

Mexico: Environmental Due Diligence and the Mexican Waste Law

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Mexico's General Law for Prevention and Integral Management of Wastes (the Mexican Waste Law) significantly advanced Mexico's efforts to develop a detailed environmental regulatory framework. The Mexican Waste Law was passed in 2004, with regulations implemented in 2006. These changes in law have important consequences for individuals and companies with a vested interest in any property that might be categorized as "contaminated." Some of the most noteworthy differences between the new and old regulations are the following:

- The Mexican Waste Law creates strict liability against owners and possessors (including operators) of a contaminated site. Previously, parties held responsible for causing contamination were liable for its cleanup. *Now, one does not have to have caused the contamination to be held liable for the cleanup.*
- The Mexican Waste Law forbids transfer of a site contaminated with hazardous waste without express authorization from Mexico's environmental ministry, Secretaría del Medio Ambiente y Recursos Naturales (SEMARNAT). *SEMARNAT will not grant approval until the contamination is cleaned or until the transferor and transferee agree to a cleanup plan.*
- The law mandates disclosure of known information about site contamination (by hazardous materials or waste) from owners to potential third-party buyers or tenants.

Soil Contamination Standards in Mexico

To date, Mexico has issued official standards relating to soil contamination by hydrocarbons (Norma Oficial Mexicana [NOM]-138-SEMARNAT/SS-2003), heavy metals (NOM-147-SEMARNAT/SSA1-2004), and polychlorinated biphenyls (NOM-133-SEMARNAT-2000). These regulations establish the maximum permissible limits for contaminants in soil, define the

protocol for characterizing a contaminated site, and mandate remediation criteria.

Environmental Due Diligence and the Mexican Waste Law

The impact of the Mexican Waste Law and its regulations has begun to unfold in situations where properties harbor known or suspected contamination. Potential buyers are inherently reluctant to take title of contaminated property without recourse to prior studies that characterize the potential problem and define the responsibility and costs to address it. Sellers, meanwhile, are sometimes hesitant to perform Phase II-type characterization studies because they fear the prospects of opening up a long and costly process with SEMARNAT if contamination is found. In practice, the law has heightened conflicting interests of buyers and sellers (and landlords and tenants) in an effort to uncover and address concerns over environmental contamination.

Overview of NOM-147 for Heavy Metals Soil Contamination

The buyer-seller conflict can unfold in the marketplace in many ways, as shown in the case histories below. Contamination from metal plating, for example, is subject to NOM-147, the standard used to address heavy metals contamination.

NOM-147 establishes the maximum permissible soil contamination limits for arsenic, barium, beryllium, cadmium, chrome VI, mercury, nickel, silver, lead, selenium, thallium, and vanadium. When detected levels of metals exceed established limits, the site is considered to be contaminated and requires remediation. The standard allows for a variety of site-specific methods to determine if a site is contaminated (Phase II studies) and to define the level to which a site must be remediated. Since metals naturally occur in soils (sometimes even at levels that pose a risk to human health), the stated purpose of the standard is to characterize contamination that is caused by human industrial activity and to establish site-specific cleanup guidelines.

Although NOM-147 outlines four options for determining the *remediation objective concentration (ROC)*, or cleanup level, the most commonly used method requires that soil remediation be performed to attain metal-specific total reference concentrations, based on land use, as shown in Table 1.

Table 1. Total Reference Concentrations (TRCs) of Heavy Metals by Land Use Type		
Contaminant	Agricultural/Residential/Commercial (mg/kg)	Industrial (mg/kg)
Arsenic	22	260
Barium	5,400	67,000
Beryllium	150	1,900
Cadmium	37	450

Chrome VI	280	510
Mercury	23	310
Nickel	1,600	20,000
Silver	390	5,100
Lead	400	800
Selenium	390	5,100
Thallium	5.2	67
Vanadium	78	1,000

These cleanup levels were developed using international standards, and they are based on methodologies for evaluating health risk and remediating contaminated sites. TRC levels are considered protective of human health under particular land use conditions and do not take into consideration impacts to groundwater or the broader environment.

Remediation

The objective of remediation is either to eliminate or reduce contaminant concentrations or to control levels of contamination such that there is no risk to human health or the environment. Remediation efforts should do the following:

- Permanently reduce the contaminant concentrations
- Reduce contaminant bioavailability, solubility, or both
- Avoid contaminant dispersion in the environment
- Establish institutional controls

The two agencies in charge of overseeing compliance with the standard are Procuraduría Federal de Protección al Ambiente (PROFEPA), which is the regulatory arm of SEMARNAT, and the Health Secretariat, which is involved in cases of risk to human health.

