



Prevention Guidelines).

This submission seeks to have the Commission for Environmental Cooperation (CEC) prepare a factual record documenting failures in the effective enforcement of environmental law in connection with the approval of hydraulic fracturing projects that degrade water and land ecosystems in the communities of Los Ramones. In response to paragraph 14 of the Secretariat's determination, this revised submission presents details as to the nature of these enforcement failures. But first, we think it important to provide some background on the situation in our community and the events that have occurred.

## INTRODUCTION

The community of Los Ramones, Nuevo León, is located in a region where people rely on livestock, agriculture, and on groundwater for their water supply. Nuevo León has an extreme climate characterized by very little rainfall. It is a hot, semiarid region where water is very important for agriculture, ranching, and the residents' household needs. Los Ramones is located more or less in the centre of the state. PEMEX has been exploring for hydrocarbons in the area of Los Ramones and other places in the state of Nuevo León. In particular, PEMEX drilled two wells, Tangram-1 and Nerita-1, to use hydraulic fracturing and explore for hydrocarbons in the unconventional Upper Jurassic Pimienta shale play that lies below the soil surface in Nuevo León and Los Ramones.<sup>1</sup>

The manner in which the Mexican authorities approved hydraulic fracturing in this area illustrates the violation of Mexican environmental law. The harms were caused by fracking, which contaminates fresh water with salt and chemicals, causes earthquakes, and interferes with aquifer recharge.

As shown in this submission, the Ministry of the Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*—Semarnat), the authority responsible for environmental impact assessment and for approval or denial of environmental permits, has failed to require effective compliance with Mexican environmental legal provisions. As further demonstrated in this submission, Semarnat did not require PEMEX to comply with the requirement to produce an environmental impact statement; or, if one was in fact produced, there was no effective mitigation of the negative impacts on our environment. We have searched on the appropriate portals and websites without finding the environmental impact statement (EIS), leading us to believe that it does not exist, at least in a visible form.

The Government of Mexico approved the PEMEX fracking projects while failing to enforce the following environmental laws: LGEEPA Article 28, on the obligation to file an EIS before a project is approved; LGEEPA Article 15, on the obligation to repair harms ensuing from a work that affects the environment; LGEEPA Article 122, on control of wastewater; LGEEPA Article 170, authorizing the government to apply safety measures; LGEEPA Articles 1, 15, and 88, on sustainable water use; Articles 2 and 91 of the LGPGIR Regulation, requiring that wastewater be discharged into geologically stable formations that isolate it from water sources and the environment in general; and Articles 8 and 16 of the National

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<sup>1</sup> PEMEX, *Informe Anual 2013* (March 2014), at 17.

Waters Contamination Prevention Guidelines, on the prevention of subsoil and aquifer contamination during the fracking process. All these qualify as environmental law in the sense of Article 45 of the North American Agreement on Environmental Cooperation (NAAEC), for the reasons detailed below.

We are filing this submission on enforcement matters in accordance with NAAEC Article 14, and we respectfully request that the Commission prepare a factual record to review Mexico's failures to enforce the environmental law. With a view to fulfilling the requirements of NAAEC Articles 14 and 15, a side agreement of NAFTA, we solemnly and truthfully state the following:

## **FACTS**

### **a) Hydraulic fracturing**

Hydraulic fracturing has taken place within the limits of the municipality of Los Ramones, N.L., specifically during the year 2013. Our in-depth research into this process led to an understanding that this is an unsustainable technique that causes harm to the environment. In particular:

- It requires millions of liters of water, affecting the availability of water for household use and other activities, such as agriculture and ranching.
- Well drilling requires over 750 different chemicals, many of them toxic.
- The wastewater also contains heavy metals and radioactive substances, making it unsuitable and impossible to be treated for return to the water cycle.
- This wastewater is poured into wastewater wells that often leak into and contaminate groundwater.
- Aquifers are contaminated with substances causing grave harm to human health.
- The toxic substances in this wastewater evaporate, causing air pollution.
- A correlation has been found between diseases of the nervous and endocrine systems, allergies, and cancer, on the one hand, and the proximity of wastewater wells and places where fracking has occurred, on the other.
- The gas extraction process emits greenhouse gases that contribute to global warming.
- During the fracking process, the geological formation is subjected to high pressure in order to fracture the rock. This is done by injecting large quantities of water into the ground. The pressure provokes microseisms that may have impacts on the localities where the process occurs.<sup>2</sup>
- There may be many other issues that we are unaware of.

