

January 7, 2025

Mr. Joseph E. Hager III  
Department of Administration  
Purchasing Division  
2019 Washington St. E  
Charleston, West Virginia 25305

Subject: Solicitation No.: CRFP 0313 DEP2500000004  
Department of Environmental Protection  
Methane Emission Reduction Program (MERP)  
Administrative Services

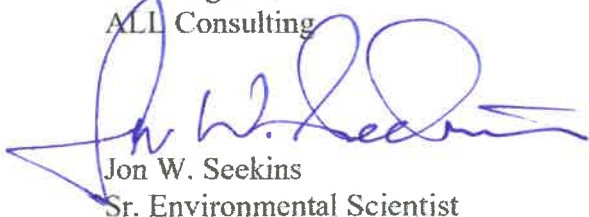
Mr. Hager,

Enclosed is a copy of our Original Technical Proposal as well as the following signed forms for the above referenced solisitation.

- RFP Cover Page
- Addendum #1 – Cover Page
- Addendum #2 – Cover Page
- Addendum Acknowledgement Form
- Designated Contact Form
- Request For Proposal Review Form

If you have any questions or concerns, please do not hesitate to contact us.

Best Regards,  
ALL Consulting



Jon W. Seekins  
Sr. Environmental Scientist

xc: Dave Epperly, P.E., Ph.D. – ALL Consulting, LLC

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WW PURCHASING  
DIVISION



Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

State of West Virginia  
Centralized Request for Proposals  
Service - Prof

**Proc Folder:** 1542680  
**Doc Description:** DEP OOG - MERP Administration

**Reason for Modification:**

**Proc Type:** Central Master Agreement

| Date Issued | Solicitation Closes | Solicitation No         | Version |
|-------------|---------------------|-------------------------|---------|
| 2024-11-12  | 2024-12-17 13:30    | CRFP 0313 DEP2500000004 | 1       |

**BID RECEIVING LOCATION**

BID CLERK  
DEPARTMENT OF ADMINISTRATION  
PURCHASING DIVISION  
2019 WASHINGTON ST E  
CHARLESTON WV 25305  
US

**VENDOR**

**Vendor Customer Code:** VS0000047827

**Vendor Name :** ALL CONSULTING, LLC

**Address :** 1718 South Cheyenne Avenue

**Street :**

**City :** Tulsa

**State :** Oklahoma

**Country :** United States of America **Zip :** 74119

**Principal Contact :** Dr. David Epperly

**Vendor Contact Phone:** (918) 382-7581

**Extension:** (918) 582-6035

**FOR INFORMATION CONTACT THE BUYER**

Joseph E Hager III  
(304) 558-2306  
joseph.e.hageriii@wv.gov

**Vendor  
Signature X**

**FEIN#** 73-1570269

**DATE** 01-06-2025

**All offers subject to all terms and conditions contained in this solicitation**



Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

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Centralized Request for Proposals  
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|                                                       |                            |                         |                                                                                                                                                                           |
|-------------------------------------------------------|----------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Proc Folder:</b> 1542680                           |                            |                         | <b>Reason for Modification:</b><br>Addendum #1 issued to publish agency responses to vendor submitted questions and extend the bid open..... See Page 2 for complete info |
| <b>Doc Description:</b> DEP OOG - MERP Administration |                            |                         |                                                                                                                                                                           |
| <b>Proc Type:</b> Central Master Agreement            |                            |                         |                                                                                                                                                                           |
| <b>Date Issued</b>                                    | <b>Solicitation Closes</b> | <b>Solicitation No</b>  | <b>Version</b>                                                                                                                                                            |
| 2024-12-09                                            | 2025-01-07 13:30           | CRFP 0313 DEP2500000004 | 2                                                                                                                                                                         |

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CHARLESTON WV 25305  
US

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**Principal Contact :** David Epperly, P.E., Ph.D.

**Vendor Contact Phone:** (918) 382-7581 **Extension:** (918) 582-6035

**FOR INFORMATION CONTACT THE BUYER**  
Joseph E Hager III  
(304) 558-2306  
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|                                                                                                               |                         |                        |
|---------------------------------------------------------------------------------------------------------------|-------------------------|------------------------|
| <b>Vendor Signature X</b>  | <b>FEIN#</b> 73-1570269 | <b>DATE</b> 01-06-2025 |
|---------------------------------------------------------------------------------------------------------------|-------------------------|------------------------|

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Centralized Request for Proposals  
Service - Prof

Proc Folder: 1542680

Doc Description: DEP OOG - MERP Administration

Reason for Modification:

Addendum #2 is issued to extend  
the bid close date until 1/09/2025  
@ 1:30 PM ET.

Proc Type: Central Master Agreement

| Date Issued | Solicitation Closes | Solicitation No         | Version |
|-------------|---------------------|-------------------------|---------|
| 2025-01-06  | 2025-01-09 13:30    | CRFP 0313 DEP2500000004 | 3       |

BID RECEIVING LOCATION

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DEPARTMENT OF ADMINISTRATION  
PURCHASING DIVISION  
2019 WASHINGTON ST E  
CHARLESTON WV 25305  
US

VENDOR

Vendor Customer Code: VS0000047827

Vendor Name : ALL Consulting, LLC

Address : 1718 South Cheyenne Avenue

Street :

City : Tulsa

State : Oklahoma

Country : United States of America Zip : 74119

Principal Contact : David Epperly, P.E., Ph.D.

Vendor Contact Phone: (918) 382-7581

Extension: (918) 582-6035

FOR INFORMATION CONTACT THE BUYER

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joseph.e.hageriii@wv.gov

Vendor  
Signature X

FEIN# 73-1570269

DATE 01-06-2025

All offers subject to all terms and conditions contained in this solicitation

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CRFP DEP25\*04**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

|                                                    |                                          |
|----------------------------------------------------|------------------------------------------|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

ALL Consulting  
Company  
[Signature]  
Authorized Signature  
January 6, 2025  
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Dr. David Epperly

(Address) 1718 South Cheyenne Avenue, Tulsa, Oklahoma 74119

(Phone Number) / (Fax Number) 918.382.7581 / 918.303.7787

(email address) depperly@all-llc.com

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through WYOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

ALL CONSULTING

(Company) 

(Signature of Authorized Representative)

David Epperly, P.E., Ph.D. - Vice President

(Printed Name and Title of Authorized Representative) (Date)

(918) 383-7581 / (918) 303-7787

(Phone Number) (Fax Number)

depperly@all-llc.com

(Email Address)



# REQUEST FOR PROPOSAL

## (DEP - CRFP 0313 DEP2500000004)

Proposal 1: Step 1 –  $\$1,000,000 / \$1,000,000 = \text{Cost Score Percentage of } 1 (100\%)$   
Step 2 –  $1 \times 30 = \text{Total Cost Score of } 30$

Proposal 2: Step 1 –  $\$1,000,000 / \$1,100,000 = \text{Cost Score Percentage of } 0.909091 (90.9091\%)$   
Step 2 –  $0.909091 \times 30 = \text{Total Cost Score of } 27.27273$

- 6.8. Availability of Information:** Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

ALL Consulting, LC

(Company)

David Epperly, P.E., Ph.D., Vice President

(Representative Name, Title)

(918) 382-7581 / (918) 303-7787

(Contact Phone/Fax Number)

January 06, 2025

(Date)

**State of West Virginia**  
**Centralized Request for Proposals**  
**Solicitation No.: CRFP 0313 DEP2500000004**  
**Department of Environmental Protection**  
**Methane Emission Reduction Program (MERP)**  
**Administrative Services**

**TECHNICAL PROPOSAL**

*ALL*CONSULTING

1718 South Cheyenne Avenue  
Tulsa, Oklahoma 74119  
Phone No.: (918) 382-7581  
Fax No.: (918) 382-7582

David Epperly, P.E., Ph.D.  
[depperly@all-llc.com](mailto:depperly@all-llc.com)

**January 06, 2025**



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## INTRODUCTION

The West Virginia Department of Environmental Protection (WV DEP) is embarking on a forward-looking effort to provide financial and technical assistance to owners and operators of certain natural gas and oil production wells for the purpose of methane emission reductions. To achieve the Methane Emissions and Waste Reduction Incentive Program for Petroleum and Natural Gas Systems (MERP) goals, WV DEP has divided the program into three parts, each with their own distinct function and objectives. The parts are comprised of the Community Benefits Committee (CBC), the Administrator, and the Agency.

The focus of this response to the Request for Proposal (RFP) is on the “Administrator” portion which will utilize the Marginal Conventional Well (MCW) plugging prioritization plan/model, developed by the CBC, to identify selected wells. The Agency will then contract and oversee well-plugging services.

### Project Understanding

Our team understands that the WV DEP is seeking an Administrator responsible for providing services related to the identification, nomination, emission quantification, evaluation, selection, and ancillary permitting of the wells selected for plugging under the MERP.

We further understand that the development and implementation of the MCW nomination process will outline the steps necessary to:

- Identify or suggest candidate wells.
- Specify the information required for applications.
- Establish criteria for prioritizing nominated wells.
- Define timeframes for nomination, selection, and plugging tasks.

To solicit nominations from owners and operators, a robust outreach campaign will be developed. This will include more than direct mailings and ultimately result in meaningful engagements that educate participants about the project’s goals, milestones, deadlines, and other pertinent factors. This process will feature a controlled nomination period with clearly defined opening and closing dates.

Additionally, we recognize that the Administrator will oversee methane emission quantification (MEQ) data collection, in accordance with DOE published guidelines, for all nominated MCWs, as well as obtaining post-plugging measurements. Pre-plugging methane emission rates will be incorporated into the well-scoring criteria. These MEQ data, combined with application information, will be used in the CBC-developed MCW plugging prioritization plan/model to generate a prioritized list of selected MCWs for plugging.

Following the selection process, the Administrator will collaborate with the owners/operators of selected MCWs to proactively identify the need for any local, county, state, or federal permits and ensure they are obtained within appropriate timeframes. While owners/operators are ultimately responsible for acquiring necessary permits associated with the plugging activities, expedited processing is crucial to allow the Agency to implement plugging strategies before the grant period ends on September 30, 2028.

Additionally, we acknowledge the Agency's responsibility to ensure plugging activities do not:

1. Impact federally listed threatened and endangered (T&E) species or critical habitats.
2. Jeopardize historical properties listed or eligible for listing, in the National Register of Historic Places.
3. Affect ancestral tribal lands.

The Administrator, in turn, understands that they will need to implement the Agency's plan to identify these "locations of concern" and act on the Agency's behalf regarding any consultation with the U.S. Fish and Wildlife Service (FWS), WV State Historic Preservation Office (SHPO), or affected Tribes.

With this understanding established, we envision a collaborative community-based effort comprising available specific data that results in a participant-informed, comprehensive process to plug a practical number of prioritized MCWs within the project timelines.

Our project team understand that West Virginia possesses an intangible wildlife and wilderness quality and includes numerous special areas requiring particular attention and consideration for their unique characteristics. Furthermore, the state represents a significant source of agricultural and mineral development, provides numerous recreational opportunities, holds exceptional scenic value, and provides principal habitat for a wide variety of fish and wildlife, including T&E species.

## Statement of Work

The Statement of Work (SOW) and other planning documents clearly demonstrate that the WV DEP understands the services required to accomplish its objectives.

This proposal highlights our project team's (ALL Consulting and CSR Services, LLC, see below) directly relevant experience and ability to deliver these services. Our capability and capacity to execute a project of this scale and complexity are supported by our past performance and key staff, as detailed below.

## Proven Team

**ALL Consulting** (ALL) has partnered with **CSR Services, LLC** (CSR) to form a comprehensive team that brings immediate value to the MERP across various technical areas. Several members of ALL who are nearing completion of similar projects associated with MCW and orphaned identification, plugging oversight, as well as carbon credit establishment will be assigned to this effort. The team also includes specialists in public engagement and information technology, ensuring the effective management of public outreach campaign components and dissemination of information.

CSR offers extensive expertise in MEQ data collection and over 5-years of relevant experience with WV DEP. An overview of the ALL Team is presented in **Exhibit 1**.

## Exhibit 1 – ALL Team

| Company Name      | Business Status | Offices                                         | Staff | Project Specialty                                                                                                                      |
|-------------------|-----------------|-------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------|
| ALL Consulting    | Small HUBZone   | Tulsa, OK<br>Cadiz, OH                          | 35    | Project Mgmt., Agency Consultation, Stakeholder Engagement, Information Technology, Permitting, Well Plugging Design, MEQ Measurements |
| CSR Services, LLC | Small Business  | Townville, PA<br>Geneva, PA<br>Burgettstown, PA | 50    | Oil and Gas Well Servicing & Plugging, Project Mgmt., Stakeholder Engagement, MEQ Measurements, Permitting                             |

**ALL Consulting, LLC** is a professional services firm specializing in environmental sciences/planning, earth sciences, oil & gas industry support, and technology. As a certified HUBZone small business founded in 1999, it provides services to both private and public sectors.

