



March 9, 2017

Mr. Fred Diehl  
 Assistant to the Town Administrator  
 Town of Erie  
 645 Holbrook Street  
 PO Box 750  
 Erie, CO 80516

Subject: Proposal to Assist the Town of Erie with Monitoring of Oil and Gas Operations

Dear Mr. Diehl:

Pinyon has included in this proposal monitoring options specifically requested by the Town due to citizen concerns related to the wells at the Waste Connections and Pratt locations. Monitoring options include noise monitoring and air quality monitoring at these two well sites, as well as two residential locations that are most likely to be impacted by drilling. Based on our discussions, we have put together a menu of services, and associated costs, as outlined below, that the City can choose from on as-needed basis.

**Monitoring of wells during drilling and completions.** The purpose of the monitoring of oil and gas wells within the Town of Erie’s purview would be to observe and report on compliance with the following, and/or to respond to complaints.

- Colorado Department of Public Health and Environment (CDPHE) - Air Pollution Control Division (APCD) Regulation 7
- Colorado Oil and Gas Conservation Commission (COGCC) rules 604.c.(2)F, 802.b, and 1102.a

COGCC rules and regulations govern noise and emissions near oil and gas facilities to minimize pollution and disturbance to nearby communities. Continuous monitoring of noise will occur at two locations per well site as requested by the Town of Erie.

In addition, Pinyon would mobilize to the nearby residences to conduct air monitoring, as requested by the Town. Pinyon understands that air quality monitoring at the Pratt and Waste Connections locations is of particular concern and we have presented two options for air monitoring as detailed in Task 2.

**Task I: Noise Monitoring**

In accordance with Colorado Oil and Gas Conservation Committee rule 802, well production facilities may not exceed the maximum permissible noise levels established in accordance to section 802.b of the rule.

Zone	Maximum Permissible Noise Level	
	7:00am to 7:00pm	7:00pm to 7:00am
Residential/Agricultural/Rural	55 db(A)	50 db(A)
Commercial	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)

db(A) A-weighted decibel

Pinyon will mobilize to the well site and monitor for noise at two locations using a Type I sound level meter. The sound level meter will be used to collect continuous measurements of both A-weighted and C-weighted decibels at a location 350-feet from the well site and a second site located near the residences that may be affected by drilling. The sound level meter will be configured with an alert system that will send a real time message to the Pinyon Noise Specialist indicating that noise levels have been exceeded. Pinyon will notify Town staff by the next business day of any exceedances. Pinyon will provide a monthly report detailing noise monitoring results.

**The cost for six months of noise monitoring is estimated at approximately \$70,000.**

Assumptions:

1. The Town of Erie will allow a chain link enclosure to be installed at both monitoring locations. The cost for both enclosures, including delivery and initial set up are included in this proposal.
2. The Town of Erie will assist in moving the enclosures to the second well site when Crestone has finished their well completion at the first site.
3. Site visits to change batteries and calibrate the noise monitor will coincide with the ambient air sampling. If site visits do not coincide additional costs will be incurred.

### **Task 2: Ambient Air Sampling**

The CDPHE APCD conducted air sampling in the vicinity of the Woolly-Sosa site on December 13, 2016. Pinyon will conduct air sampling as outlined in the, "Health Screening Evaluation of Air Testing in Erie Neighborhoods," dated January 31, 2017. Pinyon will mobilize to the residential noise monitoring site and place a Summa Canister at that location. The canister will be equipped with a 24-hour regulator. Pinyon will re-mobilize to the well site to retrieve the canister after 24 hours. Summa Canister samples will be collected every five days. A once per five-day sampling frequency aligns with previous ambient air toxics studies conducted by CDPHE APCD and EPA.

The sample will then be analyzed in accordance to Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)," and EPA reference Method 18, "Measurement of Gaseous Organic Compound Emissions by Gas Chromatography." Pinyon will compare the results against short term and long term health screening levels as identified in the below sources and will prepare a monthly report detailing the results.

- Environmental Protection Administration Integrated Risk Information System
- ATSDR (US Agency for Toxic Substances and Disease Registry MRL)
- PPRTV (EPA Provisional Peer Reviewed Toxicity Values)
- California Office of Environmental Health Hazard Assessment REL)
- TCEQ (Texas Commission on Environmental Quality AMCV)

**Pinyon estimates the cost for this task to be \$39,000 for a six-month monitoring term.**

Assumptions:

1. Air samples will be collected on a schedule that coincides with Pinyon site visits to change batteries and calibrate the noise monitor. If the site visits do not coincide monitoring can still be conducted, but additional costs will be incurred.
2. Air sample results will be reported by the lab to Pinyon one business day after receipt of the Summa Canister. If the Town of Erie does not require expedited reporting, laboratory analysis costs per sample will decrease.

*Task 2b: Additional Ambient Air Sampling*

If the Town of Erie wishes to collect additional air samples beyond the once per five-day frequency, e.g., increase the amount of monitoring during fracking and/or well completions or respond to a citizen complaint, Pinyon will mobilize to the desired site and place a Summa Canister at that location. The Summa Canister will be configured as outlined in Task 2 and will be analyzed in accordance to Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)," and EPA reference Method 18, "Measurement of Gaseous Organic Compound Emissions by Gas Chromatography." Pinyon will compare the results against short-term and long-term health screening levels as identified in the above sources and will prepare a brief memo detailing the results.

**Pinyon estimates the cost for this task to be \$1,800 for a single sample.**

**Task 3: March 14<sup>th</sup> Presentation to the Erie Town Board**

Pinyon will make a presentation to the Erie Town board at their March 14, 2017, meeting. Pinyon will summarize our suggested approach to air and noise modeling at the two well sites, answer questions posed by the board and participate in relevant discussions pertaining to the project.

**The cost for this task is estimated at \$1,770.**

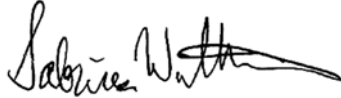
**Additional Tasks.** Pinyon may provide additional tasks (as requested by the Town) on an on-call basis, including spill analysis, billed according to Pinyon's 2017 standard rate table.

If you have any questions, or require additional information, please do not hesitate to call. We would be happy to revise the proposed services, as necessary to meet the Town's needs, or to meet and discuss our outlined approach. Thank you for considering Pinyon for your environmental consulting needs.

Mr. Fred Diehl  
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Sincerely,

**PINYON ENVIRONMENTAL, INC.,**

A handwritten signature in black ink, appearing to read "Sabrina Williams", with a long horizontal flourish extending to the right.

Sabrina Williams

Air Quality and Noise Specialist

File Location: Z:\Proposals\2015 Proposals\Erie On-Call\Encana MOU Assistance\2017 Proposal