We concluded that this practice threatens not only the environment but also the well-being of present and future generations, running counter to the first objective of the NAAEC. We therefore respectfully request that the Commission produce a factual record to review Mexico's failures to enforce its environmental law.

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<sup>2</sup> Centro de Derechos Humanos y Ambiente, *Informe Técnico y Legal Sobre Fracturación Hidráulica en Argentina* (October 2013), at 44, <http://center-hre.org/wp-content/uploads/2013/10/Fracking-Report-CEDHA-final-24-oct-2013-SPANISH.pdf>.

## **b) The Tangram-1 and Nerita-1 wells**

In 2013, Petróleos Mexicanos (PEMEX) was working on land in the municipality of Los Ramones in the state of Nuevo León, Mexico, drilling deep wells to explore for and extract gas from the subsoil using the hydraulic fracturing technique. We, the local residents, were unaware of the kind of work being done.

We now know that they were working on two wells. According to the company's 2013 annual report, one is called Tangram-1 and is 19 km away from Hacienda El Carrizo in this municipality; the other is called Nerita-1 and is 7.2 km away. The aboveground structure of one of the wells has a plaque indicating the date when work began: 23 July 2013.

The Tangram-1 well is located in the Burgos watershed in the municipality of China, Nuevo León, and was completed in December 2013.<sup>3</sup> The well ultimately produced dry gas and reached a measured depth of 4,426 meters.<sup>4</sup> The well was drilled horizontally and was completed with multiple hydraulic fractures.<sup>5</sup> Some 25,808 m<sup>3</sup> of water were injected into the Tangram-1 well.<sup>6</sup> In general, the water used in the hydraulic fracturing process contains many chemicals, some of which may be toxic.

The Nerita-1 well is located in the Burgos watershed in the municipality of Los Ramones, Nuevo León.<sup>7</sup> Its purpose is to assess the potential and productivity of oil and wet gas in the carbonaceous lutites [fine-grained sedimentary rocks] of the Upper Jurassic Pimienta Formation. It reached a measured depth of 4,100 meters.<sup>8</sup> The Nerita-1 well was completed on 8 August 2014,<sup>9</sup> and 13,039 m<sup>3</sup> of water were injected into it.<sup>10</sup>

## **c) Seismicity induced by hydraulic fracturing**

In October 2013, we began to experience earthquakes in Los Ramones with some regularity. The strongest of these reached 4.5 on the Richter scale, according to official information. Many of our houses suffered structural damage as a result. After several such incidents, the alarmed residents appealed to the municipal authorities, who in turn summoned several company representatives, who never took responsibility for these phenomena. The media came to document and publish reports about what had happened. To date, no one has stepped forward to repair the damage to our houses. We do not know what happened below the surface of the ground after it was so violently subjected to fracking—a technique we are coming to understand and, increasingly, to fear. The company left,

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<sup>3</sup> PEMEX, *Informe Anual 2013* (March 2014), at 38.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> J. Rodríguez-Martínez, E. Rossello, A. Cruz López, L. Arriaga-Díaz de León, and J. Bermúdez-Cerda, *Shallow Seismicity and Fluid Exploitation in the Northern Burgos Basin (Nuevo León, Mexico)*, *International Journal of Science and Engineering* (September 2018), at 8., <https://ephjournal.com/index.php/se/article/download/924/573/>.

<sup>7</sup> PEMEX, *Informe Anual 2013* (March 2014), at 41.

<sup>8</sup> *Ibid.*

<sup>9</sup> Comisión Nacional de Hidrocarburos, *Seguimiento a la exploración y extracción de aceite y gas en lutitas* (November 2016), <https://cnh.gob.mx/informacion/docs/Exploraci%C3%B3n%20y%20extracci%C3%B3n%20de%20aceite%20y%20gas%20en%20lutitas.pdf>.

<sup>10</sup> J. Rodríguez-Martínez, V. Kalashnikov, L. Díaz de León, *Sismicidad inducida por la fractura hidráulica en el estado de Nuevo León*, Congreso Colombiano de Geología (September 2015), <https://www.scribd.com/doc/294936501/Sismicidad-inducida-por-la-fractura-hidraulica-en-el-estado-de-Nuevo-Leon-Mexico>.

leaving us with the earthquakes (for now). But life in the village has not returned to normal.