As a professional services firm comprised of engineers, geologists, scientists, and planners, our capabilities include:

- NEPA projects and complex and sensitive environmental planning.
- GIS analysis tools for energy evaluations.
- Research and development of US Department of Energy (DOE) oil and gas handbooks.
- Endangered Species Act, Section 7 consultation and biological assessments.
- National Historic Preservation Act (NHPA) and National Register of Historic Places (NRHP) criteria assessments.
- Tribal consultation under Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA).

We are organized, dedicated, thorough, and skilled at translating highly technical information into a format accessible to a general audience while maintaining technical credibility. The specific staff assigned to this project have experience in well plugging, methane emission rate sampling, impact analyses, and historical property documentation as well as tribal consultations.

**CSR Services, LLC** is an oil and gas service company specializing in servicing and plugging wells, and remediating and restoring well sites for operators, public agencies, and private landowners. CSR provides complete turnkey plugging and abandonment operations and services including gas leak detection, wellsite preparation and remediation, and orphan well locating and inspection. CSR is one of two Construction Managers at Risk for the Ohio Department of Natural Resources Initial Grant from the Bipartisan Infrastructure Law. The CSR Services management and supervisory team have a rich history of well plugging and oil field experience, being known to successfully plug some of the most difficult wells in the area at or above state and federal regulations. CSR is familiar with state and federal regulatory standards and requirements for well closure, construction, and operating public and private-sector projects.

## Commitment to West Virginia DEP'S Success

Through our project experience and project staffing, we demonstrate in this proposal our qualifications and capabilities to perform the required work. The personnel allocation in the accompanying Cost Proposal further reinforces our understanding of WV DEP's goals.

The project team is fully committed to successfully completing the MERP, and we are excited about the opportunity to assist the WV DEP with this important initiative.

## MCW Nomination Process

### Owner / Operator Identification

As noted in Addendum No. 01, the WV 2023 production table identifies nearly 60,000 wells which would meet the production quotas as defined for MCWs. We intend to use this information as a rough screening to identify the operators of these MCWs. We also envision using our subscription to *Enverus* data to further research production data over the past five years to rank older wells nearing the end of their economic lifecycle, i.e., the ones highly sensitive to market fluctuations and operational costs, or ones more likely to be considered for plugging by operators. Note, once the MCWs have been identified using *Enverus*, Geographic Information System (GIS) tools with powerful capabilities for analyzing spatial data in the oil and gas industry, will be used to further group the MCWs by County or efficient proximity areas. Furthermore, by leveraging GIS proximity tools, the Administrator will gain valuable insights into well performance, operator assets, infrastructure connectivity, resource management, and nearby sensitive receptors.

In addition, we will receive the names of any owners, operators, or stakeholders that the DEP obtained while developing this project, or who have shown interest in MERP by attending any of the CBC meetings. These lists will be combined to generate our initial Nomination Outreach list.

### Outreach Campaign

The combined Nomination Outreach list will be used to target owners and operators for our initial outreach efforts. The Outreach Campaign we envision will have four (4) parts, an initial mailing effort, media announcements, a web presence, and targeted follow-up conference calls or MicroSoft Team's on-line meetings.

The mailing effort will be made up of a hard copy snail mail flyer coupled with a systematic and routine email deployed daily for the initial two to four weeks. The flyer, either hard copy or electronic, will introduce the WV MERP project, identify the project goals and objectives, outline the MCW plugging prioritization factors, define the nomination period, and explain the financial opportunities available through the program, as well as provide links to a Project Specific Website and dates for future WV MERP Webinars.

The media announcements phase will involve newspaper ads and online social media releases such as LinkedIn to inform owners and operators of the project goals, nomination period/process, request for



stakeholder involvement, and location and timing of upcoming meetings and other pertinent information. Attempts will be made to request reporters to prepare news articles about the project and that request participation from owner/operators. Additional media outlets will be solicited, such as radio and television to report and build project awareness.

A project-specific Website will be developed to further explain the WV MERP project in detail with insights into the nomination process, the CBC plugging prioritization model, application information requirements, and benefits of participation. The website will also include a sign-up for project status updates, a frequently asked questions page, and links to fill-in the blank style PDF application documents.

As part of the Outreach effort, we will be inviting owners and operators to attend an on-line webinar, hosted by the Administrator with participation from DEP and CBC members, to explain the WV MERP project and take questions from the participants. The webinar will be recorded, and a video will be made available for viewing on the website.

Additionally, depending on the *Enverus* data analysis and GIS groupings we will target various operators who may have numerous (>15) MCWs which would meet the nomination criteria and schedule on-line video conference calls to make sure they are aware and included in the process. We envision extending this targeted outreach to smaller operators and operators with wells that rank high on the priority criteria as the process proceeds until the selected well list is filled.

## Stakeholder Consideration

We understand that stakeholders may want to nominate wells without the consent of owners or operators. The nomination application will have a mechanism for stakeholders to identify as a “*third party with interest*” and a means to explain their reasoning behind the nomination, being environmental impact, remediation / renovation, community betterment, etc. In these instances, we will reach out, in person, to the owner/operator to inform them of the nomination and their options under MERP while explaining that the program is voluntary but encouraging their consideration if the well meets the MCW criteria. We anticipate that less than five (5) percent of the nominations will be made by stakeholders.


## Nomination Window

We foresee the nomination period taking approximately eight (8) to 12 weeks to accomplish. After the Administrator selection we will immediately kick-off the development of the Webpage and Nomination Outreach list. We anticipate conducting the *Enverus* data analysis and obtaining the CBC list of interested owners/operators from meeting attendance in week one, as we have already reviewed *Enverus* and the WV Production Report data. Simultaneously, the hard and electronic mailings will be developed with the dissemination occurring during weeks three and four. We will allow one month for owners/ operators and stakeholders to attend the Webinar [occurring during week seven (7)], investigate the website, and submit the first wave of applications. We would like to receive applications for a minimum of three months, but as MCW are nominated, selections will be made to release an initial batch (~25-40) of selected wells for the DEP to issue plugging contracts for and to begin the MEQ efforts.

The development of the website coupled with the scheduling and hosting of the webinar will be planned in the initial three weeks, alongside the outreach mailing efforts.

## Nomination Timeline

A linear approach with simultaneous development and outreach conducted during the first month will be key to expediting the process. We will maintain the momentum by issuing daily emails coupled with weekly project updates and scheduling the Webinar for one month after the first mailings. We foresee receiving enough applications in the first month to feed the CBC Prioritization Model and National Energy Technology Laboratory (NETL) PRIMO software with sufficient information to make an initial selection of 25 to 40 wells in a geographically close area, allowing for the kick-off of the plugging contracts and initial MEQ field sampling.

| Tasks                                              | Calendar Year 2025 |           |           |           |                                                                                      |            |            |            |           |            |            |            |
|----------------------------------------------------|--------------------|-----------|-----------|-----------|--------------------------------------------------------------------------------------|------------|------------|------------|-----------|------------|------------|------------|
|                                                    | Feb. Wk 1          | Feb. Wk 2 | Feb. Wk 3 | Feb. Wk 4 | March Wk 1                                                                           | March Wk 2 | March Wk 3 | March Wk 4 | April Wk1 | April Wk 2 | April Wk 3 | April Wk 4 |
| Nomination Outreach List Development               | X                  | X         |           |           |                                                                                      |            |            |            |           |            |            |            |
| Mailing Flyer/Email Context Development            | X                  | X         |           |           |                                                                                      |            |            |            |           |            |            |            |
| Dissemination of Mailings                          |                    |           | X         | X         | X                                                                                    | X          |            |            |           |            |            |            |
| Website / Media Development                        | X                  | X         | X         |           |                                                                                      |            |            |            |           |            |            |            |
| Website / Media Launch & Maintenance               |                    |           |           | X         |  |            |            |            |           |            |            |            |
| Webinar Development                                |                    | X         | X         | X         | X                                                                                    |            |            |            |           |            |            |            |
| Webinar Hosted                                     |                    |           |           |           |                                                                                      |            | X          |            |           |            |            |            |
| Nomination Window Applications Received            |                    |           |           |           | X                                                                                    | X          | X          | X          | X         | X          | X          | X          |
| Data Input - CBC Prioritization Model & PRIMO      |                    |           |           |           |                                                                                      | X          | X          | X          | X         | X          | X          | X          |
| Initial Batch of Selected Wells (~25-40) Generated |                    |           |           |           |                                                                                      |            |            |            |           |            | X          |            |

## MEQ DATA ACQUISITION

ALL and CSR will deploy field teams composed of two (2) qualified and experienced MEQ technicians familiar with the DOE NETL Methane Measurement Guidelines for Marginal Conventional Wells. We will not be subcontracting this work to a qualified third party, as between ALL and CSR we have the capacity to staff at least three (3) field teams with experienced MEQ measurements specialists. We feel this will be enough teams for both pre- and post-plugging to create a consistent flow of data in an efficient and regular manner, while still allowing for the flexibility to deploy teams to different areas of the state if necessary, as the project progresses.

## Qualification of Measurement Specialists

A measurement specialist or MEQ technician refers to the individual(s) who conducts methane measurements at selected wells prior to and after plugging activities. The minimum requirements as provided by DOE/NETL that our staff have met are as follows:

- A qualified measurement specialist (QMS) has completed all the required safety training necessary to gain access to an oil & gas site, as well as a minimum of 20 hours of training specific to the measurement equipment. Additionally, they have enough field experience so that their measurements meet the data quality objectives of the proposed methods employed.
- Our QMSs can recognize, and avoid, safety hazards related to the oil and gas well, field conditions, weather variables, etc., to maintain personal safety. QMSs are required to be aware of and evaluate all potential leak, flare, and vent points at an MCW site.

## Methane Monitoring Tool Performance Evaluation Program

Since 2022, ALL Consulting has conducted a comprehensive evaluation of methane quantification technologies on a leaking orphan well located on company property. This initiative focused on testing the available ambient methane monitoring tools to advance in-house technical understanding and refine workflows for methane emissions related projects. Tool Performance Evaluations have included:

**Ventbuster** (Ventbuster Instruments): This device integrates ultrasonic flow sensors and anemometry for real-time measurement of vent flow velocities. It features advanced telemetry capabilities for remote data acquisition and monitoring. The Ventbuster is optimized for quantifying high-flow leaks directly at the vent source, providing robust data logging and wireless communication for real-time access.

**Vent Nanny** (Ventflow Technologies): A portable methane monitoring system, the Vent Nanny includes a built-in flow meter and advanced sensor technology for detecting low-level methane emissions. Its modular design allows for integration with additional environmental sensors. It is highly effective for continuous monitoring, offering real-time alerts and baseline measurement capabilities.

**Semtech Hi-Flow 2** (Semtech Corporation): Using a combination of infrared spectroscopy and differential flow measurement, the Hi-Flow 2 delivers precise quantification of methane and other greenhouse gases. It features sophisticated calibration routines for accuracy and compliance with EPA reporting standards. The tool is suited for high-accuracy leak detection, particularly in regulatory compliance applications.

**Nikira Labs Ambient Monitoring Tool** (Nikira Labs): This tool employs laser absorption spectroscopy to detect methane concentrations in ambient air, achieving sensitivity down to parts per billion (ppb). It also provides spatial mapping capabilities to identify methane plumes and track dispersion patterns, making it ideal for diffuse emission detection and site-wide ambient methane assessments.

ALL Consulting has enhanced staff qualifications by integrating QMS certification for field personnel and providing targeted training on advanced methane quantification tools. These efforts ensure staff proficiency in cutting-edge technologies and adherence to quality management standards, enabling

accurate evaluations and compliance with existing frameworks. Continuous professional development and hands-on experience with these tools strengthen our team's technical expertise and project execution capabilities.

## Pre-Plugging

### Field Team Deployment

We foresee field teams being deployed as early as May 2025. Each team will be responsible for sampling a group of wells in a geographical proximity, requiring at a minimum one week of field work. This translates to sampling approximately 20 wells per field team deployment with a target of four (4) wells per day, over five days, per team. This schedule accounts for the sampling time on site as well as the travel between wells and to and from home base or hotels. To optimize efficiency, we want to avoid sending a team to an individual well with no other wells to be sampled in proximity as this will result in longer field efforts and increased costs. Instead, the periodic and systematic evaluation and sampling of selected wells by batch will generate ongoing feedback that can be built on to improve the process.

Initially, we expect each team to complete an average of 20 wells per deployment. However, as the project progresses and larger batches of geographically clustered wells (approximately 50-75 wells) are identified, we can reduce the number of deployments needed by increasing the number of sites visited per trip and extending working hours.

This phased approach will allow the DEP to issue a plugging contract for wells in geographical proximity where pre-plugging measurements have already been collected. By advancing in this manner, we can achieve project milestones incrementally, rather than waiting for all 400 wells to be selected and sampled before issuing contracts. This strategy will allow for a number of wells to be plugged in year one, demonstrating tangible progress toward the ultimate goal of eliminating fugitive emissions.

### Pre-Plugging Emission Detection Methods

The purpose of pre-plugging measurements is to detect and quantify mitigated methane. Qualitative approaches must use an established survey, and quantitative approaches must have a minimum detection limit (MDL) of less than 100 grams/hour (g/h) as required by the DOE/NETL guidelines. MDLs will be verified by reference to peer-reviewed publications, instrument manufacturer specifications, and/or documented demonstrations of the standard operating procedures of the approach.

