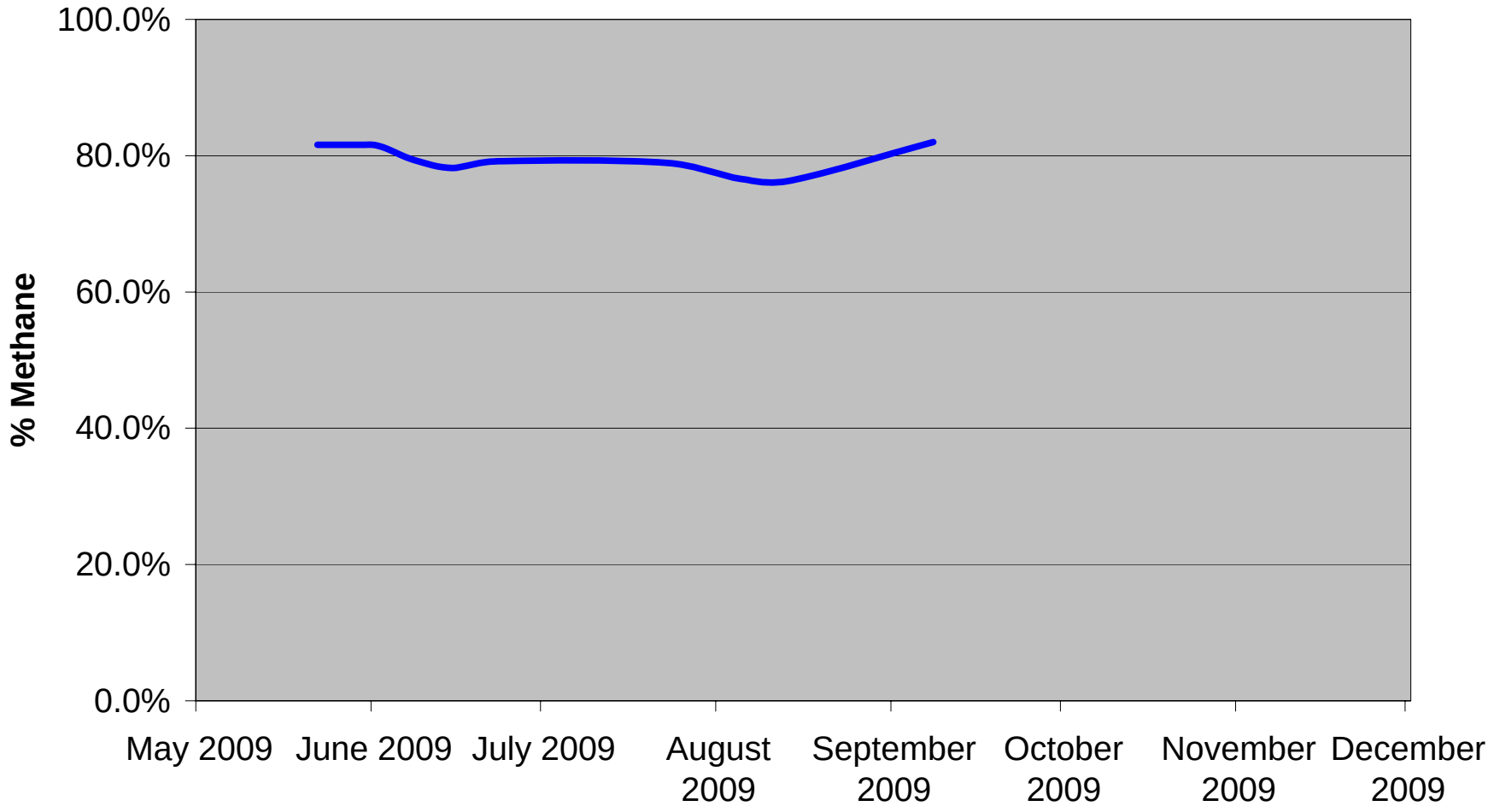

FIGURE 2

Pine River Methane Levels