According to studies by Juan Manuel Rodríguez Martínez and other experts from the Faculty of Civil Engineering of the Universidad Autónoma de Nuevo León, the epicenters of this seismic activity were “located in the municipality of Los Ramones, Nuevo León.”<sup>11</sup> These earthquakes “coincide with the exploratory wells drilled in the Burgos watershed.”<sup>12</sup> The researchers found that these “seismic movements are linked to hydraulic fracturing.”<sup>13</sup>

Many houses have been affected by the seismic activity that occurred after fracking began near our community in Hacienda El Carrizo in the municipality of Los Ramones, N.L. We know that neighboring communities such as Ejido El Carrizo, Ejido La Conquista, Ejido Garza Ayala, Rancho La Peña, and Hacienda El Porvenir, all in the same municipality, also felt the earthquakes and that there were impacts on residential property in those communities as well. The news is that these tremors were also felt in several neighboring municipalities. People’s sense of safety and reassurance has diminished due to their fear that these tremors will recur, and to the precarious condition of many dwellings. Most residents in the village are people of limited means who depend on dwindling agriculture and on ranching, which is now also in decline.

#### **d) Impacts on water, the environment, and agriculture**

Some time after the drilling of the Nerita-1 and Tangram-1 wells, the wells in our homes and fields began to dry up. We attributed this to natural causes; after all, it is a semi-arid area where drought does occur. The drought continued and we could no longer plant seeds or water our animals. There wasn’t even any water for basic human consumption, so we started digging deeper in search of water. We did eventually find it, but in many wells, it is clearly contaminated, with a foul odor making it undrinkable. We commissioned a professional water test and it was found that even water samples that appeared to be clean had high levels of salt and other substances. For this reason, we were told that the water is definitely not potable (copy of results attached). We will not know whether fracking had something to do with this contamination until more samples are tested. What we do know is that the water we used to draw from our wells in previous years, before we had to dig deeper, was never problematic. We all drank it and used it for our activities.

Despite the extreme climate of this village, it was always possible to plant crops such as corn, beans, and some vegetables. There are many nut and orange trees and we could plant forage crops for our animals. Today, we have had to stop doing these things. The big trees have been withering. Something is happening with the water that is having a negative impact on the plants. We fear for our animals — cattle, goats, sheep — which have no choice but to drink this water. We dread to think what would happen if fracking were to continue here. No living thing would be able to survive.

The people of the community of Hacienda el Carrizo, in the municipality of Los Ramones, N.L., cannot drink the water pumped from our own wells. We only use it now for household cleaning and personal

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<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*

hygiene, and we do not know whether this latter use can cause skin conditions over the long term. Our backyard animals, which we will eventually eat, drink from these wells, and we do not know whether there could be harm to people who eat this meat. The trees watered from these wells have been declining, some of them even losing their leaves. This affects the already harsh climate, making the summers hotter.

## **APPLICABLE LAWS AND FAILURES TO ENFORCE THE ENVIRONMENTAL LAW**

Although generally applicable, the laws detailed below qualify as environmental law under NAAEC Article 45 because their primary purpose is the protection of the environment or the prevention of danger to human life or health.

These laws include LGEEPA Article 28, requiring the government to approve an environmental impact statement before approving a project; LGEEPA Article 15, requiring those who carry out works that affect the environment to repair the harms; LGEEPA Article 122, on control of wastewater; Article 170, on the government's power to take safety measures; LGEEPA Articles 1, 15, and 88, requiring water to be used sustainably; LFRA Articles 6, 7, and 10; Articles 2 and 91 of the LGPGIR Regulation, requiring that wastewater be discharged into geologically stable formations in order to isolate it from water sources and the environment in general; and Articles 8 and 16 of the National Waters Contamination Prevention Guidelines, requiring the prevention of subsoil and aquifer contamination ensuing from hydraulic fracturing and the listing of chemicals used.

### **a) Environmental impact assessment under the LGEEPA**

The LGEEPA is regulatory to the provisions of the Mexican Constitution that relate to environmental preservation, protection, and restoration. This law is for public order and the social interest and has, among others, the following objectives: 1) achieving sustainable development; 2) preventing and controlling air, water, and soil pollution; 3) establishing the powers of the municipalities, the states, and the federation, and 4) establishing the environmental impact assessment procedure and the criteria that the authority must observe when assessing projects. For its implementation, the LGEEPA has a set of regulations and contains general provisions that are elaborated upon in specific laws.