#### *Qualitative Screening*

While pre-plugging emissions measurements are required for all selected wells, a qualitative survey though not required may aid in the nomination process. To optimize use of time and resources, an optional preliminary assessment of a well site to detect emissions may be used to determine if further measurements are necessary and if any safety hazards exist at the site. Screening techniques include measurements of methane concentration (in units, such as ppm or percent volume) collected around the well site to identify points at which the concentration significantly exceeds the background methane concentration and plume visualization for optical gas imaging (OGI).

These screening techniques do not supply a methane emission rate, instead they provide a means of placing wells into the following categories:

- No emissions detected; no further measurement required.
- Emitting at a detectable level, quantification required.

Screening will be conducted via our OPGAL EyeCGas<sup>1</sup> infrared camera to confirm or deny the presence of a leak. We will direct the EyeCGas to all potential emission points at an MCW site, and allow enough time at each point to achieve a steady reading. Due to our experience with intermittent emissions observed at certain wells, sufficient time for evaluation at each potential emission point will be conducted. The following information will be recorded with each screening:

- The date(s) and time(s) of the screening.
- The name and affiliation of the QMS(s).
- A supporting visible light photo and / or video whenever the EyeCGas is used,
- The measurement approach.
- A well site description (listing of equipment on site, inclusion of photographs where practical).
- A description and listing of emission points, and the magnitude/description of each positive instrument response (emissions detection).

### *Quantitative Sampling*

For pre-plugging MEQ sampling, we will employ a Hi-Flow Sampler or VentBuster, ensuring compliance with DOE NETL Methane Measurement Guidelines for Marginal Conventional Wells.

High flow sampling is a widely used approach for measurements of methane leakage for maintenance or regulatory compliance. By introducing a focused vacuum with a high flow rate at potential leak points, the leakage is completely captured, and the methane concentration is analyzed by thermal conductivity, catalytic oxidation, tunable diode laser adsorption spectroscopy (TDLAS), cavity ringdown spectrometers (CRDS), or other scientific measurement principles. The multiplication of methane concentration and instrument flow rate yields the methane emission rate in mass/time (i.e., g/h). Our units have quantification limits on the order of 0.5 g/h with a reported accuracy better than  $\pm 5$  percent. To get an accurate methane emission rate measurement, it is critical to verify that the high flow sampler is fully capturing the emissions from the source location. Our EyeCGas camera will be used to visually verify emissions capture.

### *Reported Data*

Methane measurement data to be recorded at each selected MCW well site will include but not be limited to the following:

- Name and affiliation of the QMS(s).
- Date(s) and time(s) of the qualitative detection survey and quantitative emissions measurements.

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<sup>1</sup> The EyeCGas is an extremely sensitive handheld OGI camera that can identify fugitive gas emissions of over 400 hydrocarbon and VOC gases, including methane and CO<sub>2</sub>. EyeCGas is intrinsically safe, complies with the EPA's OOOO'a/b/c regulations and allows for video and audio recording and streaming, while maintain safety.



- Weather conditions at the time of measurements (temperature, barometric pressure for calibration, etc.).
- Description of the pre-plugging measurement approach, including instrumentation and calibration protocols.
- Well status (i.e., shut-in, idle, producing, etc.).
- Pre-plugging well site description and photographic inventory of surface facilities.
- Background methane concentration and how/when the measurement was taken.
- Description of any attempts to characterize the variability and/or uncertainty in emission rate (i.e., repeated measurements at multiple date[s]/time[s], measurements for an extended period, and measurements using multiple approaches).
- Abnormal site conditions (e.g., dilapidated equipment, open tank valves).
- Documentation of challenges and solutions.
- A description of gas compositional analysis used for quantification of methane emissions. If a representative analysis is used, justification will be provided.
- A description and listing of the sources of emissions surveyed.
- Pre-plugging individual and aggregated methane emissions rate estimates in g/h and metric tons per year.
- Methane concentration.
- Equipment identification and setup notes.
- Geospatial data for the well location.
- Operator observations and field notes.

## Post-Plugging

### Field Team Deployment

The post-plugging measurements will follow a similar path as the pre-plugging with regards to field team deployments based on batches of geographically close areas of wells. It is envisioned that once groups of geographically close wells are plugged, post-plugging measurements of those same groups or newly combined groups can be conducted quarterly throughout the project period resulting in an efficient and cost conservative approach. In these instances, field teams may conduct measurements at post-plugging well sites that are adjoining, adjacent, or in close proximity, the point being that our eyes will be on efficiency, and we will combine efforts where applicable.

The number of deployments may decrease with post-plugging measurements versus pre-plugging measurements as the number of wells plugged needed to reach a sufficient amount before sending a field team to conduct measurements will be higher (~30+). This is because time on site to measure post-plugging should be less, making it possible to obtain six (6) or more measurements per day provided the proximity is maintained. To ensure that there are enough plugged wells in an area to make deployment cost effective we will coordinate with the DEP to combine plugged wells from different contracts, if necessary. Again, this may only require deploying a field team once a quarter to conduct post-plugging measurements.



## Post-Plugging Emission Detection Methods

### *Qualitative*

The purpose of post-plugging measurements is to verify that methane emissions are below detection, and qualitative approaches, such as OGI, can be used to confirm there are no emission sources. We intend to use a qualitative approach similar to the description provided for pre-plugging using our EyeCGas cameras. If no leaks are observed, methane emissions are assumed to be zero and quantification is not required. This is different from pre-plugging as the inquiry is binary, as the only question to be answered is whether the well is leaking or not, i.e. was the plug successful.

### *Quantitative*

If quantification is necessary, we would use the same or similar equipment as used in the pre-plugging quantification (e.g., Hi-Flow device or VentBuster). A Ventbuster will not be capable of analyzing emissions if there is no wellhead present. These measurements would be a simplified and less time-intensive effort to ensure no residual methane emissions are present at the wellhead. If the well is determined to be leaking, we will identify the location and use a 4-gas meter manufactured by Bascom-Turner and/or Honeywell BW, to determine the constituents being emitted before taking measurements.

### *Reported Data*

Methane measurement data to be recorded at each plugged MCW site will include the applicable standard items from the pre-plugging list (OMS names, dates, times, weather conditions, site description and photos, abnormal observations, instruments used, etc.) as well as the following:

- Date of Plugging.
- A description and listing of the leaks observed.
- Date(s) and time(s) of the qualitative detection survey and quantitative emissions measurements (if applicable).
- Post-plugging individual and aggregated methane emissions rate estimates in g/h and metric tons per year.
- Description of the post-plugging measurement approach, including instrumentation and calibration protocols.
- Post-plugging background methane concentration and how/when the measurement was taken.

A quality assurance (QA)/quality control (QC) process will be implemented for post-plugging measurements where approximately one randomly chosen well per day will be resampled to verify the precision of the selected methodology. These repeat measurements will be taken on the same day due to the possibility longer-term, temporal variability might affect emission rates.

## MEQ Pre-/Post-Plugging Timeline

We envision pre-plugging measurements to be completed in the first year, while post-plugging measurements to take place over the life of the contract.

| Tasks                      | Calendar Year 2025 |    |    |    | Calendar Year 2026 |    |    |    | Calendar Year 2027 |    |    |    | Calendar Year 2028 |    |    |    |
|----------------------------|--------------------|----|----|----|--------------------|----|----|----|--------------------|----|----|----|--------------------|----|----|----|
|                            | Q1                 | Q2 | Q3 | Q4 | Q1                 | Q2 | Q3 | Q4 | Q1                 | Q2 | Q3 | Q4 | Q1                 | Q2 | Q3 | Q4 |
| Pre-plugging measurements  |                    | X  | X  | X  |                    |    |    |    |                    |    |    |    |                    |    |    |    |
| Post Plugging measurements |                    |    |    | X  | X                  | X  | X  | X  | X                  | X  | X  | X  | X                  | X  | X  | X  |

## MCW PRIORITIZATION

### Prioritized Wells

We will develop a process and methodology for identifying and prioritizing MCWs for plugging in West Virginia that closely aligns with similar programs implemented in other states. However, we acknowledge that the CBC will be providing an MCW prioritization plan/model which may modify some of these criteria. Upon evaluating the CBC's model, we will coordinate with the DEP regarding any modifications.

The primary goal of prioritization is to maximize the amount of methane emissions mitigated.

Nominated wells will be prioritized primarily based on their potential to achieve this goal, while also considering the broader impacts of plugging and abandoning the wells using the following criteria:

- Priority assigned to wells with the greater potential for methane or other emissions based on the following considerations:
  - Owner/operator self-reporting a leaking rate as measured by a qualifying entity, or certified MEQ specialist, priority assigned to higher leak rates.
  - Owner/operator self-reporting any equipment with unauthorized emissions in the past five (5) years, and priority assigned to equipment that has had a fugitive leak in the past five (5) years.
  - Whether the well location has been subject to an enforcement action by WV DEP in the past five (5) years, with priority assigned to wells that have been the subject of an enforcement action in the past five (5) years.
- Proximity to disadvantaged communities as identified by the Climate and Economic Justice Screening Tool (CEJST), with priority assigned to wells closest to disadvantaged communities.
- Location of the MCW on Tribal Land, with priority assigned to wells located on Tribal Land.
- Current production rates at the MCW.
- Potential impacts of well plugging on small businesses based on the number of wells operated by owner, with priority assigned to lower number of wells operated.
- Potential human health impacts, based on the following considerations:
  - Whether the well is sour, with priority assigned to sour wells.

- Whether the well is located within 1/4 mile (1,320 feet) of a sensitive receptor, with priority assigned to wells located within that range.
  - Whether there are surface facilities associated with the well.
- Potential impacts on surface and groundwater quality and flood resilience, based on the following considerations:
  - Proximity of the MCW to a river, lake, creek, or domestic use fresh water well, with priority assigned to MCWs closer to a river, lake, creek, or domestic use fresh water well.
  - Location of the MCW within an agricultural area, with priority assigned to wells located within an agricultural area.
  - If a Groundwater Protection Analysis (GPA) has been conducted at the site in the past five years, with priority assigned to wells that have not had a GPA conducted in the last five years.

The primary goals are to maximize methane emissions reductions and to provide benefits to disadvantaged communities. Additionally, we will establish clear requirements for operators/well owners to be able to participate in the program, ensuring compliance with all relevant state and local requirements for activities of this type.

Our plugging prioritization strategy will focus on efficiency, emphasizing factors such as the location and proximity of MCWs, as well as the concentration of wells within the area. To support this approach, tools such as PRIMO and the CBC prioritization model will be utilized to identify the most efficient and impactful abandonment projects.

## Application Submission, Scoring, and Selection Process

Applicants will be required to provide well-site information needed to assess each nominated well based upon the prioritization criteria listed in the previous section. Nominated wells will be evaluated and scored in accordance with the prioritization criteria. Project scores and ranking will be based upon verification of the representations made in the application at the time of application submission.

During the application period, scoring and ranking will be continuously updated. This dynamic approach will enable the generation of batches of high-scoring MCWs that meet the criteria for immediate action. By doing so, we can expedite plugging and MEQ measurement efforts, avoiding delays associated with processing a large volume of applications simultaneously. Waiting until the nomination period closes to evaluate all applications could result in significant delays—potentially six months or more—before any MEQ measurements or plugging contracts could be initiated.

Furthermore, once a nominated well is selected, any changes made to the representations in the application that reduces the ranking score will eliminate that well from selection and result in it being re-evaluated. Selected applicants will be notified of their selection and informed of the DEP plugging contract requirements within a predetermined timeframe.

## PRIMO

The PRIMO tool, developed by the NETL, will be essential for streamlining well. PRIMO can be integrated with the MCW prioritization model, evaluating wells based on methane emissions, well depth, age, and other criteria using a transparent scoring system. It will normalize numerical data and apply binary scoring for specific qualifications, ensuring an objective, data-driven process.

PRIMO will accelerate timelines by dynamically updating well scores during the nomination period, allowing high-priority wells to be addressed immediately. Its agglomerative clustering will group wells by proximity, depth, and characteristics, enabling efficient planning and resource use by minimizing logistical costs and maximizing methane reductions. For numerical factors, such as well age and depth, PRIMO applies the min-and-max method to normalize scores on a scale of 0 to 100. For binary factors, where information is presented as a yes or no (e.g., the presence of leaks), wells receive either the full score if they meet the criteria or zero if they do not. This scoring system ensures consistency and objectivity in evaluating each nominated well.

The tool will also integrate MEQ data, ensuring wells with the highest emission mitigation potential are prioritized. Additionally, PRIMO will help streamline permitting and compliance efforts by identifying well clusters early, supporting regulatory consultations, and aligning with West Virginia's unique environmental and cultural considerations.

## Data Reporting

The WV MERP Project website will be updated with information on the process and status of identifying and prioritizing MCWs to be permanently plugged. The website will report the operator/well owner, well type (e.g., oil, gas), reported production rate prior to plugging, total cost of well plugging, whether the plugged well is located in a disadvantaged community as identified using the CEJST, a quantification of the amount of methane mitigated by each plugging project, as well as aggregated data for all plugging efforts under the program to determine and report total methane emissions mitigated for the program. The website will also be updated to include any changes to the prioritization process, methodology, and results.

