



TIMNATH TOWN COUNCIL COMMUNICATION

Meeting Date: March 10, 2015	Item: A Resolution Approving an Oil and Gas Operator Agreement and Site Access Agreement with Peterson Energy	Ordinance <input type="checkbox"/>
Presented by: Town Attorney		Resolution <input checked="" type="checkbox"/>
		Discussion <input type="checkbox"/>
		For Information <input type="checkbox"/>

EXECUTIVE SUMMARY: As owner of certain mineral rights, the Town has had the opportunity to negotiate certain terms with Peterson Energy ("Peterson"), the operator, and Cimmaron Resources ("Cimmaron") concerning wells to be drilled outside of Town boundaries. These terms are to be memorialized in three agreements: an Oil and Gas Operator Agreement ("MOU"), a Site Access Agreement ("Access Agreement"), and Oil and Gas Lease ("Lease"). The MOU and Access Agreement are referred to collectively as the "Agreements" and attached to the proposed approval resolution (the "Resolution"). The Lease is still under negotiation and may be considered by the Council once finalized, likely on March 24, 2015.

STAFF RECOMMENDATION:

Staff recommends approval of the attached Resolution.

KEY POINTS/SUPPORTING INFORMATION:

The MOU provides:

- An operator requirement to comply with specified best management practices in drilling and managing the 6 proposed wells ("Proposed Wells"). Such best management practices include:
 - Compliance with all applicable state and federal regulations.
 - Notice of a pending application for a permit to drill new wells or change in use of the Proposed Wells (e.g. horizontal drilling), notice of commencement of operations, and signage at the well site.
 - Public meetings regarding any future wells or changes in use of the Proposed Wells.
 - Inspections by the Town giving the Town the right to enter the site for the Proposed Wells with 24 hours' notice to Operator.
 - Chemical disclosure through Operator's provision of Material Safety Data Sheets to the Town.
 - Aesthetic and safety measures regarding the operations and tanks, including berming, fencing, sound walls during drilling operations, and evergreen screening.
 - An emergency preparedness plan to be developed by the Operator and submitted to the Town prior to commencement of operations.
 - A duty to minimize emissions and utilize certain technologies to do so.
 - A monetary contribution by Operator to the air, water, and soil monitoring being coordinated by the Town in conjunction with CSU.
 - Leak detection and repair, and stormwater and erosion control plans, to be developed by Operator and submitted to the Town.
- The MOU only applies to those Proposed Wells, and any other wells or new uses for the Proposed Wells must be reviewed by the Town, including submission of a development plan and negotiation of a site-specific MOU.
- In case of future annexation, Town regulations would prospectively apply to any new wells or changes in use at the Proposed Wells.
- The Operator will include the Town as an additional insured under the required insurance policy for



any damages caused by the Operator.

The Access Agreement provides for:

- The permissible access routes for any heavy duty vehicles and trucks traveling to or from the well site. Operator shall instruct all drivers to utilize County Road 1 and Highway 392 to I-25, or County Road 1 and Harmony Road to Weld County Road 19.
- The removal of chains from all vehicles and equipment entering and utilizing Town roads.
- Operator's provision of \$5,000 per well in road impact fees.
- Operator informing the Town in case the estimated volume of truck trips, as provided for in Exhibit C of the Access Agreement, increases materially.
- Debris removal by or at the expense of Operator.
- Compliance by Operator with Town noise regulations.
- The Town's cause of action in tort in case of any extreme road damage beyond ordinary wear and tear resulting from Operator's activities.

ADVANTAGES:

The Agreements are in lieu of "forced pooling" under § 34-60-116, Colorado Revised Statutes, in which case the terms of any lease agreements between Town, Operator, and Cimmaron would be dictated by statute under less favorable terms than will be contained in the Lease. The MOU and the Access Agreement give the Town additional protections and financial contributions from the Operator.

DISADVANTAGES:

None.

FINANCIAL IMPACT:

None.

RECOMMENDED MOTION:

I move approval of Resolution No. 14, Series 2015 entitled A Resolution Approving an Oil and Gas Operator Agreement, Site Access Agreement, and Oil and Gas Lease with Peterson Energy and Cimmaron Resources.

ATTACHMENTS:

1. Resolution

**TOWN OF TIMNATH, COLORADO
RESOLUTION NO. 14, SERIES 2015**

**A RESOLUTION APPROVING AN OIL AND GAS OPERATOR AGREEMENT AND
SITE ACCESS AGREEMENT WITH PETERSON ENERGY**

WHEREAS, the Town Council of the Town of Timnath ("Town") pursuant to C.R.S. § 31-15-103, has the power to pass resolutions; and

WHEREAS, attached hereto as Exhibits A and B are the Oil and Gas Operator Agreement and Site Access Agreement with Peterson Energy Operating, Inc. (the "Agreements"); and

WHEREAS, the Town Council is familiar with the Agreements and finds them to be in the best interest of the Town, its residents, and the general public.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF TIMNATH, COLORADO as follows:

Section 1. Approval

The Agreements are hereby approved in substantially the form as attached hereto, subject to technical or otherwise minor modifications, as deemed necessary by the Town Manager in consultation with the Town Mayor, Planner, Engineer, Legal Counsel, and other applicable staff or consultants.

INTRODUCED, MOVED, AND ADOPTED BY THE TOWN COUNCIL OF THE TOWN OF TIMNATH, ON MARCH 10, 2015.

TOWN OF TIMNATH, COLORADO

Jill Grossman-Belisle, Mayor

ATTEST:

Milissa Peters, Town Clerk

EXHIBIT A

OIL AND GAS OPERATOR AGREEMENT

OIL AND GAS OPERATOR AGREEMENT

THIS OIL AND GAS OPERATOR AGREEMENT ("**Agreement**") is made and entered into this 10th day of March, 2015 ("**Effective Date**"), by and through Peterson Energy Operating Inc., and its affiliates if any, 2154 W. Eisenhower Boulevard, Loveland, Colorado, 80537 (referred to hereinafter as the "**Operator**"), and the Town of Timnath, Colorado (referred to hereinafter as the "**Town**") with an address of 4100 Main Street, Timnath, Colorado, 80547, which may be collectively referred to herein as the "**Parties**", or individually as a "**Party**".

WHEREAS, the Operator engages in the exploration, development, production and marketing of natural gas, oil and natural gas liquids on property adjacent to and near the Town of Timnath, Colorado, for that Well Site depicted on **Exhibit A**, hereto and is further defined in Section 2.d of this Agreement. In order to develop the wells on this site, the Operator is required to use Timnath roads and also is required to address the use of Timnath roads by and through this Agreement and by entering into a site access agreement, which will be entered contemporaneously herewith, and will cover all costs associated with any necessary road improvements, maintenance, and damage occurring as a result of Operator's actions (the "**Site Access Agreement**"), with the Town.

WHEREAS, while the Well Site depicted on **Exhibit A** is outside the Town limits and therefore the Town has no direct regulatory authority over it as a municipality, both Parties acknowledge the interrelationship between each other as the Town is a mineral rights owner and the Operator necessarily has to use Town of Timnath roads for its

operations, and the parties have agreed to collaborate and be bound by the terms of this Agreement..

WHEREAS, the Town and the Operator value a balanced approach to oil and gas development that is protective of public health, safety and welfare, including the environment. To that end, in order to achieve those goals in a cooperative manner, the Town and the Operator enter into this Agreement to identify best management practices for the Operator's drilling and production operations for the Well Site and to govern the operator's use of the Town's roads.

WHEREAS, those BMPs include, but are not limited to, the requirement that all natural gas produced at the Well Site will be captured and sent to a sales line if available, or used onsite.

WHEREAS, the Colorado Oil and Gas Conservation Act, C.R.S. §34-60-101 *et seq.* (the "Act"), authorizes the Colorado Oil and Gas Conservation Commission ("COGCC" or "Commission") to adopt statewide rules and regulations, which the Commission has done. Further, the Commission continues to consider changes to the rules and regulations, and it is anticipated that the Commission will adopt changes in its rules over time.

WHEREAS, the Colorado Air Pollution Prevention and Control Act, C.R.S. §25-7-101 *et seq.* ("APPCA") authorizes the Colorado Department of Public Health and the Environment ("CDPHE") to adopt emission control regulations for significant sources of air pollutants. CDPHE has promulgated specific emission control requirements for oil and gas facilities and it is anticipated that CDPHE will propose and adopt revisions to these requirements over time.

WHEREAS, the U.S. Environmental Protection Agency regulates various aspects of oil and gas activities under national statutes designed to protect air, water and other environmental resources and public health including the Clean Water Act, 33 U.S.C. 1251 *et seq.* and the Clean Air Act, 42 U.S.C. 7401 *et seq.*

NOW THEREFORE, in consideration of the covenants and mutual promises set forth in this Agreement, including in the recitals, the Parties agree as follows:

1. Effective Date/Term. This Agreement will be effective upon Town approval by the Town Council by resolution and signature by both Parties, and will continue in effect until the date of plugging and abandonment of all wells governed by this Agreement or termination by mutual written agreement of the parties. For all wells (and related facilities) subject to the requirement to employ the BMPs set forth in this Agreement, the Operator shall continue to employ such BMPs to the operations of such wells and facilities until the date of plugging and abandonment of such wells or termination as referenced above in accordance with applicable law.

2. Definitions.

a. "Best Management Practices" or "BMP" shall mean the items listed in Exhibit B, attached hereto and incorporated herein by reference.

b. "Facility" shall include wells, flowlines, storage, metering, and all equipment necessary and appurtenant to such wells.

c. "New Well" shall mean any well drilled during the term of this Agreement and located on the Well Site, or change in use from a directional well to a horizontal well, including any new or expanded production facilities directly associated with such

well, and its associated well pad. New Well shall also include the re-entry of a previously plugged and abandoned well.

d. **"Well Site"** shall mean those wells depicted on **Exhibit A** and further described as the AKAE well pad, hereinafter referred to collectively as the "Well Site."

3. The Operator's Best Management Practices, aka BMPs. Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, the Operator shall include the BMPs listed in Exhibit B on all new Applications for Permit-to-Drill, Form 2, and new Oil and Gas Location Assessments, Form 2A, submitted to the Commission for a "New Well" located on the Well Site. The BMPs shall apply to all New Wells drilled by the Operator on the Well Site, while this Agreement is effective.

4. **Operator Town Meeting.** Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, upon the submission of a new COGCC Form 2 and/or new Form 2A to the COGCC, the Operator shall meet with the Town to review the proposed oil and gas operations to ensure compliance with this Agreement, all applicable state and federal regulations, and any site-specific concerns, which concerns may include overall project impacts and economically and technically feasible mitigation measures or BMPs related to field design and infrastructure construction to minimize potential adverse impacts to public health, safety, welfare and the environment.

5. Comprehensive Development Plan (CDP). Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, within 90 days of its planned submittal of any New Well or site permit to COGCC, the Operator agrees to submit a Comprehensive Development Plan (CDP) to the Town describing its proposed operations within or immediately contiguous to the Town boundaries for the next five (5) years, to maximize planning and minimize the impacts of the planned operations. The affected area includes those sites within or immediately contiguous to the Town boundaries as they then exist where the Operator intends to conduct exploration or production activities and install supporting infrastructure (compressor stations, waste water treatment facilities, roads, pipelines, etc.) for a period of five (5) years. Operator is encouraged to coordinate with other operators to develop integrated plans to improve use of existing and new infrastructure, to share or co-locate infrastructure, and to minimize cumulative impacts. The Operator is not obligated to develop all the pads, wells or supporting infrastructure identified in the CDP. The Operator agrees to discuss any concerns of the Town with regard to the CDP and address commercially reasonable issues requested by the Town. The Operator is encouraged to utilize COGCC Rules 216 and 513 as appropriate. The Operator shall utilize the following planning principles in the plan:

- a) Use multi-well, clustered drilling pads to minimize surface disturbance;
- b) Comply with location restrictions, setbacks and other environmental requirements of State and local law and regulations and this Agreement;
- c) Avoid, minimize and mitigate impact on sensitive resources;

- d) Preferentially locate operations on disturbed or open lands, or lands zoned for industrial activity;
- e) Co-locate linear infrastructure with existing roads, pipelines and power lines;
- f) Consider impacts from other gas development projects and land use conversion activities and plan to minimize cumulative surface impacts; and
- g) Minimize fragmentation of intact open space.
- h) Additional planning elements include:
 - 1) Identification of travel routes;
 - 2) Sequence of well drilling over the lifetime of the plan that places commercially reasonable priority on locating the first well pads in areas removed from sensitive natural resource values; and
 - 3) Consistency with local zoning ordinances and comprehensive planning elements.