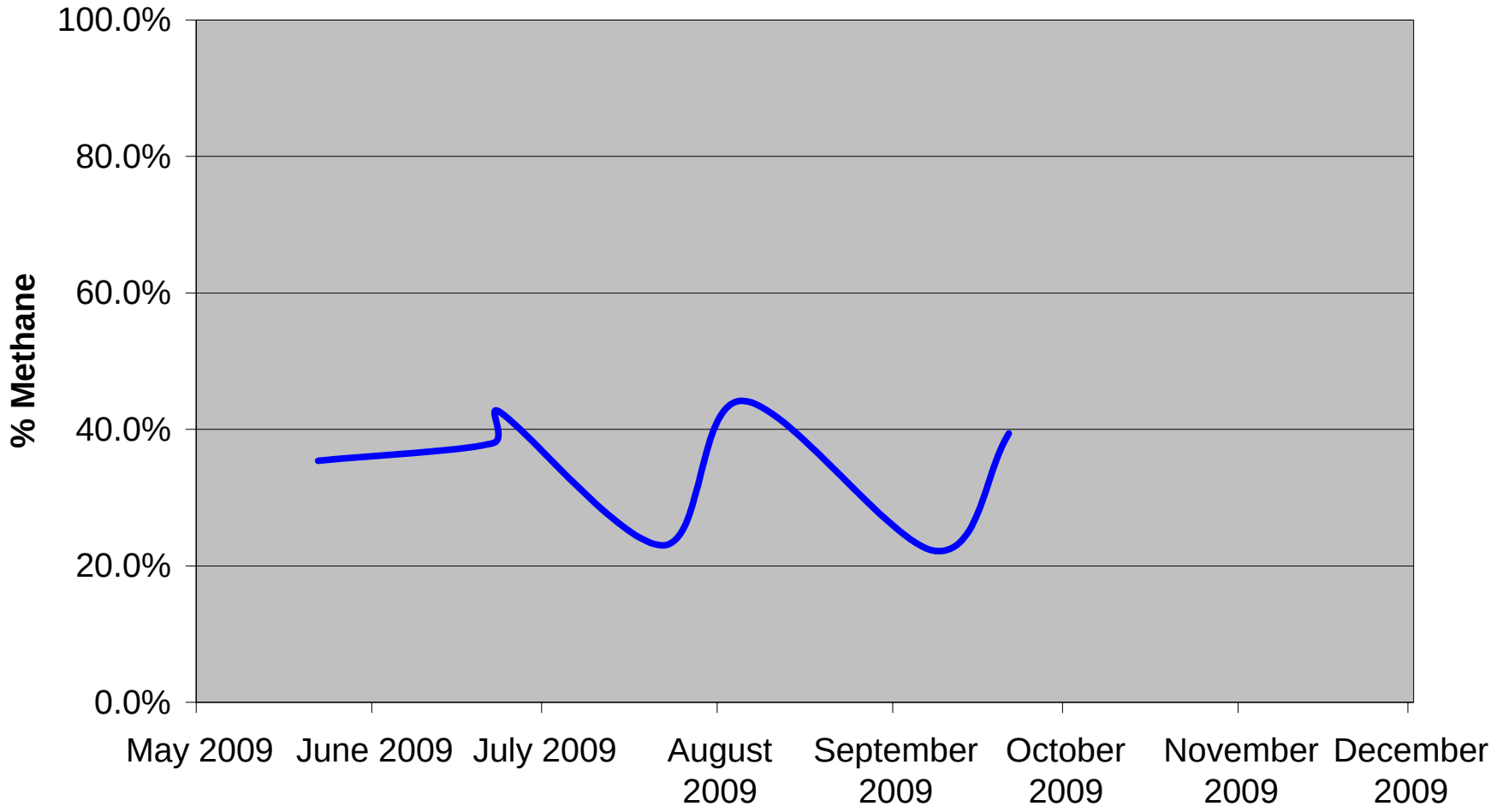

FIGURE 3

South Fork Texas Creek Electrical Results