Methane measurement data and information about the methane emissions measurements will be shared on the project website developed and maintained by ALL. The website will be updated at a minimum of once per month in addition to the monthly technical progress reporting and WV DEP quarterly meetings. The website will include the following information relevant to the methane emissions measurements:

- American Petroleum Institute (API) number for each selected well being plugged.
- An interpretive map of the wellhead locations with decimal degrees (5 decimal places, WGS84) and color coded to indict status; such as selected, pre-plug MEQ, currently plugging, plugged, post-plug MEQ, etc.
- Estimated annual reduction of methane emissions from each plugged well.
- Total estimated annual reduction of methane emissions from all plugged wells.

## Prioritization Timeline

| Tasks                                         | Calendar Year 2025 |            |            |            |           |            |            |            |          |          |          |         |
|-----------------------------------------------|--------------------|------------|------------|------------|-----------|------------|------------|------------|----------|----------|----------|---------|
|                                               | March Wk 1         | March Wk 2 | March Wk 3 | March Wk 4 | April Wk1 | April Wk 2 | April Wk 3 | April Wk 4 | May Wk 1 | May Wk 2 | May Wk 3 | May Wk4 |
| Data Input - CBC Prioritization Model & PRIMO |                    | X          | X          | X          | X         | X          | X          | X          |          |          |          |         |
| Initial Batch Selected (~25-40) Wells         |                    |            |            |            |           |            | X          |            |          |          |          |         |
| 2 <sup>nd</sup> Batch Selected (~75) Wells    |                    |            |            |            |           |            |            | X          |          |          |          |         |
| 3 <sup>rd</sup> Batch Selected (~75) Wells    |                    |            |            |            |           |            |            |            | X        |          |          |         |
| 4 <sup>th</sup> Batch Selected (~75) wells    |                    |            |            |            |           |            |            |            |          | X        |          |         |
| 5 <sup>th</sup> Batch Selected (~75) wells    |                    |            |            |            |           |            |            |            |          |          | X        |         |
| 6 <sup>th</sup> Batch Selected (~75) wells    |                    |            |            |            |           |            |            |            |          |          |          | X       |

## ANCILLARY PERMIT ACTIVITY

### Regulatory Site Assessment

To assist owners/operators of selected MCWs with identifying required local, county, state and federal permits for project activities we will employ a Regulatory Site Assessment (RSA) desktop screening tool. The RSA screening tool was developed by ALL in 2013, and was designed to evaluate surface locations for regulatory constraints. When a preliminary site or right-of-way (ROW) is selected it benefits the planning effort if all potential permits, easements, notifications, or certifications are identified upfront. An understanding of what is needed to fulfill these obligations and the associated time to prepare and obtain approvals serves to inform the decision makers so costs and development time can be managed to meet operational priorities.

The RSA tool has been used to identify local, county, state and federal permits applicable to proposed well pad locations in Texas, Ohio, Oklahoma, New Mexico, Kansas, Arkansas, and Pennsylvania but can be quickly modified to fit West Virginia requirements. The tool uses a GIS program to conduct a desktop evaluation of potential permits but applying various regulatory and jurisdictional layers to identify potential permit implications. Typically, an RSA can be conducted in a couple of hours per location and results in a map and accompanying report. Standard permits identified have included the following:

- U.S. Army Corp of Engineers (USACE) - Wetlands Impacts.
- USACE - Stream Crossings / Surface Waters and Waters of the US (WOTUS).
- River Authorities – Easements.
- Counties – Activities within 100-year Floodplains.
- State – Water Impoundments – Dam Safety Requirements.
- State – Emissions Sources within ¼ mile radius subject to aggregation.



- State - H<sub>2</sub>S Radius of Exposure (RoE) 100 ppm and 500 ppm.
- Pipeline and Hazardous Materials Safety Administration – Pipeline Safety / Regulatory Classification.
- Third Party – Pipeline or ROW Crossings.
- State O & G Authority – Pipeline Lease boundary Crossings, Sour Pipelines.
- Counties / State – Road Crossings.
- Counties / State – Driveway / Access Road tie-ins.

Plugging oil or gas wells include activities and tasks that can present hazards to workers and the surrounding environment. These activities typically include preparing the well site for plugging and abandonment activities, such as clearing the area at the wellhead so it is safe to work around, providing safe access and egress to the site, stabilizing soils, contouring or leveling the terrain, assessing the presence of plants and/or animals to be protected, measuring and eliminating any potentially hazardous atmospheres near the well, defining traffic and movement routes, and staging equipment and other hazards at the site. Permits which might be triggered by these activities will be determined and programmed into the RSA screening tool to be used for West Virginia.

During the plugging operation it is typical to remove and salvage available well bore casing, tubulars, and other equipment. Permits associated with the accumulation of these potentially NORM contaminated items will be investigated and identified as appropriate.

Additionally, reclaiming activities are subject to federal and state environmental regulations. We will identify any permits associated with reclamation or mitigation activities and outline the requirements.

Finally, oil and gas well plugging permits are required to plug and abandon wells in accordance with federal and state regulations. The process for obtaining a plugging permit in West Virginia from the DEP is well known by CSR and the steps, notifications, waivers, and forms (WW-4A, WW-4B, WW-7, WW-9, WW-9-GPP) will be outlined and provided on the website for each owner/operator to review and use. A WV DEP plugging permit would be required for all selected wells and hence would not need to be part of the RSA process, as it is ubiquitous.

## Defining Action Areas

The action areas for each selected well will be defined based either on the plugging contractor's required surface needs, or on a standard footprint anticipated for the plugging activities. The well's owner/operator planned reclamation area following the plugging activities will also be included in the Action Area as it may exceed the plugging footprint. This approach will result in the maximum area of each site being evaluated for potential impacts from the anticipated activities.

## Locations of Concern

The evaluation process will be similar to the RSA process discussed above, where the Action Area footprint is reviewed using a desktop GIS screening method to identify *Locations of Concern*. The various electronic GIS layers which will be used can be obtained from the appropriate agencies and are typically made available.



The U.S. Fish and Wildlife Service GIS layers for various items of concern including threatened and endangered species and critical habitats are downloadable and can be found at <https://gis-fws.opendata.arcgis.com/pages/all-about-our-data>. We will also inquire with the West Virginia Division of Natural Resources (WVDNR) concerning any state species of concern. We currently understand there are 22 federally endangered species and seven federally threatened species in the state. Of these species, three are found only within the State of West Virginia. Additionally, the WVDNR maintains an active rare, threatened, and endangered species program which we will review and update periodically as necessary in our screening tool.

The WV State Historic Preservation Office (SHPO) data is currently only accessible via their interactive web map viewer. We will determine if it can be downloaded for our purpose by contacting SHPO; if not, we will use the online data to gather information and create our own project map identifying Areas of Potential Effects (APEs) with historic or cultural significance. See <https://mapwv.gov/shpo/viewer/index.html>.

With regards to APEs for ancestral lands significant to Tribes we will download and use the various tribal data sets available from The Bureau of Indian Affairs (BIA) that are applicable to West Virginia. These datasets will be used to identify any encroachment from the plugging or reclamation activities which might affect ancestral lands or sacred areas. See <https://biamaps.geoplatform.gov/BIA-Opendata/Data/>.

## Communication Strategy

Our strategy for communicating the project goals to the owners/operators of selected wells with regards to the required permits and presence of any locations of concern within their plugging activity footprint will focus on issuing RSA Reports for each selected well site. The reports will clearly indicate that the owner/operator is responsible for obtaining required permits and it will identify the specific permits required for each selected well site. Furthermore, the permit agency contact information, required data to be submitted with each permit, specific forms, notifications, and fees will be identified for each required permit. An anticipated or typical time-frame associated with each agency's review and approval process will also be provided so scheduling can be planned. Additionally, if any factors capable of triggering jurisdictional matters by state or federal agencies are recognized, these factors will be included in the RSA reports and expanded upon.

## Internal Team Communications

Centralized communications involves utilizing one project manager at ALL to guide the process, which facilitates communication with the DEP and other cooperating agencies, as necessary. The DEP does not have to interact with various consultants and different task leaders or specialists for project progress or deliverables. The centralized communication enables the agency project manager to dedicate time to other projects without having to juggle as a moderator between more than one consultant. Centralized internal communication within the firm includes: expediting questions/answers, decisions, and materials; complete access to up-to-date tasks or reports; and the coordinated development of

measures between professionals. The centralized communication at the firm results in improved speed, accuracy, efficiency, and reduced stress.

## Agency Consultations

The RFP states that the Administrator will be responsible for coordinating and submitting any project plan for selected well sites that require consultations with the FWS, WV SHPO or respective Tribal Historic Preservation Officer (THPO). We intend to take a proactive approach which would focus on contacting these agencies early on the project before selection of any nominated wells are made. Our intent would be to explain the project and our RSA screening approach coupled with examples of their data used to evaluate hypothetical locations. This will familiarize them with our approach and help pave the way for when a selected well site encounters circumstances that would require coordination and consultation to avoid or mitigate a location of concern.

We also envision at least with the FWS being able to develop a statewide Environmental Assessment (EA) style checklist process that can be used for each MCW plugging project to identify any T&E species or critical habitat impacts and their corresponding avoidance measures coupled with remediation activities if necessary. In this often-used EA Checklist approach agencies such as the Bureau of Land Management and the FWS have verified that the data being used is appropriate and the screening being conducted are valid for the purposes of the project. Therefore, once a screening is conducted that determines a potential impact, the mitigation measures are already spelled out and the actions to be taken are understood by both parties, leaving just the formality of signing an agreement. We would like to do something similar with the WV SHPO if possible, versus submitting an APE for consideration and approval for each selected well site regardless of the presence of any historic or cultural areas. A screening process that would be vetted by the SHPO based on a desktop evaluation checklist that can be applied to each site thus streamlining the approval process, is what we have in mind.

We do not anticipate there being many selected well site with ancestral lands requiring consultation with the respective THPO and therefore will address these individually as they may occur.

## MANDATORY REQUIREMENTS

### Monthly Technical Progress and Financial Reports

We intend to issue Monthly Progress Reports by the close of the fifth working day following the end of each calendar month. These reports will be filed electronically and follow a DEP approved format and with predetermined content that includes a summary of project activities and task updates. These will generally include as appropriate per period, owner/operator identification, nomination outreach efforts, nomination applications received, PRIMO and CBC prioritization model input, scoring and selection, pre-plugging MEQ measurements, permitting coordination, number of RSAs preformed, number of wells plugged, post-plugging MEQ measurements, mitigated methane emissions, remediated and restored acres, estimated annual reduction of methane emissions, and total estimated annual reduction of methane emissions from all plugged wells. This information will be convey in written section as well as

on a dashboard with running totals that depicts the overall project accomplishments at a glance. Additionally, an interpretive color-coded map of the wellhead locations indicating the status of each well in the process will be maintained and updated each month.

With regards to the financial disclosure, our team has project management systems for cost control at their fingertips. We maintain a federally approved estimating system, purchasing system, and government property management system. In addition, various tools are available to our project and task managers to track costs and progress. The management information system enables managers to plan costs and schedules for tasks and subtasks using standard work breakdown structures. The information is then monitored over time and compared with scope to maintain project budget and schedule. Our cost control systems enable our managers to monitor expenditure closely, identify potential cost overruns, and take corrective actions before problems develop. This information will be digested and provide in the monthly reports in a simple tracking format depicting all labor hours used, as well as a breakdown of other direct costs such as equipment and travel expenses, so a complete picture of project costs are transparent.

## Quarterly Meetings

We will attend quarterly meetings either in person or virtual via an electronic meeting format, whichever is proposed or requested by meeting. We will be prepared to discuss the tasks and accomplishments of the previous three months as summarized in our monthly reports and present our updated project dashboard and map as applicable. We will also be prepared to discuss any project issues and solutions implemented or lesson learned that might improve activities over the next quarter.

## CBC Meetings

As mentioned in the RFP, CBC meetings to discuss the terms of the Community Benefits Plan and obtain stakeholder feedback regarding the MCW well plugging prioritization plan/model are planned and it seems some have already been held. As a result, we anticipate receiving a fully developed prioritization plan/model based on public feedback. With that understanding, we will attend or participate in upcoming CBC meetings to discuss the plan/model or other issues of concern the CBC may have regarding the project or the selection progress. If requested to attend or plan a public forum we have staff experienced in arranging and participating in large public workshops and meetings organized to solicit public feedback as well as concatenating public comments into concise concern statements. ALL can also arrange for the facilities and provide for a certified Court Reporter to be present to record public comments if necessary. Transcripts will be submitted to the DEP after meetings.

# QUALIFICATIONS AND EXPERIENCE

## Conflicts of Interest

ALL and CSR are not registered oil and gas well operators or owners, as defined in W. Va. Code § 22-6-1(l) and (z). Furthermore, ALL and CSR do not have any business relationships or other partnerships to disclose which may introduce conflicts of interest related to well ownership or operatorship.