Semarnat also issues national environmental protection standards such as the Mexican official standards, which complement the above-mentioned legislation.

LGEEPA Article 28 creates the obligation to file an environmental impact statement (EIS) before beginning work that can have an impact on the environment. This same article gives Semarnat the power to approve or reject environmental impact studies, while number E00 of the Internal Regulation of Semarnat identifies the Federal Attorney for Environmental Protection (*Procuraduría Federal de Protección al Ambiente*—Profepa) as the authority in charge of inspecting, monitoring, and verifying that works and activities are covered by an environmental impact approval and comply with its conditions.<sup>14</sup> The Environmental Impact Assessment Regulation to the LGEEPA (*Reglamento de la*

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<sup>14</sup> Secretaría de Gobernación, *Diario Oficial de la Federación*, 13 August 2003, *Manual de Organización General de la Secretaría de Medio Ambiente y Recursos Naturales*, [http://dof.gob.mx/nota\\_detalle.php?codigo=691867&fecha=13/08/2003](http://dof.gob.mx/nota_detalle.php?codigo=691867&fecha=13/08/2003)

*Ley General del Equilibrio Ecológico y la Protección al Ambiente en materia de Evaluación de Impacto Ambiental*) details the stages of the environmental impact assessment procedure.

We do not know whether PEMEX complied with the requirement to prepare an EIS, or with any other administrative requirement, before using the wells to explore for gas; we have searched on the relevant portals and websites but have found nothing. But we can confidently assert that the environmental impact on our communities has been negative and that no authority to date has taken responsibility for the harms caused since the company began its drilling and exploration. Attached is our official communication on the matter to various local and federal bodies.

If an environmental impact statement has indeed been produced, then neither the government nor PEMEX has complied with the public participation requirement set out in LGEEPA Article 177. In addition, if the company did produce an EIS, it did not meet the requirement to study and mitigate the consequences, because our water is contaminated and our aquifers are not functioning as they did before.

#### **b) Prevention and Control of the Pollution of Water and Aquatic Ecosystems**

LGEEPA Article 122 provides that wastewater from industrial uses must meet the conditions necessary to prevent: (i) contamination of receiving bodies; (ii) interference with water treatment processes, and (iii) impediments or alterations to the proper working or use of drainage or sewer systems or to the hydraulic capacity of watersheds, beds of watercourses, ponds, aquifers, and other bodies of water that are the property of the nation.

LGEEPA Article 122 requires the control of wastewater. The hydraulic fracturing process produces wastewater that contaminates the environment. The Mexican government failed to prevent: (i) contamination of receiving bodies, (ii) interference with water treatment processes, and (iii) impediments or alterations to the proper working or use of drainage or sewer systems or to the hydraulic capacity of watersheds, beds of watercourses, ponds, aquifers, and other bodies of water that are the property of the nation.

The government failed to enforce Article 122 in that: (i) as detailed above, our water is contaminated with salts and other chemicals, this being the proof that the government failed to prevent the contamination of receiving bodies; (ii) the presence of contaminants in our water resembling those typically used in hydraulic fracturing, and not removable by the natural filtration processes through which our water passes, suggests that the government also failed to prevent interference with our water treatment processes; and (iii) the groundwater recharge rate is much lower than in times past. Due to the alterations caused by the fracking, we had to drill deeper wells, since the system and the hydraulic capacity of our aquifers are not working as before. These facts demonstrate that the government also failed to prevent alterations to the proper functioning or use of our groundwater systems. It leads us to think that this interference and these changes were caused by the thousands of liters of contaminated water injected during the fracking process, as occurs in wells such as Tangram-1 and Nerita-1.

### **c) Water sustainability**

LGEEPA Article 88 provides that sustainable water use requires the government to consider the recharge capacity of aquifers. Furthermore, according to Article 1, one object of the LGEEPA is to provide for the sustainable use of water so that it remains compatible with both the ability to derive economic benefit and the preservation of ecosystems. The government's duty to protect sustainable water use also derives from Article 15, which provides that "ecosystems and their components must be used in a manner that ensures optimal and sustained productivity compatible with their equilibrium and integrity."

We have learned that fracking for gas requires millions of liters of water. It is obvious that this level of water demand greatly exceeds the capacity of the local aquifers, thus disrupting the sustainable use of this resource. By virtue of its failure to prevent this impediment to sustainable water use, the government violated LGEEPA Articles 1, 15, and 88.