Consistency with any duly adopted growth management plans between the Town and the County and/or the Town and adjacent municipalities.

6. **Force Majeure.** Neither Party will be liable for any delay or failure in performing under this Agreement in the event, and to the extent, that the delay or failure arises out of causes beyond a Party's control, despite a Party's commercially reasonable efforts to fulfill its obligations under this Agreement (a "Force Majeure Event"). For purposes of this paragraph, the requirement that a Party exercise commercially reasonable efforts to fulfill its obligations includes using commercially reasonable efforts to anticipate any potential Force Majeure Event and commercially reasonable efforts to address the

effects of any Force Majeure Event as it is occurring and following the potential Force Majeure Event, such that delay and any adverse effects of the delay are minimized to the greatest extent possible. For purposes of this Agreement, a Force Majeure Event **does not** include the financial inability, for any reason, to perform an obligation. A Party who asserts a claim of a Force Majeure Event shall take all commercially reasonable measures to minimize the effects of such Force Majeure Event upon the Party's obligations under this Agreement. If any event occurs or has occurred that may cause a delay or failure in performance of an obligation under this Agreement for which a Party intends to assert a claim of a Force Majeure Event, such Party shall give timely (within seven (7) calendar days) and reasonably detailed written notice and explanation to the other party of the Force Majeure Event.

7. Future annexation; Site Specific Development Plan; and Future Regulations. Nothing contained herein shall prohibit the Town from annexing the property upon which the Well Site is located and, if annexed, The Town reserves the right in the future to enact oil and gas regulations that are general in nature and are applicable to all similarly situated oil and gas activities subject to land use regulation by the Town, even though such regulations may be more or less stringent than the standards applicable to the Well Site by virtue of this Agreement; provided, however, no oil and gas regulations or land use regulation enacted by the Town shall be applicable to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A** as long as the use associated with the six (6) permits on the Well Site is not changed to

horizontal or intensified so as to constitute a New Well under Section 2.c of this Agreement.

8. Reservation of Rights on Impact Fees. Nothing in this Agreement affects the ability of the Town to impose a transportation impact fee on the Operator, such as the fee that will be imposed pursuant to the Site Access Agreement associated with the AKAE Well Site, as applicable to similar operations within the Town. Nothing in this Agreement affects the ability of the Operator to otherwise challenge such impact fees.

9. Agreement Limited to Well Site. Except for the requirements of Paragraph 5 or if the context clearly indicates otherwise, this Agreement applies only to operations at the Well Site referenced in Exhibit A and to New Wells drilled at the Well Site during the Term of this Agreement, and does not apply to any operations within the Town boundaries at locations other than the Well Site. Such operations are to be governed by other agreements or regulations, as applicable.

10. Responsibility for Operations. Operator is solely responsible for its operations and nothing in this Agreement places any operational or other related responsibilities on the Town.

11. Authority to Execute Agreement. Each Party represents that the undersigned have the full right and authority to enter into this Agreement and bind the Parties to the terms and conditions contained herein. This Agreement may be amended only by an instrument executed by both Parties hereto.

12. Successors and Assigns. The terms and conditions of this Agreement shall bind and extend to the Town and the Operator, and the Operator's successors and assigns, and the Operator shall require any successor and assign, by written

agreement, to adhere to all terms and conditions of this Agreement, and to expressly assume the defense and indemnity obligations to the Town as set forth herein in a document acceptable in form to the Town. Such condition shall be a precondition to any assignment, and such assignment shall not relieve the assignee of any obligations that accrue during the period of operation of the assignee or otherwise arising out of the actions or inactions of the assignee during its period of operation.

13. No Third Party Beneficiaries. This Agreement is not intended to, and does not create, any right, benefit, responsibility or obligation that may be enforced by any non-party. Additionally, nothing in the Agreement shall entitle any third party to any claims, rights or remedies of any kind.

14. Notices. All notices and other correspondence related to this Agreement shall be in writing and shall be delivered by: (i) certified mail with return receipt, or (ii) hand delivery with signature or delivery receipt provided by a third party courier service (such as FedEx, UPS, etc.) to the designated representative of the Party as indicated below. A Party may change its designated representative for notice purposes at any time by written notice to the other Party. The initial representatives of the Parties are as follows:

Town: Town of Timnath
4800 Goodman Street
Timnath, CO 80547
Attn: Town Manager
Telephone: 970-224-3211

Operator: Peterson Energy Operating, Inc.
2154 W. Eisenhower Boulevard
Loveland, CO 80537
Attn: Andrew Peterson
Telephone: 970-669-7411

15. Default; Remedies. If either party believes that the other Party has failed to comply with any provision of this Agreement, or if any other kind of dispute arises under any provision of this Agreement that cannot be resolved by good faith negotiation between the Parties, the Party claiming that a breach of this Agreement has occurred or seeking resolution of any other dispute under this Agreement shall send written notice to the other Party, specifying its position in the matter and invoking the dispute resolution process in this section. Within fifteen (15) days of the date of delivery of such notice, the Parties shall meet to resolve the matter described in the notice. If either Party believes that mediation would be advantageous in connection with such meeting, or if a resolution of the matter cannot be achieved at the meeting, both parties agree to make a reasonable effort to work through, and with a mutually acceptable mediator to attempt to resolve the dispute. Notwithstanding the foregoing, if either Party believes that the dispute will not otherwise be resolved in a sufficiently prompt and effective manner, such Party may, at its discretion, take such legal action and seek such legal or equitable remedies as it determines to be appropriate or necessary to protect and enforce its rights under this Agreement. Such remedies may include, without limitation, an injunction to stop an alleged violation, or an order requiring the performance of all acts and things required to be performed hereunder by the other Party, and the prevailing party in such legal action shall be awarded reasonable attorneys fees.

16. *Omitted.*

17. Defense and Indemnity. Operator agrees to defend and indemnify the Town, its employees, boards, agents and council members (collectively "Town Entities") from and against all claims made by third parties and liability against the

Town Entities to the extent arising out of or related to the negligent acts or omissions of the Operator at the Well Site or in connection with the Well Site, including but not limited to claims for bodily injury, death, property or other damage, remediation or other costs, or claims under any local, state or federal environmental law. As used in this paragraph, the term "Claim" means a claim filed in any judicial forum, any administrative proceeding and any administrative order. This defense and indemnity only applies to the extent that a Claim or liability arises from the negligent acts or omissions of the Operator, and does not apply to the extent that a Claim or liability arises from any acts or omissions of the Town Entities; or that is based on, questions or alleges a lack of authority of the Town to enter into this Agreement. The obligations of this paragraph shall survive the termination of this Agreement. To the extent of the liabilities assumed hereunder by Operator, the Operator shall name the Town as an additional insured under insurance policy required in **Exhibit B**.

18. Integration Clause and Conflicts Between Agreements: This Agreement, along with all exhibits and appendices attached hereto encompasses the entire agreement of the Parties regarding the subject matter contained herein, and, , except as otherwise provided in this paragraph, supersedes all previous understandings and agreements between the Parties, whether oral or written, regarding the subject matter contained herein. As referenced above, this Agreement is being entered into contemporaneously with the Site Access Agreement between the Parties. To the extent that the Site Access Agreement includes provisions that are in direct conflict with this Agreement, the terms of the Site Access Agreement shall control. The Parties also acknowledge that, contemporaneously with the approval of this Agreement, the Town

and Cimmaron Resources, Inc. ("Cimmaron") are entering into a lease agreement pursuant to which the Town will lease its mineral rights to Cimmaron (the "Lease"). To the extent that the Lease includes provisions that are in direct conflict with this Agreement, the terms of the Lease shall control. For purposes of determining whether there is a direct conflict between a provision in this Agreement and a provision in the Site Access Agreement or the Lease, the provisions in both documents shall be interpreted to the greatest extent reasonably possible so as to avoid such a determination.

19. Governing Law. This Agreement shall be governed and construed in accordance with the laws of the State of Colorado without reference to its conflicts of law provisions that might otherwise have the effect of requiring the application of another jurisdiction's laws.

20. Conflicts. The Operator shall comply with all applicable state, and federal regulations in addition to the terms of this Agreement and the Best Management Practices incorporated herein. In the event of a conflict between a requirement or regulation set forth in this Agreement, the Best Management Practices, or applicable law, whichever requirement or regulation is most stringent, shall apply.

21. Recording. This Agreement may be recorded by the Town with the Clerk and Recorder of the County of Larimer.

22. Approval by the Town. Approval by the Town, as required in the Sections of this Agreement and supporting Exhibits that reference same, will not be unreasonably withheld or conditioned. Approval will be deemed to have been granted if not denied within fifteen (15) days of receipt by Town staff of the applicable documents and supporting information.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by a duly authorized representative on the day and year first written above.

THE TOWN:

THE TOWN OF TIMNATH, COLORADO
A home rule municipality of the State of
Colorado

Town Mayor

ATTEST:

Town Clerk

APPROVED AS TO FORM:

Town Attorney

THE OPERATOR:

PETERSON ENERGY OPERATING, INC.