## Experience

ALL specializes in energy, environmental and earth sciences, water management, underground injection control, planning, permitting, engineering, and technology. Our services include engineering design and studies, regulatory and compliance support, various types of site investigations and subsequent remediations, pollution prevention, and environmental data management. ALL maintains a diverse and exceptional staff with experience and backgrounds in project/program management; safety and quality management; water resources management; environmental remediation, compliance, planning, and regulatory issues; permitting; studies and reports; environmental training; and National Environmental Policy Act (NEPA) related projects. Our professional staff have an average experience level of more than 20 years each. ALL's current staff of 35 employees consists of registered engineers (civil, environmental, chemical, petroleum, hydraulic), hydrogeologists, geologists, chemists, biologists, environmental scientists, and highly skilled field and office technicians including commercial FAA drone Pilots.

We are problem solvers and everyone on our team enjoys tackling new and different issues associated with the oil and gas industry, especially the ones that require unique and innovative answers. We want to do *"tip of the spear"* work and appreciate the investigative process associated with the problems and determining an effective resolution that meets both regulatory and environmental challenges and can be implemented.

We are committed to the DEP's successful resolution of this important project and trust that through our project experience and deviser staff we are able to demonstrate in this submittal our capabilities to perform the required work.

The following list of clients includes ALL Consulting's experience working for state and/or other governmental agencies under professional services contracts:

- Alabama Oil & Gas Board
- Alaska Oil & Gas Conservation Commission
- Arkansas Department of Environmental Quality
- Arkansas Oil & Gas Commission
- City of Corpus Christi, Texas
- City of Hudson, Ohio Public Works Dept
- City of St. Clairsville, Ohio
- Florida Geological Survey
- Fort Worth District USACE

- Kansas Corporation Commission
- Louisiana Department of Energy and Natural Resources
- Michigan Geological Survey Division
- Montana Board of Oil & Gas Conservation
- Montana Department of Environmental Quality
- Montana Department of Natural Resources and Conservation
- Nebraska Oil & Gas Conservation Commission
- Ohio Department of Natural Resources
- Oklahoma Corporation Commission
- Oklahoma Department of Environmental Quality
- Osage Nation, Native American Tribe
- Tinker Air Force Base
- Tulsa Development Authority
- Tulsa District USACE
- U.S. Department of Energy, National Energy Technology Laboratory
- U.S. Security and Exchange Commission
- Utah Division of Oil, Gas and Mining

## Key Staff

Our lead consultant for this effort is Mr. J. Daniel Arthur, P.E., SPEC, CPG, QMS, PMP, CCML. He is a registered professional petroleum engineer specializing in fossil energy, planning/engineering, oil & gas operations and production forecasting, the entire lifecycle of water (including water used in hydraulic fracturing, produced water treatment, water & waste disposal, etc.), underground injection & gas storage, resource development best practices, clean energy development, CCUS (Carbon Capture, Utilization and Storage), stranded gas utilization, and environmental/regulatory issues. He has 40 years of diverse experience that includes work in industry, government, and consulting. Mr. Arthur is a founding member of ALL Consulting and has served as the company's President & Chief Engineer since its inception in 1999.

Prior to founding ALL Consulting, Mr. Arthur served as a Vice President of a large international consulting engineering firm and was involved with a broad array of work, including supporting the energy and other industries, various federal agencies, water and wastewater projects (municipal/industrial), environmental projects, various utility related projects, and projects related to the energy & mining industries. Mr. Arthur's experience also includes serving as an enforcement officer and National Expert for the U.S. Environmental Protection Agency (EPA) and a drilling and operations engineer with an independent oil producer, as well as direct work with an oilfield service company in the mid-continent.

As a petroleum/environmental engineer and senior project manager, Mr. Arthur's experience ranges from the drilling and construction of oil- and gas-producing wells to performing site characterization and remediation of soils and groundwater at a variety of sites throughout the United States to develop/protect groundwater supply resources. Mr. Arthur has also gained experience in evaluating

orphaned and abandoned wells, responsibility for plugging designs as well as conducting implication analysis of new laws and regulations pertaining to methane leaks and carbon sequestration for broad program development. Mr. Arthur's experience uniquely qualifies him for dealing with the complex issues associated with projects and concerns of the energy, natural resource, and environmental industries.

## Proposed Staffing

The ALL/CSR Team consists of the core members and numerous resource and technical experts. Exhibit 1.0 is a matrix format showing the project team by role, company, education, and years of experience. Our team is organized to provide DEP with highly-qualified experts in their respective fields who bring substantial experience to all subject areas identified for the WV MERP.

Our team members were specifically selected to meet the unique scientific and regulatory requirements of the project. Our project manager (PM), Tom Tomastik (ALL), residing in Ohio, will be supported by task leaders from ALL (Jon Seekins) and CSR (Amanda Veazey), senior consultants, and a technical resource pool of highly qualified and experienced specialists. Biographical sketches of key team personnel follow the Exhibit 2.0: Interdisciplinary Personnel Matrix.



## EXHIBIT 2.0: Interdisciplinary Personnel Matrix

| Name                                                                                                                                                                                                                                           | Project Role                  | Company | Education                                                                                                                                                                                                                                | Years of Experience / With Firm | Certifications                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|
| J. Daniel Arthur                                                                                                                                                                                                                               | Lead Consultant               | ALL     | B.S., Petroleum Engineering                                                                                                                                                                                                              | 39 / 25                         | P.E., SPEC, CPG, QMS, PMP, CCML |
| Tom Tomastik                                                                                                                                                                                                                                   | Project Manager               | ALL     | M.S., Geology                                                                                                                                                                                                                            | 42 / 10                         | P.G., PMP                       |
| David Epperly                                                                                                                                                                                                                                  | Task Manager, IT              | ALL     | Ph.D. Environmental Engineering                                                                                                                                                                                                          | 34 / 25                         | P.E.                            |
| Gavin James                                                                                                                                                                                                                                    | Task Manager Civil Design     | ALL     | M.S., Civil Engineering                                                                                                                                                                                                                  | 25 / 11                         | P.E.                            |
| Jon W. Seekins                                                                                                                                                                                                                                 | Task Manager Permitting       | ALL     | B.S., Environmental Science                                                                                                                                                                                                              | 38 / 25                         |                                 |
| Amanda Veazey                                                                                                                                                                                                                                  | Task Manager Outreach Program | CSR     | M.S., Geology and Geophysics                                                                                                                                                                                                             | 16 / 1                          |                                 |
| Josh D. Ticknor                                                                                                                                                                                                                                | Petroleum Engineer / QMS      | ALL     | B.S., Petroleum Engineering                                                                                                                                                                                                              | 16 / 7                          | P.E.                            |
| Ryan Corbin                                                                                                                                                                                                                                    | Petroleum Engineer / QMS      | ALL     | B.S., Petroleum Engineering                                                                                                                                                                                                              | 25 / 2                          |                                 |
| Jeff Kennedy                                                                                                                                                                                                                                   | Sr. Geologist                 | ALL     | B.S., Geology                                                                                                                                                                                                                            | 19 / 14                         | P.G.                            |
| Scott Meier                                                                                                                                                                                                                                    | Geologist / Remediation       | ALL     | M.S., Geology                                                                                                                                                                                                                            | 11 / 10                         | P.G., CCDP                      |
| Robert Rigmaiden                                                                                                                                                                                                                               | Petroleum Engineer / QMS      | ALL     | B.S., Petroleum Engineering                                                                                                                                                                                                              | 6 / 1                           | E.I.T.                          |
| Daniel Arthur                                                                                                                                                                                                                                  | Environmental Scientist / QMS | ALL     | B.A., Environmental Science                                                                                                                                                                                                              | 7 / 7                           | PMP, CCDP                       |
| Ben Bockelmann                                                                                                                                                                                                                                 | GIS Analyst                   | ALL     | B.S., Geography                                                                                                                                                                                                                          | 14 / 13                         |                                 |
| David Winter                                                                                                                                                                                                                                   | Wildlife Biologist            | ALL     | M.S., Biology                                                                                                                                                                                                                            | 27 / 23                         | CWB, PEA                        |
| Charles McComas                                                                                                                                                                                                                                | Chemical Engineer / QMS       | ALL     | M.S., Chemical Engineering                                                                                                                                                                                                               | 26 / 19                         | P.E., PMP                       |
| Will Green                                                                                                                                                                                                                                     | Sr. Hydrogeologist / QMS      | ALL     | B.S., Geology                                                                                                                                                                                                                            | 34 / 12                         | L.P.G.                          |
| Daniel Caldwell                                                                                                                                                                                                                                | Optical Gas Imaging / QMS     | ALL     | A.S., Construction Management                                                                                                                                                                                                            | 20 / 2                          |                                 |
| CCDP - Certified Commercial Drone Pilot<br>CCML – Certified Carbon Management Leader<br>CPG – Certified Petroleum Geologist<br>CWB – Certified Wildlife Biologist<br>E.I.T. – Engineer in Training<br>L.P.G. – Licensed Professional Geologist |                               |         | P.E. – Professional Engineer<br>P.G. – Professional Geologist<br>PEA – Professional Environmental Auditor<br>PMP – Professional Project Manager<br>QMS – Qualified Measurement Specialist<br>SPEC – SPE Petroleum Engineer Certification |                                 |                                 |

## Bio-Sketches

**Tom Tomastik:** Mr. Tomastik is a certified petroleum geologist with over 42 years of diverse expertise and experience in the energy sector, government, and consulting. He has been involved in the planning, permitting, drilling, and development of oil and gas and Class II saltwater disposal wells, Class I feasibility studies, injection well audits, stray gas investigations, natural gas and natural gas liquids storage, groundwater dewatering and contamination cases, induced seismic monitoring and installation, well plugging design and oversight, and expert witness testimony.

Prior to working for ALL Consulting, Mr. Tomastik worked for 25 ½ years with the Ohio Department of Natural Resources (ODNR), Division of Mineral Resources Management and the Division of Oil and Gas Resources Management (DOGRM) in the Technical Support Services Section and Underground Injection Control (UIC) Section. As senior geologist, he oversaw the planning, permitting, drilling, and conversion of Class II and Class III injection wells using hydrogeology, geology, and engineering specialization for well construction, completion, and surface facility construction of these operations. Additionally, as lead geologist for the divisions, Mr. Tomastik conducted several hundred alleged groundwater and stray gas investigations related to oil and gas, industrial minerals mining, and coal mining operations in Ohio. Mr. Tomastik served on numerous occasions as DOGRM's technical expert and witness on injection wells and groundwater investigations before the Ohio Oil and Gas Commission and the Ohio Reclamation Commission and in a number of civil cases before various Ohio county court systems.

**Dr. David Epperly:** Dr. Epperly is a licensed Professional Engineer and senior environmental engineer and agronomist for ALL Consulting. Dr. Epperly has served as a technical, project, and program manager on a wide variety of environmental and research projects. His duties included preparation of scopes of work, cost estimates, preparation and review of work plans, designs and reports. He has interfaced with regulatory agencies for review and compliance of deliverables under NEPA, CERCLA, RCRA, CAA, CWA, SHPO and SARA.

He has extensive experience in all areas of environmental engineering and soil resources including impact analysis, cumulative effects analysis, mitigation development, implementation of monitoring plans, remedial investigations, corrective measure studies, data management and visualization, treatability studies, risk assessments, environmental permits, carbon credit assessments, and potentially responsible party (PRP) investigations and litigation. He has also supported large custom software development projects, including projects for the Arkansas Oil & Gas Commission, Michigan Geological Survey, Massachusetts Department of Environmental Quality, and other private and public sector clients. He is currently the webmaster for ALL's company website, three other project-related websites, and has developed several data-driven GIS websites in the past.

**Gavin James:** Mr. James is a registered professional engineer in Texas, Oklahoma, Arkansas, Missouri, Colorado, Ohio, Wyoming, and New Mexico. He specializes in civil and environmental design and management, bringing over 25 years of expertise in all aspects of civil and environmental management. His experience spans permit acquisition, site investigations, geotechnical evaluations, as well as design and construction management.

Mr. James has a deep understanding of environmental laws and regulations and excels in collaborating with regulatory agencies to address and resolve issues effectively. He has worked on a wide range of municipal, federal, and industrial projects, utilizing various delivery methods, including traditional, design-build, and turnkey approaches. Additionally, he has supervised project teams comprising subcontractors, construction personnel, engineers, and draftsmen

Prior to joining ALL Consulting, Mr. James served as a senior project manager for an engineering/construction firm. His responsibilities included managing environmental, geotechnical and civil design projects. He also served as the Corporate Radiation Safety Officer, Corporate Quality Assurance/ Quality Control Manager and Construction Materials Testing Manager.

**Jon W. Seekins:** Mr. Seekins is a Senior Environmental Scientist with ALL Consulting. He earned his Bachelor of Science degree in Environmental Science from Slippery Rock University of Pennsylvania. For the past 38 years he has worked in the environmental consulting field on industry and government projects ranging from direct remediation to research and regulatory compliance on unconventional oil and natural gas development.