When we began to notice a water shortage in 2014, we attributed it to a natural drought, but while in other years we had not needed to drill deeper, this time we did have to do so. This water shortage, and the need to drill deeper wells, indicates that the recharge capacity of the aquifers has been harmed, a harm that the government failed to prevent, in violation of LGEEPA Article 88. We later learned that the event coincided with the months following the drilling of the fracking wells. That is when we began to notice the clear contamination of our water, leading us to think that the drilling of the fracking wells is also directly connected with this grave problem, which also affects the health of human beings and all living creatures, not to mention the impacts on our ability to earn a living, in violation of LGEEPA Articles 1 and 15.

### **d) Failure to repair the harm as prescribed by the LGEEPA and the LFRA, and failure to ascertain the costs of the environmental harms as prescribed by the LFRA**

LGEEPA Article 15 reads as follows: "Anyone who performs works or activities that affect or may affect the environment is obligated to prevent, minimize, or repair any harm that he may cause and to bear any costs entailed by such impact." Article 15 continues, "ecosystems and their elements shall be used in a manner that guarantees optimal and sustainable productivity, compatible with their equilibrium and integrity." The government did not require PEMEX to comply with this. Not only may our presumption of the nonexistence of an EIS be true, but we also, apparently, have here a clear violation of environmental law causing severe harm to the environment, for which reparation and/or compensation is required under the LFRA, since it would not be possible to fulfill the conditions of Article 6 of the Act.

In this regard, LFRA Article 10 provides that "any physical or legal person who, by his act or omission, directly or indirectly causes harm to the environment shall be responsible and obligated to repair the harm, or, where repair is impossible, to make the applicable environmental compensation, as prescribed by this Act."

In the case at hand, the impacts in the area are clear, evidencing the considerable environmental harm occurred since 2013, yet so far no one has taken responsibility, despite the existence of that obligation in Mexican law.



Moreover, Semarnat has failed to enforce LFRA Article 7 because, since the publication of this Act, no Mexican official standard whatsoever has been issued to regulate fracking. In short, this authority has utterly failed to fulfill its obligations to afford certainty and to induce economic agents to bear the costs of the harms they cause to the environment through this specific technique for the extraction of hydrocarbons.

#### **e) Water discharges under the LGPGIR Regulation**

Articles 2 and 91 of the LGPGIR Regulation require that wastewater be discharged into geologically stable formations that isolate it from water sources and from the environment in general.<sup>15</sup> The primary purpose of these articles is the protection of the environment and not the administration of natural resource use. To bolster the argument that this law qualifies as environmental law under NAAEC Article 45, note that the Secretariat has previously found that similar US wastewater laws are environmental law under NAAEC Article 45, even though those laws governed fracking operations.<sup>16</sup> The Secretariat can reach a similar finding in this case—that Mexican wastewater laws are also environmental laws. We can then conclude that the Mexican government failed to enforce these articles, because the wastewater was not discharged into geologically stable formations that isolate it from water sources and the environment in general. Our contaminated water is the proof.

#### **f) Safety measures**

LGEEPA Article 170 provides that where there is an imminent risk of ecological disequilibrium or in cases of contamination with dangerous consequences for public health, Semarnat may order safety measures, including (i) temporary partial or total closing of contamination sources; (ii) seizure of hazardous materials and wastes; (iii) neutralization to prevent hazardous materials or wastes from giving rise to certain effects.

Article 170 gives the government the power to take safety measures. The Mexican government failed to take safety measures to protect our houses and aquifers, the proof being that the damage mentioned above occurred in conjunction with the fracking done in our municipality.

#### **g) National Waters Contamination Prevention Guidelines**

In addition, under Article 16 of the National Waters Contamination Prevention Guidelines, regulated parties such as PEMEX must prevent the infiltration of contaminating substances into subsoil and aquifers by isolating the ground at the drilling sites through the installation of impermeable coverings. Article 17 reads: “With the objective of protecting groundwater quality, regulated parties shall build an exploration well in each extraction area,” and “prior to commencement of activities...they shall submit information on each well to the Commission,” including location, characteristics, design, lithological

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<sup>15</sup> LGPGIR Regulation, *Diario Oficial de la Federación* (November 2006), <https://www.informea.org/sites/default/files/imported-documents/UNEP-CHW-NATLEG-NOTIF-Mexico-17-REG-PreventionComprehensiveWastesManagement.Spanish.pdf>.