Case Histories

Three case histories are presented here to illustrate how the Mexican Waste Law is shaping negotiations between buyers and sellers. Events in these histories occurred in separate states within Mexico, but all involved actual or potential metal contamination in soils. Specifically, all three sites showed evidence of metal plating operations.

Site 1: Northern Mexico

This site is located in a hilly area and is surrounded by industrial operations. Depth to groundwater is about 200 feet below ground surface. The plant, which has operated at this location for 20 years, conducts metal forming, cleaning, and plating using zinc and chrome VI coatings. The seller performed a Phase I environmental assessment, and the plating operation was listed as having a Recognized Environmental Condition (REC) under the definition found in American Society for Testing and Materials (ASTM) Standard E 1527-05. The concrete floor beneath the operation was visibly corroded and damaged. The seller provided the buyer with a copy of the Phase I report.



Figure 1: The concrete floor beneath the plating operation was visibly corroded and in poor condition.

The buyer reviewed the report and requested that the seller perform a Phase II investigation to determine the extent of soil contamination, if any. The seller responded that they were not obligated by law to carry out a Phase II investigation but would allow the buyer to complete the investigation at the buyer's own expense.

The buyer expressed strong concern about potential soil contamination by metals, noting the condition of the floor around the plating area and the fact that NOM-147 establishes cleanup levels in soil for metals. The buyer felt the seller was obligated to determine if the site was contaminated and to remediate the site if contamination was found.

Since the seller refused to perform a Phase II soil investigation, the buyer got nervous and did not follow through with the purchase. The seller still has possession of the property and will most likely face a similar situation when encountering the next potential buyer.

Site 2: Gulf Coast Region of Mexico

This plant is located on a low coastal plain near the Gulf of Mexico. Depth to groundwater is approximately 15 feet. Surrounded by other industrial sites, the plant has operated for 20 years, housing metal plating procedures using copper, nickel, and brass since 2001. The floor beneath the plating operation is in poor shape (corroded), and liquids were observed pooled on the floor beneath the dipping tanks.



Figure 2: Impacts from plating using copper, nickel, and brass.

The seller performed a Phase I environmental assessment, and the plating operation was listed as having an REC. The seller also completed a Phase II soil investigation, which found elevated levels of metals in the soil but at concentrations that did not exceed the maximum permissible limits established in NOM-147.

The seller sampled groundwater beneath the site and found elevated concentrations of metals that exceeded the Maximum Contaminant Levels (MCLs) that apply to drinking water in the United States (currently, there are no groundwater regulations in Mexico pertaining to metals or other contaminants).

The buyer reviewed both the Phase I and the Phase II reports and withdrew the offer to purchase, fearing future groundwater regulations.

A second buyer made an offer with contingencies. Fearing that continuing releases under current conditions would cause metal concentrations to exceed the NOM-147 limits, the buyer requested that the seller remove the plating line, excavate the metal-contaminated soils, refill the hole with clean material, and reconstruct the floor when the tenant's lease expired. Once completed, these activities would relieve the buyer of any future liability that could arise due to plating operations.

The seller agreed to perform the work requested by the buyer, and the buyer purchased the property. The buyer was willing to assume the risk that any future Mexican groundwater regulations could be managed.

Site 3: Central Mexico

This site is located in an older industrial park. Groundwater is found at approximately 300 feet below ground surface. During its 18-year operation, the plant has performed metal plating using chrome, nickel, zinc, and brass solutions. The floor beneath the plating operation is compromised (corroded), and various clarifier sumps were used to contain plating fluids and acids.



Figure 3: Corroded floor beneath the plating operation . Clarifier sumps were used to contain plating fluids and acids.

The seller performed a Phase I environmental site assessment, and the plating operation and clarifiers were listed as RECs. Other identified issues were asbestos materials in a friable condition (a hazardous waste in Mexico) and polychlorinated biphenyls (PCBs) related to older electrical equipment. The seller presented the buyer with a copy of the Phase I report.

The buyer reviewed the Phase I report and asked the seller to perform a Phase II soil investigation to evaluate levels of possible metal contamination in soil. The seller agreed to perform the Phase II investigation, but when the work was completed, the buyer felt that it had errors and did not adequately characterize the site or determine the actual condition of the soils. The buyer then requested that the seller remove the clarifier sumps, excavate a healthy margin of soils around the sumps, perform confirmation sampling before refilling the excavations, and deliver a clean site.