Mr. Seekins has participated in and managed numerous projects dealing with the environmental impacts of oil and natural gas development on federal, state, and private leases, including unconventional sources such as Coal Bed Methane and Shale Oil & Gas formations. In this capacity he has analyzed the impacts from development and assisted operators in obtaining numerous permits and clearances to facilitate exploration and production. He has also work with government agencies on large oil & gas efforts which included the organization, oversight, and performance of multi-disciplinary programmatic and project-specific National Environmental Policy Act (NEPA) documents for various development scenarios, agency policy decisions, resource management, environmental justice, Native American concerns, and rights of way (ROW) for transmission lines and pipelines. He has conducted cumulative effects analysis on over 20 fluid mineral Reasonably Foreseeable Development Scenarios (RFDSs) and is familiar with the Council on Environmental Quality's requirements and legally defensible Environmental Impact Statement (EIS) compliance. Mr. Seekins has also arranged, facilitated, and conducted numerous public meetings and hearings for NEPA-required actions affecting natural resources in large project areas with associated complex and controversial issues. He supervises and coordinates ALL's team of in-house and sub-consultant scientists and engineers, and provides daily contact with the client, regulatory agencies, and project engineer. His technical responsibilities have included preparing public scoping reports, project management plans, action alternatives, summary chapters of EISs, and public comment analyses. He reviews and responds to client comments on draft reports and works closely with government specialists in designing final plans that avoid or minimize environmental impacts. He has diverse environmental planning and project experience with an extensive history of working with the USACE, Bureau of Land Management (BLM), U.S. Geological Society (USGS), U.S. Forest Service (USFS), and U.S. Department of Energy (DOE) planning and implementing projects.

**Amanda Veazey:** Mrs. Veazey is a geologist and vice president of business development at CSR Services, LLC. For the past 26 years, she has worked in the oil and gas extraction industry and the environmental consulting field on projects centered in the oil and gas extraction industry. Mrs. Veazey was recently

appointed to the Pennsylvania Department of Environmental Protection Oil and Gas Technical Advisory Board for a five-year term by Governor Josh Shapiro.

Since joining CSR Services in 2023, Mrs. Veazey has participated in and managed various projects dealing with oil and gas well plugging operations. Prior to joining CSR Services, Mrs. Veazey served as the senior geologist on the Environmental Engineering team at Seneca Resources Company, LLC, an independent natural gas producer in Pennsylvania.

Mrs. Veazey's projects at CSR Services have included rig schedule management, stakeholder engagement for federally and state-funded well plugging projects in Ohio, and preparation of MERP grant applications for conventional well operators in Pennsylvania. Additionally, Mrs. Veazey has given presentations on orphan well plugging to various audiences, from the general public to professional associations. While at Seneca Resources, she managed site investigation, remediation, and gas migration projects; permitted Class II UIC wells in Pennsylvania and Ohio; designed produced water mineral recovery processes for Seneca's water management subsidiary; and provided environmental technical assistance to Seneca's leadership team.

**Josh D. Ticknor:** Mr. Ticknor is a P.E. in Petroleum Engineering with over 15 years of versatile experience supporting exploration and production operations, reservoir engineering, and wastewater management. Mr. Ticknor's varied experience includes analysis and resolution of both operational and multi-disciplinary issues in the areas of well construction and siting; well permitting; contractor management; watersourcing, and pipeline modeling. This includes experience in produced water storage, treatment, transportation, and disposal. He is highly knowledgeable in many areas and aspects of workover operations not limited to flowback maintenance, gas lift optimization, and marginal well management. As a member of the staff at ALL Consulting, Mr. Ticknor has aided in the permitting process for many produced water recycling and freshwater impoundments and has contributed to dozens of other diverse projects in numerous states including Louisiana, New Mexico, Texas, Oklahoma and Wyoming. Recently, Mr. Ticknor has focused on Class I UIC in Wyoming, generating permit applications, guiding companies through the EPA's Aquifer exemption process, and providing technical support for transient analysis. He specializes in working with clients to develop procedures and guidance to increase the efficiency and effectiveness of both field and office operations. Mr. Ticknor's effectiveness in this area is based on a firm understanding of the practices surrounding oilfield operations and wastewater disposal practices.

**Ryan Corbin:** Ryan Corbin is a highly experienced petroleum engineer with over 25 years of expertise spanning operations, production, and reservoir engineering. His career includes managing complex projects for both public and private companies, as well as leading his own ventures. With a deep understanding of well lifecycle management, he has consistently delivered results in optimizing production, enhancing reservoir performance, and overseeing efficient plugging and abandonment operations.

Mr. Corbin has extensive experience in evaluating and implementing strategies for plugging oil and gas wells, including technical validation, regulatory compliance, and field-level execution. His background in production and reservoir engineering has equipped him with the ability to analyze well performance, identify challenges, and develop cost-effective, environmentally sound solutions. In recent years, he has

further expanded his focus to include carbon credit projects and methane emissions management, bringing a unique perspective to sustainable energy practices.

**Jeff Kennedy:** Mr. Kennedy is a geologist specializing in environmental issues with 15 years of consulting experience. Since joining ALL Consulting he has coordinated, performed, or contributed to a variety of oil and gas environmental projects with an emphasis on well integrity assessment relating to stray gas migration investigations.

Prior to joining ALL Consulting, Mr. Kennedy worked for an environmental consulting firm as a project geologist and assistant project manager. He has experience in all facets of hydrogeological site investigations, statistical analysis of groundwater monitoring data, and fieldwork including well installation, sampling, and report writing and preparation.

Mr. Kennedy helped conduct an extensive review of sustained casing annular pressure at gas wells in northeastern Pennsylvania. This analysis focused on the occurrence of sustained casing annular pressure in relation to varying casing depths, cement slurries, cementing contractors, cement bond, use of various external casing packers and the presence of gas shows. Results of this analysis were then used to help improve the overall casing and cementing program for future wells.

Mr. Kennedy has also assisted with the planning and coordination of wellbore remedial cementing activities in response to a gas migration incident. This effort included designing and preparing detailed procedures for implementing remedial cementing actions. Additionally, the effectiveness of remedial actions was evaluated using pressure build-up tests, temperature/audio logs, cement evaluation logs, and other applicable data.

**Scott Meier:** Mr. Meier is a professional geologist with a background in hydrogeology and geochemistry. He has applied his skillset in support of numerous projects in the environmental and petroleum industries. Mr. Meier has extensive experience with team management, project communication, data acquisition, data analysis and interpretation, as well as technical writing and document preparation. In his current position, he regularly serves as technical lead and provides support in the completion of collaborative projects concerning remediation and reclamation, water management, well siting, subsurface investigation, hydrogeological testing, environmental site assessment, and regulatory planning.

**Robert Rigmaiden:** Robert Rigmaiden is an accomplished petroleum engineer with over 6 years of diverse experience in drilling, production, and reservoir engineering. His career began on a drilling rig, providing him with firsthand experience of field operations. This background enhances his knowledge of the drilling and casing phases throughout a well's lifecycle and has proven beneficial when assessing the condition of wells requiring plugging and abandonment.

Mr. Rigmaiden has experience in developing field plans for well repairs and managing the plugging and abandonment of wells with a limited number of workover rigs. This expertise plays a pivotal role in the plugging and abandonment sector, as it enables the optimization of field plugging needs and effective project management throughout the processes. In recent years, he has furthered his knowledge by exploring how carbon credits can be integrated with and optimize plugging operations.

**Daniel Arthur:** Mr. Arthur is a staff environmental scientist with seven years of expertise in state and federal regulatory matters, specializing in managing permitting efforts for Underground Injection Control (UIC) wells across Texas and New Mexico. He has a proven ability to navigate complex regulatory frameworks while ensuring compliance and operational efficiency.

Mr. Arthur brings knowledge of carbon credit methodologies, including projects focused on plugging oil and gas wells, soil management, forestry, and other environmental initiatives. His expertise extends to overseeing the application, validation, and verification processes necessary to align projects with industry standards, ensuring both regulatory compliance and project integrity.

Recently for BCarbon, Mr. Arthur was instrumental in the development of protocols for their voluntary carbon registry, ensuring that requirements guarantee the permanent sequestration of methane and that plugging operations adhere to industry standards. His contributions reflect his expertise in Methane Capture and Reclamation, as well as his ability to oversee the compilation of project applications submitted and approved through the registry.

**Ben Bockelmann:** Mr. Bockelmann is a GIS Analyst with extensive experience in the use of geographic information systems. Since joining ALL Consulting in 2011, Mr. Bockelmann has performed GIS analysis, data query, map creation, HEC-GeoRAS flood mapping, and data creation for various clients; has created maps and AutoCAD drawings; and has collected environmental media samples, conducted landfill inspections, and assisted in the generation of reports. This varied experience with projects for government and private-sector clients has allowed Mr. Bockelmann to develop versatility in knowledge and skills to provide detailed analysis and maps for his colleagues and clients.

Mr. Bockelmann has been managing GIS-related work for ALL Consulting since August 2013. This position requires Mr. Bockelmann to maintain a close relationship working with project managers, field personnel, and data analysts to ensure quality and timely deliverables for clients. This position also requires him to maintain data and records for client confidentiality; routinely perform site-specific data mining for geodatabases and shapefiles to ensure the most up-to-date files are being used for analysis; provide electronic, paper, and/or online maps to assist field crews; and stay up-to-date with the new and ever-changing ways in which GIS data is made accessible.

Mr. Bockelmann has extensive experience through several phases of GIS projects, including data creation and acquisition, data maintenance and manipulation, creating shapefiles, KMZs, and geodatabases, map making, GIS database development, georeferencing, data-driven pages, ArcPy, model builder, ArcGIS online maps and apps, spatial analysis, and statistical analysis. He has expertise in using the following GIS tools: ESRI ArcGIS 10.X, ArcGIS Online, ArcGIS Pro, ArcCatalog, ArcPad, ArcScene, Spatial Analyst extension, Juno Trimble Units, Microsoft Office 365 Suite (Excel, Word, Access, Teams, and PowerPoint), Google Earth, and Adobe Acrobat.

**David Winter:** Mr. Winter is a senior biologist with ALL Consulting and has over 27 years of experience that includes working with USACE, DOE, BLM, the U.S. Forest Service, and other federal and commercial/industrial clientele. His work includes extensive experiences with wildlife conservation strategies, evaluation of endangered species, waters of the U.S. (wetland) delineations, environmental site assessments, environmental audits, ecological restoration, NEPA analysis, risk assessment, remedial



investigation, and varying feasibility studies. Mr. Winter holds a Master of Science Degree in Biology from Missouri State University and is a Certified Wetland Biologist (CWB) who has performed delineation and permitting requirements as established under the Clean Water Act, Section 404. He also is a Professional Environmental Auditor (PEA) and is considered an expert for many federal regulatory programs to include RCRA, CERCLA and NEPA.

**Charles McComas:** Mr. McComas is a Chemist and licensed Professional Engineer in the field of Chemical/Environmental Engineering with greater than 25 years of experience. Mr. McComas began his career at an early age working for his father's environmental firm installing monitoring wells, collecting environmental samples, performing chemical analysis, and assisting in report generation. He later joined A&M Engineering and Environmental Services, Inc., where he furthered his experience in conducting environmental site investigations and in developing remedial design approaches for contaminated sites. Since joining ALL Consulting in 2006, Mr. McComas has been Project Manager or Project Engineer for private industry and governmental sector projects pertaining to environmentally impacted sites. Mr. McComas has led a multidisciplinary team conducting Phase I and II Environmental Site Assessments under the EPA Brownfields program through USACE on more than 150 locations throughout Oklahoma, Texas, New Mexico, Louisiana, and Arkansas. His work has included preparation of short- and long-term monitoring plans for active and historic landfills at Fort Sill Army Base; development of work plan documents including quality assurance project plans, field sampling and analysis plans, safety and health plans; remedial investigations and feasibility studies; detailed evaluations of contaminated site cleanup alternatives based on technical feasibility and costs; conducting regulatory analysis of proposed and existing environmental regulations; and mentoring junior staff. Mr. McComas' work relies upon his ability to interpret regulatory requirements, define relevant analytical parameters and sampling methodologies used within monitoring plans, and screen analytical results against applicable regulatory action limits.

**Will Green:** Mr. Green is a licensed professional geologist and has broad experience as an environmental consultant to the oil and gas industry, local, state, and federal government agencies, and other institutions. As a consultant, Mr. Green wrote the Best Management Practices for high volume horizontal hydraulic fracturing, well casing and cementing, and construction standardization with well pad equipment layouts for Saudi Aramco. Mr. Green has been with ALL Consulting since 2012, providing guidance the mechanical integrity of natural gas wells, mechanical integrity testing and analysis, well log analysis, oversight of well logging, well drilling, remedial workovers, regulatory issues and operational practices, infrared gas imaging of oil and gas well heads, well remedial workover design and field oversight, field-wide infrastructure construction oversight, interpretation of site geology and hydrogeology, due diligence, and litigation support. Mr. Green has more than 34 years of consulting experience working for clients in both the public and private sectors, including the Oil & Gas industry. Mr. Green conducts environmental, health and safety inspections and due diligence inspections of oilfield operations. Mr. Green provides oversight of oilfield infrastructure construction, mechanical integrity studies of natural gas wells, and studies of natural gas leaks from old orphan wells using infrared gas imaging.

