

SETTLEMENT AGREEMENT

This SETTLEMENT AGREEMENT (the “Settlement Agreement”) is entered into by and between Geokinetics USA, Inc. (“Geokinetics”) and the Municipality of Monroeville (the “Municipality”). Geokinetics and the Municipality are sometimes referred to herein individually as a “Party,” and collectively as the “Parties.”

WHEREAS, on June 8, 2017, Geokinetics submitted a proposed permit (the “Proposed Permit”) to allow it to conduct seismic testing on Monroeville-owned lands, along with an attached addendum addressing proposed terms for use of local roads and rights-of-way;

WHEREAS, on September 12, 2017, the Municipality denied Geokinetics’ Proposed Permit to conduct seismic operations on Monroeville roads and rights-of-way;

WHEREAS, on September 12, 2017, the Municipality enacted Ordinance No. 2668 (the “Ordinance”), which regulates seismic testing in Monroeville;

WHEREAS, Geokinetics filed a Complaint in Civil Action in the United States District Court for the Western District of Pennsylvania at Case No. 2:17-cv-01314-JFC (the “Action”) seeking, *inter alia*, injunctive relief to conduct seismic testing in the Municipality; and

WHEREAS, the Parties have agreed to amicably resolve, settle and discontinue the Action, without any admission of liability.

NOW, THEREFORE, the Parties, having carefully reviewed this matter and this Settlement Agreement, and having had sufficient time and opportunity to consult with legal counsel, and intending to be legally bound hereby, agree as follows:

I. SEISMIC TESTING.

a. The Parties agree that Geokinetics shall be permitted to conduct seismic testing in the Municipality. Geokinetics’ seismic testing shall include seismic activities on

private properties located in the Municipality for which Geokinetics has obtained permission or has the right to conduct seismic testing. Geokinetics' seismic testing shall also include seismic activities in, on, and under the Municipality's roads and right-of-ways. Geokinetics' seismic testing in, on, and under the Municipality's roads and right-of-ways shall be performed in accordance with and subject to the Seismic Operation Agreement attached hereto as Exhibit A. The Seismic Operation Agreement shall be executed simultaneously with this Settlement Agreement and shall be incorporated herein as if set forth in full.

b. The Parties agree that Geokinetics' seismic operations in the Municipality are not subject to or bound by the Ordinance, or any other such ordinance subsequently enacted by the Municipality during the term of the Seismic Operating Agreement.

2. WAIVER OF CLAIMS/DISMISSAL OF ACTION. Geokinetics, for itself and its successors and assigns, does hereby waive any current claims it has against the Municipality with respect to the Proposed Permit. This waiver excludes any and all other future claims, including but not limited to those claims related to or arising out of this Settlement Agreement, the Seismic Operations Agreement, and/or the Ordinance (including its validity and application). The Parties shall file a stipulation dismissing the Action within five (5) days of the Effective Date (defined herein).

3. FEES, COSTS AND EXPENSES. It is understood and agreed by the Parties hereto that each shall bear their own attorney's fees, costs and expenses which arose, or will arise, from the litigation of the Action.

4. CHOICE OF LAW AND FORUM. This Settlement Agreement, and the terms and conditions contained herein, shall be governed by the laws of the Commonwealth of Pennsylvania without regard to its rules regarding choice of law. Any lawsuit to enforce the

terms of this Settlement Agreement shall be brought exclusively in the United States District Court for the Western District of Pennsylvania.

5. MISCELLANEOUS.

a. This Settlement Agreement may be executed in any number of counterparts each of which, when so executed, shall be deemed an original, but all such counterparts together shall constitute one and the same instrument.

b. The Parties have had the opportunity to revise, comment upon and redraft this Settlement Agreement. Accordingly, it is agreed that no rule of construction shall apply against any party or in favor of any party. This Settlement Agreement shall be construed as if the Parties jointly prepared this Settlement Agreement and any uncertainty or ambiguity shall not be interpreted against any party and in favor of another party.

c. If any clause or condition of this Settlement Agreement is found by a court of competent jurisdiction to be void or unenforceable, such finding shall not affect the validity and enforceability of the remainder of this Settlement Agreement.