<sup>16</sup> SEM-15-003 (*Municipal Wastewater Drop Shafts*), Article 14(1) and (2) Determination, [http://www.cec.org/sites/default/files/submissions/2011\\_2015/15-3-det1412\\_en\\_0.pdf](http://www.cec.org/sites/default/files/submissions/2011_2015/15-3-det1412_en_0.pdf).

section, and geophysical records. Article 8 of the guidelines requires PEMEX to provide a detailed list of additives, among other things. Under Article 18, regulated parties must build wells to form a regional monitoring network, so that the government can determine the water baseline, as well as a local monitoring network. As per Article 25 of these guidelines, the failure to comply with these requirements can give rise to administrative penalties, an obligation to repair any environmental harm caused, and/or an obligation to pay environmental compensation, as well as other types of civil, criminal, or administrative liability.

These guidelines are law because they establish “the requirements with which regulated parties must comply, as regards the protection and conservation of national waters and their inherent public property, when they engage in exploration and extraction of hydrocarbons in unconventional deposits.”<sup>17</sup> In other words, the guidelines are requirements with which regulated parties must comply, and in this sense constitute law. They are also law because they give regulated parties only 180 days in which to take the measures necessary in order to comply with these provisions. In addition, the guidelines qualify as environmental law because their primary purpose is the protection of national waters. Under the NAAEC, an article of a law is determined to be “environmental” with reference to its primary purpose, not the primary purpose of the law as a whole.<sup>18</sup> In this case, both the guidelines in general (whose title contains the words “water protection and conservation”) and the articles in question have environmental protection as their primary purpose. For example, the purpose of Article 16 of the guidelines is protection of water and subsoils. Article 17 contains the phrase, “with the objective of protecting groundwater quality.” The purpose of Article 18 is the monitoring of water quantity and quality. It may thus be seen that these guidelines are environmental law.

The Government of Mexico failed to enforce Article 16 of the guidelines because it did not prevent infiltration of contaminating substances into the subsoil and aquifers. Our subsoil and aquifers are contaminated with salts and chemicals from the fracking process. We do not know whether there was enforcement of Article 8 of the guidelines, requiring PEMEX to provide a detailed list of additives, among other things. We do not know whether PEMEX complied with Article 17, requiring the company to submit information on each well to the Commission. We do not know whether PEMEX has data from a monitoring network pursuant to Article 18. Nevertheless, it appears that the government did not enforce Article 25 by applying penalties due to PEMEX’s failure to prevent infiltration of contaminating substances pursuant to Article 16.

## CONCLUSIONS

From 2014 on, the residents of the region have seen impacts on our soil. We used to be able to plant regularly, despite the variability in our climate. Starting with the activities carried out in the two above-mentioned wells, our agricultural activities have been harmed and the situation only appears to be getting worse.

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<sup>17</sup> Lineamientos para la Protección y Conservación de las Aguas Nacionales en Actividades de Exploración y Extracción de Hidrocarburos en Yacimientos No Convencionales, Article 1, [http://www.dof.gob.mx/nota\\_detalle.php?codigo=5495543&fecha=30/08/2017](http://www.dof.gob.mx/nota_detalle.php?codigo=5495543&fecha=30/08/2017) (emphasis added).

<sup>18</sup> NAAEC Article 45(2)(c).

Furthermore, the people's peace of mind has been seriously affected by the earthquakes that occurred right after activity in the vicinity of the wells was stepped up, and we felt and heard what sounded like thunder below ground. We know that peace of mind is directly related to health, and in addition our homes were permanently affected with structural damage that now threatens our physical integrity.

Another point is that the harms to flora, fauna, and the soil are affecting the ecosystem as a whole. This can readily be explained as a state of grave ecological disequilibrium. The end result has been an impact on the right to health and well-being, not only of those who live in the vicinity of the affected area but of those who live in the natural region connected with the affected aquifers.

All this is clear evidence of failures to effectively enforce the environmental law and a violation of the rights enshrined in Article 4 of the Mexican Constitution itself, with respect to our right to live in a healthy environment, and with respect to the need to prevent and control air, water, and soil pollution and to care for the ecosystems on which our life and our society depend.

Someone might say that the impacts on our houses from the earthquakes are just minor damage, but for us they are major, since this is our family heritage. A further impact is our inability to work in the field as before, a harm experienced by many residents of these villages. The worst impact is the grave water contamination, although we still do not know the extent to which the health of the people and the whole ecosystem will be harmed.