Andrew Peterson
President

List of Exhibits

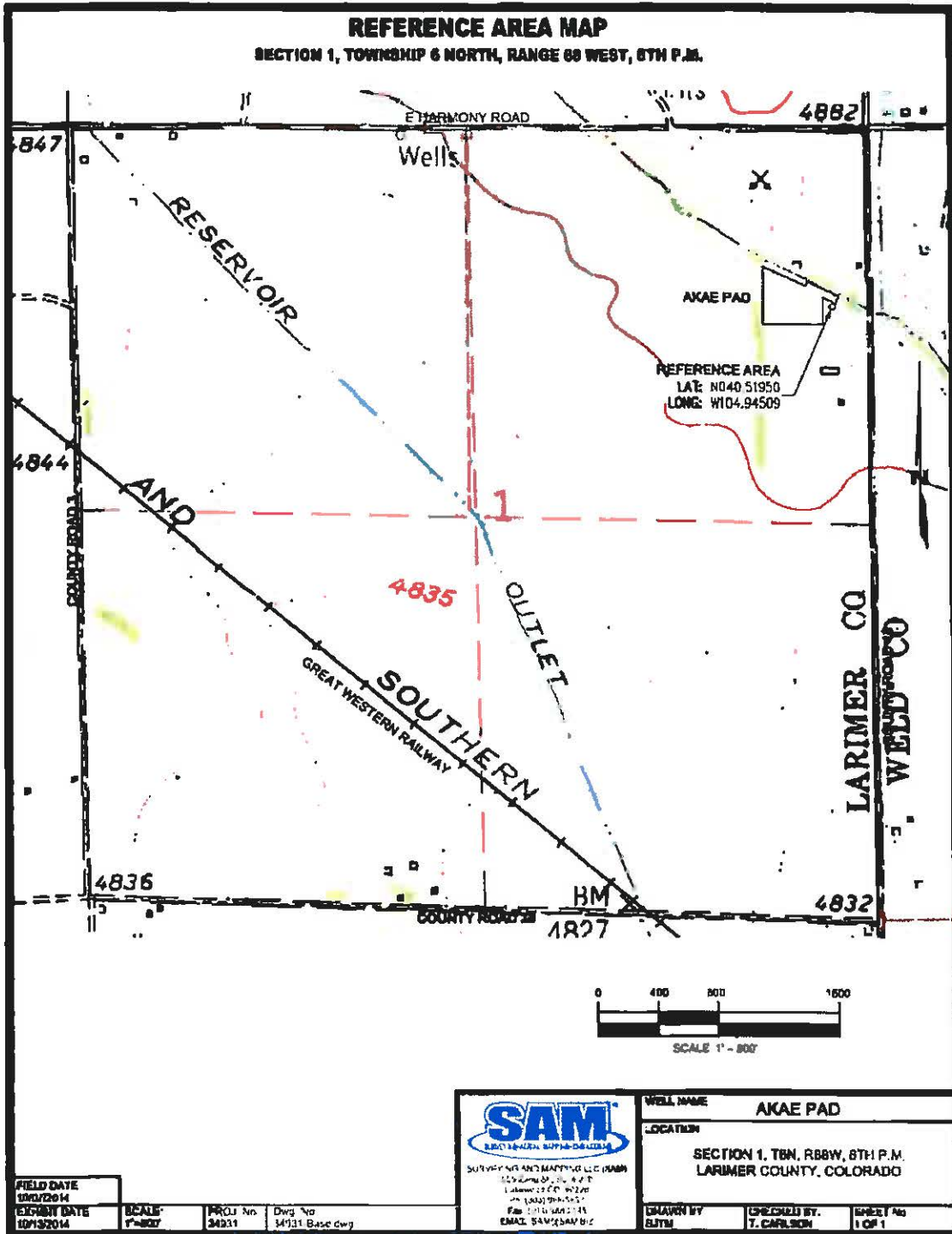
Exhibit A - Maps of the Well Site and List of Wells

Exhibit B – List of BMPs

Exhibit C – Submittal Requirements

Exhibit D – Map of Water Monitoring Well Sites

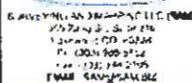
EXHIBIT A WELL SITE MAPS



SECTION 1, TOWNSHIP 6 NORTH, RANGE 68 WEST, 6TH P.M.



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| FIELD DATE
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UNIVERSITY
OF
SOUTH
ALABAMA

WRITTEN BY
T. CARLSON

SHEET NO
1 OF 1

LIST OF WELLS WITH DRILLING PERMITS SUBMITTED AND BEING REVIEWED

AKAE 21-1 SHL: 1168' FNL, 473' FEL, Section 1-T6N-R68W
AKAE 22-1 SHL: 1166' FNL, 458' FEL, Section 1-T6N-R68W
AKAE 31-1 SHL: 1164' FNL, 443' FEL, Section 1-T6N-R68W
AKAE 32-1 SHL: 1162' FNL, 428' FEL, Section 1-T6N-R68W
AKAE 41-1 SHL: 1160' FNL, 413' FEL, Section 1-T6N-R68W
AKAE 42-1 SHL: 1158' FNL, 398' FEL, Section 1-T6N-R68W

EXHIBIT B

BEST MANAGEMENT PRACTICES FOR WELL SITE AND NEW WELLS AT WELL SITE

The following BMPs shall govern Operator's actions on the Well Site. Additionally, except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, the Operator shall include as Conditions of Approval the best management practices listed below on all Applications for Permit-to-Drill, Form 2, and Oil and Gas Location Assessments, Form 2A, submitted to the Commission for New Wells that the Operator drills after the Effective Date on the Well Site.

1. *Regulations.* The Operator shall comply with all applicable state, and federal regulations in addition to the terms of this Agreement and the Best Management Practices listed below. Whichever regulation or Best Management Practice is most stringent shall apply.

2. *Setbacks for New Wells.* It is the intent of the Operator to maximize equipment and wellhead setbacks from occupied buildings and residences beyond the setbacks required by the COGCC to the extent commercially feasible and practicable. The Parties acknowledge that the COGCC rules require a minimum of five hundred (500) feet safety setback for New Well construction from a Residential Building Unit and one thousand feet (1,000) from a High Occupancy Building.

Operator agrees that any New Wells drilled shall conform to the currently existing COGCC setback rules and that all wells are at least 500' from a Residential Building Unit as described by the COGCC.

3. *Conceptual Review.* Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, prior to the submission of an Application for a Permit to Drill for future wells, the Operator agrees to schedule a meeting with the Town to review the proposed New Well or drilling activity; provided, however, in no event will compliance with this Section 3 delay the submission of the Application for a Permit to Drill more than 30 days after the Company has notified the Town. The goal of these meetings shall be for staff and the Operator to review the proposed oil and gas operation in a manner that ensures compliance with the operator agreement and applicable state and federal regulations. This pre-submittal meeting shall also allow the Operator and staff the opportunity to explore, to the extent commercially reasonable, site-specific concerns, discuss project impacts and potential mitigation methods including field design and infrastructure construction to minimize impacts, to discuss coordination of field design with other existing or potential development and operators, to identify sampling and monitoring plans for air and water quality, and other elements of the operator agreement as contained in **Exhibits B and C**. Based upon the foregoing, Operator is encouraged to conduct the pre-submittal

meeting with the Town prior to completing well siting decisions, to the extent reasonably feasible.

4. ***Mailed Notice.*** The Town shall mail notice of the pending Application for a Permit to Drill no more than ten (10) days after the conceptual review meeting has taken place. Owners of record shall be ascertained by the Town according to the records of the Larimer County Assessor's Office, unless more current information is made available in writing to the Town prior to the mailing of the notices. Notice of the pending application shall include reference to the neighborhood meeting, if applicable, and be made as follows:

- To the surface owners of the parcels of land on which the oil and gas operation is proposed to be located;
- To the surface owners of the parcels of land within five hundred (500) feet of a proposed gathering line, as defined by COGCC Rule;
- To the surface owners of the parcels of land within one (1) mile of the parcel on which the oil and gas operation is proposed to be located; and
- To persons registered in writing with the Town as representing bona fide neighborhood groups, organizations, homeowners' associations, and metropolitan districts within the area of notification.

5. ***Posted Notice.*** The real property proposed to be developed shall also be posted with a sign, giving notice to the general public of the proposed development. The size of the sign(s) required to be posted shall be twenty-four (24) by thirty (30)

inches. Such signs shall be provided by the Town and shall be posted on the subject property in a manner and at a location or locations reasonably calculated by the Town to afford the best notice to the public.

6. *Neighborhood Meetings.* Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, a neighborhood meeting shall be required for any New Well, including a change in use from a directional well to a horizontal well on the Well Site as provided under Section 2.c of this Agreement. Notice of the neighborhood meeting shall be provided in accordance with Sections 3, 4 and 5 above. The Operator shall attend the neighborhood meeting. The Town shall be responsible for scheduling and coordinating the neighborhood meeting and, to the extent possible, shall hold the meeting in the vicinity of the proposed development. A written summary of the neighborhood meeting shall be prepared by the Town.
7. *Notification to the Town and the public regarding commencement of operations.* Except with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, no less than ten (10) days in advance of commencement of any new drilling or associated earth disturbance operations, the Operator shall provide to the Town Manager for posting on the website the information outlined in **Exhibit C** regarding commencement of operations, which

the Operator may revise from time-to-time during operations, with prior approval from the Town Manager. For the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A**, Operator agrees to notify the Town Manager no less than ten (10) days in advance of commencement of any new drilling or associated earth disturbance operations.

8. *Inspections.* The Town shall have the right to enter the Well Site and inspect the Operator's onsite operations during business hours, upon the giving of forty-eight (48) hours advance written notice to the Operator, provided that no entry onto the Well Site will be permitted without a representative of Operator present. Such notice shall identify the person who will conduct the inspection, which person must be qualified and experienced in oil and gas operations. Such inspections shall be at the sole costs and risk of the Town and the persons conducting the inspection, and the Town will hold Operator harmless from any claims for injury, death or loss or damage of property arising from or in connection with such inspections to the extent that such claims for injury, death or loss or damage of property are caused by the negligent acts or omissions of the Town or its agents. The Town may use the information collected on the inspections to enforce this Agreement. The Town may also report this information to appropriate state officials, including but not limited to information regarding violations of State rules. Town hereby acknowledges that nothing herein shall grant the Town authority to assess fees for the inspection of the operations conducted by

Operator hereunder. Town inspections conducted outside the fence line of the Well Site may be conducted at any time and without notice. The Town shall be entitled to take photographs as necessary for record keeping purposes, but agrees that it will hold such photographs in strict confidence to the maximum extent allowed under all applicable law.

9. *Containment berms.* The Operator shall utilize steel-rim berms around tanks and separators at the Well Sites with sufficient capacity to contain 1.5 times the volume of the largest tank enclosed by the berm plus sufficient freeboard to prevent overflow. All berms and containment devices shall be inspected by the Operator at regular intervals and maintained in good condition. No potential ignition sources shall be installed inside the secondary containment area unless the containment area encloses a fired vessel. For purposes of this paragraph, "Regular Intervals" shall mean daily, unless remote sensing equipment approved by the Town Manager is utilized.

- a) Containment berms shall be constructed of steel rings, designed and installed to prevent leakage and resist degradation from erosion or routine operation.
- b) Secondary containment for tanks shall be constructed with a synthetic or engineered liner that contains all primary containment vessels and is mechanically connected to the steel ring to prevent leakage.

10. *Closed Loop Pitless Systems for the Containment and/or Recycling of Drilling Fluids.* Wells shall be drilled, using closed loop pitless systems for containment

and/or recycling of all drilling fluids. Flowback and produced water shall be recycled to the maximum extent practicable. Such recycling shall occur on the pad site of generation, if commercially practicable, and agreed to by surface owner. If the Operator does not plan to recycle all or a portion of the flowback and/or produced water the Operator shall submit documentation to the Town demonstrating that such recycling is not commercially practicable.

11. *Berming.* In lieu of anchoring, Operator will provide berming at the site per a grading plan to be coordinated with and approved by the Town Manager.
12. *Burning.* No open burning shall occur on the site of any oil and gas operation.
13. *Chains.* Traction chains from heavy equipment shall be removed before entering a Town street.
14. *Chemical disclosure and storage.* Prior to the bringing of such chemicals onto the property, the Operator shall provide to the Town Material Safety Data Sheets ("**MSDS**") for all drilling and completion chemicals (solids, fluids, and gases) (including but not limited to chemicals used for fracturing) to be used on the Well Site, which the Town may make available to the public as public records. The Operator shall also keep an updated inventory of all chemicals at the Well Site at all times, including type and quantity, and provide a copy to the Town upon request. Fracture chemicals shall be uploaded onto the Frac Focus.org website within sixty days of the completion of fracturing operations. The Operator shall not permanently store hydraulic fracturing chemicals, flowback from hydraulic

fracturing, or produced water on the Well Site. The Operator shall remove hydraulic fracturing chemicals, and flowback from hydraulic fracturing, within 30 days of completion of fracturing operations.

15. *Color.* Facilities shall be painted in a uniform, non-contrasting, non- reflective color, to blend with the surrounding landscape and, with colors that match the land rather than the sky. . This paragraph shall also apply to existing wells when such wells are repainted for general maintenance purposes.