The seller agreed to perform these tasks, and the buyer purchased the property.

Environmental Issues When Buying or Leasing Property in Mexico

As the foregoing case histories illustrate, Mexican environmental legislation is becoming more complex and sophisticated; in practice, buyers and tenants require more certainty from sellers and landlords regarding environmental conditions on sites offered for sale or lease. Relevant issues to consider when buying or leasing properties in Mexico are as follows:

1. Pursuant to the Mexican Waste Law and its regulations, on closure of, or definitive stoppage of activities at, a facility in which hazardous wastes have been generated, the entity or individual who generated the wastes must provide written notice to SEMARNAT and is responsible for cleaning up (a) any hazardous wastes from the facility and (b) any contamination from the facility that may represent a risk to human health or the environment. In light of this, on termination of a lease term, and subject to the terms of the corresponding lease agreement, a landlord should request a closure notice from the

tenant. It is also advisable for buyers who are about to purchase property on which hazardous wastes have been generated to request written notices given to SEMARNAT by previous owners or possessors after these owners or possessors have stopped their generation of wastes.

2. Under the Waste Law, owners and possessors of real estate affected by soil contamination are jointly and severally liable for remediation. This liability is irrespective of legal actions that such owners or possessors may take against the contaminating party and aside from any liability to which the party may be subject.

As discussed previously, the law restricts transfer of contaminated sites. Basically, the restrictions require disclosure of contamination to the receiver of the transfer and prior authorization from SEMARNAT regarding the transfer. In the context of a lease, landlords are bound to disclose contamination to the tenant.

The instrument whereby title to the property is transferred must contain specific reference to contamination at the site. When transfer of a contaminated site takes place without SEMARNAT's approval, and no agreement exists between the seller and the buyer regarding who will perform remediation, the seller will be held responsible for the contamination and for remediation of the site. Additionally, failure to obtain prior written authorization from SEMARNAT to transfer legal title of a contaminated site may result in economic sanctions ranging approximately from US\$ 100 to US\$ 250,000. Note, however, that failure to obtain the authorization cannot invalidate the sale; it simply aims to determine the party responsible for remediating the site.

Regulations on the Mexican Waste Law specify that remediation of environmental liabilities be accomplished through a remediation program that has previously been approved by SEMARNAT.

3. Though not yet in force, a national inventory of contaminated sites is contemplated by the Mexican Waste Law and its regulations. If a site is identified by SEMARNAT to be contaminated, it will be added to the national inventory and noted in the public registry of property as a form of environmental lien. When a site is remediated and released by SEMARNAT, it will be taken out of the national inventory, and the note in the public registry will be cancelled.
4. If issues involving contamination and remedial action are detected before the property is purchased, a potential buyer should require the seller or other responsible third party to assume liability before SEMARNAT's approval of the property transfer, in order to avoid liability. With respect to leased properties, all landlord-tenant private relationships are governed by local civil codes. The applicable general rules for leases are typically not very specific as to the environmental obligations of each of the involved parties. Contamination of a property by a tenant constitutes damage to the property. Pursuant to civil law, this damage generally entitles landlords to be indemnified, both for damages (daños) and for lost profit (perjuicios), whether specifically provided for or not in the lease agreement (except if the landlord has contractually waived such right). In light of the foregoing, the landlord should include environmental provisions in the agreement and should expressly request that tenants respond to damages caused by the tenant and deliver leased property to the landlord in the same state as the landlord originally provided it. It would be advisable to include contractual provisions governing access and supervision rights in the agreement. Note that although contractually landlords may waive the right to claim damages and lost profits derived from damages caused to leased

properties by tenants, the specific liability to clean up soil contamination at a site may not be waived, from an administrative standpoint, by either the landlord or the tenant vis-à-vis PROFEPA and/or SEMARNAT.

5. Before purchasing or leasing a site, potential buyers or tenants should carry out comprehensive environmental due diligence that covers, among other things, past and potential releases of hazardous substances to the property. Phase I and Phase II environmental site assessments should also be performed. If contamination is detected through the site investigations, risk assessments and other studies may follow. In transactions that include transfer of a property, it is advisable to incorporate environmental warranties and indemnities that address, at a minimum, compliance with environmental law, past release and presence of hazardous substances, and remedial actions.

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