Mr. Green is co-author of Application of Infrared Imagery for the Identification of Leaking Historical Production and Idle Oil & Gas Wells in Ohio, at the Petroleum History Institute Oil History Symposium Findlay, Ohio, July 2017.

Mr. Green is co-author of Well Integrity Analysis using Infrared Imaging, at the Groundwater Protection Council Annual Forum, 2016 and International Petroleum Environmental Conference, November 2016.

**Daniel Caldwell:** Mr. Caldwell is an experienced construction management specialist and a Qualified Measurement Specialist with certifications from OSHA (multiple certifications), San Jacinto College (optical Gas Imagery), and Well Done Foundation (QMS).

Mr. Caldwell has decades of construction experience including construction supervision of a military base in Belton, Missouri, a recycling pit in Hobbs, New Mexico, and a water treatment plant in Wagoner, Oklahoma. He has experience working in oil field operations including well location, QMS, Optical Gas Imaging and well plugging. He also has experience identifying lead water pipes on military bases in Texas and Louisiana along with assisting in seismology studies in Pennsylvania.

## Past Project Descriptions

The project examples presented in this section involve our planning, well prioritization, ROW access, GIS services, site restoration, project documentation, plugging design services, bidding solicitation, surveying, permitting, and construction management for the appropriate abandonment of idle and orphan oil and gas wells that ALL has performed over the last several years. Most of the projects listed were conducted for private companies or through contracts with various State or Federal agencies.

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|                               |                                                                                                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Project Title:</b>         | <b>Saltwater Injection Well Plugging and Abandoned (Athens County, OH)</b>                          |
| <b>Dates:</b>                 | 2024 Ongoing                                                                                        |
| <b>Project Owner:</b>         | Tallgrass Energy                                                                                    |
| <b>Point of Contact:</b>      | Mikle Stahl – <a href="mailto:mike.stahl@tallgrass.com">mike.stahl@tallgrass.com</a> (303) 968-4114 |
| <b>Cost:</b>                  | \$750,000                                                                                           |
| <b>Team Members Involved:</b> | Tom Tomastik, Josh Ticknor, Ryan Corbin, Robert Rigmaiden                                           |
| <b>Description</b>            |                                                                                                     |

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ALL Consulting was responsible for the comprehensive management and execution of permitting, designing a plugging plan, and overseeing the facility decommissioning for three saltwater injection wells slated for plugging and abandonment. ALL provided on-site coordination and leadership, ensuring seamless operations across all phases of the project. Responsibilities included managing all subcontractor activities, negotiating and administering contracts, and organizing mobilization efforts to the wellsite.

At the location, ALL supervised the rig setup and orchestrated the removal of injection tubing and packers from all three wells. Detailed oversight was provided for the plugging and abandonment of the first injection well, which encompassed adherence to regulatory compliance, safety protocols, and operational best practices. The engineering team ensured all tasks were executed efficiently and aligned with project timelines and budgetary constraints while maintaining open communication to the owner

to deliver a successful plugged and abandoned well (this is an on-going project, one well of the three wells have been completed).

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|                               |                                                                                                  |
|-------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Project Title:</b>         | <b>Plugged and Abandonment Research (US)</b>                                                     |
| <b>Dates:</b>                 | 2023                                                                                             |
| <b>Project Owner:</b>         | Groundwater Protection Council (GWPC)                                                            |
| <b>Point of Contact:</b>      | Dan Yates – <a href="mailto:dyates@gwpc.org">dyates@gwpc.org</a> (405) 516-4972                  |
| <b>Cost:</b>                  | \$260,000                                                                                        |
| <b>Team Members Involved:</b> | Josh Ticknor, J. Daniel Arthur, Daniel Arthur, R. Davis, J.W. Seekins, Mark Kidder, Tom Tomastik |
| <b>Description</b>            |                                                                                                  |

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ALL Consulting led a multi-disciplinary team in collaboration with the Groundwater Protection Council (GWPC) to investigate oil and gas well abandonment technologies, methods, and regulations, spanning historic practices to modern standards. The project aimed to provide a comprehensive understanding of the evolution of well plugging and abandonment processes, offering insights to inform industry practices, regulatory frameworks, and public awareness initiatives.

The team conducted an extensive review of state and federal plugging requirements, analyzing regulatory variations, historical precedents, and advancements in abandonment technology. These findings were systematically summarized in a detailed report, which served as the foundation for workshops presented by the GWPC to public audiences, including industry professionals, policymakers, and community stakeholders.

ALL was responsible for developing the research framework, which included crafting a detailed plan and timeline to guide the investigation. This involved identifying key research objectives, defining methodologies for data collection, and ensuring the scope addressed both technical and regulatory challenges. Collaboration among researchers with diverse expertise was facilitated throughout the project, ensuring a well-rounded and interdisciplinary approach to the analysis.

In addition to overseeing research activities, ALL managed the project's logistics, including budget oversight, resource allocation, and adherence to deadlines. This involved balancing the demands of in-depth data collection and analysis with the need to produce a practical, workshop-ready deliverable.

ALL also played a central role in drafting the final report, synthesizing the team's findings into a structured document. The report detailed the evolution of well abandonment practices, examined the implications of current regulatory standards, and highlighted opportunities for improving environmental safeguards. While the report has yet to be published, it became a critical resource for GWPC workshops, enhancing public understanding of well abandonment processes and the importance of regulatory oversight in protecting environmental and groundwater resources.

Through technical expertise, strategic planning, and effective team coordination, ALL delivered a high-impact project that not only advanced understanding of well abandonment but also supported GWPC's mission to educate and engage stakeholders on issues critical to groundwater protection

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| <b>Project Title:</b>         | <b>Plugged and Abandoned Well Site Reclamation (Southeastern New Mexico)</b>                  |
| <b>Dates:</b>                 | 2023 Ongoing                                                                                  |
| <b>Project Owner:</b>         | Franklin Mountain Energy 3, LLC                                                               |
| <b>Point of Contact:</b>      | Rachael Overbey – <a href="mailto:roverbey@fmellc.com">roverbey@fmellc.com</a> (303) 570-4057 |
| <b>Cost:</b>                  | \$375,000                                                                                     |
| <b>Team Members Involved:</b> | S. Meier, D. Winter, Reed Davis, Josh Ticknor, Mark Kidder                                    |
| <b>Description</b>            |                                                                                               |

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ALL Consulting, LLC (ALL) provided critical technical and regulatory expertise for the reclamation of approximately 14 plugged and abandoned oil and gas facilities, taking on the challenge of accelerating previously delayed projects. These facilities required comprehensive remediation to meet regulatory standards and address environmental concerns. The scope of work included a variety of essential tasks, beginning with detailed soil characterization to assess contamination levels and guide the remediation process. Based on the findings, ALL developed tailored remediation and reclamation plans, ensuring that all actions complied with applicable environmental regulations. The team also provided hands-on construction oversight during the remediation efforts, managing the execution of the plans to ensure that work was completed efficiently and to the highest standards. Continuous monitoring was conducted throughout the process to track progress, verify the effectiveness of remediation activities, and ensure compliance with regulatory requirements.

In addition to the technical work, ALL's efforts played a crucial role in restoring the trust between multiple regulatory agencies and the operators involved in these reclamation projects. By efficiently advancing these previously delayed efforts, ALL helped bring the clients into full compliance with environmental regulations, demonstrating a commitment to environmental stewardship and operational excellence. The successful completion of these projects not only addressed immediate remediation needs but also fostered a collaborative environment that strengthened relationships with regulatory bodies, setting the stage for smoother operations in the future.

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| <b>Project Title:</b>         | <b>River Ranch 180 #1 Methane and Reclamation Project (Shackleford, TX)</b>      |
| <b>Dates:</b>                 | 2024 ongoing                                                                     |
| <b>Project Owner:</b>         | One Tonne Capital                                                                |
| <b>Point of Contact:</b>      | Steve Hillmer ( <a href="mailto:shillmer@hilltex.net">shillmer@hilltex.net</a> ) |
| <b>Cost:</b>                  | \$50,000                                                                         |
| <b>Team Members Involved:</b> | J. Daniel Arthur, Ryan Corbin, Daniel Arthur, Daniel Caldwell, David Epperly     |

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#### **Description**

The River Ranch "180" #1 well, located in Shackelford County, Texas, presented a unique opportunity to align well-plugging activities with carbon sequestration goals under the BCarbon Methane Capture and Reclamation Protocol. The decision to plug the well aligned with emerging frameworks for methane capture and reclamation. As the Project Developer, One Tonne retained ALL as the Project Consultant to ensure rigorous evaluation and compliance with BCarbon standards. ALL's review encompassed the well's historical data, plugging activities, and the surrounding geological and environmental context.

Special emphasis was placed on methane capture, aquifer protection, and the broader benefits to the region, which included potential exposure to disadvantaged communities.

**Well Evaluation and Risk Assessment:** The well, drilled on July 20, 2007, to a depth of 4,800 feet, was shut-in in late 2015 due to poor economics in a low commodity price environment. Recognizing the potential environmental benefits and the evolving carbon markets, One Tonne Capital, LLC (One Tonne) elected to plug the well on December 30, 2022. ALL conducted a comprehensive assessment of the River Ranch “180” #1 well, focusing on wellbore integrity, plugging effectiveness, and the potential for methane leakage or cross-flow between formations. The review confirmed that the well's plugging activities effectively addressed key risks associated with fluid migration and greenhouse gas emissions.

**Plugging Activities and Outcomes:** The plugging process involved sealing the wellbore to prevent methane emissions and protect underground formations. The final plugging design utilized advanced materials and techniques to ensure long-term zonal isolation. By eliminating potential leakage pathways, the project contributed to the sequestration of methane, a potent greenhouse gas, while safeguarding the aquifer and surrounding environment.

**Recommendations for Carbon Markets:** ALL’s evaluation highlighted the River Ranch “180” #1 well as a case study for integrating well-plugging activities with carbon credit generation. Recommendations included the adoption of enhanced monitoring techniques, such as periodic methane flux measurements and soil gas surveys, to quantify and verify emissions reductions. Additionally, the implementation of a robust data management system was advised to support transparency and compliance with carbon market requirements.

**Community and Environmental Benefits:** This project provided significant benefits to the surrounding community and environment. The reduction in methane emissions directly contributed to climate change mitigation, while the protection of the Cross Timber Aquifer enhanced water security. By proactively addressing wellbore integrity and plugging effectiveness, the project established a benchmark for sustainable practices in well remediation and carbon market participation.

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| <b>Project Title:</b>         | <b>Sawmill Class II Saltwater IW Plugback Project</b> (Newport, Ohio)                                           |
| <b>Dates:</b>                 | 2017 – 2018                                                                                                     |
| <b>Project Owner:</b>         | EnLink Midstream                                                                                                |
| <b>Point of Contact:</b>      | Ashleigh Strahler – <a href="mailto:Ashleigh.strahler@ergon.com">Ashleigh.strahler@ergon.com</a> (740) 624-7145 |
| <b>Cost:</b>                  | \$105,000                                                                                                       |
| <b>Team Members Involved:</b> | Tom Tomastik, J. Daniel Arthur, Josh Ticknor, Jeff Kennedy                                                      |
| <b>Description</b>            |                                                                                                                 |

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ALL Consulting, LLC (ALL) was engaged by EnLink Midstream to design and execute the plugback of an existing saltwater injection well. This comprehensive scope of work began with the development of a detailed plugging plan tailored to transition the well to a shallow injection reservoir. ALL prepared and submitted the necessary documentation to the Ohio Division of Oil and Gas Resources Management, ultimately securing the required plugging permit for the project.

In addition to technical design, ALL prepared a comprehensive Authorization for Expenditure (AFE), providing a detailed cost analysis and ensuring budgetary alignment with client expectations. The Contracting Engineering firm managed all aspects of subcontractor coordination, including selecting qualified vendors, negotiating contracts, and scheduling activities to align with the project timeline.

During the plugback operations, ALL provided on-site oversight, ensuring compliance with regulatory standards and adherence to the approved plugging plan. Rigorous attention to detail was applied throughout the process to achieve a successful transition of the well to its new injection reservoir, meeting both client objectives and state requirements. ALL’s expertise ensured the project was completed efficiently, safely, and within the approved budget.

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| <b>Project Title:</b>         | <b>American Star Field Well Site Survey and Carbon Credit Assessment</b><br>(Garden City, KS) |
| <b>Dates:</b>                 | 2024 ongoing                                                                                  |
| <b>Project Owner:</b>         | American Star Energy Services                                                                 |
| <b>Point of Contact:</b>      | Ian Acery - Dynavert                                                                          |
| <b>Cost:</b>                  | \$150,000                                                                                     |
| <b>Team Members Involved:</b> | J. Daniel Arthur, Josh Ticknor, Ryan Corbin, Daniel Caldwell, Mark Kidder, David Epperly      |

**Description**

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In May 2024, ALL Consulting conducted an evaluation of recently abandoned and idle wells near Garden City, Kansas, within the historic Hugoton Gas Field. Once a leading natural gas producer, the Hugoton Field's extensive exploitation left many wells improperly plugged or idle, resulting in methane leaks and environmental risks to air, water, and ecosystems.