None of the problems we detail in the submission have been addressed, even though we started appealing as a community to the municipal authorities and to certain PEMEX officials as soon as the problems started to occur. The land on which the wells were drilled is desolate, and the equipment used for the installation and preparation of wastewater management is abandoned, as shown in the attached photographs. No one has come back to remedy any of the harms caused since those months in 2013. We doubt whether anyone has so much as measured or estimated the severity of the harm caused by the responsible party: the quasi-governmental corporation PEMEX.

## **FULFILLMENT OF THE REQUIREMENT OF COMMUNICATING THE MATTER TO THE GOVERNMENT**

With respect to paragraph 31 of the determination issued by the CEC Secretariat, which requires our revised submission to include information indicating that the matter has been communicated in writing to the relevant authorities and to indicate whether there has been any response, we hereby confirm that at the time the events occurred, the only thing we could do was to appeal personally to the municipal authorities and the media, and we managed to obtain some coverage of our case. In order to comply with all the requirements indicated, to ensure that our submission will be allowed and a factual record will be prepared, we immediately set about communicating the matter in writing to the various bodies that we understood could and should resolve our requests. On 27 November 2018, we sent such letters to Semarnat, Conagua, and Servicios de Agua y Drenaje de Monterrey, in addition to mailing the same letter to the National Industrial Security and Environmental Protection Agency for the Hydrocarbon

Sector (*Agencia Nacional de Seguridad Industrial y de Protección al Medio Ambiente en el Sector de Hidrocarburos*—ASEA) in Mexico City. Copies of these letters, stamped as received, are attached.

Under Mexican law, the authorities should have responded to these letters within twenty (20) days. We have had no response to the first three letters. ASEA did respond, stating that it would investigate the case (this response is also attached) but providing no details about compensation for the harm perpetrated. To this date, 22 February 2019, two months after this response, nothing has happened.

While one authority has actually read and replied to our letter, we believe that an excessive amount of time has elapsed since the impacts began. The media reported on the case at the time, and the Agua y Drenaje authorities have heard numerous complaints about poor water quality, but they have done nothing. PEMEX knows full well how upset the residents of this municipality are but has done nothing to remedy the situation—not even something so indispensable and vital as ensuring that we have enough water, since it is no longer potable in our communities. This is why, although we have received a response from one of the bodies to which we communicated the case, we need to continue with this submission.

#### **THE SUBMISSION MEETS THE REQUIREMENTS OF NAAEC ARTICLE 14(1) AND WARRANTS THE PREPARATION OF A FACTUAL RECORD**

We trust that what we have presented here fills in the gaps in the original submission that you noted in your determination. We think we have now provided better and sufficient information that will allow the Secretariat to review the submission, and that we have included references to the documentary evidence on which it is based. The submission demonstrates that the failure to effectively enforce the environmental law by requiring an environmental impact statement and conducting environmental impact assessment does not reflect a “reasonable exercise of discretion in respect of investigatory, prosecutorial, regulatory or compliance matters,” nor does any of this “result from bona fide decisions to allocate resources to environmental matters determined to have higher priorities.”<sup>19</sup> The submission demonstrates the various violations and the government’s failure to prevent harm to us.

Now that we know all that is entailed by fracking, our final objective, in addition to repair of the harm to our water and land, is that a permanent moratorium be placed on fracking in our state, throughout the country and, if possible, everywhere else, since ecosystems and the vital soil, water, and air resources on which we all depend are gravely endangered by this practice. Our personal experience is the proof.

In light of the foregoing, and in view of the facts presented, we hereby request:

1. That the CEC kindly allow this revised submission and begin an investigation to corroborate the failure to enforce the environmental law in the case of **Hydraulic Fracturing in Nuevo León**.
2. That a factual record be produced pursuant to NAAEC Articles 14 and 15 with a view to corroborating our assertions of failures to effectively enforce Mexico’s environmental law.

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<sup>19</sup> NAAEC Article 45(1).

Thank you in advance for your kind attention. We look forward to your determination.

[Redacted]

[Redacted]

**APPENDICES:**

- Communications to Semarnat, Agua y Drenaje de Monterrey, and Conagua, stamped as received.
- Correos de México postmark for the similar letter sent to ASEA.
- Letter of response from ASEA.