16. Water, air, and soil quality monitoring contribution, access, and cooperation. Operator is responsible for a total of \$15,000, to be used at the Town's discretion for air, water, and soil monitoring to be carried out in accordance with Sections 21.i, 27, and 37 of this Exhibit B. The total amount is due no later than thirty (30) days after the Effective Date of this Agreement. Operator shall be consulted on the design of all the aforementioned monitoring and sampling programs, with final implementation decisions to be made by the Town in its discretion, and Operator agrees to provide access to the Town or its contractors to permit air, water, or soil monitoring to occur within twenty four hours of a request by the Town.

17. *Discharge valves.* Open-ended discharge valves on all storage tanks, wellheads, flowlines and other containers shall be secured where the operation site is unattended or is accessible to the general public. Open-ended tank discharge valves shall be placed within the interior of the tank secondary containment. As used in this paragraph, the term "Secured" means locked or

otherwise secured such that the public cannot operate the valve. If practicable, such valves shall contain remote alarms to alert the operator that a valve has been opened.

18. *Fugitive Dust Suppression.* Dust associated with on-site activities and traffic on access roads shall be minimized throughout construction, drilling and operational activities such that there are no visible dust emissions from access roads or the Well Site to the extent practical given wind conditions. No untreated produced water or other process fluids shall be used for dust suppression. The Operator will avoid dust suppression activities within three hundred (300) feet of the ordinary high water mark of any waterbody, unless the dust suppressant is water. Material Safety Data Sheets for any chemical based dust suppressant shall be submitted to the Town prior to use. Within two hours of verbal notice from the Town to Operator of a dust problem, Operator shall respond and take necessary mitigation measures to stop the dust problem.
19. *Electric equipment.* The Operator shall use electric-powered engines for motors, compressors, and drilling and production equipment and for pumping systems in order to mitigate noise and to reduce emissions, unless the Operator demonstrates to the Town that the use of such equipment in a particular situation is not economically feasible or practical. If electricity from the grid is not available, the operator shall use propane or natural gas to power pumps and motors, if feasible.

20. *Emergency preparedness plan.* The Operator is required to develop an emergency preparedness plan for the Well Site, which is in compliance with the applicable fire code. A preliminary plan shall be filed with the Town and all overlapping fire protection districts not less than ten (10) days before commencing any drilling operations. A final plan with as-built diagrams will be filed with the Town not later than sixty (60) days following the date of first production from any well on the Well Site, and the plan shall be updated on an annual basis or as conditions change (responsible field personnel change, ownership changes, etc.). The emergency preparedness plan shall consist of at least the following information:

- a) Name, address and phone number, including twenty-four (24)-hour emergency numbers for at least two persons responsible for emergency field operations.
- b) An as-built facilities map in a format suitable for input into the Town's GIS system depicting the locations and type of above and below ground facilities including sizes, and depths below grade of all oil and gas flow lines and associated equipment, isolation valves, surface operations and their functions, as well as transportation routes to and from the Well Site, for emergency response and management purposes. The information concerning flow lines and isolation valves shall be held confidentially by the Town and shall only be disclosed in the event of an emergency or to

emergency responders. The Town shall deny the right of inspection of the as-built facilities maps to the public or for the training of emergency responders pursuant to C.R.S. § 24-72-204.

- c) Detailed information addressing each reasonable potential emergency that may be associated with the operation. This may include any or all of the following: explosions, fires, gas, oil or water pipeline leaks or ruptures, hydrogen sulfide or other toxic gas emissions, or hazardous material vehicle accidents or spills. A provision that any spill outside of the containment area, that has the potential to leave the facility or to threaten waters of the state shall be reported to the local emergency dispatch and the COGCC Director in accordance with COGCC regulations.
- d) Detailed information identifying access or evacuation routes, and health care facilities anticipated to be used.
- e) A statement and detailed information indicating that the Operator has adequate personnel, supplies, and training to implement the emergency response plan immediately at all times during construction and operations.
- f) The Operator shall have current Material Safety Data Sheets for all chemicals used or stored on a site. These sheets shall be provided

immediately upon request to Town officials, a public safety officer, or a health professional as required by COGCC Rule 205.

- g) The plan shall include a provision establishing a process by which the Operator notifies the neighbors within 1000 feet, and metropolitan districts that are contiguous to the Well Site, to inform them about the on-site operations and provides sufficient contact information for these neighbors to communicate with the Operator.
- h) Any training associated with the Emergency Preparedness Plan shall be coordinated with the Town and all overlapping fire protection districts.
- i) A provision obligating the Operator to reimburse the appropriate emergency agencies for their expenses resulting from the Operator's operations, to the extent required by Colorado State Statutes.

21. *Air quality.* The following apply at the Well Site, except as noted.

a) Compliance with state and federal law, as amended over time.

- 1) Operator shall comply with emissions regulations promulgated by the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD), COGCC and U.S. EPA.
- 2) Air emissions from wells and associated production equipment

shall be in compliance with the permit and control provisions of the Colorado Air Quality Control Program, Title 25, Section 7, C.R.S., COGCC Rule 805, and all applicable state, local and federal regulations.

- 3) The Operator must comply with 40 CFR Subpart OOOO as published on August 16, 2012 (Quad O) or revised.

- b) General Duty to Minimize Emissions. The Operator has a general duty and obligation to minimize air pollutant emissions from the Well Site, including but not limited to:

Consolidation of product treatment and storage facilities;

Centralization of compression facilities;

Liquids gathering and water delivery systems; and

Telemetric control and monitoring systems, if feasible;

- c) Capture of Gas. During normal operations, all continuously operated equipment, including but not limited to, storage vessels and tanks, separators, pneumatic pumps, dehydrators, and compressors, shall route all fugitive natural gas and VOC vapors to a capture or control device with at least a 98% VOC destruction or control design efficiency. The Operator shall submit manufacture test or other data demonstrating a 98% VOC destruction or control design efficiency and Operator shall operate such equipment in accordance with manufacturer's specifications. "Normal Operations" means

all periods of operation, excluding malfunction. For storage tanks, normal operation includes but is not limited to liquid dumps from the separator or wellhead. A **"Malfunction"** is defined as any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered to be malfunctions.

- d) Plunger Lifts and Well Maintenance. On all wells, Operator shall use plunger lifts with well automation controls or other similar technology to minimize and control emissions. If manual well blowdowns are utilized for existing wells, the Operator shall be present during all manual blowdowns and minimize the venting of gas.
- e) No Bleed Pneumatic Controllers. Operator shall use no-bleed pneumatic controllers.
- f) Thermal Combustion of VOCs. Where thermal combustion of VOCs is allowed, flaring shall be conducted in the following manner:
 - 1) The flare unit shall be fired with natural gas and designed to operate with a ninety eight (98) percent or higher VOC destruction efficiency;

- 2) The flare unit shall be designed and operated in a manner that shall ensure no visible emissions, pursuant to the provisions of 40 CFR 60.18(f), except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. Where applicable, flares shall also be in compliance with 5 CCR 1001-9 Regulation 7 Section XVIIIB for non-condensate oil;
 - 3) The flare unit shall be operated with a flame present at all times when emissions may be vented to it, pursuant to the methods specified in 40 CFR 60.18(f); and
 - 4) An automatic pilot system or continuous ignition system shall be used. In addition operator may elect to use a telemetry alarm system or an on-site visible indicator showing proper function.
- g) **Flaring of Natural Gas:** Any flaring of natural gas during drilling operations shall be conducted in accordance with COGCC Rules. Upon completion of drilling operations, natural gas shall be collected and piped off the Well Site for processing and sale.
- h) **Leak Detection and Repair ("LDAR"):** The Operator shall develop and maintain a LDAR program that is comparable to EPA Method 21 for equipment used in permanent operations. LDAR shall be performed on newly installed equipment, including new equipment installed after drilling operations, on a quarterly basis for the first twelve (12) months following the date of first production from the Well Site, then annually thereafter, or more frequently if required by applicable CDPHE regulations. If a FLIR camera is

used for this purpose, the Operator shall notify the Town prior to FLIR camera use in the event the Town wishes to observe the method. Detailed recordkeeping of the inspections will be kept, including: the date and time of inspections; identification of components for which leaks are detected and repaired; and justification for lack of repair for any components for which repairs were not done. If an IR camera or FLIR camera is used, the Operator must retain an infrared image or video of all leaking components before and after repair. Such records must be maintained by the Operator for five (5) years and must be made available to the Town upon request. The Operator shall submit a proposed LDAR program to the Town for review and approval by the Town Manager no later than sixty (60) days following the Effective Date.

- i) Ambient Air Sampling Program. The Operator agrees to cooperate with the implementation of an ambient air sampling program to be completed by the Town using criteria being developed in conjunction with Colorado State University. The Town shall conduct testing in accordance with requirements of the COGCC and Operator shall pay the amount specified in Section 16 of this Exhibit B.

- 1) Additional Air Sampling. At any time, after consultation with Operator as to the specific issues in question, the Town can require the Operator to, and Operator agrees to, conduct additional testing

and analysis as may be mutually agreed upon by the Parties to identify the source of the emissions and the appropriate remedial steps to address those emissions. Such sampling frequency and analysis shall be based on the risks associated with the type and concentration of the contaminants identified; and

- 2) Emergency Response Sampling. Operator agrees to consult with the Town as needed to respond to emergency events such as spills, process upsets, accidental releases, or in response to odor complaints in Town limits.

j) Air Quality Action Days. The Operator shall respond to air quality Action Day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area by implementing suggested air emission reduction measures as feasible. Emission reduction measures shall be implemented for the duration of an air quality Action Day advisory and may include measures such as:

- 1) Minimize vehicle and engine idling;
- 2) Reduce truck traffic and worker traffic;
- 3) Delay vehicle refueling;
- 4) Suspend or delay use of fossil fuel powered ancillary equipment;
- and
- 5) Postpone construction activities, if feasible.

- k) Technical Impracticability Variance. If achieving a requirement of this Section 21 is not technically practicable, the Operator may seek a variance of the requirement from the Town, provided that the requirement is not otherwise required by state or federal law. The Town Manager may in her/his discretion issue a variance for the requirement if it determines that the requirement is not technically practicable given the specific facts applicable to the operations at the Well Site.
- l) Certification of Compliance. The Operator must submit annual reports to the Town certifying (a) compliance with these air quality requirements and documenting any periods of non-compliance, including the date and duration of each deviation and a compliance plan and schedule to achieve compliance (b) that the equipment at the Well Sites continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters. The annual report must contain a certification as to the truth, accuracy and completeness of the reports, by a responsible corporate official. The annual report may be a facsimile of the annual report(s) the Operator submits to the CDPHE to the extent that such report meets the substantive reporting requirements of this Agreement.

22. *Green completions.*

- a) Gas gathering lines, separators, and sand traps capable of supporting green completions as described in COGCC Rule 805 shall be installed per the provisions of COGCC Rule 805.
- b) Operator shall comply with 40 CFR 60.5375(a)(1), (2) for green completions.
- c) Venting is prohibited, except as required for safety to avoid explosion or fire.
- d) Temporary flowback flaring and oxidizing equipment shall include the following:
 - 1) Adequately sized equipment to handle 1.5 times the largest flowback volume of gas from a vertical/directional and/or horizontally completed well, as applicable, as reported to the COGCC in a ten mile radius;
 - 2) Valves and porting available to divert gas to flaring and oxidizing equipment; pursuant to the above Rules 40 CFR 60.5375 & COGCC Rule 805
 - 3) Auxiliary fueled with sufficient supply and heat to combust or oxidize non-combustible gases in order to control odors and hazardous gases. The flowback combustion device shall be equipped with a reliable continuous ignition source over the duration of flowback, except in conditions that may result in a fire hazard or explosion; and
 - 4) The Operator has a general duty to safely maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery/operation.