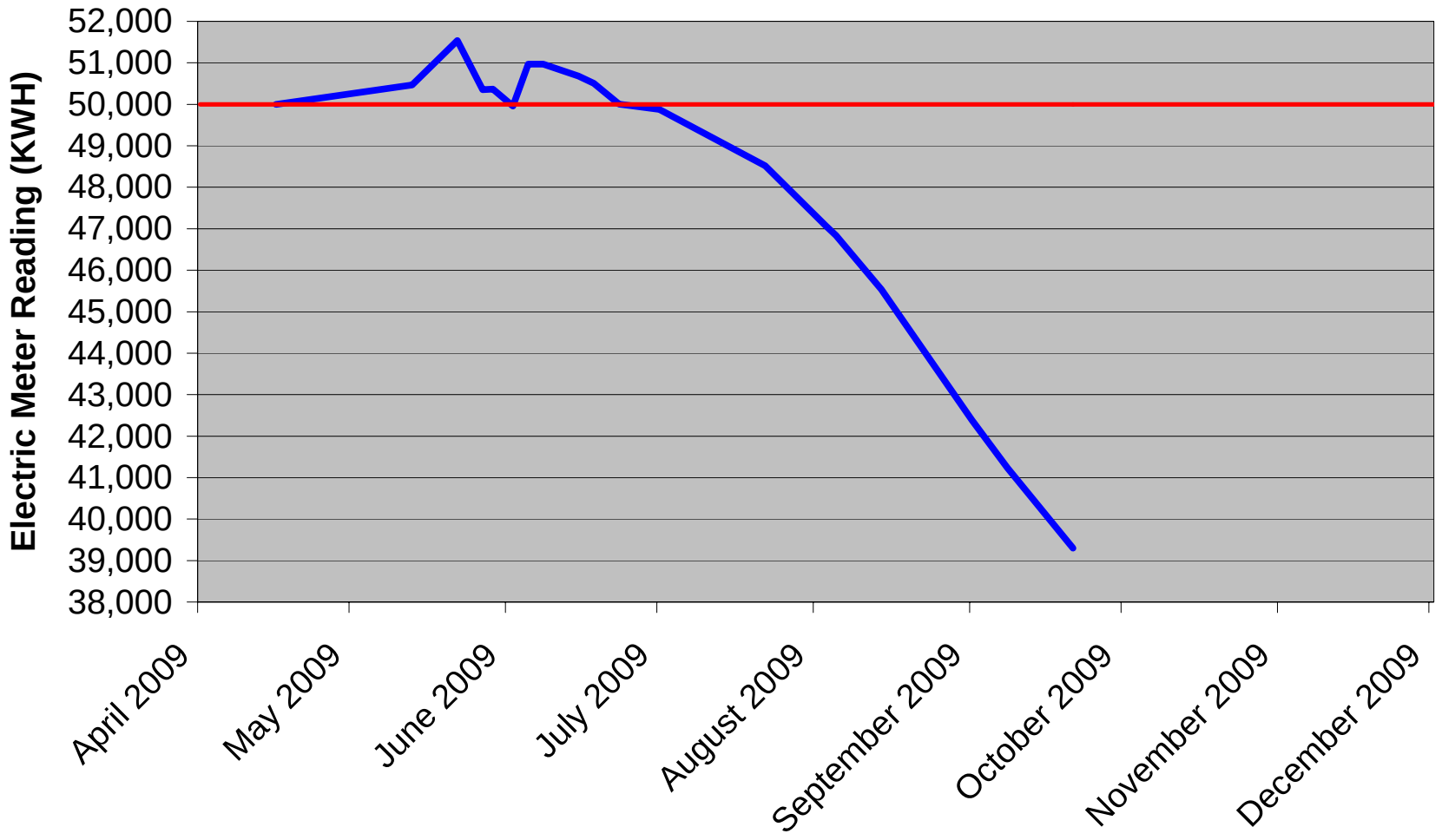

FIGURE 4

South Fork Texas Creek Forecasted Electrical Results