d. This Settlement Agreement shall bind and inure to the benefit of the Parties and their respective successors and assigns.

e. This Settlement Agreement can only be amended, altered, or modified by a written document executed by all of the Parties or their successors or assigns.

f. The Parties expressly acknowledge that the terms and provisions of, and the covenants and releases set forth in this Settlement Agreement are the only consideration for the Settlement Agreement and the Parties' execution thereof, and that, except as expressly set forth in this Settlement Agreement, no additional promises or representations of any kind have been made by and between the Parties.

g. The headings of this Settlement Agreement are for reference and convenience only and shall not limit or otherwise affect the meaning or construction of the terms of this Settlement Agreement.

h. The "Effective Date" of the Settlement Agreement shall be date the Settlement Agreement is last executed by the Parties below.

i. The Parties understand and agree that the terms contained in this Settlement Agreement constitute the entire understanding among the Parties relative to its subject matter, and there are no written or oral understanding, promises, agreements, statements or representations among the Parties directly or indirectly related to this Settlement Agreement that are not incorporated herein. It is further understood that this Settlement Agreement has important legal consequences and that the Parties have had the benefit of independent legal advice from their respective counsel concerning all such consequences.

j. The Parties understand and agree that the execution of this Settlement Agreement by the Parties shall not constitute or be construed as an admission of any wrongdoing or liability whatsoever by any Party.

[Remainder of page intentionally left blank. Signature page to follow.]

IN WITNES WHEREOF, the undersigned hereunto set their hands and seals hereto:

MUNICIPALITY OF MONREOVILLE

Terrence J. Smith
Name:

NOV. 20, 2017
Date

Title:

GEOKINETICS USA, INC.

BY:

Henry Biggart
Name:

Nov. 22, 2017
Date

Title: *Director, North America*

SEISMIC OPERATION AGREEMENT

This Seismic Operation Agreement (“Agreement”) is entered into by and between Geokinetics USA, Inc. (“Geokinetics”) and the Municipality of Monroeville (“Municipality”) this ____ day of November, 2017 (“Effective Date”).

WHEREAS, Geokinetics desires to conduct Energy Source Operations (as defined below) in, on, and under the roads and right-of-ways of the Municipality;

NOW THEREFORE, in order to provide for the safety of Municipality residents, personal property and real property and to allow Geokinetics to proceed with its Energy Source Operations, the parties hereto, intending to be legally bound, agree as follows:

Section 1. Definitions

“Energy Source Operations” means operations that involve the transmittal of seismic waves to model the geophysical properties of the Earth’s crust.

“PPV” means the peak particle velocity, which is a measurement of delivered energy and is measured in tenths of inches per second (in/sec).

Section 2. Permission to Conduct Energy Source Operations; Scope.

Upon execution of this Agreement, the Municipality agrees to allow Geokinetics to conduct exploration activities in, on, and under the Municipality’s roads and right-of-ways by the use of Energy Source Operations, including without limitation weight drops, and/or vibrating machines, thumper trucks or any other vehicles or equipment. The scope of this Agreement is limited to Geokinetics’ operations in, on, and under Municipal roads and right-of-ways.

Section 3. Information to be Provided.

Simultaneous with the execution of this Agreement, Geokinetics shall submit the following information to the Municipality:

- (a) Name and address.
- (b) A map designating the proposed testing area, including the location of all testing points and the energy source and method to be used at each testing point.
- (c) A traffic control plan for any activities that will impede the flow of traffic on public rights of way.
- (d) A non-refundable fee of one thousand dollars (\$1,000.00).

(e) The name, address and contact information of the licensed engineer who will serve as the on-scene contact person for the Geokinetics during Energy Source Operations.

(f) An escrow deposit to the Municipality in the amount of Five-Thousand Dollars (\$5,000.00) to reimburse the Municipality for the reasonable costs of inspection activities associated with Geokinetics' operations pursuant to this Agreement, including engineering and legal costs. If the actual costs exceed the escrow deposit, Geokinetics shall pay the excess costs upon demand from the Municipality.

(g) A certificate of insurance which evidences the insurance coverage, terms and conditions set forth in Section 11(b) below.

Section 4. Term of Agreement.