23. ***Exhaust.*** The exhaust from all engines, motors, coolers and other mechanized equipment shall be vented up or in a direction away from the closest existing residences.
24. ***Fencing and Sound Walls.*** During drilling and completion operations, Lessee agrees that the Well Site shall be enclosed with a Temporary Perimeter Sound Wall (including sound blanket panels) at least 24 feet in height and extending 200' along the west side and 400' along the south side. After drilling is completed, a six (6) foot chain link security fence shall be installed around the wellheads, production separators, and oil tanks and monitored in a manner that will preclude entry to those units on the Well Site by members of the public.
25. ***Flammable material.*** All ground within twenty five (25) feet of any tank, or other structure containing flammable or combustible materials shall be kept free of dry weeds, grass or rubbish, and shall conform to COGCC 600 Series Safety Regulations and the applicable Fire Code.
26. ***Floodplains.*** All oil and gas operations shall comply with Chapter 16 of the Land Use Code.
27. ***Water Quality Monitoring Plan.*** The Town shall install four (4) new water monitoring wells, as shown on Exhibit D, prior to drilling any of the six (6) wells on the Well Site as shown on Exhibit AA. One new water monitoring well shall be located on the north side of the Well Site and one new water monitoring well shall be located south of the Well Site. The exact locations shall be agreed to by the parties and the appropriate surface owners prior to drilling each new water

monitoring well. Two additional new water monitoring wells shall be located on Town property in a location to be mutually agreed upon by the parties, and shown on **Exhibit D**. The sampling of these wells shall be in accordance with the procedures of COGCC Rule 609, and the Operator shall pay the amount specified in Section 16 of this Exhibit B toward monitoring costs.

28. **Landscaping.** The Well Sites shall be landscaped with evergreen screening on the West and the South sides, and shall be maintained in compliance with the safety requirements of the Operator. Existing vegetation shall be minimally impacted. Motorized equipment shall be restricted to the Well Sites and access roads to the Well Sites. A Visual Mitigation Plan to be reviewed and approved by the Town Manager shall include the type and location of all fencing and landscaping.
29. **Lighting.** Except during drilling, completion or other operational activities requiring additional lighting, down-lighting is required, meaning that all bulbs must be fully shielded to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. Prior to installation of permanent lighting on any facility, the Operator agrees to submit to the Town Manager for review and approval a lighting plan to establish compliance with this provision. The lighting plan shall indicate the location of all outdoor lighting on the site and any structures, and include cut sheets (manufacturer's specifications with picture or diagram) of all proposed fixtures.

30. ***Maintenance of machinery.*** Routine field maintenance of vehicles or mobile machinery shall not be performed within three hundred (300) feet of any water body.
31. ***Mud Tracking.*** The Operator shall take all practicable measures to ensure that vehicles do not track mud or debris onto Town streets. If mud or debris is nonetheless deposited on Town streets, in excess of *de minimus* levels, the streets shall be cleaned immediately by the Operator. If for some reason this cannot be done, or needs to be postponed, the Town shall be notified of the Operator's plan for mud removal, and the Town will have the right, but not the obligation to remove the mud and back charge the Operator for such removal.
32. ***Noise mitigation.*** During drilling and completion operations, noise mitigation shall be achieved using the Temporary Perimeter Sound Wall. Following completion, Operator shall ensure that noise from the well shall comply with the sound limitation regulations set forth in COGCC 800 Series Aesthetic and Noise Control Regulations for residential/agricultural/rural uses.
33. ***Flow lines.*** Any newly constructed or substantially modified flowlines on site shall be constructed and operated under the provisions of the COGCC 1100 Series Flow line Regulations and any applicable surface use agreements with the surface owners. Any newly constructed or substantially modified flow lines on site shall meet the following requirements:

- (a) To the maximum extent feasible, all flow lines, shall be sited a minimum of fifty (50) feet away from existing general residential, commercial, and industrial buildings, as well as the high-water mark of any surface water body. This distance shall be measured from the nearest edge of the pipeline.
 - (b) To the maximum extent feasible, pipelines shall be aligned with established roads in order to minimize surface impacts and reduce habitat fragmentation and disturbance.
 - (c) To the maximum extent feasible, operators shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize surface impacts.
 - (d) To the maximum extent feasible, operators shall use boring technology when crossing streams, rivers, or irrigation ditches with a pipeline to minimize negative impacts to the channel, bank, and riparian areas.
34. *Recordation of flowlines.* All new flow lines shall have the legal description of the location recorded with the Clerk and Recorder of the Town within sixty (60) days of completion of construction. Abandonment of any recorded flowlines shall be recorded with the Clerk and Recorder of the Town within sixty (60) days after abandonment.

35. *Removal of debris.* All construction-related debris shall be removed from the site for proper disposal within thirty (30) days of completion of the work, weather conditions permitting. The site shall be maintained free of debris and excess materials at all times during operation. Materials shall not be buried or burned on-site.
36. *Removal of equipment.* All equipment used for drilling, re-completion and maintenance of the facility shall be removed from the site within thirty (30) days of completion of the work, weather conditions permitting, unless otherwise agreed to by the surface owner. Permanent storage of removable equipment on Well Pad sites shall not be allowed.
37. *Soil Gas Monitoring.* The Town, at its discretion, and provided that it does not interfere with Operator's ongoing production operations, may conduct soil gas monitoring. If the Town elects to conduct such testing, the Town shall endeavor to complete this testing within ninety (90) days of completion of any of the six (6) wells at the Well Site as shown on Exhibit A. The Town shall conduct testing in accordance with any applicable COGCC regulations and Operator shall pay the amount specified in Section 16 of this Exhibit B. If soil gas testing indicates that contamination may impact water quality cross and down gradient resulting from the Operator's drilling operations, then the Operator shall conduct additional post-completion testing to identify any impacts to groundwater and surface water.
38. *Spills.* The Operator shall report chemical spills and releases in accordance with applicable state and federal laws, including the Emergency

Planning and Community Right To Know Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Oil and Pollution Act, the Clean Water Act, the Resource Conservation and Recovery Act, as applicable and as amended over time. All spills occurring in connection with any wells shall be managed in accordance with COGCC regulations.

If a spill or release impacts or threatens to impact surface water or a water well, the Operator shall notify the affected or potentially affected owner immediately following discovery of the release, and the spill or release shall be reported to the Town and to the surface water or water well owner within twenty-four (24) hours of becoming aware of the spill or release.

39. *Stormwater control plan.* All oil and gas operations shall comply and conform with the Town's storm water regulations in place at the time, including submission, review and approval by the Town Manager of an Erosion Control Report and Plan in compliance with the Town's requirements.
40. *Temporary access roads.* Temporary access roads associated with oil and gas operations shall be reclaimed and re-vegetated to the original state. Erosion should be controlled and damage to environmentally sensitive areas should be avoided.
41. *Trailers.* Construction and accommodations trailers are permitted as an accessory use during active drilling and well completion only.

42. ***Transportation and circulation.*** Prior to drilling, the Operator shall include in each application for drilling and completion operations (New Wells) detailed descriptions of all proposed access routes for equipment, water, sand, waste fluids, waste solids, and mixed waste, insofar as they are to be hauled on the public streets and roads of the Town. The submittal shall also include the estimated weights of vehicles when loaded, a description of the vehicles, including the estimated number of axles of such vehicles, trips per day and any other information required by the Traffic Engineer. Preliminary information is required for this item for the Conceptual Review meeting, in accordance with **Exhibit C**. The Operator shall comply with all Transportation and Circulation requirements as contained in the Town Code as may be reasonably required by the Town's Traffic Engineering Staff.
43. ***Wastewater and Waste Management.*** All fluids shall be contained and there shall be no discharge of fluids. Waste shall be stored in tanks, transported by tanker trucks and/or pipelines, and disposed of at licensed disposal or recycling sites. The requirements for secondary containment will meet the Town's stormwater criteria. No land treatment of oil impacted or contaminated drill cuttings are permitted on the Well Site. Spills on the Well Site must be cleaned up as soon as practicable and the waste material properly disposed of in accordance with law. In addition, the design must allow for the transfer of stormwater and other liquids that collect on the pad to storage tanks on the pad or to trucks that can safely transport the liquid for proper disposal. The collection of stormwater and other liquids may cease only when all potential pollutants have been removed from the

pad and appropriate stormwater management, approved by the Town Manager, can be implemented. The use of a closed loop drilling system precludes discharge of produced water or flowback to the ground or the use of pits. Produced water or flowback will not be used for dust suppression and the water used shall be reuse water meeting the Town's non-potable, reuse water standards. A copy of the Operator's Spill Prevention, Control, and Countermeasure Plan (SPCC) will be given to the Town, which describes spill prevention and mitigation practices. The Operator will provide the Town with general documentation of each category of waste disposal and its final disposition.

44. *Water supply.* The Operator agrees to comply with applicable State of Colorado, Department of Natural Resources and other applicable State regulations concerning the source of water used in drilling and completion operations. The Operator shall identify prior to drilling its source for water to be used in both the drilling and completion phases of operations. The disposal of water used on site shall also be provided to the Town in general form including anticipated haul routes, approximate number of vehicles needed to supply and dispose of water and the final destination for water used in operation.
45. *Weed control.* The Operator shall be responsible for ongoing weed control at oil and gas operations, flow lines, and along access roads during construction and operation, until abandonment and final reclamation is completed per Town or other applicable agency regulations.

46. *Plugged and Abandoned Wells.* In the event Operator drills horizontal wells from the Well Site, then it shall comply with the COGCC DJ Basin Horizontal Offset Policy, dated June 20, 2013 (and as amended from time to time). In addition, the Operator shall identify any plugged and abandoned wells located within 1500 feet of the bottom hole location of any well on the Well Site, and assess such plugged and abandoned wells for risk, taking into account cementing practices reported in the plugged and abandoned reports. Operator shall notify the Town and COGCC of all results of all risk assessment of plugging procedures.
47. *Insurance.* The Operator shall, with respect to the initial drilling and completion of any well, provide liability insurance that covers pollution, cleanup and general liability in the amount of \$1,000,000 per occurrence and \$2,000,000 in the aggregate, and in addition shall provide general liability umbrella coverage in the amount of \$5,000,000. Following completion, the Operator shall provide ongoing pollution, cleanup and general liability coverage in the amount of \$1,000,000 per occurrence and \$2,000,000 in the aggregate, and general liability umbrella coverage in the amount of \$5,000,000. Upon request, Operator shall provide certificates from the insurance company demonstrating its compliance with this paragraph.
48. *Natural Gas STAR Program.* Operator agrees to participate in good faith in the Natural Gas STAR Program, to encourage innovation in pollution controls at drill sites.

49. *Compliance with Applicable Laws.* References to statutes or regulations include references to statute and regulations as amended over time. Nothing in this document is intended to relieve the Operator from compliance with applicable state or federal law.

EXHIBIT C

SUBMITTAL REQUIREMENTS FOR THE OPERATOR FOR NEW WELL LOCATIONS

1. *Conceptual Review Submittal Requirements.* The following documents shall be submitted prior to the Conceptual Review meeting outlined in **Exhibit B**:

A detailed site plan for all Well Sites that includes submittal to the Town of all documents required to be submitted with COGCC Form 2A, a depiction of all visible improvements within 400 feet of the proposed location, to include buildings/residences, public roads and trails, major above-ground utilities, railroads, pipelines, mines, oil/gas/injection/water/plugged wells, etc. as required by COGCC Rule 303.d(3)C, and the site plan requirements of the Timnath Municipal Code, as amended;

A preliminary summary of planned operations, including identified access points and operational timeline for posting to a local community information web-page;

A preliminary site plan for site preparation, mobilization and demobilization;

A preliminary plan for interim reclamation and revegetation of the well pad and final reclamation of the well pad;

A preliminary plan for noise, light and dust mitigation;

A preliminary traffic management plan;

A preliminary Visual Mitigation Plan, including but not limited to, a list of the proposed colors for the operations' equipment, proposed fencing and screening in accordance with **Exhibit B**;

A preliminary list of permits that shall be submitted in conjunction with the APD and any exceptions proposed to be requested;

A draft air quality mitigation plan in accordance with **Exhibit B**;

A draft emergency response preparedness plan in accordance with **Exhibit B**;
and

A preliminary list of chemicals proposed to be disclosed through the Frac Focus uploading mechanism and regulated through the COGCC Rule 205.