ALL Consulting performed detailed site assessments to examine the condition of these aged wells, identifying several as significant methane emitters due to inadequate abandonment practices. The project involved a comprehensive review of carbon credit registry protocols and state regulatory frameworks to ensure compliance while maximizing carbon credit opportunities through proper well plugging and reclamation.

Over several days, ALL Consulting monitored methane emissions at 24 sites, emphasizing strategies to optimize carbon credit generation. Drawing on the Hugoton Gas Field's legacy challenges, ALL Consulting developed tailored recommendations to help Dynavert mitigate environmental liabilities and increase idle well abandonment through carbon credit generation.



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| <b>Project Title:</b>         | <b>South Gillock Field Well Site Survey and Carbon Credit Assessment</b><br>(Texas City, TX) |
| <b>Dates:</b>                 | 2024 ongoing                                                                                 |
| <b>Project Owner:</b>         | Promise Energy                                                                               |
| <b>Point of Contact:</b>      | Don Schoefield - dwschofield@bigpond.com                                                     |
| <b>Cost:</b>                  | \$150,000                                                                                    |
| <b>Team Members Involved:</b> | J. Daniel Arthur, Josh Ticknor, Ryan Corbin, Daniel Caldwell, Mark Kidder                    |
| <b>Description</b>            |                                                                                              |

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In June 2024, ALL Consulting conducted a comprehensive well site survey of the South Gillock Field in Galveston County, Texas. Spanning 2,792 acres and encompassing the communities of Texas City and La Marque, the field comprises a mix of aging oil and gas wells and associated infrastructure. The project focused on evaluating the mechanical integrity of wells, assessing environmental risks, and identifying opportunities for carbon credit generation through systematic well abandonment and site reclamation.

The South Gillock Field, first produced in 1939, has undergone multiple phases of development, transitioning from early gas production to oil recovery and pressure maintenance. Historically managed by operators such as Amoco and McGowan, the field is currently shut-in under the ownership of Promise Energy Operations, LLC. Approximately 50 unplugged wells remain in place, with infrastructure in varying states of deterioration. Proximity to residential areas, freshwater canals, and the Gulf of Mexico introduces additional environmental and operational considerations for remediation.

ALL Consulting executed a detailed assessment of the field, leveraging historical production data, site inspections, and engineering analyses. The scope of work included:

- Survey of 50 unplugged wells: Evaluating physical condition, wellhead pressures, and mechanical integrity.
- Environmental risk assessment: Identifying infrastructure at risk of failure and potential pathways for environmental contamination.
- Carbon credit analysis: Quantifying the potential for generating credits through abandonment and site restoration.

Several wells in the South Gillock Field exhibited high wellhead pressures exceeding 1,500 psig, posing risks of casing failure, blowouts, and environmental contamination. Infrastructure neglect, including overgrown vegetation, fluid-filled berms, and deteriorated tank batteries, further complicated remediation efforts. Proximity to residential areas and freshwater canals heightened the urgency to address these risks.

ALL Consulting recommended immediate remediation of high-pressure wells and a comprehensive reclamation plan for unplugged wells and aging infrastructure. The proposed integration of carbon credit generation into the remediation process provided both environmental and financial benefits. This assessment delivered Promise Energy Operations a structured strategy to mitigate risks, enhance safety, and align legacy operations with sustainability goals.

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| <b>Project Title:</b>         | <b>Lake Boehmer Well Integrity Assessment and Risk Mitigation.</b><br>(Pecos County, TX) |
| <b>Dates:</b>                 | 2024 ongoing                                                                             |
| <b>Project Owner:</b>         | Landowners near Lake Boehmer                                                             |
| <b>Point of Contact:</b>      | Schuyler Wight - swight3@yahoo.com                                                       |
| <b>Cost:</b>                  | \$75,000                                                                                 |
| <b>Team Members Involved:</b> | J. Daniel Arthur, Josh Ticknor, Robert Rigmaiden                                         |
| <b>Description</b>            |                                                                                          |

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Lake Boehmer, a 60-acre saline lake in northern Pecos County, was formed by decades of leakage from the Sloan Blair No. 1 well, which released toxic, slightly radioactive saltwater with lethal hydrogen sulfide (H<sub>2</sub>S) concentrations. The reclassification of the well under water well regulations removed it from the oversight of the Texas Railroad Commission, contributing to gaps in regulatory authority. This issue is compounded by aging infrastructure and insufficiently plugged wells in the area, which increase the potential for fluid migration and environmental contamination.

In response to longstanding environmental and safety challenges in the vicinity of Lake Boehmer, ALL Consulting conducted a comprehensive review of 35 wells operated by P.O.&G. Operating LLC. The assessment focused on evaluating wellbore integrity, plugging effectiveness, and risks of fluid migration or cross-flow between underground formations. These challenges, including contamination from the Sloan Blair No. 1 well and other incidents, underscore the critical need for enhanced management and remediation strategies in the region.

ALL Consulting evaluated 35 wells, ranging in age from 1939 to 1986, identifying structural issues such as uncemented casing, corroded sections, and inadequate plugging. Each well was analyzed for risk factors, and wellbore diagrams were created to document construction and plugging status. A stratigraphic framework was established to assess fluid migration pathways, focusing on key formations from shallow aquifers to deeper hydrocarbon reservoirs. This approach provided a detailed understanding of risks associated with zonal isolation failures.

ALL Consulting identified seven high-risk wells with structural issues such as uncemented casing, parted pipes, and inadequate plugging. These risks were addressed through targeted evaluations and recommendations for re-plugging to ensure zonal isolation and prevent further contamination. For aging wells with incomplete records, ALL Consulting utilized available data and wellbore diagrams to assess vulnerabilities and reduce uncertainties. Elevated subsurface pressures from wastewater injection were factored into the risk analysis, with special focus on wells near sensitive areas like Lake Boehmer and freshwater aquifers to prevent contamination and surface leaks.

To address these challenges, ALL Consulting recommended the immediate re-plugging of high-risk wells and proposed a comprehensive program for mechanical integrity testing, including cement bond logs and diagnostic evaluations for wells near environmentally sensitive zones. Enhanced plugging and abandonment standards were also advised to ensure alignment with industry best practices.

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| <b>Project Title:</b>         | <b>E&amp;P Program Manager (Throughout Ohio)</b>                                                                    |
| <b>Dates:</b>                 | 2014 – 2017                                                                                                         |
| <b>Project Owner:</b>         | Gulfport Energy                                                                                                     |
| <b>Point of Contact:</b>      |                                                                                                                     |
| <b>Cost:</b>                  | \$5,750,000                                                                                                         |
| <b>Team Members Involved:</b> | J. Daniel Arthur, Gavin James, Josh Ticknor, Tom Tomastik, Ben Bocklemann, Scott Meier, Jeff Kennedy, J. W. Seekins |

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#### **Description**

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ALL Consulting provided comprehensive technical, regulatory, and management support to Gulfport Energy over a three-year period, assisting with a wide range of environmental, health, and safety (EHS) programs, drilling operations, and regulatory compliance efforts. During this time, ALL played a pivotal role in overseeing and executing initiatives related to corporate EHS policy development, drilling & completion support, spill containment, water sourcing, and waste management.

ALL's contributions began with the development of a corporate EHS policy. This policy established the framework for the company's safety and compliance standards, followed by a comprehensive EHS program that was built from the ground up. This program included coordination with Gulfport's leadership, legal representation, and regulatory agencies, as well as the creation of a field practices manual covering core safety practices and best practices for well pad construction and maintenance.

In the area of drilling and completions, ALL supported Gulfport's operations, particularly in the Utica Shale, by assisting with well construction, casing design, cementing programs, and completion activities for high-pressure wells. ALL also served as the "Engineer of Record" for the design and permitting of well pads and access roads, handling water sampling, wetlands clearances, stormwater management, and geotechnical coordination. Additionally, ALL played a critical role in the first review of a well pad assessment under Ohio's new well pad rules.

ALL also implemented significant improvements to Gulfport's spill containment and prevention program. This included overhauling the spill response plan, incorporating new pad construction specifications, and ensuring compliance with Ohio's stringent regulations. ALL further assessed and upgraded Gulfport's SPCC (Spill Prevention, Control, and Countermeasure) plans to meet federal standards. On air quality, ALL managed air permitting and compliance, including overseeing the response to regulatory inquiries and compliance with greenhouse gas regulations.

ALL's waste management plan for Gulfport addressed the challenges of managing various waste streams, including NORM and TENORM waste, and ensured compliance with Ohio's stringent environmental regulations. The team developed a robust system for waste classification, sampling, disposal, and handling across multiple waste facilities.

The team also addressed new regulatory rules, collaborating with the Ohio Department of Natural Resources (ODNR) to prepare Gulfport for upcoming regulations regarding simultaneous operations, well pad design, and water hauler monitoring. In the area of water sourcing and management, ALL led efforts to develop a sustainable water procurement and transportation system for Gulfport's ongoing

development, addressing key challenges such as regulatory compliance, water chemistry, and reuse/recycling strategies.

In addition to these efforts, the team also provided on-the-ground construction oversight, managing the development of roads, pads, and impoundments, and ensuring compliance with environmental regulations and landowner agreements.

Throughout the project, ALL provided critical activity oversight, with engineers and geologists on-site during key activities, such as spud meetings, casing settings, cementing, and completion operations. This hands-on support ensured that Gulfport's operations remained in compliance with safety and regulatory standards while making improvements in environmental performance across their projects.

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| <b>Project Title:</b>         | <b>Gas Migration Support</b> (Throughout Pennsylvania)                                                         |
| <b>Dates:</b>                 | 2010 Ongoing                                                                                                   |
| <b>Project Owner:</b>         | Chesapeake Energy                                                                                              |
| <b>Point of Contact:</b>      | Charlie Olmstead, P.G. – <a href="mailto:Charles.olmstead@chk.com">Charles.olmstead@chk.com</a> (717) 599-4181 |
| <b>Cost:</b>                  | \$1,850,000                                                                                                    |
| <b>Team Members Involved:</b> | Jeff Kennedy, J. Daniel Arthur, Will Green, Ben Bocklemann                                                     |
| <b>Description</b>            |                                                                                                                |

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ALL Consulting successfully supported extensive investigations into stray gas migration across a portfolio of over 500 gas wells. These efforts were designed to identify, assess, and mitigate risks associated with gas migration, ensuring both environmental and operational integrity. The project involved comprehensive well integrity assessments, which included reviewing mechanical integrity data such as annular pressure build-up tests and annular vent rate measurements, along with analyzing cement evaluation logs, temperature logs, noise logs, mud logs, and various other geophysical logs. Methane emissions monitoring was also conducted to detect potential leaks, and isotopic gas analysis results from both production and water wells were carefully examined to trace the source of the stray gas. In addition, detailed timelines were developed to correlate operational events with instances of gas migration.

Based on the findings from these assessments, ALL developed and implemented strategic plans for remedial cementing operations aimed at correcting defective casing and cement. These remedial measures were intended to restore wellbore integrity, seal potential gas migration pathways, and prevent future issues. ALL utilized advanced diagnostic tools to gain a precise understanding of the well conditions and the causes of gas migration, integrating data from multiple sources for a holistic assessment. Isotopic gas analysis was employed to differentiate between thermogenic and biogenic gas origins, and customized solutions were developed in close collaboration with stakeholders to address the specific needs of each well.

As a result of these efforts, ALL successfully enhanced well integrity across the entire portfolio, reducing environmental risks and ensuring compliance with regulatory standards. The project not only addressed immediate concerns but also laid the groundwork for ongoing monitoring and prevention of stray gas

migration. This initiative highlights ALL's commitment to operational excellence, environmental protection, and innovative solutions in the energy sector.

## Closing Statement

The key product for accomplishing timely tasks on a project for this duration is the completion of a Project Management Plan (PMP) and Work Schedule developed with the consent of the DEP and the incorporation of an established critical path. The project team will work with the DEP to draft a document that will include specific activities, assumptions, expectations, deliverables, detailed schedules including critical path items, and responsible parties. Our approach is one of continuous coordination to ensure all team members have the needed information about the project, reduce unnecessary work, and minimize delays. Continuous coordination also includes e-mails and phone calls from our project manager and senior consultants to each specialist, task leader, and sub-consultant or contractor communicating the expectations and deadlines of work to be completed. Our team's experience has shown that effective communication and a full understanding of expectations contribute to timely task completion and project progress.

Our staff is committed to project excellence and has a *"get the job done"* approach that will result in project tasks being completed on time and within budget. ALL Consulting and our team-member company, CSR, are able to share files electronically and meet virtually, allowing us to provide efficient, cost-effective project delivery.

The project management team is committed to maintaining the schedule presented in the RFP and is prepared to start work on the project immediately after the contract is awarded. Our ongoing working relationship, full understanding of the issues associated with the process, in-depth understanding of oil and gas industry practices, agency contacts, and past experience will help us meet your schedule and provide a high-quality product.