(a) The term of this Agreement shall be for eighteen (18) months beginning on the date of the Effective Date of this Agreement, and all Energy Source Operations shall be completed within said term. Once operations have commenced, in the event Geokinetics is rendered unable, wholly or in part, by circumstances beyond Geokinetics' control, to complete operations within the remaining term of this Agreement, then the time for completion shall be extended for six (6) months.

(b) The provisions of this Agreement shall control Geokinetics' Energy Source Operations during the term of this Agreement. The Parties agree that Geokinetics' Energy Source Operations in the Municipality are not subject or bound by the Municipality's Ordinance No. 2668 regulating seismic testing in the Municipality, or any other such ordinance subsequently enacted by the Municipality during the term of this Agreement.

Section 5. Operations in General.

(a) Geokinetics shall employ an engineer specializing in seismology, who shall be on the job site during the entire period of testing to mitigate any potential damage to public or private property. Geokinetics shall also designate a point of contact who will respond within twenty-four (24) hours to any request from the director of public works

(b) Geokinetics shall obtain written permission, as required by law, from property owners before entering upon or crossing their property.

(c) Geokinetics shall be responsible for all legal claims, demands, and causes of actions relating to property or persons arising out of or as a result of Geokinetics' operations under this Agreement.

Section 6. Notice required.

(a) Not less than thirty (30) days prior to the commencement of operations authorized by this Agreement, Geokinetics shall notify, either by United States Mail or

personal delivery at the property, all property owners who have a structure within one-hundred fifty (150) feet of the planned Energy Source Operations, or a greater distance if required by law, of Geokinetics' anticipated date of commencement of such operations, and the type of testing to be utilized.

(b) In addition to the notice to be provided to individual property owners required in sub-section (a) above, Geokinetics shall provide such notice information to the Municipality, so that the Municipality may make such information available to the general public via social media, cable television and conspicuous posting of the affected roadways.

(c) All notices provided under this sub-section shall include a 24 hour contact telephone number of Geokinetics.

Section 7. Energy Level Restrictions.

(a) Geokinetics shall layout all testing source locations (vibrator source sweep frequency and drive levels, explosive charge size and depth or other geophysical sources) so that no structure shall be subject to any PPV greater than 0.35 (in/sec).

(b) Using industry standard equipment and techniques, the licensed engineer or geologist required to be provided by Geokinetics in Section 5 above shall monitor and record, during operations, all pertinent locations to ensure compliance with the maximum PPV established herein.

(c) Geokinetics shall obtain location maps for all water wells, underground hazardous waste storage/disposal sites, and water, sewer, oil, gas and chemical pipelines located in the testing area and conduct all energy source operations in a manner so as to not damage, interrupt, or otherwise interfere with said structures. Information obtained by Geokinetics shall be used by the surveying teams and operations manager to ensure compliance with the terms and conditions of this Agreement and that safe operating distances are maintained. If requested by Geokinetics, the Municipality shall make available for inspection and copying, maps, if any, prepared by or on behalf of the Municipality that indicate subsurface structures or facilities; provided, however that Geokinetics' reliance on any information furnished by the Municipality, its agents, representatives, and employees, whether written or verbal, shall be at the sole risk of Geokinetics and the following disclaimer shall be placed on and shall apply to any and all such information:

GEOKINETICS ACKNOWLEDGES THAT THE MUNICIPALITY HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF INFORMATION REGARDING SUBSURFACE STRUCTURES AND FACILITIES FURNISHED TO GEOKINETICS AND MAKES NO REPRESENTATION OR WARRANTIES AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION. GEOKINETICS EXPRESSLY ACKNOWLEDGES THAT THE MUNICIPALITY MAKES NO WARRANTY OR REPRESENTATION, EXPRESSED OR IMPLIED, OR ARISING BY OPERATION OF LAW,

INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF FITNESS FOR A PARTICULAR USE OR PURPOSE OF SUCH SUBSURFACE INFORMATION.

Section 8. Hours of Operation.