2. *Submittal Requirements Prior to Commencement.* The following documents shall be submitted by the Operator prior to the commencement of drilling and completion:

A response letter that outlines how staff comments from the Conceptual Review were addressed during the APD permitting process;

A summary of planned operations, including identified access points and operational timeline for posting to a local community information web-page;

A site plan for site preparation, mobilization and demobilization;

A plan for interim reclamation and revegetation of the well pad and final reclamation of the well pad;

A plan for noise, light and dust mitigation, to the extent reasonably feasible;

A traffic management plan, if applicable, and a reasonable bond to cover any damage to public infrastructure during active drilling and completion;

A Visual Mitigation Plan, including but not limited to, a list of the proposed colors for the operations' equipment, proposed fencing and screening in accordance with **Exhibit B**;

Copies of all permits requested, including any exceptions;

A final air quality mitigation plan in accordance with **Exhibit B**;

A final emergency response preparedness plan in accordance with **Exhibit B**;

Updated preliminary Chemical disclosure using the Frac Focus uploading mechanism, and Chemical Inventory per COGCC Rule 205; and

Baseline water quality data collected in accordance with the Water Quality Monitoring Plan.

3. *Submittal Requirements Post Well-Completion.* The following documents shall be submitted by the Operator after well-completion:

Chemical disclosure using the Frac Focus uploading mechanism, and Chemical Inventory per COGCC Rule 205;

Water quality data collected at 1 and 6 year post-completion intervals, as described in **Exhibit B**;

Air quality and other data collected throughout the post-completion phase, as identified in **Exhibit B**; and

A Comprehensive Development Plan.

EXHIBIT D

WATER MONITORING WELL SITE MAP

EXHIBIT B
SITE ACCESS AGREEMENT

SITE ACCESS AGREEMENT

This Site Access Agreement (“Agreement”) is made and entered into this ____ day of _____, 2015, by and between PETERSON ENERGY OPERATING INC., and its affiliates if any (“Operator”), located at 2154 W. Eisenhower Boulevard, Loveland, Colorado 80537; and the TOWN OF TIMNATH, Colorado (“Town”), located at 4800 Goodman Street, Timnath, Colorado 80547, which may be collectively referred to herein as the “Parties,” or individually as a “Party.”

WHEREAS, the Operator plans to engage in the exploration, development, and production of natural gas, oil, and natural gas liquids on property adjacent to and near the Town (“Well Site”), as described in Exhibit A, a copy of which is attached hereto and incorporated herein by reference; and

WHEREAS, contemporaneously herewith, the Operator and Town are entering into an Oil and Gas Operator Agreement also known as a memorandum of understanding which establishes best management practices regarding the Well Site (“MOU”); and

WHEREAS, the Town and Operator seek to enter into an access agreement to address the Operator’s use of Town roads, including road improvements, maintenance, and damage, that are not otherwise addressed in the MOU.

NOW, THEREFORE, in consideration of the agreements and covenants contained herein, the Parties hereto agree as follows:

1. Use of Town Roads. To the extent specifically prescribed below, the Town hereby agrees to allow the use of roads within the Town’s limits by Operator in connection with Operator’s activities at the Well Site.
2. Operator Commitments. Operator hereby agrees to abide by the following:
 - a. Location: Operator shall install improvements to the access point location per the terms and specifications included in Exhibit B, a copy of which is attached hereto and incorporated herein by reference.
 - b. Truck Volume: Operator has provided estimates of truck trips required to develop the Well Site, attached as Exhibit C, a copy of which is attached hereto and incorporated herein by reference. Operator agrees to inform the Town Manager in advance if the estimated volume of truck trips to the Well Site is expected to change materially, unless that change is due to an emergency. A material change means an increase of at least 50 trips above any of the estimates stated in Exhibit C.
 - c. Signage: Operator shall install “Trucks Entering Roadway Ahead” signs 300 feet from the access point in each direction along Larimer County Road 1, also known as Weld County Road 13 and Latham Parkway (hereinafter “County Road 1”).

- d. **Truck Routes:** Operator and Operator's affiliates and subcontractors shall instruct all drivers to operate and drive vehicles to and from the Well Site only along County Road 1 south to Highway 392 then west to I-25, or County Road 1 north to Harmony Road and then east along the segment of Harmony Road from County Road 1 to Weld County Road 19, as described in **Exhibit D**, a copy of which is attached hereto and incorporated herein by reference. These travel restrictions do not apply to non-commercial or light-duty passenger vehicles.
- e. **Removal of Chains:** Operator agrees to require removal of chains from all vehicles and equipment entering or utilizing Town roads.
- f. **Road Impact Fees:** The Parties acknowledge that Operator's activities in connection with the Well Site create impacts on Town roads and, therefore, mitigation in the form of road maintenance and improvement fees is proper and necessary. Operator shall pay a road impact fee of \$5,000.00 per well, to be delivered to the Town at least ten (10) calendar days prior to commencing construction operations (as to each well, a "Road Impact Fee"). The Parties acknowledge that access as provided for under the terms of this agreement is specifically conditioned upon the payment of all applicable Road Impact Fees, and that, notwithstanding the provisions of Paragraph 10 below, commencement of construction operations with respect to any well without providing the applicable Road Impact Fee will constitute a breach of this agreement, and shall immediately entitle the Town to all contractual remedies available at law or in equity, including damages, injunctive relief, and attorneys fees incurred in remedying such breach.
- g. **Road Widening:** Operator acknowledges that upon improvement resulting in the widening of County Road 1, Operator shall be solely and entirely responsible for any repairs, replacements, adjustments, or other modifications to the access improvements necessary for Operator's activities, and that Town shall not be held responsible for undertaking or funding any repairs, replacements, adjustments, or modifications in connection with such road widening activities.
- h. **Debris Removal:** Operator shall clean up any debris falling or being displaced onto public roads due to Operator's activities at the Well Site within 24 hours. "Public roads" includes any Town thoroughfare utilized by the general public. The meaning of "debris" includes but is not limited to: trash, soil, equipment, natural matter such as gravel, and any materials incidental to Operator's activities at the Well Site.
- i. **Traffic and Noise Rules:** Operator's and Operator's affiliates and subcontractor's vehicles shall abide by all vehicular traffic and noise regulations contained in the Colorado Department of Transportation Model Traffic Code and the Timnath Municipal Code.

- j. **Extraordinary Road Damage:** the terms of this agreement shall not foreclose the Town's access to a cause of action in tort for "extraordinary road damage" that may be caused by the Operator. For purposes of such reservation, "extraordinary road damage" means any damage in excess of ordinary wear and tear resulting from the reasonable operation of the oil and gas operation contemplated by the parties in the MOU, including all reasonable truck traffic that is incidental to such operation.

3. **Access to Town ROW.** Operator may utilize the Town's ROW adjacent to County Road 1 as may be necessary for the limited purpose of installing, constructing, and/or maintaining the Access Improvements.

4. **Agreement Limited to Well Site.** This Agreement applies only access to and from the Well Site as referenced in Exhibit A.

5. **Responsibility for Operations.** Operator is solely responsible for its operations, and nothing in this Agreement places any operational or other related responsibilities on the Town.

6. **Future Regulations.** In the event the Well Site is annexed at a future date, the Town reserves the right to enact land use or oil and gas regulations that are general in nature and are applicable to all similarly situated oil and gas activities subject to land use regulation by the Town, even though such regulations may be more or less stringent than the standards applicable by virtue of this Agreement; provided, however, no oil and gas regulations or land use regulation enacted by the Town shall be applicable to the rights of Operator under this Agreement with respect to the six (6) permits on the Well Site that have already been initiated and are currently being reviewed and considered by the COGCC and are further described in **Exhibit A** to the MOU as long as the use with respect to the six (6) permits on the Well Site is not changed to horizontal or intensified. Operator reserves and does not waive its statutory rights to protection from retroactive changes in Town regulations provided to it under Colorado law.

7. **Authority to Execute Agreement.** Each Party represents that the undersigned have the full right and authority to enter into this Agreement and bind the Parties to the terms and conditions contained herein. This Agreement may be amended only by an instrument executed by both Parties hereto.

8. **Successors and Assigns.** The terms and conditions of this Agreement shall bind and extend to the Town and the Operator, and the Operator's successors and assigns, and the Operator shall require any successor and assign, by written agreement, to adhere to all terms and conditions of this Agreement, and to expressly assume the defense and indemnity obligations to the Town as set forth below in a document acceptable in form to the Town. Such condition shall be a precondition to any assignment, and such assignment shall not relieve the assignor of any obligations that accrue during the period of operation of the assignor, or otherwise arising out of the actions or inactions of the assignor during its period of operation.

9. **No Third Party Beneficiaries.** This Agreement is not intended to, and does not create, any rights, benefits, responsibility or obligation that may be enforced by any non-party.

Additionally, nothing in the Agreement shall entitle any third party to any claims, rights, or remedies of any kind.

10. Notices. All notices and other correspondence related to this Agreement shall be in writing and shall be delivered by: (i) certified mail with return receipt, or (ii) hand delivery with signature or delivery receipt provided by a third party courier service (such as FedEx, UPS, etc.) to the designated representative of the Party as indicated below. A Party may change its designated representative for notice purposes at any time by written notice to the other Party. The initial representatives of the Parties are as follows:

Town: Town of Timnath
4800 Goodman Street
Timnath, CO 80547
Attn: Town Manager
Telephone: 970-224-3211

Operator: Peterson Energy Operating, Inc.
2154 W. Eisenhower Boulevard
Loveland, CO 80537
Attn: Andrew Peterson
Telephone: 970-669-7411

11. Default; Remedies. If either party believes that the other Party has failed to comply with any provision of this Agreement, or if any other kind of dispute arises under any provision of this Agreement that cannot be resolved by good faith negotiation between the Parties, the Party claiming that a breach of this Agreement has occurred or seeking resolution of any other dispute under this Agreement shall send written notice to the other Party, specifying its position in the matter and invoking the dispute resolution process in this section. Within fifteen (15) days of the date of delivery of such notice, the Parties shall meet to resolve the matter described in the notice. If either Party believes that mediation would be advantageous in connection with such meeting, or if a resolution of the matter cannot be achieved at the meeting, both parties agree to make a reasonable effort to work through, and with a mutually acceptable mediator to attempt to resolve the dispute. Notwithstanding the foregoing, if either Party believes that the dispute will not otherwise be resolved in a sufficiently prompt and effective manner, such Party may, at its discretion, take such legal action and seek such legal or equitable remedies as it determines to be appropriate or necessary to protect and enforce its rights under this Agreement. Such remedies may include, without limitation, an injunction to stop an alleged violation, or an order requiring the performance of all acts and things required to be performed hereunder by the other Party, and the prevailing party in such legal action shall be awarded reasonable attorneys' fees.