Energy Source Operations may be conducted from 8:00 a.m. until the earlier of sunset or 7:00 p.m. local time, on Mondays through Fridays, and from 9:00 a.m. until the earlier of sunset or 7:00 p.m. local time, on Saturday. On Sundays, Geokinetics shall not conduct vibroseis and/or helicopter operations on Municipality roads or right-of-ways; provided however, that on Sundays Geokinetics shall be allowed to use the Municipality roads and right-of-ways for its crews to shoot drill points on other properties in the Municipality and to trouble-shoot (replace non-working nodes) its lines and boxes in the Municipality's right-of-ways.

Section 9. Lands, Streets, Rights-of-Way, and Easements.

(a) Geokinetics shall restore at its sole cost and expense, all Municipality owned lands, streets and/or rights of way used in connection with its Energy Source Operations to their condition prior to the commencement of such operations.

(b) Geokinetics shall at all times ensure that its Energy Source Operations minimize disruption to the safe flow of traffic. In no event shall such operations simultaneously occupy more than one (1) lane of traffic. Geokinetics shall adhere to PennDOT traffic standards with respect to its disruption of traffic (include appropriate signage, flagmen and other warning procedures), and coordinate its traffic control activities with the Municipality's Police Department and Department of Engineering and Community Development.

(c) Geokinetics shall at all times adhere to the existing weight limitations on Municipality's streets and roadways. If such compliance is not possible, Geokinetics shall obtain the appropriate special permits from the Municipality and post the requisite financial surety to exceed such limitations.

(d) Geokinetics shall not create any hazardous conditions to pedestrians or vehicular traffic in connection with its Energy Source Operations. Nodes placed on the pavement within rights-of-way must be arranged so they do not create a hazardous condition or rumble strip effect. All nodes must be securely anchored to the roadway with materials that will not damage and/or puncture the pavement. Nails, spikes, and similar materials are used for anchors shall not be placed inside the pavement edge.

Section 10. Testing.

(a) All vibroseis or weight drop operations shall be conducted a minimum distance of fifty (50) feet from any building, which shall mean a structure built for the support, shelter, or enclosure of persons, or personal property of any kind. No explosive charge test shall be conducted within three hundred (300) feet of any building, water well or underground hazardous waste storage/disposal site.

(b) No Energy Source Operation shall subject any building intended for human habitation, utility line, water well or underground hazardous waste storage disposal site to a PPV greater than 0.35(in/sec).

(c) Geokinetics shall notify the Municipality within twenty-four (24) hours of the occurrence of any violation of the requirements set forth in this Ordinance.

Section 11. Bond, Insurance, and Indemnity.

(a) Geokinetics shall obtain a performance bond in the amount of one hundred thousand dollars (\$100,000.00) as collateral for Geokinetics' Energy Source Operations.

(b) Prior to conducting any operations hereunder, Geokinetics and/or its contractors shall furnish a certificate of insurance to the Municipality showing insurance coverage covering commercial, personal injury, and general liability in amounts not less than one million dollars (\$1,000,000.00) per person, three million dollars (\$3,000,000.00) per occurrence, and one million dollars (\$1,000,000.00) property damage.

(c) Geokinetics shall indemnify, defend and hold the Municipality, its officers, employees, agents, and representatives harmless from and against all claims, demands, and causes of action of every kind and character for injury to, or death of, any person or persons, damages, liabilities, losses, and/or expenses, occurring or arising out of its or its contractors', agents', or representatives' operations under this Agreement, including attorneys' fees, and any other costs and expenses incurred by the Municipality in defending against any such claims, demands, and causes of action. Within thirty (30) days of receipt of same, Geokinetics shall notify the Municipality in writing, of each claim for injuries to persons or damages or losses to property occurring or arising out of its or its contractors', agents', or representatives' operations conducted under this Agreement.

Section 12. Effective Date.

This Agreement shall take effect on the Effective Date.

[Remainder of page intentionally left blank. Signature page to follow.]

IN WITNES WHEREOF, the undersigned hereunto set their hands and seals hereto:

MUNICIPALITY OF MONREOVILLE

Carmelita J. Smith
Name:

NOV. 22, 2017
Date

Title: *MUNICIPAL MANAGER*

GEOKINETICS USA, INC.

BY: *[Signature]*
Henry Biggart
Name:

NOV. 22, 2017
Date

Title: *Director, North America*