12. Defense and Indemnity. Operator agrees to defend and indemnify the Town, its employees, boards, agents and council members (collectively "Town Entities") from and against all claims made by third parties and liability against the Town Entities to the extent arising out of or related to the negligent acts or omissions of the Operator at the Well Site and any action or inaction of the Operator at or in connection with the Well Site, including but not limited to claims for bodily injury, death, property or other

damage, remediation or other costs, or claims under any local, state or federal environmental law. As used in this paragraph, the term "Claim" means a claim filed against any of the Town Entities in any judicial forum, any administrative proceeding and any administrative order. This defense and indemnity only applies to the extent a Claim or liability arises from the negligent acts or omissions of the Operator, and does not apply to the extent a Claim or liability arises from the negligent acts or omissions of the Town Entities, or that is based on, questions or alleges a lack of authority of the Town to enter into this Agreement. The obligations of this paragraph shall survive the termination of this Agreement. To the extent of the liabilities assumed hereunder by Operator, the Operator shall name the Town as an additional insured under the insurance policy required under the MOU

13. Integration Clause and Conflicts Between Agreements: This Agreement, along with all exhibits and appendices attached hereto encompasses the entire agreement of the Parties regarding the subject matter contained herein, and, except as otherwise provided in this paragraph, supersedes all previous understandings and agreements between the Parties, whether oral or written, regarding the subject matter contained herein. As referenced above, this Agreement is being entered into contemporaneously with the MOU between the Parties. To the extent that this Agreement includes provisions that are in direct conflict with the MOU, the terms of this Agreement shall control. The Parties also acknowledge that, contemporaneously with the approval of this Agreement, the Town and Cimmaron Resources, Inc. ("Cimmaron") are entering into a lease agreement pursuant to which the Town will lease its mineral rights to Cimmaron (the "Lease"). To the extent that the Lease includes provisions that are in direct conflict with this Agreement, the terms of the Lease shall control. For purposes of determining whether there is a direct conflict between a provision in this Agreement and a provision in the MOU or the Lease, the provisions in both documents shall be interpreted to the greatest extent reasonably possible so as to avoid such a determination

14. Governing Law. This Agreement shall be governed and construed in accordance with the laws of the State of Colorado without reference to its conflicts of law provisions that might otherwise have the effect of requiring the application of another jurisdiction's laws

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by a duly authorized representative on the day and year first written above.

THE TOWN:

THE TOWN OF TIMNATH, COLORADO
A home rule municipality of the State of Colorado

Town Mayor

ATTEST:

Town Clerk

APPROVED AS TO FORM:

Town Attorney

THE OPERATOR:

PETERSON ENERGY OPERATING, INC.

Andrew Peterson
President

Exhibit A
Well Site Map

REVIEWED BY:



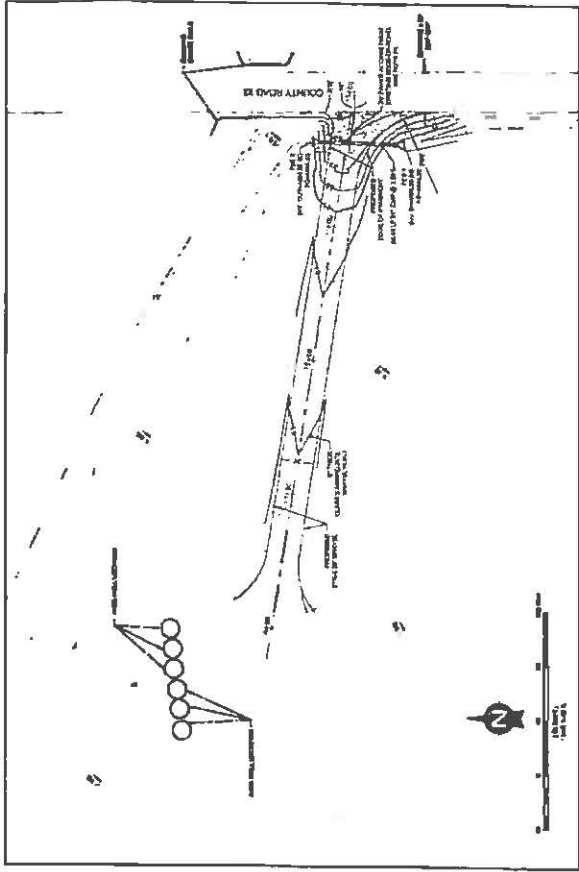
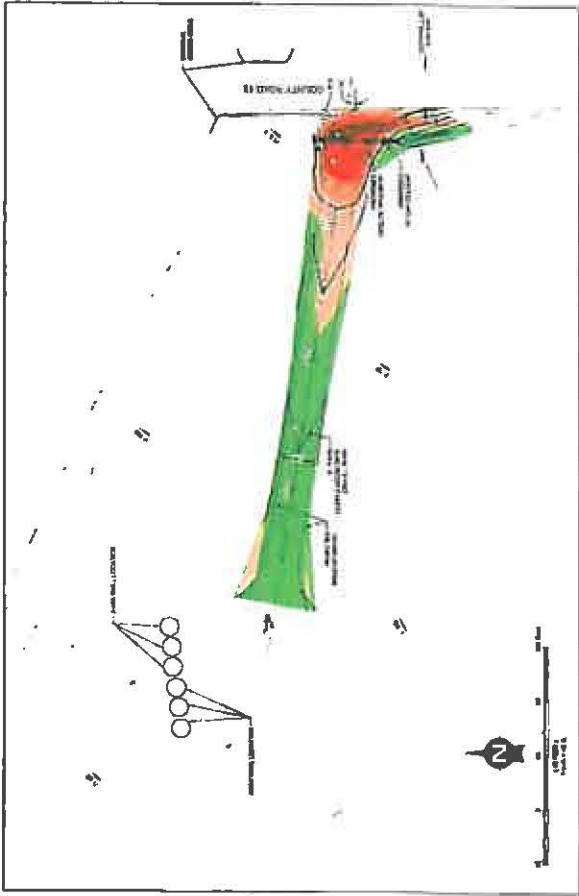
555 Zeng Street,
Suite 210
Denver, Colorado 80228
Off: 303.988.5852
Fax: 303.988.2193
email: info@cam.biz

**AKAE WELL
PAD**

PROJECT: JOURNAL ENTRY NUMBER 05

150
177-15

Exhibit B
Access Improvement Terms and Specifications

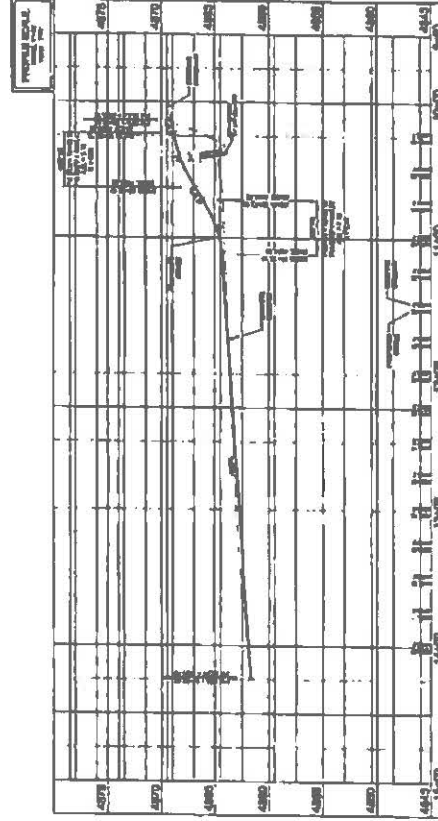


NOTES:

1. ALL EXISTING STRUCTURES AND UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE LATEST AVAILABLE RECORD DRAWINGS AND FIELD SURVEY DATA.
2. ALL PROPOSED STRUCTURES AND UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE LATEST AVAILABLE RECORD DRAWINGS AND FIELD SURVEY DATA.
3. ALL PROPOSED STRUCTURES AND UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE LATEST AVAILABLE RECORD DRAWINGS AND FIELD SURVEY DATA.
4. ALL PROPOSED STRUCTURES AND UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE LATEST AVAILABLE RECORD DRAWINGS AND FIELD SURVEY DATA.

CUT/FILL DATA			
Station	Maximum Elevation	Minimum Elevation	Height (ft)
1+00	10.00	9.50	0.50
2+00	10.00	9.50	0.50
3+00	10.00	9.50	0.50
4+00	10.00	9.50	0.50
5+00	10.00	9.50	0.50
6+00	10.00	9.50	0.50
7+00	10.00	9.50	0.50
8+00	10.00	9.50	0.50
9+00	10.00	9.50	0.50
10+00	10.00	9.50	0.50

DATE: 10/1/2010
BY: [Signature]
CHECKED: [Signature]



PETERSON ENERGY
TIMNATH, CO
WELL ACCESS ROAD
PRELIMINARY CUT/FILL AND PROFILE

N3
NORTHERN
ENGINEERING



December 30, 2014

Peterson Energy Operating, Inc.
2154 West Eisenhower Boulevard
Loveland, Colorado 80537

Attn: Mr. Andy Peterson, P.E.

Re: Pavement Section Design Report
Peterson Energy Well Access Road
Timnath, Colorado
Soilogic Project # 14-1266

Mr. Peterson:

Soilogic, Inc. (Soilogic) personnel have completed the pavement section design you requested for a well access road and approach apron to be constructed adjacent to County Line Road (County Road 1 or 13) at your well-site in Timnath, Colorado. Pavement section design recommendations for Hot-Mix Asphalt (HMA), Portland Cement Concrete (PCC) and gravel surfaced areas are included with this report.

The proposed approach apron will be constructed on the west side of County Line Road and extend approximately 30 feet before transitioning to a gravel-surfaced access roadway. At this time we understand the approach apron will be surfaced with HMA. We understand approximately 3 to 4 feet of fill will be required to develop the apron embankment adjacent to County Line Road, underlying the HMA or PCC surface. Small cuts and fills are expected to develop the remainder of the all-weather gravel surfaced areas. We understand a Class 5 or 6 Aggregate Base Course (ABC) material will be used to develop the access road embankment to finish subgrade level.

After completing all cuts, and prior to placement of any fill or gravel surfaced pavement material, we recommend the exposed subgrade soils be scarified to a depth of 9 inches, adjusted in moisture content and compacted to at least 95% of the materials standard Proctor maximum dry density. The moisture content of the scarified subgrade soils should be adjusted to be within the range of $\pm 2\%$ of standard Proctor optimum moisture content at the time of compaction.

Soilogic, Inc.
3050 67th Avenue, Suite 200 • Greeley, CO 80634 • (970) 535-6144
P.O. Box 1121 • Hayden, CO 81639 • (970) 276-2087

Pavement Section Design Report
Peterson Energy Well Access Road
Timnath, Colorado
Soilogic # 14-1266
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We recommend ABC embankment fill be placed in loose lifts not to exceed 9 inches thick, adjusted in moisture content and compacted as recommended for the scarified subgrade soils above.

Care should be taken to avoid disturbing the developed subgrade soils prior to surfacing. In addition, efforts to maintain the proper moisture content in the subgrade soils should be made. If subgrade soils are disturbed by the construction activities or allowed to dry out or become elevated in moisture content, those materials should be reworked in place or removed and replaced prior to surfacing.

Proof-rolling of the roadway subgrade soils should be completed prior to paving to help identify any areas of soft/unstable soils. Those areas identified as unstable would need to be mended prior to paving. Isolated areas of instability can be mended on a case by case basis. If more extensive areas of subgrade instability are encountered prior to paving and depending on the time of year when construction occurs and other hydrologic conditions, stabilization of the subgrade soils may become necessary to develop a suitable paving platform. Cement or fly ash stabilization of the pavement subgrades could be completed to develop a suitable paving platform.

For fly ash stabilization, we recommend the addition of 13% class 'C' fly ash based on component dry unit weights. For cement stabilization, we recommend the addition of 5% Portland cement based on component dry unit weights. A 12-inch thick stabilized zone should be constructed by thoroughly blending the fly ash/cement with the in-place subgrade soils. Some "fluffing" of the finish subgrade level should be expected with the stabilization procedures. The blended materials should be adjusted to within $\pm 2\%$ of standard Proctor optimum moisture content and compacted to at least 95% of the material's standard Proctor maximum dry density within two (2) hours of fly ash/cement addition.

Pavement Design

Gravel, HMA and PCC wearing surfaces could be supported directly on stable reconditioned subgrade soils, chemically treated subgrade soils and/or suitable fill soils developed as outlined above. The ABC fill required to develop the access road

Pavement Section Design Report
 Peterson Energy Well Access Road
 Timnath, Colorado
 Soillogic # 14-1266

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embankment in HMA or PCCP areas would be subject to moderate to high remolded strength. As a result, an R-value of 40 was estimated for the Class 5 or 6 ABC and used in the pavement section design. The equivalent 18-kip single axle load (ESAL's) value used in design was derived from the quantity of trucks anticipated to utilize the access roadway, axle load configurations and equipment weights provided by the client. In addition, reliability and serviceability loss values typical for industrial roadway classifications were used. Pavement section design recommendations are outlined below in Table I.

TABLE I – PAVEMENT SECTION DESIGN	
Roadway	Well Access Road
ESAL's	4,300
Reliability	90%
% Loss	2.5%
Resilient Modulus (Mr)	9497
Design Structural Number	(1.44)
Option A – Full-Depth HMA	
Surface Asphalt (Grading S)	*5½" (0.44/inch)
Minimum of 2 feet of Aggregate Base	-
Course Embankment (Class 5 or 6)	-
(Structural Number)	(2.42)
Option B – Portland Cement Concrete Pavement (PCCP)	
Concrete (Class P)	*5" (~0.50/inch)
Minimum of 2 feet of Aggregate Base	-
Course Embankment (Class 5 or 6)	-
(Structural Number)	(~2.50)

*Minimum Recommended Pavement Section

Asphaltic concrete should consist of a bituminous plant mix composed of a mixture of aggregate, filler, binders and additives if required meeting the design requirements of the Town of Timnath. Aggregate used in HMA should meet specific gradation requirements such as Colorado Department of Transportation (CDOT) grading S (3/4 inch minus)

specifications. To further aid in the distribution of wheel contact pressures from very heavy axle loads, grading SG mixes could be considered for use in the bottom 3 to 3½ inches of the 5½-inch thick HMA section outlined above. Hot mix asphalt designed using "Superpave" criteria should be compacted to within 92 to 96% of the materials Maximum Theoretical Density.

HMA surfaces are subject to rutting and pushing/shoving movements when exposed to concentrated and repetitive heavy truck traffic and turning motions. As a result, we recommend consideration be given to the use of a PCC pavement for the approach apron with a minimum thickness of 5 inches. The concrete used for site pavements should be entrained with approximately 6.0% air content and have a minimum 28-day compressive strength of 4,200 psi and maximum water/cement ratio of 0.45. Woven wire mesh or fiber entrained concrete should be considered to help in the control of shrinkage cracking.

All-Weather Gravel Surfacing

For all-weather gravel surfacing, we recommend a minimum of 9 inches of Class 5 or 6 ABC be used to develop the finished wearing surface. This section design recommendation does not follow typical American Association of State and Highway Transportation Officials (AASHTO) or Colorado Department of Transportation (CDOT) design criteria. Theoretically, it would take 22 inches of ABC to structurally equal 5½ inches of HMA.

The load-carrying capacity of all-weather gravel surfaced roadways is most dependent on subgrade strength, and we expect the natural site subgrade soils would be subject to strength loss and instability when wetted. Therefore, extra care should be taken to develop adequate drainage across the surface of the gravel-surfaced roadway areas and away from the edges of the gravel pavements. Similar drainage should be developed away from HMA and PCC pavements. Water which is allowed to pond on or adjacent to gravel-surfaced, HMA or PCC surfaced areas can result in a loss of subgrade support and premature failure of the overlying pavement section. With the intrinsic properties of gravel-surfaced roadways, periodic maintenance efforts should be expected.

LIMITATIONS

This report was prepared based upon the traffic data provided by the client, our understanding of the proposed embankment construction, engineering analysis and any other information discussed.

The scope of services for this project does not include either specifically or by implication any biological or environmental assessment of the site or identification or prevention of pollutants or hazardous materials or conditions. Other studies should be completed if concerns over the potential of such contamination or pollution exist.

The geotechnical engineer should be retained to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. The geotechnical engineer should also be retained to provide testing and observation services during construction to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with the generally accepted standard of care for the profession. No warranties express or implied, are made. The conclusions and recommendations contained in this report should not be considered valid in the event that any changes in the nature, design or location of the project as outlined in this report are planned, unless those changes are reviewed and the conclusions of this report modified and verified in writing by the geotechnical engineer.

Pavement Section Design Report
Peterson Energy Well Access Road
Timnath, Colorado
Soilogic # 14-1266
6

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the enclosed information or if we can be of further assistance to you in any way, please do not hesitate to contact us.

Very Truly Yours,
Soilogic, Inc.



Wolf von Carlowitz, P.E.
Principal Engineer

Exhibit C
Truck Volume Limitations

**Peterson Energy Operating, Inc.
Timnath 6-Well Directional Pad
Truck Traffic Limitations**

Assumptions:

6 wells receive permits to drill, 2 wells drilled in 2015

Trip counts below are for two wells

One load in & out counts as two trips

Semi & tandem body load only, no pickup traffic counted

Pad Construction (5 days) dozer, scraper, gravel trucks

Total trips 106

Trips per day 21

Drilling rig move in (1 day) rig up trucks

Total trips 70

Trips per day 70

Drilling phase (12 days) water trucks, mud products trucks, cuttings trucks, casing trucks

Total trips 272

Trips per day 23

Drilling rig move out (1 day) rig up trucks

Total trips 70

Trips per day 70

Frac preparation (5 days) sand trucks, water trucks

Total trips 333

Trips per day 67

Frac pumping (2 days) pumping equipment

Total trips 24

Trips per day 12

Frac flowback (5 days) flowback water haulers

Total trips 55

Trips per day 11

Tank battery installation (hauling equipment 1 day) tanks & separators

Total trips 8

Trips per day 8

Tubing Installation (2 days) rig, auxiliary equipment, tubing, water truck

Total trips 18

Trips per day 9

TOTAL TRIPS DRILLING, FRAC, INSTALLATION PHASES: 956 trips

NET DURATION DRILLING, FRAC, INSTALLATION PHASES: 34 days

AVERAGE TRIPS PER NET WORKING DAY: 28 trips

GROSS DURATION OF DRILLING, FRAC, INSTALLATION PHASES: 60 days

AVERAGE TRIPS PER GROSS WORKING DAY: 14 trips

PRODUCTION PHASE

Production (1st month) oil hauler, water hauler

Total trips 83

Trips per day 3

Production (2nd month) oil hauler, water hauler

Total trips 20

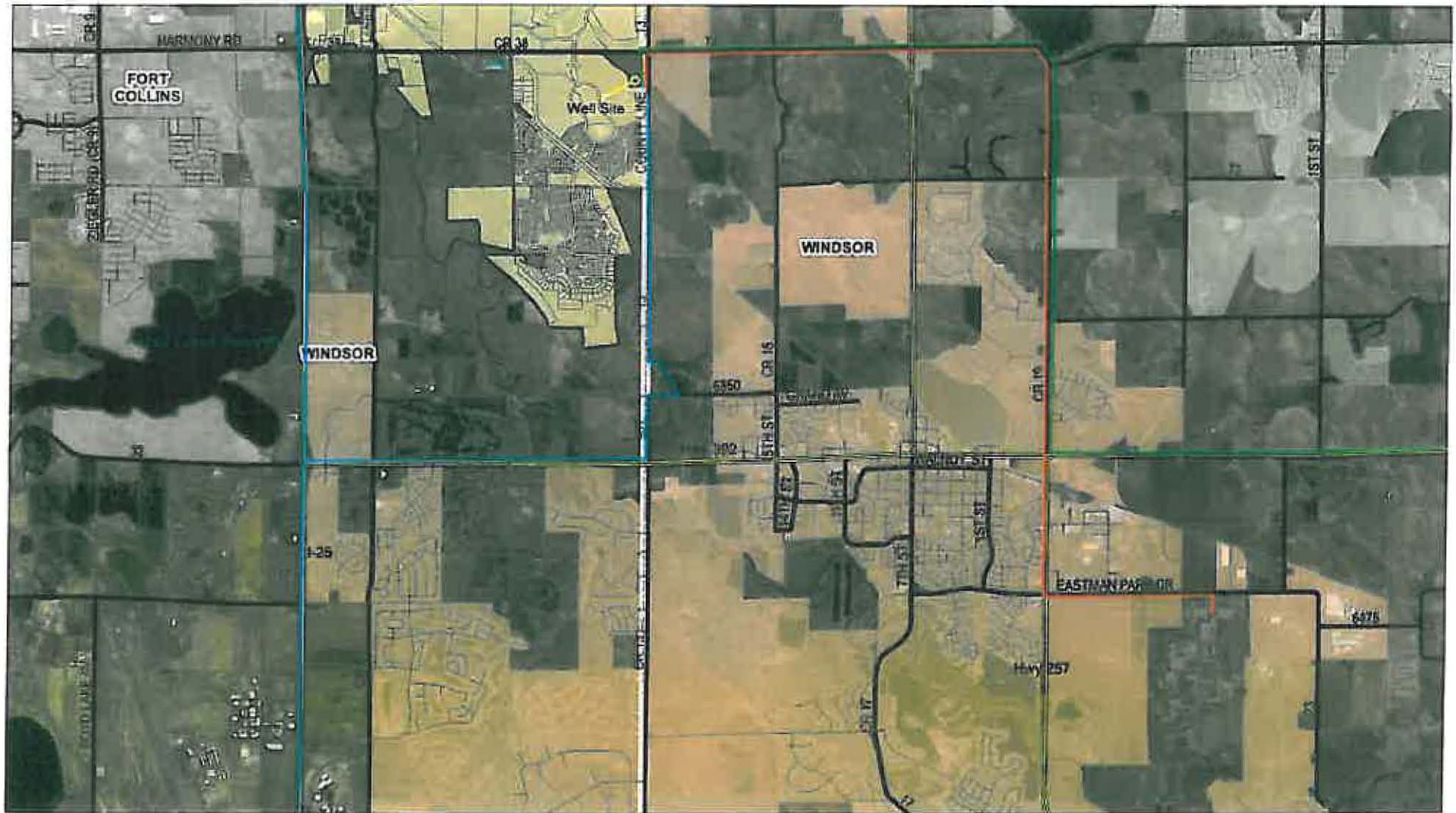
Trips per day 0.7 (2 trips every three days)

Production (subsequent months) oil hauler, water hauler

Total trips 7

Trips per day 0.2 (1 trip every 5 days)

Exhibit D
Required Truck Traffic Routes



LEGEND

City Boundaries

FORT COLLINS

SEVERANCE

WINDSOR

Fresh water pickup

Waste water delivery

Oil delivery to Denver or Cheyenne

Peterson Energy
Wells
(2 Wells)

Truck Trips During Production Phase (Oil Hauler & Water Hauler)

1st Month	2nd Month	Subsequent Months
Total Trips: 83	Total Trips: 20	Total Trips: 7

Exhibit E
Insurance Requirements

Contractor shall maintain general liability insurance, at its expense, in an amount of at least One Million Dollars (\$1,000,000.00) and insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property including loss of use resulting therefrom.

Exhibit E
Insurance Requirements

Contractor shall maintain general liability insurance, at its expense, in an amount of at least One Million Dollars (\$1,000,000.00) and insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property including loss of use resulting therefrom.